



शरीरमाद्यं खलु धर्मसाधनम्

66th Annual Report 2021-2022



All India Institute of Medical Sciences
New Delhi - 110029

**66th
AIIMS
ANNUAL REPORT
2021–22**



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ALL INDIA INSTITUTE OF MEDICAL SCIENCES

NEW DELHI - 110029

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All India Institute of Medical Sciences

The All India Institute of Medical Sciences (AIIMS) was established in 1956 as an institution of national importance by an Act of Parliament to develop patterns of teaching in undergraduate and postgraduate medical education in all its branches so as to demonstrate a high standard of medical education to all medical colleges and other allied institutions in India; to bring together in one place educational facilities of the highest order for the training of personnel in all important branches of health activity and to attain self-sufficiency in postgraduate medical education.

The Institute has comprehensive facilities for teaching, research and patient care. AIIMS conducts teaching programs in medical and para-medical courses both at the undergraduate and postgraduate levels and awards its own degrees. Teaching and research is conducted in nearly 100 disciplines. AIIMS is a leader in the field of medical research with over Rs 175 crores in extramural grants received by its researchers in a year. AIIMS also runs a College of Nursing.

Various departments and centres manage practically all types of disease conditions with support from para-clinical departments. AIIMS also runs a 50-bedded hospital and the Comprehensive Rural Health Centre at Ballabgarh in Haryana and provides health cover to nearly 8 lakh people through the Centre for Community Medicine.



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Hon'ble Minister of State for Health & Family Welfare, Government of India

AIIMS AT A GLANCE

2021–2022

Year of establishment 1956

Teaching Departments and Centres	42+7	Medical graduates	3501
Faculty members (Sanctioned 1131)	717	Postgraduates	12117
Non-faculty staff (Sanctioned 12,554)	9682	Nursing/paramedical graduates	3691
Undergraduate students	1162	Publications in journals/abstracts	3619
Postgraduate students	2016	Chapters in books/books	451

Hospital Services

Hospital/Centre	Outpatients (including casualty)	Admission	Surgery (Operations/ procedures)	Beds		
				General	Private	Total
Main Hospital	10,39,523	83,801	66,355	1069	175	1244
Dr RP Centre	3,08,150	32,751	32,070	288	22	310
Dr BRAIRCH	1,19,669	38,530	6,827	167	15	182
Cardiothoracic Centre	83,394	6615	2405	226	33	464
Neurosciences Centre	1,21,767	6130	2695	174	31	
NDDTC*	2,51,782	407	—	50	—	50
CCM†	3,74,822	10,041	1930	50	—	50
JPNATC	48,948	6420	5046	243	22	265
CDER	1,39,592	696	15,754	20	—	20
NCI, Jhajjar	43,040	17,440	11,377	694	—	694
Outreach outpatients, Badsa, Jhajjar	3127	—	12	—	—	—
Total	25,33,814	2,02,831	1, 44, 471	2981	298	3279

*inclusive of Trilokpuri, Sunder Nagri & Kotla Mubarakpur

†inclusive of PHC Dayalpur, Chhainsa

** Including 30 Triage beds

Hospital performance indices

Parameter	Main Hospital		Cardiothoracic and Neurosciences Centre		Jai Prakash Narain Apex Trauma Centre	
	2021–22	2020–21	2021–22	2020–21	2021-22	2020-21
Average length of stay (days)	9.8	10.4	12.0	13.8	8	9
Average bed occupancy rate (%)	69.8	56.2	68.6	46.7	84	67
Net death rate (%)	2.0	3.0	4.1	6.9	5	9
Combined crude infection rate (%)	8.3	8.9	—	—	—	—

Dr RP Centre: Dr Rajendra Prasad Centre for Ophthalmic Sciences

Dr BRAIRCH: Dr B.R. Ambedkar Institute Rotary Cancer Hospital

NDDTC: National Drug Dependence Treatment Centre

CCM: Centre for Community Medicine

JPNATC: Jai Prakash Narain Apex Trauma Centre

CDER: Centre for Dental Education and Research

NCI: National Cancer Institute

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1. Director's Review

I feel privileged to present the Sixty-sixth Annual Report and audited statement of accounts for the year 2021–2022.

All India Institute of Medical Sciences, New Delhi (AIIMS-Delhi) was established in 1956 by an Act of the Indian Parliament to serve as the nucleus for fostering excellence in medical education and all aspects of health care.

Our mission to nurture a health care community dedicated to alleviating suffering and improving health and wellbeing for all has guided us through the trials and triumphs of the past year that saw the nation overcome two waves of the Covid-19 pandemic. By pursuing ground-breaking research aimed at understanding and curing human disease, by providing compassionate care, and by training the next generation of leaders in medicine, AIIMS-Delhi rededicated itself to the task of ensuring that evidence-based health care is available to all.

The inspired and untiring toil of thousands of faculty members, scientists, nursing personnel, engineering staff, technicians, sanitation and health attendants and students undergird the institute's resilience and sustained brilliance. I am grateful for and humbled by the work that they do at AIIMS-Delhi each day.

Infrastructure

AIIMS-Delhi is being redeveloped to become a 'world-class medical university.' The master plan for redeveloping AIIMS adds 3,000 beds to the hospital (beyond the existing 3300 beds), including 300 for emergency services. The master plan also adds 50 new operation theatres and a dedicated 'infectious diseases' ward. About 1.5 lakh square metre of built-up area has been marked out for state-of-the-art research laboratories, animal facilities, a clinical trial facility, and a 'future-ready' information technology (IT) support entity. The 9,053 crore redevelopment plan aims to integrate the fragmented campus spread across five land parcels in east Ansari Nagar, west Ansari Nagar, Masjid Moth campus, trauma centre campus and trauma centre extension. The master plan also aims to improve the educational infrastructure and add a smart library for students.

AIIMS-Delhi opened the newly constructed mother & child block for the public in the past year. It has 400 beds and 12 operation theatres, among other facilities that are dedicated solely for mother and childcare. The institute also opened a new surgery block. The 200-bed facility has 12 operation theatres and state-of-the-art intensive care unit (ICU) facilities. It will help reduce the waiting time for critically ill patients requiring surgery, including those with cancers.

The Honourable Union Health Minister, Shri Mansukh Mandaviya Ji inaugurated the high throughput automated Vitros lab testing system at AIIMS that can conduct and report on 50 diagnostic tests within 2-3 hours and process 50,000 samples a day. It will greatly improve the efficiency of the clinical decision-making process, while saving over 2 crore litres of water per year due to use of 'Dry Chemistry' technology. The institute also worked on quality assurance for its laboratories. The department of microbiology's NABL (National Accreditation Board for Testing and Calibration Laboratories) accreditation increased from 48 to 64 tests during the year. Further, all the sections in the department of microbiology and laboratory medicine participate in EQAS/PT (External Quality Assurance Services/ Proficiency Testing) program. To improve access for needy patients, the department of radiodiagnosis and interventional radiology started a tatkal (same day) ultrasound scan facility for improved medical care.

In a first for any medical institution, the Delhi Fire Service (DFS) will soon open a fire station inside AIIMS-Delhi premises to cater to needs of AIIMS, nearby hospitals and the vicinity.

Services

During the unprecedented strain on healthcare facilities imposed by the various waves of Covid pandemic during the year, the entire AIIMS-Delhi responded as one to the needs of suffering humanity. The Jai Prakash Narain Advanced Trauma Centre (JPNATC), the Burns and Plastic Surgery centre, and the National Cancer Institute (NCI), Jhajjar were converted into dedicated Covid facilities. Several wards and ICUs were converted to Covid wards and ICUs, and the majority of the faculty and residents of the institute were deployed for dealing with the extraordinary caseload. Comprehensive and personalized services were provided including mental health screening and brief supportive tele-counselling for admitted and quarantined/isolated patients. Health and wellbeing need of health care workers exposed to Covid patients were addressed.

While responding to the continuing Covid crisis, AIIMS-Delhi also created a rapid response system for future health crises. Several faculty members were involved in capacity building and drafting of recommendations and guidelines related to Covid management in association with the Ministry of Health and Family Welfare, Government of India. Faculty members frequently participated in National Clinical Grand Rounds for teaching and training healthcare professionals in various aspects of Covid-related clinical care. The Institute also collected a lot of data and biospecimens that researchers need to understand this and future disease-causing pathogens. Some teams characterized the genetics, immunology, virology, and transmission dynamics of emerging variants, while others focused on long-Covid and mucormycosis (black fungus). Pandemic preparedness is crucial and tight coordination with government response teams and ICMR led to swift progress on vaccines and therapies.

There is a need for continued vaccination to reduce the spread of corona virus infection, and the severity and mortality due to Covid-19. The Hon'ble Prime Minister Shri Narendra Modi Ji took the second dose of Covid-19 vaccine at AIIMS, and asked citizens who are eligible for the shot to take it soon to defeat the virus. This action strongly contributed to the voice against vaccine complacency/hesitancy.

Even as AIIMS-Delhi grappled with the pandemic, teams ensured that routine services were maintained and sometimes enhanced. Throughout the lockdown, AIIMS ran its emergency department round the clock, and critical services, e.g., at the cancer centre and dialysis units, at full capacity. Teleconsultation services were available through lockdowns and beyond.

The Department of Neurology initiated three projects to support stroke patients. The 'SMART INDIA', app-based project aims to provide low-cost tele-stroke services to physicians in district hospitals; the 'IMPETUS' project aims to assess the feasibility of implementing a uniform stroke care pathway in medical colleges of India; and the 'CARE DAT' (Centre for Advanced Research and Excellence in Disability and Assistive Technology) project aims to explore the role of assistive technologies in optimizing functional recovery after stroke.

The Department of Plastic, Reconstructive and Burns Surgery is in the process of establishing the country's first National Centre of Excellence for gender affirmative care with support from National AIDS Control Organization (NACO), Ministry of Social Justice and Empowerment, and World Professional Association for Transgender Health.

The AIIMS hospital continued with its high standards and cost-effective services to all patients. The AIIMS main hospital and its centres—Cardiothoracic and Neurosciences Centre (CN Centre), Jai Prakash Narain Apex Trauma Centre (JPNATC), Dr BR Ambedkar Institute Rotary Cancer Hospital (BRAIRCH) and National Cancer Institute (NCI), Jhajjar, Dr Rajendra Prasad Centre for Ophthalmic Sciences (RPCOS), Centre for Dental Education and Research (CDER), National Drug Dependence Treatment Centre (NDDTC)—have a total bed strength of 3279. During the year 2021–22, AIIMS attended to about 25.33 lakh outpatients and 2.02 lakh inpatients and performed 1.44 lakh surgical procedures at optimal patient care service parameters with average bed occupancy of about 70%, average hospital stay of about 9.8 days; and at a low net death rate of about 2%. AIIMS continues to advance the delivery of healthcare within and outside India, particularly in South and Southeast Asia.

Faculty members also provided technical inputs to national health programmes of the Government of India. The Centre for Community Medicine is spearheading anaemia control in the country through its National Centre of Excellence and Advanced Research on Anaemia Control (NCEAR-A); evidence-based decision making for the HIV programme of the National AIDS Control Organization (NACO) as the National Institute for HIV Surveillance. It also helped frame the comprehensive health sector priorities for Non-Communicable Diseases as the WHO Collaborating Centre for Research and Capacity Building on Community-Based Non-Communicable Diseases (NCD) Prevention and Control. In addition, through its presence in technical resource groups of Government of India, the Department is actively contributing to the strategy framework for the National Viral Hepatitis Control Programme, National Tuberculosis Control Programme, and Health Sector Strategy frameworks. The Centre also houses the Technical Support unit for Sample Registration System (SRS)-based Verbal Autopsy System of the Office of Registrar General of India and WHO-SEAR (South East Asia Region) NCD delivery network.

Under the aegis of the Ministry of Health and Family Welfare, the department of Emergency Medicine is involved in developing guidelines for comprehensive primary health care for burns and trauma as well as for emergency departments at district hospitals. The WHO-Collaborating Centre in the Department of Obstetrics and Gynecology initiated projects on topics of national importance, e.g., barriers for increasing the uptake of cervical cancer screening, improving acceptance of post-partum contraception, and standard treatment protocols for the management of Covid-19 infection in pregnancy. The Centre for Dental Education and Research provided technical support for the National Oral Health Policy, National Dental Commission Bill, National Registry of Oral and Associated Diseases, and Operational Guidelines for the establishment of dental laboratories at district hospitals under the National Oral Health Programme. The National Drug Dependence Treatment Centre provided inputs to the Department of Revenue, Ministry of Finance, Government of India towards amendments to Narcotic Drugs & Psychotropic Substances (NDPS) Act, 1985.

Education

The undergraduate medical curriculum is being redesigned for the next generation of medical scientists based on the MCI/NMC-2019 competency framework to detail knowledge, skills, and attitudes that learners should acquire. The successful traditional focus on translational medical science will be maintained while the curriculum incorporates components that address social inequities and other structural determinants of health. Curriculum reform will improve alignment between basic science courses, clinical experiences, and research. Cutting edge topics like artificial intelligence and machine learning in medicine will receive increased emphasis. To further strengthen student's research experiences, AIIMS has introduced undergraduate fellowship with research mentors.

To prepare for the challenges and opportunities that lie ahead, we continue to creatively build foundations for the future by empowering a diverse community of leaders committed to alleviating human suffering and promotion of health. With its 7 centres comprising of various teaching departments and facilities and 42 stand-alone Departments, and a manpower of over 10,000 including over 700 faculty members, AIIMS-Delhi produces a large number of medical graduates, specialists (MD/MS), super-specialists (DM/MCh), PhD scholars and allied health and basic sciences experts, including nurses and paramedical professionals. During the year, we enrolled 1167 scholars in various courses. The Institute also provided postgraduate training to 170 short-term trainees. A new DM program, in Paediatric Endocrinology, was approved this year. AIIMS-Delhi continued to act as a lighthouse for the 22 new AIIMS spread across India. The faculty members from AIIMS-Delhi helped these institutes through their rich experience.

The Academic Section continued to provide education and training for the management of Covid-19. The Center of Excellence (CoE) programme that was started in 2020 with the aim of capacity building among regional and state centres in a hub and spoke manner through exchange of clinical best practices, continued its work through 2021-22 by organizing more than 20 webinars.

AIIMS-Delhi exposes clinician and science leaders working in healthcare fields to the real-world settings of medicine to new trends in science and health care delivery. The institute offered Continuing Medical Education to thousands of physicians and healthcare professionals to help improve skills, knowledge, and performance. We organized/hosted 149 workshops, symposia, conferences, and training programmes in collaboration with various national and international agencies.

All departments at AIIMS responded to the Institute's efforts to uphold the highest standards of medical training and assessment in the wake of the restrictions imposed by the Covid-19 pandemic, e.g., the Department of Anatomy created a digital infrastructure including a digitally enabled Dissection Hall and the Digital Histology Laboratory to conduct academic activities online. The Departments online teaching/learning programmes entailed a mammoth effort to disseminate not only didactic lectures but also effective practical sessions and formative assessment exercises in the form of quizzes and assignments. All these modules were uploaded and made accessible to students on the Student Advanced Resources and Learning (SARAL) platform. The SET (Skills, e-Learning, Telemedicine) facility created multiple modules for skill learning. Each module, hosted online, consists of standard operating procedures for the skill, audio-video file, and multiple-choice questions for assessment. In addition, the SET facility conducted 101 skill lab training sessions/ workshops.

In keeping with Rajkumari Amrit Kaur's vision, AIIMS-Delhi continued to challenge itself to remain the best institution for medical training in the country. AIIMS-Delhi topped the NIRF India Ranking 2022 in the medical category. It also made it to the top 10 list of best institutions for higher education in India. The NIRF ranks educational institutions on parameters related to teaching, learning and resources, research and professional practice, graduation outcome, outreach and inclusivity, and public perception. AIIMS also achieved a ranking of 150-200 in the QS World University Rankings by Subject 2021. The India Today-MDRA Best Universities Survey 2021 also placed AIIMS-Delhi at the top position among medical colleges/universities in India because it sparked a revolution in pedagogy and gave students a unique learning experience. The report highlighted the consummate ease with which AIIMS-Delhi adapted to digital learning and the AIIMS wellness initiative for its learners.

The AIIMS Wellness initiative is empowering students with strategies for self-care and stress management, increasing students' access to counselling and training for faculty mentors on identifying and responding to students in distress.

Research

AIIMS-Delhi is committed to advanced research into diseases that affect millions. The Research Section of AIIMS-Delhi initiated several calls for research funding proposals, created infrastructure, and held workshops to stimulate a vibrant research culture among the Institute faculty, scientists, and students.

AIIMS research grants have spurred fundamental curiosity-driven research, collaborative research, technology development, and clinical/public health research on health care quality, access, and delivery, with many of the projects generating follow up funding from external sources. 172 early career intramural research projects were sanctioned under the general scheme. To kindle research interest among students, an 'Undergraduate Research Mentorship Scheme' was initiated, and 34 innovative projects were sanctioned within the launch year itself. The Research Section issued several calls for Covid-related research, including two calls on long-Covid and one on mucormycosis. This scheme fast-tracked 118 Covid-related projects.

A considered focus for funding calls in the past year was on collaborative research. Collaborative research relationships with institutions like the Indian Institute of Technology (IIT)-Delhi, IIT-Kharagpur and *Translational Health Science and Technology Institute (THSTI)* and within various departments at AIIMS were strengthened. As a first, an international collaborative funding opportunity was initiated with the declaration of 'Joint Research Seed Fund' for project proposals from faculty members of University College, London, and AIIMS-Delhi. About 80 collaborative research projects were funded.

The work done under such grants has led to AIIMS researchers receiving 885 extramural grants with cumulative funding of about Rs 180 crores in 2021-2022, a year-on-year growth of a massive 15.2%. In 2021-2022, the research community at AIIMS contributed significantly to scholarship. During the year the faculty and scientists of the Institute published over 3500 research papers in national and international journals and over 450 monographs, books and chapters in books.

AIIMS medical scientists need to work on new frontiers of knowledge in their quest to protect and improve human health. The rapid acceleration of scientific discovery is spawning entirely new disciplines that were unimaginable only a few decades ago such as genomics, microbiome, and bioinformatics. The research section provided impetus to infrastructure and capacity building through operationalisation of facilities such as Centralized Core Research Facility (CCRF), Clinical Research Unit (CRU) and Center for Medical Innovation and Entrepreneurship (CMIE)/BioNEST.

Clinical Research Unit (CRU), AIIMS-New Delhi aims to provide high quality technical expertise and assistance in planning, designing, implementation and analysis of investigator-initiated clinical research, in compliance with the global best practices. The CRU has been participating in the activities of the Cochrane India network. It also became a part of the ICMR Indian Clinical Trial & Education Network (INTENT) in January 2022. As a mandate of this network, the AIIMS-Delhi CRU team conducted a study on SARS-CoV-2 reinfection and vaccine effectiveness among healthcare workers during the delta and omicron waves. The study demonstrated that two doses of indigenously developed Covaxin had an effectiveness of 86% in curbing coronavirus reinfection. The results of the study, the first to be conducted in India in a real-world setting, was published in the JAMA Network Open of the American Medical Association.

The Genomics Core Facility of CCRF supports high throughput Next Generation Sequencing methods for identification of potential genomic biomarkers with diagnostic, prognostic, and therapeutic value. The Genomic Core Facility was included in the Indian SARS-CoV-2 Genomics Consortium (INSACOG) as a regional genome sequencing laboratory for the whole genome sequencing of the virus.

AIIMS-Delhi has established a 'Centre for Medical Innovation and Entrepreneurship', a Bio-Incubator under the BioNEST program of the Biotechnology Industry Research Assistance Council (BIRAC) of the Government of India. The CMIE encourages innovations in emerging technologies such as precision/molecular medicine, nanomedicine, regenerative medicine, biologics, robotics, AI-enabled medical devices, imaging, and application of data science in medicine including digital health. The CMIE works at the enabling phase of innovation to translate proof of the concept studies to commercially viable products, enabling indigenisation and thus supporting "Make in India" efforts. A tie-up between researchers at the Department of Biotechnology with an IIT-Delhi start-up to develop medicated clothing as a strategy for reducing infections is an example of such projects.

AIIMS-Delhi was at the forefront of Covid-19 research and produced some ground-breaking findings. The work done at AIIMS-Delhi has helped policymakers and doctors better understand the clinical features of Covid; treatment options (e.g., ventilation in the prone position); vaccine efficacy and side effects; optimisation of health services (e.g., strategies for meeting oxygen needs of rural India); and several post-Covid complications.

Vaccines are the most effective preventive measure to protect people from Covid. AIIMS-Delhi was a partner in the clinical trials that established the safety of our indigenous vaccine, Covaxin and is participating in the studies on post vaccination adverse events. AIIMS-Delhi also participated in the Covaxin trials to evaluate its suitability for children aged 2 to 18 years; and in the booster dose trial of intranasal Covaxin in those previously vaccinated. A genomic study on breakthrough infections during the peak of the second Covid wave by researchers at AIIMS and CSIR-Institute of Genomics and Integrative Biology (IGIB) confirmed that the vaccine significantly reduced morbidity and mortality from Covid, even in those with a high viral load. The mortality rates were significantly lower among fully vaccinated (5.7%) compared with partially vaccinated (19.5%) or unvaccinated (22.8%) individuals with breakthrough infections. Another study showed that single-dose immunization with Covid-19 vaccine may be sufficient for protecting patients who have recovered from mild bouts of the disease.

Studies on a variety of different health, education and service-related topics of the pandemic are necessary to understand various problems posed by Covid and to come up with appropriate solutions for them. The focus on the Delta variant in the second wave was a result of the Institute's work. An AIIMS-IGIB study of the variants responsible for breakthrough infections following vaccination found Delta and Alpha strains to be predominantly responsible for the surge in April-May 2021. In a survey conducted in collaboration with World Health Organization (WHO), researchers from the Centre for Community Medicine found that the SARS-CoV-2 seropositivity rate among children was as high as that in adults. The high seroprevalence mitigated worries that future waves of Covid-19 in India would disproportionately affect children. These studies were instrumental in shaping the government's decision to reopen schools in the offline mode.

AIIMS-Delhi has also looked at the impact of covid on non-covid services as needed for policy decisions. This included looking at the impact of the Covid pandemic on utilisation of emergency services for the treatment of myocardial infarction, and a study on the impact of discontinuance of elective health services and initiation of telemedicine services on OPD patients.

To put things in context, AIIMS-Delhi continued with research and innovations in non-Covid health issues. The Neurosurgery Department has devised a new technique for operating on children suffering from intractable epilepsy. Conventional surgeries for such cases involve complex high-risk procedures. The new surgical technique, robotic thermos-coagulative hemispherotomy (ROTCH) uses robotic guidance to gain access to the brain and then employs electrodes and radio waves to disconnect the diseased portions of the brain from the healthy one. This technique is more accurate, effective, and safe. The Department of Obstetrics and Gynaecology reported on the first successful intrauterine laser surgery for foetal bronchopulmonary sequestration in India.

Summing up

The dedication of AIIMS-Delhi faculty members, scientists, nursing personnel, technicians, and students have ensured high recognition for the Institute. AIIMS-Delhi continued to play a leadership role at a global level by housing many WHO Collaborating Centres (WHO CC), viz. the WHO CC for Research and Capacity Building on Community-based Non-Communicable Diseases (NCD) Prevention and Control (Centre for Community Medicine [CCM]), WHO CC on Substance Abuse (National Drug Dependence Treatment Centre, NDDTC), WHO CC for Prevention of Blindness (Rajendra Prasad Centre for Ophthalmic Sciences [RPCOS]), WHO CC for Oral Health Promotion (Centre for Dental Education and Research [CDER]), WHO CC for Newborn Training & Research in Newborn Care and WHO CC on Training in Clinical and laboratory Genetics (Department of Paediatrics), WHO CC on Research in Human Reproduction in the Department (Department of Obstetrics and Gynecology), and WHO CC for Training and Research in Tuberculosis (Department of Medicine). The Department of Haematology continued as a regional training centre for the International Society of Hemostasis and Thrombosis.

The Institute also supports many ICMR's 'Centre for Advanced Research and Excellence (CARE),' viz. CARE in Virtual Autopsy (Department of Forensic Medicine), CARE in Pancreatic Disease and CARE in Intestinal diseases (Department of Gastroenterology and Human Nutrition), CARE in Neuromodulation (Department of Psychiatry), CARE in Paediatric Nephrology, CARE in Paediatric Pulmonology, and CARE in Childhood Neurodevelopmental Disorders (Department of Paediatrics), and CARE in Disability and Assistive Technology (Department of Biomedical Engineering). The CDER was designated the National Centre of Excellence for implementation of National Oral Health Program. The Centre for Community

Medicine serves as the National Centre of Excellence and Advanced Research on Anaemia Control (NCEAR-A). The Mycology Section of the Department of Microbiology was designated as 'Advanced Mycology Diagnostic and Research Centre in Northern Region of India' (AMDRC) under ICMR.

We have come through a transformative time stronger and more committed to training leaders in medicine and science who are prepared to respond to health challenges of an ever-changing world. We pledge to continue our unrelenting quest to discover, propagate and provide the best possible care for every human being.

M. Srinivas
Director

2. The Institute and its Committees

INSTITUTE BODY

- | | |
|---|---------------------|
| 1. Dr Mansukh Mandaviya
Minister of Health and Family Welfare
Nirman Bhawan, New Delhi 110011 | President |
| 2. Dr Anil Jain, MP (Rajya Sabha)
D-244, Anupam Garden
Saiyad Ul Ajaib, New Delhi 110068 | Member |
| 3. Shri Ramesh Bidhuri, MP (Lok Sabha)
H.No.179, Sunpath House
Village Tughlakabad, New Delhi 110044 | Member |
| 4. Shri Manoj Kumar Tiwari, MP (Lok Sabha)
24, Mother Teresa Crescent Marg
New Delhi | Member |
| 5. Dr K Vijay Raghvan
Former Principal Scientific Advisor | Member |
| 6. Shri K Sanjay Murthy
Secretary to the Govt. of India
Department of Higher Education
Ministry of Human Resource Development
Shastri Bhawan, New Delhi 110001 | Member |
| 7. Dr Pranjal Modi
Vice Chancellor
Gujarat University of Transplantation Sciences
Opp. Trauma Centre, Civil Hospital Campus
Asarwa, Ahmedabad 380016, Gujarat | Member |
| 8. Shri Rajesh Bhushan
Secretary (Health and Family Welfare)
Ministry of Health and Family Welfare
Government of India
Nirman Bhawan, New Delhi 110011 | Member |
| 9. Professor Yogesh Singh
Vice Chancellor
University of Delhi, Delhi 110007 | Member (Ex-officio) |
| 10. Dr Sunil Kumar
Director General of Health Services
Government of India
Nirman Bhawan, New Delhi 110011 | Member (Ex-officio) |
| 11. Professor Vijay Kumar Shukla
Rector and Vice Chancellor
Banaras Hindu University,
Varanasi 221005, Uttar Pradesh | Member |

- | | |
|--|------------------|
| 12. Dr (Smt) Vijay Laxmi Saxena
Former General Secretary
Indian Sciences Congress Association (ISCA)
Kolkata, West Bengal | Member |
| 13. Dr Kameshwar Prasad
Director
Rajendra Institute of Medical Sciences
Bariatu, Ranchi 834009, Jharkhand | Member |
| 14. Dr Prem Nair
Medical Director
Amrita Institute of Medical Sciences
Elamakkara P.O., Kochi 682041, Kerala | Member |
| 15. Dr S Venkatesh
Principal Advisor
R.No.501, New Epidemiology Block
National Centre for Disease Control
22, Sham Nath Marg, Delhi 110054 | Member |
| 16. Shri Ashish Srivastava
Additional Secretary and Financial Adviser
Government of India
Ministry of Health & Family Welfare
Nirman Bhawan, New Delhi 110011 | Member |
| 17. Professor Randeep Guleria
Director, AIIMS | Member Secretary |

GOVERNING BODY

- | | |
|--|------------------|
| 1. Shri Mansukh Mandaviya | Chairman |
| 2. Dr Anil Jain, MP (Rajya Sabha) | Member |
| 3. Shri Rajesh Bhushan | Member |
| 4. Shri K Sanjay Murthy | Member |
| 5. Shri Ashish Srivastava | Member |
| 6. Dr Sunil Kumar | Member |
| 7. Dr Kameshwar Prasad | Member |
| 8. Dr Pranjal Modi | Member |
| 9. Professor Yogesh Singh | Member |
| 10. Professor Vijay Kumar Shukla | Member |
| 11. Professor Randeep Guleria | Member Secretary |

STANDING FINANCE COMMITTEE

- | | |
|--|----------|
| 1. Shri Rajesh Bhushan | Chairman |
| 2. Shri Ramesh Bidhuri, M.P. (LS) | Member |
| 3. Dr Sunil Kumar | Member |

4. Shri K Sanjay Murthy	Member
5. Dr K Vijay Raghvan	Member
6. Shri Ashish Srivastava	Member
7. Dr Pranjali Modi	Member
8. Professor Randeep Guleria	Member Secretary

STANDING ACADEMIC COMMITTEE

1. Dr Pranjali Modi	Chairman
2. Dr Sunil Kumar	Member
3. Professor Yogesh Singh	Member
4. Shri Ashish Srivastava	Member
5. Professor Vijay Kumar Shukla	Member
6. Dr Prem Nair	Member
7. Dr (Smt) Vijay Laxmi Saxena	Member
8. Professor Randeep Guleria	Member Secretary

STANDING ESTATE COMMITTEE

1. Shri Ramesh Bidhuri, MP (Lok Sabha)	Chairman
2. Shri Manoj Kumar Tiwari, MP (Lok Sabha)	Member
3. Dr (Smt) Vijay Laxmi Saxena	Member
4. Dr Sunil Kumar	Member
5. Professor Yogesh Singh	Member
6. Shri Ashish Srivastava	Member
7. Professor Vijay Kumar Shukla	Member
8. Professor Randeep Guleria	Member Secretary

STANDING HOSPITAL AFFAIRS COMMITTEE

1. Shri Manoj Kumar Tiwari, MP (Lok Sabha)	Chairman
2. Dr Anil Jain, MP (Rajya Sabha)	Member
3. Dr K Vijay Raghvan	Member
4. Dr Sunil Kumar	Member
5. Dr S Venkatesh	Member
6. Dr Kameshwar Prasad	Member
7. Professor Yogesh Singh	Member
8. Professor Randeep Guleria	Member Secretary

STANDING SELECTION COMMITTEE

1. Dr Kameshwar Prasad	Chairman
2. Dr Sunil Kumar	Member
3. Professor Vijay Kumar Shukla	Member
4. Dr S Venkatesh	Member
5. Professor Yogesh Singh	Member
6. Dr K Vijay Raghvan	Member
7. Dr Prem Nair	Member
8. Professor Randeep Guleria	Member Secretary

3. Academic Section

Dean

Anita Saxena (upto 30 November 2021)
Neena Khanna (from 1 December 2021)

Associate Dean

Rajeev Kumar

Registrar

Sanjeev Lalwani

The Academic Section develops policy and plans and executes academic activities at AIIMS, New Delhi. These activities encompass the undergraduate, postgraduate and doctoral programmes for medical, nursing and paramedical courses. These activities are conducted by the undergraduate, postgraduate and paramedical cells.

Admission in various courses over the past three years

S.No.	Name of course	2021-2022	2020-2021	2019-2020
1	MSc/MBiotech/MSc Nursing*	101	76	94
2	MD/MS/MDS/MCh/DM (Direct 6 yrs)	467	446	361
3	DM/MCh	188	201	176
4	PhD	59	90	90
5	Fellowship	36	39	27
6	MBBS*	132	132	107
7	BSc (Nursing)*	96	98	77
8	BSc (Post-Certificate)*	43	45	34
9	Para-medical courses	45	52	45
	Total	1167	1179	1011

*Admissions are done once a year

Students on rolls in the past three years

S.No.	Name of course	2021-2022	2020-2021	2019-2020
1	PhD	303	295	268
2	DM	377	363	379
3	MCh	184	174	183
4	Fellowship programme	45	49	45
5	MD	766	766	739
5	MS	113	115	105
6	MDS	67	67	65
7	MSc/MBiotech/MSc Nursing	161	156	182
8	MBBS	584	523	467
9	BSc (Nursing)	315	323	284
10	BSc (Post-Certificate)	81	78	51
11	Paramedical Courses	182	177	138
	Total	3178	3086	2906

UNDERGRADUATE EDUCATION

The section handles post-admission formalities for new students, develops and revises curricula and administers teaching programmes including internal assessment of undergraduate students admitted to various courses. The courses include MBBS, BSc (Hons) Medical Technology in Radiography, Ophthalmic Techniques, Operation Theatre Technology, BSc Dental Hygiene, BSc Dental Operating Room Assistant (DORA), BSc Nursing (Post-certificate) and BSc (Hons) Nursing courses.

Bachelor of Medicine and Bachelor of Surgery (MBBS)

The pattern of education in MBBS course was reviewed and re-structured in July 2004. The MBBS course is of 5½ years duration and comprises 3 phases and internship. The details are as follows:

Phase	Duration (years)	Training
First	One	Pre-clinical
Second	One-and-a-half	Para-clinical
Third	Two	Clinical
Internship	One	Compulsory rotation in various departments

At present, 125 Indian students are admitted every year to the MBBS course (51 General Category, 34 Other Backward Classes, 12 EWS Category, 19 Scheduled Caste and 9 Scheduled Tribe). For persons with disabilities (PWD), 5% reservation was provided on a horizontal basis. Seven foreign national students are also admitted each year. From 2021, these admissions are made based on merit through the National Eligibility Entrance Test (NEET) conducted by the National Testing Agency.

As on 31 March 2022, 584 MBBS students including 104 interns were on rolls. Nine meritorious MBBS students were awarded scholarships for securing first, second and third positions in the first, second and final phase of professional examinations.

Paramedical and Nursing Education

In 2021–2022, 96 students (39 General Category, 9 EWS Category, 14 Scheduled Caste, 8 Scheduled Tribe and 26 Other Backward Classes) were admitted in BSc (Hons) Nursing course. For BSc Nursing (Post-certificate) course, 43 students (25 General Category, 6 Scheduled Caste, 3 Scheduled Tribe, 8 Other Backward Classes, 1 EWS) were admitted. Students admitted to various B. Sc. courses were as below:

BSc.	General	SC	ST	OBC	EWS	Foreign	TOTAL
Ophthalmic techniques	9	4	2	7	2	0	24
Medical technology in radiography	3	2	1	4	1	0	11
Operation theatre technology	3	1	0	2	0	0	6
Dental hygiene	0	0	0	1	1	0	2
Dental operating room assistant	1	0	0	1	0	0	2

The number of students on rolls in these courses as on 31 March 2022 were as below:

Course	Number of students
Nursing	
BSc Nursing (Post-basic)	81
BSc (Hons) Nursing	315
Paramedical	
BSc (Hons) Ophthalmic Techniques	76
BSc (Hons) Medical Technology in Radiography	40
BSc Operation Theatre Technology	33
BSc Dental Hygiene	11
BSc Dental Operating Room Assistant	22

POSTGRADUATE EDUCATION

The Academic Section looks after all activities pertaining to admission and training of postgraduate students including junior and senior residents. It handles all activities related to Fellowship, PhD, DM, MCh, MD, MS, MDS, MHA, MCh/DM (Direct 6 years Course), M Biotechnology (M Biotech) and MSc Courses in different disciplines.

Admissions to all postgraduate courses for Indian nationals as well as sponsored candidates are made through an All-India Entrance Examination held twice a year for all postgraduate courses except MSc, MSc Nursing and M. Biotechnology courses, for which the examination is held once a year. Foreign nationals students are admitted under the sponsored category through the same entrance examination. In 2021–22, 851 students were admitted in various courses. The number of postgraduate and doctoral students on roll as on 31 March 2022.

Admissions in various courses

S No.	Name of course	July 2021	January 2022	Total
1	MSc/MBiotech/MSc Nursing (August)	101	*	101
2	MD/MS/MDS/M.Ch/DM (Direct 6 yrs)	239	228	467
3	DM/MCh	93	95	188
4	PhD	28	31	59
5	Fellowship	13	23	36
	Total	474	377	851

*Admissions are done once a year.

Postgraduate students on rolls

S.No.	Name of course	Number of students on roll
1	PhD	303
2	DM	377
3	MCh	184
4	Fellowship programme	45
5	MD	766
5	MS	113
6	MDS	67
7	MSc/MBiotech/MSc Nursing	161
	Total	2016

Subject-wise distribution of PhD students on rolls

S.No.	Subject	Open	Sponsored
1	Anatomy	13	0
2	Biochemistry	46	0
3	Biophysics	31	0
4	Biotechnology	18	0
5	Cardiac Biochemistry	3	0
6	Cardiology	1	0
7	Centre for Community Medicine	6	1
8	CIMR	1	0
9	Clinical Neuro Psychology	1	0
10	College of Nursing	1	0

S.No.	Subject	Open	Sponsored
11	Community Ophthalmology (Dr RP Centre)	2	0
12	Dermatology & Venereology	3	0
13	Division of Forensic Pathology & Molecular DNA (JPNATC)	1	0
14	Endocrinology and Metabolism	2	0
15	Forensic Medicine	3	0
16	Gastroenterology and Human Nutrition Unit	8	0
17	Laboratory Medicine	3	0
18	Laboratory Oncology	14	0
19	Medical Oncology (Dr BRA IRCH)	11	0
20	Medical Physics (Dr BRA IRCH)	2	1
21	Microbiology	6	0
22	Neuro-pathology (NSC)	2	0
23	Neuropathology Laboratory	5	0
24	Neuroradiology	1	0
25	Neurology	9	0
26	Neuro-Anaesthesiology & Critical Care	0	1
27	Neuro-psychology	1	0
28	Neurosurgery	1	0
29	Nuclear Magnetic Resonance	6	1
30	Nuclear Medicine	1	0
31	Obst. & Gynaecology	2	0
32	Ophthalmology (RPC)	5	0
33	Ocular Biochemistry (Dr RP Centre)	2	0
34	Ocular Pathology (Dr RP Centre)	2	0
35	Ocular Pharmacology (Dr RP Centre)	3	0
36	Paediatric Surgery	1	1
37	Paediatrics	5	1
38	Pathology	11	0
39	Pharmacology	12	0
40	Physiology	18	0
41	Plastic Surgery	1	0
42	Psychiatry (Clinical Psychology)	2	0
43	Psychiatry	2	0
44	Pulmonary Medicine and Sleep Disorders	3	0
45	Radio-diagnosis	0	1
46	Reproductive Biology	14	0
47	Stem Cell	3	0
48	Surgery (JPNATC)	1	0
49	TII	4	3
	Total	293	10

Subject-wise distribution of DM students on rolls

S.No.	Subject	Open	Sponsored
1	Addiction Psychiatry (NDDTC)	11	0
2	Cardiac Surgical Intensive Care	7	0
3	Cardiac Anaesthesiology	13	2
4	Cardiology	22	2
5	Clinical Haematology	11	2
6	Clinical Pharmacology	3	0
7	Anaesthesiology & Critical Care	24	1
8	Endocrinology	8	3
9	Gastroenterology	22	2
10	Haemato-Pathology	8	3
11	Medicine & Microbiology	7	0
12	Medical Genetics	7	1
13	Medical Oncology	25	0
14	Neonatology	9	3
15	Nephrology	8	1
16	Neuro-Anaesthesiology and Critical Care	16	2
17	Neurology	34	0
18	Neuroimaging and Interventional Neuroradiology	6	2
19	Onco-Anaesthesia	18	0
20	Paediatric Cardiology	6	2
21	Paediatric Nephrology	3	1
22	Paediatric Neurology	9	1
23	Paediatric Pulmonology and Intensive Care	3	2
24	Paediatric Oncology	10	2
25	Pulmonary, Critical Care and Sleep Medicine	12	1
26	Reproductive Medicine	6	3
27	Therapeutic Medicine	5	0
28	Cardiovascular Radiology & Endovascular Interventions	12	0
	Total	325	36

Subject-wise distribution of DM (6 years Course) on rolls

S.No.	Subject	Open	Sponsored
1	Infectious Diseases	16	0
	Total	16	0

Subject-wise distribution of MCh students on rolls

S.No.	Subject	Open	Sponsored
1	Breast, Endocrine and General Surgery	11	1
2	Cardiothoracic and Vascular Surgery	25	2
3	Gastrointestinal Surgery	10	2

S.No.	Subject	Open	Sponsored
4	Gynaecologic Oncology	7	3
5	Head-Neck Surgery and Oncology	7	0
6	Minimal Access Surgery and General Surgery	14	1
7	Neurosurgery	17	0
8	Paediatric Surgery	5	1
9	Plastic and Reconstructive Surgery	15	0
10	Surgical Oncology	15	2
11	Trauma Surgery and Critical Care	12	4
12	Urology	8	3
	Total	146	19

Subject-wise distribution of MCh (6 years course) on rolls

S.No.	Subject	Open	Sponsored
1	Neurosurgery	11	0
2	Paediatric Surgery	6	0
	Total	17	0

Subject-wise distribution of Fellowship Students on rolls

S.No.	Subject	Open	Sponsored
1	Bariatric and Metabolic Surgery	1	0
2	Clinical Research Methodology and Evidence-Based Medicine	3	0
3	Renal Transplant Surgery	0	0
4	Anaesthesiology – Pain Medicine	4	0
5	Epilepsy Surgery and Functional Neurosurgery	2	0
6	Spine Surgery (Neurosurgery)	4	0
7	Skull Base and Cerebrovascular Surgery (Neurosurgery)	2	0
8	Skull Base Surgery (ENT)	1	0
9	Advanced Gastrointestinal Endoscopy	2	0
10	Uro-Oncology	0	1
11	Minimal Invasive Urology (Laparoscopic and Robotics)	2	0
12	Genitourinary Reconstructive Surgery (Adult)	0	0
13	GI Radiology	2	0
14	Thoracic Radiology	2	0
15	Paediatric Radiology	0	0
16	Minimally Invasive Gynaecological Surgery	2	0
17	Uro-Gynaecology	2	0
18	Gastroenterology-Pancreatology	1	0
19	Gastroenterology-Inflammatory Bowel Diseases	2	0
20	Gastroenterology-Hepatology	1	0

S.No.	Subject	Open	Sponsored
21	Cleft and Craniofacial Orthodontics	0	0
22	Neuro-Critical Care	4	0
23	Aortic Surgery	0	0
24	Maternal Foetal Medicine (MFM) in Department of Obstetrics and Gynaecology	1	0
25	Arthroscopy	2	0
26	Joint Replacement	3	0
27	Musculoskeletal Oncology	0	0
28	Pelvic–Acetabular Trauma	0	0
29	Neurology-Stroke	0	0
30	Blood and Marrow Transplantation	0	0
31	Paediatric Anaesthesia	1	0
	Total	44	1

Subject-wise distribution of MD/MS/MDS students on roll

S.No.	Subject	Open	Sponsored
1	Anaesthesiology	71	3
2	Anatomy	15	0
3	Biochemistry	16	0
4	Biophysics	10	0
5	Community Medicine	26	1
6	Conservative Dentistry and Endodontics	11	1
7	Dermatology and Venereology	22	2
8	Emergency Medicine	42	2
9	Forensic Medicine	11	1
10	Geriatric Medicine	22	3
11	Hospital Administration	9	2
12	Infectious Disease- DM (direct 6 year Course)	18	0
13	Laboratory Medicine	11	0
14	Medicine	63	3
15	Microbiology	15	0
16	Neuro Surgery – MCh (Direct 6 years Course)	10	0
17	Nuclear Medicine	19	3
18	Obstetrics and Gynaecology	44	3
19	Ophthalmology	121	1
20	Oral and Maxillofacial Surgery	14	1
21	Orthodontics	15	0
22	Orthopaedics	22	3
23	Otorhinolaryngology (ENT)	23	3
24	Paed. Surgery – MCh (Direct 6 years Course)	6	0
25	Paediatrics	37	3

S.No.	Subject	Open	Sponsored
26	Palliative Medicine	18	2
27	Pathology	31	2
28	Pedodontics and Preventive Dentistry	15	1
29	Pharmacology	14	0
30	Physical Medicine and Rehabilitation	10	1
31	Physiology	21	0
32	Prosthodontics	9	0
33	Psychiatry	33	3
34	Radiodiagnosis	33	3
35	Radiotherapy	15	3
36	Surgery	66	3
37	Transfusion Medicine	5	2
	Total	943	55

Subject-wise distribution of MSc students on rolls

S.No.	MSc	Open	Sponsored
1	Anatomy	10	0
2	Biochemistry	11	0
3	Biophysics	7	0
4	Pharmacology	9	0
5	Physiology	12	0
6	Biotechnology	26	1
7	Nuclear Medicine Technology	26	2
8	Reproductive Biology	11	0
9	Cardio Vascular Imaging and Endovascular Technology	4	0
	Total	116	3

Subject-wise distribution of MSc (Nursing) students on rolls

S.No.	MSc (Nursing)	Open	In-service candidate/F.N
1	Cardiological/CTVS Nursing	3	2
2	Neurosciences Nursing	4	2
3	Paediatric Nursing	4	2
4	Psychiatric Nursing	5	2
5	Oncological Nursing	3	2
6	Nephrological Nursing	4	2
7	Critical Care Nursing	4	3
	Total	27	15

TRAINING PROGRAMMES

There is a provision for short-term, long-term and elective training for students and employees of various organizations in India as well as abroad. During 2021-2022, 166 persons underwent training from 14 February 2022 to 31 March 2022. Various training programmes were suspended from 1 April 2021 to 13 February 2022 due to the COVID pandemic and therefore the number of candidates is much lower than in the previous years.

S.No.	Training	Number of trainees
1	Short Term training: Indian nationals	166
2	Short Term training: Foreign nationals	0
3	Long Term training: Indian nationals	4
4	Elective Training: Foreign nationals (UG students)	0
5	WHO Fellows: Indian nationals	0
6	WHO Fellows: Foreign nationals	0
7	Permission for organizing Conferences/Workshops	149

COMMITTEE MEETINGS

During the year 2021-22, Academic Section organized meetings of the Academic Committee, Staff Council, Dean's Committee, Faculty and Research Presentations as per details given below:

S. No.	Committee	Number of Meetings
1	Academic Committee	1
2	Staff Council	1
3	Dean's Committee	2
4	Faculty (General Discussions)	7
5	Oration	12
6	Research Presentations	1

THE COVID-19 PANDEMIC

The Academic Section continued to provide education and training for the management of COVID-19. Physical classes were restarted with COVID-19 precautions and provided in hybrid mode for some time. The flipped classroom model of teaching was encouraged using the *SARAL* platform.

Center of Excellence (CoE) program:

The CoE program was started in 2020 with the aim of capacity building among regional and state centres in a hub and spoke manner. They aimed at exchange of clinical best practices and subsequent dissemination of knowledge by state CoEs to their respective state facilities. In April 2021, with the onset of the second wave of COVID-19, 10 webinars were organised. These were recorded, edited and shared for dissemination. Subsequently, in collaboration with IMA, four webinars were organised. In January 2022, eight more webinars were organised.

SET (Skills E-learning & Telemedicine) Facility

SET Management Committee

Professor Randeep Guleria	Director, AIIMS: Chairman
Professor N Khanna	Dean (Acad): Co-Chairman
Professor Arvind Bagga	
Professor Peush Sahni	
Professor A Shariff	
Professor Ashish Suri	

Professor Arti Vij
 Professor Rajeev Kumar
 Professor Sanjeev Lalwani
 Professor Ambuj Roy

Assoc Dean (Acad)
 Registrar, Member Secretary
 Facility Co-ordinator In-Charge



Administrative Unit

Professor A Bagga
 Professor K. Luthra
 Professor A Shariff
 Professor Ambuj Roy
 Mr Adarsh Kumar Sharma
 Mr Kushal Kumar
 Mr RP Singh

Chairman, Skills (Dry & Wet Lab) Facility
 Chairman, E-Learning Facility
 Chairman, Telemedicine Facility
 Facility Co-ordinator In Charge
 Chief Technical Officer
 Administrative Officer
 Store Officer

OBJECTIVES

- Establish skills facility-Drylab, wetlab, simulation-based learning
- Established-platform for online learning
- Telemedicine facility to collaborate between Institutes all over India

Workshops conducted by SET Facility

1. Workshop on “Learning Program for undergraduate students using blended learning technique” conducted by SET Facility



2. “Simulation based teaching” (Training of Trainers –ToT) Workshop-12 and 13
November 2021



Advanced Airway Training Laboratory

MD Practical Exam

Total number conducted-1

Total residents enrolled– 8

Airway Thesis

Total number conducted-46

Total residents enrolled– 122

Airway training for Residents

Total number conducted- 21

Total residents enrolled– 107

Difficult Airway Training for Residents

Total number conducted- 49

Total residents enrolled– 140

FOB Guided Intubation

Total number conducted- 4

Total residents enrolled– 10



Ultrasound Simulation laboratory

USG simulation Training

Total number conducted-4 Total residents enrolled– 31

Echo Simulation

Total number conducted-1 Total residents enrolled– 10



Skill lab

1. Undergraduate students

- Skill-based learning for undergraduate students which is integrated in the curriculum
- The program starts in 4th semester using blended online and hands-on teaching methodology
 - Number of skill training sessions-29
 - Number of students attending the various sessions-541

2. Nursing students

- Skill training program for college of nursing students-94
- Number of students attended-2497

3. Postgraduate students-

- Airway Intubation skill training program
 - Total number conducted- 3 Total residents enrolled– 44
- Emergency medicine skill training program for residents
 - Total number conducted – 5 Total residents enrolled– 69
- OBG Skill training (PV Examination, Normal & Instrumental vaginal delivery & Episiotomy)
 - Total number conducted – 5 Total residents enrolled– 47
- BLS Training Program
 - Total number conducted – 1 Total residents enrolled– 19
- ALS Course
 - Total number conducted- 1 Total residents enrolled– 37
- Central line and PICC line workshop
 - Total number conducted- 1 Total residents enrolled– 12
- BLS & ACLS Course (AHA Accredited)
 - Total number conducted- 1 Total residents enrolled– 24
- Internal Examination
 - Total number conducted- 4 Total residents enrolled– 37

4. MCh/DM/Super specialty training courses

- USG guided skill training
 - Total number conducted – 1 Total delegates enrolled– 3

5. Faculty training programs (Training of trainers)

- Total number conducted – 1 Total delegates enrolled- 28

6. BLS Training for school students(On Institute day)

- Total number conducted – 1 Total students trained- 40

7. COLS(Compression Only Life Support) Program for Paramedics

- Total number conducted – 2 Total delegates enrolled– 4



Wet lab

1. Nursing students

- Skill training program for College of nursing students- 19
- Number of students attended- 498

2. Undergraduate students

- Number of skill training sessions- 4
- Number of students attending the various sessions-67

Cadaveric Training Workshops (for Faculty/MCh students/fellowship students)

Animal tissue surgical skill training

- Total number conducted – 1
- Total delegates enrolled– 2

Hands-on workshop –Basic surgical skill training

- Total number conducted– 4
- Total delegates enrolled– 47

Training of Faculty members on robotic instrumentation

- Total number conducted – 1
- Total delegates enrolled– 30

Training on Point of Care Ultrasound in Emergency care

- Total number conducted- 2
- Total delegates enrolled-20

Internal Examination

- Total number conducted– 4
- Total delegates enrolled– 35

ATLS Scenario training course

- Total number conducted – 1
- Total delegates enrolled– 10

For Thesis (Cautery used on Animal tissue)

- Total number conducted – 5
- Total delegates enrolled–7

NRP workshop

1. Total number conducted-1
2. Total delegates enrolled– 35

Workshop on AIIMS Emergency ECG Course

3. Total number conducted –01
4. Total delegates enrolled– 40

ALS Course

- Total number conducted –01
- Total delegates enrolled– 37

Workshop on Microneurosurgery

- Total number conducted –01
- Total delegates enrolled– 70

Endotrainer

- Continuous training program
- Total residents attended-316

Skill Training at WET Lab



SET Facility Delegates Visit

7 July 2021 Hon'ble Minister of Health and Family Welfare, and Delegates' Visit



16 September 2021 Visitors from Lady Hardinge Medical College



25 September 2021 Hon'ble Minister of Health and Family Welfare and Delegates Visit





9 March 2022 Ministerial delegate visit



E-learning

The faculty involved with SET facility have created learning modules for skill learning. Each module which is hosted online consists of standard operating procedures for the skill, audio-video file and multiple-choice questions to learn about the skill.

Distribution of skill modules for undergraduate skill learning-

4th and 5th Semester	Gloving and Gowning
Hand washing	Fracture stabilisation
IM Injection	8th Semester
PVexam	Adult NG tube insertion
Pap smear	Diagnostic LP
IV Cannulation	Ascitic tap
Pulse oximeter use	Cervical collar application
6th semester	Tru-cut Biopsy
Bag and mask	Normal Vaginal Delivery
Chest Compression- Adult	Episiotomy repair
Chest Compression-Paeds	Neonatal OG feeding
Neonatal intubation	Neonatal LP
Basic suturing	Internship
Cu-T insertion	ICD Insertion
Endometrial Aspiration	Urinary Catheterisation
7th Semester	Needle Thoracentesis
LMA Insertion	CVC insertion
Arterial blood sampling	PICC line insertion
Endotracheal Intubation	BLS and ACLS
Glucometer Use	

COVID-related training modules

Endotracheal intubation in COVID patients

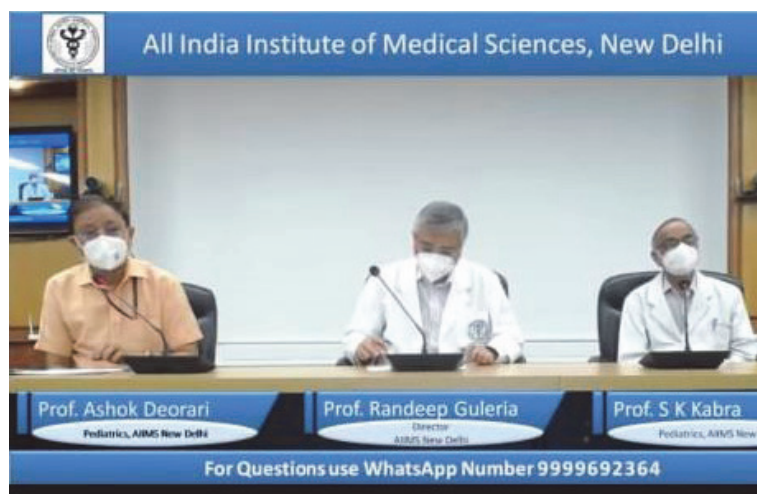
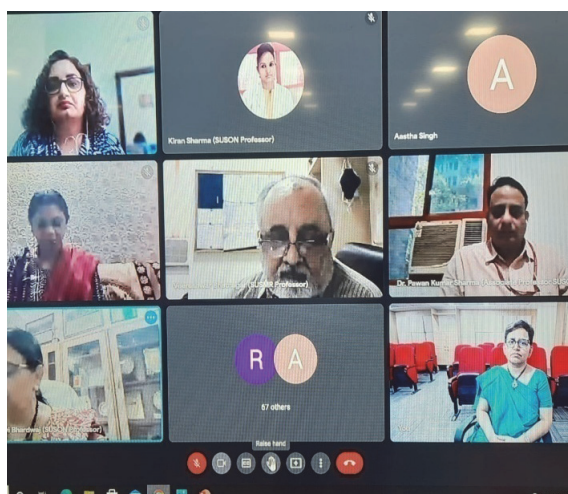
CPR in COVID patients

Clinical management guidelines for Mild/moderate COVID

How to prevent fogging of goggles in PPE

Telemedicine Services

Sl	Activities	Nos.
1	Workshops (Online)	22
2	Webinars (Live streaming)	76
3	Examination – MD, DM, Mch, MS, Exit, MBBS Practical, MD Practical, MSc & BSc Nursing Practical & PhD Viva	133
4	Interview – Online in various posts: Scientist-I & II and others	34
5	Lectures Online	17
6	Meeting (Online)	34
7	Oration	6
8	Presentation	6
9	Recording (Webinars)	22
10	Seminar	10
11	Standing Selection Committee (Online Faculty Interview)	10
12	Tele-Consultation	6
13	Tele-Conference	25
14	Tele-CMEs	15
15	Tele-Evidence	4
16	Telephonic Consultation	37





AIIMS Telemedicine Channel- most viewed programs during 1 April 2021 to 31 March 2022 YouTube Channel name: aaimstelemedicine			
Topic details	Date	Viewers	Department
Webinar Series on COVID-19	23 April 2021	25,914	Pulmonary Medicine, Medicine & Anaesthesia
AIIMS_ IMA Webinar Series: Radiology and blood investigations for Covid-19 and their interpretation	25 June 2021	5,211	Medicine
Covid-19 in Children - Case-based Interactive Session	6 July 2021	9,159	Pediatric
Care for newborn during Covid-19 Pandemic	19 August 2021	6,115	Pediatric& GOI & MoH & FW
66th AIIMS Foundation Day Cultural Event	25 September 2021	15,695	AIIMS Cultural team
66th Foundation Day Celebrations & Golden Jubilee Oration	25 September 2021	5,457	Academic Section
Public Lecture on Dengue Fever	27 September 2021	7,161	Medicine, Emergency Medicine, Pediatric& CCM
NATIONAL OXYGEN STEWARDSHIP PROGRAM. Launch	22 December 2021	9,874	Dr Bharati Pravin Pawar, Hon'ble MOS, H&FW
Interactive Webinar Series on Mild Covid-19 management with Regional & State COEs & IMA	5 January 2022	7,090	AIIMS, Delhi with Regional & State Centers of Excellence & Indian Medical Association (IMA)
Interactive Webinar Series on Covid-19: Blood investigations and their interpretation	6 January 2022	5,656	AIIMS, Delhi with Regional & State Centers of Excellence & Indian Medical Association (IMA)
Interactive Webinar Series on Covid-19: Antiviral Agents, Antibody Cocktail & Other Therapies	11 January 2022	5,543	AIIMS, Delhi with Regional & State Centers of Excellence & Indian Medical Association (IMA)
Managing Children with Covid-19-Interactive Webinar Series on Covid-19	13 January 2022	9165	Pediatrics
Workshop: "Capacity Building on Rational use of Oxygen Administration -Nursing Perspective"	27 January 2022	55,061	Pediatric& College of Nursing
Vasantotsav - AIIMS Cultural Program	7 March 2022	5,521	AIIMS Cultural team

Research Projects

Ongoing

1. Comparison of different video laryngoscopes for Nasotracheal intubation in manikin with difficult airway by experienced anesthesiologists: A randomized, self-controlled, crossover trial. (DM thesis)
2. Comparison of insertion characteristics of I-gel and BASKA mask during an ongoing CPR in a mannequin by medical students: a randomized mannequin study.
3. Comparison of king vision Video laryngoscope channelled and non-channelled blades with direct Laryngoscope for intubation in mannequin by medical students: a randomized mannequin study.
4. Comparison of online content-based training with hands on mannequin-based skill training on basic life support knowledge and skills among medical students.
5. Effect of video-based training reinforcement on retention of basic life support knowledge and skills following a formal simulation-based training among medical students
6. Effectiveness and Perceived Usefulness of a consolidated Skill-based Learning Program amongst Medical Interns: A Mixed Methods Study.
7. Impact of simulation based teaching on knowledge of performer, actual conduct of aerosol generating procedures and self-confidence while handling patients with Covid-19.
8. Remote trainer guided deliberate practice vs self-directed video based training for retention of CPR skills: A randomized, comparative, assessor blinded simulation study.
9. Resuscitation Practices in In-patient Areas at All India Institute of Medical Sciences - a checklist based prospective, observational data collection study
10. Upper limb muscle activity using surface electromyography (SEMG) during laryngoscopy and intubation and perceived workload on manikin in simulated difficult airway. (DM thesis)

Completed

1. Comparing the effect of traditional versus simulation teaching methods on neonatal resuscitation in terms of knowledge, skills and self-confidence of nurses: A randomised controlled trial
2. Comparison of king vision Video laryngoscope channelled and non-channelled Blades with direct Laryngoscope for intubation in mannequin by medical students: a randomised mannequin study.
3. Randomised trial to study the impact of Simulation based learning over Conventional training on knowledge and self-efficacy of nursing students in Pediatric Medicine and Surgery wards.
4. Role of low fidelity simulation in acquisition of midwifery skills among nursing students: A mixed method approach

Faculty contributing to various academic activities at the SET Facility

Sl	Faculty Name	Departments
1	Dr Seenu V	Department of Surgical Disciplines
2	Dr.Rashmi Ramachandran	Anaesthesiology, Pain medicine and Critical care
3	Dr Manpreet Kaur	Anaesthesiology, Pain medicine and Critical care
4	Dr DevalinaGoswami	Anaesthesiology, Pain medicine and Critical care
5	Dr Dalim Baidya	Anaesthesiology, Pain medicine and Critical care
6	Dr Nishant Kumar	Anaesthesiology, Pain medicine and Critical care
7	Dr Abhishek N	Anaesthesiology, Pain medicine and Critical care
8	Dr Parin Lalwani	Anaesthesiology, Pain medicine and Critical care
9	Dr Shreya B Shah	Anaesthesiology, Pain medicine and Critical care
10	Dr Nishkarsh Gupta	Onco Anaesthesiology
11	Dr Rakesh Garg	Onco Anaesthesiology
12	Dr Vinod	Onco Anaesthesiology
13	Dr Gyanendra Pal Singh	Neuro Anaesthesiology
14	Dr Prabudh Goel	Pediatrics Surgery
15	Dr Anu Sachdeva	Pediatrics
16	Dr Rajni Sharma	Pediatrics
17	Dr Jhuma Sankar	Pediatrics
18	Dr Narendra Bagri	Pediatrics
19	Dr K Aparna Sharma	Obstetrics & Gynecology
20	Dr Juhi Bharti	Obstetrics & Gynecology
21	Dr Jyoti Meena	Obstetrics & Gynecology
22	Dr Vidushi Sinha	Obstetrics & Gynecology
23	Dr Archana	Obstetrics & Gynecology
24	Dr Anubhuti Rana	Obstetrics & Gynecology
25	Dr Deepali	Obstetrics & Gynecology
26	Dr Kusum	Obstetrics & Gynecology
27	Dr Rinchen	Obstetrics & Gynecology
28	Dr Ravneet Kaur	Centre for Community Medicine
29	Dr Harshal Salve	Centre for Community Medicine
30	Dr Hemanga K Bhattacharjee	Surgical Disciplines
31	Dr Suhani	Surgical Disciplines
32	Dr Mohit Joshi	Surgical Disciplines
33	Dr Kamlesh Kumari Sharma	College of Nursing
34	Dr Smita Das	College of Nursing
35	Ms Levis Murray	College of Nursing

Sl	Faculty Name	Departments
36	Dr Arvind Kumar	Medicine
37	Dr Ranveer Singh Jadon	Medicine
38	Dr Upendra Raj	Medicine
39	Dr Akshay Kumar	Emergency Medicine
40	Dr Prabhjot Singh	Urology
41	Dr Rishi Nayyar	Urology
42	Dr Brusabhanu Nayak	Urology
43	Dr RK Yadav	Nephrology
44	Dr Rajni Sharma	Pediatrics
45	Dr Anju Gupta	Anaesthesia
46	Dr Animesh Ray	Medicine
47	Dr Pankaj Jorwal	Medicine

4. Examination Section

Dean (Examination)

KK Deepak

Associate Dean (Examination)

Naval K Vikram

Assistant Controller (Examination)

MK Singh

Finance and Chief Accounts Officer

Padam Singh

During the period under review (2019-2022), the Examination Section conducted the following Professional, Entrance and Recruitment Examinations:

In addition to Entrance Examinations,

1. A combined Recruitment Examination for Nursing Officer (**NORCET**) for all AIIMS as per decision of CIB and direction of MoHFW was conducted.
2. Combined PG Entrance Examination for INIs (**INICET**) was conducted.
3. In-house Examination for various Professional Courses (Undergraduate, Postgraduate, Super specialty, Fellowship have been completed within regular timeframe. **Online Digital System** were developed for management of thesis evaluation and conduct of professional examination (e-STEMM) in addition to computerization of Professional Examinations
4. **Recruitment Examination** for 56 type of posts under Group B and C were also held nation wide.

During the period under review (2019-2022), the Examination Section conducted the following Professional and Entrance Examinations:

A. POSTGRADUATE AND UNDERGRADUATE PROFESSIONAL EXAMINATIONS

Details of various undergraduate and postgraduate professional examinations conducted by AIIMS from 1 April 2019-31 March 2022

Data of Undergraduate Professional Examinations

S. No.	Examination	2021-2022	2020-2021	2019-2020
1.	First MBBS	148	115	113
2.	Second MBBS	117	107	110
3.	Final MBBS	105	74	76
4.	First MBBS Supplementary	34	26	22
5.	Second MBBS Supplementary	29	27	10
6.	Final MBBS Supplementary	05	15	07
7.	Final MBBS Compartmental	03	01	—
8.	BSc (H) Nursing Phase-I	95	81	76
9.	BSc (H) Nursing Phase-II	69	70	74
10.	BSc (H) Nursing Phase-III	68	73	60
11.	BSc (H) Nursing Phase-IV	73	60	77
12.	BSc (H) Nursing Phase-I Supplementary	16	14	06
13.	BSc (H) Nursing Phase-II Supplementary	05	04	07
14.	BSc (H) Nursing Phase-III Supplementary	04	03	03
15.	BSc (H) Nursing Phase-IV Supplementary	09	01	02
16.	BSc (Post Basic) Nursing Phase-I	44	30	26

17.	BSc (Post Basic) Nursing Phase-II	29	24	24
18.	BSc (Post Basic) Nursing Phase-I Supplementary	02	02	03
19.	BSc (Post Basic) Nursing Phase-II Supplementary	—	01	03
20.	BSc in Dental Hygiene Ph-I	04	03	02
21.	BSc in Dental Hygiene Ph-II	03	02	—
22.	BSc in Dental Hygiene Ph-III	02	—	—
23.	BSc in Dental Hygiene Ph-I Supplementary	01	—	—
24.	BSc in Dental Hygiene Ph-II Supplementary	—	—	—
25.	BSc in Dental Hygiene Ph-III Supplementary	—	—	—
26.	BSc Dental Operating Room Assistance Ph-I	07	07	04
27.	BSc Dental Operating Room Assistance Ph-II	07	04	—
28.	BSc Dental Operating Room Assistance Ph-III	04	—	—
29.	BSc Dental Operating Room Assistance Ph-I Supplementary	—	—	—
30.	BSc Dental Operating Room Assistance Ph-II Supplementary	—	—	—
31.	BSc Dental Operating Room Assistance Ph-III Supplementary	—	—	—
32..	BSc in Operation Theatre Technology Ph-I	08	08	17
33.	BSc in Operation Theatre Technology Ph-II	05	17	—
34.	BSc in Operation Theatre Technology Ph-III	16	16	—
35.	BSc in Operation Theatre Technology Ph-I Supplementary	06	01	09
36.	BSc in Operation Theatre Technology Ph-II Supplementary	01	05	—
37.	BSc in Operation Theatre Technology Ph-III Supplementary	01	01	—
38.	BSc (H) Medical Radiology and Imaging Technology Ph-I	10	11	12
39.	BSc (H) Medical Radiology and Imaging Technology Ph-II	11	10	10
40.	BSc (H) Medical Radiology and Imaging Technology Ph-III	10	10	08
41.	BSc (H) Medical Radiology and Imaging Technology Ph-I Supplementary	02	04	03
42.	BSc (H) Medical Radiology and Imaging Technology Ph-II Supplementary	03	02	03
43.	BSc (H) Medical Radiology and Imaging Technology Ph-III Supplementary	04	04	—
44.	Bachelor of Optometry Ph-I	21	21	16
45.	Bachelor of Optometry Ph-II	19	15	15
46.	Bachelor of Optometry Ph-III	17	16	13
47.	Bachelor of Optometry Ph-I Supplementary	16	08	08
48.	Bachelor of Optometry Ph-II Supplementary	08	09	09
49.	Bachelor of Optometry Ph-III Supplementary	08	04	04
	Total	1049	906	832

Data of Postgraduate Professional Examinations

S.No.	Examination	2021-2022	2020-2021	2019-2020
1.	MD	236	240	193
2.	MS	28	39	39
3.	MDS	24	20	14
4.	Fellowship Programme	34	35	32
5.	M Biotechnology	15	15	14
6.	DM	121	123	130
7.	MCh	59	65	56
8.	MSc Courses	40	45	47
9.	MSc Nursing-I	25	25	29
10.	MSc Nursing-II	21	28	22
	Total	603	635	576

B. Entrance Examinations for Undergraduate and Postgraduate Courses

S. No.	Examination	2021-2022	2020-2021	2019-2020
1.	MD/MS/MDS (AIIMS)	134992	119892	90032
2.	DM/MCh/Fellowship Programme/MD (Hosp Admn)	4787	9271	7091
3.	Fellowship Programme	361	364	251
4.	MBBS (AIIMS)	—	—	389923
5.	Online BSc (Hons) Nursing	16485	9697	8061
6.	Online BSc (Post-Basic) Nursing	457	489	243
7.	Online BSc (Hons) Paramedical Courses	6878	4200	4357
8.	Online MSc Courses	733	785	608
9.	Online MSc Nursing	2958	2236	1650
10.	Online M Biotechnology	606	576	394
11.	Senior Residents Recruitment Examination	3170	2669	3003
12.	PhD July	673	1247	1033
13.	INI-SS January	7047	—	—
14.	BSc (Hons) Nursing (RAK)	123	—	—
15.	MSc Nursing (RAK)	309	322	—
	Total	179579	151748	506646

Candidate Passed in PhD Viva-Voce Examination from 1 April 2019 to 31 March 2022: 215 (Two Hundred Fifteen).

C. Examination for Recruitment (1 April 2019 to 31 March 2022)

S.No.	Name of Examination	2021-2022	2020-2021	2019-2020
1.	Tutor in Nursing - (Interview)	—	—	43
2.	Scientist – I (Biostatistics) - (Interview)	—	—	06
3.	Clinical Psychologist - (Interview)	—	—	15
4.	Nursing Officer 2019 AIIMS, New Delhi&04 Central Govt Hospital (RML, Safdarjung, LHMC, KSCH)	99178	104194	57099
5.	Screening/Qualifying Test of MRT	—	—	228
6.	Screening/Qualifying Test of PA	—	—	28
7.	Screening/Qualifying Test of PS	—	—	07
8.	Screening/Qualifying Test of Steno	—	—	04
9.	Screening/Qualifying Test of Junior.AO	—	—	07
10.	Medical Laboratory Technologist	—	1747	—
11.	Medical Social Service Officer Gd-II	—	307	—
12.	Nuclear Medical Technologist	—	15	—
13.	Operation Theatre Assistant	—	1854	—
14.	Pharmacist Gd-II	—	1836	—
15.	Sanitary Inspector Gd-II	—	107	—
16.	Store Keeper (General)	—	260	—
17.	Stenographer (Direct)*	—	2070	—
18.	LDC Skill Departmental	—	18	—
19.	Junior Hindi Translator	—	92	—
20.	Assistant Warden	—	26	—
21.	Assistant Store officer	14	—	—
22.	Programmer	286	836	—
23.	Receptionist	98	—	—
24.	Assistant dietician	248	—	—
25.	Junior Medical Lab. Technologist	831	—	—

26.	Junior Physiotherapist	2703	—	—
27.	Occupational Therapist	247	—	—
28.	Technician Radiology	376	1140	—
29.	Dental Technician Gd-II	48	—	—
30.	Statistical Assistant	160	—	—
31.	Technical Assistant (ENT)	115	—	—
32.	Technician Radiotherapy Gd-II	89	—	—
33.	Ophthalmic Technician Gd-I	324	—	—
34.	Draftsman Gd-III	77	—	—
35.	Junior Photographer	35	—	—
36.	Dy General Manager Cafeteria	196	—	—
37.	Librarian for AIIMS, New Delhi	287	—	—
38.	Librarian for AIIMS, Vijaypur, Jammu	47	—	—
39.	Junior Engineer (Civil)	—	925	—
40.	Junior Engineer (AC & R)	28	96	—
41.	Junior Engineer (Electrical)	—	485	—
42.	Physical Training Instructor	135	—	—
43.	Driver Ordinary Grade	396	—	—
44.	Multipurpose Worker	434	—	—
45.	Storekeeper (Drugs)	303	1396	—
46.	Workshop Assistant (CWS)	154	—	—
47.	Workshop technician Gd-II (R&AL)	36	—	—
48.	Medical Lab. Technologist AIIMS-Jammu	37	—	—
49.	Stenographer AIIMS- Jammu	16	—	—
50.	Junior Administrative Assistant AIIMS-Jammu	22	—	—
51.	UDC Departmental Recruitment Exam	47	—	—
52.	Bariatric Coordinator	04	—	—
53.	Genetic Counselor	05	—	—
54.	Technician (Telephone) Grade-IV	15	—	—
55.	Vocational Counselor	11	—	—
	Total	107002	117404	57437

*Stenographer Skill Test conducted from 1 February 2021 to 6 February 2021

Details of Recruitment Examinations:

Overall Details of Examinations:

- Details of Undergraduate Professional Examinations:
 - Number of Examinations conducted: 49 (Forty-nine)
 - Number of candidates: 2787
- Details of Postgraduate Professional Examinations:
 - Number of Examinations conducted: 10 (Ten)
 - Number of candidates: 1814
- Details of Entrance Examinations for Academic Courses:
 - Number of Entrance Examinations conducted: 15 (Fifteen)
 - Number of candidates: 837973
 - Candidate Passed in PhD Viva-Voce Examination: 215 (Two Hundred Fifteen).
- Details of Recruitment Examination:
 - Number of Examinations conducted: 55 (Fifty-five)
 - Number of candidates: 281843

Entrance Examinations conducted

1. AIIMS PG Entrance Examinations for admission to MD/MS/MDS Courses were conducted on 5 May 2019 and 14 June 2019 for July 2019 session at 76 centres (Delhi-6, Outstation-70) and 17 November 2019 for January 2020 session at 138 centres (Delhi-4, Outstation-134), respectively. The results were declared on 19 June 2019 and 22 November 2019, respectively. In the year 2020 Examinations were conducted on 11 June 2020 for July 2020 session at 250 centres (Delhi-24, Outstation-226) and INI-CET for PG Courses of INIs was conducted on 20 November 2020 for January 2021 session at 582 centres (Delhi/NCR-58 Outstation-524), respectively. The results were declared on 17 June 2020 and 27 November 2020, respectively.
INICET for admission to PG courses [(MD/MS/MDS/MCh (6 years)/DM (6 years))] was conducted on 22 July 2021 for July 2021 session at 420 centres (Delhi-15, Outstation-405) and INI-CET for PG courses of INIs were conducted on 14 November 2021 for January 2022 session at 381 centres (Delhi/NCR-11, Outstation-370), respectively. The results were declared on 26 July 2021 and 20 November 2021, respectively.
2. Selections for various Post-Doctoral (super-specialty) courses viz, DM/MCh/MD (Hospital Administration) for July 2019 and January 2020 sessions and Departmental Assessment were done on 24 April 2019 to 26 April 2019 for July 2019 session and 18 November 2019 to 20 November 2019 for January 2020 session and in the year 2020 examination was conducted for July 2020 and January 2021 sessions and Departmental Assessment were made on 22 June 2020 to 24 June 2020 for July 2020 session and 2 December 2020 to 4 December 2020 for January 2021 session
INI-SS selection for admission to various Post-Doctoral (super-specialty) courses viz. DM/MCh/MD (Hospital Administration) for January and July 2022 sessions and Departmental Assessment were done during 20 December 2021 to 22 December 2021.
3. The Institute has also conducted online test for the Post of Senior Residents/Senior Demonstrators for July 2019 session on 9 June 2019 and January 2020 session on 24 November 2019 respectively and also in the year 2020 examination was conducted online for the Post of Senior Residents/Senior Demonstrators for July 2020 session on 21 August 2020 and January 2021 session on 1 February 2021 and in the year 2021 examination was conducted in online mode for the Post of Senior Residents/Senior Demonstrators for July 2021 session on 27 June 2021 and January 2022 session on 12 December 2021.
4. Selections of candidates for registration to PhD Programme for January 2019 and July 2019 sessions was done on 14-15 June 2019. In 2020 the examination was conducted online for the July 2020 session on 21 August 2020 and January 2021 session on 1 February 2021 and the registration for PhD Programme was conducted in July 2021 and January 2022 and Departmental Assessment was done on 18 November 2021 and 24 March 2022.
5. The Entrance Examination for admission to MBBS course of AIIMS including 14 new AIIMS-like Institutes for August 2019 session was held in 239 (local=14 and outstation=225) centres in 151 (One hundred and fifty-one) cities of India on 25 and 26 May 2019 (in 2 shifts on each day).
6. BSc (Hons) Nursing Entrance Examination was held in Delhi and 6 AIIMS (Bhopal, Bhubaneswar, Jodhpur, Patna, Raipur and Rishikesh) on 23 June 2019 in CBT online mode and in the year 2020 examination was conducted for Delhi and 6 AIIMS (Bhopal, Bhubaneswar, Jodhpur, Patna, Raipur & Rishikesh) on 21 August 2020 in CBT online mode. In year 2021 for AIIMS, New Delhi and 11 other AIIMS on 28 December 2021 in CBT online mode.
7. The Entrance Examination for admission to MSc courses was held on 29 June 2019 and MBiotechnology courses August 2019 session was held in Delhi on 29 June 2019 in online mode and in the year 2020 examination for admission to MSc courses was held on 20 August 2020 and MBiotechnology courses August 2020 session was held in Delhi on 20 August 2020 in online mode. The examination for admission to MSc courses held on 27 June 2021 and MBiotechnology courses August 2021 session was held in Delhi on 27 June 2021 in online mode.
8. The Entrance Examination for admission to MSc Nursing course was held on 1 June 2019 in Delhi only in CBT online mode and in the year 2020 the examination was held on 11 June 2020 in Delhi and Outstation in CBT online mode and also in the year 2021 the examination was held on 27 June 2021 in Delhi and Outstation in CBT online mode. The admission was made by allotment of seats on merit basis by online counseling.
9. BSc Nursing (Post-Basic) Entrance Examination was held in Delhi in CBT online mode on 1 June 2019 followed by the personal assessment of candidates on 26 June 2019 and in the year 2020 Examination was held in Delhi and Outstation in CBT online mode on 11 June 2020 and in the year 2021 examination was held in Delhi and Outstation in CBT online mode on 27 June 2021 followed by the personal assessment of candidates on 15 and 16 July 2021.

10. The Entrance Examination for admission to Para-Medical courses viz BSc (Hons) in Bachelor of Optometry and BSc (Hons) Medical Technology in Radiography, BSc in Dental Operating Room Assistant (DORA), BSc in Dental Hygiene, BSc in Operation Theatre Technology (OTT), Medical Laboratory Technology (MLT), BSc in Operation Theatre and Anesthesiology Technology (OTAT), BSc in Medical Technology and Imaging Therapy for August 2019 session were held in Delhi in CBT online mode on 15 June 2019.

The Entrance Examination for admission to Para-Medical courses viz BSc (Hons) in Bachelor of Optometry and BSc (Hons) Medical Technology in Radiography, BSc in Dental Operating Room Assistant (DORA), BSc in Dental Hygiene, BSc in Operation Theatre Technology (OTT), Medical Laboratory Technology (MLT), BSc in Operation Theatre and Anesthesiology Technology (OTAT), BSc in Medical Technology and Imaging Therapy for August 2020 session were held in Delhi and Outstation in CBT online mode on 21 August 2020.

Bachelor of Optometry, Bachelor of Medical Radiology and Imaging Technology, BSc in Dental Operating Room Assistant (DORA), BSc in Dental Hygiene (DH) & BSc in Operation Theatre Technology (OTT) at AIIMS, New Delhi, Medical Laboratory Technology (MLT), Operation Theatre and Anaesthesiology (OTAT) Medical Technology in Radiography and Medical Technology in Radiotherapy at AIIMS Bhubaneswar and BSc Anaesthesia Technology, BSc in Urology Technology, BSc in Perfusion Technology, BSc in Nuclear Medicine Technology, BSc Radiotherapy Technology, BSc Sleep Technology, BSc in Respiratory Therapy, BSc in Neuro-monitoring Technology, BSc in Orthopaedics Technology, BSc in Medical Laboratory Technology, BSc in Dental Hygiene, BSc in Dental Operating Room Assistant, BSc in Medical Radiology & Imaging Technology at AIIMS Rishikesh, BSc in Lab Technology and BSc in Emergency Medicine Technician Course at AIIMS Nagpur for the Academic Session 2021.

11. The Entrance Examination for fellowship programme for July 2019 session and January 2020 session were conducted in Delhi on 13 April 2019 and 9 November 2019, respectively and in the year 2020 for session July 2020 and January 2021 session were conducted in Delhi on 11 June 2020 and 20 November 2020 respectively and in the Entrance Examination for fellowship programme for July 2021 session and January 2022 session were conducted in Delhi on 17 April 2021 and 20 November 2021, respectively

Participation in other events:

1. The Examination Section introduced online counseling for admission to AIIMS-PG, MBBS, BSc (Hons) Para-Medical, MSc (Nursing) Courses with the participation of Faculty and Staff of Academic Section and also actively participated in personnel assessment for BSc (Nursing) Post-Certificate Course in 2019, 2020 and 2021.
2. Examination Section is also providing technical expertise to various universities and institutions in India for conduct of their entrance examinations.

5. General Administration

Deputy Director (Administration)

Vishal Chauhan

Deputy Secretary

Dr R Gopinath

The General Administration, including Personnel and Establishment Security, Estate, Engineering Services Department, Stores, Coordination, Parliamentary matters, grievances etc of the Institute are controlled and supervised by the Deputy Director (Admn). There are various branches looking after the above mentioned areas. Each branch is headed by a Senior Officer with supportive officers and staff members. A brief description of the Officers/Staff looking after various branches is given below:

Chief Administrative Officer

Deo Nath Sah

Superintending Engineer

AIIMS Campus

Vinod Kumar Sharma (officiating)

AIIMS, Jhajjar Campus

Hridesh Kumar

Executive Engineers

Vidya Bhushan

Ashok Kumar

Harpal Singh

D Vijay Raghwan

Vinod Kr Sharma

DK Wadhwa (from 7 June 2021)

Chief Security Officer

Satyendra Kumar

Deputy Chief Security Officer

Deepak Kumar (till 31 October 2021)

RS Rawat

Senior Administrative Officer

Lalit Oraon

Anita Tete

B.S. Gill

Rajendran Pillai G. (up to 3 May 2021)

Vipin Prakash (from 19 January 2022)

Administrative Officer

SL Chamoli (up to 30 June 2021)

R Santhosh Kumar (up to 13 March 2022)

Bhoop Singh

Joginder Kumar

Vimal Thakral

Vipin Prakash (up to 18 January 2022)

Kushal Kumar (up to 11 December 2021)

Nirmala Jacinta Kujur (from 29 July 2021)

Nikhil Bhatnagar

RK Sharma

Uttam Chand

Latha Paulaoose

Saroj Pant

Rajender Singh (from 9 February 2022)

Senior Stores Officers

Rakesh Kumar

Narender Kumar

Store Officers

Kamal Singh

Yatendra Kumar

Archana Sharma

Manohar Arya Prithi Singh

Responsibilities of Establishment Section and General Administration include recruitment, service matters, conduct meetings of the statutory committees, management of estate and property, purchase of equipment, materials and consumables, security arrangements, employees' welfare, etc.

The total sanctioned staff strength of the Institute is 12,554. Positions filled till 31 March 2022 are 10,399 and include staff of all Centres/Main Hospital/Director Office. The number of group-wise sanctioned strength and staff in-position in the past 3 years is mentioned below:

S. No.	Category/Group	2019-20		2020-21		2021-22	
		Sanctioned	In-position	Sanctioned	In-position	Sanctioned	In-position
1.	Faculty	1095	759	1099	743	1131	717
2.	Group “A” (non-faculty)	650	489	665	510	701	509
3.	Group “B”	7359	6215	7390	5770	7605	6558
4.	Group “C” & erstwhile Group “D”	4309	3485	4337	3482	4248	3332
	Total	13413	10948	13491	10505	13685	11116

Composition of SC/ST/OBC/Women Cell at AIIMS, New Delhi
Liaison Officer for SC/ST

Dr Rajpal, Professor of Ophthalmology, Dr RP Centre, AIIMS

Liaison Officer for OBC

Dr Dayanand Sharma, Professor & Head of Radiotherapy, Dr BRA IRCH

Senior Administrative Officer

Ms Anita Tete

During the past 3 years, the number of complaints/representations received are given below:

Complaint/representation status	2019-20	2020-21	2021-22
Total number of Representations	10	32	43
Total number of cases disposed off	07	24	36
Total number of cases under consideration	03	08	07

6. Hospital

Medical Superintendent

DK Sharma

Department of Hospital Administration

Professor and Head

Sidhartha Satpathy

Professors

IB Singh Sanjay Kumar Arya

Additional Professors

Nirupam Madaan Anoop Daga
Amit Lathwal Mahesh R.

Associate Professors

Angel Rajan Singh Parmeshwer Kumar Vijaydeep Siddharth

Assistant Professors

Abdul Hakim Jitender Sodhi Vikas H
Sheetal Singh Laxmi Tej Wundavalli Kanika Jain
Anant Gupta

Bed Complement

Bed Category	Hospital		Centre for Dental Education and Research	Cardiothoracic and Neurosciences Centre
	Main	Burns and Plastic Surgery block		
General	836	56	20	317
ICU	93	15	–	74
Observation	69	–	–	09
Private Ward	165	10	–	64
Total	1163	81	20	464
Grand Total	1244			

Hospital Performance Indices

6.1 Medical Records Department

Parameters	Main Hospital			CNC			CDER			Inference
	2021-22	2020-21	2019-20	2021-22	2020-21	2019-20	2021-22	2020-21	2019-20	
Average length of stay (days)	9.8	10.4	9.9	12.0	13.8	10.5	4.9	5.1	5.0	Indicates effective utilization of beds of regular admissions
Average bed occupancy rate (%)	69.8	56.2	85.9	68.6	46.7	80.8	46.0	19.7	69.6	Indicates fair occupancy
Net death rate (%)	2.0	3.0	1.7	4.1	6.9	2.6	0.0	0.0	0.0	Indicates low mortality rate despite the large no. of critically ill patients admitted to the hospital
Combined crude infection rate (%)	8.3	8.9	5.6	–	–	–	–	–	–	

Officer In-charge

Dr Vikas H

Medical Record Officer & Sub Registrar (Births & Deaths)

Sandeep M Singh

COVID-19 (Pandemic)

The role of Medical Record Section is to accumulate Covid-19 data from various Covid Centres of AIIMS, i.e. NCI Jhajjar, JNPA Trauma Center and from the wards of Main Hospital to compile and send to the several agencies and departments of Govt. of India, e.g. IDSP, DGHS, DC south, Death Audit Committee, Healthcare workers, line listing and uploading the information on Covid-19, Data management portal, etc. on daily basis even on Sundays and Gazetted holidays.

Education

A brief lecture was delivered on the activities and management of Medical Record Section at AIIMS by Dr Biraj Paul Duty Officer and Mr Sandeep M Singh, MRO on 15 May 2021 through online mode.

Training

1. Five staff were nominated from Medical Record section, Main Hospital to attend the workshop on “gender sensitivity” on 22 September 2021 at 2:00 pm in the JLN auditorium.
2. The training on Medical Certification of Cause of Deaths (MCCD) scheduled on 28 December 2021 through online mode was attended by following staff from Medical Record Section, Main Hospital, AIIMS, New Delhi.
 - A. Ms Neelam Baria (MRT)
 - B. Mr Sandeep Kumar (MRT)
3. A training-cum-demonstration was attended by Mr Sandeep M Singh, Mr Satendra Singh, Mr Rajinder Singh on 9 February 2022 in the NDMC, building Palika Kendra, New Delhi regarding implementation of Block Chain Technology in Births and Deaths registration software in NDMC.

Court Attendance

A total of 71 summons/notices were received in the Medical Record Section (Main Hospital) from various Courts of Delhi and outside Delhi. The concerned doctors/consultants (as per case) and staff from the Medical Record Department were deputed to attend the Courts on behalf of AIIMS Hospital to depose/settle the case.

Aid in Medical Education and Research

Approximately 10830 Medical Case Records (Case Sheets) were retrieved and issued to the Residents authorized by the concerned Consultants for research, education and other official purposes.

Computerization and Digitization of Medical Records

Digitization of Inpatient medical records of Main Hospital was started from the year 2014 for easy retrieval of records. More than 1.66 crore images approximately of case records of the patients have been scanned for future reference.

In-patient Services

1. The yearly statistical health bulletin at a glance of Main Hospital, CDER and CN Centre of AIIMS is given in Table I.
2. The AIIMS hospital has maintained its tradition of services and quality of patient care in spite of increasing number of patients who visited the hospital from all over India as well as from abroad. A total number of 97244 patients were admitted during the financial year in various clinical units of Main Hospital, CN Centre and CDER. The details of patient load as per Department-wise, State-wise and Gender-wise, Admissions, Discharges and Average Length of Stay are given in Table II and Figures 1 to 4. The details of deaths department-wise and its indices are given in Table III.
3. A total number of 87209 Surgical Procedures (Major and Minor) were performed during the year in various Surgical Disciplines of the Main Hospital, CN Centre and Centre for Dental & Education Research (CDER) is given in Table IV.
4. Medical Record of indoor patients are systematically classified and categorized for easy retrieval for the purposes of Education, Research/Thesis, Presentation, Insurance, Court Cases, etc. These records are stored in Compactors according to CR Numbers. All the In-patient records of Main Hospital, CN Centre and Centre for Dental and Education Research (CDER) are maintained separately by Medical Record Section of the Main Hospital.

Central Admission Office and Hospital Enquiry

1. The Central Admission Office & Enquiry (CAO&E) of AIIMS functions round the clock for 365 days without break.
2. All admissions to the inpatient areas of Main Hospital, CN Centre and CDER are made through this office. It functions like the heart of the Institute and performs important functions like patient registration for initiation of Admission Slip (Face-Sheet) and issuing of attendant passes etc.
3. The Admission Office also gives information to several ministries as well as to the higher authorities of AIIMS about the hospitalization of VIPs/VVIPs.
4. In addition, the office also functions as a general enquiry providing prompt and accurate information regarding the patients and the Institute. The staff working there are on shift duties it is manned by Junior Reception Officer, Junior Medical Record Officer and Medical Record Technicians etc.

Outpatient Department and Specialty Clinics

A total of 1039523 patients attended various General Outpatients Department (OPD), Specialty Clinics and Emergency Department of the Main Hospital, AIIMS. The details of the outpatient load profile are given in Table V.

OTHER ACTIVITIES

S. No.	Name of activity	Total Numbers
1.	Amendments made in the Inpatients Records during the year	1033
2.	Amendments made in the Birth Records during the year	386
3.	Amendments made in the Death Records during the year	538
4.	Admission & other charges exempted for Indigent patients and patients admitted under JSSK Scheme in Main Hospital & CDER	15679
5.	Admission & other charges exempted for Indigent patients and patients admitted under JSSK Scheme in CN Centre & CDER	626 (CNC) 32 (CDER)

The statistical data for the year 2021-2022 (Annual Report) has been prepared/compiled by Mr Rajbir Singh, Medical Record Technician under the supervision of Medical Record Officer.

Table I. Yearly Statistical Health Bulletin at a glance

S. No.	Item	Main Hospital			CT and NS Centres			CDER		
		2021-22	2020-21	2019-20	2021-22	2020-21	2019-20	2021-22	2020-21	2019-20
1.	Total Patient Admitted	83801	55282	120110	12747	6082	20127	696	255	1948
	a. Adults and Children	81801	53691	117621	-	-	-	-	-	-
	—Regular	26994	18934	33555	8702	4653	12489	590	237	895
	—Short	54807	34757	84066	4045	1429	7638	106	18	1084
	b. Newborn infants	2000	1591	2489	-	-	-	-	-	-
	Regular	2000	1591	2489	-	-	-	-	-	-
	Short	00	00	00	-	-	-	-	-	-
2.	Patients discharged (including LAMA, absconded, discharge on request and deaths)	79833	52152	116565	12300	5512	19662	685	248	1933
	a. Adults and Children	77870	50587	114023	-	-	-	-	-	-
	—Regular	25113	17163	32894	8461	4210	12247	581	231	868
	—Short	52757	33424	81129	3839	1302	7415	104	17	1065
	b. Newborn infants	1963	1565	2542	-	-	-	-	-	-
	—Regular	1963	1565	2542	-	-	-	-	-	-
	—Short	00	00	00	-	-	-	-	-	-
3.	Total days of care	319323	228096	431711	105053	59573	136559	2935	1187	5405
	a. Adults and Children	305479	215284	410275	-	-	-	-	-	-
	—Regular	251822	181860	329146	101214	58271	129144	2831	1170	4340
	—Short	52757	33424	81129	3239	1302	7415	104	17	1065
	b. Newborn infants	14744	12812	21436	-	-	-	-	-	-
	—Regular	14744	12812	21436	-	-	-	-	-	-
	—Short	00	00	00	-	-	-	-	-	-
4.	Average length of stay of regular patients	9.8	10.4	9.9	12.0	13.8	10.5	4.9	5.1	5.0
	a. Adults and Children	10.0	10.6	10.0	-	-	-	-	-	-
	b. Newborn infants	7.5	8.2	8.4	-	-	-	-	-	-
5.	Total patient care days (as per daily census)	288958	224221	342644	113951	77558	139190	2518	1223	4318
	a. Adults and Children	286626	222311	339382	-	-	-	-	-	-
	b. Newborn infants	2332	1910	3262	-	-	-	-	-	-

6.	Daily average number of patients (as per daily census)	792	614	939	312	212	381	07	03	12
	a. Adults and Children	785	609	930	-	-	-	-	-	-
	b. Newborn infants	07	05	09	-	-	-	-	-	-
7.	Average bed occupancy	69.8	56.2	85.9	68.6	46.7	80.8	46.0	19.7	69.6
	a. Adults and Children	69.2	55.7	85.1	-	-	-	-	-	-
	b. Newborn infants	0.6	0.5	0.8	-	-	-	-	-	-
8.	Births in Hospital	2000	1588	2489	-	-	-	-	-	-
	a. Male	1016	828	1296	-	-	-	-	-	-
	b. Female	983	759	1189	-	-	-	-	-	-
	c. Intersex	01	01	04	-	-	-	-	-	-
9.	Total inpatient deaths (including newborns)	2301	2369	3077	629	504	697	00	00	01
	a. Deaths under 48 hours	685	842	1148	126	134	191	00	00	00
	b. Deaths over 48 hours	1616	1527	1929	503	370	506	00	00	01
	c. Gross death rate (%)	2.9	4.5	2.6	5.1	9.1	3.5	0.0	0.05	0.0
	d. Net death rate (%)	2.0	3.0	1.7	4.1	6.9	2.6	0.0	0.05	0.0
10.	Total attendance in casualty	107853	95184	149550	-	-	-	-	-	-
	Deaths	2162	1863	1835	-	-	-	-	-	-
	Brought dead	1209	1082	1271	-	-	-	-	-	-
11.	OPD attendance including special clinics (Main Hospital)	931670	469778	1894052	-	-	-	-	-	-
	New cases	391372	215664	687314	-	-	-	-	-	-
	Old cases	540298	254114	1206738	-	-	-	-	-	-

Table II. Department-wise admissions (Main Hospital and CN Centre and CDER)

Department	Admission		Discharges (including LAMA, absconded, or deaths)		Total days of care		Average length of stay of regular admissions
	Regular	Short	Regular	Short	Regular	Short	
Anesthesiology (Pain Clinic)	00	266	00	251	00	251	0.0
Dermatology and Venereology	381	706	361	682	3947	682	10.9
Endocrinology and Metabolism	280	05	273	03	4478	03	16.4
Gastroenterology and Human Nutrition	1545	3609	1458	3350	20396	3350	14.0
Gastrointestinal Surgery and Liver Transplantation	574	137	550	136	10978	136	20.0
Geriatric medicine	864	259	864	250	9496	250	11.0
Haematology	628	10554	611	10236	12312	10236	20.2
Medicine I	1342	338	1238	292	13895	292	11.2
Medicine II	992	294	1012	252	9786	252	9.7
Medicine III	989	368	920	354	10114	354	11.0
Nephrology	618	7902	493	7652	7597	7652	15.4
Newborn	2000	00	1963	00	14744	00	7.5
Neonatal ICU (NICU)	123	01	131	01	927	01	7.1
Nuclear Medicine	237	85	235	62	437	62	1.9
Obstetrics and Gynaecology I	1594	1216	1649	1135	11908	1135	7.2
Obstetrics and Gynaecology II	2007	1343	1812	1316	12174	1316	6.7
Obstetrics and Gynaecology III	1415	1134	1423	1070	9977	1070	7.0
Oncology (Main)	106	00	106	00	958	00	9.0
Orthopaedics I	972	1434	1182	1102	7125	1102	6.0
Orthopaedics II	1198	1708	908	1568	7067	1568	7.8
Otorhinolaryngology I	375	398	376	373	4569	373	12.02

Otorhinolaryngology II	387	433	356	418	4031	418	11.3
Otorhinolaryngology III	360	442	364	421	3117	421	8.6
Paediatrics I	768	1977	696	1995	6007	1995	8.6
Paediatrics II	511	1092	467	1069	6776	1069	14.5
Paediatrics III	1498	9793	897	9915	8593	9915	9.6
Paediatric Surgery	1212	757	1177	719	12504	719	10.6
Physical Medicine and Rehabilitation	00	00	00	00	00	00	0.0
Psychiatry	279	00	271	00	7969	00	29.4
Pulmonary Medicine and Sleep Disorders	543	3155	537	3084	6971	3084	13.0
Plastic and Reconstructive Surgery	687	82	567	74	8308	74	14.7
Radiotherapy	00	00	00	00	00	00	0.0
Rheumatology	06	1186	02	1188	12	1188	6.0
Surgical Disciplines I	720	311	675	282	5271	282	7.8
Surgical Disciplines II	786	264	729	228	6436	228	8.8
Surgical Disciplines III	606	230	610	181	5361	181	8.8
Surgical Disciplines IV	1159	465	1074	402	5138	402	4.8
Urology	1232	2863	1089	2696	7187	2696	6.0
<i>Total (Main)</i>	28994	54807	27076	52757	266566	52757	9.8
Cardiology	2849	1958	2802	1933	26613	1933	9.5
Cardiothoracic and Vascular Surgery	1793	15	1754	13	26640	13	15.2
Neurology I	788	498	700	518	9191	518	13.1
Neurology II	700	358	725	287	7968	287	11.0
Neurology III	575	359	519	376	6003	376	11.6
Neurosurgery I	875	412	792	384	12128	384	15.3
Neurosurgery II	1053	436	1104	323	12058	323	10.9
Neuroradiology	67	09	65	05	613	05	9.7
<i>Total (CNC)</i>	8700	4045	8461	3839	101214	3839	12.0
<i>CDER</i>	590	106	581	104	2831	104	4.9

Fig 1. Department-wise Admission (Main Hosp, CNC & CDER)-2021-2022

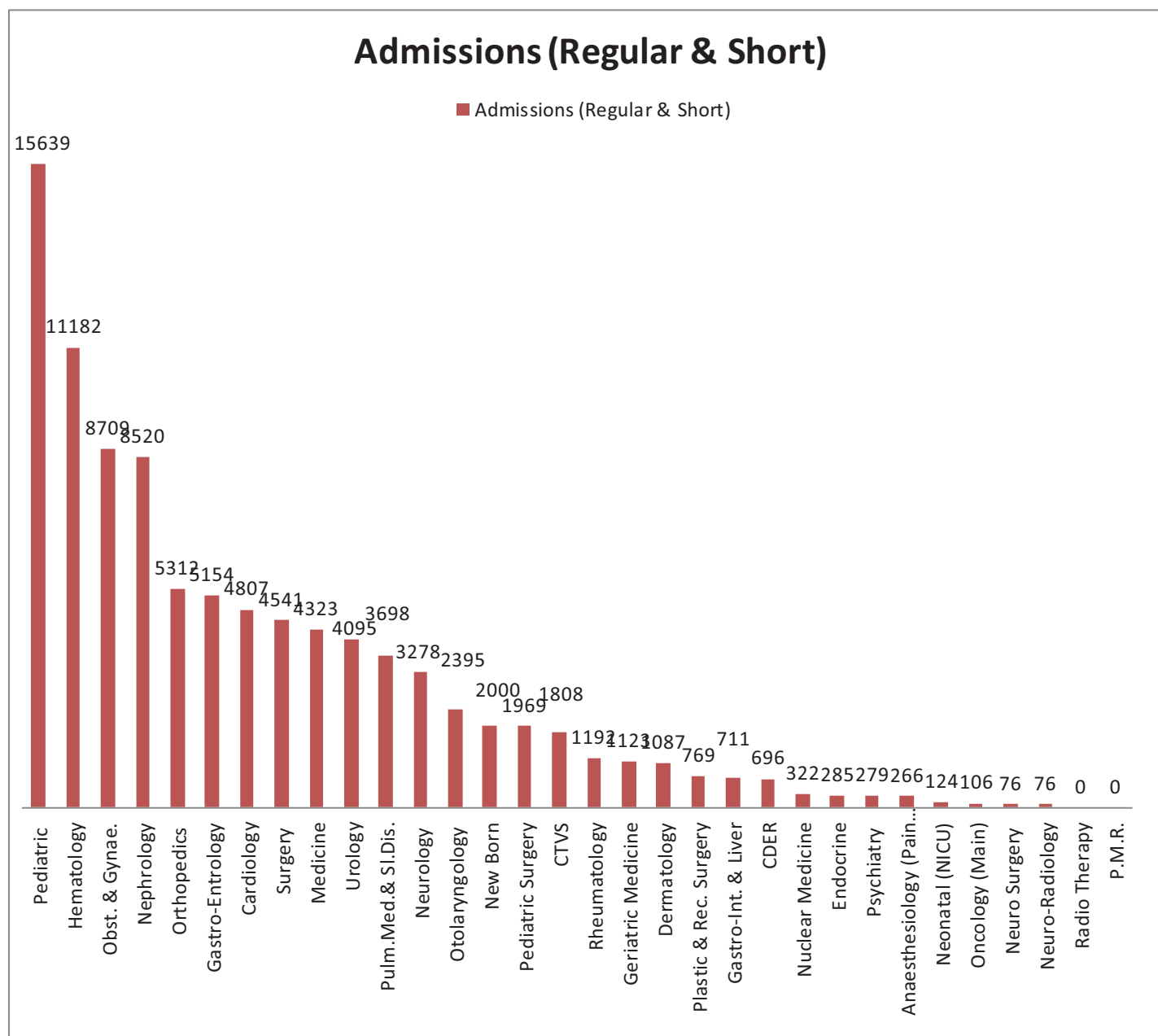


Fig 2. Department-wise average length of stay (Main Hosp, CNC & CDER Regular)-2021-2022

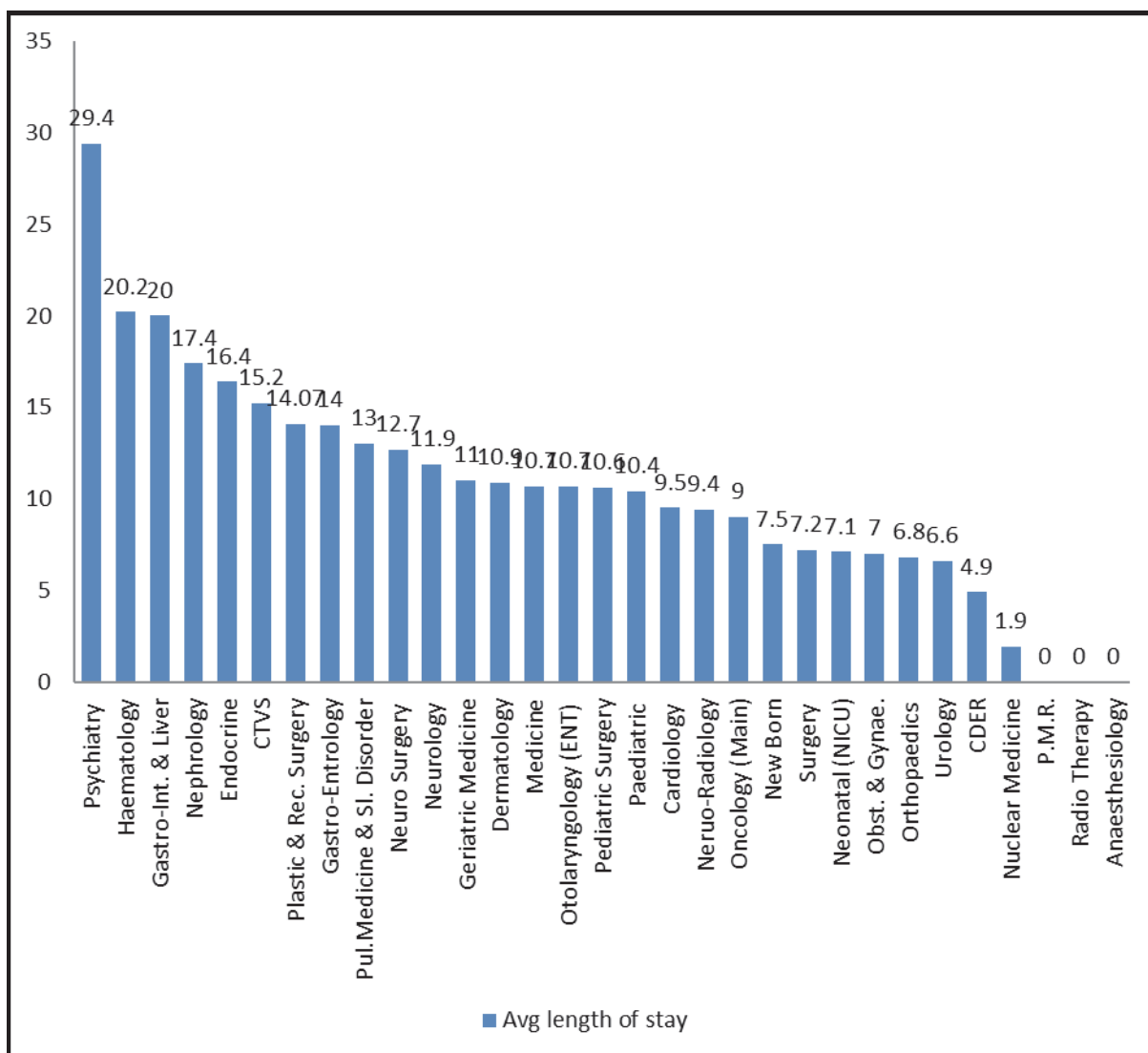


Fig 3. Gender-wise inpatients in Main Hospital, CN Centre and CDER-2021-2022

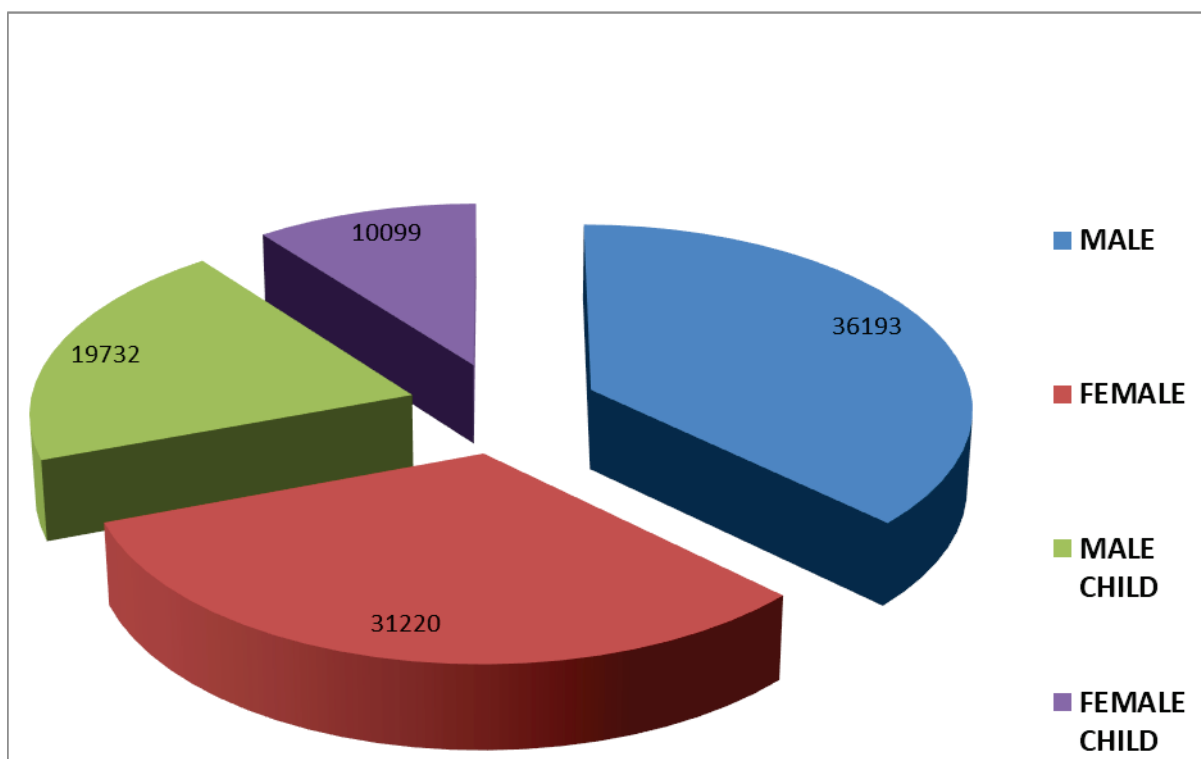


Table III. Department-wise deaths in Main Hospital and CN Centre

Department	Discharges	Total Deaths	Deaths under 48 hrs.	Deaths Over 48 hrs.	Gross Deaths Rate in %	Net Deaths Rate in %
Anesthesiology (Pain Clinic)	251	00	00	00	0.0	0.0
Dermatology and Venereology	1043	03	01	02	0.3	0.2
Endocrinology and Metabolism	276	04	00	04	1.4	1.4
Gastroenterology and Human Nutrition	4808	309	109	200	6.4	4.3
Gastrointestinal Surgery and Liver Transplantation	686	48	07	41	7.0	6.0
Geriatric medicine	1114	306	91	215	27.5	21.0
Haematology	10847	167	48	119	1.5	1.1
Medicine I	1530	352	90	262	23.0	18.2
Medicine II	1264	233	82	151	18.4	12.8
Medicine III	1274	232	78	154	18.2	12.9
Nephrology	8145	47	10	37	0.6	0.5
Newborn	1963	38	13	25	1.9	1.3
Neonatal ICU (NICU)	132	10	04	06	7.6	4.7
Nuclear Medicine	297	01	00	01	0.3	0.3
Obstetrics and Gynaecology I	2784	05	01	04	0.2	0.1
Obstetrics and Gynaecology II	3128	01	00	01	0.03	0.03
Obstetrics and Gynaecology III	2493	04	02	02	0.2	0.1
Oncology (Main)	106	43	23	20	40.6	24.1
Orthopaedics I	2284	03	00	03	0.1	0.1
Orthopaedics II	2476	08	01	07	0.3	0.3
Otorhinolaryngology I	749	09	02	07	1.2	0.9
Otorhinolaryngology II	774	09	03	06	1.2	0.8

Otorhinolaryngology III	785	05	00	05	0.6	0.6
Paediatrics I	2691	38	09	29	1.4	1.1
Paediatrics II	1536	46	17	29	3.0	1.9
Paediatrics III	10812	73	24	49	0.7	0.5
Paediatric Surgery	1896	59	11	48	3.1	2.5
Physical Medicine and Rehabilitation	00	00	00	00	0.0	0.0
Psychiatry	271	00	00	00	0.0	0.0
Pulmonary Medicine and Sleep Disorders	3621	119	20	99	3.3	2.7
Plastic and Reconstructive Surgery	641	04	03	01	0.6	0.2
Radiotherapy	00	00	00	00	0.0	0.0
Rheumatology	1190	00	00	00	0.0	0.0
Surgical Disciplines I	957	35	04	31	3.7	3.3
Surgical Disciplines II	957	30	10	20	3.1	2.1
Surgical Disciplines III	791	21	07	14	2.7	1.8
Surgical Disciplines IV	1476	26	10	16	1.8	1.1
Urology	3785	13	05	08	0.3	0.2
<i>Total (Main hospital)</i>	79833	2301	685	1616	2.9	2.0
Cardiology	4735	172	75	97	3.6	2.1
Cardiothoracic and Vascular Surgery	1767	244	26	218	13.8	12.5
Neurology I	1218	32	05	27	2.6	2.2
Neurology II	1012	50	04	46	4.9	4.6
Neurology III	895	32	02	30	3.6	3.4
Neurosurgery I	1176	48	05	43	4.1	3.7
Neurosurgery II	1427	51	09	42	3.6	3.0
Neuroradiology	70	00	00	00	0.0	0.0
<i>Total (CNC)</i>	12300	629	126	503	5.1	4.1
<i>CDER</i>	685	00	00	00	0.0	0.0

Fig 4. Geographical distribution of inpatients (Main Hospital, CN Centre and CDER)-2021-2022

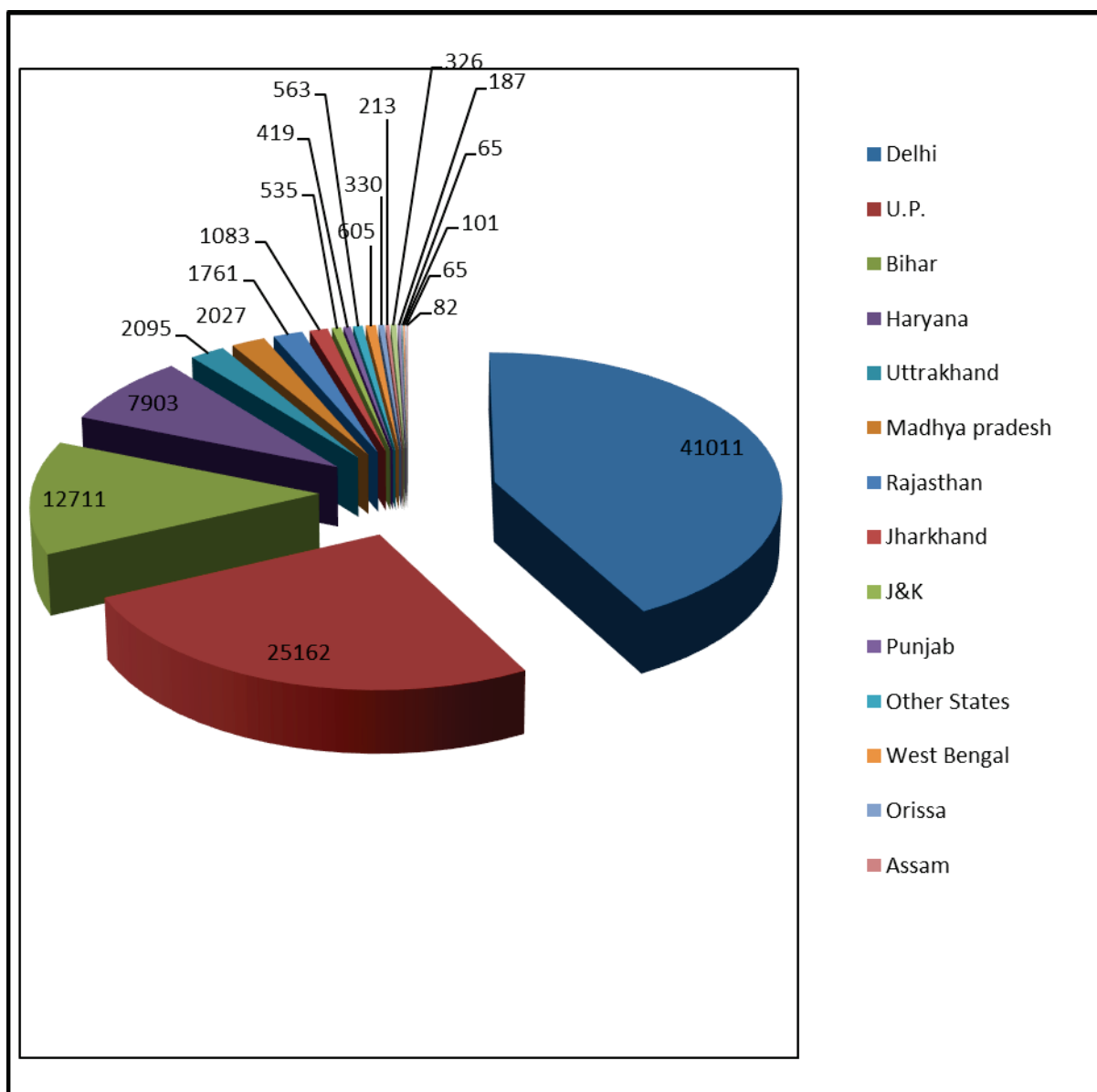


Table IV. Surgical procedures done in the Main Hospital, CDER and CN Centre

DEPARTMENT	Major	Minor		TOTAL
		Inpatient cases	Outpatient cases	
Surgical Disciplines I	668	86	1826	2580
Surgical Disciplines II	622	137	1497	2256
Surgical Disciplines III	542	86	1728	2356
Surgical Disciplines IV	989	263	2227	3479
Gastrointestinal Surgery and Liver Transplantation	414	00	00	414
Urology	926	412	8669	10007
Obstetrics	1026	147	00	1173
In vitro fertilization	00	1017	00	1017
Gynaecology I	510	371	00	881
Gynaecology II	650	389	00	1039
Gynaecology III	437	407	00	844
Foetal Medicine	00	575	00	575

Otorhinolaryngology I	567	114	5954	6635
Otorhinolaryngology II	580	177	5368	6125
Otorhinolaryngology III	581	92	6038	6711
Orthopaedics I	1295	544	00	1839
Orthopaedics II	1463	1173	00	2636
Paediatric Surgery	1190	44	00	1234
Casualty	00	192	00	192
Plastic and Reconstructive Surgery	674	174	5662	6510
Pulmonary Medicine and Sleep Disorders	00	00	00	00
Anaesthesiology (Pain Clinic)	03	283	00	286
Haematology	00	00	00	00
Physical Medicine and Rehabilitation	00	00	1118	1118
Dermatology and Venereology	00	00	6448	6448
Total (Main hospital)	13137	6683	46535	66355

CTVS	2405	00	00	2405
Neurosurgery I	1148	72	00	1220
Neurosurgery II	1422	53	00	1475
Total (CNC)	4975	125	00	5100

Dental Surgery/CDER	482	85	15187	15754
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Table V. Attendance in outpatients and specialty clinics

Medical Disciplines		New Cases	Old Cases	Total
Medicine	General OPD	29792	39057	68849
	a) Obesity and metabolic disorders	294	381	675
	b) Infectious disease clinic	588	1233	1821
Rheumatology	General OPD	3730	10268	13998
	a) Rheumatology clinic	07	1883	1890
Geriatric Medicine		4623	13900	18523
Pulmonary Medicine & Sleep Disorders	General OPD	4937	8691	13628
	a) Sleep disorder	48	76	124
	b) Lung cancer	202	472	674
	c) ILD - PAH	154	414	568
	d) Combined pulmonary surgery	76	207	283
Nuclear Medicine		1603	6545	8148
Endocrinology and Metabolism		8462	20124	28586
Nephrology	General OPD	4248	18639	22887
	a) Transplant clinic	536	4880	5416
	b) RTCC	286	811	1097
Haematology		4513	6022	10535
Gastroenterology		18080	29578	47658

Paediatrics	General OPD	16779	34621	51400
	a) Well baby	239	40	279
	b) Follow up TB	88	307	395
	c) Renal clinic	114	275	389
	d) Paediatric neurology	268	641	909
	e) Paediatric chest clinic	161	909	1070
	f) High risk neonatal	185	320	505
	g) Genetic and birth defects clinic	2607	1310	3917
	h) Oncology clinic	265	662	927
	i) Child development clinic	132	295	427
	j) Endocrinology clinic	48	247	295
	k) Neurocysticercosis clinic	39	194	233
	l) PCSC	138	640	778
	m) Rheumatology clinic	124	627	751
	n) Myopathy clinic	150	268	418
	o) Paediatric gastroenterology clinic	117	426	543
	p) Autism	323	260	583
Dermatology and Venereology	General OPD	21898	25404	47302
	a) STD (Dermatology surgery)	768	1150	1918
	b) Allergy clinic	178	273	451
	c) Leprosy	152	512	664
	d) Psoriasis	131	310	441
	e) Dermo-Surgery	455	350	805
	f) Vitiligo	147	309	456
	g) Photo Therapy	59	142	201
	h) Photo Dermatology	06	51	57
	i) Paediatric Dermatology	86	123	209
Psychiatry	General OPD	8894	25294	34188
	a) Child guidance	436	207	643
	b) Case Progress Clinic	03	592	595
	c) Consultation Liaison Addiction	25	14	39

DISCIPLINES		NEW CASES	OLD CASES	TOTAL
Surgery		18682	20999	39681
Plastic Surgery		3166	6830	9996
Urology		7806	13963	21769
G.I. Surgery		2188	4140	6328
Paediatric Surgery (Specialty Clinics)	General O.P.D.	5064	11416	16480
	a) Hydrocephalus	01	09	10
	b) Paed. Urology	49	483	532
	c) P.S.T.C.	13	165	178
Anesthesiology	a) Pain Clinic	313	1154	1467
	b) Pre-Anesthesia Clinic	5665	1261	6926

Orthopedics (Specialty Clinics)	General OPD	26617	46696	73313
	a) Physiotherapy	17204	8207	25411
	b) Occupational therapy	388	2717	3105
	c) Hydrotherapy	199	1417	1616
	e) Tuberculosis	05	47	52
	f) Scoliosis	146	304	450
	g) Hand clinic	133	158	291
	h) C.T.E.V.	108	961	1069
	i) Sports clinics	00	00	00
	j) Fragility fracture Clinic & Liaison services	00	21	21
	h) Bone & Soft Tissue Sarcoma Clinic	00	02	02
Otorhino-laryngology (E.N.T.) (Specialty Clinics)	General OPD	17712	18626	36338
	a) Audiology	31	06	37
	b) Speech	1118	941	2059
	c) Hearing	125	98	223
	d) Voice	108	25	133
	e) Vertigo	44	55	99
	f) Rhinology	50	17	67
	H.N.& R.	55	30	85
Obstetrics & Gynaecology (Specialty Clinics)	General OPD	18357	25928	44285
	a) IVF	377	920	1297
	b) Family Welfare	2555	1917	4472
	c) Antenatal	276	953	1229
	d) Endo-Gynecology	25	22	47
	e) High Risk Pregnancy	699	4457	5156
Radio-Therapy		113	792	905
Physical Medicine & Rehabilitation (Specialty Clinics)	General OPD	6319	10935	17254
	a) Prosthetics & Orthotics	1905	4826	6731
	b) Disability Evaluation Clinic	00	03	03
	c) OPD (PT Section)	00	9606	9606
	d) OPD (OT Section)	00	4000	4000
	e) OPD (MSSO)	1238	1096	2334
OTHERS	Emergency/Casualty	74459	33394	107853
	E.H.S.	111213	74141	185354
	Nutrition	4111	00	4111
Grand Total		465831	573692	1039523

6.2 Dietetics

HIGHLIGHTS

Food service for approximately 2220 hospital-dieted patients was provided by centralised kitchen on daily basis. Main hospital patients were 1244 and those for Centres were 976. The approximate yearly data of different kinds of diets sent to the indoor patients of main hospital and centers, comprising around 3 major meals and two minor meals in a day are given in Table VI.

Table VI. Total number of indoor patients served hospital diets per annum (Main Hospital & Centers)

Type of Diets	Number of patients/annum
Normal	3,79,544
Private ward	76,012
Semisolid	46,151
Therapeutic	89,855
Kitchen Based Enteral feeds	50,136
Commercial formula-based Enteral feeds	1815
Guest House	604
Total	6,44,117

Nutrition counseling OPD is also run in the Main Hospital. The approximate number of indoor and OPD patients counseled are given in Table VII.

Table VII. Total number of patients given outdoor and indoor nutrition counseling

Gender	OPD patients nutrition counseling	Indoor patients nutrition counseling	Total
Male	2,109	2,760	4,869
Female	1,918	2,544	4,462
Total	4,027	5,304	9,331

6.3 Hospital Billing Section

The donations received and the payments made to patients during the financial year 2021-2022 are:

Donations received from donors: Rs. 50,92,705.00
(Bank Interest, Donations, Poor Fund boxes & Donation received by Online (RTGS))
Payment made to (338 patients) & Bank charges : Rs. 11,70,620.00

(The amount disbursed to poor patients is from donations received from donors during the year as well as from the previous balance in the 'AIIMS POOR FUND ACCOUNT').

6.4 Nursing Services

Nursing service is an integral part of AIIMS, which aims at high quality nursing care to the patients and community. Professional nurses work in an environment that encourages professionalism and expertise in providing comprehensive patient care with the members of allied disciplines in the hospital.

Staff Strength

The main stratum of workforce in AIIMS is constituted of well-trained professional nurses from different departments. Staffing in nursing service is based on SIU (Staff Inspection Unit) norms in AIIMS.

Staff Strength in Hospital & Centers	
Chief Nursing Officer	2
Nursing Superintendent	6
DNS	39
ANS	202
Senior Nursing Officer	1052
Nursing Officer	4256
Total	5557

Continuing Nursing Education

Nursing staff education is carried out throughout the year by in-service and continuing education programs to update the clinical knowledge of practicing nurses thereby aiming at improving standard of nursing care at AIIMS.

Nursing in-service education program

A well-structured in-service education program has been initiated since January 2011. Initially it started with twice-a-week class of one hour each, which was later on increased to thrice a week. Two classes a week are conducted for the bedside nurses (Nursing Officer and Senior Nursing Officer), whereas one class a week is for senior nurses (Sister In-charges and above).

Facilitator: Ms. Kamlesh Chandel
Mentor: Ms. Rajni Rehani
Educators: Ms. Rebecca J Herald
Ms. Srinithya Raghavan
Ms. J Subbulakshmi

In-Service Education Weekly Classes

Due to COVID-19 Pandemic, all the in-service classes were conducted on Hybrid Mode. NIE sessions were conducted thrice a week so that maximum Nurses would benefit from these sessions. The session on **COVID Appropriate Behavior** was repeated over few months, so that each and every nursing personnel becomes aware of it.

Other sessions included:

- Post-Operative Management
- Care of Patient on Ventilator
- Non-Invasive Ventilation
- ET Suctioning and Oxygen Therapy
- Equipments usage and Care
- Management of Mucormycosis
- Care Bundles
- Fluid Therapy
- Vasoactive Drugs
- Patient Safety
- Selected Nursing Procedures
- Diabetes Mellitus
- Hypertension and Anti-Hypertensive Drugs
- Shock
- Zika Virus
- Antibiotic Therapy
- Management of Stroke
- Management of Anaemia
- Conduct Rules and Disciplinary Proceedings
- Respiratory Therapy
- Dengue Co Infection with Covid 19
- Ca breast Overview
- Respiratory Emergencies
- Management of Critically Ill
- Resuscitation Trolley
- Leave Rules
- Management of Fever
- Management of Pain
- CAUTI Bundle

II. E-learning Facility:

E-Learning facility has been initiated by Nursing in Service Education, Office of CNO, with the sole purpose of upgrading knowledge and for renewal of DNC certification by providing needed credit hours. Around 2902 nurses have been enrolled for self from Main Hospital and Centers.

Various courses have been uploaded at frequent intervals which can be done at one's own pace and convenience. Upon completion of the course, Certificates will be provided to those who successfully complete the course.

III. Induction program

A well-structured induction program was carried out online for newly joined 325 nurses.

All new recruited nurses were trained on topics like

- COVID appropriate behaviour
- Handling of equipment
- Management of patient with COVID-19
- Care of Patient on Ventilator
- Non-Invasive Ventilation

IV. Conferences and workshops Coordinated By NIE (Outside AIIMS):

During 2021-2022, nurses from different departments in main hospital attended several National and International conferences/ workshops.

S. No	Conferences/Workshops	Date	Venue	No. of Participants
1.	Online Training course on Management for Senior Nursing Administrators	9 to 12 August 2021	NIHFW	5
2.	Symposium on World Stroke Day	27 October 2021	CNC	20
3.	National Emergency Life support for Nurses including one-week training	10 November 2021 and 29 to 3 December 2021	RAK CON	02
4.	Research Methodology	6 to 10 December 2021	NIHFW	2
5.	Online Training on Occupational and Environmental Health for Health Professionals	2 to 4 February 2022	NIHFW	5
6.	Trauma Nursing: A Multi disciplinary Approach	14 to 19 March 2022	RAK CON	2
7.	Geriatric Nursing: A multi disciplinary approach towards active aging	21 to 25 March 2022	RAK CON	2
8.	Bridging the knowledge gap for Nurses: World Kidney Day-Webinar	10 March 2022	SET Facility	15

V. Conferences and workshops Coordinated By NIE along with College of Nursing, AIIMS, New Delhi

S. No	Conferences/Workshops	Date	Venue	No. of Participants
1.	Lactation Management Program for Nurses	29 November 2021 2 December 2021 6 December 2021 9 December 2021	SET Facility	35 34 33 33
2.	Essentials of Hospital Emergency Preparedness	4 March 2022	SET Facility	15
3.	Pre-Hospital Care: Role of first level Responders	8 March 2022		15
4.	Hospital Infrastructure Planning	11 March 2022		15
5.	Mass Casualty Management	15 March 2022		15
6.	Managing Outbreaks/Epidemic/Pandemics	19 March 2022		15
7.	Cardiac Emergencies	22 March 2022		15
8.	Fire Emergencies	25 March 2022		15
9.	Infant Child Abduction	29 March 2022		15

A total of 307 nursing personnel attended a total of 18 Workshops/Conferences in the year 2021-2022.

Competent nurses from different departments participated and performed as facilitators for skill stations and hands-on training sessions in various workshops, CME and National conferences conducted last year.

VI. Preparing Nurses for COVID-19 Third Wave - Pediatric Nursing Emergency Preparedness Programme

In view of preparing nurses to face the challenges of the third wave of Covid, A Pediatric Nursing Emergency Preparedness Program was planned and around 300 nurses were trained under PNEPP with self-learning modules, videos and hands-on practice of pediatric nursing procedures in the simulation lab followed by preceptor guided clinical practice in the pediatric clinical areas under the supervision of Assistant Nursing Superintendents of respective pediatric clinical areas.

VII. Contribution as Facilitators:

NIE team facilitated various educational activities inside and outside AIIMS such as

- PNEPP programme.
- In-service training programme for nursing personnel at KSCH, New Delhi.

VIII. Coordination and Organisation of Educational Visits for various Nursing Educational Institutions

Nursing educators in AIIMS conducted virtual orientation programme for a group of 100 II-year PC BSc and IV-year BSc students from Lakshmi Memorial College of Nursing, Mangalore and Karnataka.

IX. Vigilance Report

The report of all the above nursing in-service Education activities was sent to the Vigilance cell on a monthly basis from the Office of the Chief Nursing Officer.

X. Deputation of Nursing Personnel for Higher studies

Nursing services at AIIMS focus on improving nursing care by facilitating abundant opportunities for higher studies. After 5 years of regular services, nurses are eligible for pursuing higher studies with full pay.

S No	Year	PC Bsc	MSc
1	2020-2022	4	9
2	2021-2023	4	8

XI. Issuing Credit hours Certification

A total of 15 nurses were issued certificates of credit hours for registration in Nursing Council.

XII. Public Awareness Program:

“Sensitization programme on Breast Health” conducted in MS Seminar Room for female medical record technicians and data entry operators during World Breast Health Awareness Week.

XIII. Activities planned for the upcoming year

- Periodical workshop on Soft Skills for clinical nurses.
- Half-day workshops with hands-on for the Pediatric, Intensive care unit and Emergency Nurses.
- One day School Health Programme.
- Training programme for the sanitation workers.
- Standard Operating Procedures for Nurses: Procedure Manual

Infection Control Nurses Activities

Chairman Infection Control Committee
DK Sharma, Medical Superintendent, AIIMS

Infection Control Core Committee:

Members:

1.	Dr Arti Kapil	Professor, Department of Microbiology
2.	Dr Rakesh Lodha	Professor, Department of Pediatrics
3.	Dr Rashmi Ramachandran	Professor, Department of Anaesthesia
4.	Dr Vijaydeep Siddharth	Additional. Professor, Hospital Administration
5.	Dr Piyush Ranjan	Additional. Professor, Department of Medicine
6.	Dr Karan Madan	Associate Professor, Department of Pulmonary Medicine
7.	Dr Gagandeep Singh	Associate Professor, Department of Microbiology
8.	Dr Hitender Gautam	Associate Professor, Department of Microbiology
9.	Dr Nishant Verma	Associate Professor, Department of Microbiology
10.	Dr Sarita Mahapatra	Associate Professor, Department of Microbiology
11.	Dr Jhuma Sankar	Associate Professor, Department of Paediatrics
12.	Dr Pankaj Jorwal	Associate Professor, Department of Medicine

13.	Ms Nirmal Kain	NS, Infection Control
14.	Ms Evangelin Vasanth	Senior Nursing Officer, I/C Infection Control
15.	Ms Betty Maria Binu	Senior Nursing Officer, Infection Control
16.	Ms Kiran Singh	Senior Nursing Officer, Infection Control
17.	Ms Poonam Anand	Senior Nursing Officer, Infection Control
18.	Ms Sangeeta R. Kamble	Senior Nursing Officer, Infection Control
19.	Mr Dhawal Dwivedi	Nursing Officer, Infection Control
20.	Mr Kunj Bihari Gauttam	Nursing Officer, Infection Control
21.	Ms Priya M	Nursing Officer, Infection Control
22.	Ms Muthuselvi S	Nursing Officer, Infection Control
23.	Ms R. Evangiline	Nursing Officer, Infection Control
24.	Ms Tsering Lamo	Nursing Officer, Infection Control
25.	Ms Niveda P	Nursing Officer, Infection Control

HICCOM core committee meets periodically to discuss day-to-day activities and interventions. HICCOM administrative rounds were conducted periodically with infection control core committee, identified problems were discussed and rectified.

Activities of HICCOM

- HICCOM (Hospital Infection Control Committee) conducted training programme for all healthcare workers, cadre wise regarding COVID appropriate behavior and practices. Total **2462** healthcare workers attended the sessions.
- The ICNs took online sessions on infection control practices for nursing personnel organised by AIIMS nurses union.
- SOPs on Bio-Medical Waste Management, Needle stick injury, Spill management protocols and Disinfectant solution in the form of charts were distributed and displayed in all clinical areas of AIIMS.
- The ICNs took sessions for various healthcare workers on solid waste management. (Dry and wet general waste management)
- ICNs are actively involved in administrative rounds of clinical areas conducted by HICCOM core committee.
- ICNs were actively involved as resource persons in Paediatric and neonatal emergency preparedness programme for COVID conducted for trauma nurses.
- All ICNs took active participation in organizing and conducting “KayaKalp”-2021-2022 rounds
 1. Sensitization on hand hygiene, PPE, spill management and needle stick injury protocols were emphasized to sanitary attendants and hospital attendants.
 2. Sessions were conducted for Biotic workers on hand hygiene, PPE, immunization, spill management & needle stick injury protocols, personal hygiene, loading of BMW trolleys according to the BMW rules.
- ICNs took active participation in planning “Swachhata Pakhwada” activities for the year 2022.

COVID-19 Teaching and Demonstration Activities

- ICNs are actively involved during COVID pandemic to contain COVID-19 cases.
- ICNs under the guidance of HICCOM AIIMS is organising and conducting training on infection control, prevention and standard precautions for all healthcare workers since 2020 and still continuing.
- HICC AIIMS developing dynamic guidelines from time to time and ICNs are emphasising them in all clinical areas.
- ICNs conducted training classes on standard precautions, Respiratory etiquettes and PPE donning and doffing for all healthcare workers from the 8th floor to the ground floor of main hospital. All wards of AB, C and D wings including ICUs, HDUs, day care units, private wards, New Private ward block all three floors, Emergency services, OPD block, MCH block and New RAK OPD areas are covered.
- ICNs involved in teaching and training session on Hospital infection control related practices in the context of COVID-19 (Ready Reckoner) in all the areas of hospital which includes levels of PPE, standard precaution, disinfection, other infection prevention activities and COVID-19 waste management.
- ICNs involved in training regarding COVID-appropriate behavior for Residents, undergraduate students, Nurses, OT & Lab technicians, office staff, sanitary attendants, Hospital attendants, security guards, ambulance drivers and maintained the attendance of all training schedules till date.
- ICNs are attending HICCOM meetings whenever required by HICCOM core group members and involved in sensitizing the dynamic guidelines on Environmental cleaning to increase the frequency of disinfection of all surfaces (Low touch and high touch areas), disinfection of items, correct dilution of disinfectant solutions, terminal disinfection of COVID facility, proper fogging guidelines, transportation of samples from COVID facility, handling of linen used for patients in COVID facility, cleaning of lift each time patient transported and management of Bio-Medical Waste in COVID facility & maintaining the record of number of bags handed over to Biotic team and its proper transportation.
- Special attention is given in COVID facilities for educating and re-emphasizing donning and doffing for nurses, HA and SAs as they keep changing from time to time and use of PPE judiciously when and where required.
- A routine monitoring of infection control and prevention practices checklist in all clinical areas maintained by all ICNs.
- Infection prevention bundles (CLABSI, SSI etc.) are maintained in ICUs by ICNs.
- Training and teaching are given to ICN of Surgical block, AIIMS, regarding infection control practices, procedures and job responsibilities of ICN.

Data of staff trained on standard precautions and respiratory etiquette for COVID-19 prevention and control

Nursing staff Residents & Students	HA/SA/ MTS/ Sanitary Supervisors	OT technicians	Kitchen staff	Security guards
665	912	71	180	634

Total staff trained: 2462

Activities of Infection Control Nurses:

1. Collection of data on total HCAs in ICUs/ HDUs, Surgical areas on BSI, RTI (VAP), SSI, UTI, CSF/other infections etc. Data analysis carried out monthly for all Surgical units and all ICUs and the Performa of data analysis is distributed to all concerned professors in-charges of surgical units and ICUs. Annual crude infection rate is calculated and submitted for annual reporting.
2. Individual area rounds conducted by Infection Control Nurses on daily basis by using checklists and whenever need arises, onsite training programmes were conducted in the clinical areas and problems were rectified after discussing with the HICCOM core committee members.
3. Surveillance activities: A collection of samples (environmental culture, sterility and In-use samples) from different areas of hospital for Surveillance purpose on monthly basis. Reports are collected and distributed to all respective areas to reinforce proper protocols as per the hospital policy.

Annual Healthcare-Associated Infection (HCAI) Rate

Area	Total Major Surgeries/Admissions	HCAI	%
Surgical Units	10568	546	5.1
ICUs	4153	683	16.4

$$\text{Combined HCAI rate} = \frac{546 + 683}{14721} \times 100 = 8.3\%$$

Surveillance Samples collected during April 2021- March 2022 (Main Hospital, AIIMS)

Monthly surveillance and data for surgical units and ICUs were calculated and submitted to MRD section. Annual combined data analysis of surgical units and ICUs calculated and distributed to Dr Arti Kapil Professor in charge of Microbiology Hospital infection Control, Prof. DK Sharma Medical superintendent, Ms Kamlesh Chandelia, Chief Nursing Officer, Dr Vijaydeep Siddharth office in-charge infection Control from hospital administration and to Medical Record section.

- Management of outbreaks monitored and educated the HCWs about the precautions.
- Maintaining the manual and online report for daily basis reporting and also a dedicated register for reporting Incident and intervention.
- Ministry of health and family welfare has launched “**Kaya-Kalp**” -Clean hospital campaign under Swachh Bharat Abhiyan. Clean and Green AIIMS campaign guidelines have been formulated. AIIMS is uniquely poised to lead this movement of Kaya-Kalp transformation by being the agent of change and adopting these guidelines.

Total Environmental and Sterility Samples	Total In-use Solutions Samples	Total Sterile Samples		Total Unsterile Samples	
		Environmental and Sterility Samples	In-use solutions Samples	Environmental and Sterility Samples	In-use solutions Samples
4073	1435	3268	1282	805	153

6.5 Medical Social Welfare Unit
Chief Medical Social Service Officer
B R Shekhar

Supervising Medical Social Service Officer
Pankaj Kumar

Introduction

The foundation of Medical Social Welfare Unit in AIIMS was laid in 1960 when the first Medical Social Worker was appointed in the main hospital. The Medical Social Welfare Unit is working under the supervision of Medical Superintendent from the very beginning. The integration of Medical Social Services has yielded positive results as it provides social, psychological and financial support for patients and alleviated distress while receiving treatment. The Medical Social Welfare Unit, Main Hospital has 14 Medical Social Service Officers (MSSOs) taking care of OPDs and Wards of 20 important departments in the main hospital. In addition to a team of MSSOs, there are 13 part-time social guides (PTSG) and one hospital attendant working under the Unit for patient care and guidance.

Our motto: “Committed to patients, committed to AIIMS”

Our Objectives

1. To create a Therapeutic-Network among the doctor, paramedical staff, the patient, the family and the community.
2. To facilitate a Holistic-Healing leading towards a complete physical, psychological, social and vocational rehabilitation.
3. To ensure the protection of the basic human rights of the patients.
4. To facilitate the various services for the poor and indigent patients.
5. To coordinate with the Hospital Administration and treating faculties to facilitate the basic patient welfare services.
6. To impart Training & Orientation of Medical Social Work to the Social Work Students.
7. To conduct & coordinate the Research studies initiated by our unit and other departments of AIIMS.

Designation	Number of staff
Medical Social Service Officer Gr. I	2
Medical Social Service Officer Gr. II	10

HIGHLIGHTS

Coordination and implementation of AB-PMJAY scheme in AIIMS

Ayushman Bharat Prime Minister Jan Arogya Yojna (AB- PMJAY), a programme of Government of India was launched on 23 September 2018 by the Hon’ble Prime Minister. AIIMS is a signatory & participant in the implementation of this Programme and a dedicated office for the same has been created near gate no. 1 in AIIMS.

The Medical Social Welfare Unit is coordinating the implementation of this scheme in AIIMS with a team of Pradhan Mantri Arogya Mitra (PMAM) & PCM under the leadership of Medical Superintendent. The MSSO is the key person to implement this scheme and the team of Medical Social Welfare Unit, under the supervision of Chief MSSO has made sure that this pioneering programme reaches maximum beneficiaries smoothly.

This dynamic center facilitates Beneficiary Identification, Golden Card generation, Treatment package selection, Pre-authorization of the package, Surgical & Medical treatment, Claim initiation, reporting, networking and Grievance redressal. A consolidated data of patients benefitted under AB-PMJAY from April’21 to March’22 is depicted in the table below:

Total Walk-in	6016
BIS request raised	1293
Total Surgical case	1006
Total Medical case	1339
Total cases	52482

Financial Assistance to poor & indigent patients for treatment

1. Received Rs 50,92,705/- in AIIMS Poor Fund.
2. Helped 338 poor patients for Rs. 9,90,354/- through AIIMS MS poor fund.
3. Facilitated the help of Rs. 11,70,620/- to poor and indigent patients through MSSO Poor Fund.
4. Coordinated the operationalization of the new RAN subcommittee as per the guideline of RAN Umbrella Scheme and organised regular meetings for financial assistance.
5. Information and guidance given to patients to apply in different schemes like PMNRF, CM Fund, Vice-President Fund, etc.
6. Arranged financial assistance from the following Corporate Social Responsibility (CSR)/ Trust/ NGOs:

Fiem Foundation	Rs 27,75,332 for 22 patients
Roshni Foundation	Rs 2,92,700 for 8 patients
Baij Nath Bhandari Trust	Rs 1,13,667 for 5 patients
Jawahar Bhawan Trust	Rs 4,55,750 for 17 patients
Sewa Prakalp Mahila Mandal Trust	Rs 1,54,845 for 9 patient
Yuvraj Singh Foundation	Rs. 2,00,000 for 2 patients
Dwarka Prasad Trust	Rs 3,00,000 to AIIMS POOR FUND
Gopal Foundation	Rs. 23,35,226 for 11 Cancer patients
Dr Chetan Memorial Devine Trust	Full treatment support for 2 patients



Donation of special **walkers** for conjoined twins admitted in AB-5 ward

Free medicines and other donations for poor & indigent patients:

1. Free medicines worth Rs 7,00,000/- to 5000 OPD patients through voluntary donation at MSWU.
2. Free medicines/surgical items through poor patient Performa to admitted patients in AIIMS.

Exemptions of hospital charges and Railway Concession:

1. Exemptions of different hospital levy charges including CT, MRI, PET & HLA etc. of BPL/poor patients.
2. Railway Concession facility provided to approximately 5000 outstation patients.

Counseling and guidance:

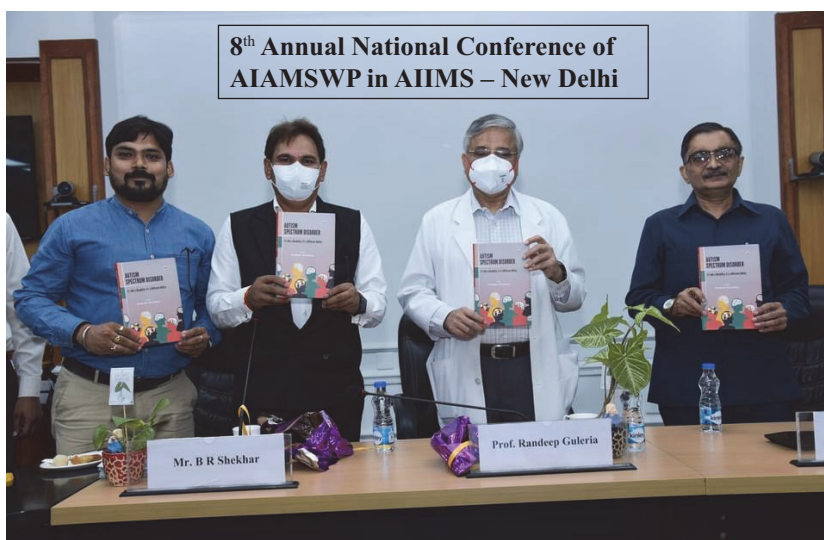
1. Counseled and guided patients for referrals services, healthcare schemes like AB PMJAY, RAN etc., financial assistance, Dialysis centres etc.

Rehabilitation & referral through casualty:

1. Rehabilitated approximately 400 patients: Medico-Legal Cases (MLC) and Non-MLC Unknown/Unattended/Destitute/Orphan.
2. Facilitated the shifting of patients to Safdurjung Hospital & other Govt. Hospitals for admission through Casualty MSSO due to non-availability of beds.
3. Facilitated the referral of patients to Pvt hospitals for free treatment under EWS category as per the Hon'ble High Court Order.

Special Celebrations:

1. Diwali Celebration in AB-5 ward: The Medical Social Welfare Unit organised a Diwali-Puja and gift distribution in Paediatric Surgery ward. The event was attended by Director, Medical Superintendent, HOD – Pediatric Surgery, Faculty members and staff.
2. Christmas celebration was organised for admitted children in AB-5, C-5 and D-5 wards through Yuvraj Singh Foundation. The event was attended by Medical Superintendent, HOD – Pediatric Surgery, Faculty members and staff.



Other Activities

Celebrated World Social Work Day on 15 March 22 by putting up awareness poster on Annual theme and memento presented to the Director, Medical Superintendent, Deputy Director (Administration), Faculty members and staff.

Organised the Inaugural Ceremony of the 8th Annual National Conference of All India Association of Medical Social Work Professionals (AIAMSWP) at Ramalingaswami Board Room, AIIMS. This event was also joined by national and international participants all over the globe.

Networking and synchronization of programme were done successfully. The Chief Guest of the program Hon'ble Director AIIMS and special invitee Dr D.K. Sharma, Medical Superintendent, AIIMS addressed the fraternity of social workers which was a huge motivation and some of the very vital areas of the social work profession were touched.

Mega Blood Donation Camp

Medical Social Welfare unit created awareness and motivated people to come forward and participate in the event on a large scale. Every blood donor was given a hand-sanitizer as a token of appreciation from MSW Unit.

Contribution by MSSOs in AIIMS – New Delhi during COVID-19 Pandemic

Donation of N-95 Masks and Gloves to AIIMS from CARE India



1. The Medical Social Services in Department of Emergency Medicine - AIIMS & AB-PMJAY office continued its operations 24x7 and did not stop operations even for a single working day despite many MSSO getting infected with COVID-19.
2. Special financial support was provided for transportation given to all the poor-indigent patients after discharge.
3. Blankets to poor-indigent patients were distributed throughout the winter season.
4. Arranged the donation of approx **80,000 N-95 Masks and 1,50,000 Surgical Gloves** to AIIMS from CARE India.

Teaching & Training by Medical Social Welfare Unit:

1. Mr BR Shekhar Addressed the Annual meet of Sree Sabareesha College MSW Association, Kerala as Chief Guest
2. Mr BR Shekhar took a session on "Role of Social Workers in hospital setting" in 'COVID-19 pandemic: Present challenges and way forward' organised by ISS, Agra on 19 May 2020.
3. Dr Kirti Arya served as Panel list for webinar on patients' rights organised by Indian Cancer Society, Delhi on 23 October 2021.
4. Mr. Vivek Kr Singh, MSSO conducted a session on Non-Violent Communication (NVC) to students of Humanities at Sharda University, Greater Noida
5. Mr. Vivek Kr Singh, MSSO conducted a session on Innovative Learning Methods for Teachers of Butterflies NGO

Social Work Training

Concurrent Field Work: Imparted Concurrent Field Work throughout the year to 2 students from Delhi School of Social Work (DSSW).

Orientation sessions and regular mentoring to 9 Short-term training MSW students

5 orientation sessions were conducted for MSW/Humanities Student groups from the following different colleges:

Central University of Himachal Pradesh

Sabrimala College, Kerala

Rajiv Gandhi Central University, Arunachal Pradesh

St Thomas College, Kerala

Educational activities

CMEs/Workshops/Symposia/National and International Webinars attended by MSSO

1. Towards Generating Quality Employment: Challenges and Options, organised by: VV Giri National Labour Institute
2. Migration, Skills and Reintegration: Issues and Perspectives Organised by: VV Giri National Labour Institute
3. WASH and Neglected Tropical Diseases among Tribal Populations: Challenges, Opportunities and Intervention Strategies, Organised by: IMPRESS-ICSSR
4. Technology and New Forms of Employment, Organised by: VV Giri National Labour Institute
5. 8th Annual National Conference: Health Social Work Practice in Current Scenario: Emerging Issues and Challenges, Organised by: All India Association of Medical Social Work Professionals
6. Annual International Conference(AIC-2021), Organised by: Rajiv Gandhi University, Arunachal Pradesh
7. 9th Indian Social Work Congress, 2021(ISWC), Organised by: Matru Sewa Sangh Institute of Social Work, Nagpur; Maharashtra and National Association of Professional Social Workers in India (NAPSWI)

8. Emerging Labour Market Issues and Strategic Responses. Organised by: VV Giri National Labour Institute in collaboration with NICS, Noida
9. Professional Social Work: Building Communities for New Nation Organised by: National Institute of Public Health Training & Research, Mumbai

Significant Events

Visit to Sapna NGO in Alwar-Rajasthan and donation to inmates



1. The new office of MSW Unit in new RAK OPD – Ground floor was started and it initiated all Social Welfare operations from there.
2. Dr Kirti Arya, MSSO was awarded the best research paper award titled “Mental Health Consequences of Drug Dependency: A Gandhian Analogy of Health and Well-Being” in Annual International Conference 2021 on the theme Contextualizing Gandhi in the Paradigms of Literature, Culture & Social Transformation” jointly organised by the Departments of English and Social Work at Rajiv Gandhi University, Arunachal Pradesh held on 11 and 12 October 2021.
3. Dr Kirti Arya, MSSO was awarded for the best research paper titled “District Rehabilitation Centre in the State of Punjab: Efficacy and Neglected Concerns of Female Drug Users” in the InSc Award 2021.
4. Dr Kirti Arya, MSSO worked as Co-investigator in a research project titled “The hazards of Opium Cultivation in Arunachal Pradesh: In pursuit of sustainable alternatives for youth through participatory research” funded by Rajiv Gandhi National Institute of Youth Development (RGNIYD) Tamil Nadu in collaboration with Rajiv Gandhi Central University, Arunachal Pradesh.
5. A visit to NGO Earth Saviors (Haryana) and Sapna (Alwar, Rajasthan) with MSSO team was very fruitful initiative for the rehabilitation of unknown/without attendant patients of AIIMS who are regularly getting services from these organisations. Visit to the NGO Sapna (Alwar, Rajasthan) was totally self-funded by the MSSO team and during these 2 days the MSSOs interacted with the inmates, donated food, slippers, sanitisers, masks & clothes to them and discussed future collaborative possibilities with NGO representatives.

Publications

Journals: 1

7. College of Nursing

Professor cum Principal

Latha Venkatesan

Associate Professors

Deepika C Khakha
Aditi P Sinha
Cecilia MS
Y Surbala Devi

Shashi Mawar
Pragya Pathak
Manju
Smita Das

L Gopichandran
Ujjwal Dahiya
Amit Kumar Rajora
Ajesh Kumar TK

Sibi Riju
Rimple Sharma
Levis Murry
Milan Tirwa

Tutors

Kiran Singh Simak
Babita Sahoo
Seema Sachdeva
Nemkholam
Mamta Choudhary
Savita

Gayatri Batra
Philomina Thomas
Anubha Devagouro
Hansaram
Manita Dalal

Sucheta
Meena Ara
Neelima Raaj
Monika Sabharwal
Suman Dabas

Students Admitted

Course	Sanctioned strength	Students admitted	Current strength (New Admissions)
BSc (Hons) Nursing	96+5 foreign = 101	94	95
BSc (PB) Nursing	50+1 foreign = 51	44	39
MSc Nursing	28+7+1 = 36	35	22
Oncological Nursing	05	02	
Critical Care Nursing	06	04	
Pediatric Nursing	05	04	
Neurosciences Nursing	06	04	
Nephrological Nursing	05	03	
Cardiological/CTVS Nursing	05	02	
Psychiatric Nursing	05	03	
Total	188	173	156

Current students' strength

Course	I year	II year	III year	IV year	Total
BSc (Hons) Nursing, Regular	92	77	69	68	306
BSc (PB) Nursing, Regular	39	42	81		
MSc Nursing, Regular	22	20	42		
Total	153	139	69	68	429

Students Graduated 2021

Course	No. of Students
BSc (Hons) Nursing	82
BSc (PB) Nursing	29
MSc Nursing	25
Total	136

HIGHLIGHTS

The year was occupied with completion of academic requirements amidst changes in Covid situation, Faculty development programs, Student development programs, Community development activities, Short term courses, National level Training of Training programs for faculty and nurses, Thematic lead for MoHFW in creating Covid nursing learning materials, Observation of days of international and national importance, hosting webinars inviting experts with international and national level importance, in service education workshops for empowering nursing officers and contribution towards evidence-based nursing through various research projects. During crisis of the hospital during unforeseen situations the students and faculty supported the continuity of nursing care in hospital.

TOT of faculty of INI in Pediatric emergency nursing preparedness, Rational use of oxygen administration and forensic nursing: a newly added subject in nursing curriculum, Nursing care of critically ill Covid patients, Communicating patients and families during Covid, Soft skill training of nurses working in ESI hospitals, Hospital emergency preparedness: Code blue, code red, code pink, and other international emergency codes through simulation and Table top exercises, Lactation management short term course are a few to highlight among many other activities.

Observation of children's day with street children of Delhi, Self defence skills training of nursing students, Hair donation camp for free wig making for cancer patients, Health screening camp for sex workers on world AIDS day, Creation of sanitary pad bank for construction women workers and domestic workers, Training police personnel in COLS are some of the highlights of community development activities organized by College of Nursing.

Supporting other courses

College of nursing faculty delivered lectures and conducted practical classes of DORA students, CDER, AIIMS, Delhi

Lectures delivered

Deepika C Khakha: 19	Kamlesh K Sharma: 7	Shashi Mawar: 7
L Gopichandran: 18	Ujjwal Dahiya: 1	Pragya Pathak: 3
Rimple Sharma: 11	Manju AK Rajora: 1	Levis Murry: 8
Y Surbala Devi: 3	Philomina Thomas: 1	Neelima Raaj: 1
Monika Sabharwal: 3		

Oral papers/posters presented: 8

RESEARCH

Funded projects

Ongoing

1. Effectiveness of Epilepsy care APP on Quality of Life and First Aid management of Seizures (FAMS) by parents of children with refractory Epilepsy reporting at AIIMS: A pilot randomised study, Pathak P, AIIMS, 1.5 years, 2020-2021, Rs 2 lakhs
2. Effectiveness of Interprofessional Education as compared to Uniprofessional training for managing newborn emergencies using simulation on medical and nursing students in terms of their attitude, teamwork and acceptance, towards interprofessional education; A mixed methods approach, L. Levis Murry, AIIMS, 1 year, 2020-21, Rs 2.82 lakhs
3. Interdisciplinary clinical research network to build locally rooted evidence-based knowledge to address the mental health impact of COVID-19 in vulnerable and at-risk groups in India with a wider focus on South Asia-A qualitative study (2020-21), Gopichandran L, UCL-AIIMS, 1 year, 2020-21, Rs 5 lakhs
4. Risk prediction of cardiovascular diseases among nurses aged more than 40 years: Report from a tertiary care centre in North India (2020-2021), Gopichandran L, TNAI HQ, 1 year, 2021-22, Rs 1 lakh

Completed

1. A randomised controlled trial to compare the efficacy of mobile app vs conventional prescription of analgesics and adjuvants' adherence on selected variables among cancer patients receiving palliative care at a tertiary care Centre" collaborated with Palliative care Dept, IRCH, AIIMS& ICMR, New Delhi (2019-21), Gopichandran L, ICMR, 2 years, 2019-2021, Rs 1,10,59,059
2. Impact of nurse led integrated educational intervention for home-based supportive care of advanced cancer patients on Quality of Life of their caregivers: A Prospective RCT', Dr Kamlesh Kumari Sharma, 1 year, 2020 – 2021
3. Psychological distress among nurses during the COVID-19 pandemic, Dr Kamlesh Kumari Sharma, 1 year, 2020–2021

Departmental projects

Ongoing

1. A comparative study to assess burnout syndrome among Health Care worker working in SARS COV-2 and Non SARS COV-2 areas in Tertiary care hospital at NCT
2. A cross-sectional study to assess the impact of COVID-19 on psychological well-being and family dynamics among parents of children with developmental disorders at a tertiary care hospital.
3. A descriptive phenomenological study among nursing educators experiences on online teaching of nursing students
4. A descriptive study to assess predictors of low milk volume among mothers of preterm admitted in a tertiary care facility.
5. A Quality Improvement project on improving practices of non-pharmacological pain relief measures during selected procedures in neonates among Doctors and Nurses in NICU, AIIMS Delhi.
6. A quality study explore the lived experiences of patient hospitalised with COVID 19 ;Nursing care perspective–ongoing (2020-2021)
7. A RCT to assess the efficacy of swallowing exercises on dysphagia among post extubated patients admitted in AB8 ICU of AIIMS, Delhi
8. A study to assess educational stress and coping strategies among undergraduate college students during COVID 19 pandemic
9. A study to assess Knowledge, attitude, and practice of caregivers of children with Cystic Fibrosis.
10. A study to assess Quality of Life (QOL) and problems faced by stoma patients during Covid19 pandemic.
11. A study to assess the effect of simulation-based ventilator alarm management training on nurse's knowledge and practices in a tertiary care hospital.
12. A study to assess the effectiveness of brief intervention package on mitigation of burnout syndrome & DASS scores among nursing personnel working in tertiary care hospital in ICU and Non ICU areas: A quasi experimental design
13. A study to assess the effectiveness of interprofessional education as compared to uniprofessional training for managing newborn emergencies using simulation on medical and nursing students in terms of their attitude, teamwork and acceptance towards interprofessional education: A mixed method approach
14. A Study to Assess the Effectiveness of Psychoeducation Package on Stress and Psychosocial concerns of Parents having Children with Hypospadias and Attending
15. A study to assess the effectiveness of video assisted teaching regarding post dialysis care on knowledge and self-care efficacy among patients undergoing dialysis at AIIMS, New Delhi
16. A study to assess the impact of simulation-based teaching on breaking bad news with regard to their skills, attitude and confidence among nurses in pediatric intensive care unit, AIIMS, New Delhi.
17. A study to assess the impact of wellness program on emotional well-being of nursing students
18. A study to assess the effectiveness of a 'modified interactive online community health officer (CHO) training package integrated in pre-service training of nursing students, in terms of their knowledge and satisfaction'
19. A study to assess the effectiveness of a virtual lactation management education program on knowledge and attitude of nurses at a tertiary care health care setting
20. Assessing the prevalence of Risk Factors for Non-Communicable Diseases Including Common Cancers among Nurses in Delhi NCR Using Digital Community Based Assessment Checklist: A Pilot study
21. Clinical audit of nephrology nursing procedures performed in nephrology unit of AIIMS with a view to develop nephrology nursing procedure protocol following COVID guidelines
22. Health care quality of life amongst breast cancer patients visiting breast cancer clinic at Surgery OPD, AIIMS, New Delhi
23. Perceived Problem Areas in Young Adolescents with Type 1 Diabetes Mellitus: Attention Needed, A study to assess the knowledge of antenatal mothers regarding Danger signs during pregnancy in AIIMS O.P.D,
24. Perceptions and practices towards COVID 19 among pregnant women: a cross sectional study
25. Testing of an SDP model of self-learning demonstration and preceptorship on Nurses for Pediatric COVID-19 preparedness.
26. The City of Hope Quality of life Stoma questionnaire: Hindi translation and validation

Completed

1. A study to assess the effectiveness of Interventional package on prevention of pressure ulcers for caregivers of patients with severe neurological disability in AIIMS, Delhi.
2. An RCT, An experimental study to evaluate the impact of nurse led psychoeducation on knowledge and anxiety of patients undergoing imaging studies.
3. A prospective study to explore the unmet needs of Sarcoma Survivors and redefine the role of a nurse in survivorship care, A study to assess the effectiveness of nurse led web based educational package for adults with type 2 diabetes mellitus on self-efficacy and glycosylated haemoglobin levels.

4. A study to assess the association between gaming disorder and psychosocial correlates among adolescents of selected schools of Delhi.
5. A cross sectional study to assess the impact of social media on body image, social competency quality of sleep and self-esteem among undergraduate nursing students of AIIMS, Delhi.
6. A study to assess the effectiveness of simulation with regard to improvement of knowledge, skill and its retention among nursing students in initial assessment and management of multiple injured patients as per ATLS guidelines.
7. Caregivers' perception about patient safety in psychiatric unit: A Mixed Method Study.
8. A study to develop hemodialysis patient safety care protocol for patients undergoing hemodialysis at AIIMS, New Delhi and assess its feasibility, acceptability and patient satisfaction.
9. A study to assess anxiety, depression and QOL of patients with Lupus nephritis reporting at AIIMS.
10. A study to compare QOL of parents of children with cerebral palsy and those with typically developing children reporting at AIIMS
11. A study to assess the knowledge, attitude and perceived barriers regarding Human Milk Banking among stakeholders of healthcare at AIIMS, New Delhi with a view to develop an e-educational material."
12. A study to assess the effect of multi-component intervention programme regarding care of infants after cardiac surgery on knowledge, confidence, level of satisfaction of parents and selected patient care outcomes at AIIMS, New Delhi.
13. A RCT to assess the efficacy of Renal Care Bundle on Quality of Life among CKD patients at AIIMS New Delhi
14. Caregivers' perception about patient safety in psychiatric unit: A mixed method study.
15. A cross sectional study to assess the awareness and practices relating to healthy lifestyle among undergraduate nursing students, AIIMS, New Delhi.

Collaborative projects

Ongoing

1. A Bibliometric study to analyse the status of funding pattern of research projects and international collaboration in nursing science in India in relation to the global perspective, BB Dixit Library, AIIMS, New Delhi
2. A Pilot testing of a nutritional intervention package (NIP) on children with cystic fibrosis, and development of an App on Cystic Fibrosis Self- Management (CFSM), College of Nursing, Pediatrics, Nutrition and Dietetics, IIT Roorkee
3. A study to assess the effectiveness of a 'modified interactive online community health officer (CHO) training package integrated in pre-service training of nursing students, in terms of their knowledge and satisfaction.', College of Nursing, Centre for community medicine
4. A study to assess the effectiveness of a virtual lactation management education program on knowledge and attitude of nurses at a tertiary care health care setting, College of Nursing, Pediatrics
5. A study to assess the effectiveness of Interprofessional Education as compared to Uniprofessional training for managing newborn emergencies using simulation on medical and nursing students in terms of their attitude, teamwork and acceptance towards interprofessional education; A mixed methods approach, College of Nursing and Paediatrics
6. Perceptions and practices towards COVID 19 among pregnant women: a cross sectional study, College of Nursing, Obstetrics and Gynaecology

Completed

1. Determinants of mental health outcomes among health care workers exposed to COVID-19 patients or suspects, College of Nursing, Centre for community medicine, Psychiatry
2. Impact of nurse led integrated educational intervention for home-based supportive care of advanced cancer patients on Quality of Life of their caregivers: A Prospective RCT, College of Nursing, Onco-anaesthesia, Nursing services
3. Psychological distress among nurses during the COVID-19 pandemic, College of Nursing, Psychiatry

PUBLICATIONS

Journals: 28 Books and Monographs: 2

Three years data on various activities of the College

S. No.	Activity	2021-22	2020-21	2019-20
1	Lectures delivered at CMEs, National and International conferences	82	142	107
2	CMEs/Workshops/Symposia/National and International Conferences	82	10	10
3	Oral papers/posters presented	10	10	10
4	Funded ongoing projects	4	7	8
5	Funded completed projects	4	1	-

6	Non funded ongoing projects	5	4	4
7	Non funded completed projects	4	6	5
8	Ongoing departmental projects	19	25	24
9	Completed departmental projects	16	23	23
10	Ongoing collaborative projects	6	6	6
11	Completed collaborative projects	3	4	4
12	Publications	28	70	68
13	Chapters in books	0	8	8
14	Books and Monographs	2	2	2

PATIENT CARE

- Coordinated six health surveys in 2021-2022 in urban community (Ambedkar Nagar)
- Organised six public awareness programs on various national/international health days viz, Stroke, Glaucoma etc
- Coordinated poster exhibition on the 66th Institute Day Celebrations at AIIMS, New Delhi, themed: Transforming Nursing Education through Digitalization: Glimpses of the voyage (College of Nursing) on 25 September 2021
- Organised five community health programs in the form of role plays and exhibitions on prevention and promotion of Health
 - Exhibition on reproductive and Sexual health at Ambedkar Nagar
 - Role play on care of elderly
 - Exhibition on AIDS prevention at Ambedkar Nagar
 - Rally on prevention of cervical cancer at Ambedkar Nagar
 - Health exhibition on world stroke day at Ambedkar Nagar and CNC OPD on 29 October 2021
 - NukkadNatak on living well with Kidney disease on world kidney day 10 March 2022 at public lecture at JLN auditorium
- Organised and conducted Public Awareness programme for OPD patient at Psychiatry OPD on occasion of World Mental Health Day 2021

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Dr Deepika C Khakha was the Editorial board of the Journal of Nursing Science and Practice, Scholar Report, Indian Journal of Advanced Nursing, Journal of Comprehensive Nursing, Research and Care, Journal of Community Health Management, Obesity Research and Clinical Practice. She was Reviewer for International Journal of Health and Allied Sciences, Expert Reviewer for Baba Farid University Nursing journal, Reviewer for Journal of Advanced Research in Nursing Science, Reviewer for Annals of Nursing and Practice, Editorial board of Scholar Report, Peer reviewer for the Journal of Community Medicine & Public Health Care. Reviewer for International Journal of Health and Allied Sciences, Expert Reviewer for Baba Farid University Nursing journal, Reviewer for Journal of Advanced Research in Nursing Science, Reviewer for Annals of Nursing and Practice, Editorial board of Scholar Report, Peer reviewer for the Journal of Community Medicine & Public Health Care, *Reviewer for Current Psychiatry Reviews*, Editorial board of Journal of Comprehensive Nursing Research and Care, Reviewer for Journal of Affective Disorders, Editorial board and reviewer for Journal of Community Health Management, Member in the Reviewer Board of the Journal of Education Technology in Health Sciences, Reviewer for Asian Journal of Psychiatry, Reviewer for Journal of Alternative, Complementary & Integrative Medicine, The Nursing Journal of India, Reviewer for British Journal of Mental Health Nursing, Reviewer for American Journal of Psychiatry and Neuroscience, Journal of Alternative, Complementary & Integrative Medicine, Member of the World Health Organization's (WHO) Global Clinical Practice Network (GCPN), an international community of mental health and primary care professionals committed to furthering research and practice in global mental health, On doctoral committee of PhD Nursing at AIIMS, Delhi and PhD Supervisor for Shri Jagdish Prasad Jhabarwal Tiberwla university, Rajasthan. Co-chair for Ethics Committee (Institute of Liver Biliary Sciences, New Delhi), Doctoral Research Committee at AIIMS, Delhi and Baba Farid University of Health Sciences, PhD Guide for WHO and INC Consortium course for PhD in Nursing, Board of studies of Jamia Hamdard, External academic auditor for Jamia Hamdard, Doctoral Research committee of Baba Farid University of Health Sciences, Faridkot, Punjab, MSc Thesis adjudicator and Subject Expert for Baba Farid University of Health Sciences, Faridkot, Punjab, Member of Doctoral committee of PhD Nursing student of College of Nursing, All India Institute of Medical Sciences, New Delhi, Member of Doctoral committee of PhD Psychology student of Department of Psychiatry, All India Institute of Medical Sciences, New Delhi, PhD thesis adjudicator for Dr. M.G.R. Medical University, Chennai, PhD supervisor for Shri Jagdish Prasad Jhabarwal Tiberwala University, Rajasthan, Adjudicator for M.Sc. Nursing Thesis of BP Koirala Institute of Medical Sciences, Nepal.

Dr Kamlesh K Sharma was engaged with Confidential work related to entrance exams of two universities, Special member, research quality committee (nursing) RQC (N) meeting at Baba Farid University of Health Sciences, Faridkot, Subject expert, Research Degree Committee (nursing) RDC meeting at Baba Farid University of Health Sciences, Faridkot on 23 August 2021, Contributed as external expert in the interview for the selection of faculty members for an Institute of National Importance held on 22 February 2022, Awarded certificate of completion of online Training program on Good Clinical Practice (GCP) organised by the Clinical Development Services Agency (CDSA), Translational Health Science & Technology Institute (THSTI), an autonomous institute under Department of Biotechnology, Ministry of Science & Technology, Government of India. held from 9 February to 2 March 2022 (four modules), Received Intramural funded COVID project approval for one year extended for another 3 month as 'External Consultant on Community Processes- Comprehensive Primary Health Care (CP/CPHC)' with NHSRC, NIHFW, Delhi as National Trainer/ Master Trainer for online State TOT programs for Community Health Workers and Staff Nurses Trainers As Member Doctoral Committee, Dept. Of College of Nursing, AIIMS, New Delhi, Guiding PH.D candidates (Four) of National Consortium for PH.D Nursing by Indian Nursing Council in collaboration with Rajiv Gandhi University of Health Sciences, Bangalore, As ad-hoc inspector of Delhi nursing council (DNC), Contributing as Deputy Hostel superintendent since 8 December 2014, Contributed as Central Assistant Public Information Officer for college of nursing since July 2010, Participated in various committees of AIIMS, Chairperson –Infection control and sanitization committee, College of nursing (since July 2020), Chairperson committee constituted for moderation of MCQ for B.Sc Nursing (PB)/2022, AIIMS, New Delhi, Purchase committee of college of nursing and also of AIIMS hostels, Condemnation committee of college of nursing and also of AIIMS hostels; Member, Goods inspection committee, Hostel section, AIIMS, As Member Doctoral Committee, Deptt. Of College of Nursing, AIIMS, New Delhi, Nodal officer, hostel section for COVID-19, AIIMS, New Delhi, Guiding PhD candidates (FOUR) of National Consortium for PhD Nursing by Indian Nursing Council in collaboration with Rajiv Gandhi University of Health Sciences, Bangalore (12th batch and 13th batch), Editorial Board member for 3 journals; Reviewer for five journals, Member of eight professional bodies, External examiner for over 10 national universities.

Dr Shashi Mawar Celebrated International yoga day on 21 June by organising webinar on therapeutic yoga, Celebrated World Heart restart Day by training police personnel of South Delhi at Hauz Khas police station on 16 September 2021, Celebrated World stroke Day on 29 October 2021 with a theme "Minutes can save lives" and organised a role play and health exhibition at CNC OPD. Also organised a panel discussion on prevention of stroke for general public, Uploaded on You tube link, Celebrated World kidney day on 10 March 2022 by organising a webinar hybrid mode for Nurses on bridging the knowledge gap for CKD in morning, conducted a poster competition for AIIMS employees in Auditorium foyer 1 Floor and NukadNatak performance in Public lecture at Conference Hall. Program funded by AIIMS.

Dr L Gopichandran was recipient of National E-Governance Award 2020 by Department of Administrative reforms and public Grievances, Government of India at 24th National e- governance at Hyderabad on 7 and 8 January 2022, recipient of Distinguished Alumni Award 2020 (Sri Ramachandra University) Chennai (2021), nominated as member of Indian Resuscitation Council federation (2021-24).

Ms Aditi P Sinha Organised National Programme on Capacity Building: Rational Use of Oxygen Administration: Nurses Perspectives on 27 January 2022. More than 50,000 views in you tube, Organized World Kidney day on 10 March 2022.

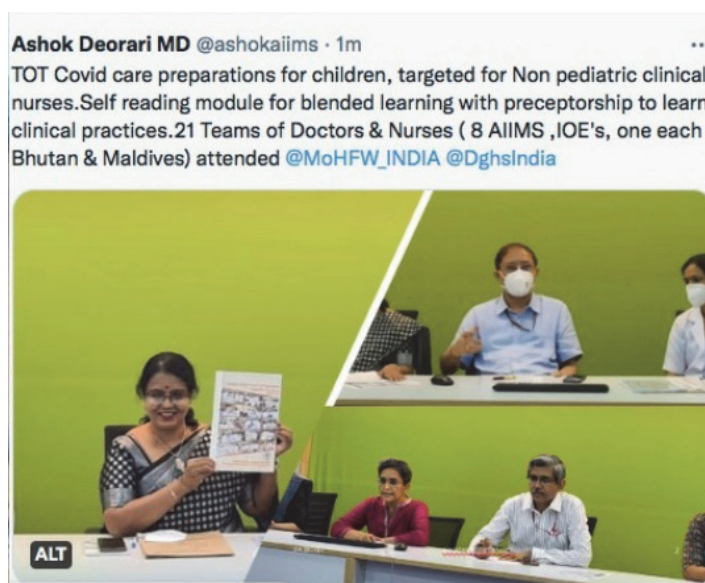
Dr Pragya Pathak was Member of WHO South East Asian Region(SEAR)competency based curriculum review committee for NCD service delivery Network, Completed WHO –SEARO Induction training on People centred NCD Service delivery in Primary health care from 2-13 December 2021, Examiner for M.Sc. Nursing and B.Sc. Exams at college of Nursing(AIIMS Rishikesh, PGI Chandigarh, I.L.B.S Delhi, KGMU Lucknow, West Bengal university, Baba farid university Punjab), Invited as External Expert for Departmental Doctoral research committee of Himalayan University, College of Nursing on 28 October 2021.

Ms Ujjwal Dahiya was Awarded Best Research paper presentation (2nd prize) in 2nd International Conference in Nursing Science and Healthcare- May 2021, Subject Matter Expert on "Life Threatening Arrhythmias and Coronary Artery Disease" in 16 July 2021 by Society of Cardiac Nurses, Organising committee member for "3rd International Conference on Nursing Science and Healthcare (Virtual Conference)" by Society for Nursing Practices (SFNP) on 22 and 23 October 2021, Organising committee member and keynote presenter for Annual Congress on Nursing Education, ACNE –December 2021, Organising Secretary for Inservice Nursing Update on Mass Casualty Management, March 2022, Contributor in Textbook of Management of Nursing Services and Education for undergraduate nursing students.

Ms Levis Murry was Part of organising team for the Pediatric Nursing Emergency Preparedness Program for COVID (PNEPPCO) in collaboration with department of Pediatrics to train 300 nurses working at AIIMS COVID centres from 12 July to 11 August 2021, Part of organising team for the TOT on Pediatric Nursing Emergency Preparedness Program for COVID (PNEPPCO) in collaboration with department of Pediatrics. The methodology of PNEPPCO was shared with nursing colleagues of 8 other AIIMS, IOE's, Bhutan and Maldives, Contributed to the manual on "Self Learning Materials for nurses for

management of children with COVID 19” prepared by the College of Nursing and department of Pediatrics, Mentor for online training course for nurses on “Preterm Care for prevention of Retinopathy of Prematurity” from 18 June 2021 to 25 September 2021 organised by National Neonatology Forum of India and Indian Association of Neonatal Nurses.

Ms Monika Sabharwal received Second Prize in Essay writing competition for Faculty and Officers during Hindi Pakhwada at AIIMS, New Delhi (September 2021), won the state level prize (Third prize) in singing competition organised by Students Nurses Association-Delhi unit at RML hospital.





8. Research Section

Dean (Research)

Subrata Sinha

Associate Dean (Research)

Vineet Ahuja

HIGHLIGHTS

The Research Section initiated several research funding proposals calls, held workshops and created infrastructure to stimulate research milieu amongst the faculty, scientists and students at the Institute. Earlier the focus of intramural funding support had been on single investigators from AIIMS. With the objective of creating a more vibrant research environment and to lay down lines for future long-term collaborations, the funding call proposals now have shifted their vision on catalyzing the synergic 'cross-research activity' by having collaborative projects with other institutions like IIT and THSTI. For the first time at AIIMS, international collaborative funding opportunity was initiated. With the objective of enhancing interdisciplinary and collaborative research interest between University College, London (UCL) and AIIMS, New Delhi, a joint research seed fund has been established and it funded joint project proposals from faculty members from both institutions. Undergraduate Research Mentorship Scheme for students from third semester onwards at AIIMS was also initiated. Impetus to infrastructure and capacity building exercise was through operationalisation of facilities of Centralized Core Research Facilities (CCRF), Clinical Research Unit (CRU) and Center for Medical Innovation and Entrepreneurship (CMIE)/BioNEST.

EXTRAMURAL PROJECTS

	Number of Projects	Grant received (Rs)
DST	107	12,81,47,888
DBT	85	18,17,99,574
ICMR	345	63,88,32,464
OTHERS	348	83,82,85,694
TOTAL	885	178,70,65,620

INTRAMURAL PROJECTS

Online submission system for intramural grants has been created

Early Career Intramural research grants for Assistant Professors and Associate Professors at AIIMS

1. Single Principal investigator with co-investigators
2. Funding: Rs 5 lakhs/year – extendable to two years
3. Monitored by Internal Project Review Committee

Intramural Inter-disciplinary collaborative research projects for all faculty at AIIMS

1. Two Principal investigators from two different departments/disciplines with complementary expertise
2. Funding – Rs 5 lakhs/year per PI for two years (Total Rs.20 Lakhs)
3. Monitored by External Project Review Committee

Undergraduate Research Mentorship Scheme- for students from third semester onwards at AIIMS

1. Group of two or three MBBS students under the guidance of a faculty member (designated as Mentor)
2. Funding-Rs 2 lakhs per project for one year
3. Monitored by Internal Project Review Committee

Inter-Institutional collaborative research projects with

1. IIT, Delhi
2. IIT, Kharagpur
3. THSTI, Faridabad
 - Two Principal investigators from two different institutes with complementary expertise
 - Funding (intramural from both institutions) – Rs 5 lakhs/year per PI for two years (Total Rs.20 Lakhs)
 - Monitored by External Project Review Committee

COVID-Related Intramural Projects

The Research Section launches intramural schemes for promoting research for COVID. Two call for intramural grant for **Long COVID** as well as a specific call for projects related to **mucormycosis**. This ensured that faculty members had access to fast-tracked seed money for conducting research related to COVID. Overall intramural sanction as given to 81 COVID projects, 11 Long COVID projects and 26 COVID mucormycosis projects. A project review meeting detailing the progress of these projects was also initiated where the investigators had to present the progress and this would become a norm for all intramural schemes now.

AIIMS-UCL

International research collaboration with University College London continued and six projects were awarded this year also. Four projects were awarded last year.

- Two Principal investigators from the two institutes with complementary expertise
- Funding will be jointly provided by UCL and AIIMS, New Delhi. Each successful proposal will receive up to £5,000/year for UCL faculty and up to Rs 5 lakh/year for AIIMS, New Delhi faculty for one year.
- Monitored by External Project Review Committee

Intramural Funding for the following schemes

S. No.	Scheme	New+Ongoing projects	Amount awarded in Rs
1.	Early Career Intramural Research Project	172	6,02,38,527
2.	AIIMS-Collaborative	37	3,23,94,458
3.	AIIMS – IITD Collaborative Projects	22	1,97,63,356
4	AIIMS-THSTI Collaborative Projects	08	40,00,000
5.	AIIMS-UCL, London	11	54,33,160
6.	Undergraduate Mentorship Scheme	34	63,60,791
7.	AIIMS COVID	51	3,32,71,743
	Total	335	16,14,62,035

ENDOWED CHAIR: “Shobha Seth Wenger” Distinguished Chair in Gynaecologic Oncology under “Mira Seth Corpus Fund”

Mira Seth Corpus Fund has donated money to AIIMS to establish chair in Gynaecologic Oncology.

Purpose of the endowed chair: This prestigious Chair will be awarded to a Senior Faculty/Scientist from AIIMS, New Delhi who has an outstanding track record in the field of Gynaecologic Oncology.

Dr Neerja Bhatla, Professor and Head, Department of Obstetrics & Gynecology has been awarded ‘Shobha Seth Wenger’ Distinguished Chair in Gynecologic Oncology under “Mira Seth Corpus Fund” for a period of 2 years with the financial support of Rs 7.5 lakhs/year.

INTERNATIONAL FELLOWSHIPS FOR AIIMS FACULTY

The objective of the fellowships is to provide opportunities to gain advanced training in emerging areas of medical sciences and utilize them for work at AIIMS, New Delhi. These are not meant for attending conferences, society meetings or CMEs. Faculty who demonstrate a commitment to a specific area of work that requires advanced knowledge, provide a specific work-plan with a host who is reputed in that area, and show that the knowledge gained will be put to use at AIIMS New Delhi, will be preferred.

Areas for fellowships

Emerging areas in Clinical medicine, Basic sciences and Public Health with translational component

Duration of Fellowships:

Two to four weeks. Any duration beyond 4 weeks will not be supported financially by the travel grant and will be subject to specific approval on case-to-case basis.

The list of awardees for AIIMS International Fellowship:

S. No.	Name	Area of Research Interest	Foreign Mentor & Institute	Duration of fellowship
1	Dr Hariprasad G Additional Professor, Department of Biophysics	Clinical Proteomics	Prof. Ashok Reddy, Ph.D. Director of Proteomics, Proteomics Shared Resources, Oregon Health & Science University 3181 Sam Jackson Park Rd Portland, OR 97239, USA	4 weeks

2	Dr Dinesh Kumar Bagaria Associate Professor, Trauma Surgery & Critical Care, JPN Apex Trauma Centre	Trauma resuscitation, Hemorrhagic shock management	Tal M Hörer, Associate Professor, Dept. of Cardiothoracic & Vascular Surgery and Dept. of Surgery, Örebro University Hospital, Örebro University, Sweden	4 weeks
3	Prof Ritu Gupta Professor, Laboratory Oncology, Dr BRA IRCH	Hemato-Oncology, Molecular Biology	Prof. Nikhil Munshi, Dana-Farber Cancer Institute (DFCI), Harvard Medical School, Boston, USA	4 weeks
4	Dr Subhradip Karmarkar Associate Professor Department of Biochemistry	Cancer Biology	Dr Dev Mukhopadhyaya, Tumor Angiogenesis and Vascular Biology Laboratory, Griffin Building, 4500 San Pablo Road, Jacksonville, USA	4 weeks
5	Dr Anant Mohan Professor and Head Dept. of Pulmonary, Critical Care and Sleep Medicine	Training for Lung Transplant Management	Temple University, Philadelphia, USA	4 weeks
6	Dr Uma Kanga Associate Professor Department of Transplant Immunology & Immunogenetics	Transplant Immunology, Clinical Immunogenetics	Dr Raja Rajalingam, Professor of Clinical Surgery Director, Immunogenetics and Transplantation Laboratory, University of California, San Francisco	4 weeks
7	Dr Shikha Gupta Associate Professor, Dr Rajendra Prasad Centre for Ophthalmic Sciences	The treatment of primary congenital glaucomas	Dr Alex Huang, University of California San Francisco Parnassus Campus	2 weeks
8	Dr Brusabhanu Nayak Additional Professor, Department of Urology	Uro-Oncology	Dr Ashish Kamat MD Anderson Cancer Center, Texas, Huston, USA	4 weeks

INFOSYS CHAIR IN ONCOLOGY

Preamble: Infosys Foundation has donated money to AIIMS to establish 2 chairs, one each in Cancer (Oncology), and Obstetrics and Gynecology (ObGy) of Rs 5 crores each. The objectives of the Infosys endowment are as follows:

1. Establish Chairs
2. Promote and support Faculty, Scientists and Students in pursuing research
3. To support exchange of students and faculty with various national and international universities
4. To provide travel fellowship to young doctors, scientists and faculty
5. Any other suitable academic purpose approved by the Board

Purpose of an endowed chair: The purpose of an endowed chair is to honour a distinguished faculty for his/her achievements and offer an opportunity to work at AIIMS. Such chairs are likely to benefit AIIMS faculty, students, and scientists as the distinguished visiting doctor/scientist is likely to bring with him/her unique expertise and experience in the concerned field i.e. Oncology and ObGy. For the Infosys chairs in Cancer (Oncology) and ObGy, the eligibility criteria are:

- (i) A doctor/scientist working in a reputed government national university/hospital or an international university/hospital in the concerned field with at least 10 years of professional experience after obtaining a postgraduate professional degree i.e. MD/PhD.

- (ii) The person must have demonstrated excellence in the concerned field by way of the following: research publications in high-impact journals (at least one paper in a journal with an impact factor of 10 or more), h-index of >15, and at least 25 original articles in peer-reviewed journals. Demonstrable commitment in the field e.g. having established a specialty/sub-specialty/centre will be given due consideration.

Procedure of nomination: Any faculty of the institute can nominate a suitable candidate for the endowed chair. The nomination form duly signed by the proposer should be sent to the office of AIIMS Endowment Fund along with the following:

1. Consent of the nominee
2. Consent of the host department in the institute
3. A 250-word write-up on the merits of the nominee by the proposer
4. A 250-word proposal about specific contributions expected of the nominee during the period of his/her stay at the institute
5. CV of the nominee with publications, achievements, awards and honours

Procedure of Selection: The nominations will be evaluated by the scientific advisory committee of the AIIMS Endowment Fund through a fair and transparent evaluation process. The final selection will be done by the Executive Council.

Duration of Chairs: One to 3 months but may be extendable to a maximum of 6 months on a case-to-case basis if approved by the Executive Council.

Privileges associated with Chairs: The person appointed to the endowed chair will be treated as a visiting professor and entitled to write Infosys Chair of Oncology/ObGy as the case may be. He/She will be provided with economy class air fare, visa fee, per diem and accommodation. In addition, he/she will be given office space by the host department (even if on a shared basis) with internet connection, library access, and emergency health care.

Patient Care: A medical doctor awarded the chair will be entitled to be involved in patient care primarily for training/teaching a particular technique/procedure/treatment approach but not for routine patient care. International doctors with foreign degrees must be registered with the Medical Council of India before being permitted to be involved directly in any kind of patient care. The responsibility to get MCI registration will lie with the nominating person and/or the head of the host department. In case of a patient being treated by a foreign medical doctor, the patient's informed written consent must be obtained beforehand.

Expectations from the Awardee: The awardee of the Chair is expected to contribute to the development of the specialty concerned. His/her involvement in research/patient care should help in capacity building and inspire younger faculty. The conduct of the awardee should be befitting to the prestige of endowed chair and he/she should act as a brand ambassador for the institute.

Number of Awardees: It is likely that many experts will be selected for these prestigious chairs every year for a period ranging from 1 to 3 months. The limiting factor will be the total expenditure on such visits, which should not exceed Rs 20 lakhs/year for all such visits combined.

Selected awardees for Infosys Chair in Cancer (Oncology) for the year 2022.

S. No.	Name of Candidate	Name of Sponsored AIIMS Faculty	Duration
1	Dr Ranjit Manchanda Professor, Department of Gynaecological Oncology, Barts Cancer Research UK Centre, Queen Mary University of London	Dr Neerja Bhatla, Professor & Head, Department of Obst. & Gynae	1 month
2	Dr Amit Goyal Consultant Oncoplastic Breast Surgeon & Associate Professor, Assistant Clinical Director of Breast Surgery, University Hospitals of Derby and Burton NHS Foundation Trust	Dr Maneesh Singhal Prof. & Head, Department of Burns & Plastic Surgery	1 month
3	Dr Terence M Jones Professor of Head & Neck Surgery, Director, Liverpool Head and Neck Centre, Associate Medical Director for Research, Liverpool University Hospitals NHS Foundation trust	Dr Alok Thakar Prof. & Head, Department of Otolaryngology & Head Neck Surgery	2 weeks + 2 weeks
4	Dr Pramod C Sogani Attending Surgeon & Professor of Urology, Memorial Sloan Kettering Cancer Center, Cornell Weill Medical Center, New York, USA	Dr Amlesh Seth Prof. & Head, Department of Urology	1 month

NATIONAL TRAVEL SUPPORT SCHOLARSHIP FOR UNDERGRADUATES (MBBS & BSc) UNDER AIIMS ENDOWMENT FUND

With the approval of Executive Council of AIIMS Endowment Fund, the Research Section will provide a partial support to undergraduates (MBBS & B.Sc.) to present their research work in National Conferences.

1. 5 to 10 grants may be given every 2 months
2. Grant amount of Rs. 20,000 may be given as a partial support
3. Abstract should have been accepted in a National Conference in India
4. The application should be recommended by Faculty guiding the research paper/Head of the Department where the primary research was conducted
5. The applications may be submitted online at <http://researchsubmission.aiims.edu> under AIIMS Endowment Fund Travel Grant at any time of the year
6. The travel fellowship meeting should be held every 2 months and the application process can be rolling without any last dates

The meeting for screening the applications are held every 2 months: (i) February 1st week (ii) April 1st week (iii) June 1st week (iv) August 1st week (v) October 1st week and (vi) December 1st week

The application are screened and shortlisted by the Scientific Advisory Committee of the AIIMS Endowment Fund. The final selection is done by the Executive Council of the fund. The successful candidate has to submit a statement of expenditure and the partial funding received from other sources.

CLINICAL RESEARCH UNIT

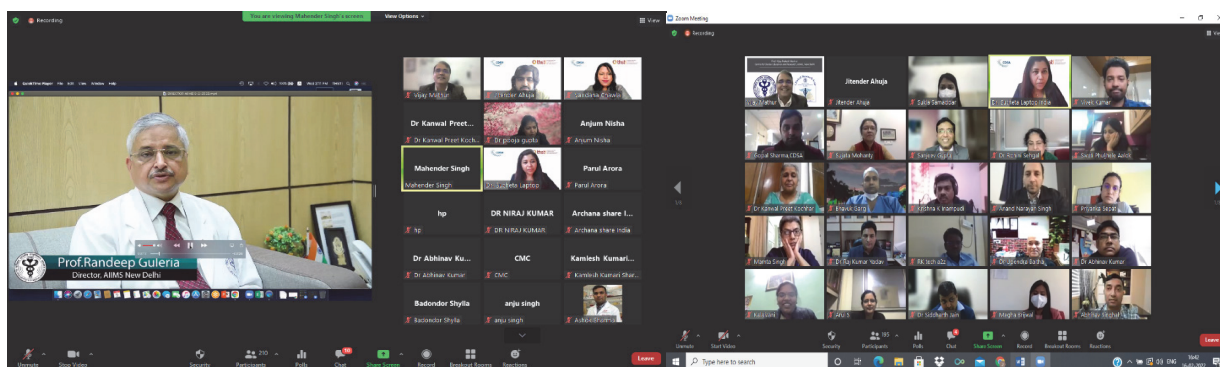
Clinical Research Unit (CRU), AIIMS New Delhi aims to provide high quality technical expertise and assistance in planning, designing, implementation and analysis of investigator-initiated clinical research, in compliance with the global best practices.

The working committee:

- Professor Subrata Sinha, Dean (Research)
- Professor Vineet Ahuja, Associate Dean (Research)
- Dr Vijay Prakash Mathur, Faculty Coordinator
- Dr M Kalaivani, Scientist Coordinator
- Dr Pooja Gupta, Workshop Coordinator
- Dr Sameer Bakhshi
- Dr Rakesh Lodha
- Dr Sumit Malhotra
- Dr M Jeeva Sankar
- Dr Saurabh Kedia

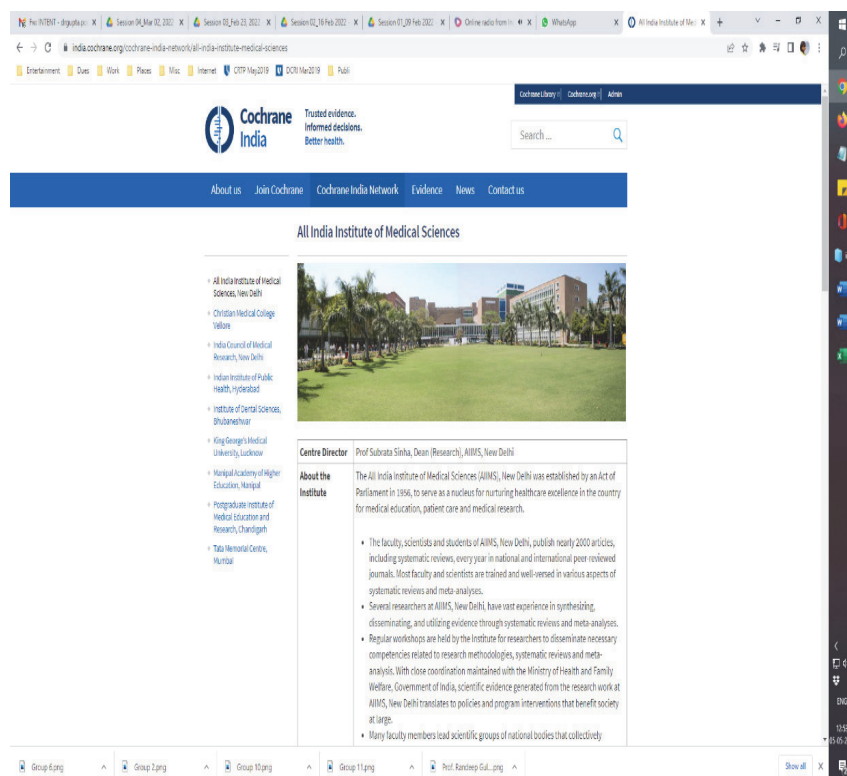
CMEs/Workshops/Symposia/National and International Conferences organised

- An online training program for Good Clinical Practices was conducted by CRU, in collaboration with CDSA, under THSTI. It included four interactive modules which were conducted on 9, 16 and 23 February 2022 and 2 March 2022 and were associated with a pre-test and a remotely proctored exit assessment. Sixty-two (62) participants (faculty, scientists, and researchers) from AIIMS successfully completed the program.



Cochrane India Network Center

- The CRU has been participating in the activities of the Cochrane India network (CIN), such as planning and training of the investigators in various research institutes.
- The team plans to conduct multiple workshops on how to do Cochrane reviews in the coming years.



ICMR Clinical Trials Center

- On behalf of AIIMS, the CRU applied for an advanced center for clinical trials, as part of ICMR “Indian Clinical Trial & Education Network (INTENT)”. It was approved in January 2022.
- Through this network, multi-center randomised controlled trials (RCTs) will be conducted across all levels of healthcare such as primary, secondary, and tertiary, as well as community-based trials that can be pragmatic and would aid in answering the real-world clinical questions with wider generalizability of the findings.

Covid-19 Research

- CRU team, led by Dr Randeep Guleria, was involved in the development of methodology, research tools, conduct, and analysis for investigating the occurrences of SARS-COV2 reinfection and vaccine effectiveness among healthcare workers at AIIMS, Delhi during predominant periods of delta wave (mid-2021) and omicron wave (early 2022) transmission.
- The first paper on Covid-19 reinfection was published in JAMA Network Open. The second paper on vaccine effectiveness paper is pre-published online on 22 January 2022 on the website medRxiv. The third paper on infection-reinfection of the omicron variant is under review in Lancet Reg Health Southeast Asia.

CENTRALIZED CORE RESEARCH FACILITY

S. No.	Sub-Facility	Faculty Incharge	Scientist-II
1.	Bio-Analytics	Dr T Velpandian, Professor, Ocular Pharmacology & Pharmacy, Dr RPC	Dr Hanuman Prasad Sharma
2.	Bioinformatics	Dr Punit Kaur, Professor, Department of Biophysics	Dr Amit Katiyar
3.	Biosafety Lab-3	Dr Subrata Sinha, Professor & Head, Department of Biochemistry & Dean Research	Dr Sunita Kanswal
4.	Flowcytometry Core Facility	Dr DK Mitra, Professor & Head, Department of Transplant Immunology and Immunogenetics	Dr Rahul Sharma
5.	General Facility	Dr Kalpana Luthra, Professor, Department of Biochemistry	Dr Vikas Sharma Dr Amit Singh
6.	Genomics Core Facility	Dr Madhulika Kabra, Professor and Incharge, Genetics Division, Department of Pediatrics	Dr Lata Rani
7.	Microscopy	Dr Parthaprasad Chattopadhyay, Professor, Biochemistry	Dr Saumitra Dey Choudhury



8.	Proteomics	Dr Punit Kaur, Professor, Department of Biophysics	Dr Ashutosh Arya Dr Sabyasachi Bandyopadhyay
9.	Project Management	Professor Subrata Sinha, Dean (Research)& Professor Vineet Ahuja, Associate Dean (Research)	Dr Kamal Gulati

1. BIOANALYTICS FACILITY

Overview

Bioanalytics facility provides the platform to the faculty, scientists, medical residents and students of All India Institute of Medical Sciences (AIIMS), New Delhi to diverge the science. The instruments available and services provided here help researchers to obtain answers to complex multifactorial biological questions. Bioanalytics facility utilises ultra-modern instruments for isolation of compounds from biological sources (plants, animals, micro-organisms and human). The facility provides an opportunity for purification, identification, and quantification of the isolated compounds. The facility further enables drug metabolism, drug degradation and impurity analysis studies. Apart from the above, the facility also does pharmacokinetics of drug and biological analytes, information-dependent unknown compound identification. The facility will in future extend the horizon by involving multi-omics in a qualitative as well as quantitative manner for lipidomics, metabolomics and glycomics.

Major Instrumentation

Instrument	Prime Applications
High Precision Mass Spectrometer 	<p>State-of-the-art gold standard for the quantification of biomolecules lesser than 1500 Da</p> <p>Capable of executing</p> <ul style="list-style-type: none"> • Qualitative analysis • Quantitative analysis • Information dependent acquisition • Multi-omics (Quantitative)
Analytical HPLC 	<p>This liquid chromatography system provides the science of separation using liquid mobile phase and stationary phase packed in column</p> <p>Capable of executing</p> <ul style="list-style-type: none"> • Quantitative analysis (μg to mg) • Qualitative analysis • Evaporative light scattering-based analysis

Preparative HPLC



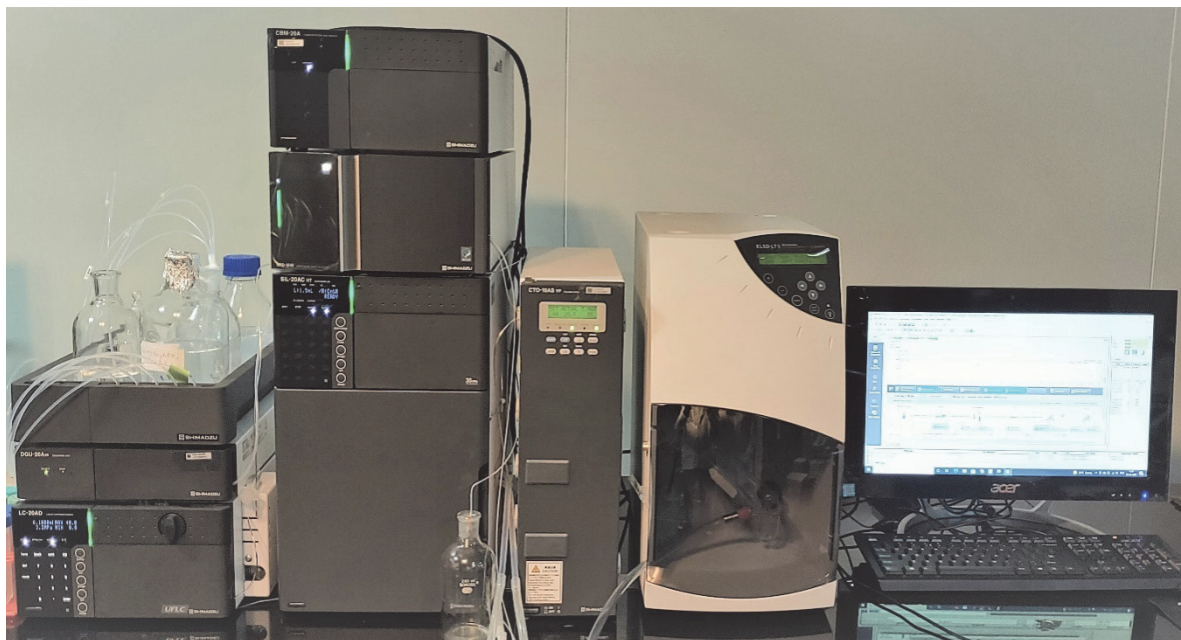
Isolation of desired Phytochemical from the mixture of crude plant extracts, large scale preparation of pure standards from mixture of complex matrices, differentiation of microorganism toxins on large scale, impurity isolation/elimination and quality testing.

Services provided

- Quantitation of organic compounds from biological fluids
- Structure elucidation by providing molecular weight and fragmentation details
- Isolation of bioactive compound from biological matrices
- Analysis of compounds having insufficient UV chromophores
- Developing newer methods for compound analysis
- Drug metabolism, pharmacokinetics and drug degradation studies
- Identification of drugs of forensic importance in biological tissues
- Quantitation needs in Targeted Proteomics, Lipidomics and Metabolomics in large number of bio-samples

Major instrument installations

- High performance liquid chromatography (HPLC) instrument was installed in the month of September 2021. This HPLC instrument is equipped with online degasser, quaternary pump, thermostatic column oven, temperature controlled autosampler and photo diode array detector. This instrument also has state-of-the-art evaporative light scattering detector (ELSD). ELSD gives an added advantage of analyzing certain analytes which do not have suitable chromophore group. This instrument is expected to cater the need of the researchers of AIIMS for their chromatographic requirements.



Analytical HPLC with ELSD detector

User activity

Users from various departments of AIIMS approach for diversified work. The work ranged from molecular weight identification to untargeted omics. Faculty, medical residents, PhD scholars and scientists of several departments of AIIMS approached the bioanalytics facility. The facility was continuously delivering its services, even during the COVID-19 pandemic.



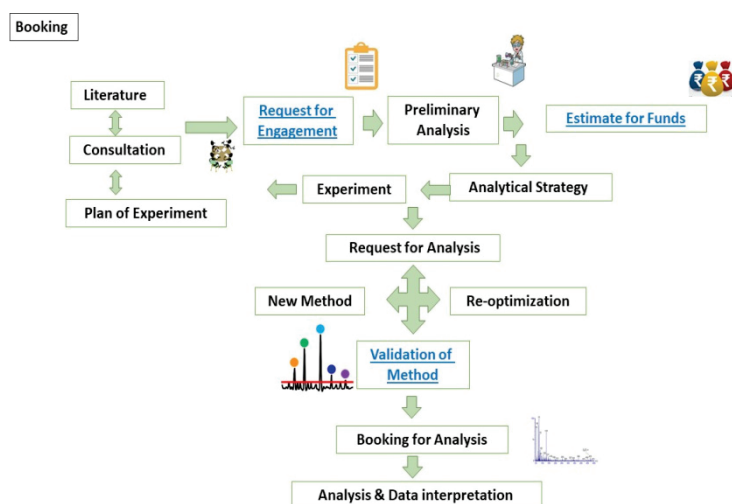
Analytical HPLC familiarization session

After the fire incident at CCRF in the month of June 2021, some mass spectrometry work has been shifted to the high-precision bioanalytical facility (HP-BAF), Ocular Pharmacology and Pharmacy, Dr RP Centre. This effort further facilitated the continuation of research work that was hampered due to the downtime of the facility following the fire incident.

Users who availed the bioanalytics facility

Consultation with scientist		
Department	Position	Type of work
Anatomy	MSc student	Quantitative LC-MS
Biotechnology	PhD Scholar	Quantitative LC-MS
Neurology	PhD Scholar	HPLC
Biotechnology	PhD Scholar	HPLC
Pathology (shifted to HP-BAF)	PhD Scholar	Quantitative LC-MS
CTVS	Senior resident	Untargeted & Targeted quantification
Gynecology (shifted to HP-BAF)	Senior resident	Targeted quantification
Laboratory medicine	Faculty	Flash chromatography & qualitative LC-MS
Biochemistry	Senior Resident	Global Lipidomics LC-MS
Biochemistry (partly shifted to HP-BAF)	PhD Scholar	Untargeted & Targeted quantification
Work completed		
Anatomy	PhD Scholar	Quantitative LC-MS
Pathology (HP-BAF)	PhD scholar	Quantitative LC-MS
Work ongoing		
Biochemistry (HP-BAF)	PhD Scholar	Untargeted & Targeted quantification
Gastroenterology	Faculty	Analytical HPLC analysis

In order to facilitate the process of approaching the facility, bioanalytics facility proposes the below-mentioned method



Analysis workflow of bioanalytics facility

Facility Coordinator

Dr T Velpandian, Professor, Ocular Pharmacology & Pharmacy, Dr RP Centre.

2. BIOINFORMATICS FACILITY

Faculty in-charge: Professor Punit Kaur

Scientist-II: Dr Amit Katiyar

Research assistant: Mandeep Singh

INTRODUCTION

Big data analysis has become a central component of scientific discovery. In order to store, retrieve, process, and analyse very large amounts of data, it is necessary to have centralized computational support. The Bioinformatics facility is a high-performance computing facility consisting of high-end servers and storage systems. The Center's server is regularly updated according to the latest scientific analysis pipelines (Linux, R, Python, Java, Perl, etc.). This facility works closely with other core facilities (such as genomics, proteomics, etc.) by providing continuous and seamless data storage, access, and analysis of the large volumes of data generated by these facilities.

Objectives

The Bioinformatics facility is tasked with the following primary objectives: a) to analyze and interpret 'Multi-omics' data derived from a variety of experimental pipelines in pre-clinical and clinical investigations; b) to customise bioinformatics pipelines for clinical needs to discover new diagnostic/therapeutic protocols, and c) to provide learning resources and training in bioinformatics tools for data analysis through regular training classes and workshops.

Functional logistics of Bioinformatics core facility

The core facility will support all institutes, including faculty, scientists, residents, staff, and students. In consultation with the facility team, advance bookings can be made for access to the facility. A user must first register on the website, fill out the required proforma, and submit the booking form.

Services Provided

The bioinformatics facility at CCRF has begun offering its data analysis services to AIIMS faculty, scientists, and research students in January 2021. Among its core services are:

- a) Whole-genome sequencing (WGS)
- b) Whole-exome sequencing (WES)
- c) Copy number variation (CNV)
- d) RNA sequencing (RNA-seq)
- e) Small RNA sequencing (sRNA-seq)
- f) Ribosome sequencing (Ribo-seq)
- g) Methylation sequencing (Methyl-Seq)
- h) Illumina BeadChip Array (HumanMethylation450/EPIC)
- i) Metagenomics (whole shotgun metagenomic sequencing)
- j) Metataxonomics (16S rRNA gene sequencing)
- k) Noncoding RNA (lncRNA, circRNA)
- l) Targeted-gene sequencing/panels (TGP)
- m) Microarray (Affymetrix, Agilent, and Illumina)
- n) Pan-genome (core genome and accessory genome)
- o) Genome assembly (de novo and reference-based) and annotation
- p) Phylogenetic analysis (sequence identity, wgMLST and SNP-based)
- q) Genotypic characterization of antibiotic-resistant in bacteria
- r) Gene ontology and pathway enrichment analysis
- s) Interaction network (generic PPI, gene-disease association, gene-miRNA)
- t) Molecular docking and simulation
- u) Machine learning/AI on Genomics data

Data analysis

To date, the facility has provided services to over 13 departments/centres/facilities of AIIMS for more than 30 major projects related to genomics, next-generation sequencing, and clinical research.

Research projects	Collaborating scientist(s)	Department(s)
Poor Sperm DNA Quality and DNA Methylation Alterations: Possible Implications in Offspring Susceptibility for ASD	Dr Saima Khan	Anatomy
Identification of differentially expressed genes/proteins in preeclamptic pregnant women by RNA-seq analysis	Dr Renu Dhingra	Anatomy
Novel variants in mitochondrial DNA regions coding for complex I subunits of ND4 and ND5 in pediatric B-cell acute lymphoblastic leukemia (ALL)	Dr Archana Singh	Biochemistry
Biomarker prediction in tumor samples based on TCGA data	Dr Sumit Kumar	Biochemistry
Meta-analysis of aberrantly methylated genes in colorectal cancer	Dr Janvie Manhas	Biochemistry
MethylationEPIC array data analysis	Dr Lakshmi	Biochemistry
Identification of known and novel variants using targeted gene sequencing panels	Dr Sudip Kr Datta	Biochemistry
Transcriptome profiling of human visceral Adipocytes in obesity and control group	Dr Archana Singh	Biochemistry
RNA-seq analysis of FAT1 knockout (Group 2) and control (Group 1)	Dr Subrata Sinha	Biochemistry
Identification of Glioma-associated Microproteins using RNA-seq and Ribo-seq data	Dr Kunzang Chosdol	Biochemistry
A Network Pharmacology-Based Approach to Explore Therapeutic Mechanism of Indian Herbal Formulation Nisha Amalaki in Treating Type 2 Diabetes Mellitus	Dr Gautam Sharma	CIMR
Network pharmacology-based exploration of therapeutic mechanism of Indian herbal formulation Trikatu in lipid and glucose-related metabolic disorders	Dr Gautam Sharma	CIMR
Study of vaginal microbiome and metabolome in women with bacterial vaginosis (BV) and healthy controls	Dr Somesh Gupta	Dermatology
Status and effect of pancreatic enzyme replacement on gut microbiota and resting energy expenditure in patients with chronic pancreatic	Dr Anoop Saraya	Gastroenterology
Identification of most common causative variant for cystic fibrosis using WES (Batch-I)	Dr Madhumita Chowdhury	Genetics
Identification of most common causative variant for cystic fibrosis using WES (Batch-II)	Dr Madhumita Chowdhury	Genetics
Evaluation of somatic copy number estimation in cystic fibrosis using WES (Batch-III)	Dr Madhumita Chowdhury	Genetics
Molecular mechanisms of colistin- and multidrug- resistance in nosocomial Gram-negative bacteria infecting trauma patients in Northern India	Dr Purva Mathur	Lab Medicine
Identification of DNA repair gene mutations on TMB in Lung Cancer	Dr Prabhat Malik	Medical Oncology
Characterization of XDR lineage related and CTX-M-15 positive Salmonella Typhi isolated from children in North India	Dr Sushila Dahiya	Microbiology
Gene expression based profiling of pleomorphic xanthoastrocytoma highlights two prognostic subgroups	Dr Vaishali Suri	Neuropathology
Identification of DNA Methylation signatures in Meningioma	Dr Vaishali Suri	Neuropathology
Identification of molecular signatures of gliomas in young patients	Dr Vaishali Suri	Neuropathology
Identification of Biomarker in Meningioma using publically available transcriptome signature	Dr Vaishali Suri	Neuropathology
Identification of Molecular Biomarkers Associated with Non-Small-Cell Lung Carcinoma (NSCLC) Using Whole-Exome Sequencing Analysis	Dr Deepali Jain	Pathology
Tumor mutational burden assessment in non-small-cell lung cancer samples	Dr Deepali Jain	Pathology

Identification of new risk variants in cardiomyopathy patients using whole-exome sequencing	Dr Sudheer K Arava	Pathology
Germline variants prediction using WES method	Dr Rachna Seth	Pediatrics
Mutational profiling of pediatric patients with Acute Lymphoblastic Leukemia (ALL) using targeted-exome sequencing analysis	Dr Nivedita Pathak	Pediatrics
Molecular inversion probes designing using MIPgen pipeline	Dr Viney Gupta	RP Centre

Consultancy

Scientific discussion/consultancy has been provided to many departments in the design of experiments, writing of projects, and analysis of data.

Students trained

CCRF: Bioinformatics facility has trained many postgraduate students in bioinformatics/NGS. In addition, we guided MD/PhD students from different departments at AIIMS through regular discussions about the scientific problem and possible solutions.

Financial support received

Scientist at CCRF: Bioinformatics facility are involved as Co-PIs in 2 funded collaborative projects.

Research Project	Budget	Funding Agency	Duration
Molecular-subtyping of small cell lung carcinoma (SCLC) to unravel the biological heterogeneity in clinical settings: An observational study	24,00,000	ICMR	3 years (2020-2023)
Evaluating the potential of new chromone derivatives against human Great wall kinase for cancer therapy using comparative cell based and proteomics investigations	66,56,000	ICMR	03 years (2019-2022)

Bioinformatics core team members

Punit Kaur	Professor and Head of Biophysics
Sudip Sen	Additional Professor of Biochemistry
AS Ethayathulla	Associate Professor of Biophysics
Sidhartha Kundu	Assistant Professor of Biochemistry
Manoj Kumar	Scientist II, Biophysics
Harishanker	Senior Programmer, Computer Facility

3. BIOSAFETY LEVEL 3 LABORATORY

Introduction and Overview

Work involving infectious and high-risk group pathogens necessitates the provision of biosafety containment facilities. The BSL-3 Laboratory of Centralized Core Research Facility, CCRF, at AIIMS, New Delhi was established in the year 2019 with the objective to stimulate research on infectious pathogens. The emergence and re-emergence of multi-drug resistant bacteria and the recent outbreak of COVID-19 have spurred research and diagnostics in the field of infectious diseases making an 'on-campus' BSL-3 a vital necessity. The biosafety containment features of the BSL-3 were designed in accordance with the national and international guidelines to provide a safer working environment to all staff, faculty, researchers, and students involved in the research of extremely contagious bacteria and viruses (risk group 3 pathogens) at AIIMS.

Equipment & Instruments Installed

The following equipment were procured for the BSL-3 Facility in 2021-22

S. No.	Name of instrument	Quantity
1	CO ₂ Incubators	6
2	Upright Trinocular Microscopes with Fluorescence and digital imaging	3
3	Microgram weighing balance	3
4	Upright Binocular Light Microscope	4
5	BioTeK-Cytation 2 Multimode reader accessories: <ul style="list-style-type: none"> Dual reagent injector module Dual reagent injector CO₂ and O₂ gas controller 	3 each

Activities at BSL-3 Facility, Covid-19 Diagnostics

BSL-3 Facility at CCRF has been at the cornerstone of COVID-19 diagnostics at AIIMS, New Delhi since the advent of the pandemic in India. Two dedicated areas inside the BSL-3 facility with independent entry and exit were developed to carry out COVID-19 diagnostics round the clock.

BSL-3 Training area: The *BSL3 training laboratory* was being used for processing of COVID-19 samples led by Professor Lalit Dar and his team, Department of Microbiology, AIIMS. In this laboratory, more than 42,000 samples have been processed for SARS Coronavirus-2 RT-PCR since the beginning of the pandemic in February 2020.

BSL-3 Virology Laboratory Area: To cater the clinical services to patients arriving at AIIMS Emergency, various OPDs and ICUs for clinical procedures at AIIMS, the BSL-3 Virology laboratory was activated for COVID-19 diagnostics led by Professor Urvashi B Singh and her team from Department of Microbiology, AIIMS. More than 47000 samples have been processed for SARS Coronavirus-2 using True Nat and GeneXpert platforms in this laboratory since June 2020.

Both these COVID-19 diagnostics facilities were supported by the team of BSL-3 Scientists and technical staff.

Registration of BSL-3 under DBT -Process Initiation

As per office memorandum PID-15011(11)/5/2020-PPB-DBT, the procedure for registration and certification of the BSL-3 facility at CCRF was initiated in April 2021.

Users of the facility

The BSL-3 facility was being used for COVID diagnosis. The following researchers were regular users of the facility during 2020-2022

- | | |
|----------------------|--|
| • Ms Lata Chaudhary | Scientist I, Department of Microbiology |
| • Ms Megha Chaudhary | JRF, Department of Microbiology |
| • Ms Santoshi Raturi | Lab technician, Department of Microbiology |
| • Mr Pradeep Kumar | Lab technician, Department of Microbiology |
| • Mr Abhishek Shukla | Lab technician, Department of Microbiology |
| • Ms Gunjan | Lab technician, Department of Microbiology |
| • Ms Kanchan Saini | PhD student, Department of Biotechnology |
| • Ms Sheetal Negi | PhD student, Department of Biotechnology |

Biosafety Related National Capacity Building Initiatives and Training

The core team of the BSL-3 Facility, CCRF is also involved in bringing awareness about biosafety, risk assessment, and capacity building at the national level.

- Dr Vikram Saini (Faculty Coordinator, BSL-3 Facility, CCRF) serves as an expert member and consultant for the National Biodefense Program, and the National Committee for the technical evaluation of the development of the priority-pathogen containment facilities, Department of Defense, DRDO, Government of India. He is also an expert member of the Advisory Committee to set up a Biosafety Level-3 (BSL-3) facility at the National Institute of Biologicals (NIB), Noida.
- Dr Saini provides technical expertise for the development of high containment Biosafety facilities (BSL-3) at the National Center for Disease Control (NCDC), India; DRDO, India and Government of Uttarakhand State, India/World Bank-sponsored initiative.

Oral presentations by Dr Vikram Saini - faculty coordinator BSL-3

1. Overcoming the Challenges of Research and Laboratory Diagnosis of Tuberculosis with Good and Sustainable Laboratory Practices. In the training program on BSL-3 Laboratory working practices and *Mycobacterium tuberculosis* handling protocols organized by University of Delhi South Campus (27 January -2 February 2022)
2. Challenges and opportunities for improved therapeutics, diagnostics, and sustainability in infectious disease research. Organised by Department of Molecular Medicine and Biotechnology, Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS), Lucknow, UP (9 December 2021).
3. The Importance of Developing Biosafety and Biosecurity programs at laboratories handling high consequence pathogens. In the Indo-US workshop on One Health' Approach for Molecular Epidemiology and Risk Assessment for Bacillus anthracis in India (OHAI), organized by ICME Regional Medical Research Center, Bhubaneswar at Bhubaneswar, Orissa (16 November 2021)
4. Requirements for Laboratory Diagnosis and Research with RG3 and RG4 Agents in the workshop on Biosafety and Biosecurity in Microbiological and Biomedical Research, Diagnosis, and in Clinical Care. Organised by Federation of Asian Biotech Associations (Bangladesh Chapter) In Association with Federation of Asian Biotech Associations (HQ), India (30 October 2021).
5. BSL3 Design, Biosafety Guidelines, Risk Assessment and Practices of TB Research and Laboratory Diagnosis (25 October 2021). In the online training program on 'Advanced training course on TB research in BSL3 and protocols' Organised by BSL3 Facilities, Department of Biochemistry, University of Delhi (26 October 2021- 1 November 2021)

6. Inaugural Interactive Sessions for the One Health Consortium of India and the International Mini-symposium on “The Essentials of One Health”, National Institute of Animal Biotechnology (NIAB), Hyderabad, Telangana (20 and 21 October 2021)
7. Biosafety Laboratories (BSL3), working and regulatory processes in India, Workshop on Biosafety and security, and outbreak response, jointly conducted by Odisha state University of Agricultural sciences and Technology.

Training

Dr Sunita Kanswal

1. Successfully completed ‘Good Clinical Practices’ workshop conducted by the CDSA, THSTI, and facilitated by CRU, AIIMS in Feb-Mar 2022
2. Participated and completed ‘Workshop on Biosafety and Biosecurity in Microbiological and Biomedical Research, Diagnosis and Clinical Care’ organized by the Federation of Asian Biotech Associations (FABA) 22-24 and 29-31 October and 6 November 2021
3. Completed the online certification course on “Culture Media and Isolation Techniques” by US Division of laboratory systems, CDC, Atlanta on 11 January 2022
4. Completed the annual online certification course on “Biosecurity for Clinical laboratories” by the Institute of public health practice, University of Iowa on 12 February 2022

Grant support

Dr Vikram Saini, Faculty Coordinator BSL-3 is supported by the following grants

1. Establishment of Consortium for One Health to address Zoonotic and Transboundary Diseases in India, including the Northeast Region, 2021-24, Rs 57.12 lakhs, DBT, Government of India.
2. Identifying the bioenergetics mechanisms of dysregulation of immune cells during SARS-CoV-2 infections, 2021-23, Rs 20 lakhs, AIIMS Covid-19 Intramural
3. Host transcriptomic profiling in mildly symptomatic, sick and sicker COVID-19 patients, 2020-22, Rs 10 lakhs, AIIMS Covid-19 Intramural

4. FACS CORE FACILITY

Overview

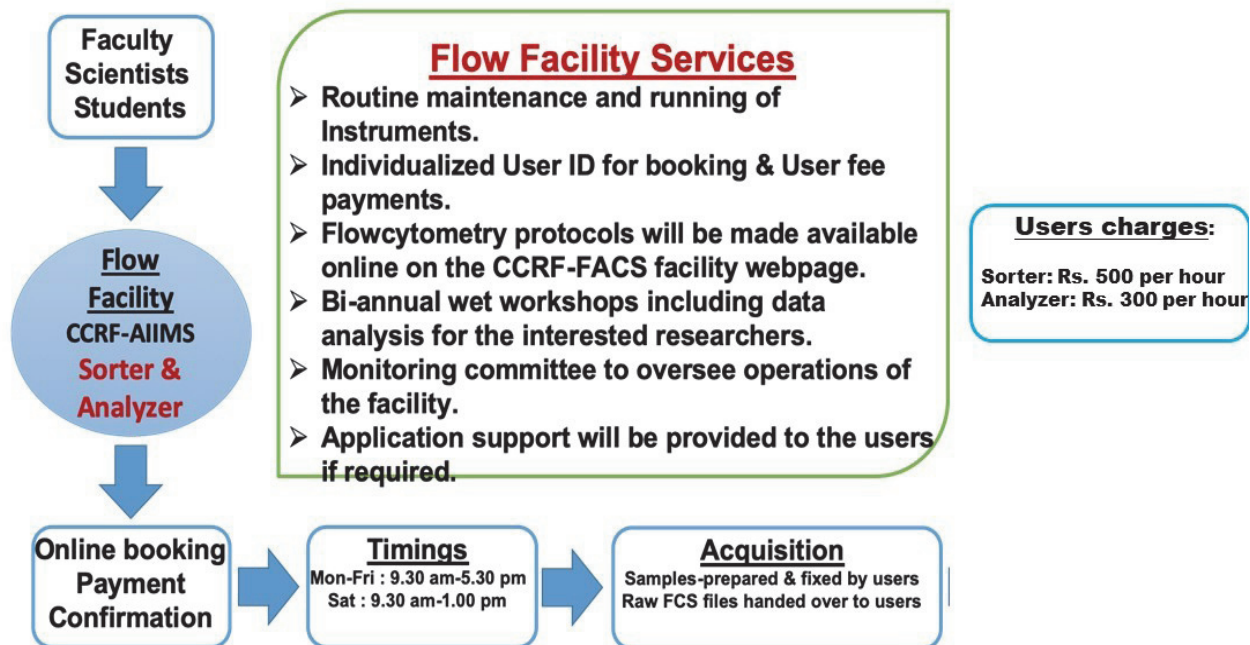
Flow cytometry is a laser-based technique which is used across multiple disciplines. It is a powerful technique to simultaneously analyze multiple characteristics of thousands of individual cells in a relatively short period of time. Flow cytometry also permits the physical isolation of various subpopulations of cells based on specific cellular characteristics by electrostatic separation. Unlike other biochemical techniques, flow cytometry makes these multiparametric measurements on single cells as opposed to population measurements. Cells in suspension can be made to flow at high speed by a technique called ‘hydrodynamic focusing’ following which they are interrogated by the various lasers. Fluorescently labelled antibodies, probes or particular dyes can be utilized to evaluate various aspects of cellular function as well as biochemical and physical properties of the cell. This is done by a combination of lasers, optical filters, detectors as well as the computer and the software which convert the data into readable form. The software also provides the interface to communicate with the machine. Housed on the 9th floor of the convergence building the facility will be available to all Faculty, Scientists and other researchers from AIIMS on a charge basis. The Flow-Cytometry core facility will provide state-of-the-art instrumentation and resources for fluorescent analysis of cells at the single cell level, including high-speed fluorescence-activated cell sorting.

Services Offered

The mission of the FACS Core Facility at AIIMS is to facilitate cutting-edge research by providing this state-of-the-art fluorescence-activated cell sorting and analytical services at reasonable hourly rates. To achieve these goals, the facility provides training and support to help investigators with all aspects of data collection including experiment design. Our goal is to provide expertise in flow cytometry in the areas of experimental design, instrument knowledge and training, data analysis and cell sorting. We support the mission of AIIMS by providing the latest advances in flow cytometric technology for best in education, research and patient care. The facility will provide an academically stimulating and collaborative environment for researchers to access high-end state-of-the-art Flow cytometry platforms which will be maintained centrally with optimal quality control and calibrations for efficient functioning to enhance capacity building and knowledge sharing via regular training, provision of guidelines, SOPs and resource learning materials.

Functional logistics of Flow-Cytometry core facility

The core facility provides support to institute users including faculty, scientists, residents, staff and students. The facility can be accessed through advance booking in consultation with the facility team. There is a reasonable hourly rate for acquiring samples. On registration & following confirmation of payment, users are able to consult facility for technical support and run their samples in instrument(s) followed by analysis on the core workstations. Each user has to be registered for the facility one intends to use. The users are required to fill in and submit a booking form available on the website. The facility provides training programs/workshops for the users on regular basis so that it helps in planning the right choice of experimentation and appropriate instrumentation.



Instrumentation in the facility:

1. The FACS core facility has a high-end Flow Cytometer (Sorter) with five lasers, 18 colour and 20 parameter Capacity which is operational.

The following services on analysis as well as sorting are being performed routinely:

- Cell Proliferation
- Intracellular & secreted cytokine
- Cell phenotyping
- Apoptosis & cell cycle studies
- Signal Transduction
- Biomarker detection
- DNA analysis



2. The FACS Facility in-houses an “Upright Trinocular Phase-Contrast Microscope with Capability of Fluorescence and Digital Imaging” to check the purity of post sorted cells.



New Installation (April 2021 to March 2022)

The FACS core facility has a new installation of the high-end analyzer (**BD FACS Symphony A5, 35 colour, 5 LASER**) in September 2021 at the biochemistry department, 4th floor convergence block. This is one of the most advanced flow cytometer which offers highly customisable options with a remarkably broad choice of the fluorochromes. The instrument is extendable up to 50 parameters. All the required quality control and configuration settings have been successfully completed and instrument has been made operational for users.



Trainings and Workshops

A roster of training, workshops/webinars for researchers interested in using the facility has been planned and carried out to train researchers and academicians at the institute. Workshop curriculum includes lectures by experts from both private industry and academia along with on-site wet-lab demonstration. There are scientific discussions focused on wide applications and current advances in Flow-Cytometry technologies relevant to the subject area. Timely updates and announcements of the workshops will be uploaded at the CCRF website at regular intervals.

Facility access by users

Various researchers are regularly approaching for their flow cytometry work on versatile range of projects being run in the institute. Facility charges the user Rs. 500 per hour for sorting and Rs. 300 per hour for acquisition of sample. After successful installation and quality control settings of BD FACS Symphony analyzer, several samples for the following users have been run on trial basis before making it operational on paid basis to the users.

Faculty/PI	Department	Instrument utilised	No. of samples run
Professor Kalpana Luthra	Biochemistry	BD FACS Symphony	9 (96 well plates)
Dr Rupesh Shrivastava	Biotechnology	BD FACS Symphony	212 tubes

Now, both the flow cytometers, i.e. BD FACS Aria Fusion Sorter as well as BD FACS Symphony analyzer are in the routine operation for users on paid basis.

Facility Personnel:

Dr Rahul Sharma, Scientist-II
Ms Simple Rajput, Lab Technician
Ms Jyoti, Operator (BD Biosciences)

Future Perspectives

The shared FACS facility houses most advanced flow cytometers in the country and thus is in its continued mission of the institute treatment in education, research and patient care. Facility will keep continuing actively different training and webinar sessions in the coming months for the researchers in the institute.

Flow-Cytometry Core Team members

- Professor DK Mitra Professor In-charge, Department of Transplantation Immunology & Immunogenetics
- Professor Vineet Ahuja Department of Gastroenterology
- Professor Kalpana Luthra Department of Biochemistry
- Professor Ritu Gupta Department of Laboratory Oncology, Dr BRA IRCH
- Dr Jayanth Kumar Additional Professor, Department of Biochemistry
- Dr Rupesh K Srivastava Associate Professor, Department of Biotechnology
- Dr Sanjeev Goswami Scientist-II, Department of Transplant Immunology & Immunogenetics
- Immunogenetics

5. GENERAL FACILITY

Overview

The General Facility (GF) is an integral part of the centralized core research facility (CCRF) that has been established with the aim to provide basic as well as advanced molecular instrumentation services to all AIIMS Faculty/ researchers and students under one roof. General facility also holds a key goal to facilitate and promote research work thereby empowering the faculty members and scientists at AIIMS to set up their individual research laboratories. To fulfill this objective, the General facility is also committed to organize regular training workshops for providing hands-on training to the faculties, MD/DM/MCh, PhD scholars, MSc, M-Biotech students involved in basic research/molecular methods. In addition, this facility also provides support to other sub-facilities of CCRF (including Proteomics/Genomics/Bio-analytics/Flowcytometry and Confocal microscopy facility) in processing their samples and various steps of analysis.

General Facility (GF) has been established in two dedicated labs (GF1 and GF2). The first lab (GF1) is dedicated to provide training and services facilities and thus holds critical instruments involved in sample preparation (e.g., DNA, RNA and protein isolations) sample purification as well as quantitation. This facility Lab holds many key instruments (as mentioned above) that are needed in critical sample processes including exome isolation and downstream studies. The other lab (GF2) holds equipment that are used to perform downstream molecular studies and needs sample quantification, amplification or processing. For this, we have high-end multimode microplate readers, Real-time PCRs, PCR machines. Apart from these, many small instruments like Digital weighing balance, pH-meter, vortexer, mini centrifuges, thermo-blocks etc. are also available for all the users. To provide maximum benefit to all users, the general facility molecular biology equipment are made available free of cost to all users.

Members of the General Facility

1. Dr Kalpana Luthra, Professor of Biochemistry- Coordinator
2. Dr Ravinder Goswami Professor of Endocrinology
3. Dr Parthoprasad Chattopadhyay Professor of Biochemistry
4. Dr Lakshmi R Professor of Cardiac Biochemistry
5. Dr Deepali Jain Additional Professor of Pathology
6. Dr Archana Singh-I Associate Professor of Biochemistry
7. Dr Jayanth Kumar Associate Professor of Biochemistry
8. Dr Amit Singh Scientist II, CCRF
9. Dr Vikas Sharma Scientist II, CCRF

Activities

The General Facility is a key integral part of CCRF that started providing basic and advance molecular facility to institute since year 2020. This facility also provides users proper guidance for execution of various experiments used in molecular studies. Moreover, apart from its services, the facility is also engaged in providing hands-on workshop experience to AIIMS students, researchers and faculties.

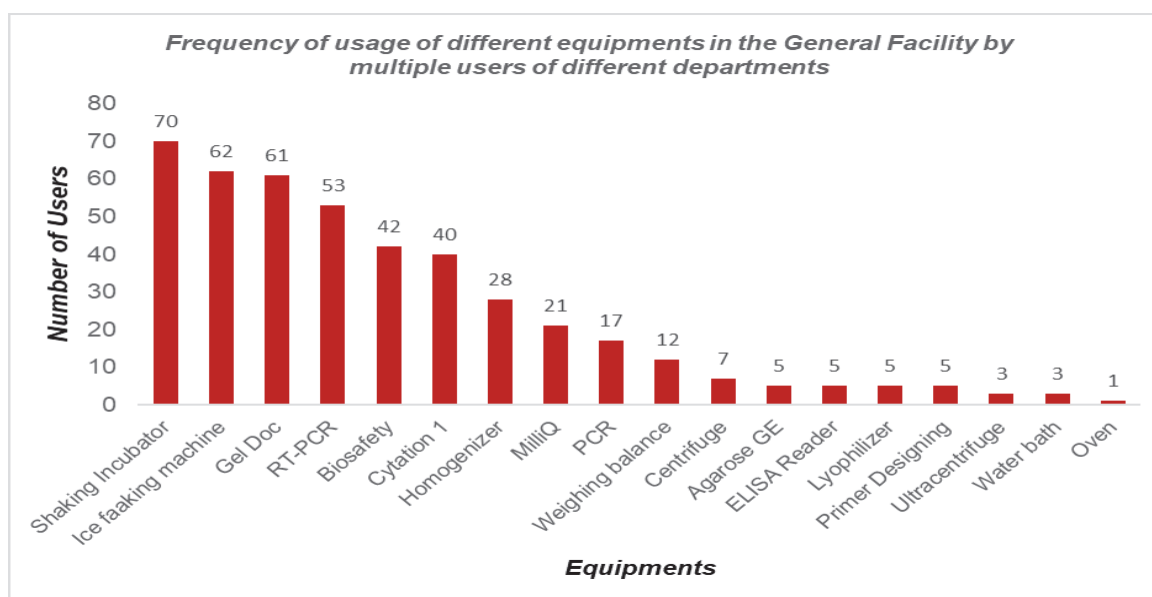
Major instruments already installed and functional

- Real-Time PCR machines (cfx96 Bio-Rad)
- PCR machine (Applied biosystem, Agilent)
- Multimode-Microplate Reader (Cytation 1)
- Electroporation system (Gene pulsar Bio-rad)
- Ultracentrifuges (Beckman XPN-100)
- Refrigerated-Centrifuges (Haerius, Thermofisher)
- Biosafety A2 level II
- Shaking incubator
- Multimode Gel documentation system
- Thermal Cycler (PCR)
- Homogenizers
- Western Blot apparatus (ABI)
- Rapid semi-Dry system (western blot)
- Agarose Gel electrophoresis system with power pack
- PAGE Gel electrophoresis system with power pack
- Autoclave
- Lyophilizer
- Microgram weighing balance
- Cold centrifuge
- Electronic weighing balance

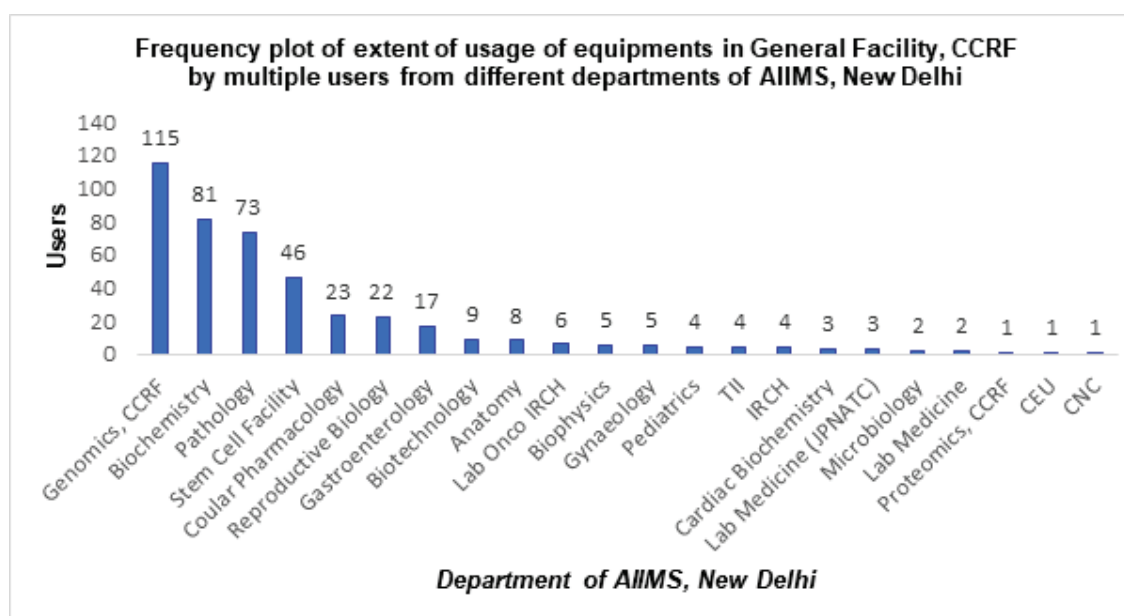
- Water purification System (MilliQ)
- ELISA reader
- ELISA washer
- Microwave Oven
- Water-bath cum shaker
- Electronic multi-dispenser pipettes
- Vortex
- Deep freezers (-20°C)
- Fridge
- Magnetic Hot Plate
- Multi-rotor cold centrifuge

General Facility services in 2021-22

- Nearly all installed machines in General Facility are functional and accessed by the users for various purposes. Some of these instruments like Real-time PCR, Gel documentation system, multimode microplate reader, ultracentrifuges, homogenizer, PCRs, shaking incubators have been accessed on a regular basis by the students and researchers.



- During this tenure, many users have been trained on day-to-day basis for working on various scientific instruments (as per the need of their committed work). Users also discussed and optimized the primer designing, PCR and Real-time PCR optimisation, protocol optimisation and standardisation for various application of ultra-centrifuge, optimisation of electroporator transformation protocol for users, cloning and protein expression.
- Many research groups from the institute have discussed with the scientists of the GF about their ongoing/ formulation of upcoming projects and various instruments that could be used in their projects. Demonstration of several equipment are provided to users to help users in understanding working of the instruments.
- High-end machines including digital droplet PCR are under process to providing cutting edge molecular research facilities to CCRF users.



General Facility services in COVID-19 Pandemic

- During the ongoing pandemic period, the GF was kept open for the users.
- During this period, General Facility scientist (Dr. Amit Singh) was posted in Virology Laboratory for molecular diagnosis of COVID-19.

Training activities of General Facility Scientists

1. Dr Amit Singh attended 4th edition of India Droplet Digital PCR Symposium 2021 organized by Bio-Rad, India on dated 23 to 25 November 2021.
2. Dr Amit Singh attended 10th Annual CME of clinical biochemistry-2021 “Therapeutic drug monitoring-the right test at the right time” organized by Department of Biochemistry, Sir Ganga Ram Hospital, New Delhi and ACBI-Delhi Chapter on 16 November 2021.
3. Dr Amit Singh completed an online certification course on “Fundamentals of working safely in a biological safety cabinet” by US Division of laboratory systems, CDC, Atlanta.
4. Dr Amit Singh completed an online certification course on “Biosecurity for clinical laboratories” by Institute of Public Health Practice University of Iowa on 18 November 2021.
5. Dr Amit Singh completed an online certification on ‘Basic course in biomedical research’ as mandated by the National Medical Commission (NMC) organised by Indian Council of Medical Research (ICMR) and National Institute of Epidemiology (NIE), March-June 2021.
6. Dr Amit Singh attended two-day workshop on ‘Research Methodology And Publication Ethics’ organized by BR Ambedkar Central Library, Jawahar Lal Nehru University, New Delhi on 22-23 October 2021
7. Dr Amit Singh completed and obtained A+ grade on one-week faculty development programme on “systematic literature review and meta-analysis” organized by Teaching Learning Centre, Ramanujan College, University of Delhi, Under Ministry of Education. From 10-16 August 2021
8. Dr Vikas Sharma gave an invited Oral presentation in “Global Pediatrics 2021” entitled “Role of GNE gene specific p.V727M ethnic founder mutation in HIBM patients using various bioinformatics approaches”
9. Dr Vikas Sharma attended the online training program “Good Clinical Practice” and successfully completed it

6. GENOMICS CORE FACILITY

Overview

Recent advances in high throughput Next Generation Sequencing methods have increased the research exponentially for identification of potential genomic biomarkers with diagnostic, prognostic and therapeutic value in the clinics. The facility was being developed to cater to the needs of researchers of AIIMS for generation of clinically relevant high throughput data in a resource-efficient manner in terms of time and cost, on advanced state-of-the-art technology platforms.

Main Objectives

1. To create and provide an academically stimulating and collaborative environment for researchers to access high-end state-of-the-art technology platforms which will be maintained centrally with optimal quality control and calibrations for efficient functioning.
2. To enhance capacity building and knowledge sharing via regular training activities. Such activities will include lecture series and workshops for the investigators on experiment designing and assays. These activities will also include formulation of guidelines and development of standard operating procedures and resource learning materials for the users.
3. To evaluate and implement cutting-edge genomic technologies
4. To facilitate the development of novel experimental methods for the researchers in response to specific needs from the investigators.

Significant Achievements

One of the most significant achievements for the Genomics Facility, CCRF in the year 2021-22 was its inclusion in Indian SARS-CoV-2 Genomics Consortium (INSACOG) as one of the 38 regional genome sequencing laboratories (RGLs) for the whole genome sequencing of SARS-CoV-2 in India on 10th June 2021. INSACOG is a joint initiative of the Ministry of Health, Department of Biotechnology (DBT), Council for Scientific & Industrial Research (CSIR) and Indian Council of Medical Research (ICMR), and is a consortium and network of Pan-India National Laboratories for genomic surveillance of SARS-CoV-2 in India. The facility is equipped with the proper infrastructure as well as trained manpower to sequence at least 400 samples in a month. The Scientist and staff of the Genomics facility are constantly involved in genomic surveillance of genetic variants of SARS-CoV-2 since its inclusion as one of the RGL in INSACOG. As a part of surveillance study, WGS of a total of 412 samples routed to the Genomics facility from CBNAAT lab AIIMS have been sequenced till 31st March 2022. The samples sequenced in the SARS-CoV-2 WGS study have been analysed and successfully submitted to INSACOG Hub, Integrated Disease Surveillance Programme (IHIP-IDSP) portal and have been successfully published on Global Initiative on sharing all avian flu data (GISAID) portal.

The facility is also involved in standardisation of prenatal genetic testing using trophoctoderm biopsy as well as implementation of non-invasive prenatal genetic testing using spent culture media in IVF patients for Department of Gynaecology, AIIMS, New Delhi.

Training provided to the users

The facility has provided guidance, training and support to carry out the experimental work for NGS to various users from following departments of AIIMS

S. No.	Department	Training
1.	Paediatrics	Library preparation for Whole Exome sequencing
2.	Pathology	Library preparation for Whole Exome sequencing
3.	Laboratory Oncology	Library preparation for target sequencing
4.	Laboratory Medicine	Library preparation for target sequencing as well as data analysis
5.	Obstetrics and Gynaecology	Library preparation for chromosome screening as well as data analysis

The facility has also trained two medical officers from SNM Hospital Leh as a part of their training in the Institute for establishing genome sequencing laboratory and carrying out SARS-CoV-2 sequencing at their centre.

Facility access by users:

The infrastructure of the facility has been accessed by different users to prepare next generation sequencer ready libraries which included 32 libraries for whole exome sequencing, 56 libraries for custom target panel, and 41 libraries for chromosome screening for pre-natal genetic testing. The facility also provided services to assess the quantity of approximately 75 NGS libraries using Qubit 4.0 Fluorometer. The Genomics facility team is continuously carrying out the whole genome sequencing of SARS-CoV-2 for the purpose of variant surveillance in Indian population.

Training activities of Genomics Facility Scientists and Staff

Dr Lata Rani attended a SERB sponsored online workshop on Next Generation Sequencing data analysis for clinical diagnostics by National Genomics Core, CDFD, Hyderabad from Oct 25-29, 2021.

GISAID submission

SARS-CoV-2 sequences submitted to GISAID database: 343

7. MICROSCOPY

Overview and Objectives

Advances in fluorescence microscopy have revolutionized biomedical diagnostics. The Microscopy facility at CCRF has been established to cater to the high-resolution imaging needs of researchers at AIIMS. With the Zeiss LSM980 system in place, one can now image samples with high spatiotemporal resolution. This state-of-the-art confocal system is equipped with a temperature and gas-controlled incubation chamber for live imaging applications. The facility also has an offline image processing system that can be used for data analyses, quantifications and 3D reconstruction. The facility will support researchers starting from designing experiments, image acquisition and data quantification. As per the vision and mandate of CCRF, the Microscopy facility is also committed to training researchers and making them aware of the latest trends in microscopy and imaging techniques. Along this line, webinars, workshops and research talks will be conducted regularly. This facility helps researchers in the fields of biochemistry, microbiology, biotechnology, anatomy, pathology, pharmacy, and others towards addressing their research questions related to biomarker discovery, clinicopathology, drug assay, and molecular diagnosis.

The main objectives of the facility are:

1. To provide access to high-end imaging needs of researchers at AIIMS in an intellectually invigorating and highly collaborative set up.
2. To facilitate designing experiments related to fluorescence microscopy for researchers at AIIMS.
3. To periodically assess and evaluate the need for system upgrade to stay up-to-date with the latest trends/ imaging platforms.
4. To develop novel imaging methods/tools that might arise from challenges/ specific questions being addressed by researchers.
5. To familiarise researchers at AIIMS with the latest trends in microscopy by means of a monthly newsletter.
6. To develop human resources at AIIMS through regular training activities that include lectures, webinars and workshops.

Major Instruments/ Equipment installed

1. LASER Confocal Microscope with Live-cell Imaging (LSM 980, Zeiss)

The confocal system was installed in CCRF in November, 2020 on the ground floor of the Convergence block (Room 8A, annex to room no. 8). A technical support staff was provided by Zeiss for a period of six months (till April 2021). The scientist-in-charge of the facility joined the institute in February, 2021.

2. Refrigerator (GEM)

50-litres three refrigerators have also been procured to store buffers, slides, etc.

Users and Services provided

The Microscopy facility at CCRF-AIIMS is open to faculty, scientists, residents, staff and students working on or wish to work on understanding cellular organisation, analysing fine structural details at high resolution, protein localisation, biomarker visualisation and quantification, disease pathology, high speed ion flux studies, time-dependent drug administration assays, etc. Services provided by the facility include:

- I. Confocal Imaging
- II. Live-cell imaging
- III. Offline image analysis using Zen software

The system can be used for the following:

1. Multidimensional image acquisition including optical Z-sectioning, time-lapse and multi-channel imaging.
2. Live imaging experiments in an environment-controlled setting with XYZ-drift control.
3. FRAP and FRET analyses for studying diffusion of molecules and protein interactions within cells respectively.
4. Photoactivation and Photoconversion experiments for studying protein dynamics within cells.
5. High resolution co-localization studies by simultaneously imaging five channels at a time.
6. Image analyses including histogram analysis and intensity profiling.
7. 3D measurements and volume rendering and 3D reconstruction.
8. Deconvolution of an acquired image.
9. Spectral analyses that include spectral imaging, unmixing and autofluorescence separation.
10. Generating 3D movies using Arivis/ Zen software.

Activities conducted by the Microscopy Facility

1. Demonstration of Zeiss LSM980 Confocal system installed in CCRF

A demonstration of the confocal system that included basic operation protocols, multidimensional image acquisition using the Zen software and basic image analyses was conducted by Dr. Somenath Ghatak, Application Specialist, Carl-Zeiss India on 4 March 2021. This demonstration was video recorded by CMET and is made available on the AIIMS Telemedicine channel as a learning resource for users.

2. Webinar on “Confocal Microscopy, Specifications and Applications of the Zeiss LSM980 System”

A webinar on confocal microscopy, specifications and applications of the system installed in CCRF was conducted on 8 March 2021 at the SET facility and was attended by the Director and Dean (Research) among other faculty members of the facility. The webinar was telecast live on the AIIMS Telemedicine channel and the recording is available as a learning resource for users. A brief agenda of the webinar is given below:

Topic	Speaker
Inauguration	Dr Randeep Guleria, Director
Welcome address	Dr Subrata Sinha, Dean (Research)
Introduction to Confocal Microscopy	Dr Parthaprasad Chattopadhyay, Professor (Biochemistry)
System Workflow and Expectations	Dr Saumitra Dey Choudhury, Scientist-II (CCRF)
Biomedical Applications of LSM980	Dr Tony George Jacob, Associate Professor (Anatomy)
Operation of LSM980	Dr Somenath Ghatak, Application Specialist, Carl-Zeiss India

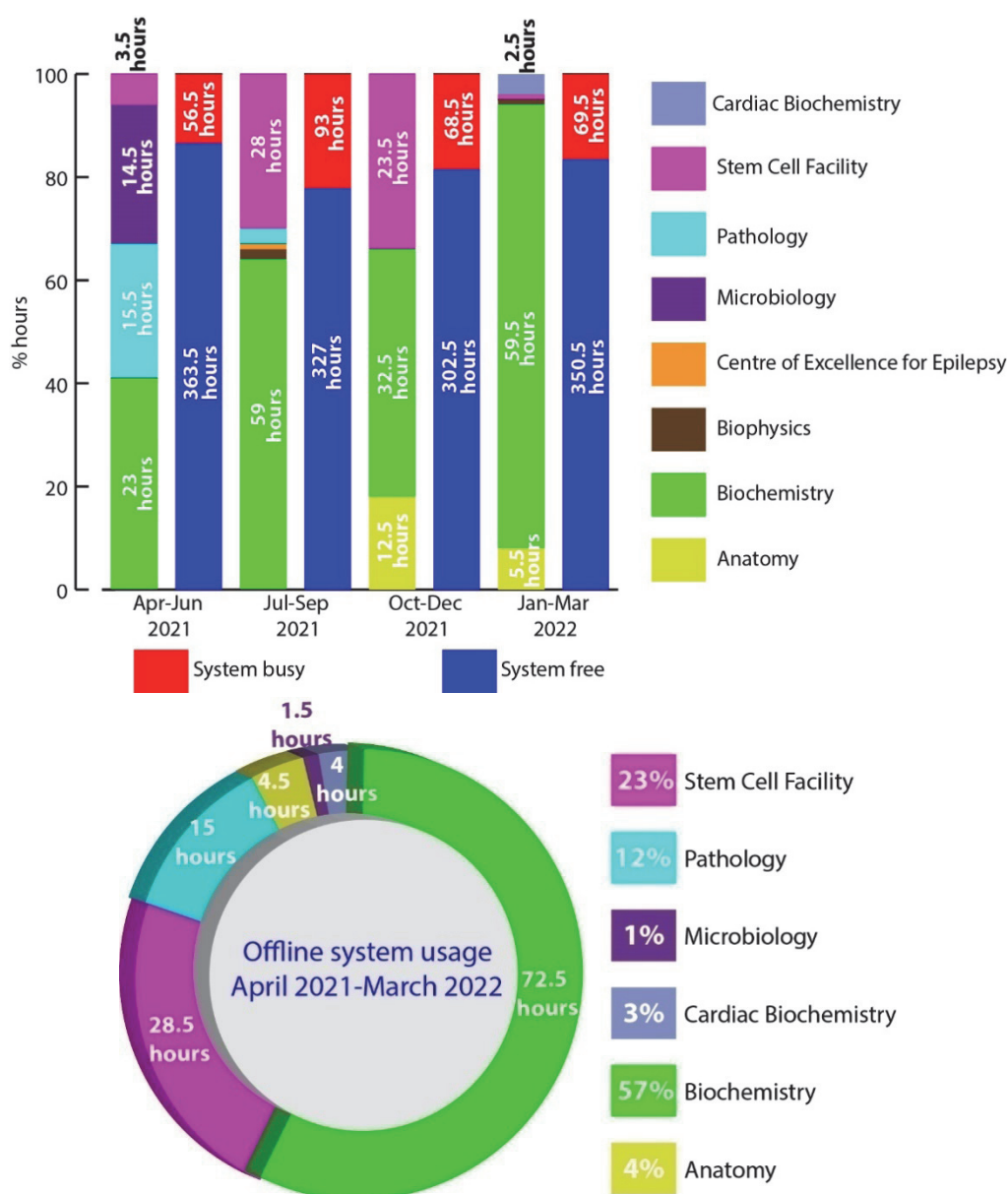
3. Monthly Newsletters from the Microscopy Facility

Monthly newsletters were initiated from the month of August, 2021 to familiarize researchers at AIIMS with the basics of microscopy and its applications in biomedical research including the latest trends in microscopy.

Usage statistics

The confocal system was installed in CCRF in November 2020 and became operational from mid-February, 2021. Since then, it has been used extensively by researchers from various departments, namely Biochemistry, Biotechnology, Biophysics, Microbiology, Pathology, Stem Cell facility and Centre of Excellence for Epilepsy.

- I. Total number of users: 14
- II. Total number of hours (lasers) used: 287.5 hours
- III. Total number of hours (offline image analyses/ processing) used: 126 hours



Goals for the next year

To upgrade the existing confocal system to a near super-resolution imaging platform, we plan to procure the Airyscan module attachment this financial year. We are also planning to install Imaris software in the facility that would enhance image processing and analyses capability of users at AIIMS. Besides these, we are already in the process of purchasing a small under-table incubator that will be helpful when multiple plates are planned for live cell imaging.

Conferences attended by Scientist from the Microscopy sub-facility

1. EMBL Conference: From 3D light to 3D electron microscopy, 13-16 March 2022, Virtual mode

Members of the Microscopy Facility Sub-Committee

Dr Parthaprasad Chattopadhyay	Professor, Biochemistry - Coordinator
Dr Vaishali Suri	Professor, Neuropathology
Dr Sandeep Mathur	Professor, Pathology
Dr Sarita Mohapatra	Additional Professor, Microbiology
Dr Tony George Jacob	Additional Professor, Anatomy
Dr Saumitra Dey Choudhury	(Scientist-II)

8. PROTEOMICS

Overview and Objectives

Proteomics Core Facility at CCRF, AIIMS aims to enable students and researchers at the institute to carry out proteomic experiments with high throughputs for protein Identification, protein profiling and protein Quantitation using 2D gel, DIGE and

Liquid Chromatography Mass Spectrometry (LCMS) based methods. There are mainly two types of proteomics experiments can be carried out in the facility, namely, gel-based proteomics and LCMS based proteomics.

The main objectives are as follows

1. The Proteomics Core Facility at CCRF is a high-end, state-of-the-art instrumentation facility to facilitate the proteomics research of the users (Faculty, Clinician, scientist, Student *etc.*) and to help them answering the relevant medical and biological research questions.
2. Providing support for equipment and resources for gel-based proteomics experiments from all sorts of biological samples like cells, tissues, biofluids and microorganisms.
3. Providing assistance to the users willing to conduct the gel-based proteomics experiment in the facility.
4. To carry out LCMS-based proteomics experiments using digested peptides from all sorts of biological samples like cells, tissues, biofluids and microorganisms.
5. Identification, profiling and quantification of comprehensive proteomes from complex biological samples using well-established cutting-edge methods.

Major Instruments installed in the facility:

Gel-based Proteomics

1. EttanPHOR IPG (Cytiva)
2. Amersham Typhoon NIR Scanner (Cytiva)
3. Amersham Typhoon RGB Scanner (Cytiva)
4. Amersham Imager 680 (Cytiva)

LCMS-based Proteomics

1. Dionex Ultimate 3000 UHPLC (Thermo Scientific)
2. EASY-nLC™ 1200 nano LC System (Thermo Scientific)
3. Orbitrap Fusion Tribrid Mass Spectrometer (Thermo Scientific)

Services provided:

1. Gel Staining
2. Gel spot quantification
3. Trypsin Digestion
4. Desalting and clean-up of digested peptides
5. Peptide fractionation
6. LCMS experiment on Orbitrap Fusion mass spectrometer
7. Qualitative Proteomics (protein identification only)
8. Protein profiling
9. Isobaric tag-based (iTRAQ) protein quantification
10. Label free protein quantification (LFQ)
11. Proteomics analysis in Proteome Discoverer 2.4 (PD2.4)
12. Assisting users in proteomics-related bioinformatics and functional enrichment analysis

On-going projects in the facility:

1. Intramural project from Research Section, AIIMS (ID A-COVID-53)

Proteomics Study on COVID-19 – Investigation of Disease Specific Signature Proteins, 2 years (since August, 2020), Punit Kaur, Professor and Head, Department of Biophysics (PI); Lalit Dar, Professor, Department of Microbiology; Ritu Gupta, Professor and Head, Lab Oncology, IRCH; Hariprasad G, Additional Professor, Department of Biophysics; Megha Brijwal, Assistant Professor, Department of Microbiology; Sabyasachi Bandyopadhyay, Scientist-II, Proteomics Lab, CCRF

Brief description of the work done so far:

Control and COVID-19 samples were collected from nasopharyngeal and oropharyngeal swabs after solubilized in VTM to study the biomarker proteins in COVID-19. Proteins were extracted using urea buffer and digested with trypsin enzyme. The LCMS/MS was conducted on Orbitrap Fusion Mass Spectrometer using Data Dependent Acquisition (DDA) method. The LCMS/MS data was analyzed in Proteome Discoverer 2.4 protein analysis software and proteins differential expression was generated using Label Free Quantification (LFQ) method. Differentially regulated proteins were represented in Volcano plot and the biomarker study was conducted using Receiver Operating Characteristic (ROC) model where Area Under the Curve (AUC) of ROC plot was determined considering threshold of AUC at least 90%.

2. ICMR funded project (ID – 2021-6364)

Serum proteomics for the identification of biomarkers to flag predilection of COVID-19 patients to various organ morbidities; Approved in January, 2022 for the period of 3 years; Hariprasad G, Additional Professor, Dept. of Biophysics (PI); Punit Kaur, Professor and Head, Dept. of Biophysics; Perumal Vanamail, Professor, Dept. of Obstetrics and Gynaecology; Sabyasachi Bandyopadhyay, Scientist-II, Proteomics Lab, CCRF

Facility accessed by the users from April 2021 to March 2022

Facility	Departments	Faculty	Experiment	Project ID and title	Type of samples
LCMS based Proteomics	Biochemistry	Dr Archana Singh	Protein profiling and DP expression using LFQ	IWYS07; Exploring the association between HDL surface composition and cholesterol efflux capacity	Purified proteins of lipid membrane, isolated from serum
	Biophysics	Dr AS Ethayathulla	Protein identification and profiling	A-678; Structural and proteomic analysis of p53Y220C mutant with potential ligand curcumin and its analogs in human cancer	Proteins from malignant pancreatic cell lines
		Dr Bhaskar Singh	DP expression using LFQ	D-561; Comparative proteomics analysis to identify potent biomarkers during the transformation of premalignant condition to malignant squamous cell carcinoma	Premalignant and malignant buccal mucosa tissue
		Dr Krishna K Inampudi	DP expression using iTRAQ	IWSF08; Biomarkers for Atherosclerosis	Proteins extracted from urine
		Dr Saroj Kumar	DP expression using LFQ	A-811; Understanding the role of neuronal salivary exosomes in Parkinson's disease	Proteins from salivary exosomes in oral cavity
	Lab Oncology	Dr Pranay Tanwar	DP expression using LFQ	I1010; Genomics and Proteomics of Gall bladder in Indian patients	Proteins from Gall bladder cancer tissue
	Paediatrics	Dr Kakali Purkayastha	Sample processing and protein digestion	BT-1833; The role of Ikzf1 gene and various IKAROS isoforms in pathogenesis of B cell acute lymphoblastic leukaemia (B-ALL) in Indian pediatric population	Proteins from PBMC harvested from pediatric Bone marrow
	Proteomics Facility and Microbiology	Dr Punit Kaur and Dr Lalit Dar	DP expression using LFQ	A-COVID-53; Proteomics Study on COVID-19 – Investigation of Disease Specific Signature Proteins	Proteins from nasopharyngeal and throat swab solution
Gel based Proteomics	Anatomy	Dr Subhash C Yadav	Protein identification and profiling	BT-1967; Development of quick and specific detection system for EWS-FLI-1 protein	Purified protein overexpressed in E. coli
	Biophysics	Dr Bhaskar Singh	Gel scanning in Amersham Imager 680	D-561	Proteins from buccal mucosa tissue
	Biotechnology	Dr Bhupendra Kumar Verma	Gel scanning in Amersham Imager 680	NA	NA

DP = Differential Proteins LFQ = Label Free Quantification iTRAQ = Isobaric Tags for Relative and Absolute Quantification
PBMC = Peripheral Blood Mononuclear Cell

FACULTY IN-CHARGE

Professor Punit Kaur, CCRF, Proteomics Facility

STAFF

Dr Sabyasachi Bandyopadhyay, Scientist II, CCRF, Proteomics Facility

Dr Ashutosh Arya, Scientist II, CCRF, Proteomics Facility

Mr Harish Chauhan (Lab Technician)

Mrs Geeta Mehra (Medical Lab technician)

Proteomics core team members

Dr Punit Kaur, Professor and Head, Department of Biophysics

Dr Savita Yadav, Professor, Department of Biophysics

Dr T Velpandian, Professor, Ocular Pharmacology, RPC

Dr Hariprasad Gururao, Additional Professor, Department of Biophysics

Dr Pragyan Acharya, Assistant Professor, Department of Biochemistry

9. PROJECT MANAGEMENT

Overview:

The Project Management Unit (PMU) is coordinated by Dr. Kamal Gulati, Scientist-II (Project Management), CCRF. With guidance of the Dean (Research) and Associate Dean (Research), the PMU provides management and administrative support to the overall functioning of the CCRF in coordination with faculty incharges and scientists of various sub-facilities of the CCRF. The main activities of the PMU include management of all sub-facilities in CCRF, providing assistance in capacity building activities, facilitating usage of various research services to the AIIMS faculty and student researchers in coordination with Research Section, coordinating meetings and issuing minutes, procurement of machinery, equipment (M&E) and consumables, maintenance of facilities in coordination with engineering, security and sanitation departments, indenting stationery and general items from various stores, and several other managerial activities for smooth functioning of the CCRF.

Services provided:

Dr Kamal Gulati provided management support for the following research activities:

1. Coordinated visit of an official team from NAMO Medical Education & Research Institute, UT of Dadra & Nagar Haveli & Daman Diu to know about research infrastructure at AIIMS, New Delhi on 23 March 2022.
2. Assisted for recruitment of Scientist-II: (i) Organized screening committee meetings (Level-1 and Level-2), prepared assessment sheets and coordinated with concerned screening committee members, Associate Dean and Dean (Research) and Recruitment cell.
3. Setting up of INSACOG facility in CCRF in coordination with Genomics facility, Engineering department and others.
4. Process mapping of functioning of all sub-facilities in CCRF with Ernst & Young Team for AIIMS IT Masterplan. Had several meetings, compiled information and coordinated with Faculty, Scientists, & EY team.
5. Compiled IT assets details for all facilities in CCRF and uploaded on the AIIMS server for IT-CAMC of hardware and software.
6. Subsequent to fire incidence happened on 16 June 2022 in CCRF:
 - a. assisted Chairman, Inquiry committee to investigate the fire incidence happened in CCRF on 16 June 2021 - arranged meeting, site rounds, collated information from all stakeholders, wrote minutes of the meetings etc.
 - b. coordinated and compiled the M&E status report, loss statement of the M&E and consumables with all sub-facilities of the CCRF.
7. As member of the CCRF Restoration committee, provided management support for:
 - a. Restoration of some of the rooms in CCRF viz. General facility, Genomics, INSACOG, FACS, Lab manager room - temporary electricity, internet, telephone connections in these rooms.
 - b. Arranged for shifting and re-installation of machinery & equipment from fire affected area in CCRF to the restored rooms.
 - c. Coordinated for the testing of machinery & equipment in consultation with Faculty, Scientists and the service engineers.
8. Opened E-Office account for CCRF for movement and tracking of official files and other documents.
9. Facilitated equipment procurement, technical specification committee meetings, budget meetings, budget estimates, installation and maintenance of equipment, logbooks, AMC/CMC, submission of pending Indent proformas and compiled consolidated information for all equipment available in CCRF.
10. Compiled a comprehensive list of CCRF Assets with all sub-facilities in coordination with concerned faculty / scientists.
11. Compiled all supply orders for all assets in CCRF since 2020 in coordination with Store division, Research Section.
12. Attended Budget committee, and Store purchase committee meetings for M&E and other important meetings related to CCRF.
13. Contributed to the CCRF poster presentation for the Institute day.
14. Coordinated for the vaccination of CCRF staff with AIIMS authorities.

Oral Presentation

Dr Kamal Gulati was invited to the following international conferences as a Speaker:

1. BMJ international conference - lecture entitled “Vaccinating a Billion People against COVID-19: India’s Quest for Systems Leadership in Exceptional Times”. In: ‘Leaders in Healthcare 2021’ organized by British Medical Journal and Faculty of Medical Leadership and Management, London, UK, 8-11 November 2021.
2. UK-Health Services Management Centre Seminar on “Clinical leadership: what does a ‘clinically-led’ health organisation look like?” Organised by: School of Social Policy, University of Birmingham, UK, 1 September 2021.

Awards/recognition

Dr Kamal Gulati received the following awards and recognitions:

1. Awarded certificate for “Leading for Innovation in Healthcare” by the University of Warwick, UK, 2021.
2. International travel award for attending the 2021 SARIMA [Southern African Research and Innovation Management Association] Conference titled “Embracing Change in a Shifting World - Managing Openness, Collaboration, Sharing and Benefit in Research and Innovation” held from 26–29 October 2021 [virtual].
3. India Research Management Initiative of DBT-Wellcome Trust and India Alliance published a brief of his research in the area of Medical Leadership titled as “Developing medical leadership in India: A call to action” in its annual report (2021).
4. Oxford Policy Management (I) invited as an expert to participate in a study on Leadership and Management in Indian health system on 24 September 2022.

Research Project

Dr Kamal Gulati contributed to an AIIMS intramural funded research project as a co-investigator entitled “Strengthening Health Systems Governance for Epidemics Response” with Department of Hospital Administration, AIIMS, New Delhi (May 2020-May 2022).

Workshops/academic events attended

Dr Kamal Gulati attended the following national and international academic/research events as an invited participant:

1. Healthcare Leader Development for a pandemic world – and beyond! Organised by University of Oxford, Said Business School, UK on 25 January 2022
2. Attended GEM (Government e-marketplace) training session at AIIMS, New Delhi on 13 April 2021
3. The Politics of Policy Responses to COVID-19 in Canada and the US. Organised by: Health Services Management Centre, University of Birmingham, UK on 29 April 2021
4. Equity and Access in the Global COVID-19 Vaccination Drive. Organized by: University of Birmingham, The Institute for Global Innovation, and Forum for Global Challenges on 25 May 2021
5. COVID-19 Vaccine Safety – From Bench to Bedside. Organized by: BMJ and the Asian Development Bank on 21 May 2021
6. What can governments learn from each other about COVID-19 policy? Organized by: Health Services Management Centre, University of Birmingham, UK on 27 May 2021
7. Panel Discussion on Improving Vaccine Equity. Organized by: DBT Wellcome Trust – India Alliance on 29 July 2021
8. Essence on Health Research: Five keys to improve research costing and pricing in low- and middle-income countries. Organized by: Southern African Research and Innovation Management Association, 17 August 2021
9. COVID-19 vaccination in low and middle-income countries: lessons from past and current campaigns. Organized by: The Global Health Network, London, UK, on 22 September 2021
10. India Research Management Initiative Webinar: Funding Opportunities from India Research Management Initiative-2021. Organized by DBT-Wellcome Trust and India Alliance on 24 September 2021
11. India Research Management Initiative Webinar: Capacity building within grants offices at universities and research institutions. Organized by DBT-Wellcome Trust and India Alliance on 24 September 2021
12. The 2021 SARIMA [Southern African Research and Innovation Management Association] Conference titled “Embracing Change in a Shifting World - Managing Openness, Collaboration, Sharing and Benefit in Research and Innovation” held from 26–29 October 2021
13. India Alliance Annual Conclave 2021, Organised by DBT-India Alliance from 25-28 October 2021

Dr Kamal Gulati continued to serve as a reviewer of the following international journals: (i) BMJ Leader; (ii) Frontiers in Sociology; (iii) International Journal of Healthcare Management; and (iv) Asia Pacific Journal of Health Management

Core team of PMU:

Professor Subrata Sinha (Dean, Research)

Professor Vineet Ahuja (Associate Dean, Research)

Dr Kamal Gulati, Scientist-II (Project Management)

CENTRE FOR MEDICAL INNOVATION AND ENTREPRENEURSHIP (CMIE)

AIIMS has established a “Centre for Medical Innovation and Entrepreneurship”, a Bio-Incubator under the BioNEST program of Biotechnology Industry Research Assistance Council, Govt. of India.

CMIE encourages innovations in all wakes of health care with a preference to the cutting edge emerging technologies such as precision/molecular medicine, nanomedicine, regenerative medicine, biologics, robotics, AI-enabled medical devices, imaging and application of data science in medicine including digital health. The CMIE can utilise the advanced research infrastructure in AIIMS which includes the Central Core Research Facility, Sophisticated Analytical Instrumentation Facility, Central Animal Facility, the Centre of Excellences (COEs) and research laboratories of the departments. The existing facilities of the preclinical and clinical trials will be a great opportunity for the incubates for seamless translation of their innovations from bench to bedside. With nine super specialty centres and fifty departments in AIIMS, CMIE can access a large number of experts from diverse domains of health care and biomedical research as mentors guiding the innovators to develop interventions/products validating their Quality, Safety, Efficacy and Performance status, empowering indigenisation and “Make in India” program with global recognition.

The Bio-incubator “CMIE” at AIIMS, Delhi plans to work at the enabling phase of innovation to translate the proof of the concept studies to commercially viable products. It will incubate the start-up companies supported by Govt. of non-Government funding on the basis of their goal for healthcare product development. To build a robust ecosystem of need-based innovation for commercially viable healthcare products, training workshops/ boot camps in different areas of medical practice with Academia-Industry Regulatory interaction.

AIM

CMIE is set up under BioNEST program at AIIMS with an aim to create an ecosystem of Incubation of Medical Innovations for Entrepreneurship and Inclusive Development of Indian Health Care.

OBJECTIVES

1. To establish a platform for the start-ups and innovators to incubate innovative ideas for translation in Health Care Sector
2. To facilitate the incubatee with mentoring support from medical experts from diverse disciplines for optimising diagnostic, therapeutic and other health care interventions
3. To create a streamlined access for incubatee to preclinical and clinical trials/research through advanced institutional facilities like CAF, CCRF, SCF, SAIF and other advanced laboratories.

For more information about CMIE, please visit – www.cmie-aiims.in

Last 3 Years Data

Projects

Details	2019-2020	2020-2021	2021-2022
No of Projects Sanctioned	885	878	885
Grant Received from different Funding Agencies	1,53,86,47,267	1,55,10,98,983	1,78,70,65,620

Item	2021-22	2020-21	2019-20
Total amount of extramural/intramural funding	24,00,000	66,56,000	-
Total number of publications	08	02	05
Total number of Journal articles	05	01	04
Total number of Abstracts	03	01	01

SERVICES PROVIDED:

(Facility started for users since Dec 29, 2020)

Number of users- 73, Projected completed- 46, Number of departments- 17

Services provided	Number of users		
	2021-22	2020-2021	2019-2020
Data analysis	23	18	05
Consultancy/ Project writing	05	04	02
Students guided (MD/PhD)	06	04	0
Students trained (Postgraduate)	04	02	0
TOTAL (73)	38	28	07

Lectures delivered

2021-22 : Nil 2020-21 : 2 2019-20: 1

Services provided in major instrument-

Major instrument used	2021-22	2020-2021	2019-2020
Real -Time PCR machines (cfx96 Bio-Rad)	22	158	12
PCR machine (Applied biosystem, Agilent)	10	12	0
Multimode-Microplate Reader (Cytation 1)	52	98	8
Ultracentrifuges (Beckman XPN-100)	11	17	0
Biosafety A2 level II	33	27	0
Multimode Gel documentation system	42	65	0
Water purification System (MilliQ)	21	31	0

Services provided	Number of samples done		
	2021-22	2020-2021	2019-2020
Library Preparation	Exome Sequencing (n=32), Target sequencing (n=56), Chromosome screening (n=41)]	Target sequencing (n=56), Chromosome screening (n=41)	The facility was inaugurated on Jan 24, 2020. Therefore, till March 2021, the installation of the major equipment and training of the staff were being carried out.
SARS-CoV-2 sequencing	412 samples	70 samples	
Next Generation Sequencing	40 samples	160 samples	
Sanger Sequencing	364 samples	364 samples	
nCounter Sprint Profiler	-	48 samples	
Fragment Analyzer	11 samples	196 samples	
Qubit	645	348	
Protocol and experiment design for submission of grant proposal/ for achieving the objectives proposed	06 users	10 users	

PUBLICATIONS**Clinical Research Unit**

Journals: 1

Bioinformatics Facility

Journals: 2 Abstract: 1

Biosafety Level 3 Laboratory

Journals: 3

General Facility

Journals: 10 Chapters in Book: 1

Genomics Core Facility

Journals: 1 Abstract: 1

Project Management

Journals: 3

9.1 Anaesthesiology, Pain Medicine and Critical Care

Professor and Head

S Rajeshwari (upto 28 February 2022)

Lokesh Kashyap (from 1 March 2022)

Professors

Anjan Trikha (upto 31 January 2022)
Vimi Rewari
Anjolie Chhabra

Ganga Prasad
Jyotsna Punj
Rashmi Ramachandran

Virender Kumar Mohan
Ravindra Kumar Pandey

Additional Professors

Puneet Khanna
Rahul Kumar Anand

Bikash Ranjan Ray
Debesh Bhoi

Associate Professors

Shailendra Kumar
Akhil Kant Singh

Manpreet Kaur
Rakesh Kumar

Souvik Maitra
Nishant Patel

Assistant Professors

Ajisha Aravindan
Mritunjay Kumar
Parin Chellani

Anju Gupta
Kelika Prakash
Vineeta Venkateswaran
Christopher Dass

Shreya Bharat Shah
Sulagna Bhattacharjee
Abhishek Nagarajappa

Assistant Professors (On contract)

Tangirala Nageswara Rao
Neha Pangasa
Priyanka Kumar Dutta
Ram Singh

Sana Yasmin Hussain
Heena Garg
Savithri HG
Apala Roy Chowdhury
Sneha Singh

Stuti Gupta
Dhruv Jain
Amit Kumar
Sachin Kumar

HIGHLIGHTS

During the unprecedented strain on healthcare facilities imposed by the second wave of COVID pandemic last year, our department was at the forefront in dealing with the crisis. Under the guidance of the Hon'ble Director, ex-Head of Department Professor Rajeshwari Subramaniam and ex-Professor Anjan Trikha in the JPNA TC, several wards and ICUs were converted to COVID ICUs and the majority of the faculty and residents were deployed for dealing with the extraordinary caseload. Additionally, several faculty were involved in capacity building, and drafting of recommendations and guidelines related to COVID management, in association with Ministry of Health and Family Welfare. The Department frequently participated in National Clinical Grand Rounds for teaching and training healthcare professionals in various aspects of COVID-related clinical care. During the past year, the Anaesthesia services were extended to the Burns and Plastic Surgery block (first surgery performed on 26 June 2021) as well as the surgical block in February 2022.

EDUCATION

1. Impact of pain in wound healing, "Rethinking in Acute Wound Care" as PAN-AIIMS collaboration in surgery by AIIMS, New Delhi, 20 Nov 2021, Online (VK Mohan)

Lectures delivered

Lokesh Kashyap: 1
Ravindra Kumar Pandey: 10
Puneet Khanna: 6
Manpreet Kaur: 5
Nishant Patel: 2
Parin Lalwani: 3

VK Mohan: 4
Anjolie Chhabra: 6
Rahul Anand: 6
Souvik Maitra: 4
Anju Gupta: 12
Mritunjay Kumar: 3

Vimi Rewari: 7
Jyotsana Punj: 18
Rashmi Ramachandran: 7
Debesh Bhoi: 2
Akhil Kant Singh: 1
Sulagna Bhattacharjee: 6
Abhishek N: 5

Oral papers/posters presented: 11

RESEARCH

Funded projects

Ongoing

1. A comparative study of melatonin, gabapentin and alprazolam in reducing preoperative anxiety, Kelika Prakash, AIIMS, 3 years, 2020-2023, Rs 3.5 lakhs
2. Assessment of internal jugular vein valve incompetence and its association with post-operative cognitive dysfunction in patient undergoing laparoscopic pelvic surgeries in Trendelenburg position, Akhil Kant Singh, 4 years, 2019-2023, AIIMS, Rs 5 lakhs
3. Comparative evaluation of C-MAC D-Blade and Airtraq Video laryngoscope for endotracheal intubation in simulated cervical spine immobilization using cervical collar, Manpreet Kaur, 2 years, 2020-2022, AIIMS, Rs 1.5 lakhs
4. Comparison of Anxiety scores with or without parental presence and its correlation with stress biomarkers during induction of anaesthesia in children undergoing ophthalmic procedures - A Randomised Controlled Trial. Nishant Patel, 1 year, 2019-2020, AIIMS, Rs 49 Lakhs
5. Comparison of dexmedetomidine as an adjuvant with Ropivacaine alone for continuous wound infiltration in patients undergoing Proximal Spleno-Renal shunt (PSRS) surgery: A Randomised control trial, Rakesh Kumar, AIIMS, 2021-2022; 1 year, Rs 2.7 lakhs
6. Comparison of paralysis of laryngeal adductor vs adductor pollicis at time of intubation with NIM EMG endotracheal tube, Jyotsna Punj, 7 years, 2015-2022, AIIMS, Rs 5 lakhs
7. Development of a simulation-based curriculum for training medical undergraduates in non-technical skills (MUTiNTS) and assessment of its acceptability and usefulness amongst the students, Manpreet Kaur, 2 years, 2020-2022, AIIMS
8. Effect of general anaesthesia with mechanical ventilation on biomarkers of lung inflammation/injury in COVID-19 survivors – A cohort study, Shreya Bharat Shah, 1 year, 2021-2022, AIIMS, Rs 10 lakhs
9. Effect of Nicotine Replacement Therapy on Peri-operative Opioid Requirement in Abstinent Tobacco Smokers undergoing Spinal Surgery: A Double Blind Randomised Controlled Trial; Puneet Khanna, Indian Council of Medical Research, 3 years, 2021-2024, Rs 50 lakhs
10. Effect of Nicotine Replacement Therapy on Peri-operative Opioid Requirement in Abstinent Tobacco Smokers undergoing OtoLaryngeal surgery: A Double Blind Randomised Controlled Trial. Puneet Khanna, Indian Council of Medical Research, 3 years, 2022-2025, Rs 50 lakhs
11. Efficacy of LMA Gastro™ versus Endotracheal Tube for interventional gastrointestinal endoscopy procedures under general anesthesia: A prospective randomised trial, Anju Gupta, 1 year, 2020-2021, AIIMS, Rs 3 lakhs
12. Impact of an enhanced recovery after surgery (ERAS) protocol on length of stay, perioperative outcomes and complications in paediatric laparoscopic surgeries, Shreya Bharat Shah, 2021-2022, 1 year, AIIMS, Rs 3 lakhs.
13. Randomised control study to assess the utility of over the ear active noise cancelling headphones during night-time and personalized music during daytime in decreasing the incidence of ICU delirium, Rahul Kumar Anand, AIIMS, 2 years, 2022-2024, Rs 4 lakhs
14. Remote trainer guided deliberate practice vs self-directed video-based training for retention of CPR skills: A randomised, comparative, assessor blinded simulation study, Abhishek N, 2 years, 2020-22, AIIMS, Rs 4.8 lakhs
15. Role of biomarkers in patients undergoing major musculoskeletal tumor surgery and its correlation with different anesthetic techniques and peri-operative outcomes. Lokesh Kashyap 2 years, 2021-2022, AIIMS, Rs 24 lakhs
16. The effects of normoxic vs hyperoxic conditions on the incidence of Post-operative Cognitive Dysfunction (POCD) and identification of miRNA in POCD in elderly patients undergoing non cardiac surgery: A Prospective Observational Case-Control Study- Puneet Khanna, 2 years, 2022-2024, AIIMS, Rs 10 lakhs
17. The impact of various anesthetic techniques on circulating nucleosome, cell-free DNA and extracellular histone in major orthopedic trauma surgery and development of SIRS, Parin Lalwani, 2 years, 2021-2023, AIIMS, Rs 10 lakhs
18. To determine gut colonisation of *Clostridiodes difficile*, Vancomycin resistant Enterococci and Carbapenem Resistant Enterobacteriaceae in recovered COVID cases, Ajisha Aravindan, 1 year, 2022-2023, AIIMS, Rs 10 lakhs
19. Use of pulsed electro-magnetic fields (PEMF) as an adjunct for treatment of chronic back pain: a prospective randomised study. IEC/NP-281/2013, Jyotsna Punj, 2 years, 2021-2023, Indian Council of Medical Research, Rs 5 lakhs

Completed

1. Association between baseline insulin resistance and hospital mortality in moderate to severe non-diabetic COVID-19 patients: An observational study, Souvik Maitra, AIIMS Intramural, 2 years, 2020-2022, Rs 4.44 lakhs
2. Comparison of King Vision Video laryngoscopes channelled blade and non-channelled Tuoren VL for COVID simulated intubation by medical personnel: a randomised crossover mannequin study, Anju Gupta, AIIMS intramural COVID category, 1 year, 2020-2021, Rs 2 lakhs

Departmental projects

Ongoing

1. A comparative study of two different doses of tranexamic acid in reducing blood loss in hepatobiliary surgeries
2. A Retrospective Evaluation of Anaesthetic Management and Perioperative Concerns in Scoliosis Surgery
3. A Single Centre Study From a Tertiary Care Hospital A Retrospective Evaluation of Anaesthetic Management and Perioperative Concerns in Scoliosis Surgery- A Single Centre Study From a Tertiary Care Hospital
4. Analgesic Efficacy of Retrolaminar Plane Block in Patients Undergoing Breast Surgeries: a single-centre, prospective, observational study
5. Analgesic efficacy of Ultrasound guided Genicular Nerve Block in Arthroscopic Knee Surgeries: A randomised controlled trial
6. Analgesic Efficacy Of Ultrasound-Guided Triple-Level Costotransverse Foramen Block Versus Triple-Level Erector Spinae Plane Block In Patients Undergoing Percutaneous Nephrolithotomy Surgery: A Randomised Parallel-Group, Double-Blind, Non-Inferiority Trial
7. Assessment of role of inferior vena cava collapsibility index (ivcci) and variations in carotid artery peak systolic velocity (CAPV) in prediction of post spinal anesthesia hypotension in spontaneously breathing patients: a pilot study
8. Association between DNA Telomere Length in Peripheral Blood Leukocytes and Post-Operative Cognitive dysfunction (POCD) and Delirium (POD) in Elderly patients undergoing Major Orthopaedic surgery under General Anesthesia: A Prospective Observational Study
9. Association Between Perioperative Hypertension, Length of Hospital Stay And Perioperative Cardiovascular Complications: A Prospective Observational Study From Tertiary Care Centre
10. Association Between Post-Operative Delirium and Cognitive Dysfunction with Serum Uric Acid And C-Reactive Protein Levels in Elderly Patients Undergoing Major Surgery Under General Anesthesia: A Prospective Observational Study
11. Association between preoperative frailty and post-operative delirium and cognitive dysfunction in elderly patients undergoing major surgery under general anesthesia – A prospective observational study
12. Attitude and understanding regarding anaesthesiology as a career option amongst medical undergraduates in India : A cross-sectional study
13. Augmented Renal Clearance In An Adult Intensive Care Setting – Prevalence, Risk Factors And Impact On Clinical Outcomes
14. Combined Trans-muscular Quadratus Lumborum Block and Sacral Erector Spinae Block Versus Intrathecal morphine for perioperative analgesia in patients undergoing Open gynecological oncological surgery: An Open label Prospective Randomised Non-inferiority trial
15. Comparative assessment of functional near infrared spectroscopy in children for detecting emergence delirium with sevoflurane vs total intravenous anaesthesia: Randomised control trial
16. Comparative efficacy and safety of I-gel supraglottic airway and self-pressurizing Air-Q (Air Q SP) intubating laryngeal airway during general anesthesia in infants: A prospective randomised trial
17. Comparative efficacy of intradiscal injection of Platelet Rich Plasma versus Methylene blue in treatment of chronic discogenic pain
18. 'Comparative Evaluation of Analgesic Efficacy of The Ultrasound Guided Erector Spinae Plane (ESP) Block Versus Transversus Abdominis Plane (TAP) Block in Children Undergoing Unilateral Abdominal Surgeries: A Prospective Randomised Controlled Trial'
19. Comparative Evaluation of Continuous Versus Intermittent Bolus Techniques in Ultrasound Guided Erector Spinae Block in Modified Radical Mastectomy Surgery– A Prospective Randomised Controlled Trial
20. Comparison between analgesic efficacy of Sacral Multifidus Plane block vs Caudal Block in pediatric anorectal surgeries– A Randomised controlled trial
21. Comparison between pressure support ventilation and spontaneous ventilation during extubation and emergence in reducing post-operative atelectasis in patients undergoing major abdominal surgeries: A Randomised controlled trial
22. Comparison of analgesic efficacy of general anaesthesia and peribulbar block to conventional general anaesthesia in children with retinoblastoma undergoing enucleation surgery - A randomised double-blind parallel controlled trial
23. Comparison of Analgesic Efficacy of Pudendal Nerve Block with Caudal Block using Bupivacaine and Clonidine in Children Undergoing Hypospadias Repair: A Prospective Randomised Study
24. Comparison of analgesic efficacy of thoraco-lumbar interfascial plane block (TLIP) Vs lateral thoraco-lumbar interfascial plane block in patients undergoing lumbar disc surgeries: A Randomised Controlled Trial
25. Comparison of Diaphragmatic activity between propofol and Dexmedetomidine sedation in spontaneously breathing patients under regional anesthesia prospective randomised comparative study
26. Comparison of diuresis with furosemide versus furosemide with albumin during de- resuscitation phases of sepsis in hypoalbumenic patients: A RCT
27. Comparison of outcome in Coronavirus disease 2019 (COVID-pneumonia patients with or without erythropoietin (EPO) – a prospective randomised controlled study
28. Comparison of Percutaneous Radiofrequency Thermocoagulation and Percutaneous Microballoon Compression of Gasserian ganglion in Treatment of trigeminal neuralgia- A randomised controlled trial

29. Comparison of single versus triple injection costoclavicular block in upper limb surgery: Randomised Controlled trial
30. Comparison of structured didactic training Vs. hands on training on ORSIM simulator for improving Fiberoptic intubation Proficiency in novice anaesthesia residents in difficult airway scenarios: A randomised controlled trial
31. Comparison of the effect of ketofol and ketodex as conscious sedation and analgesia for oocyte retrieval during in-vitro fertilisation procedures – A pilot study
32. Comparison of the efficacy of Intrathecal Morphine, Ultrasound-guided Erector Spinae Plane block with PCA Fentanyl in the control of post-operative pain after Modified Radical Mastectomy: A Randomised Controlled Trial
33. ‘Comparison of two anaesthetic techniques in children undergoing vitreo-retinal surgery: inhalational vs TCI (Target controlled infusion)–A Randomised pilot clinical trial’
34. Comparison of wide-awake local anaesthesia without tourniquet (WALANT) versus wide awake local anaesthesia and forearm tourniquet (WALA with FAT) and ultrasound guided individual peripheral nerve block (IPNB) for wrist and hand surgeries: a prospective randomised controlled trial
35. Competency of novice Anaesthesia residents in performing Trans Thoracic Echocardiography with or without structured problem-based hands-on course using simulator: A randomised controlled assessor blinded trial
36. Correlation of preoperative internal jugular vein anatomic measurements with post spinal hypotension episodes in pregnant patients undergoing elective caesarean section
37. Development of a risk prediction model for acute kidney injury in sepsis patients admitted to the ICU
38. Does ANIsoscope predict post epidural hypotension?: An observational study
39. Effect of dexamethasone on post-operative cognitive decline in elderly population: a randomised controlled triple blind trial
40. Effect of fentanyl administered at different time interval on induction dose of propofol using bispectral index monitor
41. Effect of High-Flow Nasal Oxygen Therapy On Diaphragmatic Function And Lung Aeration After Upper Abdominal Surgery; A Randomised Controlled Trial
42. Effect of Incremental PEEP Titration on Postoperative Pulmonary Complications in Patients Undergoing Emergency Laparotomy: A Randomised Controlled Trial
43. Effect of instillation of intranasal dexmedetomidine on the duration of caudal analgesia in paediatric Infra-umbilical surgeries
44. Effect of intraabdominal pressure guided positive End Expiratory pressure on driving pressure in paediatric laparoscopic surgery: A randomised controlled trial
45. Effect of intravenous dexamethasone on the analgesic efficacy of unilateral ultrasound guided quadratus lumborum block in laparoscopic renal surgeries: a double blind randomised controlled trial
46. Effect of lung compliance guided optimum PEEP verses fixed PEEP on postoperative lung atelectasis in laparoscopic gynecological surgery: Double blinded Randomised control trial
47. Effect of optimum positive end expiratory pressure (PEEP) on postoperative lung atelectasis in children: A randomised control trial
48. ‘Effect of pre-procedure anxiety and estrogen levels on Post-operative Nausea and vomiting (PONV) in patients undergoing diagnostic laparoscopy and hysteroscopy for infertility: A Prospective Observational Study’
49. Effect of regional anaesthesia on inflammatory biomarkers levels in patients undergoing surgery for giant cell tumour of bone and its correlation with perioperative bleeding and outcome
50. Efficacy of a novel bundle of care to reduce complication following percutaneous dilatational tracheostomy in critically ill patients: randomised controlled trial
51. Efficacy of hydroxyethyl-starch with bupivacaine in prolongation of duration of caudal blocks in paediatric infraumbilical surgeries
52. Efficacy of novel bundle of care to reduce ICU acquired weakness - A Randomised controlled trial
53. Evaluation of Deep learning Algorithm for identification of Brachial Plexus Ultrasound images- An explorative study
54. Evaluation of effect of seizure activity, hemodynamic profile, recovery times and cortical activity (using FINRS) in patients going ECT for depression
55. Evaluation of physiological respiratory parameters with the use of N-95 respirators after similar set of Exercise in health care professionals: A cross over Study
56. Evaluation of predictive performance of sonographic airway assessment parameters to predict difficult airway in children of age group 1 to 10 years
57. Evaluation of the performance of sonographic airway assessment parameters to predict difficult airway in children
58. Frailty as a predictor of clinical severity in geriatric COVID-19 patients: A prospective observational study
59. Impact of admission serum levels of calcium, magnesium and phosphorus levels on clinical outcomes in critically ill patients: A retrospective analysis
60. Impact of Simulation-based Training in Intravascular Access (STIVA) for medical students on composite learner outcomes- A Randomised Controlled Trial
61. Incidence of Post-operative Cognitive Decline in elderly patients undergoing open surgery under general anaesthesia using Isoflurane or Desflurane: A Prospective Observational Study
62. Isotonic bicarbonate Vs Balanced salt solution as resuscitation fluids in patients with severe metabolic acidosis: A RCT
63. Long term effects of trans muscular quadratus lumborum block versus transversus abdominus plane block in laparoscopic hernia repair by TAPP approach - single centre retrospective analysis

64. Median effective volume of 0.25% ropivacaine for suprainguinal Fascia Iliaca Compartment Block [FICB] for positioning of hip fracture patients prior to neuraxial blockade: a prospective dose estimation
65. Minimum effective dose of intrathecal ropivacaine for day care surgery in patient undergoing lower abdominal surgery
66. Non-hepatic hyperammonaemia in critically ill patients– incidence, risk factors and effect on outcome
67. Post-Operative Pulmonary Complications with High FiO₂ or Standard FiO₂ in Adult Patients Undergoing Abdominal Surgery: A Non-Inferiority Trial
68. Prophylactic Melatonin for Delirium in Intensive Care Unit - An open label Randomised Control Study
69. Role of parasternal Intercostal muscle ultrasound during weaning from mechanical ventilation and prediction of extubation success in ICU - A prospective observational study
70. Sleep-disordered breathing and emergence delirium in children: a comparison between Pittsburgh Sleep Quality Index (PSQI) and Sleep trouble breathing and unrefreshed (STBUR) questionnaire
71. Sonographic assessment of suprahyoid airway parameters in patients planned for elective Proseal placement- a pilot, observational study
72. The prognostic value of Myeloperoxidase and neutrophil CD-64 in prediction of mortality in critically ill adult patients with sepsis
73. The Prognostic Value of Neutrophil Cd-64 and Myeloperoxidase for Predicting Mortality in Critically Ill Adult Patient's with Sepsis: A Prospective Observational Study
74. The role of renal arterio-venous coupling in prediction of acute kidney injury in patients with sepsis: A prospective observational study
75. The use of Ultrasound as a reliable tool for endotracheal intubation when performed by novice Anaesthesia Residents- A Prospective Observational study
76. To assess the analgesic efficacy of ultrasound guided Erector spinae block Vs Transverse abdominis plane block in children undergoing unilateral abdominal surgeries: A comparative randomised study
77. To Assess The Impact of Implementation of Systematic Childbirth Education Through a Birth Planning Visit on the Outcome and Experience of Childbirth: A Quality Improvement Project
78. To compare diaphragmatic thickness fraction in patients undergoing VATS with erector spinae plane block vs with local infiltration.
79. To compare the opioid sparing effects of combination of dexamethasone, paracetamol and ketorolac (dexpak) vs paracetamol, ketorolac (pak) in patients undergoing total laparoscopic hysterectomy: a prospective double blind randomised controlled trial
80. To compare the sedative effect of subarachnoid block with and without iv midazolam using BIS monitoring in patients undergoing lower limb surgeries-A randomised controlled trial
81. To decipher the impact of Anaesthetic agents in Colorectal cancer through MicroRNA expressed in extracellular vesicles: A Prospective Cohort Study
82. To evaluate the efficacy of different doses of intravenous dexamethasone on the duration of subarachnoid block in patients undergoing infraumbilical surgery: a randomised control double-blinded study
83. To evaluate the safety and efficacy of different doses of Clonidine in Pectoral nerve blocks (PECS I&II) for pain relief in different Oncological Breast Surgeries: A prospective, comparative, randomised controlled trial
84. Ultrasonographic Assessment of Tonsillar Volume in Children undergoing tonsillectomy; a predictor of post-operative morbidity
85. Ultrasound assessment of quadriceps depth for Identifying Frailty and post-operative delirium: An observational Study
86. Ultrasound Guided Versus Fluoroscopic Guided Lumbar Sympathetic Ganglion Block: A Prospective Single Blind Randomised Study
87. Urinary biochemistry as a marker of renal microcirculatory stress in sepsis: Prospective observational study
88. Validation of Thoracic fluid content by cardiometry in predicting weaning failure in mechanically ventilated critically ill patients
89. Velocity- time integral and stroke volume measured in the ascending aorta for prediction of volume responsiveness in spontaneously breathing patients

Completed

1. A comparative pilot study of manual weaning versus automated weaning in critically ill patients
2. A prospective questionnaire-based survey to ascertain the impact of COVID-19 pandemic on research and academics of medical post graduate students in India
3. A randomised control trial comparing the effects of lignocaine and dexmedetomidine on the incidence of postoperative cognitive decline in elderly: a pilot study
4. A study to assess the effect of an educational intervention for the nurses on the adherence to the bundle for the prevention of ventilator associated pneumonia (VAP) in ICU
5. Air Q ILA as a conduit for orotracheal intubation in children: A comparison between supine and lateral position
6. Analgesic efficacy and safety profile of Glossopharyngeal nerve block using Extraoral Anatomical landmark technique VS Ultrasound Guided technique in patients with Eagles Syndrome

7. Analgesic efficacy of Combined SAP & PIFB block in patients undergoing modified radical mastectomy: a retrospective cohort study
8. Association between perioperative acid-base abnormalities and kidney dysfunction in patients with peritonitis: A prospective cohort study
9. Association of malnutrition with inhalational anaesthetic requirement and awakening during day care procedures in children
10. Clinical outcome, microbiological spectrum and antibiotic susceptibility of clinical isolates from adult intensive care unit in a tertiary care hospital in INDIA
11. Comparative Evaluation of Continuous Versus Intermittent Bolus Techniques in Ultrasound Guided Erector Spinae Block in Modified Radical Mastectomy Surgery– A Prospective Randomised Controlled Trial
12. Comparison between lactate clearance and neutrophil lymphocyte count ratio as a predictor of mortality in patients with sepsis
13. Comparison between the Medial and Lateral approaches of Ultrasound-guided Costoclavicular Brachial plexus block for upper limb surgeries- A Pilot Interventional randomised control trial
14. Comparison of analgesic efficacy and safety of erector spinae plane block Vs local infiltration in VATS in adult patients- COMPLETED
15. Comparison of analgesic efficacy of classical thoraco-lumbar interfascial plane block (TLIP) Vs lateral thoraco-lumbar interfascial plane block in patients undergoing lumbar disc surgeries: A comparative, randomised controlled trial
16. Comparison of analgesic efficacy of ropivacaine and levobupivacaine in labor analgesia by dural puncture epidural technique- a prospective double-blinded randomised trial
17. Comparison of awake nasotracheal intubation using flexible Fibre-optic bronchoscope versus D blade CMAC Video-laryngoscope in patients having anticipated difficult airway under topical local anaesthesia and dexmedetomidine infusion
18. Comparison of blind tracheal intubation through Air-Q and LMA Blockbuster: A Randomised control trial
19. Comparison of Percutaneous Radiofrequency Thermocoagulation and Percutaneous Microballoon Compression of Gasserian ganglion in Treatment of trigeminal neuralgia- A randomised controlled trial
20. Comparison of serum nucleosomes and tissue inhibitor of metalloproteinase1 (TIMP1) in predicting mortality in adult critically ill patients in sepsis
21. Comparison of standard introducer tool guided vs suction catheter guided techniques of Proseal laryngeal mask airway (PLMA) insertion in patients undergoing elective laparoscopic gynaecological surgery: a randomised controlled trial
22. Correlation of oxygenation index and oxygen saturation index in patients undergoing emergency laparotomy under general anaesthesia: A prospective observational study
23. Desflurane vs total intravenous anaesthesia with propofol: effects on inflammatory biomarkers and respiratory mechanics in laparoscopic bariatric surgery.
24. Desflurane vs Total intravenous anaesthesia with propofol: Effects on respiratory mechanics and inflammatory biomarkers in laparoscopic bariatric surgery-A prospective randomised controlled trial
25. Dura to spinal cord distance at different vertebral levels in children and its implications on epidural and spinal anesthesia and analgesia in Indian Population: A retrospective CT Scan-based study
26. Effect of Continuous Positive Airway Pressure on inhalational induction with Sevoflurane in children: A randomised controlled trial
27. Effect Of Dexmedetomidine On Serum Cortisol Level And Perioperative Hemodynamics In Children Undergoing Elective Ophthalmic Surgery – A Prospective, Randomised, Comparative Study”
28. Effect of different patient positions on post induction hypotension caused by Propofol – A randomised comparative trial
29. Effect of High Protein Normo-caloric Nutrition on Skeletal Muscle Wasting in Critically Ill Mechanical Ventilated Patients: A Randomised Double-Blind
30. Effect of paravertebral anaesthesia on quality of life scores and circulating tumour cells in breast cancer patients
31. Effect of video distraction on preoperative anxiety scores in paediatric patients undergoing general anaesthesia in ophthalmic day care procedures: A Randomised Controlled trial
32. Effect of wrist angulation on ease of radial artery cannulation in paediatric population: ultrasound-guided anatomical assessment”
33. Efficacy of hetastarch with ropivacaine in prolongation of duration of ilioinguinal and iliohypogastric nerve blocks in paediatric inguinal hernia repair: a pilot study
34. Evaluation of the analgesic efficacy of varying volumes of 0.5% ropivacaine for subTenon’s block in children undergoing strabismus surgery under general anaesthesia- a pilot study
35. Evaluation of the role of serum lactate for predicting early deterioration in COVID-19 patients: Retrospective Study
36. Feasibility of anterior temporalis muscle ultrasound as a method to assess muscle wasting in Intensive Care Unit
37. Functional Outcome of Patients Undergoing Thoracic Surgery for Benign Pulmonary and Pleural Diseases: An Ambispective Cohort Study.
38. Impact of preoperative anxiety on propofol induced hypotension in children undergoing elective surgery under general anesthesia: a prospective observational study
39. Incidence of Post-Operative Cognitive Decline in elderly patients undergoing open surgery under general anaesthesia using Isoflurane or Desflurane: A Prospective Observational Study

40. Intra operative monitoring of cerebral oxygen saturation using Near Infra Red Spectroscopy (NIRS) and Assessment of risk factors for Low cerebral oxygen saturation in preterm and very preterm infants with Retinopathy of prematurity during Vitreo retinal surgeries: An observational prospective study
41. Intubation in COVID -19. A prospective observational study from a tertiary care ICU
42. Issues of carrying out usual work in COVID ICU after donning Level 3 Personal Protective Equipment- From User's Perceptive: A cross-sectional study from tertiary care hospital
43. Low Dose Aspirin in Moderate to Severe SARS- CoV-2 Infected Patients: A Pilot Randomised Controlled Trial
44. Lung Ultrasound for diagnosis of Ventilator associated pneumonia in critically ill
45. Molecular detection of legionella pneumophila by real time PCR and characterization of isolates by sequence-based typing
46. Perioperative outcome of patients undergoing major pelvic surgeries in a tertiary health center in India: A retrospective analysis
47. Predictors for postoperative ICU stay in scoliosis- a retrospective study
48. Safety and efficacy of low dose intrathecal anaesthesia for outpatient laparoscopic tubal ligation
49. Sonographic Assessment of Epidural Space Depth and Orientation in Paediatric Patients at Various Vertebral Levels: An Observational Cross-Sectional Study
50. Sub-phenotype Identification in SARS - COV-2 Infected Adult Patients with ARDS by Latent Class Analysis: A Retrospective Study
51. The association between pulmonary function tests and difficult airway in morbidly obese patients
52. The Study of Feasibility of Ultrasound-Guided Catheterization of Right Brachiocephalic Vein in Adult Patients
53. The use of Ultrasound as a reliable tool for endotracheal intubation when performed by novice Anaesthesia Residents - A Prospective Observational study
54. To assess the technical feasibility of ultrasound guided outplane lumbar sympathectomy block and its confirmation by fluoroscopy in patients with peripheral arterial disease: a prospective observational study
55. To compare analgesic efficacy and safety of ultrasound guided bilateral intermediate cervical plexus block with bilateral superficial cervical plexus block in patients undergoing thyroid surgeries under general anaesthesia
56. To determine the association between altered cerebral blood flow in the frontal cortex during Sevoflurane anaesthesia and incidence of postoperative emergence delirium in children: an fNIRS based Observational study
57. To Evaluate the Role of Age Adjusted Charlson Comorbidity Index Scoring in Predicting 30 Day Post-Operative Outcome in Patients Undergoing Surgery Under General and Regional Anaesthesia
58. To study the causes / reasons of cancellation of scheduled patients for elective surgery
59. Ultrasound assessment of airway for prediction of difficult laryngoscopy in obese patient. Observational pilot study
60. Ultrasound Assessment of Gastric Emptying of Clear Fluids with Different Energy Content in Children: A Crossover Pilot Study

Collaborative projects

Ongoing

1. A computed tomography imaging and anatomic study to investigate mechanism of action of Sacral Erector spina Blockade, JPNATC
2. A Computed Tomography imaging and anatomic study to investigate mechanism of action of Sacral Erector spinae Blockade, Anatomy and Radiology
3. A prospective pilot study to evaluate the effect of Supraglottoplasty on Tracheomalacia in pediatric patients with Congenital Laryngotracheomalacia, Otolaryngology and Head Neck surgery
4. Anesthetic Challenges of Coronavirus Disease (Covid-19) Associated Mucormycosis (CAM): A Case Series; ENT
5. Characterization and clinical course of Emergency trauma surgical patients during first wave of COVID-19 pandemic at a tertiary care center in INDIA; JPN Apex Trauma Centre
6. Comparison between Intraperitoneal Sodium Bicarbonate and Normal Saline for Peritoneal Irrigation in reducing post-operative pain in Diagnostic Laparoscopy, Obstetrics and Gynaecology
7. Comparison between patient-controlled analgesia with fentanyl and multimodal parenteral analgesia in reducing pain due to second trimester medical termination of pregnancy: A randomised controlled trial, Obstetrics and Gynaecology
8. Comparison of efficacy of nerve stimulation assisted ultrasound guided transforaminal injection versus ultrasound guided transforaminal injection in patients with lumbar radicular pain: A randomised interventional trial, Orthopaedics
9. Comparison of efficacy of nerve stimulation assisted ultrasound guided versus ultrasound guided glossopharyngeal nerve block in patients with glossopharyngeal neuralgias: a randomised interventional trial, ENT
10. Comparison of paralysis of laryngeal adductor vs adductor pollicis at time of intubation with NIM EMG endotracheal tube, ENT
11. Efficacy and safety of onabotulinum toxin A (Botox) injections in the upper esophageal sphincter for the treatment of Pharyngo-esophageal Dysphagia due to cricopharyngeal dysfunction- A Randomised Control Trial, Department of Neurology, Department of Gastroenterology and Human nutrition, Radiodiagnosis
12. European Society Of Intensive Care Medicine COVID-19 Project (UNITE-COVID 19) Thyroid Dysfunction in COVID-19; European Society Of Intensive Care Medicine, Brussels

13. Extent of Pelvic Lymphadenectomy during Radical Cystectomy – A Multi-Institutional Open Label Randomised Trial between Standard and Extended Pelvic Lymphadenectomy, PGIMER, Chandigarh; AIIMS, New Delhi; JIPMER, Pondicherry, AIIMS, Bhubaneswar; AIIMS, Jodhpur; AIIMS, Rishikesh
14. Perioperative low dose vs standard dose steroid regimen in patients of ulcerative colitis: A randomised controlled trial, Gastrointestinal surgery and Liver transplantation
15. Postoperative Outcomes and Mortality Following Emergency Surgery In Covid Suspect Patients: A Retrospective Analysis From Tertiary Care Centre Of India; Emergency Medicine
16. Randomised Controlled trial to compare efficacy of Ropivacaine Dexamethasone combination to pulsed radiofrequency of superior hypogastric plexus in chronic pelvic pain patients, Gynecology
17. Randomised controlled trial to compare dexamethasone and clonidine in ultrasound stellate ganglion nerve block by parameters of NRS and vascular dynamics, Dermatology, Rheumatology
18. Randomised controlled trial to determine the effectiveness of Acute Normovolemic Haemodilution (ANH) for perioperative blood management in patients undergoing scoliosis surgery, Transfusion medicine and blood bank
19. Short segment versus long segment myotomy during per oral endoscopic myotomy for Achalasia Cardia: A Randomised Controlled Trial, Gastroenterology and Human Nutrition
20. Use of pulsed electro-magnetic fields (PEMF) as an adjunct for treatment of chronic back pain: a prospective randomised study, Orthopedics

Completed

1. A pilot study for comparison between bupivacaine soaked surgical and normal saline soaked surgical application over vaginal cuff for post-operative pain relief in total laparoscopic hysterectomy: a prospective randomised controlled trial, Obstetrics and Gynaecology
2. Comparison of analgesic efficacy of ropivacaine and levobupivacaine in labor analgesia by dural puncture epidural technique- a prospective double-blinded randomised trial, Obstetrics & Gynecology
3. Effect of integrated Yoga on ART outcomes and Psychological stress in patients undergoing In-Vitro-Fertilization (IVF) cycles: A Prospective Randomised Controlled Trial, Obstetrics and Gynaecology
4. Identification of bacterial agents causing atypical pneumonia in COVID-19, and its impact on patient outcomes, Microbiology

PUBLICATIONS

Journals: 121 Abstracts: 1 Chapters in Book: 18

Year	2021-22	2020-2021	2019-2020
<i>Oral presentations</i>			
Invited lectures	110	102	224
Papers/posters	11	5	39
<i>Funded projects</i>	21	9	9
Extramural	4	0	0
Intramural	17	9	9
Publications	140	145	69
Journal articles	121	145	65
Abstracts	1	0	4
Chapters in book	18	0	7
Books/Monographs	0	0	1

PATIENT CARE

Anaesthesia services were provided for elective and emergency surgeries. Apart from this, services were also provided at many peripheral areas including endoscopy, radiology, MECT, etc. The detailed list of number of patients handled is as follows:

Specialty		No. of cases done
GI Surgery (OT 1,2,3)		441
Surgery (OT 2,3,4,5,6)		2325
Dental Surgery (CDER)		511
Plastic Surgery		309
Urology		748
COVID Suspect OT (OT-12)		132
ENT		842
Gynaecology		692
Pediatric Surgery		1073
Orthopedics (Unit 1+2)		2636
Orthopedics Trauma in Main AIIMS		2529
Maternity		2115
IVF		382
Ophthalmic	Routine + EUA	4812
	Emergency	1181
	RPC USG	0
	MAC	241
	ROP	93
	Total	6327
Emergency	Cases	4769
	Calls	1943
ICU	Total	758
	Carried forward by Last Month	115
	New Admission	643
	Discharged	483
	Expired	150
Peripheral Services	MRI	244
	MECT	526
	CT Scan	165
	Other radiological services (DSA, RFA, Lithotripsy)	79
	GI endoscopy	961
Pain OT (Epidural steroid injections, Radiofrequency ablations, Nerve Blocks, etc.)		148
Burns and Plastic Surgery Block (June 2022 onwards)		549
Surgical Block (Feb 2022 onwards)		43

Statistical data of patient care services

Year	2021-22	2020-21	2019-20
Elective OT	20473	10700	26411
Emergency OT	5950	5819	5828
Peripheral services (MRI, CT, MECT, DSA, endoscopy etc.)	1975	698	3173
Peripheral calls	1943	1660	1924
ICU admission	643	553	733
Pain OT	148	58	552

AWARDS, HONOURS AND SIGNIFICANT ACHIEVEMENTS

Professor Jyotsna Punj was Chief Organiser of Ultrasound Guided Hands on and difficult airway management workshops in International Conference: “Capacity building workshop” conducted at Kingdom of Eswatini through Ministry of External Affairs, India, Chief Organizer of Emergency Medicine Conference: ABG, Airway, BLS at GyatiTekka Government Hospital, Arunachal Pradesh, aimed at providing essential information and training for their doctors and nurses in this field.

9.2 Anatomy

Professor and Head

A Shariff

Professors

SB Ray	Rima Dada	Arundhati Sharma (Genetics)
Renu Dhingra	TC Nag (Electron Microscopy)	Ritu Sehgal

Additional Professors

Saroj Kaler	Tony George Jacob	Neerja Rani
Seema Singh	SC Yadav (Electron Microscopy)	

Assistant Professor

Prabhakar Singh (Electron Microscopy)

Assistant Professors (on contract)

Vidhu Dhawan	Monica Baxla	K. Harisha
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EDUCATION

The Anatomy Department spearheaded the Institute's efforts to uphold the highest standards of medical training and assessment in the wake of the restrictions imposed by the Covid-19 pandemic. The digital infrastructure created in-house, including the Digitally enabled Dissection Hall and the Digital Histology laboratory, was crucial to conduct the academic activities online. The Online Teaching/Learning programmes for the year (MBBS 2020-21) and also BSc paramedical course batches (2020-21) entailed a mammoth effort to disseminate not only didactic lectures but also effective practical sessions and formative assessment exercises in the form of quizzes and assignments. Most of the Lec-Dems were conducted online for the MBBS 2020-21 batch. The entire departmental Faculty, Residents and Staff contributed in this gigantic endeavor to the best of their abilities. The Gross Anatomy practical demonstrations and dissections were disseminated online as live demonstrations through supervised and indigenously created videos on bones, viscera and prosected specimens. The entire content was digitally photo/video graphed and labelled for identifying interrelationships of Anatomical structures and for constructing practical revision and assessment exercises. All these modules were uploaded and made accessible to students on the SARAL platform. The Microanatomy, Neuroanatomy and Embryology slides, specimens and models were also likewise photo/video graphed for practical demonstration, revision and assessment sessions. In this manner the Anatomy department has successfully created sufficient in-house digital content for the entire first year Anatomy curriculum in the form of teaching/learning modules that incorporate theory and practical education and assessment. The department also provided valuable assistance to several other departments of the Institute in similarly managing their curricula during the pandemic by extending the departmental digital infrastructure facilities to them.

Lectures delivered

A Shariff: 2	SB Ray: 3	Rima Dada: 49	Renu Dhingra: 3
TC Nag: 3	Tony G Jacob: 5	Neerja Rani: 3	Subhash Chandra Yadav: 3
Prabhakar Singh: 2	Vidhu Dhawan:		

Oral papers/posters presented: 35

RESEARCH

Funded projects

Ongoing

1. Age related changes in the human inferior colliculus: A morphological and neurochemical study, Tony George Jacob, DST, 3 years, 2018-2021, Rs 43.86 lakhs
2. An experimental study to understand the mechanisms of choroidal capillary death in aging eye with emphasis on involvement of macrophages and other immunocompetent cells, TC Nag, ICMR, 3 years, 2021-2024, Rs 31 lakhs
3. Assessment of biomarkers in aqueous humor (AH) of Retinoblastoma patients, Arundhati Sharma, ICMR, 3 years, 2019-2022, Research Associate fellowship
4. Contribution of glial gap junctions towards morphine tolerance in rats, SB Ray, DST, 3 years, 2020-2023, Rs 55 lakhs

5. Cryo electron tomography (ET) and correlation microscopy for understanding cellular infectivity and internalization of COVID-19 from human samples, Subash Chandra Yadav, Indo-US Science and Technology Forum (IUSSTF), 2 years, 2020-2022, Rs 50 lakhs
6. Cryo-Electron Microscope Imaging facility for biological specimens (Cells and Tissue), Subash Chandra Yadav, DBT, 4 years, 2021-2026, Rs 20 lakhs
7. Designing of rapid and cost-effective Nano-LAMP based detections of BK virus from serum of post-renal transplant patients, Subash Chandra Yadav, ICMR, 3 years, 2019-2022, Rs 35.8 lakhs
8. Development of Quick and Specific Detection System of EWS-FLI-1 Fusion Protein, Subash Chandra Yadav, DBT, 3 years, 2019-2022, Rs 96 lakhs
9. Effect of yoga on spermatozoa transcripts and miRNA expression in idiopathic infertility and early pregnancy loss, Rima Dada, SATYAM, 3 years, 2020-2023, Rs 55 lakhs
10. Effect of yoga on visual function, biomarkers of cellular aging and mitochondrial copy number in Leber hereditary optic neuropathy (LHON) patients, Rima Dada, ICMR, 3 years, 2022-2025, Rs 30 lakhs
11. Establishment of Laser Confocal Microscope Facility for biomedical live cell Imaging and for nano-particulate drug delivery, Subash Chandra Yadav, DST-FIST, 5 years, 2018-2023, Rs 165 lakhs
12. External delivery of Cisplatin using Human Papilloma Virus (HPV 16) based nanocarriers for treatment of cervical cancer, Subash Chandra Yadav, DHR, 3 years, 2021-2024, Rs 30 lakhs
13. Fluoride levels in the body fluids and tissues in patients of the cervical ossified posterior longitudinal ligament, Seema Singh, AIIMS, 1 year, 2020-2021, Rs 5 lakhs
14. Fluorosis mitigation in community of Bihar through intervention and counseling, A Shariff, DST, 3 years, 2020-2023, Rs 152.76 lakhs
15. Identification of genetic variants and their functional evaluation in the pathogenesis of inherited Cardiomyopathies, Arundhati Sharma, ICMR, 3 years, 2019-2022, Rs 72.28 lakhs
16. Identification of the underlying differential expression and disease-specific signature profile in patients with epidermal necrolysis, Arundhati Sharma, ICMR, 3 years, 2019-2022, Rs 40.05 lakhs
17. Identification of Urinary Exosome Based Early Marker of Fluoride induced Nephrotoxicity, A Shariff, CSIR, 3 years, 2019-2022, Pool Project
18. Identification, Functional characterisation and In Silico Analysis of Sarcomeric Gene Mutations in hypertrophic Cardiomyopathy Patients from Indian Population, Arundhati Sharma 11 ICMR, 3 years, 2018-2021, Research Associate fellowship
19. Identify the role of Inhibitors of apoptotic proteins in respiratory neuroendocrine tumors, Neerja Rani, AIIMS, 1 year, 2020-2021, Rs 5 lakhs
20. Investigation of Changes in Peripheral and Central Nervous System in An Experimental Model of Chronic Pancreatitis in Mice, Tony George Jacob, ICMR, 3 years, 2019-2022, Rs 32.23 lakhs
21. Mitochondrial dynamics and status of autophagy in rats in retinal photoreceptor cells after experimental iron overload in rats, TC Nag, ICMR, 3 years, 2019-2022, Rs 30 lakhs
22. Morphological study of the developing human cochlear nucleus and spiral ganglion, Tony George Jacob, ICMR, 3 years, 2019-2022, Rs 45.40 lakhs
23. Role of Hydrogen Sulphide as a pharmacological modulator in adverse pregnancy outcomes like preeclampsia, Renu Dhingra, DST, 3 years, 2018-2021, Rs 45 lakhs
24. Role of miRNA 22/specificity protein 1/ cystathionine beta synthase access in trophoblast cell invasion and their status in preeclampsia, Renu Dhingra, ICMR, 3 years, 2018-2021, Senior Research Fellowship
25. SMARCE1 mediated mechanisms of transcriptional modulation in trophoblast cell invasion during placentation and their status in preeclampsia, Renu Dhingra, ICMR, 3 years, 2022-2025, Rs 40 lakhs
26. Status of hydrogen sulphide producing enzymes, matrix metalloproteinases and miR-22 in preeclampsia and their role in modulating trophoblast invasion, Renu Dhingra, CSIR, 2 years, 2019-2022, Rs 15 lakhs
27. Status of molecules regulating trophoblast migration in patients of preeclampsia and role of hydrogen sulphide in mediating migration during placentation, Renu Dhingra, ICMR, 3 years, 2018-2021, Senior Research Fellowship
28. Study of structural reorganization of cholinergic neurites in a rat model of focal cerebral ischemia, Prabhakar Singh, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
29. To study the role of cholinergic transmission on the amyloid beta induced neurodegeneration and therapeutic interventions for Alzheimer's disease, Prabhakar Singh, ICMR, 3 years, 2022-2025, Rs 30 lakhs
30. Ultrastructural localisation of glucose regulated protein (GRP78) in sino-nasal mucosa and its relationship to mucormycosis in COVID19 patients, Prabhakar Singh, AIIMS, 1 year, 2021-2022, Rs 5 lakhs
31. Unraveling the role of novel proteins in gastroenteropancreatic and respiratory neuroendocrine tumors, Neerja Rani, DST, 3 years, 2019-2022, Rs 50 lakhs
32. Unravelling the Genetic Intersections between male infertility and cancer: Role of Yoga intervention, Rima Dada, ICMR, 3 years, 2019-2022, Rs 35 lakhs
33. Utility of Artificial Intelligence in differentiating, thyroid malignant lesions, Arundhati Sharma, DBT, 3 years, 2020-2023, Rs 74.16 lakhs

Departmental projects

Ongoing

1. An In vitro study of CSE & HTRA1 in trophoblastic cell invasion
2. Correlation of neuropathic pain with microglial activation in the nervous system
3. Effect of Curcumin supplementation on cognitive function and Estrogen receptor profile in hypothalamus and hippocampus of Arsenic trioxide-exposed adult female mice
4. Effect of garlic (*Allium sativum* L) extract on mice models of chronic pancreatitis
5. Effect of hydrogen sulphide on protein arginine methyl transferase -1 (PRMT-1) signalling on trophoblastic cells and its association with preeclampsia
6. Effect of Rapamycin on markers of autophagy and cell death in the caerulein-induced model of mild acute pancreatitis in mice
7. Effect of Resveratrol on Arsenic Trioxide-induced Nephrotoxicity in Mice
8. Effects of fluoride on the development of enteric nervous system: an experimental study
9. Epigenetic changes during epithelial to mesenchymal transition in trophoblast cells under physiological and pathological conditions
10. Evaluation of expression of Cystathionine Gamma Lyase (CSE) and High Temperature requirement (HtrA1) in preeclampsia and their association
11. Evaluations of role of curcumin supplementation on Arsenic trioxide induced neurotoxicity in basal ganglia of mice
12. Expression of P2X7 Receptor in Myenteric Plexus of Ulcerative Colitis Patients
13. Expression pattern of ghrelin in the retina and its link with light insult in rats
14. Expression profile of novel proteins in blood of pancreatic neuroendocrine tumor patients
15. Genetic and Epigenetic profiling in patients of Anterior Pituitary Adenoma
16. Genetic and epigenetic profiling in patients with opioid dependence
17. Genetic screening of patients with Men2 syndrome
18. Genetics studies to identify mutations in patients with cardiomyopathies
19. Identification and evaluation of novel proteins, inhibitors of apoptotic proteins and exosomes in cases of pancreatic neuroendocrine tumors
20. Identification of HPV-16 induced cervical cancer cells from cytology samples
21. Impact of Yoga on obesity
22. Impact of Yoga and Meditation on Epigenetic Profile in Rheumatoid Arthritis
23. Impact Of Yoga Based Intervention On Quality Of Life Of Glaucoma Patients
24. Impact of Yoga on Paternal factors Early pregnancy losses
25. Meditation based stress reduction: Is it therapeutic for Primary Open Angle Glaucoma (POAG)
26. Mitochondrial dynamics and status of autophagy in retinal photoreceptor cells in a rat model of experimental iron overload
27. Molecular studies in Fibromyalgia
28. Mutation analysis in Anti Mullerian Hormone gene in poor responders
29. Mutations in OPA1 gene and mt DNA in optic neuropathy
30. Pattern of mTORC1 expression in rat retina in experimental iron overload
31. Role of Fluoride & FGF 23 in patients with cervical ossified posterior longitudinal ligament
32. Role of Hydrogen Sulphide as a pharmacological modulator in adverse pregnancy outcomes like preeclampsia
33. Role of miRNA in modulating trophoblast cell invasion
34. Role of miRNA in regulation of angiogenic factors in trophoblast cells
35. Study of Age-Related Changes in the Stria Vascularis of Human Cochlea
36. Study of Association of Methylenetetrahydrofolate Reductase (MTHFR) Polymorphisms in Infertile Men
37. Study of exosomes in saliva of pancreatic neuroendocrine tumor patients
38. Study of Hydrogen sulphide, HMGB1 and RAGE in serum and placenta in preeclampsia
39. Study of metabolites of kynurenine pathway in rat model of neuropathic pain
40. Study on the association of Polymorphism, Methylation and Expression status of Monoamine Pathway genes with Alcohol Dependence
41. Study to identify changes in the transcriptome of Stevens–Johnson syndrome (SJS)

Completed

1. A Morphological Study of The Human Temporomandibular Joint
2. A study of dopaminergic neurons in the myenteric plexus of ulcerative colitis patients
3. A study on the genetic association and correlation of Monoaminergic and GABAergic pathway gene polymorphisms with brain imaging (PET/SPECT) in Alcohol & Opioid Dependence
4. A study on the role of ADH and ALDH gene variants in Alcohol Dependence
5. A Study to evaluate association of Single Nucleotide Polymorphisms and Epigenetic changes in Neurotransmitter Genes in Opioid Dependence
6. An association study of cystathionine beta synthase gene polymorphism in preeclampsia study title

7. Behavioral assessment of nociception and motor functions in the rat model of partial sciatic nerve transection (PSNT) injury
8. Correlation of fluoride levels in body fluids and bone histology in patients of ossified posterior longitudinal ligament
9. Effect of Curcumin supplementation on cognitive function and Estrogen receptor profile in hypothalamus and hippocampus of Arsenic trioxide-exposed adult female mice
10. Effect of hydrogen sulphide on migration of human trophoblast cells and its status in preeclampsia
11. Epigenetic changes of Dopaminergic pathway genes and association of GRIN2A gene polymorphism in Alcohol Dependence and opioid dependence
12. Evaluation of possible association of opioid dependence with *SLC6A4* and *TPH2* polymorphisms
13. Expression of miR-22, Specificity protein-1 and cystathionine beta synthase in pre eclampsia and their role in trophoblast invasion
14. Expression of nerve growth factor in colorectal carcinoma patients
15. Expression of n-myc downstream regulated gene 4 (NDRG4) in enteric neurons of colonic tissue of colorectal carcinoma patients
16. Genetic Study of Posterior Polar Cataract
17. Immunohistochemical study of microglial activation and AMPA receptors in hippocampus of rat model of experimental neuropathic pain
18. Role of Autophagy in Experimental Acute Pancreatitis with Special Reference to Inflammation and Cell Death
19. Role of micro RNA-30 in cystathionine gamma lyase mediated trophoblast cell invasion and status in preeclampsia
20. Role of MMP 9 promoter Polymorphisms in Preeclampsia
21. Role of Soluble Vascular Endothelial Growth Factor Receptor-1 (sVEGFR-1/sFLt-1) in Endoplasmic Reticulum Stress in Preeclampsia-an *in vitro* study
22. Study of the association of matrix metalloproteinase-9 gene polymorphism in preeclampsia

Collaborative projects

Ongoing

1. A Cross sectional study for assessment of Matrija bhava (Maternal factor) and Rasaja bhava (Nutritional factor) for causation of childhood Leukemia in purview of epigenetics”, Chaudhary Brahm Prakash Ayurved Charak Sansthan Delhi.
2. A study of the efficacy of intraperitoneal injection of methyl prednisolone on the severity of organ dysfunction in adult male Wistar rats with acute pancreatitis induced by surgical ligation of the biliopancreatic duct, GI Surgery
3. AIIMS+ CSE- IIT-D Center of Excellence Collaborative Neuro-Engineering platform for excellence in innovation and translational research, Neurosurgery
4. An observational study of anatomical concept of shadgarbhkarbhav (six procreative factors) in Prevalence of Arbuda, Chaudhary Brahm Prakash Ayurved Charak Sansthan, Delhi.
5. Centre for Advanced Research and Excellence in Pancreatic Diseases, Gastroenterology
6. Checking the feasibility of aortoplasty balloon catheter for endovascular occlusion of aorta, Surgical Discipline
7. Correlation of serum levels of immunoglobulin, HLA and trace elements in case of invasive fungal sinusitis, ENT
8. Cytogenetic and Molecular Analysis in Infertility, Anatomy Dept, AIIMS, Raipur
9. Development of a database of the Fluoride and Sugar levels for the commercially available Baby food supplements, Centre for Dental Education & Research (CDER)
10. Development of training model for delineation of vascular supply relevant to reconstructive surgical procedures of face and hand. A novel method of cadaver processing, Plastic reconstructive and Burns surgery
11. Electroencephalographic changes in early and advanced Glaucoma, RP Centre for Ophthalmic Sciences
12. Environmental exposure of heavy metals, toxic elements and its impact on renal cell carcinoma induction and progression, Urology
13. Environmental exposure of heavy metals, toxic elements and its impact on urinary bladder carcinoma induction and progression, Urology
14. Extending the horizon of endoscopic neurosurgery: A cadaveric study as a starting step to introduce posterior fossa endoscopic approaches to the armamentarium of minimally invasive neurosurgery of our institute, Neurosurgery
15. Fluoride levels in the body fluids and tissues in patients of the cervical ossified posterior longitudinal ligament, Neurosurgery
16. Fluorosis mitigation in community of Bihar through intervention and counseling, Anatomy
17. Genetic studies in fibromyalgia, Physiology
18. Genetic studies on aqueous fluid in retinoblastoma, RP Centre for Ophthalmic Sciences
19. Genetics of alcohol and drug dependence, Psychiatry
20. Genetics of Juvenile glaucoma, RP Centre for Ophthalmic Sciences
21. Genetics of MEN2 syndrome, Endocrinology
22. Genetics of Steven Johnson Syndrome, RP Centre for Ophthalmic Sciences
23. Genetics studies of cardiomyopathies, Cardiology

24. Genome wide Analysis to explore stress, inflammation and cellular aging following short and long term yoga based intervention in obesity and DM, Physiology
25. Genotype and Phenotype correlation in POAG, RP Centre for Ophthalmic Sciences
26. Heavy metals as etiology for carcinoma of the gallbladder, Surgical Oncology
27. Identification and Characterization of novel genetic variants associated with cardiovascular diseases in diverse ethnic populations of India, Cardiology
28. Identification of Urinary Exosome Based Early Marker of Fluoride induced Nephrotoxicity, Urology
29. Impact of advanced paternal age and poor; lifestyle on sperm epigenome: Possible etiology in autism spectrum disorder, Pediatrics
30. Impact of preoperative steroids on trabeculectomy outcomes: A Randomized Controlled Trial, RP Centre for Ophthalmic Sciences
31. Impact of short-term yoga based intervention in obesity, Physiology
32. Impact of YBLI on MDD-RCT, Psychiatry
33. Impact of yoga and meditation on Epigenome in Rheumatoid Arthritis, Medicine
34. Material characterization of brain tissue and development of tissue-device interaction based neurosurgical simulation tools, Neurosurgery
35. MEN1 gene mutation in patients of primary hyperparathyroidism, pancreatic tumors and pituitary tumors and its clinical implications, Endocrinology
36. Microsurgical comparison of operative exposure of IAC through middle fossa and retrosigmoid hearing preservation skull base approaches-a laboratory investigation, Neurosurgery
37. Pharmacological and molecular approaches to investigate the effect of *Adhatoda vasica* in experimental models of bleomycin induced pulmonary fibrosis. Pharmacology
38. Prevalence and genetic mutations profile of Primary Ciliary Dyskinesia in Indian Children, Pediatrics
39. Role of ashwagandha in management of Infertility, Centre for Ayurveda, Guru Gobind Singh University
40. Role of heavy metals and toxic elements in the etiology, severity and progression of Non-IPF diffuse pulmonary lung diseases, Pulmonology
41. Study of heavy metals and trace elements (Al, Cd, Ni, Cr, Ba, Co, Hg, Se, V, Pb, Sb, As, Fe, Cu, Zn, Mn) in breast cancer and benign breast disease, Surgical Disciplines
42. Study of sperm oxidative state, sheltering protein expression and chromatin function in infertile males, Reproductive Biology
43. The role of trace elements in Renal Stone Disease: An observational cross-sectional study, Urology
44. To evaluate the effects of urban particulate matter contaminants and toxic metals exposure on invasion and differentiation of human trophoblast cells, Biochemistry
45. To explore the association of Molecular, Genetic and Environmental markers in Autism Spectrum Disorder and other Neurodevelopmental Disorders including ADHD and Cerebral Palsy: A Cross sectional study, Pediatrics
46. Vulnerability assessment of Matrija bhava for the causation of Metabolic disorders in childhood: A cross sectional study, Chaudhary Brahm Prakash Ayurved Charak Sansthan, Delhi.
47. Yoga and impact on QOL in Glaucoma, RP Centre for Ophthalmic Sciences
48. Yoga Based Intervention” on Inflammatory Markers and Gene Expression Profile in Blood, Aqueous and Trabecular Meshwork of Primary Open Angle Glaucoma Patients: A Randomized Controlled Trial, RP Centre for Ophthalmic Sciences

Completed

1. A study of the efficacy of intraperitoneal injection of methylprednisolone and anti tnf-alpha antibody (infliximab) on the severity of organ dysfunction in adult male wistar rats with acute Pancreatitis induced by surgical ligation of the pancreatic duct, GI Surgery
2. Effect of transcranial, magnetic stimulation on pain modulation status in fibromyalgia patients, Physiology
3. Genetics studies in hypophosphatemic rickets , Pediatrics
4. Levels of Oxidative stress biomarkers in Follicular fluid of women with PCOs undergoing IVF and its relation to outcome, Obstetrics and Gynaecology
5. Mutation analysis of seven genes (NR5A1, DAX1, DHH, DMRT1, SOX9, SRY, WT1) in patients with Gonadal dysgenesis and 46,XY karyotype, Endocrinology
6. Neurosurgery Skills Training Facility with 3D Endoscopic and 3D Microscopic Facility and Central Repository Server for Archival, Streaming and Teleconferencing.–FIST DST FIST Program DST FIST Level 2, Neurosurgery
7. Oxidative stress evaluation in amniotic fluid of couples with normal and couples pregnant with fetus with congenital malformation, Obstetrics and Gynaecology
8. Support to Indian Institutes to Conduct Training Programme in the area of Operational Research Neurosurgery Skills Training, Neurosurgery

PUBLICATIONS

Journals: 38

Abstracts: 1

Chapters in Book: 5

PATIENT CARE

Clinical Ecotoxicology Diagnostic Services

The Clinical Ecotoxicology (Diagnostic & Research) Facility, a first of its kind in the country, has been providing diagnostic services to various clinical departments for detection of heavy metal and other element toxicities and for estimation of micronutrient minerals in blood. These tests have proved efficacious in making a difference in the management of affected patients.

Total number of samples analyzed: Blood: 453; Urine: 326

Genetic Diagnostic and Counselling Services

Karyotyping/Cytogenetic analyses: 188 cases

Yoga: 98 cases

(male Infertility, RPL, Glaucoma, Obesity, CM, Depression, Rheumatoid arthritis, Aging)

Molecular screening

Yq microsatellite analyses: 14 cases

ROS estimation: 58 cases

DFI: 31 cases

Corneal dystrophies: 32 cases

Glaucoma+ other cases: 262 cases

Mutation analysis of various disorders: 53 cases

Miscellaneous mutation detection: 21 cases

Embalming of dead bodies 38

For transportation 24

For teaching/research 14

Details of oral/poster presentation	2019-20	2020-21	2021-22
No of oral presentations and posters	73	30	35

Funded Research Projects

Year	Number of projects	Funds received (Rs in lakhs)
2019-20	28	1057.01
2020-21	35	1141.4
2021-22	34	3283.54

Details of Trainees

Students/trainees registered	2019-20	2020-21	2021-22
Junior residents	16	17	21
Senior residents	11	12	8
MSc students	10	05	10
PhD scholars	24	13	12
Total	61	47	51

Publications	2019-20	2020-21	2021-22
Papers in journals	46	43	45
Published abstracts	17	6	3
Chapters in books	7	6	7
Total	70	55	55

Patientcare related activities	2019-20	2020-21	2021-22
Genetic Tests	2067	353	757
Diagnostic tests for heavy metals/toxic elements/ micronutrients in blood/urine (performed 5 tests per sample on an average)	30	2127	779
Embalming of dead bodies	634	26	38

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor A Shariff ensured that the department was optimally functional during the COVID-19 Pandemic. He also managed the complete IT infrastructure & services of the whole Institute as the Professor In-Charge of the Computer Facility. He was also the Professor In-charge of the Telemedicine Facility and organized and coordinated the Telemedicine services of the whole Institute during the COVID-19 Pandemic. At the instance of the Niti Ayog and the MoH&FW, he established and coordinated the COVID-19 National Teleconsultation Centre (CoNTeC-AIIMS) with active contributions from all the Clinical departments, the Computer Facility and the Telemedicine Facility. He also initiated and actively managed the CoNTeC-AIIMS Public Help volunteer group, with active participation of the Faculty members, Residents, Staff and medical and nursing students of the Institute, through the helpline number 9115444155, which provided telephonic help to the public at large during the pandemic. He was the Nodal Officer of the Regional Resource Centre (RRC) of the National Medical College Network (NMCN). He established and managed the Clinical Ecotoxicology Facility, which is the first of its kind in the Country, which is providing diagnostic facilities for patients of heavy metal and other elemental toxicity and micronutrient deficiencies. He was the member of the Project Review and Steering Group (PRSG) of MeITy, GoI, for the Project “DAREFUL- Data Driven Ecommerce Fulfilment” being implemented by IIM, Ahmedabad. He was also the member of the Project Review and Steering Group (PRSG) of MeITy for the Project “Development of a machine learning based system to assist medical practitioners” and members of the IECPG (Basic Science), the Library Committee and member of various DPCs for the Officers and Staff of the Institute.

Professor SB Ray was the Nodal officer regarding COVID 19 prevention in Department of Anatomy. He acted as an External Examiner in 1st Prof. MBBS exam in Anatomy at Delhi University (UCMS, Delhi) and IP University (BSA Medical College, Rohini). He was the Expert for selection of Faculty in Anatomy at Lady Hardinge Medical College and JIPMER, Puducherry. He also acted as an Expert for evaluation of MD thesis from JIPMER, Puducherry. He developed guidelines for embalming of cadavers during COVID 19 pandemic and the same was communicated to other medical colleges.

Professor Rima Dada was nominated as Task Force Member of Ayushman Bharat Scheme for drafting Operational guidelines on Wellness by the National Health Systems Resource Centre, Ministry of Health & Family Welfare, GOI; nominated as expert for evaluation of projects under ICMR-CARE scheme and projects in task force mode in NCD and RBMH section (ICMR); reviewer for various adhoc projects by ICMR/DBT/DST/Wellcome Trust. Dr Dada was nominated as expert in a 6 member high powered committee constituted by MoHFW and AYUSH for drafting guidelines to promote Yoga research. She is also expert for evaluation/ formulation & review of questions by NBE and for NEET examination. As a Member, attended first meeting of Advisory Committee/The Ayush Interdisciplinary R&D Task Force on High Impact Research in Yoga, Ministry of Ayush, GOI; Honorary Guest faculty of PGI-CCRYN and VAYU-The only university of Yoga in USA. I Conducted PhD Viva voce exam as an External Examiner at CCMB, GNDU, MDU, BITS Pilani at Symbiosis Center for Research and Innovation, Symbiosis, PGI Chandigarh. Delivered talks on Total health and my work on yoga in reproductive health, depression, Rheumatoid arthritis glaucoma, paternal factors in infertility, abortions appeared in leading newspapers like TOI, HT and the Hindu and also on TV and Vigyan Prasar. Conducted interviews under APS AIIMS Rishikesh and under Public service commission in Agartala and HP. Participated as Chairperson/Expert for an onsite Technical Evaluation Committee on the project entitled “Centre for Advanced Research and Excellence in Kidney Diseases-Biomarkers & newer therapeutics” SGPGIMS. Participated in the current series of review workshops of MCQ Question Bank MBBS Exit level by NBE Participated in online Training on Managing Leadership & High Performing Teams by NPC; Chaired sessions in several conferences and delivered 5 keynote addresses and was guest of honour at Foundation day of Anatomy Dept AIIMS, Bibi Nagar Hyd and AIIMS, Raipur. Delivered key note address and was guest of honour at AIIMS Raipur at their national symposium on Reproductive health; Reviewer for over 30 journals and Member secretary and CPIO for Vishram Sadan and member core committee for institute day and AIIMS convocation; Teaching incharge for PGs in department; Part of a documentary film made by organizers of World Parliament of Religions which was released on the same day in October when Swami Vivekananda delivered the landmark talk at the Conference on World Parliament; PhD students received several awards at national and international conferences.

Professor Arundhati Sharma acted as a reviewer for a PhD thesis. She is one of the members of the skill India initiative of the government of India. She is the nodal person for the Departmental Annual report and website information.

Professor Renu Dhingra is currently a Member of the International Society of Plastination, Executive member of DASMOS, Member of the Academic Advisory panel for Virtual Teaching and Member of the Teaching Schedule committee at AIIMS, New Delhi. She served as the Faculty in-charge of Departmental Stores till January 21. She was invited as Chairperson/panelist for three different sessions in various national and international conferences (AVEACON 21: Contemporary and evolving

perspectives in Anatomy learning; AVEACON 21 Virtual vs Explicit: Opportunities and challenges held in July 21; Panelist for IWA 21: Evolving trends in Anatomy held in October 21) She also reviewed research articles submitted to several journals. She facilitated soft embalming and dye injections for cadaver preparation for intra and extramural projects. She facilitated the post graduate (MD) final examination as internal examiner in June 2021.

Professor TC Nag examined one PhD thesis (JNU) and one application for faculty promotion from Univ of Madras (Dept Anatomy) during this period. He was nominated member to the Research Advisory Committee, Cooch Behar Panchanan Barma University, Cooch Behar (WB), and appointed an editorial board member, Journal of Biochemical and Molecular Toxicology (Wiley) for three years. He reviewed manuscripts for J Cell Mol Med (3), Front Pharmacol (3), Arch Physiol Biochem (1), J Neurosci Res (1), Oxid Med Cell Long (3), Int J Immunopharmacol (2), J Drug Target (2), BioFactors (3), Pharmaceut Biol (5), Biomed Res Int (1), Biochem Cell Biol (1), Microsc Microanal (1), J Pharm Pharmacol (2), Microscopy Res Tech (1), J Blochem Mol Toxicol (42), J Invest Res (2).

Professor Ritu Sehgal currently holds the designation of the Central Public Information officer (CPIO) for the Anatomy Department to look after the work under the RTI Act, 2005. Faculty-in-charge for the Central Lab. 1006 & the proposed state-of-the-art Anatomy Museum; designated Departmental Faculty for B.Sc. MLT course; Member of the e-Learning Resource Material (eLRM) Expert Group for developing e-Learning resources and Competency Based Medical Education for MBBS students and Member of the Medical Writers Group at AIIMS, New Delhi that signed a contract in October 2021 for a proposed 'Textbook of Human Anatomy'. She contributed as Nodal officer of Anatomy Dept. and Member of the Exhibition Subcommittee for the 66th Institute Day held in September 2021; Member of the Advisory Committee & Election Commission Special Invitee for the AIIMS Students' Union Elections; Member of Anti-ragging squad and Departmental Counsellor for Student Mentorship Program, coordinating counselling and aiding MBBS students requiring help. She was invited by the National Board of Examinations and contributed as expert for paper-setting & onsite digital evaluation of the DNB/DNB final examinations (June/July 2021 & February 2022). She participated in faculty recruitment as subject expert for the selection interview conducted by Pt. B.D. Sharma University of Health Sciences (UHS), Rohtak in February 2022.

Dr Saroj K Jhajharia was awarded free registration of the IASP World Congress on Pain, 2021 supported from IASP Financial Aid Task Force. She acted as the external examiner for regular 1st Professional MBBS examination in Anatomy at VMMC & Safdarjung Hospital (GGSIP University) in March, 2021. She continues to be a member of the International Association for Study of Pain (IASP), Indian Academy of Neurosciences, Anatomical Society of India.

Dr Tony Jacob was actively involved in the Communications Training for COVID-19 at AIIMS, New Delhi as the Member Secretary of the committee. He also developed two videos for "Clinical management of mild to moderate COVID-19 disease in the wards" and "Basic Oxygen therapy for moderate COVID-19 disease in the wards". He was invited as a subject expert by Subgroup of Empowered Group 3 for Training and Capacity Building of Human Resources for COVID Preparedness, Ministry of Health and Family Welfare, Department of Personnel Training, Ministry of Labour and Employment, GoI. He was appointed as a member of the Academic Committee at THSTI by Jawaharlal Nehru University. He was appointed to the Scientific Advisory Committee for Centre for Advanced Research on Pre-eclampsia, ICMR. He was also invited as expert to the National Workshop on Neuroanatomy, Sudha Balakrishnan Centre for Brain Research, IIT Chennai. He continues to be on the Editorial Board of National Medical Journal of India, Journal of Chemical Neuroanatomy and Frontiers of Neuroscience. He is also adjunct faculty at the School for Neurosciences, Jiwaji University, Gwalior.

Dr Neerja Rani served as an adjunct faculty at Jiwaji University, Gwalior for teaching M.Sc. Neuroscience course. She has evaluated a PhD thesis and has been an external examiner and has set the question paper for regular and supplementary first professional MBBS examination in Anatomy at the UCMS- Delhi, PGIMS Rohtak and HIMSR Jamia Hamdard.

Dr Seema Singh Contributed for preparation of E-learning resource materials; Nodal officer for preparation of anatomy teaching schedules for MBBS and paramedical courses; Appointed as external examiner at Delhi University; Published and reviewed articles; Visiting faculty at Jiwaji University.

Dr Subash Chandra Yadav has examined three PhDs thesis [Institute of Advance Research, Gandhi Nagar (1), IIT Hyderabad (1), and IIT Roorkee (1)] and one MSR thesis from IIT Delhi. He has a guest editor of a special Issue of IJBB journal entitled "Electron Microscopy in Biomedical Sciences" published in August 2021. He has reviewed many journal papers. He was the general secretary of Scientific Training programs of SAIF AIIMS New Delhi.

Dr Prabhakar Singh reviewed a manuscript for Indian Journal of Biochemistry and Biophysics.

Dr Vidhu Dhawan She has participated as a volunteer in the teleconsultation services provided by the AIIMS Telemedicine during the management of the COVID-19 Pandemic through the CoNTeC-AIIMS Public Helpline. Dr. Vidhu has been appointed as a founding member of Special Interest Group (SIG)-Applied Genetics (Subgroup-Male Infertility and Epigenetics) of the Indian Fertility Society (IFS) created in the year 2020-21.

9.3 Biochemistry

Professor and Head

Subrata Sinha

Professors

SS Chauhan MR Rajeswari (Superannuated on 30 November 2021)
PP Chattopadhyay Kalpana Luthra
Alpana Sharma Kunzang Chosdol

Additional Professors

Sudip Sen Archana Singh-I

Associate Professors

Archana Singh-II Jayanth Kumar P Subhradip Karmakar
Ashok Sharma Pragyan Acharya Riyaz Ahmad Mir
Rakhee Yadav Pramod Kumar Gautam

Assistant Professor

Siddhartha Kundu

HIGHLIGHTS

- Fifty-two research projects are ongoing in the department funded by various national and international agencies such as DBT, DST, ICMR, DHR, DRDO, Indo-Austrian, Wellcome Trust, Ministry of AYUSH and Intramural AIIMS, amounting to **Rs 66 crores**; and **nine research projects (Rs 1.5 Crores)** were completed this year.
- **Sixty-five departmental projects** and **60 collaborative projects** are ongoing with different faculty of the various departments.
- **Seventy-nine research publications** and **eight abstracts** were published in indexed National and International Journals of repute.
- **Twenty-one Invited talks** were delivered by the faculty and **13 research papers** were presented by faculty/research students (oral/poster) at various national and international scientific forums.
- Faculty and students received various awards and prizes for oral presentations along with travel grant at various national and international conferences.
- Eleven MSc, 16 MD, 8 SR and 44 registered PhD students are working in the department.
- The practical for MBBS and coursework for MD and MSc students teaching curriculum was further expanded to add more advanced classes in various topics encompassing the current advances in research.
- A formal coursework and its assessment for PhD students is initiated in the department with various modules.
- Department is providing **clinical services** to the patients and performed different tests. The porphyria tests were performed on 123 samples received from different departments.

EDUCATION

Undergraduate

The department introduced some modifications in the UG teaching curriculum, aimed at enhancing both the skill development and keeping knowledge at par with the current developments in Biochemistry. Case discussions related to didactic lectures and demonstration practical on POCT devices for glucose monitoring and pregnancy testing were introduced to improve the theory-practical connect. Kit-based practicals were introduced for some of the routine biochemical analytes (uric acid and HDL cholesterol) for students to appreciate the differences between traditional and auto-analyzer-based methods in use. Techniques related to current applications in molecular biology such as restriction digestion and restriction site mapping were also added to the curriculum.

Postgraduate

These include 11 MSc and 16 MD students. The department also has 44 PhD students. There are two women scientists & three N-PDF working as post-doctoral students. The postgraduate teaching curriculum was further expanded to add more advanced classes in the Molecular Biology and Cancer Biology modules. The 'Clinical Case Discussion' has been modified to discuss complex case reports from various journals for the MD, MSc students and Senior Residents.

A formal coursework for PhD students is initiated in the department with various modules. It covered Advanced Laboratory Instrumentation, Cell biology and Culture techniques, Human and Animal ethics, Biostatistics, Research methodology, etc. Students were assessed and graded after completion of coursework.

The department is also giving formal training to pediatric genetics DM students in molecular biology.

Lectures delivered

Subrata Sinha: 5

Alpana Sharma: 3

Subhradip Karmakar: 1

Shyam S Chauhan: 2

Kunzang Chosdol: 1

Ashok Sharma: 6

Kalpana Luthra: 1

Jayanth Kumar: 1

Pramod Kumar Gautam: 1

Year	Total Number of Invited Talks by the faculty of Biochemistry
2019-20	34
2020-21	20
2021-22	21
Total	75

Oral papers/posters presented: 10

Year	Total Number of papers presented
2019-20	47
2020-21	13
2021-22	10
Total	70

RESEARCH

Funded projects

Ongoing

1. A pilot study evaluating role of Homoeopathic medicine in Cancer patients as adjuvant treatment to chemotherapy/radiotherapy, and correlating with Molecular Markers, Dr. Ashok Sharma, DBT, GOI, 2 years, 2022-2024, Rs 1 crore
2. Adaptive Immune Responses to Covaxin and Covishield: A comparative study, Dr Jayanth Kumar Palanichamy, AIIMS Intramural Research Grant, 2 years, 2021-2023, Rs 10 lakhs
3. Artificial intelligence in Oncology: Harnessing big data and advanced computing to provide personalized diagnosis and treatment for Cancer patients, Dr Ashok Sharma, MEITY, 2 years, 2020-2022, Rs 292 lakhs
4. Cellular and Immunomodulatory Functions of Dipeptidyl peptidase III in Esophageal Cancer, Dr. Shyam S. Chauhan, ICMR, India, 3 years, 2019-2022, Rs 35 lakhs
5. Cysteine Cathepsins in Acute Lymphoblastic Leukemia: Implication(s) in Prognosis and Therapeutics, Dr. Shyam S. Chauhan, ICMR, India, 1 year, 2020-2021, Rs 7.3 lakhs
6. DBT NCI-AIIMS Translational Cancer Research Centre for Five years (Phase-1), Dr. Ashok Sharma, DBT, GOI, 5 years, 2022-2027, Rs 40 crores (Phase1)
7. Deciphering the osteogenic effect of *Symphytum officinale* using human bone marrow derived mesenchymal stem cells and rodent model, Dr Sudip Sen, CCRH (Min. of AYUSH), 2 years, 2019 – 2021, Rs 45 lakhs
8. Deciphering the role of functional determinants of Dendritic cells and their immune cross talk with NK cells: Possible therapeutic target(s) in *Pemphigus vulgaris*, Dr. Alpana Sharma, ICMR, 3 years, 2018-2021, Rs 42.31 lakhs
9. Deciphering the synergism between IGF2BPs and m6A machinery in B-cell Acute Lymphoblastic Leukemia, Dr. Jayanth Kumar Palanichamy, SERB Core Research Grant (CRG), 3 years, 2022-2025, Rs 63 lakhs
10. Delineating the anti-cancer potential and the mechanism of action of Unani medicinal formulation Itrifal-e-aftimoon in Chronic Myelogenous Leukemia, Dr. Alpana Sharma, CCRUM, AYUSH, 3 years, 2019-2022, Rs 68.66 lakhs
11. Delineating the co-evolution of HIV-1 broadly neutralizing antibodies and circulating viruses in mono-zygotic twins pediatric elite-neutralizers, Dr. Kalpana Luthra, DST, 3 years, 2021-2024, Rs 47.4 lakhs
12. Development of diagnostics and experimental therapeutics using CRISPR based technologies, Dr. Subrata Sinha (Dr Kalpana Luthra as Co-PI), DBT, 3 years, 2020-2023, Rs 1.95 Crore (33 lakhs for Dr Kalpana Luthra's Part)
13. Development of diagnostics and experimental therapeutics using CRISPR-based technologies, Dr. Kunzang Chosdol, DBT (Multi-Institutional), 3 years, 2020-2023, Rs 289 lakhs (Total Budget)
14. Development of targeted drug delivery using liposomes/nanoparticles on cancer stem cell using herbal plant extract and hsp70- tumor antigen and to evaluate its anti-tumor function, Dr. Pramod Kumar Gautam, SERB, DST, 3 years, 2019-2022, Rs 49 lakhs

15. Editing of Atoh1 in cadaver derived supporting cells for the regeneration of auditory cells. Dr Riyaz Ahmad Mir, ICMR, 3 years, 2021-2024, Rs 70 lakhs
16. Effect of hypoxia on different neural cell types *in vitro* – a model to design therapeutic strategies against cerebral palsy in preterm infants, Dr. Sudip Sen, DBT, 3 years, 2018–2021, Rs 49 lakhs
17. Evaluation of a liposome-based cholesterol efflux assay against a macrophage-based efflux assay for measurement of reverse cholesterol transport capacity of HDL, Dr Archana Singh, ICMR, 2 years, 2021-2023, Rs 28 lakhs
18. Evaluation of Neutrophil Specific Gene Expression Signature Consisting of ELANE, MPO, CD177 and OLFM4 as Potential Biomarkers of 28-day Mortality in Acute-on-Chronic Liver Failure, Pragyan Acharya, AIIMS UG mentorship grant, 1 year, 2021-2022, Rs 2 lakhs
19. Evaluation of tumor-derived exosomes in blood during pre and post treatment of pancreatic cancer patients, Dr Pramod Kumar Gautam, Inter-disciplinary IRG, AIIMS, New Delhi, 2 years, 2021-2023, Rs 20 lakh
20. Exploring the link between the RNA binding protein IGF2BP3, lnc-RNA linc-ROR and their targets in migration and invasion of epithelial cancer cell lines, P Chattopadhyay, DST SERB, 3.5 years, 2018-2022, Rs 41.70 lakhs
21. Extracellular Matrix Remodelling in Obesity Induced Adipose Tissue Dysfunctions and Insulin Resistance, Dr Rakhee Yadav, ICMR, 3 years, 2019-2022, Rs 46 lakhs
22. Generation and characterization of HIV-1 subtype-C based trimeric immunogens from infected children, Dr. Kalpana Luthra, DBT, 3 years, 2019-2022, 1.60 crores
23. Genomic landscape of pediatric acute myeloid leukemia, Dr Riyaz Ahmad Mir, AIIMS Intramural Collaborative research project, 2 years, 2021-2023, Rs 10 lakhs
24. Identifying the role of Treg cells and MDSCs in endothelial dysfunction, Dr. Alpana Sharma, ICMR, 3 years, 2019-2022, Rs 45.31 lakhs
25. Immuno-epigenetics study of the humoral immune response in COVID-19 patients from India. (Multi-institutional Project with NII), Dr Ashok Sharma and Dr Nimesh Gupta, SERB-IRHPA, DST, GOI, 3 years, 2020-2023, Rs 80 lakhs
26. Insights into the molecular mechanisms of clinically relevant non-haem iron(II)- and 2-oxoglutarate-dependent dioxygenases and an assessment of their relevance to disease biology, Dr Siddhartha Kundu, AIIMS-IMRG, 2 years, 2020-2022, Rs 5 lakhs
27. Interactome Analysis of COVID-19 spike protein C terminus: identification of potential druggable target for virus entry, Dr Riyaz Ahmad Mir, AIIMS, 2 years, 2020-2022, Rs 8 lakhs
28. Interplay between Cancer Testis/ Germline POTE antigen and NOTCH Signaling and its association with Global DNA Methylation in Ovarian Cancer, Dr Ashok Sharma, ICMR- MOHFW, 3 years, 2019-2022, Rs 42.5 lakhs
29. Isolation and characterization of monoclonal antibodies from HIV-1 subtype C infected individuals, Dr. Kalpana Luthra, DBT, 3 years, 2017-2020, Rs 88 lakhs
30. JC Bose Fellowship: Rational strategies for tackling hypoxia induced adverse phenotype and therapeutic resistance in neoplasia using a glial tumour model. Dr Subrata Sinha, Department of Science and Technology, 5 years, 2017–2022, Rs 98 lakhs
31. Metabolic reprogramming in B-ALL: identification of gene networks correlating with prognosis and chemoresistance in vivo and a novel *ex-vivo* primary culture model. Dr Archana Singh, AIIMS Collaborative intramural, 2 years, 2021-2023, Rs 20 lakhs
32. NLRP3 Inflammasome gene polymorphisms and their expression in Periodontitis - a genetic study in North Indian population, Dr Alpana Sharma, AIIMS collaborative project, 2 years, 2021-2023, Rs 17.5 lakhs
33. Nuclear Architecture as an Epigenetic Regulator in Pericentromeric localized Cancer-Testis/Germline Antigen POTE Expression in Ovarian Cancer, Dr Ashok Sharma, AIIMS, 2 years, 2021-2023, Rs 10 lakhs
34. Nuclear hormone network in GBC, Dr Subhradip Karmakar, DHR, 3 years, 2021-2024, Rs 55 lakhs
35. Numerical approximation of reaction-specific disassociation constants from the convex cone of a generic metabolic network, Siddhartha Kundu, SERB-MATRICES, 3 years, 2022-2025, Rs 6 lakhs
36. Prevalence of Human Papilloma Virus (HPV) in Indian patients of Penile cancer, Dr. Alpana Sharma, DHR, 3 years, 2018-2021, Rs 25.0 lakhs
37. Program Support: CRISPR-mediated technologies for the development of new therapeutics and diagnostics, Project Coordinator: Dr Subrata Sinha, Department of Biotechnology, 2 years, 2020-2022, Rs 2.89 crores
38. R2TP complex as a target of E6 and E7 oncoproteins, Dr Riyaz Ahmad Mir, SERB (DST), 3 years, 2018-2022, Rs 28 lakhs
39. Repurposing of Classical Ayurvedic Formulations for Their Anti-Viral Effects on SARS Cov-2 Protease: A Pre-clinical *In Vitro* Screening Approach, Pragyan Acharya, AYUSH, 1.5 years, 2021-2023, Rs 37 lakhs
40. Role of FAT signalling in Oligodendroglioma: Identification of novel molecular targets and their clinical implications, Dr. Kunzang Chosdol, ICMR, 3 years, 2021-2024, Rs 38.67 lakhs
41. Role of IGF2BP1, an RNA binding protein in lymphomagenesis, Dr Jayanth Kumar Palanichamy, DBT-Welcome Trust India Alliance Early Career Fellowship for Clinicians and Public Health Researchers, 5 years, 2016-2021, Rs 187 lakhs
42. Role of PPAR gamma in placenta, Dr. Subhradip Karmakar, DBT, 3 years, 2022-2025, Rs 65 lakhs
43. Study of effect of Hyperglycemia on phenotypic and functional alteration in differentiated macrophages from THP1 cell line and monocytes from pulmonary tuberculosis patients, Dr Archana Singh, ICMR, 3 years, 2019-2022, Rs 30 lakhs

44. Study of humoral immune response and its genetic correlates in infection free “resisters” among household contacts of adult pulmonary tuberculosis, Archana Singh, SERB, 3 years, 2022-2025, Rs 39 lakh
45. Study of immune correlates in TST and IGRA negative household contacts compared to TST and IGRA positive household contacts of adult pulmonary tuberculosis patients, Archana Singh, IMRG, Two years, 2021-2023, Rs 10 lakhs
46. Study of the FAT1-PDCD4 signaling axis in Periapillary cancer, Dr Kunzang Chosdol, ICMR, 3 years, 2021-2024, Rs 49.80 lakh
47. The role of FAT1 regulated miRNAs in glioblastoma (GBM) aggressiveness: Identification of potential miRNA(s) as clinical marker(s) in GBM patients, Dr Kunzang Chosdol, SERB-DST, 3 years, 2019-2022, Rs 42.33 lakhs
48. To explore the potential of 3D Trophoblast organoids as an ex-vivo model to study altered feto-maternal crosstalk and trophoblast differentiation program in placental insufficiency (Preterm birth and Preeclampsia), Dr Subhradip Karmakar, ICMR, 3 years, 2021-2024, Rs 60 lakhs
49. Transcriptome analysis to define Novel Pathways in Adenoid cystic Carcinomas and to correlate with clinical outcome, Dr. Kunzang Chosdol, AIIMS (Collaborative Intramural), 2 years, 2021-2023, Rs 20 lakhs
50. Tumor Dynamics and Immune cell interactions in anaplastic thyroid carcinoma, Dr Riyaz Ahmad Mir, ICMR, 3 years, 2021-2024, Rs 30 lakhs
51. Understanding Inter Compartmental Crosstalk between Insulin-sensitive and insulin-resistant obese and non-obese phenotypes using Adipose Tissue, Dr Archana Singh, Department of Biotechnology, India, 3 years, 2021-2024, 19 lakhs
52. Unveiling the therapeutic potential of a Unani herbal formulation in hematological malignancy, Dr Alpana Sharma, AYUSH, 5 years, 2017-2022, Rs 62.12 lakhs

Year	Total Number of funded research Projects	Total funds
2019-20	50	23.00 crores
2020-21	49	29.39 crores
2021-22	52	65.66 crores
Total	74	118.05 crores

Completed

1. A study of immune pathways in the pathogenesis of chronic pancreatitis, Dr Kalpana Luthra, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
2. Deciphering neural plasticity of fetal neural stem cells on exposure to hypoxia, Dr Sudip Sen, AIIMS, 3 years, 2019-2021, Rs 10 lakhs
3. Deciphering the links between adipocyte size, cholesterol efflux and insulin resistance in visceral and subcutaneous adipocytes from an obese population group, Archana Singh, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
4. Extracellular Vesicular Signatures of Multiple Organ Dysfunction in Acute-on-Chronic Liver Failure- a Pilot Study, Pragyan Acharya, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
5. G-protein coupled receptors as drug targets in Non-alcoholic fatty liver disease (NAFLD): Evaluation in pre-clinical cellular models and primary hepatic stellate cells from rat models of NAFLD, Pragyan Acharya, AIIMS Inter departmental, 1 year, 2021-2022, Rs 8 lakhs
6. Role for RNA methyl transferase machinery in B-cell Acute Lymphoblastic Leukemia, Dr Jayanth Kumar Palanichamy, AIIMS-THSTI Collaborative Research Grant, 2 years, 2019-2021, Rs 20 lakhs
7. Role of CO Signaling on trophoblast invasion in humans, Subhradip Karmakar, ICMR, 3 years, 2018-2021, Rs 52 lakhs
8. Role of hyperglycemia on macrophage effector function in pathophysiology of pulmonary tuberculosis, Archana- Singh II, SERB DST, 3 years, 2018-2021, Rs 49 lakhs
9. Role of Macrophages in regulation of Bone and Blood forming stem and progenitor cell migration and development, Dr Pramod Kumar Gautam, DST, 5 years, 2017-2022, Rs 35 lakhs
10. Role of PAQosome/R2TP complex in the functional assembly of wild type and mutant p53, Dr Riyaz Ahmad Mir, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
11. Study of *Mycobacterium indicus pranii* and Human beta defensin-2 as adjunct and chemo-immunotherapy against *Mycobacterium tuberculosis* in vitro, Archana Singh, IMRG, 2 years, 2019-2021, Rs 10 lakhs
12. Study of Vascular Endothelial Growth Factor (VEGF) and its Isoforms in Obesity associated Adipose Tissue dysfunctions, Dr Rakhee Yadav, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
13. To emphasize the role of macrophage phenotype on mesenchymal stem cell in breast cancer, Dr Pramod Kumar Gautam, IMRG, AIIMS, New Delhi, 2 years, 2020-2022, Rs 10 lakhs

Departmental projects

Ongoing

1. A longitudinal study of the effect of early initiation of ART on the innate immune responses in HIV-1 infected children
2. A prospective study of changes in human gut microbiota (GM) and its association with Insulin sensitivity in obese individuals undergoing bariatric surgery

3. A study of immune responses in the pathophysiology of human chronic pancreatitis.
4. Analysis of few biomarkers in thyroid cancer
5. Assessment of Amphiregulin and CRISPLD1 as visceral adipose tissue derived modulators of cardiovascular health in obesity
6. Cellular and immunomodulatory functions of dipeptidyl peptidase III in esophageal cancer
7. Characterization of cooperativity between IGF2BP3 and METTL3 in stabilization of oncogenic transcripts
8. Characterization of innate immune responses in ACLF
9. Characterization of monocytes and macrophages in acute on chronic liver failure.
10. Comparative analysis between different stage cancer patients to discover novel blood-based biomarkers for detection of early stage breast cancer - A pilot study
11. Cysteine Cathepsins in Acute Lymphoblastic Leukemia: Implication(s) in Prognosis and Therapeutics
12. Detection of prostate cancer biomarker using sensitive and rapid lateral flow device with diagnostic and prognostic significance
13. Effect of bioconjugated chemotherapeutic molecules on stem cell, cancer stem cells and their associated microenvironment
14. Elucidating molecular changes in neurons and oligodendrocytes after exposure to hypoxia
15. Engineering of an HIV-1 native like trimeric envelope glycoprotein construct towards development of a clade C based Immunogen
16. Evaluating stage specific markers and cell signaling pathways associated with OL differentiation *in vitro*
17. Evaluating the role of *Symphytum officinale* in bone remodeling
18. Exploring a unified pathway for the anti-atherogenic effects of adiponectin, sphingosine 1-phosphate (S1P) and high density lipoprotein (HDL) on endothelial cells
19. Exploring the role of hypoxia in modulating ceramide metabolism and insulin sensitivity in adipocytes
20. Expression of mitochondrial VDAC and associated genes in pediatric B- Cell Acute Lymphoblastic Leukemia.
21. FAT1 and *p53* on chemo-sensitivity of Glioma
22. FAT1 protein: Its processing and cellular function in glioma cells
23. Functional Analysis of Human Long Non-Coding RNAs and their Association with Spatial Genome Organization in Breast Cancer
24. Functional Characterization, Expression, and Clinical Significance of Cancer-Testis/ Germline Antigen POTE in Ovarian Cancer
25. Functional interaction of FAT1 and miRNA in glioma
26. Functional interaction of FAT1, *p53* and *p300* in glioma cells
27. Functional link between FAT1 and YAP1 in glioma cells
28. Generation and characterization of lineage based envelope trimers from HIV-1C infected paediatrics neutralizers
29. Generation and characterization of paediatrics HIV-1 clade C envelope trimers towards immunogen design
30. Generation and characterization of pseudoviruses from children with perinatally acquired HIV-1 infection
31. Hypoxia and response to chemotherapy: A study in glial tumor cell lines
32. Identification of therapeutic combinations of small molecule modulators of TGF-beta and GPCR pathways in pre-clinical laboratory models of liver fibrosis.
33. Immunotherapeutic Potential of novel Prostate, Placenta, Ovary, Testis – Expressed Antigen in Ovarian Cancer.
34. Influence of different grades of hyperglycemia on innate immune response in pathophysiology of active tuberculosis
35. Investigating the role of RNA methylation and IGF2BP expression in B-cell Acute Lymphoblastic Leukemia
36. Investigation of the involvement of plasma membrane ATP binding cassette transporter A1 (ABCA1) in adipose tissue mediated insulin resistance.
37. Modulation of cytotoxic effect of Doxorubicin incorporated nanoparticles by co-incorporation with chlorpromazine
38. Molecular mechanisms underlying vulnerability of pre-myelinating oligodendrocytes to hypoxic injury
39. Role of 3D Genome Architecture as Epigenetic Regulator of Pericentromeric localized Cancer-Testis/Germline Antigen POTE in Cancer
40. Role of E7 in hijacking the function of the R2TP complex
41. Role of gamma delta T cells and scavenger receptors in vitiligo
42. Role of Human Heterogeneous Nuclear Ribonucleoprotein D (hnRNPD) in Oral Cancer
43. Role of hyperglycemia on macrophage effector function in pulmonary tuberculosis
44. Role of Macrophages phenotype in the regulation of mesenchymal stem cell migration and development in breast cancer
45. Role of memory T cells in renal cell carcinoma
46. Role of mesenchymal stem cells in survival of mycobacterium tuberculosis and reactivation of tuberculosis
47. Role of Negative Regulators of EGFR in Malignant Transformation of Oral Dysplasia
48. Role of PIH1D1 complex of R2TP complex regulating cell cycle
49. Role of PPAR alpha in trophoblast invasion
50. Role of Prothymosin- α in Glial Tumorigenesis
51. Role of TAMs in autophagy and related molecules in Bladder cancer
52. Role of TET2 in MDS

53. Role of various transcription factors in hair cell regeneration.
54. Study of B cell subsets and their immune regulatory functions in urothelial carcinoma of bladder
55. Study of immunophenotypes of monocyte subsets in TST and IGRA negative household contacts of adult pulmonary tuberculosis.
56. Study of innate lymphoid cells in the immunopathogenesis of *Pemphigus vulgaris*
57. Study of NK cells in the pathogenesis of Vitiligo
58. Study of the FAT1-PDCD4 signaling in periampullary cancer
59. Study of vascular endothelial growth factor (VEGF) and its isoforms in obesity associated adipose tissue dysfunctions
60. To elucidate the role of ECM-Adipocyte communication in obesity induced adipose tissue dysfunctions
61. To establish an ex-vivo model of Gaucher disease and correction using Lentiviral overexpression
62. To study *Bdellovibrio bacteriovorus* as a live antibiotic against *Mycobacterium tuberculosis* in vitro
63. To study the immunomodulatory effect of tumor derived exosomes on gamma delta cells
64. To study the role of hypoxia in promoting IGF2BP3-bound circular RNA biogenesis

Completed

1. A pilot study to analyze serum levels and intra-tumor expression of cancer-testis antigen POTEE as a new biomarker for ovarian cancer. Extramural Grant: DHR- ICMR-MOHFW
2. Analysis of cell-free nucleic acids in serum of patients with acute-on-chronic liver failure
3. Comparative TNF alpha Profiling in P Vivax Infected Severe and Mild Malaria Patients
4. Differential gene expression in pediatric acute lymphoblastic leukemia (ALL) in high and low mitochondrial DNA copy number groups
5. Effect of a pharmacological inhibitor of endocytosis on uptake and accumulation of PLGA nanoparticles
6. Estimate the Serum Levels of Cancer-Testis Antigen POTE as a Biomarker in Epithelial Ovarian Cancer
7. Exploring the intracellular signalling pathway of sphingosine 1-phosphate receptor 1 after activation by high density lipoprotein (HDL) & albumin bound sphingosine 1-phosphate.
8. Generation and characterization of HIV-1 C chimeric envelopes towards identification of neutralizing determinants for future immunogen design
9. Genome-Wide DNA Methylation & Genomic Instability Profiling and Evaluating its Potential as a Biomarker and Immunotherapeutic Target for Ovarian Cancer.
10. Molecular Signature of Glioma in the context of WHO 2016 classification of Glioma
11. Proteomics of Small Intestinal Biopsies in Celiac Disease
12. Regulation of FAT1 gene expression in gliomas
13. Regulation of PARP-1 Expression by hnRNPD in Oral Cancer.
14. Role of gamma delta T cells in pemphigus vulgaris
15. Role of hyperglycemia on macrophage effector function in pulmonary tuberculosis
16. Role of R2TP Complex in Diffuse Large B-Cell Lymphoma (DLBCL)
17. Signaling interactions between FAT1, p53 and HIF1a in glioma
18. Study of ECM remodeling in adipose tissue dysfunctions in obesity
19. Study of Gamma Delta ($\gamma\delta$) T cells and scavenger receptors in the immunopathogenesis of vitiligo
20. To study the gene expression in GBM cell lines under different degree of hypoxia and the role of p53 in HIF1 regulation under severe hypoxic condition
21. To study the role of B cells on macrophage polarization and their effector functions in immunopathogenesis of pulmonary tuberculosis

Collaborative projects

Ongoing

1. A randomised controlled trial to study the outcome of 'Routine episiotomy' versus 'No episiotomy' on perineal injury and pelvic floor dysfunction during normal vaginal delivery among primigravida women: A Pilot study, Obstetrics and Gynecology
2. A randomised double blind placebo controlled pilot study evaluating the effect of topical urea as pre-treatment for preventing hand foot skin reaction in cancer patients on sunitinib therapy, Pharmacology
3. A study on hydrogen sulphide mediated transcriptional modulation using trophoblast cells and their association in preeclampsia, Anatomy
4. Anemia Research Consortium as part of National Centre of Excellence and Advanced Research on Anemia (NCEAR-A), Centre for Community Medicine
5. Assessment of single versus subsequent microosteoperforation stimulated IL-1beta levels during orthodontic tooth movement- a pilot study, Dental Surgery
6. Biomarker discovery in Celiac Disease, Gastroenterology
7. CARE in Pancreatic Diseases, Gastroenterology and Human Nutrition
8. Comparative study of two surgical procedures in women with stress urinary incontinence, Obstetrics and Gynecology

9. Comprehensive Genomic approach to predict responders vs non responders against common anti-depressant therapy, Psychiatry
10. Cytotoxicity of intracanal medicaments used for root canal disinfection and their effect on proliferation and differentiation potentials of Stem Cells from Apical Papilla, CDER
11. Development of a novel cancer immunotherapeutic agent by integrating tumor antigen TRP-2 with *Mycobacterium indicus pranii* and analysis of its antitumor efficacy and immune-mechanisms using a mouse model, IRCH
12. Development of single-cell derived clonal spheroids as a tool for drug discovery in cancer research with focus on head and neck cancer, School of Life Science, JNU, New Delhi
13. Effect of vitamin D supplementation on seizure frequency in persons with drug resistant epilepsy and its correlation with biomarkers, Pharmacology
14. Efficacy of Energy Dense Nutritional Supplement as an adjunct to standard DOTS treatment in improving the treatment outcomes in TB patients, Pulmonary Medicine and CCM.
15. Epigenetic regulation of pro-inflammatory and anti-inflammatory cytokine gene in post-traumatic sepsis and septic shock-defined by sepsis-3 classification A exploratory study in major trauma patients. JPN Apex Trauma Center
16. Evaluation of effect of cyclosporine on inflammatory cytokine levels and dermatitis in patients of air-borne contact dermatitis due to plant parthenium, Dermatology
17. Evaluation of RANKL in GCF and rate of tooth movement during canine retraction assisted with low level laser therapy- a Randomised controlled trial, Dental Surgery
18. Expression of Reg-4 and MUC-4 in patients with carcinoma of pancreas, Gastroenterology
19. Gene expression, activation of signaling pathway and its correlation with clinical outcome among trauma hemorrhagic shock. JPN Apex Trauma
20. Generation and characterisation of therapeutic BCMA (B cell maturation antigen) specific antibodies in multiple myeloma (MM), Medical Oncology
21. Identification of factors predictive for weight loss after Bariatric Surgery: Building a Model for improving outcomes and maintaining weight loss, Surgical Disciplines
22. Identification of novel molecular subtypes of prostate cancer as potential therapeutic targets for immunotherapy, Pathology
23. Identification of Potential Molecular markers (PRL3 phosphatase, CAV2, LAMA4 and GRP78) in Renal Cell Carcinoma (RCC): Predicting tumour behavior, Urology
24. Immunoporosis: Establishing the role of Gut-Innate Cells in Osteoporosis, Biotechnology
25. miRNA as biomarker in chronic pancreatitis patients who are at high risk for developing pancreatic cancer, Gastroenterology
26. Molecular Analysis to explore resistance against receptor tyrosine kinase inhibitors in RCC, Urology
27. Molecular characterization of endometrial cancer and its correlation with clinicopathological features, Pathology
28. Molecular Characterisation of malignant lacrimal gland tumours, Dr RP Centre
29. Molecular characterisation of NFkB pathway in uveal melanoma, Dr RP Centre
30. Monoclonal Antibodies from Dengue Virus infected patients, Department of Biotechnology, School of Chemical & Life Sciences, Jamia Hamdard
31. Nutritional status of pregnant women as assessed by nutrient intake, anthropometry and selected serum biomarkers in an urban slum of Delhi - A community based prospective study, Centre for Community Medicine
32. Prospective non-randomized controlled trial to compare the efficacy of subcutaneous etanercept versus oral methotrexate in moderate to severe chronic plaque psoriasis and to correlate response with Th1, Th2, Th17 and Treg cell patterns, Dermatology and Venereology
33. Prospective Study to Evaluate the Trend of Serum Procalcitonin Levels in Surgical Neonates and Infants and its Correlation with Events during the Post-Operative Period, Paediatric Surgery
34. Role of cytokines IL17 and IL 22 in polytrauma patients with ventilator-associated pneumonia admitted in Trauma ICU, JPN Apex Trauma Center
35. Role of Epigenetics in Female Genital Tuberculosis, Obstetrics & Gynaecology
36. Role of miRNA mediated modulation of signal transduction in pancreatic cancer, Gastroenterology
37. Role of mitochondrial heterogeneity in the progression and prognosis of Acute Myeloid Leukemia (AML), IRCH
38. Role of Serum CA-125 Level in Diagnosis and Monitoring of Treatment Response in Pulmonary and Extra-pulmonary Tuberculosis, Medicine
39. Screening of a scFv library and selection of SARS-CoV-2 spike protein binding clones, Biotechnology
40. Serum visfatin and adiponectin levels in patients with carcinoma endometrium, Obstetrics and Gynecology
41. Study of osteogenic humoral factors on fracture healing in patients with head injury: decoding the mystery, Orthopedics
42. The detection of current and JI.resistent oral HPV injection using non-invasive method in Oral Potentially Malignant Disorders with their clinical and molecular characteristics, Centre for Dental Education & Research
43. To determine. the concentration of Betel nut alkaloids and Catechin in current and past betel nut users and their association with pro-oncogenic cytokines and oral potentially malignant disorders, Centre for Dental Education & Research
44. To develop a prophylactic vaccine against SARS-CoV-2 by incorporating its spike protein subunit-1 (S1) into *Mycobacterium indicus pranii* and evaluate it for inducing virus-specific antibodies and TH1 type of immunity using mouse model, IRCH
45. To evaluate the role of R2TP complex as a novel regulator of PI3K/Akt/Mtor and AR signalling pathway in prostate cancer, Pathology

46. To evaluate the role of tumor markers CA-242, CEA and CA 19-9 in diagnosis and prognostication of carcinoma gall bladder, GI Surgery
47. To investigate the role of Natural Killer cell in implantation failure and to study immune modulatory effects of Intra lipids in women with elevated uterine Natural Killer Cells in Fresh non-donor IVF cycles-A Randomised Control Trial, Obstetrics and Gynecology
48. To study the influence of CYP2C19 polymorphism on bortezomib blood concentration and clinical response in myeloma patients, Pharmacology
49. To study the pattern of FOXP3, OX40, PD1 and TIM-3 among renal allograft patients and its correlation with risk of kidney injury, Surgical Disciplines
50. To study the sequential changes in maternal CRH level during the course of pregnancy and correlate with outcome its role as an endocrine mediator of parturition, Obstetrics and Gynecology
51. Urinary novel microRNAs as a biomarker for prediction of acute kidney injury in sepsis, Anesthesia

Completed

1. A novel therapeutic approach of anti-B7H4 therapy in Urinary Bladder Cancer, Urology
2. A Prospective, multicentric, Randomized, Double Blind, Parallel, Phase III Clinical study to Assess efficacy of PMZ-1620 along with standard treatment in patients of Acute Ischemic Stroke, Neurology
3. Differential expression of molecular markers in urine with respect to genetic propensity to congenital uropathies, Pediatric Surgery
4. Effect of benidipine alone and in combination with bosentan and sildenafil in monocrotaline induced pulmonary hypertension in rats, Pharmacology
5. Estimation of novel Proteins among Older Subjects as biomarker for cognitive impairment, Geriatric Medicine
6. Evaluation of RANKL in GCF and rate of tooth movement during canine retraction assisted with low level laser therapy- a Randomized controlled trial. CDER
7. Evaluation of serum otolin-1 as a biomarker and significance of serum vitamin-d levels in benign paroxysmal positional vertigo patients, ENT
8. Impact of Yoga and Meditation on Epigenetic Profile in Rheumatoid Arthritis, Anatomy
9. Interleukin-1 β levels around Orthodontic Mini-Implants during Direct loading-A single-Centre, Split Mouth, Parallel group Prospective Randomized Controlled Trial., Orthodontics. Centre for Dental Education and Research
10. One carbon metabolism and cognitive impairment in older Indians, Geriatric Medicine
11. Profile of serum hepatotropic factors, serum ammonia levels and Quality of life in patients of EHPVO, Pediatric Surgery
12. Role of cancer testis antigen POTEE in preoperative diagnosis of epithelial ovarian tumors: a pilot study, Obstetrics & Gynaecology
13. Role of PARP1 and γ -Glutamylcysteine Synthetase Inhibitor in Cisplatin Sensitivity & Correlation with DNA Methylation in Ovarian Cancer, IRCH
14. Role of Vascular Endothelial Growth Factor in management of Recurrent Respiratory Papillomatosis, Otorhinolaryngology (ENT)
15. The prognostic role of circulating tumor cells (CTC) and CXCR1 expression in patients with metastatic clear cell RCC, Urology
16. The Role of Leukotriene A4 hydrolase gene Polymorphism and Clinical outcome correlate in Corticosteroids treated Tubercular Meningitis Patients, Neurology
17. To evaluate the effect of intralipid Supplementation on implantation rate in Women with two or more failed in vitro Fertilization with elevated natural killer Cell levels-a pilot randomized controlled Trial, Obstetrics & Gynaecology
18. To study the correlation between candida and proinflammatory cytokines and chemokines in Oral Leukoplakia with antifungal therapy, Centre for Dental Education & Research
19. To study the influence of Cyp2C19 polymorphism on bortezomid in blood conc& clinical response in multiple myeloma patients, Pharmacology

Year	Number of Departmental projects	Number of collaborative projects
2019-20	52	49
2020-21	47	57
2021-22	65	60
Total	164	166

PUBLICATIONS

Journals: 67

Abstracts: 8

Chapters in Book: 2

	Total number published		
Year	Research Papers	Abstracts	Chapters/Books
2019-20	52	8	1
2020-21	86	5	0
2021-22	67	8	2
Total	217	21	3

PATIENT CARE

1. Clinical Biochemistry Laboratory

2019-20	2020-21	2021-22
15,298	941	997

2. Porphyria test

This test was started from the year 2020 in our department

2019-20	2020-21	2021-22
-	78	123

The clinical biochemistry laboratory is now on the LIS and HIS of the Institute from the year 2022. There are 13 investigations on the CLIA system of the lab and rest 3 are the porphyria-based screening tests.

Quality control:

Apart from routine internal quality assurance scheme, Successful monthly participation in External quality assurance scheme (EQUAS) for last one year to deliver quality reports.

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Subrata Sinha received BK Bachhawat Memorial Life Time Achievement Award of Indian Academy of Neurosciences (IAN) for the year 2021, Oration to be delivered at the Annual Meeting of the IAN on 16-18 December 2021. 'Learning disability, families and molecules: A journey through dyslexia'; received JC Bose fellowship – 2017-22, Fellow of the Indian National Science Academy, Vice President 2020-2022, Fellow of the Indian Academy of Sciences, Indian Academy of Neurosciences, Fellow of the National Academy of Medical Sciences, Fellow of National Academy of Sciences, Member, Guha Research Conference. He was the member of Institute Body, Governing Body, Standing Selection Committee; JIPMER, Puducherry (2019-2021) and AIIMS Patna (2020 – 2022) – also Chairman Standing Selection Committee, Governing Body: IACS Kolkata (2020 onwards), SAC of National Institute of Pathology, ICMR (2008 onwards, Chairman since 2017), Scientific Advisory Committee (SAC) of the Rajiv Gandhi Centre of Biotechnology (2008 onwards) Committees of Scientific Ministries and Departments. He was the Chair, Cognitive Science Research Initiative of DST (2014 onwards), Chair, Science and Technology of Yoga and Meditation (2018 – 21); Chair Scientific Advisory Group, Basic Medical Sciences (2021 onwards); Chair PRC for Biochemistry, Allergy and Immunology, ICMR (2014 onwards), Chair, GTEAC Gene Therapy Evaluation and Advisory Committee (2020 onwards), PRC Clinical Omics (2021 onwards), PRC, Cell and Molecular Biology, ICMR (2005 onwards), Member, PRC, Translational Neuroscience expert group, ICMR (2017 onwards), Member, National Apex Committee, Stem Cell Research and Therapy, ICMR; Chair, PRC for Medical Sciences (2020 onwards); Member of the policy making group for the National Biotechnology Policy constituted by the DBT, Chair, selection committee for BRITE Awards, DBT.

Professor SS Chauhan National Coordinator for Biochemistry, National Board of Examinations, New Delhi. He is also Chairman of AIIMS Biosafety Committee, AIIMS Animal Ethics Committee and B.B. Dixit Library committee. He also Member of Research Advisory committee AIIMS, Jodhpur. He served as subject expert for selection of and ICMR post-doctoral Fellowship. He continues to be the member of Biotechnology Teaching Advisory Committee, AIIMS, Bio-Safety committee, V.P. Chest Institute, University of Delhi, and DBT-nominee for Bio-safety committee of Institute of Genomics and Integrative Biology, Mall Road, Delhi as well as member, Board of Studies of Aligarh Muslim University, Aligarh and Central University of Haryana, Mahendergarh. Prof. Chauhan is on the Editorial Board of Research and Reports in Biochemistry and Indian Journal of Clinical Biochemistry as well as reviewer for various national and international scientific journals. He is life member of Society of Biological Chemists (India), Association of Clinical Biochemists of India, Indian Association for Cancer Research and Indian Academy of Biomedical Sciences.

Professor Kalpana Luthra, Nitesh Mishra (PhD student) received prestigious INSA medal for young scientist 2021, Member of Scientific Advisory Group for Inter-Ministerial steering committee for SARS-CoV-2 genomics consortium (INSACOG), Chairperson for Institutional Ethics Committee at University School of Biotechnology Guru Gobind Singh Indraprastha University w.e.f 23 December 2020; Member of the THSTI-JNU Academic Committee; Member of PRC to review BMS ad-hoc proposals & projects and member of PRC for projects under Immunology submitted to ICMR; Member of core committee for SET facility, February 2022; Chairperson for the sub-committee for E-Learning facility at AIIMS; Nominated as an expert for Faculty Selection at AIIMS, Vijaypur, Jammu, November 2021; Member of Project Review Committee (Basic Science) to review the Early Career intramural research projects for the year 2021-2022; Chair Person for the AIIMS Cultural Programme Committee; Faculty coordinator of General Facility, CCRF; AIIMS Store purchase committee member for items having estimated cost between Rs 10 lakhs and up to 1 crore; Member of BSL-2/3 Lab and Flow Cytometry committee of CCRF; Member of Animal Ethics Committee and Experimental Animal Welfare Committee at AIIMS; Member of TEC for HRD scheme for health research (DHR); Member of project review committee (Basic Science) to review early career intramural project; Executive Committee Member of the Indian Immunology Society; Reviewer of manuscript submitted to Msphere, Cell Reports, Nature Communications; Member of the review committee to review projects submitted under DBT COVID-19 ARP Therapeutics/ Vaccines/ Repurposing; Member of SCAG committee for Covid-19 consortium & evaluates proposal under Vaccine Therapeutic Diagnostics; Member of a COVID-19 Project Review Committee (CPRC) to review various Covid-19 related projects at THSTI; Member of the Advisory and monitoring committee, ICMR, for IP consortium under translational Immunological Approach to COVID 19; Member of Research Programming Sub-Committee in the Master plan of AIIMS, New Delhi under the chairman ship of Dr. Randeep Guleria, Director AIIMS; Chair Person for the cultural program “Vasantotsav” on the occasion of *Aazadi ka Amritmohtsav* on 7 March 2022; Coordinated PhD assessment interviews for January 2022 session in biochemistry department, AIIMS, New Delhi; Member of the departmental promotion committee at AIIMS, January 2022.

Professor Alpana Sharma is Expert Selection Committee for faculty posts at Kashmir University, Kashmir, KGMU, Lucknow, AIIMS Bhubaneswar; Nodal Officer for Annual report of Biochemistry Department; Member Annual report Committee of AIIMS; Member Teaching Schedule Committee for UG at AIIMS; External examiner for PhD thesis and viva conduction at PGIMER, Chandigarh; DNB question paper setting and exam assessor; Reviewed Ad-hoc research proposals of UPCST and AYUSH submitted for financial grant; Reviewed research articles from various journals; Dr Nidhi Gupta, Senior Demonstrator received Travel grant from JSMO, Japan for her PhD Research work; Active member of American Association for Cancer Research, USA and International Gynecological Cancer Society, USA; Editorial board member for the journal Molecular and Cellular Biochemistry (Springer).

Professor Kunzang Chosdol received Dr B Sadasivudu Oration Award by the Association of Medical Biochemists of India (AMBI); Nominated ‘Woman Achiever and Contributor of Ladakh in Science and Academics-2021’ by the “Ladakh Regional Centre, G.B. Pant National Institute of Himalayan Environment (NIHE)” an autonomous Institute of Ministry of Environment, Forest & Climate Change, Govt of India

Dr Sudip Sen filed Provisional Patent No. 202211003978 (2022). Inventors: Dr Janvie Manhas, Dr Sudip Sen, Dr Jayanth Kumar Palanichamy, Dr Archana Singh. Filed through ICMR. Compositions for metabolic reprogramming of cells by modulating the expression of Tumor Suppressor Candidate 1 (TUSC1).

Dr Archana Singh was selected as member of the WHO SEARO institutional networks for review of the existing MBBS teaching curriculum as subject expert (2022); Provisional Patent No. 202211003978 (2022) filed. Inventors: Dr Janvie Manhas, Dr Sudip Sen, Dr Jayanth Kumar Palanichamy, Dr Archana Singh. Filed through ICMR, Compositions for metabolic reprogramming of cells by modulating the expression of Tumor Suppressor Candidate 1 (TUSC1).

Dr Jayanth Kumar was selected as member of the National Consortium for Research and Development on therapeutics for Rare Diseases; ICMR, Basic Research Expert Group (2022); Good Clinical Practice Certified by CDSA (Clinical Development Services Agency), THSTI, DBT (2022); Provisional Patent No. 202211003978 (2022) filed; Inventors: Dr Janvie Manhas, Dr Sudip Sen, Dr Jayanth Kumar Palanichamy, Dr Archana Singh. Filed through ICMR, Compositions for metabolic reprogramming of cells by modulating the expression of Tumor Suppressor Candidate 1 (TUSC1).

Dr Ashok Sharma was Expert member of the Facility Monitoring Committee of the Sophisticated Analytical Instrument Facility (SAIF) of Shivaji University, Kolhapur, Maharashtra by the Department of Science and Technology, Govt. of India, New Delhi; Expert member of the project review committee of “Innovative Translational Research (ITR) division” -ICMR, India; Expert member of the project review committee of DST-SERB, GOI; Expert member of the project review committee of DBT, GOI; Member of the Editorial Board of Frontiers in Oncology; Member of the Editorial Board of Cancer science and Cell Biology; Member of the Editorial Board of International Journal of Integrative Sciences, Innovation and Technology (IJIIT); Guest Editor for Special Issue on Immunoepigenetics: A Future Sentinel for Tumor Directed Therapies, Journal of Oncology, Hindawi; **Reviewer for:** PLOS ONE, PLOS Genetics, PLOS Biology, BMC Cancer, Scientific Report, Frontiers in Neurology; Carcinogenesis- Oxford Journals; Laboratory Investigation– Nature; Molecular Biotechnology, Molecular, and Cellular Biochemistry- Springer; Molecular Report.

Dr Pragyan Acharya received Indian National Association of the Study of the Liver (INASL) 2021: Plenary session award for the best original research in liver diseases (1st prize) Competitive award for the best original research from India in the area of liver diseases in 2020-2021; Awarded for unravelling the expansion of a neutrophil sub-population in inflammatory liver disease Acute-on-chronic liver failure (ACLF); IIT-Jodhpur Invited Guest Lecturer (2022) Taught an 18-lecture module on proteomics and metabolomics to post graduate students of the Department of Bioengineering and Biosciences.

Dr Pramod Kumar Gautam was actively involved in departmental purchase, preparation of specification, participating in SPC meetings, and worked as assistant store in charge in the department; Worked as a Ph.D. Coursework in charge, and trying to run a Ph.D. coursework for a newly registered PhD Students; Involved in the (Central instrument facility, Department of Biochemistry) training program for newly joined MSc PhD and MD students of the department; Involved as a member of the selection committee for Scientist, JRF, SRF, and project staff.

9.4. Biomedical Engineering

Professor and Head

Naresh Bhatnagar

Associate Professors

Neetu Singh Amit Mehndiratta Sandeep Jha
Dinesh Kalyanasundaram Anup Singh

Assistant Professors

Deepak Joshi Jayanta Bhattacharyya Arnab Chanda
Biswarup Mukherjee Sachin Kumar B Deepak Agrawal

Inspire Faculty

Parvaiz Ahmad Shiekh

Emeritus Professor

Veena Koul Harpal Singh

Honorary Professor

SK Guha

The Department of Biomedical Engineering (also known as CBME, Centre for Biomedical Engineering at IIT Delhi) now has the strength of 16 faculties (twelve permanent faculties, one Inspire faculty, two emeritus professors, and one honorary professor).

HIGHLIGHTS

The department of biomedical engineering was established in 1971 as a joint venture of AIIMS, New Delhi and Indian Institute of Technology Delhi. The department has applied engineering principles to address medical and biological problems. The department has collaborative projects with major institutes and hospitals in India. The department has its vision of dissemination of knowledge and development of techniques, tools and methods for diagnosis, follow-up of treatment responses, drug delivery and help in disease treatment. The faculty of the department are dedicated towards research in the following priority areas:

- Biomaterials
- Bioinstrumentation
- Biomechanics
- Medical Imaging
- Medical Implants

In the past year, the following highlights and recognitions are to be mentioned:

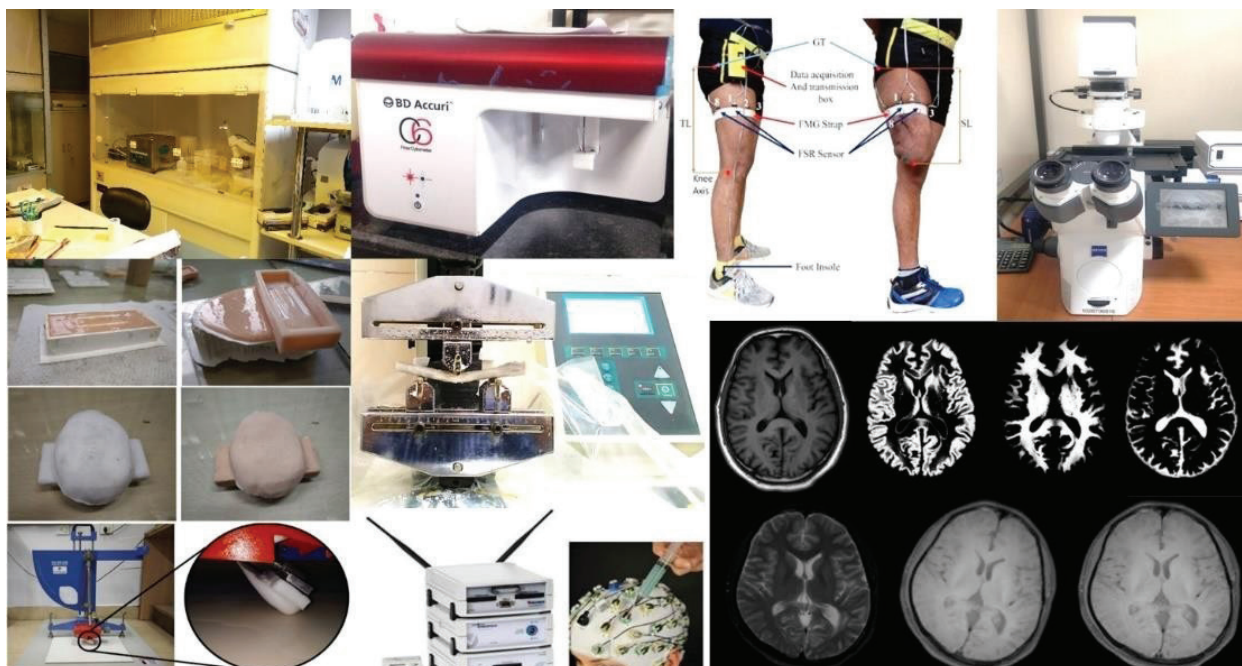
1. Professor Dinesh Kalyanasundaram was awarded 70 Cr. For establishment of mPRAGATI, a One Stop MedTech Technology Development Facility at IIT Delhi Under ICMR-Medical Device and Diagnostics Mission Secretariat.
2. Award for establishment of a new Center of Excellence (COE), Center for Advanced Research and Excellence in Disability and Assistive Technology (CARE-DAT), by ICMR in April 2021.
3. Covid test for Rs 50 launched by Centre for Biomedical Engineering, IIT Delhi.
4. Professor Neetu Singh, Centre for Biomedical Engineering, IIT Delhi, wins Janaki Ammal-National Women Bioscientist Award.
5. Ms Anne Tryphosa Kamatham was awarded IEEEIMS Graduate Fellowship Award 2022
6. Professor Arnab Chanda selected as Co-Guest Editor for a special issue in MDPI Coatings (IF:3.23).

EDUCATION

Apart from research, the department is engaged in teaching where PG, UG and Pre-PhD courses relevant to biomedical engineering are offered at IIT Delhi. 55 PhD students and 6 MTech are currently being supervised by the department's faculty. Four PhD students and 9 MTech students graduated in the past year.

PhD Program in Biomedical Engineering at IIT Delhi

Admission to the Ph.D. programme is normally made on the basis of an interview of eligible candidates conducted by the Centre for Biomedical Engineering (CBME), through its Centre Research Committee (CRC). The CRC may decide to conduct a written test as well, or multiple interviews, or other ways of testing, in order to screen the best suitable candidates. Applications are invited from candidates by advertising in IIT-Delhi web portals in March for the first semester and in October for the second semester every year. This year four PhD students were awarded the degree and 55 PhD are registered and working for PhD degree.



MTech Program in Biomedical Engineering at IIT Delhi



Highest Package @ 51 Lacs
***Average Package of 2020-22 @ 11.5 Lacs**



RESEARCH

Patents filed: 1

1. **Chanda, A** “Human Heel Surrogate for Barefoot Slip Risk Assessment”, 2021, Indian Patent App. No. 202111021497

Funded Projects

Ongoing

1. Artificial skin (Bio-inspired bi-layer polymeric hybrid Scaffold) for burn injuries and trauma care, Veena Koul, Rs 220 lakhs, IMPRINT India, MHRD&MOH
2. Centre for Advanced Research and Excellence in Disability and Assistive Technology (CARE-DAT), Amit Mehndiratta and MV Padma Srivastava (Neurology), Rs 500 lakhs, ICMR
3. Development of methodology for quantitative multiparametric MRI and evaluating its potential along with Machine Learning in classification of brain tumor and treatment followup, Anup Singh, Amit Mehndiratta, Sumeet Agarwal, RK Gupta, Jitendra Saini, Sunita Ahlawat, Rana Patir, Rs 30 lakhs, SERB, DST
4. Engineering inexpensive, Sachin Kumar B, Rs 30.78 lakhs, SERB, nanostructured, biomaterials for wound, healing application.
5. Griha Mitra: Development of a smart, integrated, multi-parameter, at-home health monitoring, Biswarup Mukherjee (PI), Sachin Kumar B.(Co-PI), Rs 49.56 lakhs, Sperandus Health care Pvt Ltd
6. MUC1 pulsed DC-derived exosomes for cancer immunotherapy, Jayanta Bhattacharyya, Rs 63 lakhs, DBT
7. Oncologic Response Evaluation in Lymphoma using Multi-Parametric MR Imaging, Amit Mehndiratta, Rs 22.36 lakhs, SERB and Artificial Intelligence
8. Oxygen Releasing Bioenergetic Injectable, Sachin Kumar B(PI), Rs 141.15 lakhs, ICMR (Approved), gel for Cartilage Regeneration, Dinesh Kalyanasundaram, (CO-PI), Vijay Sharma (AIIMS), (CO-PI)
9. Portable Slip and Fall Prevention Device, Arnab Chanda, Rs 50 lakhs, FIRE
10. Re-engineering High End Audiometric Devices for Robust and Affordable audiological testing sound4All –phase 2, Dinesh Kalyanasundaram, Kapil Sikka, Amit Chirom, Thomas Rosner (German side-PI), Rs 55 lakhs, Indo-German Science and Technology Center
11. SonoNeuro: A multimodal, Biswarup Mukherjee (PI), Rs 47.56 lakhs, SERB, electromyography-Sonography based technique for biomechatronic control

PUBLICATIONS

Journals: 83

Abstracts: 2

Last 3 Years Data

Year	2021-22	2020-2021	2019-2020
Number of oral presentations	42	37	28
Number of funded projects	17	11	7
Amount of extramural/intramural funding	64.3 Cr.	7.1 Cr	4.3 Cr
Number of publications	85	71	62
Number of Journal articles	83	71	62
Number of Abstracts	2	37	28
Numbers of chapters in book	0	2	0
Numbers of books/Monograph	0	0	0

ACADEMIC OUTREACH AND OTHER ACTIVITIES

1. mPRAGATI, a One Stop Med Tech Technology Development Facility at IIT Delhi Under ICMR-Medical Device and Diagnostics Mission Secretariat, Unveiled



The Indian Council of Medical Research (ICMR) and the Department of Health Research (DHR) formally unveiled Medtech Product Ignition and Acceleration Gateway of India (mPRAGATI), a National Center for medical technology development under the ICMR-Medical Device and Diagnostics Mission Secretariat at IIT Delhi, on 24 June 2022.

mPRAGATI at IIT Delhi, which is sponsored by the ICMR and the DHR under PM-Ayushman Bharat Health Infrastructure Mission (PM-ABHIM), will serve as an ISO certified, C-GMP compliant medical device manufacturing and testing facility to translate medical products from TRL 3 (proof-of-concept) to TRL 7 (ready for clinical evaluation). The facility is currently developing technologies for disease diagnosis, implantable devices for orthopedic, ocular and cardiac needs. In addition to its formal activities, the facility will also conduct periodic boot camps, manpower training sessions for students, faculty and start-ups to foster the medical device development ecosystem. The facility will bring technical consultants to fine tune designs and products to keep them at par with industry standard.

This new initiative will bring about a major change in the biomedical ecosystem and help researchers, doctors, entrepreneurs, and academicians across India to effectively take their idea to market. Moreover, it will create a pipeline of advanced technologies and products in line with PM-ABHIM initiatives and will be monitored by the NITI Aayog. mPRAGATI is led by Prof. Dinesh Kalyanasundaram and Professor Ravikrishnan Elangovan from IIT Delhi. (https://home.iitd.ac.in/show.php?id=206&in_sections=News)

2. **Professor Arnab Chanda** completed a successful 5 months certificate CEP program on New Product Development and Management, in collaboration with DMS, IIT Delhi and trained 114 students on development and deployment of healthcare and IT based products (https://iitd.eruditus.com/certificate-programme-in-new-product-development-and-management/index.php?utm_source=Web).

THIS STORY IS FROM JANUARY 05, 2022

How IIT Delhi's New Product Development and Management programme will help transform your career

SPOTLIGHT | Jan 5, 2022, 16:59 IST



For businesses to scale and deliver top-tier user experiences, they must deliver high-impact products that achieve desired outcomes and delight customers. But developing, launching and refining products that can strategically grow a business is

9.5 Biophysics

SERB Distinguished Professor

TP Singh

Professor and Head

Punit Kaur

Professors

Savita Yadav Sujata Sharma

Additional Professors

G Hariprasad Rao Ethayathulla AS Sharmistha Dey

Associate Professors

Krishna Kumar Inampudi Jyotirmoy Banerjee Saroj Kumar

Assistant Professor

Pradeep Sharma

Scientists

S Baskar Singh Asha Bhushan
Manoj Kumar Uddipan Das

HIGHLIGHTS

During the period under report, the Department of Biophysics had over 46 ongoing research projects funded by extramural grants. Research in the Department of Biophysics is concerned with determining the molecular basis of biological process, rational structure based drug design and discovering new specific biomarkers. The department provides facilities for data collection on protein crystals, medical bioinformatics, protein sequencing, biomolecular interactions and peptide synthesis, proteomics and dynamic light scattering. In the past one year, faculty and scientists had 54 research publications in various peer reviewed journals. The Department continued providing postgraduate education and short and long term training to MSc, PhD and MD students.

EDUCATION

Postgraduate

The faculty and scientists of the Department of Biophysics continued with teaching and guiding students for PhD degree, MSc (Biophysics) and MD (Biophysics). The postgraduate teaching includes theory classes, hands-on practical classes and a dissertation project.

Short and Long term Training

The Department also imparted long- and short-term training to MSc and MTech students from different institutes and universities.

Lectures delivered

TP Singh: 17

Sujata Sharma: 8

Ethayathulla AS: 1

Punit Kaur: 5

Jyotirmoy Banerjee: 2

Sharmistha Dey: 3

Savita Yadav: 3

Manoj Kumar: 1

Oral papers and poster presented: 22

RESEARCH

Funded projects

Ongoing

1. A case control study to develop “Exosomes based Molecular Signature” of Parkinson Disease, Dr. Saroj Kumar, ICMR, 3 years, 2022-2025, Rs 85 lakhs
2. AMR-Diag: A Novel Diagnostic Tool for Sequence Based Prediction of Antimicrobial Resistance, Punit Kaur, ICMR (Indo-Norway), 3.5Years, 2019-2021, Rs 226 lakhs

3. AMR-Diag: A Novel Diagnostic Tool for Sequence Based Prediction of Antimicrobial Resistance, Dr. Punit Kaur, ICMR (Indo-Norway), 3.5 years, 2019-2021, Rs 226 lakhs
4. Atherosclerotic Cardiovascular disease: unravelling the early biomarkers from biofluid exosomes by iTRAQ based quantitative proteomics, Krishna K Inampudi, DHR, 3 years, 2019-2022, Rs 38 lakhs
5. Characterization and sequencing analysis of exosomes miRNA from biofluids of Coronary Artery Disease, Krishna K Inampudi, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
6. Characterization of potential therapeutic agents targeting crucial enzymes of novel coronavirus 2 (SARS-CoV2) for COVID-19, Dr Manoj Kumar, AIIMS, 2 year, 2020-2022, Rs 10 lakhs
7. Characterization of silk fibroin film prepared from oak tasar (*Antheraea proylei*) cocoon for potential biomaterial applications, Punit Kaur, Department of Biotechnology-NER, 4 Years, 2018-2022, Rs 29.67 lakhs
8. Cross-talk between exosomes and autophagy in Alzheimer's disease, Dr. Saroj Kumar, DHR, 3 years, 2021-2024, Rs 50 lakhs
9. Deciphering the role of Fibroblast growth factor 8(FGF 8) in the progression of ovarian cancer, Savita Yadav, SERB-POWER Fellowship, 3 years, 2021-2024, Rs 30 lakhs
10. Design and development of novel imaging agents for the earlier diagnosis of Alzheimer's disease, Dr. Saroj Kumar ICMR, 3 years, 2019-2022, Rs 37 lakhs
11. Development of a non-invasive novel method for early detection of cognitive impairment, Dr. Saroj Kumar, ICMR, 3 years, 2021-2024, Rs 47 lakhs
12. Development of exosome-based drug delivery system for naturally inspired novel multifunctional neuroprotective molecules and their biological evaluation in Alzheimer's disease models, Dr. Saroj Kumar, ICMR, 3 years, 2022-2025, Rs 56 lakhs
13. Development of novel and efficient carbohydrate enzymes for bioenergy and biovalued products, Punit Kaur, Department of Biotechnology -NER, 3.5 years, 2018-2022, Rs 23.99 lakhs
14. Development of potent inhibitors against drug-resistant EGFR kinase for the treatment of EGFR positive tumors, Krishna K Inampudi, DST-Extramural Grant, 3 years, 2020-2023, Rs 40 lakhs
15. Development of potent inhibitors for NSP RNA polymerase and PLprotease from novel corona virus for the treatment of COVID-19, Dr. Krishna K Inampudi, AIIMS-Intramural Grant, 2 years, 2020-2022, Rs 9 lakhs
16. Drug repurposing against SARS-CoV-2 main protease: Structural and functional studies., Dr. Pradeep Sharma, AIIMS, 2 years, 2020-2022, Rs 8 lakhs
17. Effect of Non – Ionizing Electromagnetic field (EMF) on human health, Savita Yadav, ICMR, 5 years, 2017-2022, Rs 61 lakhs
18. Effect of plasma jet on tumor tissues resected from patients with tumor linked refractory epilepsy, Dr. Jyotirmoy Banerjee, DAE, 4 years, 2018-2022, Rs 33.2314 lakhs
19. Elucidating region-specific alterations of glutamatergic excitatory neurotransmission in a rodent pilocarpine model of temporal lobe epilepsy, Dr. Jyotirmoy Banerjee, DBT, 4 years, 2018-2022, Rs 61 lakhs.
20. Exploring male factors in recurrent pregnancy losses: A genomics and proteomics based approach, Savita Yadav, ICMR, 3 years, 2019-2022, Rs 49 lakhs
21. Functional characterization of human multimerin 1 (in- vitro and in –vivo) and identification of its inhibitors as potential therapeutic target/s in ovarian cancer, Dr. Savita Yadav, SERB, 3 years, 2021-2024, Rs 54 lakhs
22. Harmonized Diagnostic assessment of dementia (DAD) for longitudinal aging study of India (LASI), Dr. Sharmistha Dey, National Institute of Health (NIH), 5 years, 2019-2023, Rs 200 lakhs
23. Harmonized Diagnostic Assessment of Dementia (DAD) for Longitudinal Aging Surveys in India (LASI)-, Dr. Sharmistha Dey, National Institute of Health (NIH), 5 years, 2021-2026, Rs 300 lakhs
24. In silico screening of potential antiviral drug from FDA approved drugs and Selenium based compounds against SARS-CoV-2 main protease., Dr. Ethayathulla, AIIMS-COVID, 2 years, 2020-2023, Rs 4.8 lakhs
25. *In silico* structural and functional characterization of mycobacterium tuberculosis elongation factors, Prof. Sujata Sharma, ICMR, 3 years, 2020-2023, Rs 24 lakhs
26. In silico structural and functional characterization of mycobacterium tuberculosis elongation factors, Prof. Sujata Sharma, ICMR, 3 years, 2020-2023, Rs 24 lakhs
27. Investigating the role of metabolites and neurotransmitters in abnormal synaptic transmission associated with mesial temporal lobe epilepsy (MTLE) and focal cortical dysplasia (FCD): Possible biomarkers for localization of epileptogenic foci, Jyotirmoy Banerjee, DBT, 4 years, 2018-2022, Rs 168.208 lakhs
28. Mechanistic understanding of Parkinson's disease and developing an early screening method, Dr. Saroj Kumar, DHR, 3 years, 2021-2024, Rs 34 lakhs
29. Proteomic analysis of p53Y220C mutant with potential ligand curcumin and its analogs in Non-Small-Cell Lung/adenocarcinoma, Dr. Ethayathulla, AIIMS, 2 years, 2020-2023, Rs 9.8 lakhs
30. Rational Structure-based ligand design for developing the novel antibacterial agents against the enzymes of CoA synthetic pathway in drug resistant bacteria, *Acinetobacter baumannii*, Prof. Sujata Sharma, ICMR, 3 years, 2020-2023, Rs 50 lakhs
31. Rational structure-based ligand design for developing the novel antibacterial agents against proteins involved in the histidine biosynthesis pathway in *Acinetobacter baumannii*, Dr Pradeep Sharma, ICMR, 3 years, 2020-2023, Rs 29.4 lakhs

32. Rational Structure-based ligand design for developing the novel antibacterial agents against the enzymes of CoA synthetic pathway in drug resistant bacteria, *Acinetobacter baumannii*, Prof. Sujata Sharma, ICMR, 3 years, 2020-2023, Rs 50 lakhs
33. Regulation of GABA_A receptor expression and function by microRNAs in patients with focal cortical dysplasia (FCD), Dr. Jyotirmoy Banerjee, AIIMS, Intramural, 2 years, 2020-2022, Rs 10 lakhs
34. Screening of therapeutic p53 activator molecules to restore the function of p53 oligomerization domain mutants in breast cancer, Dr. Ethayathulla, DHR, 2 years, 2020-2023, Rs 31.70 lakhs
35. Structural and Biochemical characterization of glyceraldehyde-3-phosphate dehydrogenase (GAPDH) from *A. baumannii* and design of inhibitors, Prof. Sujata Sharma, ICMR, 3 years, 2019-2022, Rs 25 lakhs
36. Structural and Biochemical characterization of glyceraldehyde-3-phosphate dehydrogenase (GAPDH) from *A. baumannii* and design of inhibitors, Prof. Sujata Sharma, ICMR, 3 years, 2019-2022, Rs 25 lakhs
37. Structural and functional studies of Mycobacterium tuberculosis peptidyl-tRNA hydrolase: A novel drug target of multidrug resistant Tuberculosis, Krishna K Inampudi, DBT, 3 years, 2021-2024, Rs 68 lakhs
38. Structural and functional studies on trypsin cleaved functional fragments of lactoferrin and their binding with lipopolysaccharide, Professor Sujata Sharma, ICMR, 3 years, 2019-2022, Rs 60 lakhs
39. Structural and functional studies on trypsin cleaved functional fragments of lactoferrin and their binding with lipopolysaccharide, Prof. Sujata Sharma, ICMR, 3 years, 2019-2022, Rs 60 lakhs
40. Structure based *In Silico* Identification, Chemical Synthesis and Biological Evaluation for inhibitors against DNA Gyrase from *Salmonella* Typhi, Dr. Punit Kaur, ICMR, 3 years, 2019-2022, Rs 56.5 lakhs
41. Structure based design of nanobody inhibitors against EGFR: A Protein engineering approach to develop novel therapeutics for lung cancer, Krishna K Inampudi, ICMR-Extramural Grant, 3 years, 2019-2022, Rs 65 lakhs
42. Structure based Drug-design: In silico screening of inhibitors for cell division protein drug target FtsZ to develop antimicrobial agent against drug resistant *Acinetobacter baumannii*, Dr. Ethayathulla, ICMR, 2 years, 2020-2023, Rs 24.54 lakhs
43. Structure-based design of lead compounds against a novel drug target for the treatment of multi-drug resistant Tuberculosis, Dr Manoj Kumar, ICMR, 3 years, 2021-2024, Rs 24 lakhs
44. Study of circulatory level of serum proteins in inflammatory and anti-oxidative pathways in Alzheimer's disease for the establishment of potential biomarker and therapeutic target, Dr. Sharmistha Dey, ICMR, 3 years, 2021-2024, Rs 58 lakhs
45. Therapeutic intervention of small molecule based novel activator of Sirtuin on rat model of Alzheimer's disease, Dr. Sharmistha Dey, ICMR, 3 years, 2019-2022, Rs 68 lakhs
46. To explore the possible mechanisms of neuromodulation by COVID19 virus spike protein (S) and main protease Nsp5 in neurons., Dr. Jyotirmoy Banerjee, Covid AIIMS, 2 years, 2020-2022, Rs 10 lakhs
47. To investigate the role of dysfunctional benzodiazepine binding site on GABA_A receptor in benzodiazepine-resistance associated with pharmaco-resistant epilepsy, Jyotirmoy Banerjee, DST, 4 years, 2018-2022, Rs 136.755 lakhs

Funded Projects	
2019-20	22
2020-21	39
2021-22	46
Total	97

Completed

1. Structural analysis of RNA polymerase enzyme from SARS-CoV.2: Implications for the design of potent drug molecules and vaccine candidates against COVID19, Dr. Hariprasad. G, AIIMS, 2 years, 2020-2022, Rs 8 lakhs
2. Understanding the role of neuronal salivary exosomes in Parkinson's Disease, Dr. Saroj Kumar, AIIMS, Intramural, 2 years, 2020-2022, Rs 10 lakhs

Departmental projects

Ongoing

1. Analysis of Anti-neurotoxicity of Amyloid Beta (A β) in Alzheimer's disease (AD) pathology targeting Lipoxigenases
2. Assessing the effect of FGF-8 knock down on ovarian cancer cell lines
3. Atherosclerotic Cardiovascular disease: unravelling the early biomarkers from biofluid exosomes by iTRAQ based quantitative proteomics
4. Characterization and sequencing analysis of exosomes miRNA from biofluids of Coronary Artery Disease
5. Cryo-EM studies of ABC transporters from *Mycobacterium tuberculosis*
6. Deciphering the role of glypican 4 (Gpc4) in altered glutamate receptor-mediated synaptic transmission in temporal lobe epilepsy.
7. Design and development of high affinity anti-mitotic inhibitors against Aurora kinases
8. Development of novel spectral and exosomal biomarkers for early detection of breast cancer
9. Development of potent inhibitors against drug-resistant EGFR kinase for the treatment of EGFR positive tumors

10. Development of potent inhibitors for NSP RNA polymerase and protease from novel corona virus for the treatment of COVID-19
11. Development of screening method & evaluate the efficacy of novel drugs for Alzheimer's Disease
12. Discovery of potent inhibitors of Malate synthase of *Mycobacterium tuberculosis*
13. Discovery of potential lead compounds targeting *Mycobacterium tuberculosis* Shikimate kinase to combat multi-drug resistant tuberculosis
14. Elucidating the role of Semaphorin in epileptogenesis and hyperexcitability associated with temporal lobe epilepsy.
15. Investigation on the role of astrocytic gap junctions in the pathogenesis of focal cortical dysplasia.
16. Potential role of Klotho as a blood-based biomarker and its therapeutic importance in breast cancer by targeting miRNA
17. Structural and functional characterization of p53
18. Structural and functional characterization of p53 tetramerization mutants
19. Structural and functional reactivation of p53 mutant using natural compounds in human cancer cell lines harbouring mutation Y220C
20. Structural and Functional Studies of FtsZ cell division protein as a potential drug target against *Salmonella Typhi*.
21. Structural and Functional studies of *Multidrug transporters from Mycobacterium tuberculosis*
22. Structural and Functional studies of *Mycobacterium Tuberculosis* Peptidyl tRNA hydrolase – A Novel drug target of Multidrug Resistance Tuberculosis
23. Structure based design of nanobody inhibitors against EGFR: A Protein engineering approach to develop novel therapeutics for lung cancer
24. Structure based inhibitor design of antileishmanial compounds using enzymes N-acetyl D-glucosaminyl phosphatidyl inositol de-N-acetylase (NAGPIDA)
25. Study on circulating level of inflammatory proteins, their signalling cascade in metastatic breast cancer and therapeutic implications for the same.
26. Therapeutic intervention of Alzheimer's disease by targeting Sirtuin in in-vivo model
27. Understanding age dependent dysmaturity of cerebral cortex in cortical dysplasia.
28. Understanding of Parkinson's disease pathogenesis by using plasma derived biomarkers

Completed

1. Structure determination of Mur ligases from *Salmonella Typhi* and structure based ligand design for developing new drugs
2. Peptide inhibitor designing and validation for sEGFR using computational Protein design
3. Identification of DNA Aptamers against human sEGFR to treat lung cancer
4. Structural and biophysical characterization of p73 DBD with p53 natural promoter sequence
5. Structural and functional analysis of DNA gyrase from *Salmonella Typhi*
6. Computational analysis of resistance to imatinib and related drugs in CML due to mutations in BCR-Abl kinase and design of mutation resilient inhibitors
7. Study of potential modulators targeting pathways involved in hyperphosphorylation of Tau
8. Development of non-invasive early detection and drug response methodology of Alzheimer's disease
9. Understanding the role of salivary exosomes in Alzheimer's disease
10. Structural studies of sugar-binding protein of ABC transporter from *Mycobacterium tuberculosis*

Collaborative projects

Ongoing

1. Genomic and Proteomics Analysis of Gram-Negative bacterial Strains, Microbiology
2. Synthesis of anti-microbial agents targeting Novel Sites in DNA Gyrase, Jamia Millia Islamia
3. Long term effects of COVID-19 on endocrine system, semen quality and sperm proteome, Laboratory Medicine
4. Clinical significance of proteomics in liquid biopsy for Indian breast cancer women: An exploratory study, Surgery
5. Structure-based design of nanobody inhibitors against EGFR: A Protein engineering approach to develop novel therapeutics for lung cancer, Life Sciences, Shiv Nadar University; Faculty of Biology, Indian Institute of Petroleum & Energy, Visakhapatnam and Pulmonary Medicine and Sleep Disorders, AIIMS, New Delhi
6. Structural and functional studies of *Mycobacterium tuberculosis* peptidyl-tRNA hydrolase: A novel drug target of multidrug resistant Tuberculosis, Medicine AIIMS, New Delhi, Department of Biosciences, IIT Kharagpur, Department of Chemistry, University of Hyderabad
7. Characterization and sequencing analysis of exosomes miRNA from biofluids of Coronary Artery Disease, Cardiology
8. Atherosclerotic Cardiovascular disease: unravelling the early biomarkers from biofluid exosomes by iTRAQ based quantitative proteomics, Cardiology
9. Development of potent inhibitors for NSP RNA polymerase and PLprotease from novel corona virus for the treatment of COVID-19, Department of Chemistry, IIT Delhi
10. A nanomedicine approach against drug-resistant EGFR kinase for the treatment of EGFR positive tumors, 1. Department of Pulmonary Medicine and Sleep Disorders, AIIMS, New Delhi, 2. Department of Chemistry, IIT Delhi, 3. Department of Biochemistry, Microbiology and Immunology, University of Ottawa, Canada

11. Deciphering the role of histone deacetylases (HDACs) in Temporal lobe Epilepsy (TLE). , Dr. B.R. Ambedkar Center for Biomedical Research, University of Delhi
12. Elucidating the meditation associated epigenetic modulation in persons with temporal and temporal plus epilepsy. Neurology
13. CSF inflammatory markers in the diagnosis of autoimmune encephalitis, Neurology
14. Effect of probiotics and repetitive transcranial magnetic stimulation on cognitive and motor function in 6-hydroxy dopamine rat model of Parkinson's disease, Physiology
15. Elucidating the role of Fibronectin-Integrin-Src mediated glutamatergic activity in mesial temporal lobe epilepsy, Dr. B.R. Ambedkar Center for Biomedical Research, University of Delhi, Delhi
16. Role of Casien Kinase 2 (CK2) signaling in mesial temporal lobe epilepsy, Dr. B.R. Ambedkar Center for Biomedical Research, University of Delhi, Delhi
17. Comparative analysis of histone deacetylases mediated epileptogenesis in cortical dysplasia vs non cortical dysplasia drug resistant pathologies, Dr. B.R. Ambedkar Center for Biomedical Research, University of Delhi, Delhi
18. Screening of inhibitory molecules against KIFC1, KIF4A, KIF15 and KIF20A and evaluation of anticancer activity of the identified molecules on breast cancer cells, National Institute of Pathology
19. Potential of quercetin as a diuretic agent at high altitude by targeting carbonic anhydrase II, DIPAS, DRDO
20. Synthesis of inhibitors of shikimate kinase and malate synthase of *Mycobacterium tuberculosis*, Department of Chemistry, IIT-Delhi
21. Re-purposing of FDA approved drugs to target latent TB infection, Biotechnology
22. Role of mutations in *slc26A* gene in cystic fibrosis conductance regulation in Indian patients, Pediatrics
23. Role of mutations in STAMBP protein in severe microcephaly and multiple capillary haemangiomas in Indian children, Pediatrics
24. A comparative proteomics and metabolomics study of Idiopathic pulmonary fibrosis (IPF) and Post-COVID pulmonary fibrosis (pCPF) to identify new pathological and therapeutic pathways, Pulmonary, Critical Care & Sleep Medicine
25. Delineating the co-evolution of HIV-I broadly neutralizing antibodies and circulating viruses in mono-zygotic twins pediatric elite-neutralizers, Biochemistry
26. Study of Regeneration of Skeletal Muscle in Old Age, Geriatric Medicine
27. Role of Inhibitors of Apoptosis Proteins in Gastroenteropancreatic Neuroendocrine Tumors, Anatomy
28. Expression profile of proteins in pancreatic neuroendocrine tumor patients, Anatomy
29. Study of exosomes in saliva of pancreatic neuroendocrine tumor patients, Anatomy
30. Identification and evaluation of novel proteins, inhibitors of apoptotic proteins and exosomes in cases of pancreatic neuroendocrine tumors, Anatomy
31. Mechanistic understanding of Parkinson's disease and developing an early screening method, Neurology
32. Identification of pathological and disease activity markers in Primary CNS Vasculitis, Neurology
33. Development of screening method & evaluate the efficacy of novel drugs for Alzheimer's Disease, Geriatrics and Neurology
34. Design and development of novel imaging agents for the earlier diagnosis of Alzheimer's disease, IIT BHU
35. Development of a non-invasive novel method for early detection of cognitive impairment, Geriatric Medicine and Neurology
36. Understanding of Parkinson's disease pathogenesis by using plasma derived biomarkers, Neurology
37. Development of novel spectral and exosomal biomarkers for early detection of breast cancer, Pathology and Surgical Disciplines
38. IL6 biomarker level in sleep apnea patient after Mandibular advancement appliance and Cpap therapy, Prosthodontics, Center for Dental Education & Research
39. Critical aggregation concentration for the formation of amyloid beta oligomers and nutraceuticals inhibition of its fibers. India Science and Research Fellowship (ISRF) – International Fellowship for SAARC Countries. Research Centre for Applied Science and Technology (RECAST), Tribhuvan University, Nepal.
40. Structural and functional studies of Mycobacterial Toxin antitoxin systems, School of Life Sciences, JNU, New Delhi
41. External delivery of Cis-platin using HPV-16 based nanocarriers for the treatment of cervical cancer, Anatomy

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor TP Singh CSIR Foundation Day Lecture at CSIR-Central Scientific Instruments Organization, Chandigarh - November 28, 2021; Elected as an Honorary Fellow of the International Bioprocessing Association -September 12, 2021; Endowment Chair Lecture Award of Charotar University of Science and; Technology, CHARUSAT Campus, Changa – 24 April 2021

Professor Punit Kaur Elected as Member, 'Board of Studies' meeting and deliver lecture at Department of Computational Sciences, Central University of Punjab, Bhatinda.

Professor Sujata Sharma 2021 TWAS Regional Partner Award in the subject area – *Public Understanding and Popularization of Science*; *Peaklife Women Inspire Award*; DST Power Fellowship

Dr Jyotirmoy Banerjee Co-Editor for the journal Neurology India; Reviewing Editor for the journal Frontiers in Neuroscience & Frontiers in Pharmacology (Neuropharmacology section); Member drafting committee of “National Policy on Innovation and Entrepreneurship in Medical Colleges” of ICMR. The final guidance document was launched by The Hon’ble Union Minister of Health and Family Welfare on 24th February, 2022.

Dr Manoj Kumar Reviewed research manuscripts from Archives of Biochemistry and Biophysics & Journal of Bio-molecular Structure and Dynamics

Dr Saroj Kumar Adjunct Professor (2021 – Present) at Lulea Institute of Technology, Sweden. Teaching and Scientific visit as a visiting faculty at Lulea University of Technology, Sweden between 16-27 August 2021.

VISITING SCIENTIST

Dr. Dinakar M. Salunke, New Delhi

Dr Pushkar Sharma, New Delhi

Dr. B. Gopal, Bangalore.

9.6 Biostatistics

Additional Professor and Head

Maroof Ahmad Khan (from 1 January 2022)

Professor and Head

Ravindra Mohan Pandey
(upto 31 December 2021)

Professor

Sada Nand Dwivedi (upto 31 July 2021)

Assistant Professor

Anjali Pandey
(On contract, upto 31 October 2021)

Scientist-I

Mani Kalaivani Shivam Pandey Nilima

HIGHLIGHTS

The Department has one ongoing extramural funded research project and collaborative research projects with various Centers/Departments in the Institute, including 19 ongoing and 10 completed research projects. Faculty and scientists in the department have had 136 research publications in various peer-reviewed medical journals in the past year. Faculty and scientists in the department have continued to be reviewer of some medical journals in the country and for several international medical journals from various medical specialties. They have served on various administrative and scientific committees in the Institute, have been invited as members of various scientific committees of the ICMR, DBT, DST, and AYUSH, have served on Data Safety Monitoring Boards (DSMB) of several national and international clinical trials, have delivered invited lectures in various Institutes/Universities in the country and, have served as examiners of PhD thesis submitted to various universities in the country.

EDUCATION

The Department continued teaching “Biostatistics and Essentials of Research Methods” for the undergraduate, paramedical and postgraduate courses, viz. MBBS, BSc (Hons) in Medical Technology in Radiology, MBiotech, BSc and MSc Nursing, and MD Community Medicine. The department plays a major role in conducting Research Methodology, Writing and Communication workshops for the residents in the Institute, a mandatory 5 days course working four batches. On request, faculty members delivered a series of lectures for the residents, PhD students and participated in departmental scientific presentations in various Centers/Departments in the Institute. Faculty members and scientists contributed to the academic activities of other Departments in the Institute as Co-Guides, DC Members of PhD, DM, MCh, MD/MS/MHA/MDS, and students. Also, departmental faculty and scientists delivered nine invited lectures in various workshops on Research Methodology and Biostatistics in various national and international/workshops/conferences.

Lectures delivered

M Kalaivani: 4 Shivam Pandey: 2 Nilima: 3

Oral papers/posters presented: 1

RESEARCH

Funded projects

Ongoing

1. Development of longitudinal growth reference and assessment of growth velocity, cardio metabolic measures and its correlation among children in India– A prospective study, M Kalaivani, ICMR, 3 years, 2021-2024, Rs 93.4 lakhs

Collaborative projects

Ongoing

1. A comparative proteomics and metabolomics study of Idiopathic pulmonary fibrosis (IPF) and Post-COVID pulmonary fibrosis (pCPF) to identify new pathological and therapeutic pathways, Pulmonary medicine & sleep disorders
2. A study on cellular physiology of endometriosis-associated estrogenic action in endometrial stromal cells, Physiology
3. A study on the early predictors of renal injury & propensity to neoplasia in patients with Bladder Exstrophy Epispadias Complex, Pediatric Surgery
4. An omics approach to understand the molecular heterogeneity of Breast cancer among Indian females, Biochemistry
5. Artificial Intelligence based Decision Support System for Diagnosing Ventilator Associated Pneumonia, Medicine
6. Enhancing mental health and substance use literacy among college going students in national capital territory of Delhi, Centre for Community Medicine
7. Identification of factors predictive for weight loss after Bariatric Surgery: Building a model for improving outcomes and maintaining weight loss, Biochemistry
8. Incidence of the severity of psychosocial and somatic disorders in survivors of childhood solid tumours, Pediatric Surgery
9. NLRP3 Inflammasome gene polymorphisms and their expression in Periodontitis – a genetic study in North Indian population, CDER
10. Outcomes of cochlear implant in older prelingual sensorineural hearing loss patients, ENT
11. Prevalence of low back pain and its associated factors among elderly persons in an urban colony of Delhi, Center for Community Medicine
12. Randomised controlled trial comparing the efficacy of cognitive behavioural therapy Vs yoga nidra in persons with psychogenic non-epileptic seizures, Neurology
13. Role of PET in surgical management of oral squamous cell carcinoma, ENT
14. Smartphone applications-based intervention to reduce BMI and improve health related behaviour among school children with overweight/obesity: A controlled clinical trial, Pediatrics
15. To study the effect of diesel exhaust exposure on male reproduction in the laboratory rat, Physiology
16. To study the effect of intermittent theta burst stimulation (iTBS) repetitive Transcranial magnetic Stimulation (rTMS) in predominantly negative symptoms and cognitive function in person suffering from schizophrenia (> 2 years duration) in a randomized sham controlled double blind trial, Psychiatry
17. To study the long-term outcomes in children with solid tumors, Pediatric Surgery
18. Utilisation of maternal health care services in rural Ballabgarh during the COVID-19 pandemic, Center for Community Medicine
19. Whole Exome Sequencing of hypospadias patients-family trios for identification & validation of genetic markers and development of a genetic panel for hypospadias risk assessment, Pediatric Surgery

Completed

1. Association of Candida and antifungal therapy with pro-inflammatory cytokines in oral leukoplakia-A pilot study, CDER
2. Comparison of insulin resistance as marker of psychological morbidity and Quality of Life (QoL) in PCOS and non-PCOS Infertile women - a case control study, Obstetrics & Gynaecology
3. Diabetes and hypertension among elderly persons in an urban resettlement colony of Delhi, Center for Community Medicine
4. Effect of regional anesthesia on perioperative inflammatory cytokines alteration and clinical complications in orthopedic trauma surgery, Anaesthesiology and Intensive Care (JPNATC)
5. Evaluation of liposome-based cholesterol efflux assay against a macrophage-based efflux assay for the measurement of reverse cholesterol transport capacity of HDL, Biochemistry
6. Health and nutrition behaviour assessment of young men in northern part of India, Center for Community Medicine
7. Mild cognitive impairment and associated factors among elderly persons in an urban resettlement colony in Delhi, Centre for Community Medicine
8. Role of continuous glucose monitoring in personalised glycemic management of hepatic glycogen storage disorders, Pediatrics
9. Study of Common Mental Disorders in adolescent living with HIV (ALHIV) attending the paediatric HIV services at AIIMS, New Delhi: A Case-Control Study, Center for Community Medicine
10. The detection of current and persistent oral HPV infection using noninvasive method in Oral Potentially Malignant Disorders with their clinical and molecular characteristics, CDER

PUBLICATIONS

Journals: 114

Year	2021-22	2020-2021	2019-2020
Oral presentations	1	0	4
Funded projects	1	1	3
Extramural/Intramural funding (in rupees)	93.40 lakhs	26.40 lakhs	91.62 lakhs
Total publications	114	144	155
Journal articles	114	144	155
Abstracts	0	0	0
Chapters in book	0	0	0
Books/Monographs	0	0	0

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor RM Pandey was Member of epidemiology and surveillance COVID-19, set up by the NITI AYO, Govt of India. Ethics Committee: Chairperson of Indian Institute of Public Health (Under PHFI), Delhi; Member: United Nations Regional Centre for Biotechnology, Under DBT. **Member:** Scientific Advisory Committee of National Institute of Epidemiology (ICMR); Expert Committee, Task Force project on Cleft Lip and Palate Anomaly (ICMR); **Member DSMB:** Community-based kangaroo mother care on newborn mortality, coordinated by WHO; **Member:** Scientific Advisory Committee, ICMR.

Professor Sada Nand Dwivedi was Member of the Governing Council of Inter University Accelerator Centre (IUAC), An Autonomous Centre of UGC, New Delhi; Member (UGC Nominee), Advisory Committee, Department of Statistics, Calcutta University; Member, Governing Body, Institute of Applied Statistics and Development Studies, Lucknow; Member of the Editorial Board for World Journal of Meta Analysis; Statistical Editor, Indian Journal of Child Health; Editor, Demography India; Editorial Board Member, Biostatistics and Biometrics Open Access Journal; Reviewer for BMJ Open; Member, Editorial Board of Indian Spine Journal; Elected Member, International Statistical Institute, & International Association for Statistical Education, Netherlands; Member, International Epidemiological Association, USA; Fellow, Royal Statistical Society, UK; President Elect, Indian Society for Medical Statistics, India.

Professor Maroof Ahmad Khan was Editorial Board Member (Biostatistics)-International Journal of Scientific Reports; Scientific reviewer of Aligarh Journal of Statistics-An international journal; Scientific reviewer of American Journal of Public Health Research, USA; Scientific reviewer of the Journal of Obesity, UK; Scientific reviewer of British Journal of Visual impairment; Scientific reviewer of BMC Medical Research Methodology etc.

Dr M Kalaivani DSMB member of ICMR VPM Vaccine trial: A Phase III, Randomized, Double-blind, Three arm Placebo controlled Trial to Evaluate the Efficacy and Safety of two vaccines VPM1002 and Immuvac (Mw) in Preventing Tuberculosis (TB) in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB Patients; Life member of Indian Society for Medical Statistics; Member of International Society for Clinical Biostatistics and Life member of the Indian Association for the Study of Population and Reviewer of BMJ Open and Indian Journal of Pediatrics.

9.7 Biotechnology

Professor and Head

Shyam S Chauhan

NASI Senior Scientist Platinum Jubilee Fellow

Jaya S Tyagi

Associate Professors

Anushree Gupta

Rupesh Kumar Srivastava

Bhupendra Kumar Verma

Vikram Saini

Sumit Rathore

Assistant Professors

Mahendra Seervi

Vineet Choudhary

Scientist

Shrabani Saugandhika

HIGHLIGHTS

Department of Biotechnology runs a well-rated Masters in Biotechnology course with specialization in Medical Biotechnology admitting 18 students per batch. The Department also runs a PhD program. The total strength of MSc and PhD students is about 45. Department runs a student mentorship and career awareness program, to cater the needs of students from diverse backgrounds. Departmental faculty have obtained large number of extramural grants from various funding agencies including the prestigious Wellcome Trust-DBT India Alliance Intermediate Fellowship Grant. Departmental faculty have received national level honors/awards from various scientific organisations in recognition of their outstanding contributions to the field of biotechnology. Departmental faculty have served as experts in several scientific committees organised by various institutes and universities of the Government of India. Departmental faculty have published a large number of peer review research articles in, various national and international, high impact factor journals. Department has 8 senior demonstrators (Drs Saurabh Sharma, Priyanka Duggal, Chaman Saini, Ravinder Kumar, Pradeep Kumar, Pooja Kumari, Anuj Kumar Tomer, Nargis Malik) who participate in the teaching and research activities of the department.

Activities/steps taken to improve patient care services, education and research: The Department is known for its commitment to biomedical research and continuous efforts of the faculty have established a name for the Department in the areas of Leprosy, TB, Malaria and Cancer. New fields of research initiated in the Department include Cardiogenomics, Bioinformatics, Osteoimmunology, Virology, Metabolism and bioenergetics of Infectious diseases, Redox Biology, Innate immunity, Inflammation, Drug development, Molecular parasitology, Lipid droplet biogenesis, Cell death and its regulation and Molecular cancer therapeutics. Dr Vikram Saini: developed a novel cold chain independent cost-effective Viral Transport Medium for Improved Diagnostics of COVID-19; developed novel compounds to minimize the hospital acquired Infections and has submitted an Indian Patent Application No. 202111019702; signed a Comprehensive Research Agreement as Lead Investigator for AIIMS-MedicFibers Pvt Ltd, an IIT-Delhi Start-up for developing Medicated clothing within the Make in India Framework of Government of India as a strategy for reducing Infections and improving patient health care.

Action plan for the coming year: To continue making significant contributions to research in the areas of cancer biology, immunology, virology, infectious diseases, molecular parasitology and lipid metabolism. Also, the departmental faculty are committed to contribute to the development of technologies, and diagnostics and therapeutic assays especially for Class II and Class III infections such as tuberculosis, which is a National Health Priority. Further taking products developed by faculty of the department to the market and commercialization will also be a top-priority.

EDUCATION

Post Graduate Teaching

- The Department conducts 2 years postgraduate course in Biotechnology with emphasis on Medical Biotechnology leading to M. Biotech degree. The teaching program covers 16 subjects, namely, Cell and Developmental Biology, Genetics, Human Biochemistry, Medical Microbiology, Immunology & Immunotechnology, Molecular Biology, Infectious Disease Biology, Genetic Engineering and Genome Technology, Biophysics (Principles, Techniques & Applications in Medicine), Bioinformatics, OMICS (Genomics, Transcriptomics, Proteomics and Metabolomics), Biostatistics, Seminars in Laboratory Techniques (Principles & Instrumentation), Medical Biotechnology (Journal Club & Communication Skills), Seminars in Molecular Medicine and Biotechnology and Dissertation in frontier areas of medical research.

- The Department has introduced five new credit courses in the course curriculum of M. Biotechnology namely, Infectious Disease Biology, OMICS: Genomics, Transcriptomics, Proteomics, and Metabolomics, Intellectual Property Rights, Bioethics and Biosafety (IBB), Molecular Diagnostics and Clinical Biochemistry (MDB) and Laboratory course on Medical Microbiology and Infectious Disease Biology”.
- Students are given individual attention and extensive hands-on training in Practical classes.
- Experts are invited from PGIMER, JNU, IGIB, ICGEB, NII, IIT, THSTI, RCB, BCIL, TERI, Jamia Hamdard and University of Delhi in addition to AIIMS faculty from various specialties, to deliver seminars in biotechnology, bioinformatics, molecular medicine, genomics, proteomics etc.
- The Department conducts a Ph.D. program in the area of Medical Biotechnology.
- The Department mentors and supports young Scientists having DBT and DST National Post-Doctoral and Young Scientist award.

Year	Number of students registered in the department
2021-2022	21
2020-2021	13
2019-2020	18

Lectures delivered

Shyam S Chauhan: (see 9.3 Biochemistry)
Bhupendra Kumar Verma: 1
Mahendra Seervi: 2

Rupesh Kumar Srivastava: 8
Vikram Saini: 6
Vineet Choudhary: 1

Sirish Kumar Ippagunta: 1
Shrabani Saugandhika: 1

Oral papers/posters presented: 10

Year	Number of oral and poster presentations
2021-2022	10
2020-2021	2
2019-2020	23

RESEARCH

Funded projects

Ongoing

1. Aptamer-based Tuberculosis Diagnostics Toolbox (collaborative project), Vikram Saini Jaya S Tyagi (Co-PI from 1 June 2019), DBT, 3 years, 2018-2022, Rs 16.52 lakhs
2. Cellular and Immunomodulatory Functions of Dipeptidyl peptidase III in Esophageal Cancer, Shyam S. Chauhan, ICMR, 3 years, 2019-2022, Rs 35 lakhs
3. Characterisation of L, D-transpeptidases from Mycobacterium abscessus: An Emerging Opportunist Pathogen, Vikram Saini (Mentor to Dr. Namrata Kushwaha Woman Scientist), DHR, 3 years, 2020-23, Rs 30.9 lakhs
4. Characterisation of Parasite ligand-host receptor interactions in *Plasmodium vivax* infections, Sumit Rathore, ICMR, 3 years, 2019-2022, Rs 65.00 lakhs
5. Cysteine Cathepsins in Acute Lymphoblastic Leukemia: Implication(s) in Prognosis and Therapeutics, Shyam S. Chauhan, ICMR, 3 years, 2020-2023, Rs 7.30 lakhs
6. Cytoplasmic stress granules: dynamic regulators of anastasis in cancer cells? Mahendra Seervi, SERB, 3 years, 2021-2024, 64
7. Deciphering the functions of the conserved fat storage-inducing transmembrane (FITM2) protein in lipodystrophy and insulin resistance through systems approaches, Vineet Choudhary, Department of Biotechnology (DBT); Bilateral programme (Indo-Swiss Joint Research Programme (ISJRP), 4 years, 2021-2025, Rs 238 lakhs
8. Discovering the anti-inflammatory effects of novel Toll-like receptor signaling inhibitors on rheumatoid arthritis mononuclear cells and synovial fibroblasts: An in vitro study to identify TLR signaling inhibition as future potential strategy to control inflammation in rheumatoid arthritis, Sirish Kumar Ippagunta, ICMR, 3 years, 2021-2024, Rs 81.81 lakhs
9. Elucidation of Cellular mechanisms involving GUT resident regulatory T cells in Probiotics mediated inhibition of Osteoporosis, Rupesh K. Srivastava, SERB, 3 years, 2019-2022, Rs 65 lakhs
10. Evaluation of endothelin and retinal renin angiotensin system (RRAS) in glaucoma, Anushree Gupta, Interdisciplinary collaborative AIIMS, New Delhi, 2 years, 2021-2023, Rs 10 lakhs
11. Exome sequencing and molecular characterization in Juvenile nasopharyngeal angiofibroma, Bhupendra K. Verma & Hitesh Verma (ENT, AIIMS, Delhi), AIIMS, 2 years, 2021-2023, Rs 10 lakhs
12. Exploring the immunomodulatory activities of novel Toll-like receptor-signaling inhibitors in peripheral blood mononuclear cells from lupus patients: A study to identify TLRs as drug targets for lupus, Sirish Kumar Ippagunta, SERB, 3 years, 2020-2023, Rs 68.01 lakhs

13. Har Gobind Khorana Innovative Young Biotechnologist Award (IYBA), Department of Biotechnology, Govt. of India, Vikram Saini, DBT, 3 years, 2019-2022, Rs 59.06 lakhs
14. Host transcriptomic profiling in mildly symptomatic, sick and sicker COVID-19 patients, Vikram Saini, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
15. Identification and functional characterisation of tRNA derived RNA fragments in DENV pathogenesis, Bhupendra K. Verma, SERB, 3 years, 2019-2022, Rs 39.41 lakhs
16. Identifying the bioenergetics mechanisms of dysregulation of immune cells during SARS-CoV-2 infections, Vikram Saini, AIIMS, 2 years, 2021-23, Rs 20 lakhs
17. Investigate the role of seipin protein in ectopic lipid droplet formation, Vineet Choudhary, AIIMS Intramural Research Grant, 2 years, 2021-2023, Rs 10 lakhs
18. Investigation of key splicing events modulated in DENV infection, Bhupendra K. Verma, DBT, 3 years, 2021-24, Rs 55.5
19. Investigation of role of tRNA derived non-coding RNAs in EMT and its relevance to malignancies, Bhupendra K Verma, AIIMS, 2 years, 2020-22, Rs 10 lakhs
20. Modulation of host bioenergetics health and redox function via Selenium supplementation as a novel approach to tuberculosis management, Vikram Saini, SERB, 3 years, 2019-2022, Rs 53.85 lakhs
21. Molecular Mechanisms of Lipid Droplet Biogenesis, Vineet Choudhary, Wellcome Trust/DBT India Alliance. Scheme: Intermediate Fellowship Grant in the field of Basic Biomedical Research, 5 years, 2021-2026, Rs 360 lakhs
22. National Consortium for One Health to address Zoonotic and Transboundary Diseases in India, including the Northeast Region, Vikram Saini (PI at AIIMS), DBT, 3 years, 2021-2024, Rs 57.12 lakhs
23. Probiotics mediated bioenergetics health modulation as a novel approach to the management of microbial infections, Vikram Saini, DRDO, 3 years, 2020-23, Rs 75.50 lakhs
24. Role of ALDH1A3 in anastasis and associated cancer stem cells-like cellular transformation in breast cancer cells, Mahendra Seervi, AIIMS, 2 years, 2021-2022, Rs 10 lakhs
25. To elucidate the immunomodulatory role of probiotics in modulating bone health in post-menopausal osteoporosis via its effect on ILC3-ILCreg cell axis., Rupesh K. Srivastava DBT, 3 years, 2022-2025, Rs 82 lakhs
26. To establish the role of regulatory B cells (Bregs) in post-menopausal Osteoporosis, Rupesh K Srivastava, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
27. To investigate the regulatory potential of estrogen in modulating the function of regulatory B cells- Implications in Bone remodeling, Rupesh K. Srivastava, AIIMS, 2 years, 2020-2022, Rs 20 lakhs

Completed

1. Circulating miRNA in *Plasmodium vivax* severe malaria, Sumit Rathore, All India Institute of Medical Sciences, 2 years, 2019-2021, Rs 10.00 lakhs
2. Combating the challenge of antibiotic tolerance: Combining conventional anti-tubercular drugs with DevR dormancy regulator-targeted approaches for improving *M.tuberculosis* clearance. Vikram Saini Jaya S Tyagi (Co-PI from 01-06.2019), DBT, 3 years, 2018- 2021, Rs 47.30 lakhs
3. Cysteine Cathepsins in Acute Lymphoblastic Leukemia: Implication(s) in Prognosis and Therapeutics, Shyam S. Chauhan, ICMR, India, 1 year, 2019-2020, Rs 5 lakhs
4. Decoding spliceosome in context of COVID-19, Bhupendra K. Verma, AIIMS, 1 year, 2020-21, Rs 9.2 lakhs
5. Development of novel mushroom based synbiotic food supplement for management of Osteoporosis, Rupesh K. Srivastava AIIMS-IIT-Delhi Inter Institutional Collaborative Research Grant, 2 years, 2019-2021, Rs 20 lakhs
6. Dysregulation of Zinc homeostasis as a major contributing factor to Mucormycosis infection, Vikram Saini, AIIMS Emergency response special Mucormycosis Grant, 1 year, 2021-22, Rs 5 lakhs
7. Generation of high affinity recombinant murine monoclonal antibody fragments (scFv) against spike protein of SARS-CoV-2, Sumit Rathore, All India Institute of Medical Sciences, 1 year, 2020-2021, Rs 8 lakhs
8. Identification Of Novel Blood Based Biomarker For Early detection of Human Gallbladder Cancer, Shyam S. Chauhan, DRDO, India, 3 years, 2018-2021, Rs 46.61 lakhs
9. Mechanism of anastasis in cancer cells: its impact in disease relapse and therapy, Mahendra Seervi, DST-SERB Young Scientist, 3 years, 2016-2019, Rs 26.0 lakhs
10. Novel gene regulatory circuits associated with Dengue Virus: exploring therapeutic potential, Bhupendra K Verma, AIIMS, 2 years, 2018-2020, Rs 9.9 lakhs
11. Probing the biology of Toll-like receptor and Interleukin-1 Receptor in peripheral blood mononuclear cells of healthy donors using novel small molecule inhibitor, Sirish Kumar Ippagunta, All India Institute of Medical Sciences, 2 years, 2020-2021, Rs 5.00 lakhs
12. Selenium supplementation and mycobacterial infections, Vikram Saini, AIIMS Intramural, 2 years, 2018-2020, Rs 10.00 lakhs
13. Study the Role and Regulation of Human Heterogeneous Ribonucleoprotein DExpression in Oral Carcinogenesis, Shyam S. Chauhan, DST, India, 3 years, 2016-2019, Rs 74.66 lakhs
14. To Dissect the role of Treg-Th17 cells in Lactobacillus rhamnosus mediated inhibition of Bone loss in ovx mice, Rupesh K Srivastava, AIIMS- Intramural Research Grant, 2 years, 2018-2020, Rs 10 lakhs

15. To study the role of High salt Diet (HSD) in male fertility: Role of bone hormone osteocalcin., ShrabaniSaugandhika, AIIMS Intra Mural, 2 years, 2018-2020, Rs 10 lakhs

Departmental projects

Ongoing

1. Adaptation of *Mycobacterium tuberculosis* in vitamin C dormancy model.
2. Analysis of host transcriptional response to *Mycobacterium tuberculosis* in vitamin C ex vivo model of infection and comparison with clinical responses in active TB and latent TB infection.
3. Cellular and Immunomodulatory Functions of Dipeptidyl peptidase III in Esophageal Cancer
4. Characterisation of spliceosome in context of SARS-CoV2
5. Cysteine Cathepsins in Acute Lymphoblastic Leukemia: Implication(s) in Prognosis and Therapeutics
6. Decoding spliceosome in context of COVID-19
7. Evaluation of immunomodulatory activities of Toll-like receptor signaling inhibitors in lupus peripheral blood mononuclear cells.
8. Functional characterization of roles of RNases in Dengue virus replication.
9. Generation of Bcl-2/Bcl-xl mediated drug-resistant cell models for anticancer agents screening. [Dissertation] undergoing.
10. Generation of neutralizing antibodies against SARS-CoV-2 from COVID-19 patients for therapeutic purposes
11. Gut microbiota and gastrointestinal dysfunction in children with sepsis and septic shock
12. Identification and functional characterization of tRNA derived RNA fragments in DENV pathogenesis
13. Identification of DevR binding sites in Mtb genome by ChIP-Seq analysis
14. Investigation of role of tRNA derived non-coding RNAs in EMT and its relevance to malignancies
15. Role of Human Heterogeneous Nuclear Ribonucleoprotein D (hnRNPD) in Oral Cancer
16. Role of Negative Regulators of EGFR in Malignant Transformation of Oral Dysplasia
17. Role of Prothymosin- α in Glial Tumorigenesis
18. Screening of a scFv Phage library and selection of SARS-CoV-2 spike protein binding clones
19. Spliceosomal regulation in Dengue pathophysiology
20. Studies on anti-inflammatory activity of endosomal TLR antagonists in lupus PBMC.
21. Studies on anti-inflammatory activity of TLR antagonists in mononuclear cells of rheumatoid arthritis patients.
22. To establish the immunoporotic role of SCFAs in regulating bone health
23. To investigate protein targeting onto ectopic lipid droplets in seipin mutants

Completed

1. Analysing the effect of novel Pyrazole-based small molecule inhibitor on endosomal TLR-induced signaling activation in healthy peripheral blood mononuclear cells.
2. Characterisation of functional interaction between minor spliceosome and polyadenylation machinery
3. Characterising pre-mRNA splicing in context of Dengue virus
4. Development of Aptamer Based Assay for detection of *Plasmodium* Infection.
5. Identification of interacting proteins of *Plasmodium vivax* Tryptophan Rich Antigen 26.3 (PvTRAg26.3) with erythrocyte surface
6. Impact of micro-nutrient supplementation of microbial infections
7. Regulation of PARP-1 Expression by hnRNPD in Oral Cancer.
8. Subcellular Localization of Mitochondrial Carrier Protein of *Plasmodium falciparum*.
9. Surface Proteomics of reticulocytes in *Plasmodium vivax* severe malaria patients
10. Targeting of DevR for combating drug tolerance of *M. tuberculosis*
11. To dissect the role of TH17-Treg cells in Microcystin-LR induced bone loss
12. To study the effect of MC-LR in regulating Bone remodeling
13. To study the effect of Sodium Benzoate (NaB) in regulating Bone remodeling
14. To study the nexus between probiotic *Lactobacillus rhamnosus* (LR) and T cell lineages in Ovx mice
15. To study the role of *Bifidobacterium longum* in modulating Bone Health via regulating the host Osteo-immune system

Collaborative projects

Ongoing

1. Clinical significance of cancer stem cells markers and its proteins in different grades astrocytomas, RP Center for Ophthalmic Sciences
2. Deciphering the functions of the conserved fat storage-inducing transmembrane (FITM2) protein in lipodystrophy and insulin resistance through systems approaches, Department of Biology, University of Fribourg, Fribourg, Switzerland.
3. Development of novel mushroom-based synbiotic food supplement for management of Osteoporosis, IIT-Delhi
4. Exploring the Tryptophan metabolism via Kynurenine pathway and their correlation with clinical outcome in Keratoconus and Fuch's endothelial corneal dystrophy patients undergoing corneal transplantation, RP Center for Ophthalmic Sciences

5. Gut Microbiome and NaB, NCCS, Pune
6. Link between mitochondrial morphology and mitochondrial biogenesis in Acute lymphoblastic leukemia, Biochemistry
7. Phytotherapeutics and Bone Health, IIT-Kharagpur
8. Role of BPA on Bone health, Delhi University
9. Role of GAMs in preventing osteoporosis, Orthopedics
10. Role of Immune cells in osteoporotic patients, Orthopedics
11. Role of Immune system in Pancreatitis, Gastroenterology
12. Role of Immune system in TB, Physiology
13. Role of Th9 cells in Osteoclastogenesis, THSTI
14. To study the role of iPSC derived hematopoietic progenitor cells for hematopoietic failure among trauma hemorrhagic shock using animal model, Emergency Medicine

Completed

1. Development of novel mushroom-based synbiotic food supplement for management of Osteoporosis, IIT-Delhi
2. miRNA as evaluation Biomarker for tuberculosis treatment response, ICGEB New Delhi, and InStem Bangalore

PUBLICATIONS

Journals: 46

Abstracts: 6

Chapters in Book: 3

Patents

Novel Copper compounds with anti-microbial properties. Indian Patent Application No.: 202111019702 (Date of filing: April 29, 2021).

Year	Number of journal articles published
2021-2022	53
2020-2021	37
2019-2020	22

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Shyam S Chauhan (see 9.3 Biochemistry)

Dr Jaya S Tyagi is recipient of NASI Senior Scientist Platinum Jubilee Fellowship. She is Honorary Visiting Professor, THSTI, Faridabad, Fellow of Indian National Science Academy, Indian Academy of Sciences and National Academy of Sciences (India); Member of Guha Research Conference; Chairperson, IHEC of IGIB and CSIR FTT FTC Monitoring Committee under Healthcare Theme; Member of Scientific Advisory Committee of NIRT, Chennai, DBT Steering Committee and Task Force on HRD, DBT TEC for Infectious Disease Biology; DBT TEC for Medical Biotechnology-II for NER; DBT Sample Access and Steering Committee for RePORT India; Progress Review Committee of BIRAC-NESTA Boost Grants program; INSA Women in Science Panel.

Dr Anushree Gupta served as expert in the sector of ‘Affordable Health’ under the Common Research and Technology Development Hubs (CRTDHs) program of Department of Scientific and Industrial Research (DSIR), Ministry of Science & Technology (Govt. of India); Central Public Information Officer for the Department of Biotechnology.

Dr Rupesh Srivastava is M Biotech Program Coordinator; Member, Institutional COVID-19 literature appraisal committee, Institutional eGrants update and eNewsletter committee, Institutional IPR committee, Institutional CCRF-FLOW Cytometry committee, Departmental Infection Control Committee for COVID-19; Review Editor, Frontiers in Cell & Developmental Biology and Frontiers in Molecular Biosciences; Editor, Frontiers in Biosciences; Associate Editor: Frontiers in Immunology (Inflammation), Frontiers in Endocrinology; Invited Fellow of BD’s PARADIGM (Master’s group of Hi Parameter Hi Dimensional User Club); Part of the Young Science Leadership (YSL) program of Tri-Science Academies of India.

Dr Bhupendra Kumar Verma is M. Biotech Program Coordinator; Nodal officer for COVID-19 management, AIIMS; Co-ordinator, Departmental Infection Control Committee for COVID-19; Member, COVID-19 diagnostic management committee; COVID19 Literature appraisal committee for Immunology, Molecular Biology and Vaccine Development.

Dr Vikram Saini is the HarGobind Khorana Innovative Young Biotechnologist Fellow, DBT, Govt of India; expert member and consultant for the National Biodefense Programme, and National Committee for technical evaluation of development of the priority-pathogen containment facilities, Department of Defense, Govt of India; expert and consultant to National Center for Disease Control (NCDC), India; National Instt of Biologicals, DRDO, India, and to Govt. of Uttarakhand State,

India/World Bank sponsored initiative for development of high containment Biosafety facilities in these regions; nominee of the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Department of Animal Husbandry and Dairying, GOI; principal investigator (at AIIMS) in National Consortium for One Health to address Zoonotic and Transboundary Diseases in India, including the Northeast Region; involved in several initiatives at AIIMS including Principal investigator in the CRA between AIIMS-IIT start up Medicfibers Pvt Ltd for development of medicated and anti-microbial clothing in India as per GoI's Make in India Policy; technical expert for RAISE programme of the Ministry of Power, GoI for examining efficacies of various technologies for pathogen disinfection for improving hospital air quality; convener of PPE Decontamination and Re-use committee for Covid-19; Member Secretary, Institutional Covid-19 Diagnostic Committee, Member, Central Resource Committee, and Member, Selection of PPE usage at AIIMS, New Delhi during Covid-19, and Member, Institutional Purchase Committee; member/special invitee to Institutional Biosafety Committee (IBSC), Institutional Animal Ethics Committee (IAEC), Core Committee CCRF, Committee for nude-mice/Transgenic mice facility; Facility In-Charge and Coordinator for CCRF- BSL-3 laboratory, AIIMS; Member-Secretary for A-BSL3 facility at Central Animal Facility, AIIMS; coordinator of Career awareness program in Biotechnology at Dept. of Biotechnology, AIIMS; review editor at journal *Frontiers in Microbiology* and reviewer for various journals and funding agencies DBT, DST-SERB, Swiss National Science Foundation (SNF), etc.; articles featured on Back Cover of Prestigious Royal Society Journal *Dalton Transactions*; article on Saliva for Covid-19 diagnostics Featured in Readers' Choice: The best of *BDJ Open* 2021 (the most accessed articles of journal); developed a novel cold chain independent Viral Transport Medium for Improved Diagnostics of Covid-19; Patent Filed. Novel Copper compounds with anti-microbial properties. Indian Patent Application No.: 202111019702 (Date of filing: April 29, 2021); Signed a Comprehensive research Agreement as Lead Investigator for AIIMS-MedicFibers Pvt Ltd, an IIT-Delhi Start-up for developing Medicated clothing within the Make in India Framework of Govt of India as a strategy for reducing Infections and improving patient health care; Invited Member, National Level Expert Committee, For Maximum Microbial Containment Complex at the National Biodefense Programme, Department of Defense, Govt of India.

Dr Vineet Choudhary is a recipient of the prestigious Wellcome Trust/DBT India Alliance Intermediate Fellowship Grant. This is the first time someone from AIIMS, New Delhi has been awarded such a prestigious Grant in the field of Basic Biomedical Research. Dr. Choudhary is participating at the departmental level as Course Coordinator for Structural Biology and NMR Technology, and Cell & Developmental Biology. The Journal of Cell Biology article by Dr. Vineet Choudhary (2020Jul 6;219(7):e201910177. doi: 10.1083/jcb.201910177.) was featured in a SPOTLIGHT commentary entitled building the lipid droplet assembly complex in *Journal of Cell Biology*. <https://rupress.org/jcb/article/219/7/e202006025/151882/Building-the-lipid-droplet-assembly>. The same article also featured in a *Microbial Cell Review*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7380455/> Moreover, as an Outreach the same article was selected as a SPOTLIGHT for the European Commission (EU) research results section CORDIS, and results in brief entitled The unexpectedly complex issue of putting on and losing fat was published in six languages: <https://cordis.europa.eu/article/id/422501-the-unexpectedly-complex-issue-of-putting-on-and-losing-fat>. Dr. Choudhary serves as a reviewer for various national and international scientific journals. He is a member of American Society for Cell Biology and American Society for Biochemistry and Molecular Biology. He was an invited speaker at the E-colloquium on Emerging Trends in Health and Disease Research ETHDR-2020, organized by Amity Institute of Biotechnology (AIB), Amity University Haryana (AUH), Gurugram, Haryana (October 20, 2020). Dr. Choudhary is serving as Topic Editor for the Research Topic: "The Evolving Role of Lipid Droplets: Advancements and Future Directions" in the *Journal Frontiers in Cell and Developmental Biology*.

Ms Kanchan Saini, PhD student, is a recipient of Young Researcher Award under the Medical Science Category at the 3rd National Biomedical Research Competition-2021 (online due to Covid19).

VISITING SCIENTISTS

1. Dr Nimesh Gupta, Faculty, NII, New Delhi has delivered seminar-Immunological memory to SARS-CoV-2: The T cell memory on 16 April 21
2. Dr Jayashree Ramana, Senior Scientist, ICGEB, New Delhi has delivered a seminar- Machine learning in Biology (a prelude) on 15 April 2021
3. Dr Sunil K Arora, Professor, PGI Chandigarh has delivered seminar-Evolution of viruses in human host: influence of co-morbid conditions on 17 April 21
4. Dr Upasana Ray, Senior Scientist, IICB, Kolkata has delivered seminar-VLP based Vaccines against JC Polyomavirus and progressive multifocal leukoencephalopathy on 17 April 21
5. Dr Ritobrata Goswami, Assistant Professor, IIT, Kharagpur has delivered seminar-Vitamin D: Health benefit on 20 April 2021
6. Dr Amaresh Panda, Scientist -D, ILS, Bhubaneswar has delivered seminar-Role of circular RNAs in beta cell physiology on 22 April 21.
7. Dr Sharath Chandra, Scientific Officer D, ACTREC, Mumbai has delivered seminar-Role of cancer associated fibroblasts in tumorigenesis on 22 April 2021
8. Dr Manjula Kalia, Associate Professor, RCB, Faridabad has delivered seminar-Pathobiology of Japanese Encephalitis Virus on 16 April 21

9. Dr Dimple Notani, Faculty, NCBS, Bangalore has delivered seminar-Genetic variation in enhancers on 22 April.21.
10. Dr Saravanan Matheshwaran, Assistant Professor, IIT, Kanpur has delivered seminar on 23 April 21
11. Dr Shailza Singh, Scientist at NCCS, Pune has delivered seminar-Signaling cascades driving immunology towards synthetic biology on 24 April 21
12. Dr Anwesha Bhattacharyya, Faculty, JMI, New Delhi has delivered seminar-Decipher cortical functioning during retinal degeneration to develop better therapeutic strategies for restoring vision on 24 April 21
13. Dr Rajiv Kumar, Assistant Professor, BHU, Varanasi has delivered seminar on 27 April 21
14. Dr Javed Agrewala, Professor, IIT Ropar, has delivered seminar-Immunosuppressive agent Caerulomycin A: From mud to money on 28 April 21
15. Dr Kakali Purkayastha has delivered a seminar- Circadian Rhythms and Biological clocks in Chronic Diseases on 11 January 2022
16. Dr Mukesh Jain, Professor, JNU, has delivered a seminar- Next Generation Sequencing Technologies: Overview, methods and applications on 18 January 2022
17. Dr Himanshu Kumar, Associate Professor, IISER, Bhopal has delivered as seminar- Role of miRNA in innate immunity during flu and SLE
18. Dr Mukesh Jain, Professor, JNU, has delivered a seminar- Whole Genome Sequencing: Concept, methods, assembly (de novo and reference-based) for Eukaryotic genomes on 20 January 2022
19. Dr Mukesh Jain, Professor, JNU, has delivered a seminar- High-throughput Transcriptome Sequencing: Concept and applications; transcriptome construction (de novo and reference-based) on 24 January 2022
20. Dr Mukesh Jain, Professor, JNU, has delivered a seminar- Methods for Gene Expression Profiling via NGS and Applications on 28 February 2022
21. Dr Bhabatosh Das, Associate Professor, THSTI, Faridabad has delivered a seminar- Metagenomics on 1 February.2022
22. Dr Mukesh Jain, Professor, JNU, delivered a seminar- Sequencing and Analysis of Non-coding RNAs on 7 March 2022
23. Dr Bhabatosh Das, Associate Professor, THSTI, Faridabad delivered a seminar- Microbiome and infectious diseases on 24 January 2022
24. Dr Bhabatosh Das, Associate Professor, THSTI, Faridabad delivered a seminar- Human Microbiome: Concept, Approaches and Implications on 17 February 2022

9.8. Centre for Community Medicine

Professor and Head

Shashi Kant

Professors

Sanjeev Kumar Gupta
Baridalyne Nongkynrih

Kiran Goswami
Puneet Misra
YS Kusuma Kumari

Anand Krishnan
Sanjay Kumar Rai

Additional Professors

Kapil Yadav

Sumit Malhotra
Ravneet Kaur

Anil Kumar Goswami
Harshal Ramesh Salve

Associate Professors

Partha Halder

Rakesh Kumar

Assistant Professor

Mohan Lal Bairwa

HIGHLIGHTS

As we draft this report the major brunt of the ongoing COVID19 pandemic is largely on a subsiding trail. The community-based teaching of undergraduate and post graduate students, research and service provision is almost restored to pre-pandemic levels. During the severe second wave that gripped the country from April 2021 to around August 2021, the faculty members of this Department and post graduate students were posted once again for COVID-19 care services at AIIMS New Delhi. Nonetheless, the departmental team ensured that routine service provision, teaching and research continued with least disruption. The Faculty members of Centre for Community Medicine (CCM), at AIIMS, New Delhi, continued providing support to Government of India in crafting a response to the pandemic by being part of the National Task Force for COVID19 response and other specific COVID19 committees. Faculty members also provided technical inputs to national health programmes of the Government of India. The Department is spearheading anemia control in country through the National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A); ensuring evidence based decision making for HIV programme of the National AIDS Control Organization (NACO), Government of India through being the National Institute for HIV Surveillance; and framing up the comprehensive health sector priorities for Non-Communicable Diseases by being the WHO collaborating center for Research and Capacity Building on Community-based Non Communicable Diseases (NCD) Prevention and Control. In addition, through its presence in technical resource groups of Government of India, the Department is actively contributing for strategy framework of National Viral Hepatitis Control programme, pollution and its effect on health, National Tuberculosis Control Program, Adolescent Health, and Health Sector Strategy frameworks. CCM also houses the Technical Support unit for SRS-based Verbal Autopsy System of the Office of Registrar General of India and WHOSEAR NCD delivery network.

EDUCATION

As the COVID-19 pandemic subsided, gradually the teaching and assessment were resumed physically. However, during the subsequent waves of the pandemic, some of the classes were conducted in online mode as well so that continuity in teaching could be maintained. The Urban Health Posting, Family Health Advisory Services and Rural Postings had to be hence innovated amidst the limited options available and were replaced to some extent by family-based exercise for clinical case, family workup, management discussion and health education. The undergraduate research exercise was again resumed back to physical mode based on field exercise. During the subsequent waves of the COVID-19 pandemic faculty members as well as postgraduate students were posted in COVID wards. Accordingly some of the classes and seminars had to be re-scheduled. Journal clubs were online whenever the pandemic was on a surge. Once the surge subsided, the journal clubs were conducted on a hybrid mode- with some participants attending in physical mode with social distancing along with arrangements for parallel online sessions for the rest of the group.

Undergraduate MBBS students

MBBS students of the 7th semester are posted at CRHSP Ballabgarh, in four batches for six weeks each. We had resumed physical residential posting of undergraduate students after hybrid teaching in the year 2022 due to COVID 19 pandemic. During posting students are taught concepts of epidemiology, are given an orientation to community health, including social determinants of health, community aspects of child health and mental health, health systems at various levels, and health

programmes. There are special modules to train on Integrated Management of Neonatal and Childhood Illness (IMNCI) and epidemiology. The students also undertake a brief qualitative method based research project under module Orientation of Undergraduates to Community Health (OUCH) during this posting. Each posting of 6 weeks is concluded by an internal assessment. Two skill modules namely, Glucometer use and Gloving & Gowning were covered during residential posting at CRHSP Ballabgarh.

Interns

The interns are posted for a total duration of three months at the CRHSP Ballabgarh. This period is divided into six weeks at SDH, and three weeks at each of the PHCs located at Dayalpur and Chhainsa. The entire posting is residential. At SDH, interns are posted in OPD and Wards that help them in learning basic clinical skills, as well as in-patient management, including conducting normal deliveries. They are rotated in all the available clinical disciplines at SDH under the supervision of respective Senior Resident (SR). During PHC posting, interns participate in health care delivery at the clinics of PHC, sub-centres as well as in antenatal clinics. They are also posted at the delivery hut at each PHC under overall supervision of SR of Community Medicine. They get experience in community level activities such as supervision of health workers, follow-up of patients that have defaulted while on anti-tuberculosis treatment, supervision of sub-centres, undertaking outreach activities, immunization and other ongoing activities at the PHC. Interns are also involved in special activities at PHCs such as Kayakalp assessment, annual census, public awareness generation and school health related activities. At the end of the CRHSP posting interns submit their log-book duly signed by respective SRs under whom they were posted for end posting assessment.

Postgraduate students of Community Medicine

The postgraduate students of Community Medicine are posted at CRHSP Ballabgarh for 18 months. This posting is residential. Out of the total duration, they spend 5 months and 10 days each, at the sub-district hospital and both PHCs on a rotation. This gives them adequate opportunity to gain the necessary skills and experiences both at the SDH and PHC. They are encouraged to take active participation in decision making and administration at the PHC. The regular teaching programme includes seminars, family and clinical case presentations, operational research and problem-solving exercises based on Health Management Information System and field data. Residents also participated in various activities conducted at the PHCs and in the villages under various National health Programme.

BSc Nursing and Post certificate Nursing Students

BSc nursing students and post certificate nursing students are posted for one and half months at CRHSP Ballabgarh. This posting is residential in nature. They spend one month at SDH and two weeks in either of the two PHCs. They are provided training in antenatal care, management of ward, and immunization. They are posted both in OPD and in ward. They provide health talks, and IEC in OPD, and ward. Training of nursing students is supervised by a Faculty Member from the College of Nursing, AIIMS, New Delhi.

In-service Training

In addition to teaching of students, periodic in-service trainings were conducted for different cadres of staff working at the CRHSP Ballabgarh. The trainings conducted during 2021-22 were as follows:

1. A total of 50 hours of in-service training for Health Workers and ASHA workers (24*2=48) were conducted at PHC Dayalpur and Chhainsa (figures are inclusive). These are conducted during the meetings, each month. Topics were decided based on the training needs identified during field supervision; for the reporting period, these were as following: identification of JSY beneficiaries and facilitating them to avail benefit, management of animal bite cases, management of LBW babies, family planning - methods, importance and how to improve coverage, management of biomedical waste management, Tracking of High Risk Pregnancy and management, post-natal care for mother and newborn including complication management and kangaroo mother care, IMNCI-Identification and management of sick baby, identification, care and management of malnutrition at field level, Training on cold chain management PHC to immunization site and back to PHC, Diagnosis and management of TB cases.

CMEs/Workshops/Symposia/National and International Conferences

1. Consultation of WHO SEAR member nations for Curriculum Framework review- 25 June 2021- online
2. Regional training of Network Institutions to deliver People-centred integrated NCD care: 4-8 October 2021 – online
3. Preconference workshop on verbal autopsy-based cause of death ascertainment as part of Indian Association of Preventive and Social Medicine, 23 to 26 September 2021 at JIPMER, Puducherry, moderated and took sessions on verbal autopsy
4. Preconference workshop on implementation research (15 and 16 September 2021) as part of Indian Association of Preventive and Social Medicine, 23 to 26 September 2021 at JIPMER, Puducherry, moderated and took sessions on implementation research
5. Training programme on the use of “Larvicide and Insecticides for the Prevention and Control of Vector Borne Diseases” was organized for staff of DPORC on 7 May 2021 at CCM, AIIMS

6. District level assessment of COVID 19 response as Central-team constituted by Ministry of Health and Family Welfare, GoI (April-2021)
7. MINErVA Network Meeting organized by AIIMS Technical Support Unit (ATSU) under MINErVA by RGI, Ministry of Home Affairs, GoI (July 2021)
8. Training of State Nodal Officer under National Programme of Climate Change and Human Health (NPCCHH) – August 2021
9. Visited Districts Lucknow, Raebareli, Shimla for assessment of Continuity of NCD services during COVID 19 pandemic for WHO – India office and Ministry of Health and Family Welfare, GoI (September 2021)
10. Resource faculty for Plenary sessions on Minerva and Continuity of NCD services during 65th Annual Conference of Indian Public Health Association (IPHA) at Puducherry. (September 2021)
11. Chairperson for scientific poster session during 65th Annual Conference of Indian Public Health Association (IPHA) at Puducherry. (September 2021)
12. Webinar on Integration of VA into CRVS system. New Delhi, 15 November 2021.
13. Webinar on Strengthening Medical Certification of Causes of Death in India. New Delhi, 16 March 2022.
14. Pre-conference workshop IPHACON2021- DeCode VA: Deriving Cause of Death from Verbal Autopsies. Puducherry, 10th September 2021
15. Plenary session at IPHA Conference- MINERVA: Excess mortality due to COVID-19. Puducherry, 24 September 2021
16. Pre-conference workshop IPHACON2021- Implementation Research. Puducherry, 16 September 2021
17. Workshop on Air Pollution and Health Effects Research In collaboration with IIT Delhi under CAPHER India (October 2021)
18. Resource person for Mortality estimation due to HIV by National AIDS Control Organisation, MOHFW, GoI
19. Training of trainers of development of Skill module for SET facility AIIMS
20. Expert committee meeting for documenting best practices for continuity of NCD services during COVID 19 Pandemic organized by CCM AIIMS
21. 49th Annual Conference of Indian Association of Preventive and Social Medicine (IAPSMCon 2022) at GMC, Nagpur, Maharashtra Network and TAG meeting under MINErVA for AIIMS and RGI, Ministry of Home affairs, GoI
22. CAPHER India Steering Committee Meeting, AIIMS New Delhi
23. ATSU Meeting to plan and review progress of activities under MINErVA at AIIMS New Delhi
24. Regional Post-Surveillance Meeting for ANC, Prison, and HRGs HIV Sentinel Surveillance 2021 (HSS 2021) for faculty members of various medical institutions, and officials of state AIDS Control Societies of five northern states (Bihar, Jharkhand, Delhi, UP, and Uttarakhand) at Lemon Tree Hotel, Gurugram, Haryana from 4-5 October 2021.
25. A four days “National Post-Surveillance meeting” was organized for Regional Institutes, State AIDS Control Societies (SACS), Central Team Members (CTM), of all the 37 States and union territories of India at The Muse, Sarovar Portico, Kapashera New Delhi from 22-25 March 2022.
26. Technical Working Group meeting to develop integrated service package for Transgender (TG) people on 27 July 2021
27. 7th Meeting of Technical Resource Group on Surveillance of Viral Hepatitis on 2 July 2021
28. 9th Meeting of Technical Resource Group on Surveillance of Viral Hepatitis - 3 November 2021
29. 10th Meeting of Technical Resource Group on Surveillance of Viral Hepatitis on 6 December 2021
30. Meeting on set up of Gender Affirmation Clinic and COE in AIIMS New Delhi for transgender persons on 25 November 2021
31. Advisory Board Meeting with IIM Bengaluru on 19 January 2022

Lectures delivered

Anand Krishnan: 4
Kapil Yadav: 2
Partha Haldar: 1
Rakesh Kumar: 2

Baridalyne Nongkynrih: 8
Sumit Malhotra: 12
Ravneet Kaur: 5
Mohan Lal Bairwa: 6

Sanjay Rai: 3
Anil Goswami: 1
Harshal Ramesh Salve: 3

Oral papers/posters presented: 13

Year	Number of Oral Presentations
2019-20	14
2020-21	8
2021-22	13

RESEARCH

Funded projects

Ongoing

- 1 A Multi-Centric Novel Coronavirus (COVID-19) Population-Based Age-Stratified Sero-Epidemiological Study (In Urban, Rural and Tribal Communities at Selected Centers in India: A Prospective Study), Puneet Misra, WHO, 1 year, 2020-2021, Rs 2.39 crores
- 2 Advancing Biomedical Interventions for prevention of RSV infection in under-5 Children N-2111, Anand Krishnan, IAVI, 3 years, 2019-2022, Rs 50 lakhs
- 3 An Adaptive, Seamless Phase 1, Followed by Phase 2 Randomized, Double-blind, Multicenter Study to Evaluate the Safety, Reactogenicity, tolerability and Immunogenicity of the Whole-Virion Inactivated SARS-CoV-2 Vaccine (BBV152) in Healthy Volunteers, Sanjay K Rai, Bharat Biotech, 1 year, 2020-2021, Rs 46 lakhs.
- 4 An Event-Driven, Phase3, Randomized, Double-blind, Placebo-controlled, Multicenter Study to Evaluate the Efficacy, Safety, Immunogenicity, and Lot-to-Lot consistency of BBV152, a Whole virion Inactivated SARS-CoV-2 Vaccine in Adults ≥ 18 Years of Age, Sanjay K Rai, ICMR, 2 years, 2020-2022, Rs 71.3 lakhs
- 5 Assessment of Ayushman Bharat- Health and Wellness Centres for comprehensive primary health care – A health systems study, Sumit Malhotra, National Health Systems Resource Centre, Ministry of Health and Family Welfare, 1 year, 2022, Rs 1.4 lakhs
- 6 Assessment of burden, pattern and determinants of Long COVID in patients attending secondary care hospital in Ballabgarh, Haryana, Harshal Ramesh Salve, AIIMS, 2 years, 2021-2023, Rs 8.5 lakhs
- 7 Assessment of risk factors for coronavirus disease 2019 (COVID-19) in health workers: A case control study, Ravneet Kaur, WHO, 1 year, 2020-2021, Rs 21.6 lakhs
- 8 Capacity building of primary health care providers in comprehensive primary health care packages for operationalization of health and wellness centres using tele-mentoring platform in northern parts of India, Sumit Malhotra, National Health Mission, Haryana, 2 years, 2020-2022, Rs 6.89 Lakhs
- 9 CAPHER-Collaborative on Air Pollution and Health Effects Research, India, Harshal Ramesh Salve, Health Effects Institute (HEI), Boston, USA, 2 years, 2021-2023, Rs 48.8 lakhs
- 10 Centre of Excellence in Cardio-pulmonary Disorders under NPCCHH, Anand Krishnan, NCDC, 6 months, 2021-2022, Rs 5 lakhs
- 11 Comparative assessment of various models of Mobile Medical Units in rural and remote areas, Ravneet Kaur, NHSRC, MOHFW, 2 years, 2019-2021, Rs 25 lakhs
- 12 COVID-19 vaccine acceptance and uptake: an implementation research among tribal, rural and urban communities in selected districts of four Indian states, YS Kusuma, ICMR, 1.5 years, 2022-2023, Rs 99.1 lakhs
- 13 Delhi Cluster – Delhi Research Implementation and Innovation (DRIIV): Tackling air pollution in Delhi NCR, Harshal Ramesh Salve, Office of Scientific Advisor, GoI, 2 years, 2020-2022, Rs 8 lakhs
- 14 Effect of glycemic status on initial presentation and treatment response in newly diagnosed sputum positive pulmonary tuberculosis patients: a prospective study, Rakesh Kumar, AIIMS Intramural, 2 years, 2019-2021, Rs 9.85 lakhs
- 15 Effect of structured yoga program on stress among frontline healthcare workers during COVID-19 pandemic, Puneet Misra, Department of Science and Technology (DST), 1 year, 2021-2022, Rs 14.6 lakhs
- 16 Effectiveness of Covaxin and Covishield vaccines against severe COVID-19 in India, 2021: Multi-centric hospital-based case control study, Sanjay K Rai, ICMR, 2 years, 2021-2022, Rs 10.9 lakhs
- 17 Effectiveness of point of care testing by front line workers-ANM, AWW, and ASHA-in anemia control, Kapil Yadav, ICMR, 2 years, 2020-22, Rs 98.49 lakhs
- 18 Establishing a Technical Support Unit For Verbal Autopsy Based Cause Of Death Ascertainment In The Sample Registration System, Registrar General Of India, Anand Krishnan, Ministry of Home Affairs (RGI), 5 years, 2020-2025, Rs 3 crores per year
- 19 HIV sentinel surveillance for India project, Sanjay K Rai, NACO, MoHFW, GoI, 2 years, 2018-2020, Rs 2.8 crores
- 20 Household transmission investigation for coronavirus disease 2019 (COVID-19) in a rural and urban population of North India, Kapil Yadav, WHO, 9 months, 2020-2021, Rs 63.8 lakhs
- 21 Improving healthcare access and quality in the context of achieving universal health coverage among scheduled tribes: An implementation research in Visakhapatnam district, Andhra Pradesh, YS Kusuma, ICMR, 2.5 years, 2020-2022, Rs 29.2 lakhs
- 22 India Primary Health Care Support Initiative, Anand Krishnan, JHU, 3 years, 2021-2023, Rs 60 lakhs
- 23 Innovation Learning Centre for supporting implementation of Comprehensive Primary Health Care in a selected district of Haryana, Sumit Malhotra, National Health Systems Resource Centre (NHSRC), Ministry of Health and Family Welfare, 3 years, 2018-2021, Rs 41.45 lakhs
- 24 Local governance and the pandemic: Role of village/urban ward secretariats in the management of COVID-19 - A case study of Visakhapatnam district of Andhra Pradesh, Y.S. Kusuma, ICMR, 1 year 4 months, 2022-2023, Rs 12.9 lakhs
- 25 Longitudinal follow-up of ongoing Multi-Centric Novel Coronavirus (COVID-19) Population-Based Age-Stratified Sero-Epidemiological prospective Study (In Urban, Rural and Tribal Communities) under WHO Unity protocol at Selected

- Centers in India with added component to see cell-mediated immune response following COVID-19 infection/ vaccination and capacity building of five new sites across India, Puneet Misra
- 26 National Centre of Excellence and Advanced Research on Anemia Control, Shashi Kant, UNICEF, 1 year, 2022, Rs 94.6 lakhs
 - 27 Nutritional status of pregnant women as assessed by nutrient intake, anthropometry and selected serum biomarkers in an urban area of Delhi – A community-based study, Ravneet Kaur, AIIMS, 2 years, 2019-2021, Rs 8.25 lakhs
 - 28 Preparing NCD Health Emergency Framework and documenting best practices adopted by States/UT for continuing NCD services during COVID 19 Pandemic, Harshal Ramesh Salve, WHO–India Office, 1 year, 2021-2021, Rs 27.7 lakhs
 - 29 Review of WHO PEN competencies in preservice courses in health and medical courses in SEAR, Baridalyne N, WHO-SEARO, 8 months, July 2021 -March 2022, Rs 16.7 lakhs
 - 30 Strengthening evidence based advocacy for influenza prevention and control in India N-1814, Anand Krishnan, CDC, Atlanta, 5 years, 2017-2022, US \$ 1250,000

Completed

1. Community practices in COVID-19 outbreak in rural Ballabgarh, Haryana: A mixed method study, Harshal R Salve, AIIMS, 1 year, 2020-2021, Rs 2.7 lakhs
2. Community's compliance to health advisory during COVID-19 pandemic: a socio-ecological framework to understand the compliance with implications on future disease prevention strategies, Y.S. Kusuma, AIIMS, New Delhi, 1 year, 2020-2021, Rs 3.5 lakhs
3. Effectiveness of point of care testing by front line workers- ANM,AWW, and ASHA) in anemia control, Kapil Yadav, ICMR, Two years, 2020-2022, Rs 98.49 lakhs
4. Household transmission investigation for coronavirus disease 2019 (COVID-19) in a rural and urban population of North India, Kapil Yadav, WHO, 9 months, 2020-2021, Rs 63.8 lakhs
5. Mortality burden of ambient PM2.5 exposure in Delhi NCR, Harshal R Salve, AIIMS – IIT Joint Collaborative Project Grant, 2 years, 2018-2020, Rs 8.9 lakhs
6. Reducing Premature Mortality due to CVDs (Cardio Vascular Diseases) Identification of Delays and Barriers to acute Cardiac care in National Capital Region – Delhi I-1119, Anand Krishnan, ICMR, 2 years, 2019-2021, Rs 25.3 lakhs

Project Information of past 3 years

Year	Funded projects (Ongoing+ Completed)	Total funding	Extramural (ongoing)	Extramural (completed)	Intramural (ongoing)	Intramural (completed)
2019-20	24	204,404,514	198,181,864	3,912,650	2,310,000	–
2020-21	43	344,968,946	322,853,898	18,107,048	2,935,000	1,073,000
2021-22	36	284,758,000	261,829,000	19,649,000	2,660,000	620,000

Departmental projects

Ongoing

1. A Double Blinded Randomized Controlled Trial To Compare The Effectiveness Of Oral Multiple Micronutrient Supplement (MMS) Vs Oral Iron And Folic-acid, for Anemia Prophylaxis Among Non-anemic Pregnant Women In Rural Haryana
2. An Epidemiological study of Haemoglobinopathies and operationalization of A Comprehensive and Integrated Module for Haemoglobinopathy Management at District Level
3. Assessment of Select Nutritional Problems among Adolescent Girls in an Urban Resettlement Colony, New Delhi- A Mixed Method Study
4. Diabetes distress and associated factors among adult patients residing in an urban resettlement colony in New Delhi
5. Diagnostic and treatment delays among patients with drug-resistant tuberculosis registered under National Tuberculosis Elimination Programme at selected district tuberculosis centres in Delhi-NCR
6. Effect of Structured Yoga Program on Hypertension, Diabetes, Stress and Wellness in Community Setting, its Feasibility and Long-Term Sustainability.
7. Enhancing mental health literacy and reducing stigma for mental illness among college going students in National Capital Territory of Delhi: An interventional study
8. Estimation of cardiovascular risk among adults aged 30-59 years using updated WHO CVD risk charts in the rural population of Ballabgarh, Haryana
9. Health and nutrition behavior needs assessment of community-based youth in north India.
10. Healthy food purchase and retail food environment in an urban resettlement colony of Delhi
11. HIV Self-Testing as a Mechanism to Increase the Uptake of HIV Test Among MSM: A Mixed Methods Study
12. Impact of Covid 19 on Immunization
13. Knowledge and acceptability of pre-exposure prophylaxis (PrEP) for HIV among men who have sex with men (MSM) and transgenders (TGs) in Delhi

14. Knowledge and Practices related to Ambient Air Pollution and App- based Air Quality Alert System in an Urban Population in Delhi
15. Management of Headache Disorders in adults residing in Rural Ballabgarh: Patient and Healthcare Provider perspective.
16. Nutritional status of women aged 15-24 years in a rural area of Haryana.
17. Patient engagement in disease management in persons with diabetes mellitus or hypertension and its association with outcomes in rural Faridabad
18. Prevalence and determinants of selected chronic conditions among adolescents aged 10-19 years in a rural community of north India.
19. Prevalence of anemia among women in a rural area of Haryana who had received intravenous iron sucrose during pregnancy for treatment of moderate anemia: 6 and 12 months post infusion
20. Prevalence of GDM in rural area as per GoI guidelines
21. Prevalence of low back pain and its associated factors among elderly persons in an urban resettlement colony of Delhi.
22. Relevance and capture of narratives in verbal autopsies for cause of death
23. Status of COVID-19 specific IgG antibodies among recovered COVID-19 patients residing in a rural community of Faridabad, Haryana
24. Study of Common Mental Disorders in adolescent living with HIV (ALHIV) attending the pediatric HIV services at AIIMS, New Delhi: A Case–Control Study
25. Utilisation of maternal healthcare services in a rural area of Ballabgarh, Haryana during Covid-19 pandemic.

Completed

1. Assessment of anemia control measures in district Faridabad, Haryana with focus on iron folic acid supply chain and anemia diagnostic facilities: a mixed method study
2. Assessment of Mental Health Services in District Faridabad – A Mixed Method Study
3. Diabetes and hypertension among elderly persons in an urban resettlement colony of Delhi.
4. Evaluation of Population Based Screening (PBS) under National Programme for the Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) using Lot Quality Assessment Sampling (LQAS) technique in Nuh (Mewat) District, Haryana
5. Impaired lung function among patients successfully treated for pulmonary tuberculosis at Ballabgarh Tuberculosis Unit, district Faridabad, Haryana
6. Mild cognitive impairment and associated factors among elderly persons in an urban resettlement colony in Delhi.
7. Prevalence of anemia among elderly persons in a resettlement colony of Delhi.

Collaborative projects

Ongoing

1. A Phase III, Randomized, Double-blind, Three arm Placebo controlled Trial to Evaluate the Efficacy and Safety of two vaccines VPM1002 and Immuvac(Mw) in Preventing Tuberculosis (TB) in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB Patients, Pulmonary Medicine and Sleep Disorders
2. A population based prospective cohort study to unravel the causes of stroke and cognitive decline: A cross-cultural perspective, Neurology
3. A study to assess the effectiveness of video assisted teaching on knowledge regarding prevention and management of varicose vein among security guards of AIIMS Delhi, College of Nursing
4. Advanced nodal centre for surveillance network of AMR in Typhoidal Salmonella
5. Assessment of quality of death certification practices at AIIMS, New Delhi and testing quality improvement solutions., Hospital Administration
6. CMR National Registry on Venous Thrombo-Embollic Disorders, Cardiology
7. Combined Transmuscular Quadratus Lumborum Block and Sacral Erector Spinae block versus intrathecal morphine for perioperative analgesics in patients undergoing open gynaecological oncological surgery: an open labeled prospective randomized non inferiority trial, Anaesthesiology, Pain Medicine and Critical Care
8. Community based assessment of disability among adult population in Delhi using WHO International Classification of Functioning, Community Ophthalmology
9. Development and implementation of National Burn Registry at 14 burn centers in India, Burns, Plastic and Reconstructive Surgery
10. Development and validation of dental trauma awareness tool for schoolteachers, Centre for Dental Education and Research
11. Development of longitudinal growth reference and assessment of growth velocity, cardio-metabolic measures and its correlates among children in India– a prospective study, Biostatistics
12. Efficacy of Energy Dense Nutritional Supplement (EDNS) as adjunct to standard DOTS therapy in improving treatment outcomes in malnourished newly diagnosed sputum positive pulmonary tuberculosis adult patients, Pulmonary Medicine and Sleep Disorders

13. Emerging drug resistance in community acquired urinary tract infection and molecular insights into dynamics of resistance traits in Indian isolates: A multicentric cross-sectional study, Microbiology
14. Feasibility of Implementation of Hospital Based Trauma Registry for Road Traffic Injuries at Different Level of Health Care Setting and its Effect on Quality of Patient Care,
15. GIS based Surveillance of people with dementia and its risk factors among people residing in South Delhi by multidisciplinary collaborative approach- a pilot cross sectional survey for customized care plan and policy planning, Geriatric Medicine
16. ICMR Task Force Centre on Rational use of drugs, Pharmacology
17. IMPEment of an Evaluation and Treatment Package for Uniform Stroke Care and outcomes in the Medical Colleges (IMPETUS), Neurology
18. Indian Multiple Sclerosis and Allied Demyelinating Disorders Registry and Research Network, Neurology
19. Psycho-social Dynamics of Pregnancy Loss: Development of a Multidimensional Scale & Development and Efficacy (a Randomized Control Trial) of a Group Psychological Intervention Module, Psychiatry
20. SARS CoV-2 reinfection and infection following vaccination among AIIMS Delhi employees, Clinical Research Unit, Research Section
21. SARS CoV-2 reinfection and infection following vaccination among AIIMS Delhi employees- Phase 2, Clinical Research Unit, Research Section
22. Yoga Effect on Quality-of-Life Study among patients with Idiopathic Pulmonary Fibrosis (YES-IPF), University of Washington

Completed

1. Transmission dynamics of COVID-19 and its control in India and at the state level: A mathematical modeling -based study” (A-COVID-26), Laboratory Medicine

PUBLICATIONS

Journals: 72

Abstracts: 3

Chapters in Book: 8

Data for past 3 years

Year	Total publications	Journal Articles	Abstracts	Chapters in Books	Books/Monographs
2019-20	58	57	0	0	1
2020-21	87	84	0	3	0
2021-22	83	72	3	8	0

PATIENT CARE

Comprehensive Rural Health Services Project (CRHSP) report

Professor In-Charge

Puneet Misra

Additional Professors

Kapil Yadav Harshal Ramesh Salve

Associate Professor

Rakesh Kumar

Comprehensive Rural Health Services Project (CRHSP), Ballabgarh is the rural program of the Centre for Community Medicine of the All-India Institute of Medical Sciences, New Delhi. It comprises a sub district hospital (SDH), and two Primary Health Centres (PHCs) at Dayalpur, and at Chhainsa. The Intensive Field Practice area of CRHSP, as of 31 March 2022 consisted of a total population of **1,05,362**. The public health care infrastructure at the Intensive Field Practice area of CRHSP is set up through a network of 12 sub-centres associated with the two aforementioned PHCs. The Mission of CRHSP Ballabgarh is to achieve excellence in public health by undertaking teaching, research and patient care in a rural setting.

CRHSP Ballabgarh is involved in patient care, teaching, training and research activities. MBBS 7th semester students, Interns, postgraduate students and Senior Residents of various disciplines, and Nursing students, are posted at CRHSP Ballabgarh for their training through exposure to health care provision at a sub-district facility, and at PHC level. The students are also sensitized to the social determinants of health, through their residential teachings at these PHCs, wherein they interact with the community members.

Healthcare provision statistics at CRHSP Ballabgarh

- OPD services: 2,43,823 patients
- In-patient services: 9,381 patients
- Emergency services: 58,221 patients
- Deliveries conducted: 2,829 women
- Surgeries: 1,930 (only at the SDH Ballabgarh)

Detailed description of the activities at CRHSP Ballabgarh, which includes the two PHCs**1. Patient Care**

Patient care at the CRHSP Ballabgarh is described under following two categories

- Patient care services provided at the Sub-district Hospital, Ballabgarh
- Patient care services provided at the Primary Health Centres

Outpatient Departments

Daily	Once weekly
General Medicine	Non-communicable disease clinic
General Surgery	Physical Medicine and Rehabilitation (PMR)
Paediatric	Paediatric Surgery
Obstetrics and Gynaecology	Nutrition OPD
Ophthalmology	Thrice weekly
Psychiatry	Ante-natal clinic
Dental	Twice weekly
AYUSH (Homeopathy)	Dermatology
AYUSH (Ayurveda)	Ear, Nose and Throat
Orthopaedics	

A. Patient care services provided at SDH Ballabgarh**Total Outdoor Patients**

Out Patient Department (OPD) Total (New +Old)	2,43,823
New OPD patients (%)	1,31,761 (54.0%)
Medicine (New + Old)	78,106
Paediatrics (New + Old)	43,818
Obstetrics and Gynaecology (New + Old)	19,660
Antenatal care clinic registrations, Total visits, (New+Old)	19,498
Ophthalmology (New + Old)	14,930
Surgery (New + Old)	11,217
ENT (New + Old)	4,717
Dental	7,451
Physical Medicine & Rehabilitation (New + Old)	2,471
Non-communicable diseases clinic, Total (New + Old)	2,493
Dermatology (New + Old)	5,920
AYUSH (Homeopathy + Ayurveda)	9,667
Orthopaedic (New + Old)	15,307
Psychiatry	7,115
Nutrition OPD	205
Paediatric surgery	1,248

2. In-patient services (Total beds: 50)

a. Total Admissions (including births)	9381
Admission through casualty	3,974
Admission through OPD	2,595
Admission of Newborn (births)	2,812
b. Disaggregation of admissions, by specialty (N=9,381)	
Obstetrics and Gynaecology	5,041
Paediatrics	258
Ophthalmology	661
Surgery	482
Medicine	28
ENT	98
Physical Medicine and Rehabilitation (PMR)	1
Newborn	2812
c. Average Bed Occupancy Rate (%)	94.48
d. Average duration of stay for all patients (in days)	1.85
e. Total Deliveries Conducted (including IUD)	2,829

Casualty Services (No of beds: 10)	
Patients registered	58,211
Medico-legal cases	4,600
Emergency admissions	2,126

Total surgical procedures at SDH Ballabgarh

1. Ophthalmology	592
2. Obstetrics and Gynaecology	782
3. General Surgery	403
4. Paediatric Surgery	76
5. ENT	77
6. PMR	0
Total	1,930

a. Laboratory and Diagnostic Services	2,17,531
b. X Ray	18,561
c. USG	7,512
d. Malaria Slides	2,468
P. vivax	NIL
P. falciparum	NIL
e. Counseling and testing services provided for HIV	10138 & 10124

National Tuberculosis Elimination Programme:

SDH Ballabgarh is a Tuberculosis Unit (TU) under National Tuberculosis Elimination Programme. Three Designated Microscopy Centres (DMCs) are attached to this unit. Total tuberculosis cases treated at Ballabgarh Hospital from 1 April 2021 to 31 March 2022 were as follows:

Total cases started on treatment	
a. New Case	994
b. Previously treated case	29

Community Health Services

CRHSP, Ballabgarh provides community health services in Intensive Field Practice Area (IFPA) of 28 villages through a network of two Primary Health Centres (Dayalpur and Chhainsa), and 12 sub centres. Domiciliary, outpatient, inpatient and referral services are provided in the IFPA. Important demographic indicators for the IFPA for year (2021-22) were as follows:

Indicator	Value
Population	105,362
Birth Rate per 1,000 population	18.8
Death Rate per 1,000 population	8.4
Sex ratio at Birth (females per 1,000 males)	883
Infant mortality rate per 1,000 live births	31.2
Under 5 mortality rate per 1,000 live births	38.3

OPD Services in Intensive Field Practice Area:

This includes health care services provided at OPD of the PHC, as well as the OPD of the Extended Health Clinics, that are conducted at each of the villages of IPHA

PHC	New Cases	Repeat Visits	Total
Dayalpur	18655	18957	37612
Chhainsa	16597	11363	22960
Total	35252	30320	60572

Total No. of AYUSH OPD patients registered at PHC Dayalpur: **6,242**

(There is no AYUSH OPD at PHC Chhainsa)

2. Inpatient Services provided at the PHCs:

PHC	Total
Dayalpur	327
Chhainsa	333
Total	660

3. Emergency Services at PHCs:

PHC	Total
Dayalpur	8,342
Chhainsa	3,564
Total	11,906

4. Family Welfare and Maternal Child Health

The following services are provided as per the guidelines of National Health Mission

Indicator	Value
Total antenatal registration	2,169
Complete TT coverage of registered cases (%)	90.7
Percentage of Institutional delivery in IFPA	
PHC Chhainsa (%)	99.3%
PHC Dayalpur (%)	97.5%
Total deliveries in delivery huts at the PHCs	
PHC Chhainsa	333
PHC Dayalpur	327

5. Other National Health Programmes

National Vector Borne Disease Control Programme

Collection of blood slides are done as a part of passive surveillance in OPD and as active surveillance during domiciliary visits in the IFPA.

Indicator	PHC Chhainsa	PHC Dayalpur
Total number of malaria slides tested	3019	2864
Total number of positive cases	0	0
Annual Parasite Incidence (per 1,000 population)	0	0
Annual Blood Examination rate (%)	5.89	5.32
Slide Positivity Rate (%)	0	0

National Tuberculosis Elimination Programme:

The National Tuberculosis Elimination Programme is carried out in the IFPA according to national guidelines. Dayalpur PHC has been designated as a Microscopy Centre and caters to all villages under the IFPA. Tuberculosis patients treated in the IFPA (category wise) is as follows:

Indicator (2021-2022)	PHC Chhainsa	PHC Dayalpur
Total number of patients started on treatment	99	77
New Cases	88	68
Previously treated cases	11	9

6. Special services:

Outreach Speciality OPD (ORSO) is a special activity conducted at each PHC where Senior Residents posted at SDH Ballabgarh attend the patients at PHCs on a weekly basis. The services were started in June 2013. For the period, 1 April 2021 to 31 March 2022, the cases attended to at each PHC were as follows:

Services	PHC Chhainsa	PHC Dayalpur
Gynaecology	78	84
Paediatrics	61	53
Ophthalmology	106	96
Psychiatry	45	44
Out Reach Speciality OPD (ORSO)* (Total)	290	277

7. Animal Bite Management Clinic

Both PHC Chhainsa and Dayalpur have Animal Bite Management Clinic. A total of 767 doses of Anti-rabies vaccination were provided in PHC Chhainsa and 2368 doses in PHC Dayalpur.

Special services to pregnant women	PHC Chhainsa	PHC Dayalpur
Pregnancy received IVIS	72	121
PPIUCD	26	23
High Risk Pregnancy	375	347

8. IEC Activities

Group Health Talks:

Group health talk was delivered on following topics:

A total of 28 and 55 health talks were conducted in PHC Chhainsa and Dayalpur respectively. Neonatal care and kangaroo mother care, Breast feeding and weaning, Antenatal care, high risk pregnancy, anaemia in pregnancy, importance of institutional delivery, Immunization, Malaria and Dengue, Tuberculosis, anaemia in children, malnutrition in children, Vitamin-A deficiency, Diabetes, Hypertension, HIV/AIDS, accidents in children, personal hygiene, family planning methods, postnatal care and diet, care of newborn, swine flu, geriatric care, Mental health programme, etc.

9. Short film shows:

Films were screened in Child welfare centre, Ballabgarh, PHC Dayalpur, and PHC Chhainsa on important topics i.e. breast feeding, antenatal care, child care, female feticide, eye care, Vitamin A deficiency, malnutrition, and diarrhoea during OPD timings.

10. Special activities during 2021-2022 at PHCs

1. **Kayakalp related activities:** Both PHCs participated in activities related to Kayakalp.
2. **Intensive Mission Indradhanush:** Both the PHCs participated in Intensive Mission Indradhanush where almost 60 pregnant women and 275 kids were immunized against seven vaccine preventable diseases.
3. **Assessment for National Quality Assurance Standards (NQAS):** Both the PHCs have been working very hard with a mission of providing quality comprehensive care to the beneficiaries.
4. **COVID testing and vaccination drive:** As per state government guidelines both PHCs successfully carried out community based COVID testing and COVID vaccination.
5. **Haryana Villagers General Health Checkup Scheme:** The activity was conducted in PHC. Asha workers and health workers were trained for identifying persons with COVID-19 like illnesses. Health workers were trained to perform Rapid antigen testing. Quality was checked by agreement with medical officer posted in PHC. All the individuals residing in IFPA were screened by Health workers and ASHA workers. Those who had symptoms of COVID-19 and contacts of COVID-19 were tested using rapid antigen and immediately isolated.
6. **Plantation drive:** Plantation drive was carried out on occasion of World Environment Day at both the PHCs and sub-district hospital Ballabgarh.
7. **Cataract screening camp** was conducted in village Bukharpur in April 2021. A total of 43 elderly persons were screened, out of which 15 were positive for cataract. Ten of those persons were operated in CRHSP Ballabgarh for cataract. Due to the second wave of COVID-19 in April and May of 2021, similar screening camps in other villages were cancelled.

11. Awards and accolades

1. **Kayakalp award at primary Health Center:** Among all the Primary Health Centers in the District Faridabad, CRHSP's PHC Chhainsa was recognised as the best, for Kayakalp Award, while CRHSP's second Primary Health Center, i.e. PHC Dayalpur the commendation award, for Kayakalp Award for the Kayakalp programme in 2021-22.
2. **Certification of NQAS for PHC Dayalpur:** In national assessment of PHC Dayalpur, it was awarded NQAS quality certified with conditionality in November 2021

12. COVID response in CRHSP Ballabgarh and PHC Dayalpur and Chhainsa.

Following the resumption of services, COVID-19 response in IFPA focused on prevention, early detection and appropriate treatment and isolation of COVID-19 cases.

SOPs for maintaining COVID Appropriate Behaviour (CAB) were laid down and implemented in CRHSP Ballabgarh. Markings were made inside OPD at 6 feet distance. Chairs were also marked with cross for maintaining social distancing while sitting.

IEC material pertaining to COVID-19 precautions/symptoms/help-line number were put throughout the CRHSP Ballabgarh campus. Patients coming to OPD was provided with triple layer surgical mask and advised to follow cough etiquettes. Alcohol based hand sanitizers were placed at accessible places for patients. Training of all staff in Hospital Infection Control guidelines of AIIMS was carried out.

Testing of patients with Rapid Antigen Testing in emergencies and rt-PCR for routine cases was done, and adequate containment measures were taken which include contact tracing, treatment and advising home isolation.

Primary Health Center Chhainsa

All routine services continued in PHC during year 2021-2022. None of the services were stopped for any part of the year. Along with routine services, COVID 19 specific activities included screening, vaccination, contact tracing, home isolation and follow up of COVID-19 positive patients.

Initially, screening of symptoms was done by ASHA workers and health workers and patients who had symptoms were referred to PHC Chhainsa for testing. Haryana Villagers General Health Checkup Scheme (HVGHCS) was rolled out on 15 May 2021. Asha workers and health workers were trained for identifying persons with COVID-19 like illnesses. Health workers were trained to perform Rapid antigen testing at sub-centre and logistics were taken care of. Quality was checked by agreement with medical officer posted in PHC. All the individuals residing in IFPA were screened by Health workers and ASHA workers. Those who had symptoms of COVID-19 and contacts of COVID-19 were tested using rapid antigen and immediately isolated.

Medical treatment, home isolation, contact tracing and follow-up of all COVID-19 positive patients was done during this year.

Vaccination drive for COVID-19 was started from 21 January 2021 for health care workers, from 8 March 2021 for elderly. Beginning from 1 April 2021, people aged 45-59 years with comorbidities were eligible. It later encompassed every person above 18 years of age starting from May 1st 2021. House to house visits were done by ASHA and ANM to screen for eligible individuals in IFPA and these individuals were vaccinated in the sub-centres as per schedule of vaccination drive. COVID-19 vaccination was rolled out for children between 15-18 years of age from 3 January 2022. For vaccination of children, a school-based vaccination strategy was adopted first. Afterwards, vaccination of eligible children was done at sub-centre and PHC along with school. During the year 2021-2022, routine immunization took place along with COVID-19 vaccination and special efforts were made to continue COVID-19 vaccination drive without hampering routine immunization services.

From April 2021 to march 2022, in total, 36,082 doses of vaccines were given, including 3,263 doses among children less than 18 years in school

Indicators for COVID response

S.No.	Indicator	Total numbers
1)	No. of RT-PCR tests done in 2021-22	1426
2)	No. of RAT tests done in 2021-22	469
3)	No. of positive cases by RT-PCR in 2021-22	352
4)	No. of positive cases by RAT in 2021-22	45
5)	Total no. of positive cases in PHC area in 2021-22	397

Primary Health Center Dayalpur

All routine services continued in PHC during the year 2021-2022. None of the services were stopped for any part of the year. Along with routine services, COVID 19 specific activities included screening, vaccination, contact tracing, home isolation and follow up of COVID-19 positive patients.

Initially, screening of symptoms was done by ASHA workers and health workers and patients who had symptoms were referred to PHC Dayalpur for testing. Haryana Villagers General Health Checkup Scheme (HVGHCS) was rolled out on 15 May 2021. Asha workers and health workers were trained for identifying persons with COVID-19 like illnesses. Health workers were trained to perform Rapid antigen testing at sub-centre and logistics were taken care of. Quality was checked by agreement with a medical officer posted in PHC. All the individuals residing in IFPA were screened by Health workers and ASHA workers. Those who had symptoms of COVID-19 and contacts of COVID-19 were tested using rapid antigen and immediately isolated.

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From April 2021 to march 2022, in total, 31,536 doses of vaccines were given, including 3,211 doses among children less than 18 years in school.

Indicators for COVID response

S. No.	Indicator	Total numbers
1.	No. of RAT tests done in 2021-22	453
2.	No. of RT-PCR tests done in 2021-22	1318
3.	Total number of positive cases in PHC Dayalpur area in 2021-2022	532

Urban Health Programme

The field practice area of the Urban Health Programme, Centre for Community Medicine is located at Dakshinपुरi Extension, Dr Ambedkar Nagar in South Delhi, consisting of Blocks 1-7,14,15,19, Subhash camp, Dakshinपुरi catering to a population of around 35,834. Patient care services are provided at the Urban Health Centre.

4.3.1. Clinical Services

	Activities	Number
OPD	Total no of patients seen (including immunization)	12240
Laboratory services	Total Lab Tests	3213
	No. of Hb. Test Conducted	985
	Of which numbers having Hb <7 g/dl	37
	Of which numbers having Hb <11g/dl	337
	Blood Sugar-FBS,RBS,PPS	2196
	Urine albumin and sugar tested	52
	UPT	7
	RDT for Malaria	1
	Blood group	60

4.3.2. Child Health services

Number of immunization sessions held – 79 days

BCG		46
DPT 1= 1	/pentavalent 1	214
DPT 2= 2	/pentavalent1 2	191
DPT 3 = 0	/pentavalent 3	165
OPV 0 dose(birth dose)		10
OPV1		215
OPV2		192
OPV3		165
Hepatitis-B 1		1
Hepatitis-B 2		0
Hepatitis-B 3		0
Injectable IPV Fractional 1		214
Injectable IPV Fractional 2		165
Rotavirus 1		214
Rotavirus 2		191
Rotavirus 3		165
PCV 1		169
PCV 2		114
PCV Booster		5
MR 1st dose		158
MR 2nd dose		186
MMR		0
DPT / OPV Booster 1		162
DPT / OPV Booster 2		267
Typhoid Vaccine		300
Td-10 years		469
Td- 16 years		153
Vitamin A Administered between 9 months and 5 years		767
Albendazole under 5 children		143
Number of severely underweight provided health checkup (0-5 years)		80

4.3.3 Maternal Health Services

Antenatal Care	Total number of times pregnant women seen in the Urban Health Centre (new cases = 147)	485
	Number of pregnant women given Td1	80
	Number of pregnant women given Td- 2. 72 + Td Booster 8=80	72+8=80
	Total number of pregnant women given 180 IFA tablets	80
Family Planning	No of Condoms distributed	205
	No of Oral contraceptive pill cycles distributed	NA
	New RTI/ STI Cases Identified	59

Patient Services

Year	OPD Services -CRHSP*	OPD Services – UHC^	Total OPD services (CRHSP +UHC)	In-patient services (CRHSP)	Emergency services (CRHSP)	Total deliveries (CRHSP)	Total number of surgeries (CRHSP)
2019-20	436,383	20,440	456,823	12,115	86,592	4,080	2,394
2020-21	170,237	5,442	175,679	9,183	43,276	2,723	972
2021-22	243,823	12,240	256,063	9,381	58,221	2,829	1,930

*CRHSP Comprehensive Rural Health Services Project, Ballabgarh

^UHC Urban Health Clinic

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Shashi Kant provided his inputs to the National Task Force on COVID-19. As a member of the Governing Body of AIIMS, Nagpur, he provided guidance in strategic decision making. He is a member of Scientific Advisory Committee of the National Institute of Cholera and Enteric Diseases, Kolkata, is a member of the Technical Resource Group on surveillance and epidemiology under National AIDS Control Program, Government of India.

Professor Sanjeev Kumar Gupta reviewer of many journals, e.g., Frontiers in Psychiatry, The National Medical Journal of India, Indian Journal of Public Health, Indian Journal of Medical Research. Life member of Jansankhya Sthirata Kosh of the Ministry of Health and Family Welfare, Government of India. Member of the Data Safety Management Board (DSMB) for the project entitled “Determination of efficacy of 9 months, 12 months and 18 months of anti-tubercular treatment (ATT) for tuberculous meningitis (TBM): a randomized controlled, non-inferiority trial.” (PI: Dr. Deepti Vibha, Associate Professor of Neurology, Neurosciences Centre, AIIMS) and a member of the Main Negotiation Committee (DO) of the AIIMS.

Professor Kiran Goswami delivered a presentation online on Breastfeeding as one of the Top 10 Presenter in a National Level PPT Competition for Faculty in Community Medicine, World Health Day 2021, received second prize in ‘Mai’ movie key message competition, a public awareness initiative by Academia IAPSM e-Connect and IMA Berhampur on the occasion of World Alzheimer’s Day and International Day of Older Persons in September-October 2021; Member -Curriculum Committee AIIMS for development of UG curriculum for CBME; National Institute and Central Region Institute HIV Sentinel Surveillance, Technical Advisory group SEED, DST Program Advisory committee, SCSP ; Internal Complaints Committee for Prevention of Sexual Harassment at workplace, IIHMR; Expert group Faculty Development Programme for PG teachers, MCI; NTA expert group for UGC NET. Reviewer-IJPH, IJABMR,IJMR, DST Projects, Examiner- ,MPH- AIIMS Rishikesh, MD, NIHFWS, MBBS- BfUHS, Delhi University. Subject Expert- Faculty selection interview- AIIMS Kalyani, Thesis Evaluation: MD: BfUHS Faridkot, MPH: AIIMS, Rishikesh.

Professor Anand Krishnan Head, WHO Collaborating Centre on Research and Capacity Building on Community-based NCD Prevention and Control, AIIMS, technical Support Unit for SRS-VA and the MINerVA Network. Chair, Scientific Advisory Committee of ICMR-NIREH Bhopal, Scientific Advisory Committee of ICMR-NIOH, Ahmedabad, Non-communicable Diseases and Environment Chapter in Indian Academy of Public Health. Regional Councilor, SE Asia, World NCD Federation. Chairperson Scientific Committee for Environmental Determinants of Infectious Diseases in India (Focus COVID-19), IIHMR, New Delhi Date: 7th to 10th December 2020. Undertook research prioritization for COVID-19 for WHO/SEARO; Conducted health research capacity assessment in Maldives and Timor Leste; Prepared the report of Assessment of Implementation of Ayushman Bharat-Health and Wellness Centres in 18 states for MoHFW. Member, UNDESA/WHO Technical Advisory Group (TAG) on COVID-19 Mortality Assessment, WHO Working Group in Influenza Burden of Disease. Member, Project Appraisal Committee, Health Technology Assessment India, Department of Health Research, Centre for Excellence, Climate and Health for Cardio-pulmonary Disorders at AIIMS New Delhi, Expert Committee on Technology Preparedness for dealing with National Disruptions: Medical and Health related disasters, Committee to Review the Disaster Management Act, 2005, School Board, School of Health Sciences, IGNOU, Centre Committee for Centre for Social Medicine and Community Health, JNU, NCD Policy Group for the Comprehensive National Nutrition Survey (CNNS) constituted by MOHFW, Governing Body of National Health System Resource Centre, MoHFW, Member, PG expert Committee of Medical Council of India, Member, Selection Committee for Community Medicine, SCTIMST, JIPMER, Member, National Tobacco Regulators Forum for India”.

Professor Baridalyne Nongkynrih Published twelve papers in indexed medical journals. Reviewer for the Indian Journal of Community Medicine, Global Health Action, Indian Journal of Maternal & Child Health and Journal of Health, Population and Nutrition, ICDDR Bangladesh, International Journal of Medicine and Public Health, International Journal of Advanced Medical Research, WHO South-East Asia Journal of Public Health, Cancer Biology & Medicine. National trainer for state and district program officers of National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular diseases and Stroke (NPCDCS) programme in managerial skills and primary health care, 2018. Member of core team and National trainer for MINerVA Network for SRS by RGI – AIIMS New Delhi. National trainer for state and district program officers of NPCDCS

programme in managerial skills and primary health care. Development of assessment tools for review of National Programme for Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS).

Professor Puneet Misra is Reviewer of PLOS one, IJCM, BMJ, Lancet Public Health, Indian Journal of Public Health, Indian Journal of Pediatrics, NMJI, BMC, International Journal of Diabetes in Developing Countries, Addictive Behaviors, International Journal of Adolescent Medicine and Health, BMC Public Health, BMC Women's Health, BMC Infectious disease, Biomedical and Environmental Sciences, Family Medicine and Community Health, NMJI, Proposals for DST, SATYAM DST, ICMR, DBT, Fulbright scholarship and many others. Program Advisory committee DST, Government of India, SYST, AWSAR. Expert committee and paper reviewer, SEED Division, DST, Government of India. Member Data Safety Monitoring Board (DSMB) for our upcoming Vi- DT typhoid conjugate Vaccine, Nepal. ICMR Expert Committee member, ICMR task force PCOS, Research section AIIMS, selection committee. TEC member ICMR on Diabetes, Metabolic Disorders, Kidney and Liver Disorders, Cardiovascular diseases. Project Reviewer for ICMR, DST, DBT and other agencies. More than 50 programs on TV for different media channels including DD news, LS TV, RS TV, ABP news, Zee TV, CNN, Aaj Tak, India TV etc. Chaired session Young Scientist Conclave, IISF 2020 and also Chaired Session at North East students for IISF 2020. Ph D Thesis evaluator and examiner for KGMU and DU, PhD examiner for DU, MD Examiner and AIIMS Rishikesh and MD Thesis for AIIMS Rishikesh.

Professor Sanjay K Rai was Nominated by Ministry of Health and Family Welfare, GOI as a non-official member of Empowered Programme Committee (EPC) which is an Executive Committee under National Health Mission (NHM). Delivered more than 40 online lectures on different topics for different, Institutions professional and non-government organizations organization e.g., IPHA, IMA, IAPS, Brain Behavior Research Foundation of India (BBRFI), KIT Bhubaneswar, e RAJ APICON 2021 etc. Felicitated by ABP Network, News 24 Network, and Ayushman Bharat Nyas for extraordinary contribution during in COVID-19 pandemic management. As a subject expert, supported the Standing Selection Committee of All India Institute of Medical Sciences, Patna, ABVIMS, Dr. RML Hospital, New Delhi for the selection of various faculty positions on 9 May 2021, and 14 October 2021 respectively. Nominated by AIIMS Bhubaneswar, and KGMU Lucknow, as a member of the Board of Examiners for MD Community Medicine. As an external examiner conducted MD Community Medicine examination from 28-29 April, 2021 and 1-2 November 2021 at AIIMS Bhubaneswar and from 25-26 June 2021 at KGMU Lucknow. Nominated by National AIDS Control Organization (NACO), Ministry of Health and Family Welfare, Government of India as a “focal person” of NACO designated National Institute for HSS at AIIMS New Delhi to provide technical assistance for HIV Sentinel Surveillance (HSS) of entire country. Made numerous visits to several districts of Uttar Pradesh, Bihar, Jharkhand, Andaman and Nicobar to support the ongoing HSS-2021 in these states. Elected “President” of Indian Public Health Association for the year 2019-2022. Participated as Guest Faculty for the Faculty Development Programme of School of Public Health, KIIT Deemed to be University, Bhubaneswar, India on 23 June 2021. Contributed as a committee member of committee to evaluate current infrastructure and suggest Changes to improve in AIIMS New Delhi. The committee was constituted by Honorable Minister of Health and Family Welfare, Government of India. As a member of AIIMS Engineering Advisory Committee (EAC) participated in several engineering advisory committee meetings to streamline the working of engineering services. Member of the Technical Resource Group (TRG) of NACO, MoHFW, GoI on HIV Estimations in India and participated in several TRG meetings during 2021-2022. Elected “President” of Indian Public Health Association for the year 2019-2022. He is editor of the WHO South-East Asia Journal of Public Health.

Dr Kapil Yadav continued as Focal Point for “National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A)”, Ministry of Health and Family Welfare, Government of India. Taking forward the agenda of Anemia Mukh Bharat (AMB), NCEAR-A convened all key stakeholders from academia including 6 new AIIMS and organised Training of Trainers (ToT). He also actively participated as a lead resource person in State launches of Anemia Mukh Bharat Program. He continued his work on Iodine and other micronutrients and authored chapters for textbook of Public Health Nutrition on above topics.

Dr Sumit Malhotra received Indian Association of Preventive and Social Medicine (IAPSM) Presidential Appreciation Award for the year 2022 during 49th National Conference of Indian Association of Preventive and Social Medicine (IAPSM), Nagpur; Member of working committee of Clinical Research Unit (CRU) under Research Section, AIIMS, New Delhi; member of affiliate centre of Cochrane India Network at AIIMS; member of ICMR advanced centre for clinical trials; teaching member of fellowship programme for AIIMS faculty on clinical research methodology and evidence based medicine, focal point for “Innovation and learning Centre” for supporting implementation of comprehensive primary health care in aspirational district, Nuh, Haryana; national and master trainer for community health officers and other health cadres for rolling out newer packages related to geriatric and palliative care, mental and neurological diseases [training packages developed by National Health Systems Resource Centre, Ministry of Health and Family Welfare (MoHFW), Government of India (GOI) including care related to COVID-19], emergency and trauma care as part of comprehensive primary health care and running tele-mentoring programmes for community health officers. Contributed to training manuals on “eye care” for medical officers, community health officers, multipurpose workers, staff nurses, and ASHA workers as part of Ayushman Bharat, Health and Wellness Centres under Ministry of Health and Family Welfare, Government of India. Continued to be faculty for postgraduate teaching

programme on research methodology under research section, AIIMS, Delhi. Member of AIIMS technical support Unit for SRS-VA and the MINErVA Network and National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A). Reviewed MPH thesis for PGIMER Chandigarh. Mentored operational research teams for secondary data analysis and manuscript writing related to hypertension and cardiovascular health in association with PGIMER Chandigarh. Was an internal examiner for MD Examination (Community Medicine) June 2021, at AIIMS, Delhi. Moderated the MCQ based question paper for senior residents selection. Was a member of the selection committee for AIIMS, Delhi BSc Nursing (Post Basic) course for August 2021. Moderated the MCQ based question paper for PhD entrance exam for community medicine at AIIMS, Delhi. Judged scientific essays as part of competition organized by IPHA (AIIMS Delhi branch) and NMO (Delhi branch) on theme “Do we need to vaccinate every child against COVID-19?”. Chaired the e-oral presentation sessions on “Maternal and Child health” and “Non Communicable Diseases” during 65th Annual National Conference of IPHA (2021) held at JIPMER, Puducherry. Reviewer for research projects related to vector borne diseases by ICMR, New Delhi and reviewer of many national and international indexed journals. Coordinator for the Operational and Health Systems Research module of IAPSM (Indian Association of Preventive and Social Medicine) research methodology course. Preparing modules on primary health care and implementation research for postgraduates and programme managers as part of India Primary Health Care Initiative.

Dr Anil Goswami Patron of a National Body “All India Association of Medical Social Work Professionals” Chandigarh 2016-2022. Designated Nodal Officer of “Disease Prevention Outbreak Response Cell” (DPORC) AIIMS since 2008 till date. All Monitoring and Evaluation activities were taken at AIIMS Campuses for the Prevention and Control of Vector Borne Diseases. Designated Nodal Officer of “saMsqaana kl rajaBaaYaa kayaa-nvayana saimait” AIIMS since 2012 till date. Use of Hindi language was promoted at Centre for Community Medicine in daily use and specially by developing health education material on various public health topics. Was a member of sub-committee for Hygiene Promotion” (KRA-7 of Clean and Green AIIMS) under KAYA KALP (Clean Hospital Campaign). Was a member of sub-committee for “Public Feedback” (KRA-8 of Clean and Green AIIMS) under KAYA KALP (Clean Hospital Campaign). Delivered a keynote address in the “8th Annual National Conference of All India Association of Medical Social Work Professionals”, held at AIIMS New Delhi on 7 August 2021.

Dr Partha Haldar provided COVID19 care services from 8 April 2021 to 15 June 2021 during the severe second wave of the COVID19 pandemic. Conducted the Pre-professional MBBS Examination in November 2021. He is a member of the Clinical Epidemiology Unit of the AIIMS New Delhi. He has been, and continues to be a member of the Technical Resource Group (TRG) for Viral Hepatitis Surveillance in India, constituted by the National Center for Disease Control (NCDC), Ministry of Health and Family Welfare, Government of India; conducted the Health Economics and Epidemiology module for MD students of Centre for Community Medicine, is also a Member of Technical Resource Group (TRG) for HIV Self-Testing in India, constituted by the National AIDS Control Organization, Ministry of Health and Family Welfare, Government of India. He is also a member of the Technical Expert Group (TEG) constituted by the National Centre for Disease Control, Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India, for National Programme for Climate Change and Human Health (NPCCHH), for providing guidance and technical support in conducting vulnerability needs assessment; was an external examiner for the Master of Applied Epidemiology Conducted by National Institute of Epidemiology, ICMR, Chennai. He continues to be a member of NACO designated National Institute for HSS at AIIMS New Delhi (NI-HSS), and the National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A); reviewer of many National and International journals including: Scientific Reports, BMJ Open, PLOS One, BMC Pregnancy and Childbirth, International Journal of Hypertension, Journal of Clinical Pathology, Journal of Neurology, Neurosurgery and Psychiatry, National Medical Journal of India, Indian Journal of Public Health, Indian Journal of Medical Research; was selected as a Member of the Advisory Board of Data Centre and Analytics Lab of Indian Institute of Management, Bengaluru (IIM-B); was selected as a Member of the ICMR-DHR Committee Constituted to provide advice on ICMR-DHR Data Sharing and Access Policy; provides technical assistance to Government of India, by being a member of the Technical Resource Group, constituted by India’s National AIDS Control Organization, MoHFW, Government of India, for Transgender’s Health; provides technical assistance to Government of India, by being a member as an epidemiologist in the Technical Resource Group, constituted by India’s National Centre for Disease Control, MoHFW, Government of India, for Laboratory Components of national viral hepatitis control programme in India. For the various technical resource groups, attended all the meetings physically / virtually as they were conducted.

Dr Ravneet Kaur is Member of Project Review Committee of ICMR for Extramural Ad-hoc Research Program and SRF/RA program for the year 2021-22. Member of the Institute Ethics sub-committee on Severe Adverse Events in Clinical Trials. Faculty for SET (Skill, e-learning and Telemedicine) facility, AIIMS and prepared skill modules for undergraduate teaching. Master trainer for TOT for Developing Skill modules for participants of various institutes in the country. National trainer for training of the State Master Trainers for Adolescent Friendly Health Services under the Rashtriya Kishor Swasthya Karyakram. Conducted training for seven batches of State Master Trainers from October 2021–March 2022. Member of the national working group of MOHFW (Maternal Health Division) for development of operational guidelines for management of high-risk pregnancies. Member of the Menstrual Health and Hygiene Management (MHHM) Committee of IAPSM, and contributed in developing IAPSM Advisory on Menstrual Health and Hygiene Management. Member of the National working group of IAPSM (Indian Association of Preventive and Social Medicine) on MIYCN (Maternal, Infant & Young Child Nutrition). Contribution in various national programs (Anemia Mukta Bharat, Poshan Abhiyan, Rashtriya Kishor Swasthya Karyakram

and SRS based verbal autopsy in India). Reviewer of journals (Global Health Research and Policy, BMJ Open, Indian Journal of Public Health, Indian Journal of Medical Research, National Medical Journal of India, Journal of Post graduate Medicine).

Dr Harshal Ramesh Salve Established Collaboration with IIT Delhi for community based research in Air Pollution and Health Effects Research in India. Received Grant from Health Effects Institute, Boston USA for establishing Collaborative on Air Pollution and Health Effects Research (CAPHER) India – A joint collaboration of AIIMS and IIT Delhi. Organized First CAPHER workshop (Virtual) on “Air Pollution and Health Effects Research in India” with national and international participants. Started CAPHER – India Webinar Series for capacity building of early career researchers in the country. Topics covered so far Making Health case for clean household energy: The framing and conduct of Multi-country household Air Pollution Intervention (HAPIN) trial (February 2022). Statistical Approaches on Air Pollution and Health Outcomes – Effect estimation in Environmental Epidemiology for researchers and public health professional (March 2022). Chaired a session in 9th Annual National Conference of Consortium Against Rabies (CARCON 2021) Organised by AIIMS, Gorakhpur. Technical Expert Group (TEG) Meeting (Virtual) on ‘Air Pollution and Human Health’ under NPCCHH programme (January 2022). Technical Expert Group (TEG) Meeting (Virtual) on Climate Change and Cardio- pulmonary and Human Health’ under NPCCHH programme (January 2022). Received Award from SET Facility AIIMS for contribution as resource Faculty member at SET Facility activities. Master trainer for National TOT for Development of Skill Modules. Member of Inter-Ministerial Central Team by Ministry of Home Affairs, GoI for assessment of COVID response and preparedness in Nagpur, Maharashtra. Faculty Member of AIIMS – Technical Support Unit of MINErVA supported by RGI, Ministry of Home Affairs, GoI. Faculty Member of WHO Collaborating Centre on for Capacity Development and Research in Community based NCDC. Member of Centre of Excellence of Cardio-pulmonary diseases under NPCCHH by NCDC, GoI. Module Lead and Course Faculty of 7th International Course on Public Health Approaches to Non Communicable Diseases - 2022 by AIIMS – PGIMER and World NCD Federation. Re-elected as General Secretary - Faculty Association of AIIMS (2022-24). Public awareness generation regarding COVID 19 through print and TV Media.

Dr Rakesh Kumar was part of the Expert Advisory Committee of project entitled “Strengthening Mechanisms for Tuberculosis Death Reporting under the Revised National Tuberculosis Control Program (RNTCP) and the Registrar General of India” and was chairperson of the Project Review Committee of Indian Council of Medical Research for extramural adhoc research in Urology. He is reviewer for American Journal of Tropical medicine and Hygiene, Transactions of the Royal Society of Tropical Medicine and Health, Tropical Medicine and International Health, Indian Journal of Public Health, and The Journal of Obstetrics and Gynaecology of India.

Dr Mohan Lal Bairwa chaired e-Poster presentation session on “Mental Health” at IPHACON 2021, 23-26 April 2021 to 23 September 2021 in Puducherry.

9.9. Dermatology and Venereology

Professor and Head

Neena Khanna

Professors

Kaushal K Verma M Ramam Binod K Khaitan
Sujay Khandpur G Sethuraman (on foreign assignment) Somesh Gupta

Additional Professor

Kanika Sahni

Associate Professor

Neetu Bhari

Assistant Professors

Vishal Gupta Neha Taneja (Contractual)

Group A officer

Meenu Kohli

HIGHLIGHTS

Major activities of the department in the past year:

Patient care: Department runs an OPD for patients with skin diseases, STIs and leprosy, performs dermatosurgical procedures and reviews skin biopsies daily. In addition, we run 8 specialty clinics, 4 laser clinics and perform surgeries in vitiligo patients once a week. We have continued to provide teleconsultations daily to about 70 patients, even after the physical OPD has become fully functional. We have a 29 bedded ward, with almost 100% occupancy, and 6-bedded daycare centre where we admit patients to administer steroid pulse and biologicals.

Education: We extensively used e-platforms for teaching undergraduates and post-graduates and even had clinical case discussions and conducted our clinical assessments online during the COVID-19 lockdown. We have modified our teaching assessment of PG training to make it more holistic (*vide infra*). Department won 3rd prize in poster presentation “Making the shift: e-Dermatology and e-Learning” on Institute Day, 2021. Several students won awards, including National UG Dermatology quiz, 1st runner up in National Torrent Young Scholar Award- Dermatology 2021, 3rd prize in National Dermatology IGNQPP quiz and 2 and 3 place in the debate on gender sensitivity in AIIMS.

Research: The newly renovated research lab, has facilities for RT-PCR, immunofluorescence, and ELISA among others. Faculty have received grants worth Rs 1,68,00,000 to conduct 10 research projects, including research on artificial intelligence. Our faculty has published more than 50 papers in high-index, peer-reviewed journals, and delivered more than 60 lectures, including orations and guest lectures at national and international conferences.

Community activities: Faculty has participated in various social media programs on radio & television.

1. Steps taken to improve patient care services, education & research in the past year:

Patient care: In the past year:

- Streamlined and augmented tele-dermatology services continue even though physical OPD is fully functional.
- Started reconstructive surgery (RCS) for leprosy patients with deformities, in collaboration with Department of Burns, Plastic and Reconstructive surgery and coordinated with Department of PMR for providing splints and MCR footwear to them.
- Digitised patient discharge summaries (being e-mailed to patients) and special clinic records.

Education:

Modified post-graduate teaching and evaluation process to train PGs holistically with greater emphasis on counselling of patients, problem-solving and skill development. Surgical skill assessment in Dermatology exam was introduced for the 1st time in India. Conducted structured training for UGs to participate in national dermatology quizzes, which they eventually won.

A faculty mentor has been allocated for JRs and SRs to have periodic ‘social’ interactions to reduce mental health ‘issues’ in residents, for the last 1½ years. We take annual feedback from residents to assess faculty on various parameters, including their ability to teach, patient care and the presence of ‘soft’ skills.

Research: Research lab was renovated during COVID-19 time and is almost fully equipped. Presently we have 3 PhD students, one of whom is working on role of AI in dermatology.

Action plan for the coming year.

- Starting DM course in Procedural Dermatology, a 1st globally, for which a proposal has been submitted to administration
- Starting MSc Nursing in Dermatology, for which a proposal is being developed in collaboration with Principal, College of Nursing, AIIMS
- Expanding RCS services to leprosy patients registered in other hospitals, for which discussions are on with State leprosy officer, Delhi
- Starting hair transplantation in our OT setup
- Convincing the administration to get expensive medicines used in chronic skin diseases like pemphigus, psoriasis, reactive arthritis covered under the social health schemes of the government

EDUCATION

Our department is training 25 junior residents, 10 senior residents, 3 PhD candidates & undergraduate students. A competency-based training of 2 weeks is done for junior residents from Department of Medicine, Emergency Medicine, Infectious diseases & Paediatrics.

Undergraduate academic activities:

- *7th-semester students:* During their 15 days of posting, training of UGs includes a daily assessment, posting in the ward, various OPD rooms in morning and afternoon clinics, daily case discussions with faculty and SR, academic class in the afternoon. UGs are posted in labs to observe patch test, mycology testing, and phototherapy. Under supervision of an allocated resident mentor, they give short PowerPoint presentations and write an essay on a dermatology topic. At the end of posting, they submit a log-book and appear for end-posting assessment by faculty
- *6th and 8th-semester students:* 16 lectures by faculty

Postgraduate academic activities:

- *Conventional teaching:* Apart from a very robust clinical training in OPD, special clinics and ward, we have a rigorous academic calendar, in which 49 seminars, 27 journal clubs, 32 case presentations, 11 demonstrations and 26 thesis protocol and review were presented by our PGs. In addition, faculty delivered 8 lectures. Every Saturday is dedicated to clinical and dermatopathology teaching.
- *Innovative educational activities*
 - Pattern of theory exam for PGs was restructured, making it more focused, problem-based, requiring short, to-the-point responses.
 - Pattern of practical examination of post-graduates was modified to include assessment of residents in counselling of patients, prescription writing, strategizing treatment of follow-up cases, image-based diagnosis (to train in tele-dermatology) and surgical skill assessment. To prepare the residents for this changed format, our training of residents now includes encouraging development of analytical and ‘soft skills’
 - Conduction of quizzes for post-graduates.

Paramedical teaching: Faculty delivered 9 lectures for nursing students.

Number of students/trainees registered in the department

	2021-2022	2020-2021	2019-2020
No. post graduates	28	25	22
No. of senior residents	14	10	10
No. PhD students	3	3	4

CMEs/Workshops/Symposia/National & International Conferences

Lectures delivered

Neena Khanna: 10
Binod K Khaitan: 9
Neha Taneja: 3

Kaushal K Verma: 5
Sujay Khandpur : 11
Vishal Gupta: 14

M Ramam: 9
Kanika Sahni: 3

Oral papers/posters presented: 6

RESEARCH

Funded projects

Ongoing

1. A multi-center, randomized, double blind, placebo-controlled study of ligelizumab (QGE031) in the treatment of chronic inducible urticaria (CINDU) in adolescents & adults inadequately controlled by H1-antihistamines, Neena Khanna, Novartis, 5 years, 2022-2027, Rs 18,59,980
2. Clinical & immunological factors predicting relapse in patients with pemphigus treated with Rituximab: A prospective cohort study, Dr Vishal Gupta, AIIMS Intramural grant, 2 years, 2021-2023, Rs 9.8 lakhs
3. Comparison of apremilast versus betamethasone oral-mini pulse therapy in the treatment of progressive non-segmental vitiligo: An open label non-inferiority randomized trial, Dr. Vishal Gupta, IADVL, 2 years, 2021-2023, Rs 3,62,670
4. Evaluation of effect of cyclosporine on inflammatory cytokine levels & dermatitis in patients of air-borne contact dermatitis due to plant parthenium., Dr. Kaushal Verma, DST, 3 years, 2019-2022, Rs 36 lakhs (approx.)
5. Multicenter, double-blind & open labeled extension study to evaluate efficacy & safety of ligelizumab as retreatment, self-administered & monotherapy in CSU patients, Dr. Neena Khanna, Novartis, 5 years, 2021-2026, Rs 29,43,600
6. Multicenter, randomized, double blind, placebo-controlled phase-3 study of remibrutinib (LOU064) to investigate efficacy, safety & tolerability for 52 weeks in adult CSU patients inadequately controlled by H1-antihistamines, Dr. Neena Khanna, Novartis, 3 years, 2022-2025, Rs 10,97,550
7. Multicenter, randomized, double-blind, active & placebo-controlled study to investigate efficacy & safety of ligelizumab (QGE031) in treatment of chronic spontaneous urticaria (CSU) in adolescents & adults inadequately controlled with H1-antihistamines., Dr. Neena Khanna, Novartis, 3 years, 2019-2022, Rs 11,24,750
8. Role of BAFF & APRIL ligands & their receptors, CD4 & regulatory B- & T cells in predicting disease relapse in pemphigus vulgaris patients receiving conventional Dexamethasone pulse & newer biological rituximab therapy, Dr Sujay Khandpur, ICMR, 3 years, 2021-2023, Rs 25 lakhs
9. Th2/Th17 inflammatory cytokines modulating filaggrin expression & disease severity in children with atopic dermatitis, Dr Neetu Bhari, IADVL, 2 years, 2019-2021, Rs 7.45 lakhs
10. Analysis of the diagnostic &/or predictive potential of metabolomics in bacterial vaginosis, its treatment failure, relapse & susceptibilities to other sexually transmitted infections, Somesh Gupta, Intramural Collaborative Research, 2 years+ extension, 2018-2022, Rs 16 lakhs

Completed

1. A double-blind randomized trial of transplantation of cultured melanocytes from outer root sheath of plucked hair follicles vs. cultured melanocytes from epidermis., Dr. Somesh Gupta, DBT, 4 years, 2018, 2021, Rs 60 lakhs (approx.)
2. Efficacy & safety of non-cultured extracted follicular outer root sheath cell suspension & conventional epidermal cell suspension transplantation in stable vitiligo & correlation with constituent stem cell populations., Dr Somesh Gupta, ICMR, 4 years, 2017-2021, Rs 30 lakhs (approx.)

Funded projects in last 3 years

Year	Funded projects (ongoing projects)	Funding received (ongoing projects)	Funded projects (completed)	Funding received (completed)
2021-2022	10	Rs. 248,19,000	0	0
2020-2021	7	Rs. 153,14,000	1	Rs. 30,00,000
2019-2020	12	Rs. 250,06,000	5	Rs. 109,93,000

Departmental projects

Ongoing

1. A cross sectional descriptive study of dermoscopic features of facial hyperpigmented skin lesions.
2. A cross sectional descriptive study to evaluate extracutaneous & systemic involvement in children & adults with inherited epidermolysis bullosa.
3. A hospital-based case control study on predictors of extensive vitiligo.
4. A prospective cohort study of the effect of cosmetic camouflage on quality of life in patients with vitiligo.
5. A prospective observational study of the Dermatoscopic findings of non-segmental vitiligo in different stages of evolution.
6. A randomised controlled trial comparing intralesional triamcinolone acetonide with 5- fluorouracil alone versus in combination with intralesional radiofrequency ablation in the treatment of keloids.
7. A randomised controlled trial comparing once daily versus itch-based multiple daily application of clobetasol proportionate 0.05% cream in lichen simplex chronicus.

8. A Retrospective descriptive study of the histopathological spectrum of erythema nodosum leprosum.
9. An ambispective cohort study to assess the efficacy of immunosuppressive therapy in systemic sclerosis associated interstitial lung disease.
10. An ambispective study to describe the clinical profile & treatment outcomes of patients with basal cell carcinoma presenting to a tertiary care centre in North India.
11. Clinico-histopathological correlation of sarcoidal tissue reaction.
12. Clinico-histopathological study of Langerhans cell histiocytosis.
13. Comparison of hand & foot PUVA versus excimer light in palmoplantar psoriasis.
14. Deep learning in prediction of cardio-metabolic syndrome from facial images of patients with chronic plaque psoriasis & development of a deep learning model for evaluation of psoriasis severity.
15. Dexamethasone-Cyclophosphamide pulse therapy in pemphigus.
16. Double blinded randomised controlled trial to study repigmentation in non-segmental vitiligo using 0.1% tacrolimus/ 0.2% tacrolimus/ placebo in combination with excimer lamp.
17. Effect of yoga therapy in management of systemic sclerosis vs patients not undergoing yoga therapy: A pilot randomised control trial.
18. Evaluation of mental health in patients of chronic skin diseases.
19. Evaluation of Patch Test in diagnosis of adverse cutaneous drug reactions & its correlation with oral drug provocation.
20. Prospective randomised trial to compare efficacy & cost-effectiveness between rituximab therapy & dexamethasone pulse in pemphigus vulgaris.
21. Qualitative study of perception of treatment response in vitiligo patients.
22. Study of vaginal microbiome & metabolome in women with bacterial vaginosis (BV) & healthy controls.

Completed

1. A cross-sectional study to assess autonomic nervous system imbalance & its correlation with cutaneous manifestations in patients with systemic sclerosis.
2. An open label non-randomized preliminary study comparing two targeted phototherapy devices i.e. hand-held Narrow Band UVB device with monochromatic excimer laser (MEL) therapy in treatment of localized vitiligo.
3. Comparison of different concentrations (i.e. 1:50, 1:100 & 1:200) of Parthenium acetone extract to elicit patch test positivity in patients of Parthenium dermatitis.
4. Comparison of positivity of patch test after 24 & 48 hours of occlusion in clinically diagnosed patients of allergic contact dermatitis. An experimental study.
5. Evaluation of patient perception & satisfaction with the Teledermatology services at a tertiary care center during COVID pandemic: a cross-sectional telephonic survey.
6. Utility of excimer light therapy in residual vitiligo lesions following NBUVB therapy.

Collaborative projects

Ongoing

1. Comparison of Autologous Non-Cultured Non-Trypsinized Epidermal Cell Suspension NCNTECS (also known as Jodhpur Technique) vs Autologous Non-Cultured Epidermal Cell Suspension NCECS in the treatment of stable vitiligo., Multicenter interventional study across India- Funded by IADVL Research Grant 2021
2. Evaluation of effectiveness of radioactive Skin Patches for Treatment of Hidradenitis suppurativa. Departments of Nuclear Medicine & Dermatology & Venereology at AIIMS
3. Evaluation of prevalence, regional phenotypic variation, co-morbidities, risk factors & the variations in response to different therapeutic modalities among Indian women with polycystic ovary syndrome (PCOS): A multicenter study across India (ICMR-PCOS task force)., Multicentric study
4. Evaluation of therapeutic efficacy of radioactive Skin Patches for Treatment of Basal Cell Carcinoma., Departments of Nuclear Medicine & Dermatology & Venereology at AIIMS
5. Evaluation of therapeutic efficacy of radioactive Skin Patches for Treatment of Keloids. Departments of Nuclear Medicine & Dermatology & Venereology at AIIMS
6. Exploring the role of innate immunity in immunopathogenesis of pemphigus vulgaris., Department of Biochemistry
7. Patch testing with a textile dye mix without Disperse Orange 3 in the baseline series., International Contact Dermatitis Research Group (ICDRG) & Department of Occupational & Environmental Dermatology Skåne University Hospital, Malmö, Sweden
8. Patch testing with petrolatum preparations with Hydroperoxides of linalool (1.0% in petrolatum) & hydroperoxides of limonene (0.3% in petrolatum)., International Contact Dermatitis Research Group (ICDRG) & Department of Occupational & Environmental Dermatology Skåne University Hospital, Malmö, Sweden

Completed

1. Patch Testing with a new composition of the Mercaptamix- A Multicentre Study from the International Contact Dermatitis Research Group., International Contact Dermatitis Research Group (ICDRG) & Department of Occupational & Environmental Dermatology Skåne University Hospital, Malmö, Sweden
2. Patch Testing with Methylchloroisothiazolinone/ Methylisothiazolinone using a new diagnostic mix- A Multicentre Study from the International Contact Dermatitis Research Group. International Contact Dermatitis Research Group (ICDRG) & Department of Occupational & Environmental Dermatology Skåne University Hospital, Malmö, Sweden

PUBLICATIONS

Journals: 51

Chapters in Book: 02

Publication	2021-2022	2020-2021	2019-2020
Journal articles	51	68	37
Chapters in books	2	2	9

PATIENT CARE

Facilities available in the department:

- Out-patient services:* Department runs an OPD for patients with skin diseases & STIs & HIV, perform dermatosurgery procedures & dermatopathology review of skin biopsies daily.
- Teledermatology:* We have continued to provide teleconsultations daily to about 70 patients, even after the physical OPD has become fully functional.
- Special clinics:* Leprosy, photodermatology & phototherapy, dermatosurgery, STDs, pigmentary disorders, psoriasis, pediatric dermatology, allergy clinic.
- Side-lab:* KOH, gram stain, slit skin smear, Tzanck smear, patch & photo patch testing
- Surgical procedures:* Diagnostic & therapeutic biopsies, excisions, scar revision, excision of malignancies, vitiligo surgery.
- Aesthetic procedures:* Peeling, PRP, fat transplantation, fillers, radiofrequency ablation, microneedling radiofrequency
- Lasers:* Hair removal laser (1 diode, & 1 with diode, Nd-YAG, Alexandrite heads), pigment (Nd:YAG) laser, vascular (PDL) laser, ablative (2 fractional CO₂) lasers
- Phototherapy:* UVA & NB-UVB chambers
- In-patient services:* We have a 29 bedded ward, with almost 100% occupancy
- Daycare facility:* We have 6-bedded daycare facility for administration of biologicals & steroid/ cyclophosphamide pulse therapy, & keeping postop patients under observation.

	2021-2022	2020-2021	2019-2020
OPD patients: new	24788	30263	31245
OPD patients: follow up	30579	55857	59079
Teledermatology	9647	3519	Nil
Special Clinics			
Leprosy- new	178	52	315
Leprosy- old	563	225	2851
Photodermatology- new	9	4	44
Photodermatology- old	60	23	209
Phototherapy- new	65	15	111
Phototherapy- old	159	53	442
Dermatsurgery- new	517	48	1147
Dermatosurgery- old	397	142	1461
Psoriasis- new	141	36	314
Psoriasis- old	359	177	2248
Pigmentary clinic- new	165	41	247
Pigmentary clinic- old	351	122	1659
Allergy clinic- new	205	70	541
Allergy clinic- odd	301	118	1925
Paediatric dermatology- new	94	22	157
Paediatric dermatology- old	130	25	307

Inpatients (long admissions)	521	771	823
Inpatients (short admissions)	1589	2132	2678
Investigations			
KOH mounts	4312	1256	5019
Slit skin smears	70	24	89
Tzanck smears	97	17	102
Gram stain	85	25	124
Wet mounts	78	19	99
Patch & photopatch test	235	77	464
Procedures performed			
Phototherapy	2804	1012	3410
Minor OT	3891	1567	4512
Major OT	1256	416	1987
Diode laser	42	2	504
CO ₂ laser	56	18	183
PDL laser	0	0	410
Nd:YAG laser	47	6	494

Community services/ Camps

- Professor Verma participated in 22 TV & Radio programs of various News Channels/ Electronic media, creating public awareness on Covid-19 pandemic including protection, prevention, vaccination & several other aspects of the pandemic.
- Dr Vishal Gupta participated in Holi Special Program on DD Urdu to create awareness on taking care of skin during Holi.
- Dr Vishal Gupta was part of the team of Doctors in the Parliament Health Camp.
- Junior and senior residents of the Department worked as front-line workers during COVID-19 pandemic.
- Dr Neetu Bhari provided faculty service in COVID-19 at NCI, Jhajjar.

AWARDS, HONOURS & SIGNIFICANT EVENTS

Undergraduate students & Residents

- 3rd Prize in Institute Day poster 'Making the shift: e-Dermatology and e-Learning'
- 1st Prize, National UG Dermatology quiz
- 1st runner-up in National Torrent Young Scholar Award, Dermatology 2021
- 3rd Prize in National Dermatology IGNQPP quiz
- 2nd & 3rd Prizes in debate on 'Posh Act— bane or boon'
- 1st Prize in ACSI All India Dermatosurgery Quiz, 2021
- 1st Prize in DSI (Dermatopathology Society of India) Quiz
- 1st Prize in National Post-Graduate Procedural Dermatology Training Workshop, 2021.
- 1st Prize in National Mid-Dermacon Quiz, 2021
- 1st Prize in PG quiz in ASTICON, 2021
- 1st Prize in 8th PGCON, 2021

Professor Neena Khanna was awarded Professor for VL Rege Oration, Indian Association of Dermatology, Venerology & Leprology, Goa State Branch; Chairperson, Internal Complaint Committee, Indian Association of Dermatology, Venereology & Leprology & Internal; Complaints Committee against Sexual Harassment of Women at Workplace (ICCSHWW), AIIMS, New Delhi, 2020-2021; Chairperson, PMO committee for PMNRF; Nodal officer, AIIMS, Jammu; Member, National ICMR-CTD Task Force on Extrapulmonary Tuberculosis, ICMR, & PCOS task force, ICMR; Member, Project Review Group of several organisations — South Asia Research Group for Leprosy, Leprosy, ICMR, HIV & STDs, ICMR.

Professor Kaushal K Verma was Regional Chairman of the International Union against Sexually Transmitted Infections - Asia Pacific (IUSTI- AP) Region for 2021-2024, and participated in IUSTI -World Executive Committee meeting on 12/07/2021 online & World General Assembly Meeting on 16 July 2021 online; Member Scientific Committee & Clinical Task Chair of Scientific Committee IUSTI-World & Asia-Pacific Virtual Conference held on Dec 10-11,2021 & delivered inaugural address & closing remarks as Regional Chair of the IUSTI Asia-Pacific Region at the IUSTI-World & Asia-Pacific Conference held on 10 and 11 December 2021 virtually; Reviewer to 6 journals J Cosmetic Dermatology, IJDVL, JEADV, IJSTD, Dermatologic Therapy; On Editorial Board of 2 Journals- JCAS, NJDVL.

Professor Binod K Khaitan was awarded Dr J C Shroff Memorial Award in Dermacon, 2022.

Professor Sujay Khandpur was Associate Editor of IADVL Textbook of Dermatopathology; Vice President, Dermatopathology Society of India; Member Education committee of the Asian Society of Dermatopathology; Best Review article award, IJDVL, December 2021.

Dr Vishal Gupta was awarded Professor S Premalatha Award for Best Research Project in Dermatology (e-DERMACON 2022); International Society of Dermatology Global Education Award to attend International Congress of Dermatology's Virtual Congress.

Dr Neha Taneja received Best Therapy Letter to the Editor, IJDVL, December 2021.

9.10 Emergency Medicine

Professor and Head

Praveen Aggarwal

Professors

LR Murmu

(upto November 2021)

Sanjeev Kumar Bhoi

Additional Professor

Nayer Jamshed

Associate Professors

Tej Prakash Sinha

Meera Ekka

Akshay Kumar

Assistant Professor

Prakash Ranjan Mishra

HIGHLIGHTS

The Department of Emergency Medicine has been providing holistic, round-the-clock, world-class emergency care to patients with all types of medical, paediatric, surgical, as well as some of the traumatic emergencies. Nearly 1,07,853 patients visited the department in the year 2021-2022. The department has been providing training to its postgraduates in the specialty of Emergency Medicine since July 2012. Students passing out from the department are well-placed both nationally and internationally. They have done high quality thesis and research and also published their work internationally.

Various skill-based courses like emergency ECG course, emergency ultrasound course, difficult airway course, simulation-based training course and bedside procedural skill development courses have been conceptualised, designed, developed and conducted successfully on a regular basis for postgraduate students. The departmental faculty is also involved in teaching and training of postgraduates from other departments (including Medicine, Surgery, Geriatric Medicine, Anaesthesia and Critical Care Medicine, Dermatology, Psychiatry and several others), undergraduate students, nursing students and paramedics in the field of Emergency medicine, including life support courses. The department is also involved in training the existing and future faculty from other colleges and hospitals in the specialty of Emergency Medicine.

Under the aegis of the Ministry of Health and Family Welfare, the department is involved in developing guidelines for comprehensive primary health care for burns and trauma as well as for Emergency Department at district hospitals. The department is actively mentoring other emergency departments from various medical colleges including peripheral AIIMS for development of academic Emergency Department and post-graduation course in Emergency Medicine. In collaboration with WHO, South East Asia Region, the department is also involved in formulating guidelines on road safety, injury prevention, as well as integration of emergency and trauma care in India. Under the AIIMS Quality Improvement Programme, Emergency Medicine Department has started several projects to further improve patient care and outcome. This has also resulted in shorter stay of patients. At international level, the department has been actively collaborating with several universities from the USA, like the University of South Florida and SUNY Downstate New York, with the aim of training doctors, nurses and paramedics.

EDUCATION

The faculty from the department have organized life support courses for undergraduates, postgraduates and nurses posted in the department. These courses have also benefitted residents from other disciplines of the institute. It has conducted AIIMS Emergency ECG and rapid sequence intubation courses for postgraduates of the institute as well as other colleges. The department runs a schedule of academic activities for the residents of Emergency Medicine (seminars, journal clubs, case discussions and panel discussions) twice a week for around seven hours. Education and skill are imparted to residents on the use of ultrasound in emergency care of patients. Simulation-based teaching (both table-top and on high-fidelity simulator) is imparted to the residents. Live workshops, cadaver-based training and hands-on skill sessions have provided confidence to residents in managing the patients. The faculty from the department have been a part of development of e-modules for SET facility in the Institute which helps in dissemination of medical knowledge to students in a standardized and practical format. In addition, the department faculty was involved in didactic teaching of undergraduates, postgraduates and nursing students through lectures and seminars, online as well as offline. The faculty from the department were part of many workshops and conferences, national as well as international during this period. The department has also produced high-quality research and has around 80 publications in peer-reviewed indexed journals during the last three years.

CONTINUING MEDICAL EDUCATION

Conferences/seminars/workshops organised

1. AIIMS Emergency ECG Course, organised and conducted by Department of Emergency Medicine, AIIMS, New Delhi at SET facility, AIIMS on 9 October 2021.
2. Workshop on Acid-Base Balance, World Academic Congress of Emergency Medicine and EMINDIA-2021 Conference organized virtually from 10-19 December 2021.
3. AIIMS Toxicology Symposium, World Academic Congress of Emergency Medicine and EMINDIA-2021 organized virtually from 10-19 December 2021.
4. 6th National Emergency Medicine Board Review of India Course – Organised by Academic College of Emergency Experts in India and Emergency Medicine Association from 22-26 March 2022 at National Academy of Medical Sciences, New Delhi.

Numbers related to the past 3 years

S. No.	Component	2019-20	2020-2021	2021-2022
1	Number of students/trainees registered in the department	14 (New Post-graduates)	16 (New Post-graduates)	18 (New Post-graduates)
2	Number of oral presentations and posters	8	2	4
3	<i>Number of different sub-types of publications</i>			
	Journal articles	20	44	17
	Abstract	1	2	2
	Book chapter	1	2	3
4	New funded projects	5	9	2
5	Total amount of funding received for research (Rs)	7,06,93,131	2,52,72,000	4,89,75,000
6	Total patients attending ED	1,49,443	95,184	1,07,853
	Total Investigations in ED lab	2,18,555	1,61,600	2,38,001
	Total procedures done in minor OT	195	101	122

Lectures delivered

Praveen Aggarwal: 7

Sanjeev Bhoi: 2

Nayer Jamshed: 5

Tej Prakash Sinha: 3

Meera Ekka: 1

Akshay Kumar: 12

Prakash Ranjan Mishra: 5

Oral papers/posters presented: 5

RESEARCH

Funded Projects

Ongoing

1. Delhi Emergency Life Heart Attack Initiative: Mission Delhi (Phase II), Dr Praveen Aggarwal, Indian Council of Medical Research, 3 years, 2021-2024, Rs 4.5 crores
2. Development of low cost USG-guided needle tracking phantom model for medical education, Dr Prakash Ranjan Mishra, AIIMS, New Delhi (intramural), 2 years, 2020-2022, Rs 0.56 lakhs
3. Effect of the sodium-hydrogen channel (NHE-1) inhibitor in hypoxic cardiac arrest, Dr Tej Prakash Sinha, Indian Council of Medical Research, 2 years, 2022-2024, Rs 39.75 lakhs
4. Evaluation of a health system-based intervention on change in thrombolysis rate in ST-segment elevated myocardial infarction (STEMI) across selected districts of the country – A health implementation research project, Dr Praveen Aggarwal, Indian Council of Medical Research, 3 years, 2020-2022, Rs 87,93,131
5. Immuno-clinical correlation in sepsis patients presenting to the Emergency Department, Dr Akshay Kumar, AIIMS, New Delhi (intramural), 2 years, 2020-2022, Rs 9.5 lakhs
6. Impact of alcohol on dysregulation of inflammation and recovery of trauma haemorrhagic shock patients, Dr Tej Prakash Sinha, AIIMS, New Delhi, 2 years, 2019-2022, Rs 9.5 lakhs
7. To study the pattern of mesenchymal stromal, hematopoietic stem and progenitor cells in peripheral blood of trauma hemorrhagic shock patients, Dr Sanjeev Bhoi, Indian Council of Medical Research, 3 years, 2019-2022, Rs 41 lakhs

8. To study the role of cell free-DNA among trauma hemorrhagic shock patients and its correlation with clinical outcome and severity of injury, Dr Sanjeev Bhoi, Indian Council of Medical Research, 2 years, 2020-2022, Rs 41 lakhs
9. To study the role of iPSC (induced pluripotent stem cells) derived hematopoietic progenitor cells (HPC) for hematopoietic failure among trauma hemorrhagic shock using animal model, Dr Sanjeev Bhoi, Indian Council of Medical Research, 3 years, 2020-2023, Rs 40 lakhs

Completed

1. To study the gene expression, activation of cellular signaling pathway and its correlation with clinical outcome among trauma hemorrhagic shock, Dr. Sanjeev Bhoi, Indian Council of Medical Research, 3 years, 2018-2021, Rs 0.58 lakhs
2. To study the pattern of hematopoietic progenitor cells and Granulocyte colony stimulating factor among trauma hemorrhagic shock patients, Dr. Sanjeev Bhoi, Indian Council of Medical Research, 2 years, 2020-2022, Rs.16 lakhs
3. Utility of telemedicine to combat COVID 19 pandemic at the Emergency response centre in a tertiary care hospital, Dr Tej Prakash Sinha, AIIMS, New Delhi, 1 year, 2020-2021, Rs. 2.8 lakhs

Departmental projects

Ongoing

1. A randomised trial of modified Valsalva versus standard Valsalva manoeuvre for cardio version in patients with supraventricular tachycardia in Emergency Department
2. Association between boarding time in the emergency department and in-hospital mortality.
3. Changes in Optic nerve sheath diameter following rigid cervical collar application in patients with traumatic brain injury: a prospective observational study in a tertiary care hospital
4. Chest pain and heart failure in the Emergency Department registry study
5. Clinical epidemiological profile of patients presenting with acute chest pain in Emergency
6. Comparing crystalloids during resuscitation in Emergency Department: An interventional cluster randomized controlled trial
7. Comparison of scoring systems in predicting hospital mortality in patients with pneumonia presenting to emergency department.
8. Developing an antibiogram based on culture samples of suspected patients of infection presenting to the Emergency department
9. Diagnostic yield of non-contrast Computed Tomography brain in patients of Chronic liver disease presenting with altered mental status.
10. Does POCUS guided AIIMS-Pediatric POCUS Algorithm improve early diagnosis and critical care management decision in acutely ill pediatric patients
11. Does POCUS-guided acute abdomen algorithm improve early diagnosis and critical management decision in adult patients with undifferentiated acute abdominal pain presenting to Emergency department
12. Effect of intravenous iron on symptomatic improvement in iron-deficient patients with acute decompensated heart failure
13. Efficacy and safety of intramuscular haloperidol and olanzapine in management of acutely agitated patients in emergency department – a randomized controlled trial
14. High dose NTG vs low dose NTG in the management of SCAPE (Sympathetic Crashing Acute pulmonary edema): A Randomised Controlled Trial.
15. Impact of flipped classroom in learning of Emergency Medicine residents
16. Integration of point-of-care ultrasound during rapid sequence intubation in trauma resuscitation : A multicentric randomised study
17. Lung USG in pediatric patients coming with shortness of breath and fever
18. Performance of chief complaint driven triage system based on mortality at 72 hours for patients presenting to the Emergency department
19. Profile of acute poisoning in Emergency department: A retrospective study
20. Quality improvement in first pass success rate of endotracheal intubation in Emergency Department
21. Role of hydrocortisone in outcome of patients with cardiac arrest- a randomized placebo controlled trial
22. Role of Methylprednisolone in prevention of stricture formation in patients of Zargar class Iib Corrosive Esophageal Injury: A randomised Controlled Open Label Study
23. Study of etiological profile of brought dead patients and comparison of death due to COVID-19 during lockdown period presenting to AIIMS, New Delhi
24. Study of existing pain assessment and management practices in the department of Emergency Medicine
25. The performance of sonotriage in reducing under-triage rate as compared to conventional AIIMS triage protocol among patient presenting to Emergency Department
26. The utility of end tidal carbon dioxide monitoring in patients with shock in Emergency Department.
27. The utility of left ventricular outflow tract velocity-time integral monitoring in patients presenting with shock
28. To estimate prevalence of pulmonary embolism in patients of acute exacerbation of COPD presenting in emergency department

29. To estimate the incidence of crescent sign in ONSD using POCUS (USG) in altered mental state with raised intracranial pressure in Emergency department.
30. To evaluate the prognostic significance of hypocalcemia in patients presenting with dengue fever to Emergency department
31. To study the first pass success rate of ultrasound guided peripheral intravenous access in difficult intravenous access (DIVA) patients when compared to traditional methods with training in emergency care providers
32. To validate the F-AST score as CT decision tool in pediatric blunt abdominal trauma Role of Methylprednisolone in corrosive esophageal injury: A randomised open label trial
33. Utility of point-of-care ultrasound guided primary survey algorithm in taking critical management decisions in adult trauma patients

Completed

1. Accuracy of AIIMS sepsis triage protocol in early identification of sepsis in ED
2. Assessment of internal jugular vein and femoral vein collapsibility in the determination of intravascular volume status as compared to inferior vena cava collapsibility
3. Assessment of Troponin I levels as a predictor of mortality in acute decompensated heart failure
4. Clinical epidemiological profile of patients with AKI in CLD
5. Clinical epidemiology study of acute abdominal pain in ED
6. Clinico-epidemiological profile of cardiac arrhythmias in the emergency department
7. Clinico-epidemiological profile of patients presenting to emergency department with AKI
8. Clinico-epidemiological profile of patients presenting to the emergency department
9. Clinico-epidemiological profile of patients with corrosive poisoning presenting to emergency department
10. Diagnostic Accuracy of transcranial ultrasound to detect clinically significant conditions in post-craniectomy patients
11. Efficacy of intra lipid emulsion therapy in Organophosphorus poisoning- an exploratory study
12. Incidence of hypoglycemia in hyperkalemic patient following treatment with insulin and dextrose
13. Nebulised vs intravenous tranexamic acid in patients with hemoptysis presenting to emergency department: a randomized controlled study
14. Outcomes of patients with upper gastro-intestinal bleed presenting to ED
15. Platelet-lymphocyte ratio as a predictor of infarct-related artery patency in patients with ST-elevation myocardial infarction
16. Point-of-care ultrasound in identifying the prandial status of patients undergoing endotracheal intubation in emergency department
17. To study Clinic-epidemiological profile of patients with sympathetic crashing acute pulmonary edema (SCAPE)
18. To study the role of point of care ultrasound for carotid pulse check in cardiac arrest patients

Collaborative projects

Ongoing

1. Comparative efficacy of low vs high dose Terlipressin in the management of upper Gastrointestinal bleeding: An Open label Randomised Control Trial, Gastroenterology, AIIMS, New Delhi
2. Development of a real-time PCR technique using the CoH gene as a target for early diagnosis of Mucormycosis, Microbiology, AIIMS, NEW Delhi
3. Development of Aptamer-based rapid diagnostic test for acute heart failure, THSTI, Faridabad, Haryana
4. Epidemiology of Emergency Department Visits – An International Multicentric Study, Department of Emergency Medicine University of Michigan, Ann Arbor, USA
5. Field testing of the tools to strengthen and integrate Emergency Care Services at the Secondary health care settings in SEAR Member States in COVID-19 period and beyond. WHO-SEARO
6. Optimal usage of laboratory information system and its impact in the emergency care setting. A prospective observational study, Laboratory Medicine, AIIMS, New Delhi
7. Pilot testing of a model to Integrate Emergency Care Services in Primary Health Care settings in SEAR in COVID-19 period and beyond. WHO-SEARO
8. Point of Care Thromboelastography for critical decision making in patients requiring Massive Transfusion Protocol at a Level 1 Trauma Centre, Laboratory Medicine, AIIMS, NEW Delhi
9. PRATAP – Programme for Addressing Risky Behavior and Attitude in Trauma prevention in Road Traffic Injuries among school going children. WHO-SEARO
10. Role of antibiotic prophylaxis in child-A cirrhosis with acute variceal haemorrhage: a multi-centric Open label Randomized Controlled Trial, Gastroenterology, AIIMS, New Delhi
11. Standard medical therapy plus intravenous Albumin vs standard medical therapy in patients with acute variceal bleeding. A Pilot Randomized Controlled Trial, Gastroenterology, AIIMS, New Delhi
12. To study the perception and practices and creating model intervention package and draft national framework for drowning prevention in India. WHO-SEARO

Completed

1. A Study to assess the effectiveness of virtual simulation with regard to Knowledge retention and Skill development among nursing students on ATLS Guidelines, College of Nursing, AIIMS, NEW Delhi
2. Clinical Frailty Index as a predictor of mortality in older patients with severe acute respiratory illness: A Prospective Observational Study, Geriatric Medicine, AIIMS, New Delhi
3. Clinical Profile of patients who died in Emergency Department: Comparing the COVID-19 and the pre-COVID period, Medicine, AIIMS, New Delhi
4. Clinico-epidemiological profile of patients coming to Emergency Department with Mucormycosis during and after 2nd wave of COVID-19, ENT and Medicine, AIIMS, New Delhi
5. Clinico-epidemiological profile of the patients coming to Emergency Department during third wave of COVID-19, Medicine, AIIMS, New Delhi
6. Development of self-assessment tool for resident doctor's communication skills in India, Medicine, AIIMS, New Delhi
7. Development of structured module of echocardiography training for non-cardiology physicians, Cardiology, AIIMS, NEW Delhi
8. Evaluation of Biolog-ID solution (A RFID based system) for Red Blood cell traceability and inventory management, Transfusion Medicine, AIIMS, New Delhi
9. Evaluation of workplace violence and communication skills of resident doctors at a tertiary care teaching hospital, Medicine, AIIMS, New Delhi
10. Genomic analysis of symptomatic SARS-CoV-2 vaccine breakthrough infection, Microbiology, AIIMS, New Delhi
11. Global One Day in Emergency Study – Global Multicentric Period Prevalence Study, University of Michigan, Ann Arbor, USA
12. Impact of COVID-19 on Tuberculosis, Microbiology, AIIMS, New Delhi
13. Prospective observational study of transfusion practices in severely injured trauma patients in Emergency Department at a level 1 Trauma Centre, Laboratory Medicine, AIIMS, NEW Delhi
14. Utility of Metabolic Imaging in patients with obscure abdominal pain, Surgery, AIIMS, New Delhi

PUBLICATIONS

Journal: 17

Abstracts: 2

Chapters in Book: 3

PATIENT CARE SERVICES

1. (a.) Number of patients attended Emergency services

Year	Total new patients	Total revisit patients	Total patients
2019-20	1,01,786	47,657	1,49,443
2020-21	65,743	29,441	95,184
2021-22	74,459	33,394	1,07,853

(b.) Medico-legal cases

Wing	e-MLCs		
	2019-20	2020-21	2021-22
New Emergency	782	309	927
Surgical Emergency	11,892	9464	7778
Paediatric Emergency	554	395	464
Screening Emergency	–	791	–
Total	13,228	10,959	9,169

2. Point of Care Testing Laboratory (POCT) data

Test type	Total test done		
	2019-20	2020-21	2021-22
Complete blood count	1,08,000	63,000	82,960
Quantitative Troponin I	10,672	11,200	13,794
Blood gas analysis	93,569	82,000	1,34,530
BNP and NT pro-BNP	2048	1100	1772
D Dimer	729	900	1250
Urine Tox screen	420	550	683
PT/INR	3042	2500	2500
Procalcitonin	75	350	512
Grand total	2,18,555	1,61,600	2,38,001

3. Procedures done in Emergency OT

Name of procedure	Total number		
	2019-20	2020-21	2021-22
Tracheostomy	178	101	117
Other procedures	17	0	5
Total minor procedures	195	101	122

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Praveen Aggarwal continues to be the Chief Editor of the Journal of Emergencies, Trauma and Shock, an international journal indexed in PubMed. He is a member of Signal Review Panel of the Central Drugs Standard Control Organization and the Indian Pharmacopoeia Commission for the Pharmacovigilance programme of India. He is a Member of the Scientific Body, Indian Pharmacopoeia Commission, Ministry of Health and Family Welfare, Government of India. He is the Vice-President of the Academic College of Emergency Experts in India and Joint Secretary of Organised Medicine Academic Guild of India which is a Guild of major medical associations and societies in India with the aim to formulate national policies in term of patient care, education and research. He is the Chief Editor for revising 'Washington Manual of Emergency Medicine' South-East Asia Edition. He is a member of Institute Ethics Sub-Committee for assessing Serious Adverse Effects of drugs being studied in various projects. He is a Member of the Core Committee of Experts for revising the National Drug Formulary of India. He is the Chairman of the Committees formed by the National Medical Commission (NMC) and National Board of Examinations (NBE) involved in preparing core curriculum and guidelines for the Departments of Emergency Medicine across India.

Professor Sanjeev Bhoi continues to be the head of WHO collaborating centre for Emergency and trauma in the SEARO. His research report "Assessing the status of facility based emergency and injury care system in secondary and tertiary care in India" which has been released, is a national gap analysis document which provides policy inputs to prioritize investments to create world-class emergency & injury care system. He also gave his expertise to the Ministry of Health and various other organizations, including the Supreme Court committee on road safety. He mentored the states of Kerala and Arunachal Pradesh for development of Emergency care system. Important courses conducted under his guidance during the period include, 'triage protocol workshop', 'tactical combat casualty workshop for paramilitary personnel' and 'capacity building programs for strengthening emergency care in primary health care settings'. Point of care ultrasound training for postgraduates among clinical disciplines and dissemination among undergraduate students and nurses is his key area of work. He is mentoring the work of other faculty members towards creating a center of excellence of POCUS training at AIIMS, New Delhi.

Dr Nayer Jamshed is a teaching faculty for the proposed Emergency fellowship program in toxicology and an adjunct faculty in the proposed DM Course in Psychosomatic Medicine. He is also a teaching faculty to the SET Faculty of AIIMS and in-charge of the academic teaching program. He is a part of departmental quality improvement program to improve quality of patient care in the Emergency department. He is the associate editor of Washington Manual of Emergency Medicine and has written chapters in various textbooks. He is the reviewer of 4 International journals of Emergency Medicine. He is the Nodal Officer for COVID-19, hospital infection control committee and MBBS curriculum revision program of AIIMS. He is also the member of student wellness committee and institute selection committee for senior residents/senior demonstrators of AIIMS. In 2021-22, he was appointed as national moderator of NBE exams and was also the external and internal examiner for the subject of Emergency Medicine at AIIMS and other post graduate institutes. He was the head of the central committee formed by MOHFW, Government of India to investigate the mysterious disease in Eluru, Andhra Pradesh and was appointed as member of various committees of AIIMS and MOHFW. He has contributed immensely in the development of proposed new emergency block which will help in catering around 2 lakhs patients and has a vision to start preventive Emergency Medicine OPD as a long term plan.

Dr Tej Prakash Sinha has focused his work on Emergency and trauma care system building. He was a part of the research report "Assessing the status of facility-based emergency and injury care system in secondary and tertiary care in India" which has been released. This national gap analysis document is a landmark document which provides policy inputs to prioritize investments to create world-class emergency & injury care system through integrated approach. Many of the recommendations are already adopted (creating academic departments across all public and private medical colleges, Pre-hospital care systems, HR trainings, etc). His second major area is to create training models and conducting research on point of care ultrasound (POCUS) for emergency & trauma, through conducting training courses on using point of care ultrasound for postgraduates and USG in UG Medical education and teaching USG-guided Anatomy and Physiology. He is working towards creating a center of excellence of POCUS training at AIIMS, New Delhi. Presently, he is also serving as Educational Sub-committee Co-Chair of global emergency medicine research network "Emergency Medicine Education & Research by Global Experts (EMERGE)" with a vision to transform lives globally through emergency care research. He is serving as an officer of WHO-collaborating centre for Emergency and Trauma in the region and has been working collaboratively with various states of India and member countries of SEARO for Emergency medicine in building systems of integrated emergency and trauma care in India and SEAR region.

Dr Meera Ekka continued to be reviewer of various international journals and is on editorial board of 'Annals of Clinical Case Studies'. She is member of Asia Pacific association of Medical Toxicology, Association of Physician of India and Emergency Medicine Association of India. She has delivered four lectures at institute level. She is one of the Associate editors of Washington Manual of Emergency Medicine, SAE edition and contributed one chapter on COVID-19 disease in the same manual. She is the Faculty In-charge store and nodal officer for equipment audit for the Department of Emergency Medicine. She is involved in initiation of Triage and Screening OPD in the department. She is part of quality improvement projects for pain free Emergency Department. She is one of the teaching faculty for SET Facility and has developed a teaching module on "needle decompression in tension pneumothorax" for MBBS students. She is also the teaching faculty for AIIMS Emergency ECG and comprehensive Emergency and trauma care training of medical/paramedical CAPFS course run by the department. She is one of the teaching faculties for the proposed Toxicology Fellowship Program. She is member of purchase committee for various equipment for the department at institute level. She has started one registry study on acute chest pain and heart failure in Emergency department. She is also working on an acute poisoning registry.

Dr Akshay Kumar has been an invited faculty subject expert in Emergency medicine for National Board of Examinations in New Delhi. He was faculty for the National training of trainer workshop in simulation-based education and blended learning organized at the Simulation Centre of AIIMS, New Delhi. Over the last three years, he has organized more than 15 skill training days which included training in life support, trauma care and life-saving emergency procedures at the Simulation facility for postgraduate students in Emergency medicine. He has been a regular faculty for ECG workshops and has organized several Acute Critical Care Courses. He has led several projects in his department aimed at improving patient care services including reducing door to antibiotic time in sepsis patients, improving emergency airway management and strengthening care for patients presenting with acute ST-elevation myocardial infarction.

Dr Prakash Ranjan Mishra developed the 'AIIMS Emergency ECG Course' and has conducted many sessions of the workshop as Course director and teaching faculty. He is a teaching faculty for SET facility in the institute and has developed e-modules for training of students. He is one of the Associate editors of Washington Manual of Emergency Medicine, SAE edition and has contributed a chapter on 'massive transfusion protocol' in the same manual. He is a part of departmental quality improvement program and has actively participated in mortality meetings and QI programs of the department. In view of his administrative skills, he was the roster-in-charge of residents working in the department, has been a part of store purchase committee, is an officer in the team for equipment audit for the department of Emergency Medicine, and is the Assistant central public information officer for RTI from the department. He was the Organizing secretary of HEMS-India (Helicopter based Emergency medical services) which will be a milestone in improving Emergency medical services in the country. He was also involved in training doctors during workshops, as, 'CAPFS course' (Comprehensive Emergency and Trauma Care Training of Medical/ Para Medicals) for doctors, nurses and paramedics and teaching program for GDMOs of Coal India. He was also involved in training doctors and paramedics during online workshops for strengthening emergency care services in SEAR region, in collaboration with WHO. He was a faculty and moderator during conferences, such as EM INDIA.

9.11 Endocrinology and Metabolism

Professor and Head

Nikhil Tandon

Professors

Ravinder Goswami

Rajesh Khadgawat

Viveka P Jyotsna

Additional Professor

Yashdeep Gupta

Assistant Professors

alpesh Goyal

Rahul Gupta

HIGHLIGHTS

The department is engaged in many academic activities such as Endocrine-Pathology Conference every alternate week, Endocrinology-Nuclear Medicine (Wednesday) and Endocrinology-Radio diagnosis (Friday) meet every week. There are Seminars (Wednesday), Journal Clubs (Friday) and Clinical classes (Thursday) every week. During these academic events the topics of clinical importance and recent high impact articles are discussed. The Department runs daily outpatient facilities, has state-of-the-art laboratory services for hormone assays, metabolic studies and bone density measurement. Due to COVID-19, majority of the academic activities of the department were conducted in virtual mode during the year.

EDUCATION

Undergraduate, Postgraduate, Paramedical Training

The department was actively involved in teaching undergraduate medical students and nursing students. Postgraduate students (MD) from Internal Medicine and Geriatric Medicine come for one and two-month postings in the department. In addition, postgraduate fellows enrolled in MCh Breast and Endocrine Surgery, DM Nuclear Medicine and MSc Reproductive Biology also rotated for a period of 2-4 weeks in the department.

Long and Short-Term Training

- Two candidates joined the DM course [One General (July, 2021) One Sponsored (January 2022)].
- Due to Covid-19 no candidate was permitted for short-term training.

Numbers related to the current year in consideration and the two preceding years

S. No.	Component	2019-20	2020-21	2021-22
1	Number of students/trainees registered in the department	11	11	11
2	Number of oral presentations and posters	5		2
3	Number of different sub-types of publications I. Full article II. Abstract III. Book chapter	65	71	79
4	Total number of funding received for research (New projects)* Total amount of funding received for research *Projects Sanctioned in the given year.	6 31,545,880	4 34,026,286	8 24,588,426
5	Number of patient-care-related activities - specialty clinics, procedures, investigations etc.	Specialty clinics: 4; Hormones: 75,249; Biochemical investigations: 36,080	Specialty clinics: 4; Hormones: 30,276; Biochemical investigations: 16,446	Specialty clinics: 3; Hormones: 64,844; Biochemical investigations: 23,463

Lectures delivered**Nikhil Tandon: 20****Viveka P Jyotsna: 1****Rahul Gupta: 2****Rajesh Khadgawat: 15****Yashdeep Gupta: 2****Ravinder Goswami: 1****Alpesh Goyal: 4****Oral papers presented: 2****RESEARCH****Funded projects****Ongoing**

1. A 26-week, randomised, multicentre, open-label, active-controlled, parallel group, two armed, treat-to-target trial investigating the effect on glycaemic control and safety of treatment with once weekly Insulin Icodec compared to once daily Insulin Degludec, both in combination with Insulin As part in adults with type 1 Diabetes, with a 26-week extension investigating long term safety, Rajesh Khadgawat, Novo Nordisk, 4 years, 2021-2024, Rs 34,95,400
2. A dose-finding trial evaluating the effect and safety of once-weekly treatment of somapacitan compared to daily Norditropin® in children with short stature born small for gestational age with no catch-up growth by 2 years of age or older, Rajesh Khadgawat, Novo Nordisk, 5 years, 2020-2025, Rs 25 lakhs
3. A randomised, multinational, active-controlled, (open-labelled), dose finding, (double-blinded), parallel group trial investigating efficacy and safety of once-weekly NNC0195-0092 treatment compared to daily growth hormone treatment in growth hormone treatment naïve pre-pubertal children with growth hormone deficiency, Rajesh Khadgawat, Novo Nordisk, 6 years, 2017-2022, Rs 30 lakhs
4. A Randomised, Double-blind, Placebo-controlled, Parallel-group, Multicenter Study to Evaluate the Effect of Efglenatide on Cardiovascular Outcomes in Type 2 Diabetes Patients at High Cardiovascular Risk, Rajesh Khadgawat, Sanofi Aventis, 5 years, 2018-2023, Rs 20 lakhs
5. A trial comparing the effect and safety of once weekly dosing of somapacitan with daily Norditropin® in children with growth hormone deficiency, Rajesh Khadgawat, Novo Nordisk, 5 years, 2018-2023, Rs 10 lakhs
6. An open label multicentre roll over study to assess long term safety in patients with endogenous Cushing's syndrome who have completed prior Novartis sponsored osilodrostat (LCI699) study and are judged by the investigator to benefit from continued treatment with osilodrostat, Viveka P Jyotsna, Novartis/IQVA, 6 years, 2019-2024, Rs 30 lakhs
7. Centre for Advanced Research and Excellence (CARE) in Young Diabetes, Nikhil Tandon, ICMR, 5 years, 2019-2024, Rs 1,04,95,880
8. Changing diabetes in children, Nikhil Tandon, Novo Nordisk India Pvt Ltd, 11 years, 2012-2023, Rs 25 lakhs
9. Comparison of Seroprevalence of SARS-CoV2 among people with and without diabetes and/or hypertension among existing cardio-vascular community cohort in National Capital Region (NCR) of Delhi, Nikhil Tandon, ICMR, 1¼ years, 2021-2022, Rs 58,516,50
10. Development of Phase II Clinical Trial for an Investigational New Drug, Nikhil Tandon, Torrent Pharma, 7 years, 2014-2022, Rs 84,53,212
11. Efficacy and safety of oral semaglutide versus oral placebo both in combination with metformin and/or basal insulin in children and adolescents with type 2 diabetes, Rajesh Khadgawat, Novo Nordisk, 3 years, 2020-2023, 25 lakhs
12. ICMR – Young Diabetes Registry (YDR) & YDR cohort – Phase III", Nikhil Tandon, ICMR, 3 years, 2020-2023, Rs 27,026,286
13. Integrated Tracking Referral, and Algorithmic Management (I-TREC) System for Hypertension and Diabetes Institution, Nikhil Tandon, NIH, USA, 5 years, 2017-2022, \$649,748
14. Long-term effects of semaglutide on diabetic retinopathy in subjects with type 2 diabetes (FOCUS), Nikhil Tandon, Novo Nordisk India Pvt Ltd, 5 years, 2019-2024, Rs 27.50 lakhs
15. Metabolic profiling as per glycemic status [normoglycemia/prediabetes/diabetes] in women with a history of gestational diabetes mellitus (GDM)- A cross-sectional study, Yashdeep Gupta, AIIMS-THSTI, 2 years, 2020-2022, Rs 20 lakhs
16. Molecular Genomics of congenital Growth Hormone Deficiency and GH sensitivity., Rajesh Khadgawat, Own/Self, 3 years, 2021-2023
17. One alpha hydroxyl vitamin D versus 1,25 dihydroxy vitamin D for achieving optimal calcemic and phosphatemic control in patients with idiopathic hypoparathyroidism, Ravinder Goswami, ICMR, 2 years, 2021-2023, Rs 31,20,076
18. SARS-CoV-2 infection (COVID-19) related clinical outcomes among people with and without diabetes and/or hypertension in India- A hospital based observational study, Nikhil Tandon, ICMR, 1 ½ years, 2021-2022, Rs 45,21,300
19. SOUL - Semaglutide cardiovascular outcomes trial in patients with type 2 diabetes, Nikhil Tandon, Novo Nordisk India Pvt Ltd, 5 years, 2019-2024, Rs 30 lakhs
20. To develop a strategy for postpartum follow-up of woman with history of gestational diabetes mellitus by using the right test and frequency of testing and developing patient centric approach after incorporating their views, Nikhil Tandon, Lupin Ltd, 5 years, 2018-2023, Rs 40,41,400

21. To evaluate the effectiveness of lifestyle intervention program in overweight/obese women [within two years of last child birth] when delivered to them along with their spouse as compared to them alone: Two arms parallel Randomized Control Trial, Yashdeep Gupta, ICMR, 3 years, 2019-2022, Rs 47 lakhs
22. To generate normative data using continuous glucose monitoring system for glycemia in pregnancy at 24 to 32 weeks of gestation in women defined as normal by IADPSG (International Association of Diabetes and Pregnancy Study Groups) criteria, Yashdeep Gupta, ICMR, 3 years, 2021-2024, Rs 45 lakhs
23. To study the effect of changes in growth hormone status on metabolomic profile of human subjects, Rajesh Khadgawat, ICMR, 3 years, 2021-2023, Rs 29 lakhs
24. To Study the prevalence of Primary Aldosteronism among the patients of essential hypertension, Awarded to UG students; Mentor – Rajesh Khadgawat, AIIMS UG Research Grant, 1 year, 2021-2022, Rs 2 lakhs
25. Vitamin D deficiency and bone microarchitecture in asymptomatic healthy Indians: Exploring the functional significance of low serum 25(OH)D and high PTH, Ravinder Goswami, DBT, 4 years, 2019-2023, Rs 76 lakhs

Completed

1. A lifestyle intervention program for the prevention of type 2 diabetes mellitus among South Asian women with gestational diabetes mellitus ICMR, New Delhi, Nikhil Tandon, ICMR, 6 years, 2015-2021, Rs 72,77,679
2. A phase 3, open-label, randomized, multicenter, 12 months, efficacy and safety study of weekly MOD-4023 compared to daily Genotropin- therapy in pre-pubertal children with growth hormone deficiency, Rajesh Khadgawat, Opko Biologicals, 4 years, 2017-2021, Rs 30 lakhs
3. A Phase II trial to assess efficacy and safety of pasireotide.s alone or in combination with Cabergoline., Viveka P Jyotsna, Novartis, 6 years, 2015-2021, Rs 10 lakhs
4. A Phase IIb, Open-label, Randomized, Comparative Study to Evaluate the Safety and Efficacy of USVCAP Formulation in Type 2 Diabetes Mellitus Subjects Uncontrolled with Metformin Hydrochloride Treatment, Rajesh Khadgawat, USV Ltd, 3 years, 2019-2021, Rs 25 lakhs
5. A Phase III, multi-center, double-blind, randomized withdrawal study of LCI699 following a 24-week, single-arm, open-label dose titration and treatment period to evaluate the safety and efficacy of LCI699 for the treatment of patients with Cushing's disease, Viveka P. Jyotsna, Novartis, 5 years, 2016-2021, Rs 29,53,880
6. A randomised, multinational, active-controlled, (open-labelled), dose finding, (double-blinded), parallel group trial investigating efficacy and safety of once-weekly NNC0195-0092 treatment compared to daily growth hormone treatment in growth hormone treatment naïve pre-pubertal children with growth hormone deficiency., Rajesh Khadgawat, Novo Nordisk, 4 years, 2017-2021, Rs 30 lakhs
7. A Randomised Placebo Controlled Phase 2 Clinical Study of an Ayurvedic Coded Drug 'AYUSH D' in the Management of Type 2 Diabetes Mellitus as add on Therapy to Metformin, Rajesh Khadgawat, Central Council for Research in Ayurvedic Sciences, Ministry of AYUSH, Govt of India, 4 years, 2017-2021, Rs 35 lakhs
8. A Randomised Placebo Controlled Prospective Phase II Clinical Study of an Ayurvedic Coded Drug 'AYUSH-D' on Glycemic control in Pre-Diabetic Subjects, Rajesh Khadgawat, Central Council for Research in Ayurvedic Sciences, Ministry of AYUSH, Govt of India, 4 years, 2017-2021, Rs 35 lakhs
9. Bone mineral density and chronic alcoholism and changes following disulfiram deaddiction therapy, Ravinder Goswami, DBT, 4 years, 2017-2021, Rs 45 lakhs
10. Development of A Standardized Formulation of Trigonella foenum-graecum Seeds For Preventing or Delaying the Development of Type-2 Diabetes in Subjects with Pre-Diabetes, Rajesh Khadgawat, ICMR, 5, 2017-2021, Rs 35 lakhs
11. Effect of intervention for lifestyle modification on improvement in sleep quality, depression score and optimal breastfeeding duration in women with history of GDM: Sub study of LIVING, Nikhil Tandon, USV Ltd, 3 years, 2018-2021, Rs 53,42,040
12. Performance analysis of point of care device for HbA1c developed indigenously against gold standard of HbA1c HPLC-123G8 machine (by High Performance Liquid Chromatography), Viveka P Jyotsna, ICMR, 2 years, 2019-2021, Rs 19 lakhs
13. Role of platelet activation in the development of systemic inflammations in patients with type 2 diabetes., Rajesh Khadgawat, DBT, 3 years, 2019-2021, Rs 26 lakhs

Departmental Projects

Ongoing

1. Assessing Indian vegetarian diets with respect to their "potential protective impact" on cardio-metabolic health of urban adults in Delhi
2. Characterization of Neuroendocrine Tumors with Ga68-DOTANOC PET/CT and F18- FDG PET/CT and compare results with histopathology
3. Etiological and clinical profile of non-diabetic hypoglycemia: An ambispective study.
4. Etiological and clinical profile of patients with ectopic ACTH syndrome: Ambispective study
5. Evaluation and characteristics of multiple Endocrine neoplasia in cases with primary hyperparathyroidism admitted in Endocrine ward over last 10 years: An ambispective study
6. Molecular aspects in the pathogenesis of Basal ganglia calcification in hypoparathyroidism
7. Pattern of islet antibodies and their persistence in Type 1 Diabetes patients from North India

8. To study the clinical spectrum/profile of MEN syndrome patients in North India
9. To study the effect of personality on diet quality & academic performance among adolescents: a comparison between boys & girls
10. To study the management outcomes in patients with primary aldosteronism
11. To study the prevalence of primary aldosteronism in high risk subjects with hypertension
12. To study the response to vitamin D treatment in obese, overweight and normal BMI, vitamin D deficient Indian children aged 5 to 12 years-an open labelled randomized intervention study
13. Vitamin D status and its functional significance

Completed

1. A Randomised Double Blind Controlled Trial to Investigate the Effects of Vitamin D supplementation on Insulin Resistance and Beta cell function in obese Asian-Indian Subjects, aged 11-17 years.
2. Assessment of arterial stiffness in obese children and adolescents in the age group of 6-18 years
3. Assessing Indian vegetarian diets with respect to their “potential protective impact” on cardio-metabolic health of urban adults in Delhi
4. Characterisation of Neuroendocrine Tumors with Ga68-DOTANOC PET/CT and F18- FDG PET/CT and compare results with histopathology
5. Correlation between first trimester glucose screening & serum insulin levels with development of gestational diabetes mellitus in pregnancy
6. Determinants of bone mass in Asian Indian newborns - Nutritional perspective
7. Effect of Vitamin D supplementation on pancreatic β cell functions in obese Indian subjects: A randomized controlled trial.
8. Glycemic parameters and dysglycemia in patients with pheochromocytoma and paraganglioma - a pre and post-surgery study.
9. Molecular insights into Basal Ganglia Calcification with respect to Idiopathic Hypoparathyroidism
10. Phenotype and radiological correlation in children with growth hormone deficiency
11. Prevalence of gestational diabetes mellitus among first and second trimester pregnant women in a rural community of Haryana
12. Prevalence of thyroid peroxidase antibody positivity in pregnant Asian-Indian subjects
13. Study of mitochondrial defects and VDR polymorphisms in Type 2 Diabetes
14. The comparison of Freestyle Libre Pro and Medtronic CGMS for glucose monitoring, using self-monitored glucose values (using blood glucose meter) as reference in women with hyperglycemia in pregnancy
15. To assess the prevalence of vitamin D deficiency in patients with non-traumatic fracture of hip
16. To compare the efficacy of 90,000 and 1,80,000 IU oral single dose vitamin D for treatment of rickets in 6 months to 5 years of age
17. To Study Carotid Intima Media Thickness (CIMT) As A Marker Of Atherosclerosis And Its Correlation To Insulin Resistance In Children With Obesity In The Age Group Of 4-18 Years
18. To study determinants of insulin resistance in children and adolescents with obesity
19. To study pituitary morphometry across different age groups
20. To study the clinical, biochemical and radiological features of primary hyperparathyroidism: impact of vitamin D nutrition and histopathology
21. To study the correlation of serum vitamin D level with insulin resistance and beta cell function in subjects with obesity in the age group of 6-18 years
22. To study the determinants of insulin resistance in Asian Indian children with obesity aged 11-17 years
23. To study the effect of parental origin of X-chromosome on clinical features and biochemical profile in patients with Turner syndrome
24. To study the effect of personality on diet quality & academic performance among adolescents: a comparison between boys & girls
25. To study the impact of adiposity on serum androgen parameters in apparently healthy male subjects
26. To study the impact of adiposity on serum androgen parameters in apparently healthy male subjects
27. To study the management outcomes in patients with primary aldosteronism
28. To study the prevalence of primary aldosteronism in high risk subjects with hypertension
29. To study the prevalence of vitamin D deficiency in pregnant women at first and third trimester during the routine care
30. To study the response to vitamin D treatment in obese, overweight and normal BMI, vitamin D deficient Indian children aged 5 to 12 years-an open labelled randomized intervention study
31. To study the variability in content strength of commercially available cholecalciferol preparations in India
32. Vitamin D status and bone microarchitecture in asymptomatic healthy Indians

Collaborative projects

Ongoing

1. A Prospective study to determine early predictive factors of hypocalcemia in patients undergoing total or completion thyroidectomy (2021-2023)., Department of Otorhinolaryngology, AIIMS.

2. A randomised control trial to compare the safety and outcome of trans-oral vestibular and axillo-breast approach for endoscopic hemithyroidectomy in patients with benign thyroid swellings.(2021-2024), Department of General Surgery, AIIMS
3. Assessment of risk factors of Graves orbitopathy and predicting odds of dysthymic optic neuropathy in hyperthyroidism. (2021-2024), Department of Ophthalmology, AIIMS
4. Correlation of Levator-Muller's Complex thickness on UBM with clinical response to botulinum toxin an injection in Patients with thyroid-related severe Retraction of upper eyelid, Department of Ophthalmology, AIIMS.
5. Effect of benfotiamine as an adjuvant drug on oxidative stress in patients with type 2 diabetes mellitus- a randomised double-blind placebo-controlled clinical trial.(2021-2024), Department of Pharmacology, AIIMS
6. Evaluation of role of platelet rich plasma in healing of chronic diabetic and peripheral arterial disease ulcers as compared to standard medical care: a randomised control study.(2021-2024), Department of Surgery, AIIMS
7. Identification of genetic mutation in neuroendocrine tumors: Implication in diagnosis and management (2020-2023), Department of Anatomy, AIIMS
8. Pathogenesis of primary parathyroid adenoma, Departments of Pathology, Forensic Medicine and Anatomy
9. Study to quantify the burden of Insulin resistance in breast cancer women and its relation with other known prognostic and predictive factors of breast cancer (2021-2023), Department of Surgery, AIIMS

Completed

1. To study relation between components of Renin angiotensin aldosterone system & vascular functions following Angiotensin converting enzyme inhibition in type 2 diabetes patients with newly diagnosed hypertension. Funding: Intramural. (2019-2021), Department of Physiology, AIIMS
2. To study the correlation between autonomic, vascular, endothelial function and the biochemical profile of rennin angiotensin aldosterone system pre and post-angiotensin converting enzyme inhibition in type 2 diabetes with newly diagnosed hypertension. Funding: ICMR (2019-2021), Department of Physiology, AIIMS

PUBLICATION

Journals: 60

PATIENT CARE

OPD/Clinic attendance from 1 April 2021 to 31 March 2022

Endo New Patient	Endo Old Patient	Endo Follow-up Tele-consultation	PAE Clinic	DOY Clinic	GDM Clinic	Total
8364	20438	3027	504	1137	125	33595

Month-wise break-up for OPD attendance from 1 April 2021 to 31 March 2022

Month	New Patient	Old Patient	Follow-up Tele-consultation	PAE Clinic	DOY Clinic	GDM Clinic	Total
April 2021	305	1144	178	35	80	0	1742
May 2021	0*	0*	520	0*	0*	0*	520
June 2021	189	495	721	14	40	0	1459
July 2021	694	1772	269	60	131	0	2926
August 2021	894	2141	190	72	105	0	3402
September 2021	1022	1573	326	69	110	15	3115
October 2021	960	1937	188	52	117	22	3276
November 2021	1030	2174	97	68	119	10	3498
December 2021	1093	2793	126	50	97	27	4186
January 2022	408	1579	143	9	116	9	2264
February 2022	703	1913	133	14	106	8	2877
March 2022	1066	2917	136	61	116	34	4330
Total	8364	20438	3027	504	1137	125	33595

***Due to spread of COVID-19, Out Patient Department (OPD) was closed (21 April to 17 June 2021), only Tele-consultation was functional.**

Inpatient and other patient-related details may please be seen in Hospital (Medical Record Division)

Laboratory Services

Hormones investigations

No	Hormone	Tube assays done	No	Hormone	Tube assays done
1	T4	9645	16	GH	657
2	TSH	13318	17	GAD	756
3	TPO	2169	18	F T4	3737
4	LH	1217	19	T3	1701
5	FSH	1779	20	F T3	810
6	PRL	1590	21	IGF 1	900
7	CORTISOL	2729	22	E2	419
8	TESTOSTERONE	1245	23	ALDOSTERONE	1041
9	DHEA	302	24	RENIN	1041
10	17 OHP	234	25	FGF 23	100
11	ACTH	1172	26	OSTEOCALCIN	161
12	PTH	2603	27	SARS COV-2	1609
13	VITAMIN D	4306	28	IA2	566
14	INSULIN	5158	29	ZnT8	885
15	C PEPTIDE	2994	GRAND TOTAL		64844

The HPLC- Tandem Mass Spectrophotometer system for measuring Steroid hormones in patient samples was installed and is working satisfactorily in the RIA laboratory of the Department of Endocrinology & Metabolism.

Several validated reagent method protocols for quantitation of steroid hormones (including 25 (OH) Vitamin D) have been applied, tested & finally selected and standardized on this system by early 2019.

Currently, we are in the process of doing trial measurements of steroid hormones in patient's samples using both methods, namely HPLC-MS/MS using our validated reagent method protocols and conventional RIA for comparison of results.

Biochemical investigations

No	INVESTIGATION	NUMBER OF SAMPLES
1	Blood glucose	8872
2	Glycated hemoglobin (HbA1c)	6742
3	Urine pH	145
4	Osmolality (urine and serum)	924
5	Lipid Profile	5980
6	tTG Elisa test	800
	Total tests	23463

Specialty Clinics:

- Community services/camps.
- Diabetes of Young (DOY) Clinic on Saturdays
- Gestational Diabetes Mellitus (GDM) Clinic on Friday mornings
- Paediatric and Adolescent Endocrine Clinic (PAEC) on Monday afternoons.

The department regularly holds camps especially awareness and screening programs on obesity, PCOS, diabetes, and thyroid disorders.

Sessions Conducted for Media and General Public by Dr Nikhil Tandon

(presented on Facebook Live on– World Diabetes Day), 14 November 2021, Video Conference

1. Corona Jagrukta Series – Live Phone in Program, All India Radio, 22 May 2021, Telephonic interview
2. Corona Jagrukta, All India Radio, 22 May 2021, Telephonic interview
3. COVID and its complications, Zee News, 4 June 2021, Video Conference
4. COVID and Mucormycosis, India News, 22 May 2021, Video Conference
5. COVID Charcha LIVE, Ministry of Health and Family Welfare, Twitter Spaces, 8 September 2021, Video Conference
6. COVID, DD News(Arogya Bharat), 5 June 2021, Video Conference
7. Demystifying diabetes – Programme on “Healthy India”, Sansad TV, 11 September 2021, Video Conference

8. Diabetes – Causes and Treatment, Participated in the Programme – “Radio Doctor” organized by All India Radio, 22 December 2021, Live(3-4 pm)
9. Diabetes and Corona, AajTak, 14 May 2021, Video Conference
10. Diabetes and COVID, DD News Total Health program, 16 May 2021, Video Conference
11. Diabetes on the occasion of World Diabetes Day, Panel Discussion on News X, 15 November 2021, Video Conference
12. Diabetes, COVID and Mucormycosis, New Indian Express, 17 May 2021, Interview
13. Diabetes, COVID-19 and Black Fungus: How are they related?, INDIA SPEND, 25 May 2021, Video Conference
14. Diabetes: A Serious Health Concern, HER World India, 26 May 2021, Video Conference
15. Doctor’s Day, DD News, 1 July 2021, Video Conference
16. Mucormycosis and COVID, India TV, 20 May 2021, Video Conference
17. Mucormycosis and COVID, TV18, 21 May 2021, Video Conference
18. Mucormycosis and Diabetes, News 18 and 17 May 2021, Video Conference
19. Mucormycosis Treatment Guidelines, Times Now, 19 May 2021, Video Conference
20. Mucormycosis, AajTak, 20 May 2021, Video Conference
21. Mucormycosis, ANI, 22 May 2021, Video Conference
22. Mucormycosis, CNN-IBN, 20 May 2021, Video Conference
23. Mucormycosis, DD News, 21 May 2021, Video Conference
24. Mucormycosis, DM and COVID, India TV, 21 May 2021, Video Conference
25. Mucormycosis, India TV Conclave, 23 May 2021, Video Conference
26. Mucormycosis, News 24, 21 May 2021, Video Conference
27. New Frontiers in Diabetes Management in India, Panel Discussion organised by Time of India
28. New Technologies in Diabetes, Health Show “Healthy India” on Sansad TV, 23 March 2022, Sansad TV Studio
29. Prevention and treatment of mucormycosis in COVID patients, <https://www.indiatimes.com/news/india/what-is-mucormycosis-or-black-fungus-and-why-is-it-affecting-so-many-covid-19-patients-541488.html>, 29 May 2021, Online
30. Type 1 Diabetes, NDTV(Recorded on 31 May, 2021), 18 June 2021[Telecast date], Video Conference
31. Type 1 Diabetes: Facts over rumours – Patient Education Program, Research Society for the Study of Diabetes in India, 3 May 2021, Video Conference

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Nikhil Tandon was nominated as Member, Expert Panel of the Joint Global Health Trials scheme (Medical Research Council UK/DFID/Wellcome Trust) and member of the KDIGO Management of Diabetes & CKD Guideline: Work Group. Elected as Vice President of National Board of Examination (NBE), New Delhi. He is nominated as Member of NCD Policy Group of the Comprehensive National Nutrition Survey and Member of the Governing Body of the National Institute of Health and Family Welfare (NIHFW), Ministry of Health and Family Welfare, Munirka, New Delhi. He was nominated by the Ministry of Earth Sciences, Government of India as a Member of the National Coordination Committee for Polar Science Programme (NCCP), Antarctica. He is elected as Expert in the Committee to develop guidelines for national prioritization for COVID vaccination for people with co-morbidities. Nominated as Member in ASIA-PACIFIC (APAC) International Advisory Board for newer insulins and combinations (Virtual), on 7 November 2021. He chaired session and opening remarks in The Pandemic of Diabetes: 100 years after the discovery of insulin, a symposium organized by the Rollins School of Public Health, Emory University on 1 October 2021. Attended meeting of the External Advisory Group for Project ENHANCE, NIMHANS (Virtual) on 21 February 2022. He attended 2nd meeting of the WHO Technical Advisory Group/Diabetes (Virtual) on 16-17 December 2021. Currently, he is a member of the WHO Technical Advisory Group on Diabetes (TAG/D) for a period of two years from 20 July 2021 to 19 July 2023 and member of National Academy of Sciences, India since February, 2022.

Professor Ravinder Goswami was elected as member for the 3rd International Task Force on Hypoparathyroidism initiated by Endocrine Society of USA and member of Core Committee of the Central Core Research Facility (CCRF). Nominated as member of Fellowship Selection Committee Indian Academy of Science, Bangalore. He is a member of Project Review Committee for Medical Projects, CSIR since 2015 till date.

Professor Rajesh Khadgawat was elected as Expert in National Anti-Doping Agency (NADA), Ministry of Youth Affairs and Sports, Govt of India and Endocrinology External expert, Japan Anti-Doping Agency (JADA), Japan. He is Member of Subject Expert Committee (Endocrinology), DCGI Govt of India and Subject Expert, National List of Essential Medicines (NLEM) in Department of Health Research. He is a Subject expert (Endocrinology) for faculty selection/promotion for Union Public Service Commission (UPSC), AIIMS-Bhopal, AIIMS-Bhubaneswar, AIIMS-Jodhpur, AIIMS-Raipur, AIIMS-Manglagiri, AIIMS-Kalyani, Rajasthan Public Service Commission (RPSC), PGI Rohtak and other State Public Service Commissions. Attended Health camp in Zaskar Valley, Ladakh, organized by Asoka Mission, New Delhi from 24-30 July 2021. Participated as External Examiner for virtual DM/PhD exams organized by West Bengal Health University, Banaras Hindu University (BHU), SMS Medical College, Jaipur, SKIMS, Srinagar, J & K. Participated as Chief coordinators and External Examiner for DNB Endocrinology Practical exams and physical inspection of hospitals for DNB (Endocrinology) organised by the National Board of Examinations (NBE) on 10 May 2021 and 19 August 2021, DNB Practical Endocrinology Exam on 11 and 12 August 2021 and DNB Practical Endocrinology Exam on 28 and 29 December 2021.

Professor Viveka P Jyotsna was Reviewer for project submitted to Council of Science and Technology, Uttar Pradesh. Central Assistant Public Information Officer (CAPIO) of the Department of Endocrinology and Metabolism under Right to Information Act, 2005 at AIIMS since 2010 till date. Member of Department Purchase Committee, Dept. of Endocrinology since January 2016. Elected as technical expert in online technical expert committee meetings for purchase of instruments pertaining to Department of Endocrinology for new upcoming AIIMS in January 2022. She is an Active Member of the Subject Expert Committee (Endocrinology), New Drug Division, Drug Controller General, India, since January 2015 till date.

9.12 Forensic Medicine and Toxicology

Professor and Head

Sudhir Kumar Gupta

Professors

DN Bhardwaj OP Murty MilloTabin
Sanjeev Lalwani (JPNATC) Adarsh Kumar (JPNATC)

Additional Professors

Chittaranjan Behera Kulbhushan Prasad Abhishek Yadav

Assistant Professor

Varun Chandran A (Adhoc)

Scientist- 1

Nidhi Sharma

Chemist

AK Jaiswal

HIGHLIGHTS

The department of Forensic Medicine and Toxicology is an apex referral center for complicated medico-legal problems in India. The department is providing expert opinions in referred cases from CBI, NIA, NHRC, courts and crime branch of different states. It is involved in medico-legal autopsy, embalming of MLC deaths, clinical forensic medicine services, teaching, training, research, expert opinion in referred medico-legal cases and court-related works. The department is running three laboratory services-Toxicology, DNA Fingerprinting and Histopathology and three support services in form of Forensic Radiology, Forensic Anthropology and Forensic Biochemistry. A total of 1969 medico-legal autopsies were conducted during Covid-19 pandemic, the mortuary of JPNATC was designated for management of dead bodies. Total 526 bodies were transported to different crematoriums during Covid times from trauma centre mortuary (the designated Covid Centre of AIIMS).

The facility of virtual autopsy (Centre of Advanced research and excellence in Virtual Autopsy) is functional. This ICMR-funded project is a step towards dignified management of human dead bodies. The Department developed the first DNA database and identification portal for identification of unidentified bodies (UMID) in India. This is an ICMR-funded Task Force project. A total of 17 departmental research projects are continuing and 2 have been completed. One collaborative project was completed and 06 are continuing.

EDUCATION

There are 10 postgraduate (MD) students and 3 PhD students enrolled in the department. Basic orientation training of Two Faculty members from NEIGRIMS, Shillong in Virtual Autopsy

S. No.	Component	2019-20	2020-21	2021-22 (Current)
1	Number of students/trainees registered in the department	10-MD students 1-PhD students 5- Trainees	12-MD students 1-PhD students 0- Trainees	10-MD students 3-PhD students 3- Trainees
2	Number of oral presentations and posters	19	1	9
3	Number of different sub-types of publications I. Full article II. Abstract III. Book chapter	37 19 0	33 0 0	29 9 0
4	Total number of funding received for research	4 Rs.44729621/-	3 Rs.6976196/-	3 Rs. 7270238/-

Lectures delivered

Millo Tabin: 1
AK Jaiswal: 3

Chittaranjan Behera: 2

Abhishek Yadav: 3

Oral papers/posters presented: 9**RESEARCH****Funded projects*****Ongoing***

1. Centre of Advanced research and excellence in Virtual Autopsy, Dr Sudhir K Gupta, ICMR, 5 years, 2019-2024, Rs 5 Crores
2. TASK FORCE Project- Development of DNA database and Identification portal for unidentified dead bodies autopsied at AIIMS, New Delhi, by using bioinformatics tools and techniques, Dr Chittaranjan Behera, ICMR, 3 years, 2018-2021, Rs 1.36 Crores
3. To study the significance of Mitochondrial DNA testing for maternal lineage, Dr. Nidhi Sharma, AIIMS Intramural, 2 years, 2019-2021, Rs 5 lakhs

Departmental projects***Ongoing***

1. A comparative analysis of Post-mortem CT findings with that of Violent Asphyxial deaths
2. A Comparative Study of CT Scan and Digital X-ray based on Virtual Autopsy and Traditional Autopsy Including Histopathological Examination in Various Causes of Death
3. A comparative study of psychosocial risk factors and personality-behavioral dimensions between suicide note writers and non-note writers in completed suicides
4. A study of aspiration in medico-legal autopsies by gross, histopathological and radiological examination
5. Age estimation by radiological study of bones and joints
6. Analysis of death due to poisoning, of 25 years of postmortem records (1996-2020) in the Department of FMT, AIIMS, Delhi
7. Computed tomographic and morphometric analysis of dimensions and weights of internal organs in Indian population
8. CT Scan and digital x-ray-based virtual autopsy vis-a-vis traditional autopsy including histopathological examination findings in cases of death due to fatal pressure on neck
9. Estimation of Age by CT scan of pubic symphysis using Suchey Brooke's method in north Indian population- A digital autopsy-based study
10. Genetic association of cytokine gene polymorphisms with suicidal behavior in Indian population
11. Mitochondrial DNA analysis in post-mortem samples under degrading conditions to establish relatedness
12. Radiological study of internal neck injuries in cases of death due to fatal pressure on the neck
13. Viability assessment of different organs and tissues in non-heart-beating cadavers for Transplantation Purposes
14. Virtual autopsy findings vis-a-vis traditional autopsy finding in road traffic accidents cases
15. Virtual autopsy findings vis-a-vis traditional autopsy findings in sudden deaths with cardiac origin

Completed

1. A comparative study of CT scan and digital X-ray based on virtual autopsy and traditional autopsy including histopathological examination in various causes of death
2. To establish sexual dimorphism and estimate age from hyoid bone using anthropological and radiological techniques

Collaborative projects***Ongoing***

1. An exploratory study on the interface of social media and completed suicides, Dept. of Psychiatry
2. Comparison of suction versus micro-dissection method for harvesting supporting cell from inner ear, Department of ENT
3. Editing of Atoh1 in cadaver-derived supporting cells for the regeneration of auditory cells, Department of Biochemistry and ENT
4. Genetic landscape of cardiomyopathies, Department of Pathology
5. Sudden cardiac death in young: An autopsy and molecular study to identify the cause, Department of Pathology
6. To study the extent of variation in ridge characteristics and determining gender among twins using their fingerprint characteristics, Dept. of Forensic Medicine & Toxicology, KMC, Manipal

Completed

1. Morphometric and Morphoscopic Study of Ear and Nose in Brahmin and Rajput population of Mandi, Himachal Pradesh- A Forensic Anthropological Investigation, Department of Anthropology, Punjab University, Chandigarh

PUBLICATIONS

Journals: 31

PATIENT CARE

A. Casualty services:

Providing round-the-clock medico-legal services like in cases of injury, sexual offences, poisoning etc. to the South and South-east district of Delhi.

B. Mortuary Services

Total 1906+63=1969 medico-legal autopsies were conducted at mortuary of main department and Trauma centre respectively. In addition, 526 bodies were transported to different crematoriums during Covid times from trauma centre mortuary (the designated Covid Centre of AIIMS)

C. Clinical Forensic Medicine

Total 554 cases of potency and other medico-legal examination brought by investigating officer and referred from court were dealt with by the department. A total of 39 cases from CBI were dealt by medical board of the department. A subsequent opinion in complicated cases including reference from casualty etc. was offered in total 289 cases.

D. Summons

Doctors of the department attended court of law in 130 cases from Delhi and other states

E. Medical Toxicology

Total 83 cases received, 125 samples were examined, 283 tests were performed for various poisons referred from the clinical department of AIIMS, medico-legal cases and in academic cases

F. Forensic Histopathology

The department is providing histopathology services for the samples of medico-legal autopsy cases from South and South-east district and also research purpose. Total 105 cases were done and 746 slides were made during this period.

G. Embalming facility

The department is providing embalming facility for MLC cases (Postmortem cases). Total 97 cases of embalming were done during this period

H. Organ Retrieval for Therapeutic Transplantation

Total 56 corneas and 11 other organs were retrieved at mortuary for transplantation by National Eye bank.

I. Forensic Radiology Services

Forensic Radiology services were provided to 141 cases, 632 X-rays were done for various medico-legal and academic purposes. (Both autopsy and live cases). Forensic Radiology services in form of CT Scan were provided to 991 cases for various medicolegal and academic purposes during autopsy

J. Forensic Anthropology Services

Age estimation for 10 cases referred from courts as well as sports authorities and also in academic cases.

K. DNA Fingerprinting Laboratory

DNA –Profiling of unidentified bodies sample (hairs, tooth pulp, blood in gauze) processed: DNA isolation, quantitation of DNA and sample RUNS (168 cases and 302 runs for profiling). Research samples (blood & saliva) processed for DNA isolation and quantitation of DNA (195-samples). Samples performed for other technique's-PCR: 1519, RFLP: 1033, Sequence reaction: 47.

M. Community services

The department continues to participate in training program for CBI officials, police officers and public prosecutors from all over the country

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Dr Chittaranjan Behera received research awards in the category of 'Best Editor' to IP International Journal of Forensic Medicine and Toxicological Sciences an official Journal of KERF. He was Assistant editor of International Journal of Medical Toxicology & Legal Medicine & Associate Editor of IP International Journal of Forensic Medicine and Toxicological Sciences. He was editorial board member of ARC Journal of Forensic Sciences, Annals of Forensic Research and Analysis, Sci Fed Journal of Forensic, Journal of Forensic Medicine, IP International Journal of Forensic Medicine and Toxicological Sciences.

Dr Abhishek Yadav participated as a resource faculty for "Induction Training Programme for newly recruited Medical Officer" by Public Health Foundation of India. He was nominated to be part of AIIMS Standing Medical Board to decide on Medical Termination of Pregnancy beyond 24 weeks of gestation. He was appointed as Member of executive Committee of Janakpuri Super specialty Hospital Society-An Autonomous Postgraduate Institute under Government of Delhi.

9.13 Gastroenterology and Human Nutrition

Professor and Head

Anoop Saraya

Professors

Pramod Garg (on deputation)

Vineet Ahuja

Govind K Makharia

Additional Professors

Shalimar

Baibaswata Nayak

Associate Professors

Saurabh Kedia

Deepak Gunjan

Assistant Professor (Contract)

Soumya Jagannath Mahapatra

Srikant Gopi

HIGHLIGHTS

The faculty, residents and PhD students of the department received many awards including BEST paper awards, travel grants in national and international conferences. The faculty of the department initiated and coordinated the making of national guidelines on various GI diseases.

EDUCATION

The department continued the training program for courses on DM in Gastroenterology, and PhD in Gastroenterology and Human Nutrition. The department also participated in the training of undergraduate and postgraduate students. The department initiated Advanced Fellowship Training program.

Long term training:

24 DM students

6 PhD students

6 Advance Fellowships in Advanced Endoscopy, Hepatology, Pancreatology and IBD

Short-term training: One trainee was trained during 2021-22.

CMEs/Workshops/Symposia/National & International Conferences

1. Gastroenterology Young Masters (GYM-2021), Delhi, 8-10 October 2021.

Numbers related to the current year in consideration and the two preceding years (2019-20, 2020-21)

S. No.	Component	2019-20	2020-21	2021-22 (Current)
1	Number of students/trainees registered in the department	25 (DM) 6 (PhD) 4 (Fellows)	24 (DM) 6 (PhD) 6 (Fellows)	24 (DM) 6 (PhD) 6 (Fellows)
2	Number of oral presentations and posters	26	18	42
3	Number of different sub-types of publications			
	I. Full article	57	120	99
	II. Abstract	50	38	48
	III. Book chapter	3	2	1

4	Total number of funding received for research	32	42	38
	Total amount of funding received for research	24 Cr 83 Lakh 20K (APPROX)	30 Cr 36 Lakh 9K (APPROX)	24 Cr 98 Lakh 70K (APPROX)
5	Number of patient-care related activities - specialty clinics, procedures, investigations etc.	1. 80641 OPD Patients(New & Old) 2. Special Clinics 27658 3. Procedures 37572 4. Investigations- 22260	1. 19876 OPD Patients (New & Old) 2. Special Clinics 9708 3. Procedures 13506 4. Investigations-9824	1. 53412 OPD Patients (New & Old) 2. Special Clinics 15553 3. Procedures 36763 4. Investigations-19079

Lectures delivered

Anoop Saraya: 6

Vineet Ahuja: 25

Shalimar: 7

B Nayak: 3

Saurabh Kedia: 2

Deepak Gunjan: 10

Oral Papers/posters presented: 43

RESEARCH

Funded projects

Ongoing

1. A Long-Term Extension Study to Evaluate the Safety of Filgotinib in Subjects with Crohn's Disease, Vineet Ahuja, Gilead Sciences, 6 years, 2017-2023, Rs 6.71 lakhs
2. A multicentre clinical study evaluating the novel biomarkers: dimethylarginines and ischemia-modified albumin in patients with acute-on-chronic liver failure.", Dr. Shalimar, SPARC, 2 years, 2019-2021, Rs 24 lakhs
3. A Phase 3, Multicenter, Randomised, Double-Blind, Placebo- and Active- Controlled, Treat-Through Study to Evaluate the Efficacy and Safety of Mirikizumab in Patients with Moderately to Severely Active Crohn's Disease., Vineet Ahuja, Eli Lilly, Pharmaceutical company, 2 years, 2021-2023, Rs 28.04 lakhs
4. Adeno associated virus-2 vectored expression of SARS-CoV-2 proteins to study virus induced immunomodulation and host immune response, Dr B Nayak, AIIMS Intramural, 2 years, 2020-2022, Rs 10.00 lakhs
5. An open label, single arm, investigator initiated Phase I/II study to assess the safety and efficacy of local administration of stempeucel (Adult Human Bone) Derived, Cultured Pooled, Allogenic Stromal Cells Marrow, Vineet Ahuja, Stempeutics Research Pvt Ltd, 3 years, 2018-2021, Rs 5.77 lakhs
6. Celiac disease prevalence in native South versus North Indians: Migrant study to assess reasons for the difference, Prof Govind K Makharia, ICMR, 2 years, 2021-2023, Rs 68 lakhs
7. Centre of Excellence for Intestinal Diseases, Vineet Ahuja, Indian Council of Medical Research, 5 years, 2019-2024, Rs 5 Crore (500 lakhs)
8. Combined Phase 2b/3, Double-Blind, Randomized, Placebo-Controlled Studies Evaluating the Efficacy and Safety of Filgotinib in the Induction and Maintenance of Remission in Subjects with Moderately to Severely Active Ulcerative Colitis. Vineet Ahuja, Gilead Sciences, 5 years, 2017-2022, Rs 6.73 lakhs
9. Combined Phase 3, Double Blind, Randomised, Placebo-Controlled Studies Evaluating the Efficacy and Safety of Filgotinib in the induction and maintenance of Remission in Subjects with Moderately to Severely Active Crohn's Disease, Vineet Ahuja, Gilead Sciences, 7 years, 2017-2023, Rs 38.72 lakhs
10. Crohn's Disease (CD) in South Asians: Defining disease biology for prevention and better treatment, Vineet Ahuja, The Leona M. and Harry B. Helmsley Charitable Trust, 3 years, 2021-2024, Rs 124.9 lakhs (1 Crore 2.49 Lakhs)
11. Crohn's Disease in India: A multi-centric study from a country where intestinal tuberculosis as well as Johne's Disease is endemic, Vineet Ahuja, Department of Health Research, 4 years, 2017-2021, Rs 42.57 lakhs
12. Department of Biotechnology- Consortium on celiac disease, Dr Govind K Makharia, DBT, 5 years, 2017- 2022, 228 lakhs (Total 516 lakhs)
13. Determination of receptor mediated pathogenesis of SARS-COV2 variants and immunomodulation by viral proteins, Dr B Nayak, ICMR, 3 years, 2021-2024, Rs 48 lakhs
14. Development of a recombinant vaccine against the hepatitis E virus and immunological characterisation of hepatitis E cohort and potential vaccine recipient cohort, Dr Shalimar, BIRAC(Co-PI), 2 years 6 months, 2021-2023, Rs 110 lakhs
15. Effect of urbanisation on gut microbiome mycobiome and virome in patients with IBD from Northern India, Vineet Ahuja, Indian Council of Medical Research, 3 years, 2019-2022, Rs 1203 lakhs
16. Entyvio (Vidolizumab IV) Extended Access Program in Ulcerative colitis and Crohn's Disease., Vineet Ahuja, Pharmaceutical Product Development (PPD), 6 years, 2016-2022, Rs 4.29 lakhs
17. Epigenetic reprogramming of intestinal epithelial stem cells via gut microbiota derived metabolites in Ulcerative Colitis, Vineet Ahuja, Science and Engineering Research Board (SERB), 3 years, 2020-2023, Rs 56.45 lakhs

18. Exploration for development of wheat with low immunogenic gluten, Dr. Govind K Makharia, IARI, 8 years, 2015-2023, Rs 46 lakhs
19. Genetic basis of Budd Chiari Syndrome/ hepatic venous outflow tract obstruction in Indian patients, Dr Shalimar, ICMR, 3 years, 2019-2022, Rs 74 lakhs
20. Gut Microbiome- Regulators of the Intestinal Stem cell niche in Health and Inflammatory Bowel Disease, Vineet Ahuja, MHRD-Scheme for Promotion of Academic and Research Collaboration (SPARC), 2 years, 2019-2021, Rs 45.97 lakhs
21. Human Microbiome Initiative of select endogamous populations of India, Dr Govind K Makharia, DBT, 2 years, 2020-2022, Rs 106 lakhs (Total 29 crores)
22. International study of COVID-19 Antibody Response Under Sustained immune suppression in IBD, Vineet Ahuja, The Leona M. and Harry B. Helmsley Charitable Trust, 2 years, 2021-2023, Rs 9.24 lakhs
23. Liquid Biopsy for Early Prediction of Hepatocarcinogenesis in Chronic Liver Disease Patients, Dr B Nayak, ICMR, 3 years, 2019-2022, Rs 49.48 lakhs
24. L-Ornithine L-Aspartate in Treatment of Overt Hepatic Encephalopathy in Patients with Cirrhosis: A Double-Blind Randomised Controlled Trial, Dr Shalimar, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
25. Metabolic associated liver disease (MAFLD) in lean and obese: Search for disease and progression biomarkers, Dr Shalimar, SERB, 3 years, 2022-2025, Rs 43 lakhs
26. Prevalence of antibiotic resistant genes in the healthy gut flora of individuals residing in rural community setting, Dr Saurabh Kedia, AIIMS intramural collaborative project, 2 years, 2020-2022, Rs 10 lakhs
27. Role of gene-regulating and immunological markers in pathogenesis of pancreatic adenocarcinoma (5/13/49/2018/NCD-III), Dr Anoop Saraya, ICMR, 4 years, 2018-2022, Rs 98 lakhs
28. Role of miRNA in identifying benign vs malignant variety of cystic neoplasm of pancreas, Dr Deepak Gunjan, Intramural, 2 years, 2019-2021, Rs 10 lakhs
29. Role of nuclear receptor in Hepatitis B (HBV) mediated hepatocarcinogenesis, Dr B Nayak (RA: Dr Afnan), ICMR, 3 years, 2021-2024, Rs 22.92 lakhs
30. Role of pancreatic enzyme replacement therapy on gut microbiome and metabolome and body response to in patients with chronic pancreatitis, Dr Deepak Gunjan, ICMR, 2 years, 2021-2023, Rs 50.24 lakhs
31. Role of potentially oncogenic miRNAs in Hepatitis B virus induced hepatocarcinogenesis, Dr B Nayak (RA: Dr Neeti Nadda), ICMR, 3 years, 2021-2022, Rs 22.92 lakhs
32. Sarcopenia in chronic pancreatitis: epidemiology, diagnosis and evaluation of etiological factors and molecular mechanisms responsible for sarcopenia (5/9/1074/2019-Nut), Dr Anoop Saraya, ICMR, 3 years, 2019-2022, Rs 78.84 lakhs
33. Targeting of HBx in Hepatitis B virus induced hepatocarcinogenesis and development of replicon based assay to study effect of mutation on replication, Dr. B Nayak, SERB-DST, 2 years, 2020-2022, Rs 22.36 lakhs
34. The Gastrointestinal manifestation of coronavirus Disease 2019 (Covid 19), Dr Shalimar, AIIMS, 1 year, 2020-2022, Rs 5 lakhs
35. To evaluate the role of phage transfer through fecal microbiota transplantation in causing anti-microbial gene depletion and intestinal decolonization from multidrug resistant organisms, Vineet Ahuja, Indian Council of Medical Research, 3 years, 2021-2024, Rs 57.35 lakhs
36. To study the Resistance Associated Variants (RAVs) in Chronic Hepatitis C patients treated with Sofosbuvir-based therapy, Dr. Shalimar, Ministry of Health and family welfare (DHR), 3 years, 2017-2021, Rs 44 lakhs
37. Towards understanding the role of gut microbiota and their metabolites in the causation and treatment of colorectal cancer, Dr. Govind K Makharia, DST, 3 years, 2020-2023, Rs 53 lakhs
38. Whole gut and intestinal metagenome in patients with irritable bowel syndrome and non-celiac gluten sensitivity and effect of gluten free diet, Dr Govind K Makharia, DST, 3 years, 2018-2021, Rs 61.7 lakhs

Completed

1. An open label pilot randomised controlled study to assess the efficacy of fecal microbiota transplantation (FMT) in chronic Hepatitis B patients, Dr Shalimar, PFI, 2 years, 2019-2021, Rs 1.25 lakhs,
2. CD14 gene variations in Alcohol-Induced Liver Disease (ALD) and Alcoholic Pancreatitis (ALP) in Co-morbid Condition and Relationship between Associated Polymorphisms and MD2 molecule binding to the CD14-LPBS-TLR4 Complex, Dr B Nayak, DST, 3 years, 2017-2020, Rs 27 lakhs
3. Development of a low-cost diagnostics platform for the identification of viral DNA using CRISPR/Cas13a system, Dr Shalimar, DBT (Co-PI), 3 years, 2018-2021, Rs 24 lakhs
4. Development of reverse genetic based recombinant Newcastle disease virus model for understanding immune response in patients infected with Hepatitis C virus, Dr B Nayak, DBT-NER, 3 years, 2017-2020, Rs 105 lakhs
5. Home based blenderised formulations in acute pancreatitis: A Pilot randomised control trial (5/9/1178/2018-Nut), Dr Anoop Saraya, ICMR, 3.5 years, 2018-2021, Rs 39.87 lakhs
6. Role of miRNA mediated modulation of signal transduction in pancreatic (D-485), Dr Anoop Saraya, DST, 3.5 years, 2018-2021, Rs 58.93 lakhs
7. Whole gut and intestinal metagenome in patients with irritable bowel syndrome and non-celiac gluten sensitivity and effect of gluten free diet, Prof Govind K Makharia, DST, 3.5 years, 2018-2022, Rs 61 lakhs

Departmental projects

Ongoing

1. A randomised controlled trial of adjunctive incremental pregabalin therapy vs placebo for pain management in chronic pancreatitis
2. Adeno associated virus-2 vectored expression of SARS-CoV-2 proteins to study virus induced immunomodulation and host immune response
3. Assessment of gut barrier dysfunction, endotoxemia and inflammatory mediators in patients with cirrhosis across different clinical stages during an episode of acute variceal bleeding: A prospective observational study.
4. Assessment of villous enteropathy in first-degree relatives of patients with celiac disease
5. Carvedilol to prevent decompensation in patients with compensated advanced chronic liver disease without high-risk varices with liver stiffness more than 20kPa (CaLD-20 trial): An open label randomised controlled trial
6. Comparative analysis of cost and nutritional composition of gluten-free food with their gluten containing counterparts
7. Comparison of 1-day vs. 3-day intravenous terlipressin in patients with acute variceal bleeding: An open-label pilot randomised control trial
8. Development and validation of a tool for assessment of gluten free diet in Indian celiac disease patients
9. Efficacy of anti-endomysial antibody
10. Estimation of gluten content in unlabelled and labelled gluten-free food products and commonly used food items consumed by celiac disease patients
11. Etiology, nature and severity of dyspepsia in India: a National Task Force study” and “Rifaximin’s. Placebo in functional dyspepsia – a randomized double-blind controlled trial
12. Evaluation of fertility issues in celiac disease patients
13. Exploration of immunopathogenesis of extra-intestinal organ involvement in patients with celiac disease
14. Exploration of intestinal stem cell (ISC) niche in persistent villous atrophy in patients with gluten free diet in unresponsive celiac disease at 12-months post-GFD
15. N butyl cyanoacrylate glue versus n butyl cyanoacrylate glue plus radiologic intervention for secondary prophylaxis of gastric varices: A randomized controlled trial
16. N-butyl cyanoacrylate glue versus radiological intervention in secondary prophylaxis of gastric varices.
17. Prevalence of bile acid malabsorption in patients presenting with chronic diarrhea at a tertiary care center
18. Prevalence of celiac disease in patients of cirrhosis of liver
19. Prevalence of Celiac Disease in patients of Inflammatory Bowel Disease
20. Prevalence of celiac disease in patients of cryptogenic liver disease
21. Prevalence of clarithromycin in helicobacter pylori using a molecular diagnostic method in a tertiary care center in north India
22. Prevalence of elevated alanine aminotransferase levels in adult participants from a community-based study from northern part of India
23. Role of antibiotic prophylaxis in preventing infections in patients with Child-A cirrhosis during the episode of acute variceal bleeding: A randomized controlled trial.
24. Role of Liquid Biopsy Biomarkers in Hepatocellular carcinoma and Hepatitis B virus induced carcinogenesis
25. Role of non-biopsy pathway in diagnosis of celiac disease in adults
26. Role of potentially oncogenic miRNAs in Hepatitis B virus induced hepatocarcinogenesis
27. Spectrum of height in patients with celiac disease
28. Spectrum of neuropsychiatric manifestations of celiac disease
29. Status and effect of pancreatic enzyme replacement on gut microbiota and resting energy expenditure in patients with chronic pancreatitis.
30. Targeting of HBx in Hepatitis B virus induced hepatocarcinogenesis and development of replicon-based assay to study effect of mutation on replication
31. To assess the prevalence and etiology of non-responsive celiac diseases in patients on gluten free diet for one year or more
32. To evaluate the biochemical and clinical response to second-line drugs in patients with Auto-immune Hepatitis
33. To study the quality of skeletal muscle in nonalcoholic fatty liver disease.
34. Treatment of iron deficiency anemia with intravenous ferric carboxymaltose versus oral ferrous ascorbate in patients with cirrhosis after an episode of upper GI bleed: An open label randomized controlled trial.

Completed

1. A randomised controlled trial of adjunctive incremental pregabalin therapy vs placebo for pain management in chronic pancreatitis.
2. Comparison of 1-Day vs 3-Day intravenous terlipressin in patients with variceal bleeding: open label pilot randomized control trial
3. Evaluation of bone turnover markers and performance of CT based prediction of osteoporosis in chronic pancreatitis
4. Role of microRNA as biomarker and its modulation in HCC targeting mTOR pathway
5. To study the prevalence of cerebral edema and neuropathological changes in acute on chronic liver failure patients

Collaborative projects

Ongoing

1. A prospective observational study on the impact of sarcopenia on perioperative outcomes following pancreaticoduodenectomy for periampullary carcinoma, Department of GI Surgery, AIIMS
2. Biopsy in Adult celiac disease (BioACeD) - the ESScD Consensus: Multinational study, Partimento di Medicina e Chirurgia, Scuola Medica Salernitana, Università di Salerno, Italy
3. Comparison of various diagnostic modalities for identification of refractory celiac disease in a cohort of patients with celiac disease unresponsive to gluten free diet, Department of Pathology, AIIMS, New Delhi
4. Development of a low-cost diagnostic platform for the identification of viral DNA using CRISPR/Cas13a system, South Asian University, New Delhi
5. Effect of urbanization on gut microbiome, mycobiome and virome in patients with Inflammatory Bowel Disease from Northern India, Department of Microbiology, Maharshi Dayanand University, Rohtak-124 001, Haryana
6. Genetic association of cytokine with suicidality in Indian population, Department of Forensic Medicine, AIIMS
7. miRNA as disease modifier in HLA-DQ2/ DQ8 matched first degree relatives of patients with celiac disease, Department of Pathology, AIIMS, New Delhi
8. Molecular expression and interaction between growth differentiation factor – 15 (GDF-15), iron trafficking proteins, micronutrient antioxidants in diabetes and Metabolic syndrome, Department of Lab Medicine, AIIMS
9. Towards understanding the role of gut microbiota and their metabolites in the causation and treatment of colorectal cancer, National Institute of Immunology (NII), New Delhi

Completed

1. Hepatic regenerative potential of exosomes derived from human Mesenchymal Stem Cells in liver fibrosis model, Stem Cell facility, AIIMS
2. Nanotechnology based vaccine against Hepatitis E Virus, Dept. of Biotechnology, Jaypee Institute of Information Technology, NOIDA, UP
3. Prevalence of acute gastrointestinal injury in critically ill children, Department of Paediatrics, AIIMS, New Delhi

PUBLICATIONS

Journals: 99

Abstracts: 48

PATIENT CARE

The following number of patients were seen in outpatient: Routine OPD and special clinics

A. Routine Gastroenterology Clinic (Monday to Friday)

New cases: 17790

Old cases: 35622

B. Special clinics:

Name of the clinic	New cases	Old cases
Liver Clinic	901	6182
Pancreas clinic	664	2251
IBD & ITB Clinic	512	4121
Interventional Clinic	156	206
Celiac Clinic	67	493

C. Endoscopy services:

List of procedures

Diagnostic and therapeutic endoscopies:	17427
Diagnostic and therapeutic colonoscopies:	4402
Diagnostic sigmoidoscopies:	2058
Side viewing endoscopies:	850
Endoscopic retrograde cholangiopancreatography (ERCP):	1650
Endoscopic ultrasound (Diagnostic and therapeutic):	1048
HVPG:	440
POEM:	74
PEG:	170
LAVAGE:	220
SEMS:	207
Enteroscopy:	108
Fibroscan:	7168

G.I. Motility:

High resolution esophageal manometry:	234
High resolution anorectal manometry:	316
Biofeedback:	357
24 hrs. ambulatory PH monitoring:	34

D. Inpatient Services:

- Total inpatients admitted under gastroenterology: 5154

Tests undertaken in the department

SN	Name of the Test	Numbers
1	Viral Nucleic Acid isolation for testing	2410
2	Genomic DNA isolation from blood	540
3	HBV quantitation by Real time PCR	1876
4	HCV quantitation by Real time PCR	1076
5	HCV genotyping by Real time PCR	89
6	HEV detection quantitative	392
7	HBsAg	650
8	HBeAg	878
9	Anti Hbe	249
10	Anti HBc Total	309
11	HBc IgM by Vidas	105
12	HAV IgM by Vidas	272
13	HEV IgM by Vidas	422
14	Anti HCV by ELISA	211
15	Arterial Ammonia	368
16	IgG4 by Nephelometry	63
17	D-Xylose by colorimetry	213
18	Fecal Fat by ether extraction	Not done because of covid
19	Fecal elastase by ELISA	563
20	Hydrogen breath test	162
21	Urea breath test	135
22	Ttg IgA by ELISA	2944
23	Ceruloplasmin by turbidometry	1906
24	Serum Copper by colorimetry	1538
25	24 hr Urinary copper	640
26	Lipid peroxidation (MDA) by spectrophotometry	109
27	Free radical Antioxidant potential (FRAP)	109
28	Total Oxidant Stress (TOS)	19
29	Total Antioxidant Stress (TAS)	19
30	CRP	192
31	Transferrin	192
32	Prealbumin	192
33	Bile Acid (Stool)	40
34	Electrolytes (Na ⁺ , K ⁺ , Cl ⁻) in stool	4
35	Endotoxin IGM	192

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Anoop Saraya has been invited in various CMEs/conferences as chairpersons to the following national conferences: How to manage antiplatelet therapy in patients who come with non-severe bleeding. GI bleeding and endoscopy in patients on antiplatelet and/or anticoagulant therapy, 14 November 2021, Virtual; Etiology and risk factors of HCC in India-Are these Changing? INASL-Mid-Term Single Theme Meeting on HCC, 27 November 2021, Virtual; Corticosteroids in severe alcoholic hepatitis: Choosing the open window. Webinar on Alcoholic Hepatitis on the occasion, 16 February 2022, Virtual; Topic: What is new in biliary and pancreatic endoscopy? [Panelist], American College of Gastroenterology India, 17 March 2022, Virtual;

Nutrition Research [Chairperson], IAPEN India Clinical Nutrition Congress 2022, 20 March 2022, Virtual; 28th Annual Scientific Meeting of the Indian National Association for the Study of the Liver (INASL), 7 and 8 August 2021, Virtual; Gastrointestinal Infection Society of India (GISI), 31 July-1 August 2021, Virtual; Role of surgeon in present era in infected pancreatic necrosis (Gastrointestinal Infection Society of India), 19 March 2022, Virtual.

Professor Govind Makharia Governing Council member, World Gastroenterology Organisation (2021-23); Chair, Clinical Research Committee, World Gastroenterology Organization (2021-23); Council member, Asian Pacific Association of Gastroenterology (2017-2023, two terms); Member of the Climate Committee and Planetary Health, World Gastroenterology Organisation; Secretary general of Indian Society of Gastroenterology (2016-2022); Society Member, National Agriculture and Biotechnology Institution, Chandigarh; Society Member, Center of Innovative and Applied Bioprocessing; Editorial Advisory Board Member, Clinical and Translational Gastroenterology (American College of Gastroenterology); Member of Biosafety Committee, School of Life Sciences, JNU; Institutional Ethics Review Board (IERB), JNU, (2020 onwards); Member of the Special Committee of the Special Centre for Systems Medicine, Member; Member, ICMR Committee on the International travel grant; Member, ICMR Project Review Committee; Member, Project review and monitoring Committee, BIRAC, DBT; Member, Academic Committee, Translational Health Sciences and Technology Institute; Coordinator of the Department of Biotechnology Consortium on Celiac Disease; Group leader, Asian Pacific Working Group on Celiac disease; Coordinator of Indian Society of Gastroenterology Task Force on Inflammatory Bowel Disease; Coordinator of Young Clinician Program, Indian Society of Gastroenterology and Train the Trainer Program.

Dr B Nayak was recipient of third prize in Presidential poster category during ISGCON2021 (Indian Gastroenterological Society, Oral paper appreciation award in the Virocon2021 (Indian Virological Society) AIIMS, BibiNagar, Research Associate Fellowship, ICMR (Dr Neeti Nadda/ Dr Nayak Mentor), Research Associate Fellowship, ICMR; Reviewer of 24 national and international journals; Served as a reviewer for Intensification of Research in High Priority Areas (IRHPA), SERB for Biosafety level 3/4 development; Served reviewer to various COVID19 related grants by ICMR and DST as national importance; Review and expert committee member for Innovation & Translation Research (ITR), ICMR, Reviewer for ICMR RA and SRF, and ICMR Project review committee member for (diarrheal diseases); Reviewer for extramural funding of DST SERB, AYUSH/ CCRH, ICMR STS expert group, ICMR ITR (innovation translation research) group and DBT nominee for Institute Biosafety committee (IBSC).

9.14 Gastrointestinal Surgery and Liver Transplantation

Professor and Head

Peush Sahni

Professors

Sujoy Pal

Nihar Ranjan Dash

Assistant Professors

Rajesh Panwar

Anand Narayan Singh

Saurabh Galodha

HIGHLIGHTS

Although the elective work had to be curtailed in the first half of the year because of the ongoing COVID-19 pandemic, the department continued to provide emergency care to the critically ill patients with gastrointestinal and hepato-pancreatobiliary disorders. The department actively participated in the in-patient management of critically ill COVID-19 patients. The department also participated in the formation of a COVID group from surgical specialities to monitor the COVID-19 situation and develop ways to minimize the spread of COVID-19 during out-patient as well as in-patient care of patients who require surgical intervention and post-surgical care.

With the decrease in COVID-19 cases, the department has restored the services to the pre-COVID level. The department has also restarted the cadaveric liver transplantation which had been stalled due to the pandemic.

EDUCATION

The department is actively involved in the teaching of undergraduate students. The following topics were taught to sixth & eighth semester students through didactic lectures and integrated seminars:

Portal hypertension	Benign and malignant esophageal disorders
Upper gastrointestinal bleeding	Lower gastrointestinal bleeding
Acute intestinal obstruction	Intestinal tuberculosis
Inflammatory lesions of small and large bowel	Amoebic lesions of the bowel and liver
Cancer of the stomach	Gall stone disease and complications
Biliary strictures	Gall bladder cancer
Obstructive jaundice	Diseases of the pancreas
Acute pancreatitis	Chronic pancreatitis
Nutrition in surgical patients	

The department offers 3-year training leading to award of MCh in Gastrointestinal Surgery. There are 13 MCh students in the department. The department also offers short-term observership for a period of 1–3 months. The weekly academic activities include a weekly audit, presentations of abstracts of recently published papers, a seminar, journal club, and discussion on research and dissertation projects. Besides these, a combined round with Gastroenterology and a GI Radiology conference are held once a week, and a GE-GI Surgery histopathology conference once in two weeks.

CMEs/Workshops/Symposia/National and International Conferences organized by the department

1. Hands-on surgical skills workshop, 23-24 December 2021

Lectures delivered

Peush Sahni: 5

Sujoy Pal: 4

Nihar Ranjan Dash: 12

Rajesh Panwar: 2

Anand Narayan Singh: 1

Oral papers/posters presented: 10

RESEARCH

Funded projects

Ongoing

1. Correlation of the presence of circulating tumour cells (CTC) with recurrence-free and overall survival in patients with periampullary carcinoma: a prospective study, Anand Narayan Singh, AIIMS Intramural, 2 years, 2020-2022, Rs 4.5 lakhs.
2. Developing and implementing a Gall Bladder Cancer Registry to collect clinico-pathological data, Sujoy Pal, AIIMS-THSTI, 3 years, 2019-22, Rs 10 lakhs.
3. Development and validation of a structured hands-on surgical skills training module for bilio-enteric anastomosis using animal tissues, Rajesh Panwar, AIIMS Intramural, 2 years, 2021-2023, Rs 5 lakhs
4. To evaluate the role of tumor markers CA-125, CA-15-3, CEA and CA 19-9 in diagnosis of carcinoma gall bladder singly and combined, Saurabh Galodha, AIIMS Intramural Mentor-mentee research grant, 1 year, 2022-2023, Rs 2 lakhs.
5. To evaluate the role of tumor markers CA-242, CEA and CA 19-9 in diagnosis and prognostication of carcinoma gall bladder, Saurabh Galodha, AIIMS Intramural, 2 years, 2020-2022, Rs 4.96 lakhs.

Departmental projects

Ongoing

1. A prospective observational study to see the impact of sarcopenia on the outcomes of patients undergoing PD for periampullary cancers
2. A study of the efficacy of intraperitoneal injection of methyl prednisolone on the severity of organ dysfunction in adult male wistar rats with acute pancreatitis induced by surgical ligation of the biliopancreatic duct
3. Comparing feeding jejunostomy with nasojejunal tube placement in patients undergoing esophagectomy – A pilot study.
4. Comparison of Clinical and Biochemical Optimization After Unilateral Vs Bilateral Percutaneous Transhepatic Biliary Drainage in Primary Level Malignant Hilar Separation: A Randomized Control Trial
5. Outcomes of external pancreato-biliary drainage in patients undergoing Whipple's pancreatoduodenectomy : a non-inferiority randomised controlled trial
6. Postoperative Albumin Drop Is a Marker for Surgical Stress and a Predictor for Clinical Outcome in Hepatopancreaticobiliary Surgeries: A Prospective Study
7. Predictors of malignancy in patients with suspected gall bladder cancer.
8. Prevalence of Minimal Hepatic Encephalopathy in Extra Hepatic Portal Venous Obstruction patients following Proximal Lienorenal shunt surgery.
9. Utility of Palliation with Percutaneous Transhepatic Biliary Drainage in Patients with Unresectable or Disseminated Carcinoma Gall Bladder

Completed

1. Impact of proton pump inhibitor on the development of anastomotic stricture and reflux symptoms after gastric pull up and cervical oesophagogastric anastomosis – a randomized trial.
2. Perioperative low dose versus standard dose steroid regimen in patients of ulcerative colitis: A randomized controlled trial
3. Prospective validation of the Complication Severity Score (CSS) as a tool for measuring post-operative complications in patients undergoing major gastrointestinal and hepatopancreaticobiliary surgical procedures
4. Surgery for corrosive pharyngoesophageal stricture: Assessment of Quality of life

Collaborative projects

Ongoing

1. Assessment of frailty in geriatric patients undergoing GI Surgery (Geriatric Medicine)
2. Clinicopathological study of targetable biomarkers in ampullary carcinomas and their correlation with histological subtypes. Intramural project (Pathology)
3. Clinicopathological study of targetable biomarkers in ampullary carcinomas and their correlation with histological subtypes (Pathology).
4. Elucidating the role of differentially expressed gene(s) in colorectal cancer stem cells (Biochemistry)
5. Genomics of Gallbladder carcinoma in Indian Patients (ICMR 5 year Task force project)
6. Isolation, identification and characterization of cancer stem cells from different histopathological grades of colorectal carcinoma (Biochemistry)
7. Role of Nuclear Receptor network signalling in pathogenesis of Gallbladder cancer (Biochemistry).

PUBLICATIONS

Journals:24

Abstracts:01

Books and Monographs:01

Comparative table of output in the last 3 years:

Year	2021-2022	2020-2021	2019-2020
Presentations			
<i>Lectures/Talks</i>	24	28	106
<i>Papers</i>	10	7	20
Total	34	35	126
Funded research projects			
<i>Number</i>	5	3	4
<i>Amount (Rs)</i>	2646000	1946000	4500000
Publications			
<i>Journal Articles</i>	24	15	15
<i>Abstracts</i>	1	4	20
<i>Book chapters</i>	0	1	0
<i>Books</i>	1	0	1

PATIENT CARE

OPD

New patients: 2167

Revisits: 4158

Specialty clinics

Department is running a daily clinic for stoma patients.

Special laboratory facilities

Anal manometry, Oesophageal manometry, 24-hour ambulatory oesophageal pH monitoring.

Inpatients

Total Surgical procedures: 560

Elective: 372

Emergencies: 188

Special interest areas

Biliary obstruction:	81	Portal hypertension:	5
Oesophageal cancer:	15	Carcinoma gall bladder:	21
Ulcerative colitis:	14	Upper GI haemorrhage:	2
Lower GI haemorrhage:	6	Acute pancreatitis:	18
Chronic pancreatitis:	7	Biliary strictures:	26
Pancreato-duodenectomy:	45	Liver resections:	22

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Sahni delivered the MJ Joshi Oration. He is the Chairperson of the Education Committee, Indian Association of Surgical Gastroenterology. He continues to be the Editor of GI Surgery Annual and the National Medical Journal of India. He is also the President of the Indian Association of Medical Journal Editors and the Chairperson of the Membership Committee, World Association of Medical Editors.

Professor Sujoy Pal was nominated as Nodal Officer for the department as part of the Infection control committee of the Institute and has been the Chairperson of a session on Colorectal cancers (Part 1) in the conference of Indian Cancer Genetics and Genomics.

Professor Nihar Ranjan Dash received felicitation and medallion for achievement in the field of Gastrointestinal surgery and liver transplant, on the occasion of 75th Annual Day of SCB medical college, Cuttack. He organized the 13th National conference on clinical nutrition. He was elected as president of the Delhi Chapter of IAPEN. He is an expert, reviewer and assessor for National Board of Examinations and a Member of standing selection committee, UPSC. He is also a member of expert committee of Central Licensing Authority of New Drugs & Clinical Trials Rules. He is also member of the expert committee for Gastroenterology at SEC, DCGI. He was the subject expert and Judge "TYSA" National quiz on Surgical Gastroenterology. He was a PhD evaluator at Integral University, Lucknow. He is also an invited reviewer for BMC Surgery,

BMC Gastroenterology, World J of Gastroenterology, J of Minimally Invasive Surgery and Frontiers in Surgery. He continued as the president of the ostomy Society/Indian Ostomy Society for the 10th consecutive year.

Dr Rajesh Panwar judged the e-posters for the pancreas session at the 18th Annual Conference of Indian Chapter of IHPBA at Chandigarh and IASGCON 2021 at AIIMS Bhubaneshwar. He also organised Hands-on Surgical Skills training workshop using animal tissues for teaching postgraduate students the techniques of vascular anastomosis, bowel anastomosis and bilioenteric anastomosis. He was a resource faculty for Training of trainers' workshop on Simulation based teaching at Skills, e-learning and telemedicine (SET) facility. He continues to be a reviewer for numerous international indexed journals.

Dr Anand Narayan Singh was awarded two 'Best Paper' awards (Oral and Free Paper) at 18th Annual Conference of Indian Chapter of IHPBA. He was also the judge for a session at IHPBA 2021.

Dr Saurabh Galodha received a Travel Award for 121st Annual Congress of the Japan Surgical Society held in April 2021.

9.15. Geriatric Medicine

Professor and Head

Naveet Wig

Additional Professors

Prasun Chatterjee

Avinash Chakrawarty

Assistant Professors

Nidhi Soni

Pramod Kumar

HIGHLIGHTS

During the last year, the COVID-19 pandemic affected the elderly population the worst. The department of Geriatric Medicine extended full support to older adults at all levels and at all steps. In collaboration with the Ministry of Social Justice, we shared COVID-19 preventive measures and home care guidelines for older adults even in the initial phase of pandemic and these were translated by spoken tutorials, IIT Bombay into 13 different local languages. Many of the elderly patients also participated in the COVID-19 vaccination drive.

Work on the National Centre for Ageing at AIIMS is going on at a good pace, in spite of the various lockdowns.

The OPD services were restarted once the lockdowns were eased, with appropriate physical distancing, sanitizing practices and safety gear. The Memory Clinic was restarted and a considerable number of patients benefited from the service.

EDUCATION

In addition to active participation in institutional academic activities like Clinical Combined Rounds, the department placed major focus on postgraduate training with five sessions of teaching every week (in the online mode during the lockdowns).

Lectures delivered

Prasun Chatterjee: 1

Total number of oral presentation

Year	No. of oral presentation
2019 – 2020	18
2020 – 2021	06
2021 – 2022	05

RESEARCH

Funded projects

Ongoing

1. Characteristics of Indian Super Agers- A pilot prospective cohort study with a potential future predictive model. Dr Prasun Chatterjee, ICMR, 3 yYears, 2019-2022, Rs. 50.98 lakhs
2. Determination of anti-aging and antioxidant potential of a Unani formulation, Dr. Avinash Chakrawarty, CCRUM, Ministry of AYUSH , Government of India, 3 yYears, 2021-2024, Rs 48.71 lakhs
3. Online and Tele-survey for assessment of Knowledge, Attitude and Perception (KAP) levels about COVID-19 in various Districts of Delhi/NCR, Dr. Prasun Chatterjee, DST, 1 yYear, 2021-2022, Rs. 10 lakhs
4. Study of Sarcopenia: Establishment of norms for diagnosis, prevalence and risk factors in ageing North Indian population and development of preventive strategies, Dr. Prasun Chatterjee, ICMR, 3 yYears, 2019-2022, Rs. 88.25 lakhs
5. Use of AI m-Health Improvement of Symptoms and Adherence in geriatric medicine care –A Randomized Controlled study, Dr. Avinash Chakrawarty, Know Your Meds India Private Limited, 14 mMonths, 2021-2022, Rs 15.42 lakhs

Departmental projects

Ongoing

1. A comparative study of Left Ventricular muscle mass and function between sarcopenic and non-sarcopenic Indian Geriatric Population
2. A Cross sectional study on Screening of cognitive impairment in older population in the community and their risk stratification using digital technology

3. A Prospective cohort to study the adverse effects of inappropriate medications based on Beer's criteria in elderly
4. A prospective observational study on assessment of cognitive impairment as a predictor of outcome in older patients with heart failure
5. A study to assess risk factors which act as barrier for early hospital discharge in adults from AIIMS New Delhi, on three-year follow-up
6. Assessment of Cardiopulmonary exercise indices in sarcopenia Patients after guided physiotherapy and nutritional intervention
7. Assessment of self-reported sleep duration and quality in relation to the Beer's criteria status of older
8. Assessment of structural and functional brain changes associated with increasing age
9. Change in the cognitive status of older people registered and followed up in memory clinic of
10. Evaluation of the efficacy of a self-assessment questionnaire (ICT BRIEF 10) to assess the Intrinsic capacity of older adults in comparison with standard tools
11. Frequency and risk factors of cognitive impairment in older adults attending AIIMS cancer clinic
12. Prevalence of fall, frailty, malnutrition in post covid older adults visiting geriatric OPD
13. Prospective cohort study on progression of cognitive decline in patients with MBI
14. Self-Assessment screening tool for Dementia
15. Study of association of Orthostatic hypotension in patients with subjective cognitive decline and normal control
16. Study of cause of hospitalization in post covid older adults
17. Study of MRI volumetric analysis of hippocampus and amygdala and gut microbiota in cognitively frail patients
18. To compare health status in sarcopenic, obese and sarcopenic obese adults
19. To study the feasibility of integrated care for elderly people in tertiary care centre

Research Projects

Year	2019 – 2020	2020 – 2021	2021 – 2022
Funded projects	10	6	5
Total funding	31,35,49,000	25,89,06,639	2,13,38,462

Completed

1. A web portal for older people and their caregivers: www.oldagesolutions.org
2. Clinical characteristics of Critically ill older adults with COVID-19: A retrospective study
3. Clinical Frailty Scale as a predictor of mortality in older adults with SARI- A Prospective observational study
4. Effect of intergenerational learning on cognition in elderly
5. Effect of Smart Nordic Walking Training on Mobility Independence in Community Elderly- A pilot Study
6. Gait analysis in persons aged 75 years and above
7. Gait and Balance profile of users of smart nordic walk and shoes
8. Item reduction of SCOPE C VERSION 1 in older adults with malignancy
9. Metabolic syndrome and its association in outcome of covid-19 in older adults – prospective cross section study
10. Performance in 6-min walk test in prediction of Covid-19 complication – A prospective observation study
11. Study of gut microbiota in sarcopenic and non-sarcopenic older adults

PUBLICATIONS

Journals: 18

Chapters in Book: 1

Year	2019 – 2020	2020 – 2021	2021 – 2022
Publications	16	20	19
Journal articles	12	18	18
Abstract	1	0	0
Chapters in book	2	2	1
Books	1	0	0

Patient care

OPD: 20,986 (5139 new + 15,847 revisits).

Memory Clinic: 192 (114 new and 7 revisits).

Rehabilitation services (Day Care): 7826 patients.

In-patients: 399 admitted.

Year	2019 – 2020	2020 – 2021	2021 – 2022
OPD consultations	51,511	11,922	20,986
Clinic consultations	312	137	192
Patients provided rehabilitation services	14,969	4,963	7,826
Inpatient admissions	1,623	654	399

AWARDS, HONORS AND SIGNIFICANT EVENTS

Dr Prasun Chatterjee was selected as an expert member of the WHO Technical Advisory Group on Measurement, Monitoring and Evaluation of UN Decade of Healthy Ageing (2021-2030).

9.16 Haematology

Professor and Head

M Mahapatra

Professors

S Tyagi Tulika Seth

Assistant Professors

Rishi Dhawan Jasmita Dass Mukul Agarwal
Ganesh Kumar V Pradeep Kumar

Scientist II

Suman Lata

Scientist I

Ravi Ranjan Ravi Kumar

HIGHLIGHTS

The department of Hematology is a composite department that provides both Clinical Hematology and Hemato-Pathology services to the institute. Clinical Hematology service provides comprehensive management for patients with benign and malignant hematological illnesses. The department runs specialised outpatient clinics for patients with these illnesses. The department has been performing autologous and allogeneic hematopoietic stem cell transplantation (HCT), including haploidentical donor HCT, for various benign and hematological illnesses like aplastic anemia, thalassemia, myeloma, lymphomas, leukemias, and myelodysplastic syndromes.

Hemato-Pathology provides state-of-the-art evaluation of blood and bone marrow diseases. Expert hematopathology services offered by the department include bone marrow examination including immunohistochemistry and cytochemistry; flowcytometry; molecular diagnostics; specialised hemolytic and coagulation tests.

- The ISHTM-AIIMS external quality assessment programme for hemogram, conducted by Department of Hematology was accredited for further two years as PT provider by NABL.
- Department of Hematology continued to be regional training Centre by International Society of Hemostasis and Thrombosis in collaboration with the Institute of Experimental Hematology and Transfusion Medicine, University Clinic Bonn.

EDUCATION

1. The department conducts DM (Clinical Haematology), DM (Haematopathology) and Ph.D. program in the field of Haematology. The academic program includes regular seminars, symposia, micro-teaching and case discussions.
2. The faculty is involved in theory and practical classes for MBBS students in the subjects of Pathology, Hematology and Medicine. Students of MD (Pathology) are trained in the Haematology laboratory. Students from MD (Pediatrics), MD (Medicine), MD (Geriatric Medicine), MD (Emergency Medicine) and MD (Transfusion Medicine) as well as DM (Pediatric Oncology) and DM (Infectious Diseases) come for posting/training and for case discussion in the department.
3. The department provides short term training for visiting doctors, healthcare professionals and M.Sc. students interested in the field of Haematology.
4. In year 2021-22, most of the educational activities were conducted on online platforms.

CMEs/Workshops/Symposia/National and International Conferences

1. Organised a workshop on “Flow cytometry for the diagnosis of CLPD” on 10 November 2021 as a part of HEMATOCON 2020 Online.
2. Conducted a workshop on central line for residents at SET facility, AIIMS, Delhi on 30 December 2021.

Lectures delivered

M Mahapatra: 5	Tulika Seth: 46	Jasmita Dass: 16
Mukul Agrawal: 40	Ganesh Kumar V: 6	Pradeep Kumar: 6

Oral papers/posters presented: 20

RESEARCH

Funded projects

Ongoing

1. A prospective, multi-national, non-interventional study in haemophilia A and B patients with or without inhibitors treated according to routine clinical treatment practice (explorerTM6), Dr. Tulika Seth, Novo Nordisk, 2 years, 2020-22, Rs 4.4 lakhs plus medicines
2. Assessment of BCL-2 expression in B-Acute lymphoblastic leukemia at diagnosis and after therapy for minimal residual disease assessment, Dr. Pradeep Kumar, AIIMS Early career intramural, 2 years, 2020-2022, Rs 10 lakhs
3. Comparative study of digital droplet polymerase chain reaction (dd-PCR) and quantitative real time polymerase chain reaction (qRT-PCR) for BCR-ABL1 transcript quantitation in chronic myeloid leukemia (CML) patients on tyrosine kinase inhibitor (TKI therapy) and eligible for treatment free remission (TFR), Dr. Ganesh Kumar V, AIIMS Early career intramural, 2 years, 2020-2022, Rs 10 lakhs
4. Elucidation of molecular genetics of triple negative myeloproliferative neoplasm, Dr Seema Tyagi, DST, 2021-2024, Rs 69.5 lakhs
5. Genome-Wide Association Study in an Indian Cohort of Patients with Acquired Aplastic Anemia, Dr Rishi Dhawan, American Society of Hematology, 3 years, 2022 to date, Rs 1,15,00,000
6. Impact of Transplant Conditioning Regimen Intensity on Gut Microbiota Changes in Patients Undergoing Hematopoietic Cell Transplantation, Rishi Dhawan, AIIMS Intramural, 2020-22, Rs 10 lakhs
7. Mitigation of clinical phenotype by activated platelets in severe hemophilia, Dr M Mahapatra, DBT, 3 years, 2019-2023, Rs 8 lakhs
8. Strengthen and standardize the National Referral and Training Centers in India, Dr Tulika Seth, Novo Nordisk Hemophilia Foundation (NNHF), 3 years, 2020-2022, Rs INR 6 crores
9. Study of B-cell subsets and NK cell subsets in patients of acquired Aplastic anemia, Dr Jasmita Dass, AIIMS Early career intramural, 2020-2022, Rs 10 lakhs
10. To assess recombinase polymerase amplification-based diagnosis of sickle cell disease, Dr Mukul Aggarwal, CSIR, 1 year, 2021-22, Rs 10 lakhs
11. To study whether the levels of Tissue factor pathway inhibitor (TFPI) and its polymorphisms influence bleeding severity in moderate and severe Hemophilia A patients., Dr. Mukul Aggarwal, AIIMS Early career intramural, 2020-2022, Rs 10 lakhs

Completed

1. NN7415-4311explorer 7 NN7415-4311 Concizumab label trial for Hemophilia B with Inhibitors, Tulika Seth, NOVONORDISK, 2019-2021, Rs 3.5 lakhs

Departmental projects

Ongoing

1. A study of anti-phosphatidylserine/anti-prothrombin IgG antibodies as a tool to improve diagnosis of antiphospholipid antibody syndrome (APS)
2. Addition of bortezomib to standard multiagent induction chemotherapy in ALL patients increases their EOI MRD negativity rates
3. Analysis of CD9 expression in AML by flowcytometry: Prognostic role, correlation with clinicopathological parameters, cytogenetics and mutation profile.
4. Analysis of Monocyte subsets by Multiparameter flow cytometry in peripheral blood in cases of Monocytosis
5. Assessment of eligibility for treatment free remission in patients of chronic phase of CML attending OPD of a tertiary care center
6. Azacytidine and Venetoclax followed by HiDAC consolidation in Previously Untreated Acute Myeloid Leukemia patients unfit for intensive chemotherapy
7. B VOCAL study on sickle cell quality of life
8. Central nervous system hemorrhage and thrombosis in acute promyelocytic leukemia
9. Characterization of immunoparesis in newly diagnosed myeloma and its impact on progression-free and overall survival with regards to anti myeloma therapy
10. Clinical profile, treatment patterns and quality of life in cancer patients with venous thromboembolism
11. Correlation of endogenous thrombopoietin levels with response to thrombopoietin receptor agonists and assessment of serum LDH profile in adults with primary ITP
12. Evaluation of programmed death- ligand1 (PD- L1)/ CD274 expression on myeloblasts in acute myeloid leukemia (AML) by flow cytometry

13. Evaluation of response rate after early initiation of eltrombopag with cyclosporine in treatment naive severe aplastic anemia patients compared to historical cohort. A pilot study
14. Evaluation of response to immunosuppressive therapy and eltrombopag in aplastic anemia
15. Evaluation of transient elastography, hepatic iron concentration by MRI t2* liver, serum liver fibrosis indexes versus liver biopsy in thalassemia major patients who are candidates for hematopoietic stem cell transplant, a comparative pilot study
16. Expression of Basophil-Lineage Commitment Marker Cd203c In Acute Promyelocytic Leukemia And Its Correlation With Disseminated Intravascular Coagulation (DIC) Profile
17. Flow cytometric detection of leukemic blasts in CSF in ALL patients with CNS stage 1 disease and monitoring the efficacy of standard Intrathecal methotrexate in them
18. Flow cytometric ploidy analysis in B-cell acute lymphoblastic leukemia
19. Flow cytometry assessment of CD 26+ leukemia stem cells in chronic myeloid leukemia
20. Global longitudinal staring pattern as a measure of cardiac dysfunction in patients receiving 7 plus 3 for AML
21. Identification and in-silico characterization of molecular defects underlying inherited deficiencies of FVII and FX in India
22. Identification and quantification of Myeloid-derived suppressor cells in Precursor B cell acute lymphoblastic leukemias by Flowcytometry
23. Immunophenotyping and MRD analysis in Multiple myeloma by flow cytometry
24. Impact of molecular genetics on the phenotype of Indian sickle cell syndrome patients.
25. Minimal residual disease analysis in acute myeloid leukemia by flow cytometry using a limited antibody panel
26. Molecular profiling of Myelodysplastic Syndromes subgroups – MDS with single lineage dysplasia and MDS with multi-lineage dysplasia for assessment of prognosis and treatment response.
27. Prevalence of common variable immunodeficiency and autoimmune lymphoproliferative disorder in autoimmune hemolytic anemia/Evans syndrome and their impact on clinical outcomes
28. Study of molecular basis of idiopathic erythrocytosis
29. Study of the expression of GATA1 protein by immunohistochemistry in BCRABL negative myeloproliferative neoplasm.
30. Study of the role of thromboelastography in predicting risk of hemorrhage in patients with acute leukemia
31. To assess utility of MPN 10 questionnaire for assessment of symptoms burden and quality of life) and assessment of various scoring systems being used in patients of myelofibrosis
32. To compare the side effect profile, minimal residual disease and early event free survival in patients of CD 20 positive precursor B acute lymphoblastic leukemia who receive rituximab versus those who do not receive rituximab with induction therapy
33. To study the combined role the BCR-ABL1 Kinase Domain and Elsewhere mutation in Chronic Myeloid Leukemia patients with resistance to Tyrosine Kinase Inhibitors (TKIs)
34. To study the predictors of response to thalidomide in patient with transfusion dependent thalassemia

Completed

1. Compare HbCZE and HPLC in diagnosis of hemoglobinopathies
2. Effect of tyrosine kinase inhibitor on sperm parameters and pituitary gonadal axis in male patients with Chronic myeloid Leukaemia
3. Imatinib dose escalation in CML: indication, responses and outcomes
4. To compare the diagnostic performance of Whole-Body Low Dose Computed Tomography (WB LDCT) and Conventional Skeletal Survey (CSS) in diagnosis and management of patients with Multiple Myeloma (MM) in a Tertiary Care Centre
5. To evaluate the utility of enumerating circulating stem cells with aberrant h-MICL expression by flowcytometry in the diagnosis and prognosis of Philadelphia chromosome negative Myeloproliferative Neoplasms

Collaborative projects

Ongoing

1. A prospective multi-centric observational study on the role of blood coagulation and fibrinolysis in emergence of ARDS in patients with new coronavirus pneumonia (COVID-19), Safdarjung Hospital
2. Autoimmune haemolytic anaemia: Clinical and Serological correlation. Transfusion Medicine, AIIMS
3. Development of a quick and specific detection system of BCR-ABL proteins, Anatomy
4. Effect of Itraconazole on Allergic Fungal Rhinosinusitis: A Clinico-radiological Correlation, ENT
5. Electrochemical Sensor Detection of microbial infections and antibiotic resistance within 2hours in Patients with Febrile neutropenia in hematological malignancies. RAMJA Genosensor Pvt, Ltd, IIT Delhi
6. ICMR registry on rare disorders, ICMR, Delhi
7. Immune reconstitution in Haplo identical HSCT, Transplant Immunology & Immunogenetics, AIIMS
8. Ocular GVHD in post Allogeneic HSCT patients, Ophthalmology, AIIMS
9. Preclinical study of CRISPR-Cas mediated gene editing of globin gene locus in healthy donor derived CD34+ hematopoietic stem progenitor cells (HSPCs) in mouse models to develop a potential therapy for sickle cell anemia patients, IGIB and 5 other clinical centers in the country

10. Prospective observational study to assess the prevalence of platelet refractoriness and its reasons in patients receiving multiple platelet transfusion in an Indian setting, Transfusion Medicine, AIIMS
11. Randomised control trial to evaluate safety and efficacy of intra vitreal injection of autologous bone marrow derived stem cells in acute cases of ischaemic central retinal vein occlusion, Ophthalmology, AIIMS
12. Real Time PCR for Diagnosis of Invasive Fungal Infections, Microbiology, AIIMS
13. Relevance of WT1 gene expression in AML, BRAIRCH
14. Screening, classification and clinical profile of patients with Anaemia and Diabetes mellitus, Medicine, AIIMS

Completed

1. A population based prospective cohort study to unravel the causes of stroke and cognitive decline: a cross cultural perspective international co-operation division. AIIMS and Erasmus Medical Center Rotterdam, Netherlands, Clinical Epidemiology Unit, AIIMS
2. Clinical and laboratory profile of patients with hyper eosinophilia presenting to a tertiary care center in north India, Department of Medicine
 - a.
3. Efficacy of intravenous iron therapy compared to oral iron treatment in iron deficient adult cyanotic, congenital heart disease patients for improvement in clinical outcome at 3 months, Cardiology, AIIMS
4. Identifying association of gene polymorphism and Prakriti in responders & non responders to dual antiplatelet therapy in coronary artery disease patients, Cardiology, AIIMS
5. Role of platelet activation in the development of systemic inflammations in patients with type-2 diabetes, Endocrinology, AIIMS and Regional Centre for Biotechnology (RCB)
6. To evaluate the role of serum d-dimer, neutrophil: lymphocyte ratio, platelet: lymphocyte ratio and CA125 in assessment of ovarian masses., Obstetrics and Gynaecology, AIIMS

PUBLICATIONS

Journals: 30

Anstracts: 18

PATIENT CARE

A. CLINICAL SERVICES

• OPD/Clinics runs 6 days per week:

New Patients: on Monday/Wednesday/Friday

CLINICS:

1. Monday: CML, Hemato-oncology
2. Tuesday: Stem cell Transplant Clinic
3. Wednesday: Hemolytic anemias and ITP, CLPD
4. Thursday: Coagulation and Bleeding clinic
5. Friday: Aplastic anemia, CMPD clinics
6. Saturday: Leukemia Survivor clinic

• In-Patient care:

1. In-patients: C2, C6, D6, Emergency ward, Private wards
2. Stem cell Transplant: 4-6 New Allogeneic transplants per month
3. Hematology Day care: for procedures, chemotherapy and transfusion services

• TOTAL IN-PATIENT census in 2021-22: 11,182

Hematology Day Care Centre (Near C2 ward) Census 2021-22

Month	Admissions	Chemotherapy	Transfusions		Procedures			Total Procedures
			RBC	SDP/PRP/FFP/Cryo	Bone marrow	Intra-theal	Phlebotomy	
Apr 2021	787	402	255	83	50	31	10	865
May 2021	630	398	201	61	8	15	5	686
June 2021	638	222	227	78	28	24	7	689
July 2021	877	444	262	90	89	45	8	944

Aug 2021	962	467	248	83	106	37	15	1008
Sept 2021	924	419	252	92	146	28	26	944
Oct 2021	937	459	254	81	121	50	39	1011
Nov 2021	830	333	287	85	123	31	29	896
Dec 2021	1048	422	329	147	260	51	37	1129
Jan 2022	839	325	340	149	59	34	32	916
Feb 2022	813	358	305	154	75	27	15	902
Mar 2022	974	446	346	135	88	53	28	1069

Chemotherapy and Procedure Unit, Hematology OPD, NEW RAK OPD Census 2021-22

Month	Chemotherapy	Bone marrow	Total
April 2021	18	8	26
May 2021	Closed due to COVID		
June 2021	Closed due to COVID		
July 2021	6		6
August 2021	11		11
Sept 2021	60	38	98
Oct 2021	60	32	92
Nov 2021	51	28	79
Dec 2021	67	53	120
Jan 2022	46	20	66
Feb 2022	46	17	63
March 2022	72	55	127

Community services

The department has been active around thalassemia and hemophilia awareness with the help of Thalassemia Federation of India and Hemophilia Federation of India.

LABORATORY SERVICES

The Department of hematology has state-of-the-art facilities of the following:

- Bone marrow aspirate, bone marrow biopsies and peripheral smears
- Immunohistochemistry
- Molecular genetics
- Hemolytic anemia workup
- Flow cytometry
- Capillary electrophoresis for hemoglobinopathies
- Coagulation workup for inherited and acquired bleeding disorders
- Platelet aggregometry
- Thrombophilia workup
- Prenatal diagnosis of Hemophilia and hemoglobinopathies

Census of various laboratories (2021-2022)

LAB NAME	TEST	NUMBER	TOTAL
Bone marrow biopsy laboratory	Biopsy (H & E)	2225	3025
	Reticulin Stain	725	
	Masson's Trichome	59	
	Congo Red	16	
Immunohistochemistry lab	Immunostaining performed	2265	2265

Coagulation lab	Prothrombin time	4424	32894
	INR	750	
	Activated partial thromboplastin time	4244	
	APTT for heparin monitoring	200	
	Thrombin time	4244	
	Fibrinogen	4244	
	Platelet count	4244	
	D-dimer	3254	
	Clot solubility test	450	
	Factor assay (VIII, IX, X, II, V, VII, XI)	450	
	Factor inhibitor screening	490	
	Bethesda assay for inhibitor titer	30	
	Platelet aggregation	450	
	von-Willebrand antigen	260	
	Lupus anticoagulant (PTT-LA, KCT and DRVVT)	1780	
	Protein C	490	
	Protein S	445	
	Activated protein C resistance	440	
	Antithrombin	490	
	β 2-glycoprotein I	1695	
Hemolytic lab	HPLC	2744	5711
	Ferritin	680	
	G6PD	440	
	DCT	245	
	OFT	195	
	PNH	52	
	Urine Hemosiderin	26	
	Cryoglobulin	10	
	Sickling test	34	
	LAP score	14	
	Cytochemistry	1271	
Hemogram laboratory	OPD and ward patients	12855	32091
	Hematology OPD patients	2575	
	Hemograms for HDCC, bone marrows and hemolytic lab	6950	
	Bone marrow staining	2211	
	Retic Count	7000	
	Hemogram PS staining		
	Slide staining for MBBS class	500	
	Hematology clinic	2720	
Molecular diagnostic laboratory	RTPCR/RQPCR	1870	3227
	Hemophilia prenatal diagnosis	10	
	Factor V Leiden	571	
	MTHFR polymorphism	475	
	Prothrombin gene mutation (P20210)	227	
	α -thalassemia	30	
	β -thalassemia	50	
	α -triplication	4	

Flow cytometry	Acute leukemia	470	1560
	Chronic lymphoproliferative disorders	240	
	Paroxysmal Nocturnal hemoglobinuria	605	
	Minimal Residual disease	170	
	CD34 enumeration	50	
	Platelet disorders	25	

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor M Mahapatra is the Editor of Indian Journal Hematology and Blood Transfusion (IJHBT). He is also a member of GATEC (gene therapy advisory and valuation committee) working group on Hematology; expert group of CSIR Mission on Sickle cell anemia and expert committee on “Use of stem cell as standard of care for their therapeutic use”.

Professor Tulika Seth has been nominated as apex committee member of National Consortium for Research and Development on therapeutics for Rare Diseases, World Federation of Haemophilia ambassador for India and as chairperson of committee on formulating guidelines for sickle cell training of trainer’s for the Ministry of Tribal Affairs. She was elected as coordinator of the National Training Program for Pediatric Hematology. She is a member of the Governing Board of Delhi School of Public Health, and the National Centre of Excellence and Advanced Research on Anemia Control. She was also the Chief Guest at the inauguration of “Preventive Hematology Clinic” at the Department of Clinical Hematology, KG Medical University Lucknow.

Dr Mukul Agarwal is the Hematology expert for athlete biological passport management unit (ABPU) at the National anti-doping agency (NADA), India in collaboration with Anti-Doping Laboratory, Tokyo.

Dr Rishi Dhawan was awarded Global Research Award 2021-2022 by the American Society of Hematology.

VISITING SCIENTIST

1. International speaker program with Dr Arijit Biswas, on 8 October 2021: Journey of coagulation factor XIII from a rare coagulation disorder to a protein with multifaceted functional roles.
2. International speaker program with Dr Versha Banerji, on 21 October 2021: MRD in CLL and Sequencing strategies in CLL management.

Comparison with previous years

Item	Sub-types	2019-20	2020-21	2021-22
Number of students/trainees registered in the department	DM Clinical Hematology and Hematopathology	25	25	24
Number of oral presentations and posters		30	22	20
Number of different types of publications		32	39	48
Total number and amount of funding received for research	Intramural and Extramural	29,00,000	5,07,00,000	7,97,40,00,000
Number of patient care related activities.	Inpatient census	15330	8367	11182
	Specialty clinics	10	10	10
	Procedures	5292	7197	11,747
	Lab Investigations	63535	95201	80783
	Other activities- patient seminars/workshops	2	3	4

9.17 Hospital Administration

Professor and Head

Sidhartha Satpathy

Medical Superintendent, Main Hospital

DK Sharma

Professor

IBSingh (up to 28 February 2022)

Sanjay Arya

Additional Professors

Nirupam Madaan

Anoop Daga

Amit Lathwal

Mahesh R

Associate Professors

Angel Rajan Singh

Vijaydeep Siddharth

Parmeshwar Kumar

Assistant Professors

Jitender Sodhi

Abdul Hakim

Laxmi Tej Wundavalli

Sheetal Singh

Vikas H

Assistant Professors (On contract)

Kanika Jain

Anant Gupta

EDUCATION

The Department is running a postgraduate degree program for medical graduates, viz. MD (HA), earlier known as MHA (Masters in Hospital Administration). This course was started in February 1966, for the first time in India and has since been recognized as a distinct postgraduate discipline. In January 2016, this course was converted to MD (Hospital Administration) in accordance with decision of Academic Committee (AC-113/10) duly ratified by GB (GB-152/7) during its meeting held on 13 April 2015. The Residency Program in Hospital Administration focuses on 'hands on' training, where Resident Administrators are posted in the 'Administrative Control Room' of hospital, Jai Prakash Narayan Apex Trauma Centre and National Cancer Institute, Jhajjar Campus round the clock as 'Duty Officers', and coordinate all the hospital activities after duty hours. The department switched to "Online" and "Hybrid" mode of lectures and conducted 7 departmental seminars on COVID-19 Vaccine Development Landscape, Enabling Registered Medical Practitioners to provide healthcare using telemedicine. The role of Hospital Administration Management of COVID-19, RTI Act: Boon or Bane; Update and Administrative Challenges; along with 6 Journal Clubs during 2020-2021. It is also the nerve centre of the Hospital/Centers. The department also has Senior Resident who are posted in the Main Hospital and various Centers for assisting Faculty members in administrative tasks. They are also involved in new projects at AIIMS. Faculty members conducted several training programmes for the doctors working in various organizations including Central, State Governments, Paramilitary Forces and in various PSUs such as IICM, Ranchi and also other management institutes.

SHORT AND LONG-TERM TRAINING

1. Three MD (HA) students from Sher-I-Kashmir Institute of Medical Sciences, Srinagar, J& K
2. Four ITBP Medical Officers

CONTINUING MEDICAL EDUCATION

Lectures delivered

Sidhartha Satpathy: 9

Nirupam Madaan: 3

Anoop Daga: 2

Angel Rajan Singh: 2

Vijaydeep Siddharth: 2

RESEARCH

Funded projects

1. Antimicrobial susceptibility patterns of pathogens isolated in bloodstream infections vis a vis antibiotic prescribing practices and genotypic clonality of Acinetobacter Baumannii various patient care units/areas., Dr Vijaydeep Siddharth & Dr Hitender Gautam, AIIMS Intramural Grant, 1 year, 2021-2022, Rs 5,00,000

2. Comparative analysis of different methods of disinfection of medical records, Dr Nirupam Madaan, Research Section, AIIMS, ND, 1 year 6 months, 2020-2021, Rs 4.82 lakhs
3. Effectiveness of robot in floor cleaning for minimizing human exposure in view of COVID-19 pandemic., Dr. Vijaydeep Siddharth, AIIMS Intramural Grant, 1 year, 2020-2021, Rs 6,28,580
4. Impact of air quality interventions on air quality including microbial load in inpatient environmental air, Dr Vijaydeep Siddharth, AIIMS Intramural Grant, 1 year, 2020-2021, Rs 3,46,000
5. Implementation of an institutional antifungal stewardship program (AFSP) and its impact on antifungal usage and outcomes in patients with invasive fungal infections, Dr. Gagandeep Singh, Microbiology, AIIMS, ICMR, 3 years,, Rs 88,78,000
6. Strengthening Health Systems Governance for Pandemic Response, Dr Angel Rajan Singh, AIIMS Intramural Grant, 2 years, 2020-2022, Rs 5 lakhs

Departmental projects

1. Comparative analysis of the impact of in-hospital confinement in different inpatient settings on the psychology of corona patients
2. Utility of nano-impregnated surface coating to achieve continuous active disinfection in an intensive care unit of a tertiary hospital
3. A study of the process of supply of cancer medications in a super speciality hospital in North India.
4. A study of Vaccine hesitancy and opinion of healthcare professionals for the uptake of the Covid-19 vaccine.
5. A study on financial implications of repair and maintenance of select machinery and equipment items at AIIMS hospital.
6. A study on satisfaction of dietary services provided in a tertiary care hospital of North India.
7. A study on the maintenance strategies of critical medical equipment and its cost implications.
8. A study to assess the shared professional role and responsibilities in nursing services at CDER & Dr BRAIRCH, AIIMS: Social Network Analysis.
9. A study to assess the utility of telemedicine as a screening tool in the pediatric outpatient department of a tertiary care teaching hospital.
10. A study to estimate the consumption pattern of surgical consumables over a period of 4 months in operating rooms of main Hospital at AIIMS, New Delhi to optimize their storage and buffer stock levels.
11. An exploratory study into the perceived impact of Accreditation on Health Care Quality and its associated cost amongst HCOs in India.
12. An interventional study to evaluate the impact of a Patient Safety Incident Reporting System on Incident Reporting in various in-patient areas of AIIMS, New Delhi.
13. Assessment of Quality of death certification practices at AIIMS, New Delhi and testing quality improvement solutions.
14. Comparative Medical record audit of COVID positive COVID suspect and non- covid patients record in a tertiary care hospital, New Delhi.
15. Comparative study of secondary trauma, burnout, compassion fatigue of healthcare workers of COVID positive, COVID suspect and non - covid patients in a tertiary care Hospital.
16. Cost conundrum of anti-cancer drugs: A study on pricing variations across India.
17. Cost-effectiveness of early stoppage of empirical antibiotic therapy at clinical improvement in pediatric cancer patients with high risk febrile neutropenia in an ongoing open label randomized control trial.
18. Costing of Intensive Care in Neurosciences Centre, AIIMS, New Delhi.
19. Descriptive study of informed content in surgical disciplines of AIIMS Hospital.
20. Impact of Interactive Training Interventions on soft skill of communication in Nursing staff of Emergency of a Tertiary Care Teaching hospital : An Excremental study.
21. Monitoring of hospital environmental cleaning and disinfection practices by Adenosine Triphosphate (ATP) bioluminescence-based assay during COVID-19 times.
22. Need Analysis of CSR at AIIMS.
23. Offshoring of medical records at an apex tertiary care teaching institute: A hospital administrator's perspective
24. Patient Satisfaction towards dietary services at AIIMS.
25. To study patients' and physicians' satisfaction regarding conventional and telemedicine consultation services in select departments at AIIMS New RAK OPD with a view to improve OPD services.

Completed

1. A Comparative analysis of Annual Performance Appraisal Report (APAR) and Annual Confidential Report (ACR) systems in AIIMS, New Delhi
2. A study of RT services and utilization of the specific of Radiotherapy equipment across different centers at AIIMS, New Delhi
3. A study on patient safety culture among the healthcare providers in a tertiary care hospital
4. A study on work engagement at AIIMS Hospital, New Delhi.
5. A study to develop a Hospital Infrastructural Project implementation model

6. A study to standardize acceptable communication among female and male doctors in a hospital setting, with regard to the provisions of Sexual Harassment of women at Workplace (Prevention, Prohibition and Redressal) Act, 2013.
7. Application of queuing theory as a decision making tool in out-patient department in a super speciality Centre in North India
8. Audit for antifungal treatment adequacy in adults with invasive fungal infections.
9. Challenges and opportunities to implement SHI at Federal Hospital of Province No. 1 in Republic of Nepal, April 21
10. Study of Radiotherapy (RT) services and utilization of RT equipment across different centres of AIIMS, New Delhi
11. Study to assess the correlation between comorbidities and COVID-19 at a tertiary care hospital.
12. Study to assess the impact of educational intervention on incidence of central line associated blood stream infections (CLABSI) at JPN Apex Trauma Center ICU.
13. To study the awareness about eye donation among patients and their attendants visiting a tertiary care hospital in NCR
14. Updation of Fire Safety Manual at AIIMS, New Delhi

Collaborative projects

Ongoing

1. Clinical Characteristics of critically ill older adults with COVID-19, Geriatric Medicine
2. Comparative study for secondary trauma, burn out, compassion fatigue, of HCWs of COVID positive, suspect and non-COVID patients in a tertiary care hospital, Dept of Psychiatry (Clinical Psychology)
3. Cost analysis of Standardised laparoscopic mesh repair of midline abdominal wall hernia, Department of Surgery, AIIMS
4. Determinants of mortality due to COVID in India, CCM
5. Development of online course for Training and Capacity building of Physicians for certifying the underlying cause of death and improving cause of death statistics, Centre for Community Medicine
6. High frequency panel for real time insights into COVID-19 in India, Geriatric Medicine
7. Saliva as an alternate specimen source for detection of SARS-CoV-2 in symptomatic patients using cepheid expert express SARS Co V-2 in an outpatient setting, Lab Medicine
8. Study of aetiological profile of brought dead patients and comparison of deaths due to COVID-19, Emergency Medicine
9. To develop and evaluate the effectiveness of multi-disciplinary education and care model for individuals with Diabetes affected with COVID -19; a two arm parallel RCT, Endocrinology, Pulmonary Medicine, Medicine, cardiology, Neurology, Nephrology, Orthopedics, Psychiatry, Computer Facility
10. To study the perioperative complications and costing of laparoscopic Inguinal Hernia repair, Department of Surgery, AIIMS

Completed

1. Evaluation of Dual dye technique for sentinel lymph node biopsy in breast cancer: Two-arm open labeled parallel design Non-inferiority Randomized controlled trial. General Surgery

PUBLICATIONS

Journals: 31

	2019-2020	2020-2021	2021-2022
Oral Papers presented	01	02	00
Projects			
Funded	Nil	4	6
Ongoing	—	4	6
Completed	—	0	0
Departmental Projects			
Ongoing	20	27	24
Completed	6	5	15
Collaborative Projects			
Ongoing	3	8	10
Completed	1	2	4
Publications	17	34	31

PATIENT CARE

(a) Facilities:

- Preparing the National Centre for Ageing for commissioning, in pursuance of the goals of the NPHCE and the commitment of AIIMS, New Delhi
- Mentorship of Medical Colleges and laboratories of the states of Bihar and Delhi for registration of COVID testing
- Installation of new PSA plant for JPNATC-Burns

- Planning and tendering of new modular OTs
- Redesigning of Emergency of JPNATC
- Repair and renovation of the old wards (washrooms) of JPNATC
- Renovation of the blood bank at JPNATC
- Commissioning and maintenance of additional 31 beds for COVID care on the third floor of Burns
- Technical and auxiliary support to the Burns block during COVID
- Creation of fund through CSR for the provision of a new manifold at JPNATC, and award of work to a donor agency for the same.
- Initiation of ABPMJAY for patients of Trauma at JPNATC
- Initiation of the Good Samaritan scheme for patients at JPNATC
- Preparation of two ICU wards (2A and 3A) for commissioning i.e. 11 beds for anaesthesia ICU and 17 beds for neurosurgery ICU to add to the bed complement
- Management of an electric fire in a transformer at JPNATC and subsequent formulation of guidelines to manage the same in collaboration with hospital engineering and the NDMC.
- Facilitation of the renovation of the blood bank at JPNATC, which is currently in process
- Provisioning of ICU for paediatric COVID cases, along with training of manpower in paediatric airway and COVID management
- Facilitation of establishment of a bio-incubator on the ninth floor of the National Centre for Ageing under the bio-nest project sanctioned by the ICMR (in process) for Centre for Medical Innovation and Entrepreneurship (CMIE)
- Setting up of a Central Clinical Research Unit on the eighth floor of the National Centre for Ageing
- Establishment of a National Centre for Assistive Health Technology on the ninth floor of the Center for Ageing (in process)

(b) Community services/camps, etc.

- Distributed soaps for hand hygiene to labor working in and around AIIMS during the second wave of the pandemic.
- Initiation of video conferencing facility for attendants of COVID patients for daily updation of their condition
- Provisioning of 'safety app' for female staff at AIIMS as part of measures for empowering lady workers at AIIMS, New Delhi
- Organized multiple awareness programs on acceptable work place behaviors for all cadres of employees at AIIMS, including a debate, a poster session, role modelling and lectures.

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Sidhartha Satpathy was nominated as Member of National Accreditation Board for Hospital & Health care providers (NABH) as AIIMS representative by Director AIIMS; Participated as Subject Expert during National Consultation on Clinical Governance at NHSRC on 20 July 2021; Participated as Subject Expert during WHO Expert Group Meeting for National Guidelines on IPC training Resources on 8-10 November 2021; Contributed as Visiting Faculty at HNB University, Uttarakhand for development of Masters & PhD program in Hospital Administration; Contributed to development of BIS standards on PPE and BMW waste management under aegis of MHD sectional Committee- Medical Equipment & Hosp Planning Committee; Participated as Subject Expert for Selection Committee for selection of Assistant Professor, Department of Hospital Administration, at SGPGI, & KGMU, Lucknow; AIIMS Gorakhpur, PGIMER for post of PRO, and Professor (Hosp. Admn) at AIIMS, Bhubaneswar; Member of Building Committee of National Brain Research Institute, providing oversight for development of Auditorium, Academic block and Laboratories; Contributed as Expert Member of Academic Audit Committee of IIHMR University, for improvement of academics as mandated by University Grants Commission; Contributed as Editorial Committee member of JAHA and IJRFHHA, and Reviewer for National Medical Journal of India, WHO-SEAJP, etc.

Professor DK Sharma visited Sundergarh Odisha as member of MOHFW Expert committee regarding utilisation of existing infrastructure of Medical College & Hospital constructed by NTPC; Attended Selection Committee as Subject Expert (Hospital Administration) for posts of MS & DMS at RIMS, Ranchi, Jharkhand, and AIIMS Bhatinda; Visited Bangalore for assessment of Medical College for starting new MD (Hosp Admn) courses under section 10(A) of NMC Act 2019 on 6 April 2021 under aegis of MARB, NMC; Visited Sri Ganganagar, Rajasthan for inspection of assigned Medical College as Expert for starting Letter of Permission (LOP) before starting new courses; External Examiner for MD (Hosp Admn) course at SKIMS, Srinagar, J&K; Expert member of Internal Quality Assurance Cell of Pt. BD Sharma University of Health sciences, Rohtak, Haryana attended 14th meeting of the Committee.

Dr Nirupam Madaan Provided mentoring to Officers from Bihar and New Delhi to create and register facilities for COVID testing; Received award of female COVID warrior from Modicare

Dr Anoop Daga was Member, Editorial Board, International Journal of Research Foundation of Hospital & Healthcare Administration (IJRFHHA), New Delhi, India; Member, Technical Textile Committee (incl. Medical & Surgical Textile), Bureau Of India Standards (BIS), New Delhi, India; Member, Service Sector Division Council, Bureau Of India Standards (BIS), New Delhi, India; Executive Editor, Journal of Academy of Hospital Administration (JAHA), Noida, India.

Dr Amit Lathwal was Assessor NQAS for assessments of Hospitals under aegis of NHRSC, Munirka.

Dr Mahesh R was Chairman, Sub-Committee for assessment of cases for eligibility for Compassionate appointment at AIIMS, New Delhi; Member, Committee to examine the pros and cons of Central Legislation against the assault on Doctors on duty and Clinical Establishments; Member Secretary, Fire Audit Team Constituted vide Memo No. F.20-5/2020- Estt.I (Committee); Technical Expert, Medical Value Travel as part of Champion Service Sector Scheme, MOHFW, FICCI & SEPC Dept of Finance Services; Member of the Medical Equipment & Hospital Planning Division Council (MHDC), Bureau of Indian Standards; Involved in various clean drive activities of the Disease Prevention Outbreak Response Cell (DPORC), AIIMS, New Delhi as a member of the committee; Nodal Officer for National Vector Borne Disease Control Program, MOHFW, GOI; Technical Expert, Medical Value Travel as part of Champion Service Sector Scheme, MOHFW, FICCI & SEPC Dept of Finance Services.

Dr Angel Rajan Singh was Member of Technical Committee NABH for revision of standards; has conducted several Assessments for NABH as Principal Assessor during this period.

Dr Parmeshwar Kumar received Rajiv Gandhi National Excellence Award 2021.

Dr Vijaydeep Siddharth was Member Secretary, COVID-19 Management Committee, BPS Block; Commissioning of Burns and Plastic Surgery Block; External NQAS assessment of Healthcare Facilities in Delhi & Andhra Pradesh; External Assessment of Hindu Rao Hospital, Govt of NCT Delhi under Kaya Kalp Scheme; Conducted Kaya Kalp Peer Assessment at Safdarjung Hospital, Delhi.

Dr Jitender Sodhi was Member, Main Stores Purchase Committee (SPC) of AIIMS, New Delhi; Member, Specialists Board in Health Administration including Hospital Administration of National Board of Examinations; Member, Annual Report Committee of AIIMS, New Delhi; Contributed substantially in preparation of replies from the hospital side for group petitions listed in the matter of Rare Diseases of children in Hon'ble High Court of Delhi in the capacity of Officer-in-charge for court cases; Contributed as faculty in-charge, Hospital Establishment in bringing a change in the quality of administrative proposals related to leave matters and disciplinary proceedings of employees being put up on the file; Contributed in creation of a digital library of court cases related to main hospital; Contributed consistently towards the fire prevention and safety aspects of Main OT and AB-8 ICU__ periodic trainings of staff on use of portable fire extinguishers and evacuation methods; Contributed actively to the initiative of conversion of an old EHS Testing Facility area into new Pediatric Emergency in 72 hours time.

Dr Abdul Hakim was Committee Member of Working Group-5 "Strengthening of Public Hospitals through AB PM-JAY"; Committee member to ensure adequate availability of medical oxygen in the wake of COVID-19 Pandemic. (Constituted by Ministry of Commerce & Industry, Department of Promotion of Industry and Internal Trade (Explosive Section).

Dr Sheetal Singh was NABH Assessor for assessment of hospitals for quality standards.

9.18. Laboratory Medicine

Professor and Head

Subrata Sinha

Additional Professors

Sudip Kumar Datta Shyam Prakash

Assistant Professors

Suneeta Meena Tushar Sehgal

Assistant Professors (Contract)

Aparna Ningombam (upto 24 November 2021) Parul Chopra

HIGHLIGHTS

Activities/steps taken to improve patient care services, education and research in the past year

The department has successfully inaugurated and operationalized a state-of-the-art fully automatic integrated laboratory (Emergency Biochemistry Lab) using a Dry Chemistry Laboratory Automation platform on the 2nd floor Emergency and Ward Block and providing 24 x 7 services for LFT, KFT, Electrolytes, Cardiac markers etc. This has facilitated an increase of available test parameters from around 20 last year to more than 45 (biochemistry + immunoassays including body fluids) in the current year. Hematology laboratory services for ward and emergency with bi-directional interfacing facilities have been facilitating CBC, Coagulation profile and DIC profile all round the clock. Platelet function testing for patients that show bleeding tendencies despite normal screening coagulation profile is now available. The department has also started participation in EQAS programs for most of the parameters reported.

The Central Collection facilities at Old RAK and New RAK OPD have been augmented with facilities for sample collection for COVID patients with appropriate protection for staff. SMART Lab has started round-the-clock operations in Masjid Moth campus and provides diagnostic support to the Surgical Block IPD and MCH block OPD apart from all other OPDs.

Three candidates were awarded MD (Laboratory Medicine) degree in the year. The department restructured the Resident posting schedule for MD Lab Medicine program.

The department has several research projects with extramural and intramural funding:

- Two multicentre projects
- 14 Funded projects from Extramural and Intramural funding agencies
- One Scientist C and One Scientist B are working in Research projects

Action Plan for the coming year

The department plans to start several new parameters so as to augment the diagnostic facilities available including Quantitative SARS-COV-2 Antibody testing in the coming year. Participation in IAMM EQAS for staining and infectious serology has also been planned.

EDUCATION

MD Lab Medicine candidates: 8

PhD candidates: 2

The department restructured the Resident posting schedule for MD Lab Medicine program and decreased the postings in other departments as newer facilities and techniques are now developed in the department. Interactive slide morphology sessions in hematology through multi-header microscope for training of postgraduate residents in the department of laboratory medicine. Daily discussion of internal quality control and discussion on EQAS with post-graduate residents have been integrated.

Lectures delivered

Sudip Kr Datta: 7

Shyam Prakash: 3

Tushar Sehgal: 5

Oral papers/posters presented: 11

RESEARCH

Funded projects

Ongoing

1. An expensive and rapid diagnostic method for detection of SARS COV-2 and COVID -19 RNA by loop mediated isothermal amplification (LAMP), Dr Shyam Prakash, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
2. Characterisation and expression of transfer RNA derived small RNAs as a circulating biomarker for disease diagnosis and prognosis in NAFLD, Dr Shyam Prakash, ICMR, 3 years, 2022-2025, Rs 55.5 Lakhs
3. Development and validation of Standalone meter for non-invasive salivary glucose quantification, Dr Shyam Prakash, BIRAC (DST), 2 years, 2021-2022, Rs 10.0 lakhs
4. Development of Opto-electronic sensor for point-of-care diagnostics of micro-albumin in urine sample, Dr Sudip Kr Datta, AIIMS – IIT Delhi Collaborative Research Project, 2 years (Extended for 6 months), 2019-2022, Rs 20 lakhs
5. Evaluation of Artificial neural network for differentiating Iron deficiency anemia and β -Thalassemia trait in comparison to the conventional methods, Dr Tushar Sehgal, ICMR, INDIA, 1 year, 2022-2023, Rs 22,87,766
6. Evaluation of Extended inflammatory parameters of activated neutrophils (NEUT-RI, NEUT-GI), immature granulocytes (IG), reactive lymphocytes (RE-LYMP) and T cell-independent plasma cells (AS-LYMP) in Pyrexia of unknown origin and its correlation with functional imaging and conventional inflammatory parameters, Dr Tushar Sehgal, SYSMEX, INDIA, 1 year, 2022-2023, Rs 13,36,500
7. Evaluation of the role of vitamin D receptors (VDR) polymorphisms on the efficacy of calcitriol therapy in stage 3-5 chronic kidney disease (CKD): A prospective double-blind study, Dr Sudip Kr Datta, ICMR, 3 years, 2021-2024, Rs 53,97,494
8. Long-Term Effects of COVID-19 on endocrine system, semen quality and sperm proteome, Dr. Sudip Kr Datta, AIIMS –IMRG Collaborative Research Project, 3 years, 2021-2023, Rs 20 lakhs
9. Molecular coordination of T-regulatory cells and Prokineticins in obesity and their clinical correlation in obesity associated inflammation in non-alcoholic fatty liver disease and metabolic syndrome, Dr Shyam Prakash, ICMR, 2 years, 2021-2023, Rs 52.5 lakhs
10. Molecular interaction of iron trafficking gene variants with mitochondrial dysfunction in metabolically associated fatty liver disease, Dr Shyam Prakash, ICMR, 3 years, 2022 -2025, Rs 52.5 lakhs
11. Next-gen sequencing based evaluation of the functional implications of Angiotensin converting enzyme 2 (ACE2) gene polymorphisms in Indian population and their role in the outcome of SARS CoV2 infection in Indian COVID-19 patients: a pilot study, Dr Sudip Kr Datta, AIIMS IMRG COVID, 1 year, 2020-2021, Rs 10 lakhs
12. Rapid diagnostic evaluation of Micro PCR for Hepatitis B virus DNA quantitation, Dr Shyam Prakash, Big Tech Bangalore, 5 years, 2017 -2022, Rs 40 lakhs
13. Saliva as an alternate specimen source for SARs-COV-2 in symptomatic patients using Cepheid Xpert Xpress SARS-COV-2 in an outpatient setting, Dr Suneeta Meena, AIIMS, DELHI, 1.5 years, 2020-2022, Rs 8.80 lakhs
14. Triacetylfusarinine C (TAFC) as a potential biomarker for early diagnosis of invasive aspergillosis in patients with haematological malignancy, Dr Suneeta Meena, AIIMS, DELHI, 2 years, 2021-2023, Rs 4.40 lakhs

Completed

1. A Prospective Multicentric Study on the Role of Blood Coagulation and Fibrinolysis in the emergence of ARDS in patients with New Coronavirus Pneumonia (COVID-19), Dr Tushar Sehgal, AIIMS, 1 year, 2020-2021, Rs 10 lakhs
2. Clinical validation of two versions of salivary glucose and urea analyzers for developing of rapid non-invasive prototypes Dr Shyam Prakash, IMRG AIIMS, 2 years, 2018-2020, Rs 10.0 lakhs
3. Evaluation of Rapid Thromboelastography (r-TEG) in Predicting Acute Trauma-Induced Coagulopathy in Severe Traumatic Brain Injury, Dr. Tushar Sehgal, AIIMS, 1 year, 2020-2021, Rs 4,79,000 lakhs
4. Genotypic characterization of Autosomal Dominant Polycystic Kidney disease (ADPKD) in Indian population: a pilot study., Dr. Sudip Kr. Datta, Intra Mural Research Grant (AIIMS), 3 years, 2018-2021, Rs 10 lakhs
5. Molecular expression and interaction between growth differentiation factor-15 and iron trafficking proteins in non alcoholic fatty liver disease, Dr Shyam Prakash, IMRG AIIMS, 2 years, 2018-2020, Rs 100 lakhs

Departmental projects

Ongoing

1. Evaluation of acute and long-term consequences of COVID-19 infection on thyroid function
2. Molecular coordination of Adropin, Irisin, preptin gene expression in metabolic syndrome and type -2 diabetes mellitus patients
3. Role of Glucose regulated protein-78 and Fatty acid binding protein-4 in Nonalcoholic fatty liver disease and type-2 diabetes mellitus patients.
4. CAP-53194, a novel predictive tumor inhibitor of polo-like Kinase- 1
5. Molecular expression and interaction between growth differentiation factor -15 (GDF-15) and nitric oxide regulatory genes in diabetes and metabolic syndrome
6. Role of endothelial GATA 4 and Platelet derived growth factor-B in Metabolic associated Fatty Liver Disease

7. Gastrointestinal parasitic and Microsporidia infections in renal transplant patients at a tertiary care center
8. Determination of reference ranges for healthy individuals for new red blood cell and reticulocyte parameters in Indian population
9. A prospective study on the optimal usage of Hospital information systems and its impact in Emergency care settings

Completed

1. A Comparative analysis between different stage cancer patients to discover novel blood based biomarkers for the early detection of Breast Cancer
2. A study on Carbapenam and colistin resistance in urine isolates at tertiary care centre
3. Assessment of Fok 1 polymorphism of vitamin D receptor gene (VDR), Vitamin D and parathyroid hormone levels in stage 4-5 chronic kidney disease(CKD) patients
4. Role of Serum Matrix Metalloproteinase 7 Levels in Diagnosis and Prognostication of Infants with Extra-Hepatic Biliary Atresia
5. To study stability of citrated plasma stored in a conventional refrigerator over 36 hours for use as Internal Quality Control in resource finite settings
6. To study SUPAR as a marker for prognostication in COVID-19 patients

Collaborative projects

Ongoing

1. A Multi-Centric Novel Coronavirus (COVID-19) Population Based Age-Stratified Sero-Epidemiological Study (In Urban, Rural and Tribal Communities at Selected Centers in India: A Prospective Study), CCM
2. A study of association of metabolic dysfunction associated fatty liver disease (MAFLD) and dynapenia/sarcopenia with cardio metabolic risks., Department of Medicine, AIIMS, New Delhi
3. A study to evaluate social, clinical and biochemical parameters in individuals having, Medicine
4. Analysing the link between male infertility and cancer, Anatomy
5. Application of Integrated Care Tool- BRIEF (ICT-BRIEF) in detection of Intrinsic Capacity and Geriatric Syndromes of older Indians, Geriatric Medicine
6. Assessing the role of yoga in ageing process using CBC parameters, Anatomy
7. Assessment of Adrenocortical function and its clinico metabolic implications in PLHIV population, Medicine
8. Assessment of eating behavior and nutritional chronotypology and its association with body composition and metabolic parameters in obese adults, Department of Medicine, AIIMS, New Delhi
9. Augmented renal clearance in an adult intensive care setting – prevalence, risk factors and impact on Clinical outcomes, Critical care Medicine
10. Biochemical and enzymatic analysis of bile in choledochal cyst and correlation with histopathological features and expression of immune modulators, Department of Pediatric surgery, AIIMS, New Delhi
11. Comparative evaluation of endocrine disrupter chemicals (organochlorine, organophosphate, Biphenyl A, Phthalate)in polycystic ovary syndrome, type-2 diabetes mellitus and healthy reproductive age Indian women, and their correlation with dietary habits (vegetarian Vs non-vegetarian) and genetic variability, Multi-centric project
12. Comparing effect of TEG guided transfusion in resuscitation of patients presenting with acute trauma to ED in terms of patient and process outcomes, Emergency medicine
13. Comparison of dried blood spots and plasma samples for the quantification of amino acid using HPLC method among inborn error of metabolism patients, Division of Genetics, Department of Pediatrics AIIMS, New Delhi
14. Correlation of serum inflammatory biomarkers with feto-maternal outcome in intrahepatic cholestasis of pregnancy: a pilot study, Gynaecology& Obstetrics
15. Effect of body composition on gait, balance and strength in obese individuals in comparison to non-obese individuals, Department of Medicine, AIIMS, New Delhi
16. Effect of parental presence on stress biomarkers, melatonin level and anxiety scores during induction of anesthesia in children undergoing ophthalmic procedures. A randomized controlled trial, Department of Anesthesia, RPC AIIMS, New Delhi
17. Estimation of innate and adaptive immunity in COVID-19 patients with and without mucormycosis, Neurology
18. Evaluation of Cathepsin B in peripheral blood of Isolated Traumatic Brain Injury patients and its correlation.”, Department of Laboratory Medicine, JPNTC, AIIMS New Delhi
19. Evaluation of HE4 level in epithelial ovarian cancer for diagnosis & and monitoring of therapy, Laboratory Oncology
20. Evaluation of prevalence, regional phenotypic variation, co-morbidities, risk factors and the variations in response to different therapeutic modalities among Indian women with polycystic ovary syndrome (PCOS): A Multicenter study across India, Multi-centric project
21. Expression of Immune checkpoints (CTLA-4, PD-1, PD-L1), cytokines and T-reg cells in Lupus Nephritis , Department of Nephrology, AIIMS, New Delhi
22. Fenofibrate as adjuvant therapy in persons with active epilepsy: a double-blind, randomized, placebo-controlled study”, Pharmacology

23. Incidence, outcome and risk factors of paradoxical reaction in HIV negative lymph node tuberculosis, MEDICINE
24. Prevalence of Augmented Renal Clearance in Pediatric Traumatic Brain Injury Patients, Neuroanaesthesiology
25. Prevalence of parasitic infections in patients with eosinophilia in a partially care hospitals in north India , Medicine & Microbiology DM (Infectious disease)
26. Prospective observational study to evaluate the trend of immature platelet fraction in surgical infants and its correlation with events during post-operative period
27. Psychological and occupational impact among health care professionals treating Ncovid-19 patients, Psychiatry and Emergency Medicine
28. Randomised controlled trial to compare the effect of dietary intervention and resistance exercises on changes in muscle strength, mass and function in Type-2 diabetes patients with Dynapenia and sarcopenia, Department of Medicine, AIIMS, New Delhi
29. Randomised controlled trial to compare the impact of costal expansion exercises and dietary intervention on lung function rate of perceived exertion and quality of life in obese individuals, Department of Medicine, AIIMS New Delhi
30. Randomised Controlled trial to compare the impact of exercise and nutritional interventions on changes in skeletal muscle mass and function in obese patients with sarcopenia, Department of Medicine, AIIMS, New Delhi
31. Red-cell distribution width as a prognostic marker in an acute traumatic brain injury, Neurology
32. Renal Resistive Index for the prediction of Augmented Renal Clearance: A Prospective Observational study, Anaesthesiology, Pain Medicine & Critical Care
33. Role of CSF Lactate and chloride in identifying the etiology of meningitis, Medicine
34. Role of T- Regulatory cells (T-regs) in obesity and their clinical correlation in obesity associated inflammation in type 2 diabetic and chronic kidney disease (CKD), Department of Nephrology, AIIMS, New Delhi
35. Short term efficiency and safety of sucroferric oxyhydroxide in non-dialysis dependent pediatric chronic kidney disease with hyperphosphatemia, Pediatrics
36. Study of evolution of cerebral edema, neuroinflammation and blood brain barrier disruption in pediatric traumatic brain injuries, Department of Neurosurgery JPN Trauma Center AIIMS New Delhi
37. Study of molecular and peripheral blood biomarkers and their utility to diagnose mild and moderate TBI induced cognitive impairment, Department of Laboratory Medicine, JPNTC, AIIMS New Delhi
38. The Prevalence and risk factors of cystic fibrosis related diabetes in children with Cystic Fibrosis: a cross sectional study, Pediatrics
39. To compare the effect of time restricted feeding (10:14), (12:12) and continuous energy restriction and metabolic parameters in obese adults, Department of Medicine, AIIMS, New Delhi
40. To evaluate the personality traits and assess the impact of humanistic psychotherapy for trait specific intervention on body composition and metabolic parameters in obese subjects, Department of Medicine, AIIMS, New Delhi
41. To evaluate the role of commercially available kit-based loop mediated isothermal amplification (TB LAMP Assay) in diagnosis of extra pulmonary TB, Medicine
42. To examine myelination and changes in oligodendrocytes in white matter pathology post severe traumatic brain injury (sTBI) among humans, Forensic Pathology and Molecular DNA, JPNATC AIIMS, New Delhi
43. Urinary biochemistry as a marker of renal microcirculatory stress in sepsis: Prospective observational study, Anaesthesiology, Pain Medicine & Critical Care
44. Usefulness of TEG in guiding therapy covid-19 Patients, Gastroenterology
45. Utility of serum ferritin in Dengue fever, Medicine & Microbiology DM (Infectious disease)

Completed

1. Assessment of risk factors for coronavirus disease 2019 (COVID-19) in health workers: a case-control study, CCM
2. Household transmission investigation for Corona Virus disease 2019 (COVID-19) in a rural and urban population of North India, CCM
3. Urine albumin creatinine ratio as a marker for predicting acute kidney injury and patient outcome in critically ill sepsis patients–A prospective observational study, Anesthesia and Critical Care
4. Validation of an empiric tool to predict neurological outcomes in critically ill children- A prospective observational study, Pediatrics

PUBLICATIONS

Journals: 28

Abstracts: 02

Chapters in Book: 01

PATIENT CARE**Central Collection Facility (Old RAK OPD and New RAK OPD)****LABORATORY SERVICES**

S No	Lab No 27 at New RAK OPD and Old RAK OPD (Samples drawn)	No of patients
1	Blood Culture(Microbiology RoomNo.2071)	541
2	BLUE CAPPED	7106
3	clinical immunology	9937
4	Clinical Microbiology (HIVANDVIRAL MARKER)	10830
5	Clinical Microbiology (PCR)	535
6	Clinical Microbiology (Torch Profile)	1078
7	ENDOCOLLECTION	29
8	Grey Capped lab	43546
9	HBA1C TUBE	9970
10	HEMATOLOGY (OPD)	2
11	Hematology Trauma	12
12	HEMOLYTIC ANEMIA	1
13	Lab Oncology(IRCH)	7
14	Mycology(Fungal) Lab BC	2
15	Mycology(Fungal) Lab BT	14
16	Parasitology lab subcenter	1014
17	Renal Lab (Clinical Chemistry)	5
18	Reproductive Biology (Main Building 2nd floor, RoomNo. 20)	34396
19	Serology Lab (Microbiology Room No. 24)	4130
20	Serology lab new (microbiology Room No. 24)	36
21	SPECIALPATHOAGENTESTSNONNABL (ANAEROBICLABMIC	2
22	Violet cap lab Hematology	68486
23	Virology Laboratory-Chikungunya	1
24	Virology Laboratory-Dengue	76
25	Blood Bank	3427
26	ESR	19555
27	YELLOW CAP (Chemistry)	99853
	TOTAL	314593

EMERGENCY LABORATORY SERVICES (Round the clock)**Hematology Services**

Name of Tests	No. of Tests
CBC	205623
RETIC COUNT	2302
PERIPHERAL SMEAR	47422
ESR	2280
PT/INR	113584
APTT	76247
D-DIMER	26074
FIBRINOGEN	20512
BODY FLUIDS	15839
Total	509883

Clinical Biochemistry (Emergency and Ward 24 x7 services)
Main Lab (2nd Floor)

Sl. No.	Test Name	
1	ALB	122428
2	ALKP	129554
3	ALTV	133624
4	AMYL	17879
5	AST	131417
6	BC	111294
7	BU	111726
8	CA	154211
9	CHOL	6209
10	CK	2037
11	CL-	159925
12	CREA	215063
13	GGT	318
14	dHDL	4354
15	dLDL	2419
16	FT3	1250
17	FT4	1194
18	GLU	27048
19	K+	183071
20	LDH	8549
21	LIPA	5149
22	NA+	181222
23	PHOS	116088
24	PROT-CSF	10118
25	TBIL	192109
26	TP	121822
27	TRIG	5335
28	TSH	4327
29	TT3	2445
30	TT4	2505
31	UREA	213491
32	URIC	117244
33	AFP	576
34.	Electrolytes	79634
34	bHCG	618
35	CA125	245
36	CA199	226
37	CEA	231
38	CKMB	2123
39	CORT	658
40	iPTH	1085
41	Vit D	2274
42	HbA1c	161
43	ESR	19555
	Ionic Calcium	79634
Total No of test of all parameters		25,23,177

ABG test (Emergency and Ward 24 × 7 services) Main Lab (2nd Floor) Total ABG Tests done 6767		
Fluid Chemistry (Emergency and Ward 24 × 7 services) Main Lab (2nd Floor)		
Sl. No.	Test Name	Total
1	U Sodium (Na)	60
2	U ACR	120
3	U Albumin	160
4	U Creatinine	160
5	U Proteins	0
6	U Urea	96
7	U Calcium	25
8	U Phosphate	25
9	U Uric Acid	25
10	U Potassium (K)	60
11	U Chloride (Cl)	60
12	U Lipase	0
13	U Amylase	0
14	U Glucose	160
15	U 24 Albumin	160
16	U 24 Proteins	0
17	U 24 Creatinine	160
18	U 24 Uric Acid	60
19	U 24 Calcium	60
20	U 24 Urea	60
21	U 24 Phosphate	60
22	U 24 Sodium	60
23	U 24 Chloride	60
24	U 24 Potassium	60
25	U24 Glucose	160
26	CSF Protein	7005
27	CSF Glucose	9611
28	CSF Albumin	100
29	CSF LDH	200
30	Pleural Fluid Glucose	1500
31	Pleural Fluid Protein	1500
32	Pleural Fluid Albumin	1500
33	Pleural Fluid Lipase	1000
34	Pleural Fluid LDH	1000
35	Ascitic Fluid Glucose	2160
36	Ascitic Fluid Protein	2160
37	Ascitic Fluid Albumin	2160
38	Ascitic Fluid Lipase	1728
39	Ascitic Fluid Amylase	1728
40	Ascitic Fluid LDH	1296
41	Pericardial Fluid Glucose	126
42	Pericardial Fluid Protein	126
43	Pericardial Fluid Albumin	126

44	Pericardial Fluid Amylase	20
45	Pericardial Fluid LDH	20
46	Synovial Fluid Glucose	24
47	Synovial Fluid Protein	24
TOTAL		36965
GRAND TOTAL		25,66,909

SMART Lab SERVICES

HEMATOLOGY	TOTAL	265754
CBC (21 parameters)	190044	
Lupus Anticoagulant Screen	328	
PS for (Others)	15275	
Reticulocyte count - Abs	3382	
Corrected Reticulocyte	3382	
PT-INR	24775	
APTT	24771	
TT	13	
D Dimer	2934	
Fibrinogen	601	
Protein C	155	
Antithrombin	94	
SEROLOGY		103624
Anti HCV Ab	29928	
HIV Combo (HIV 1, 2)	28742	
HBs Ag	29205	
Anti HBs	8217	
Anti HAV IgM	5678	
IgM Anti HBc	1854	
IMMUNOASSAY		191479
TSH (ultrasensitive)	54481	
T4	50880	
T3	50757	
Intact PTH	11180	
Cortisol	3828	
FT4	4018	
FT3	3760	
LH	2374	
Prolactin	2245	
FSH	2471	
Insulin	2451	
Testosterone	1837	
Estradiol	687	
Progesterone	510	
CHEMISTRY		6009335
Calcium	290111	
Phosphorus	289765	
Uric Acid	289660	
ALP	288204	

ALT	288087
AST	288027
Bilirubin (I)	287966
Bilirubin (T)	287918
Bilirubin (D)	287864
Creatinine	279612
Urea	279472
Chloride	279177
Potassium	279270
Sodium	279166
Albumin	261061
Total protein	260847
A/G ratio	260919
Globulin	260831
Total Cholesterol	79764
CRP	61354
Triglycerides	65691
LDL-C	65689
HDL-C	65688
LDL/HDL ratio	65682
CHOL/HDL ratio	65698
VLDL- C	63311
Ferritin	34416
Vitamin D3 Total	38050
Glucose F	47948
Vitamin B12	31046
LDH	17420
Iron	20171
Serum Folate	19684
TIBC	17906
Glucose R	11833
Glucose PP	21196
Transferrin	13753
Magnesium	9697
GGT	5633
HbA1c	39693
Total Amylase	6020
CK	5645
RA Factor	5229
Urine Creatinine	6626
Lipase	3819
hs CRP	2858
AFP	4874
CK-MB (Activity)	3094
Urine ACR	6088
IgG	4505
Urine Protein	3927
Homocysteine	3030

Urine Albumin	4250
Urine 24hr Creatinine	2987
Urine Sodium	2506
Complement C3	3310
Urine 24hr Albumin	2575
Urine 24hr Protein	2753
OGTT	2440
IgM	2568
IgA	2693
OGTT-1 Hr	2604
OGTT-2 Hr	2613
Troponin T - hs	1699
Urine Potassium	1945
Complement C4	2375
LDH	2618
Total PSA	1586
Urine 24hr Calcium	1588
U Chloride (Cl)	1019
Urine Calcium	1000
Urine 24hr Phosphate	1051
ASO	836
Beta HCG	792
Valproic acid	871
Urine Phosphate	577
Free PSA	704
Myoglobin	646
Urine 24hr Uric Acid	744
Urine 24hr Sodium	611
Urine 24hr Potassium	551
Urine Urea	379
Urine 24hr Urea	484
Urine 24hr Chloride	236
Urine Uric Acid	254
U 24 Sp request	164
Carbamazepine	203
U Sp request	103
Urine Protein	5
TOTAL	6570192

Clinical Microbiology Services

A. Routine Investigations

1. Urine

Name of the Tests	O.P.D	WARD	TOTAL
Medical board	0	0	0
Routine	59450	51940	111390
Microscopic	29725	25970	55695
pH	29725	25970	55695
Specific gravity	29725	25970	55695

Acetone	29725	25970	55695
Bile pigment/salt	29725	25970	55695
Urobilinogen	29725	25970	55695
Blood	16	12	28
Bence Jones Protein	65	60	125
Chyluria	59	56	115
Porphobilinogen	0	0	0
Myoglobinuria	0	0	0
Haemoglobin	0	0	0
Urine Cultures	15264	0	15264
Strain identifications tests	9006	0	9006
Antibiotic Sensitivity	2910	0	2910
Sub Total	265120	207888	473008
2. Stool Investigations	OPD	WARD	TOTAL
Wet mount saline	3192	2578	5770
Wet Iodine stain	3094	2473	5567
Occult blood in stool	1325	1210	2535
Fat globules	15	32	47
Special stains for stool Z-N stain, Modif	46	51	97
Sub Total	7672	6344	14016
3. Semen analysis	OPD	WARD	TOTAL
Routine	2908	0	2908
No. of Reactions	2908	0	2908
Motility	2908	0	2908
Count	1990	0	1990
Fructose	740	0	740
Subtotal	11454	0	11454
4. Sputum Analysis	OPD	WARD	TOTAL
Total Number of samples received	1211	0	1211
ZN staining (Microscopy)	2422	0	2422
MTB Culture	240	0	240
Subtotal	3873	0	3873
5. Urine AFB Analysis	OPD	WARD	TOTAL
Total Number of samples received	727	0	727
ZN staining (Microscopy)	1454	0	1454
MTB Culture	0	0	0
Subtotal	2181	0	2181

B. Specialised Investigations

Immuno-Serological & Molecular Diagnosis Tests

6. TORCH

NAME OF THE TEST* (these tests remained suspended for most of the year)

Toxoplasma gondii IgG	1257
Toxoplasma gondii IgM	1309
Rubella IgG	1180
Rubella IgM	1273

Cytomegalo virus IgG	1474
Cytomegalo virus IgM	1406
Herpes Simplex virus IgG	417
Herpes Simplex virus 2 IgG	481
Herpes Simplex virus (1+2) IgM	150
CMV IgG avidity	28
Sub Total	8975
Viral Marker & HIV	
HAV IgM	1149
HBsAg	19535
HBc IgM	128
HBeAg	1435
Anti HBe	200
Anti HBs	737
Anti HCV antibody	19097
HEV IgM	494
HIV	14087
HBV DNA	1833
HCV RNA	934
Subtotal	28304
7. Others	
Measles IgG	104
Mumps IgG	104
Varicella IgG	110
Subtotal	318
8. Molecular Tests	
CMV (RT PCR)	804
Subtotal	804
9. TB Laboratory	
Total Number of samples received	1343
ZN staining:	2686
BACTEC MGIT 960 inoculated	771
GeneXpert MTB/RIF	311
RK 39	20
Subtotal	5,131
Grand Total	5,48,064

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Dr Sudip Kumar Datta Member, International Federation of Clinical Chemistry (IFCC) Task Force on Ethics (2020-till date).

Last 3 years Data

Item	2019-20	2020-21	2021-22
Oral Presentations	22	11	16
Funded projects			
Ongoing	8 (Rs1,06,34,000)	4 (Rs 88,97,494)	14 (Rs 3,73,91,760)
Completed		2 (Rs 20,00,000)	5 (Rs 44,79,000)
Publications	Journal - 19	Journal - 20	Journal - 28
	Abstracts - 15	Abstracts - 03	Abstracts - 02
	Chapters - 0	Chapters - 01	Chapters - 01
	Total - 34	Total - 24	Total - 31
Patient care services (Total tests performed)	6,811,387	13,662,920	9,529,684* Numbers appear lower as some test parameters have been consolidated as profiles (eg CBC for of TLC, DLC etc.)

9.19. Medicine

Professor and Head

Naveet Wig

Professors

Ashutosh Biswas

Sanjeev Sinha

Naval K Vikram

Additional Professors

Manish Soneja

Piyush Ranjan

Neeraj Nischal

Pankaj Jorwal

Arvind Kumar

Associate Professors

Ranveer Singh Jadon

Animesh Ray

Upendra Baitha

Assistant Professors

Prayas Sethi

Ved Prakash Meena

Bindu Prakash (Contract)

Gaurav Gupta (Contract)

Amandeep Singh (Contract)

HIGHLIGHTS

The Department of Medicine provides holistic patient care services, strives for innovation in medical education, and remains at the forefront in conducting translational and clinical research. The department has a strong presence in the fields of infectious diseases, metabolic disorders, chest medicine and sleep disorders and many medical problems requiring multi-disciplinary care. The department took lead at the institute and national level to tackle the COVID-19 pandemic. The department was integrally involved in planning and implementing various measures to control the impact of pandemic and prepare the institute for management of COVID-19 patients. The faculty and residents of the department prepared management guidelines and algorithms which were subsequently adapted as National Guidelines for management of COVID-19. The faculty members of the department were actively involved in training of physicians across India in various aspects of COVID-19 management.

The department faculty and residents are at the forefront in contributing to various national level activities like guidelines formulation in various infectious diseases like tuberculosis, HIV, dengue, chikungunya, influenza, etc.

Activities/steps taken to improve patient care services, education and research:

Quality improvement projects have been initiated in the department to further improve upon various patient care services. Post-COVID care is provided to many patients coming with long COVID in the Infectious Diseases Clinic.

The department further improved on the digital platform created for teaching and training created last year. The website is constantly updated to reflect on the latest in the field. Online assessments have been started on a regular basis to further strengthen the process of assessment of students. The YouTube channel created to share videos on procedures and common topics of interest for trainee residents has been widely appreciated.

The department conducted number of research projects to address the most important questions pertaining to COVID, in addition to research projects carried out in a wide variety of fields including infectious diseases, metabolic disorders, pulmonology, sleep medicine and sepsis among others.

Action Plan:

Online training and assessment of residents are to be strengthened further to supplement the structured bedside teaching. Emphasis is to be laid on practical skill development of undergraduates and workplace-based assessment and feedback. Mentorship and wellness program for residents are required to be in focus.

Quality improvement projects are to be undertaken to further improve patient care. Strengthening of patient care by the introduction of more point-of-care tests which help in early diagnosis and treatment of sick patients.

Continue to encourage faculty and residents to take up translational and clinical research to address important questions related to our country specific health problems.

EDUCATION

The department runs comprehensive undergraduate and postgraduate teaching program, which includes integrated lectures, seminars, journal clubs and bedside clinical case discussions. Currently 72 MD students, 41 DM-Infectious Diseases and 26 Senior Residents are being trained in the department. The department continuously works to improve the clinical training of undergraduates and postgraduates with better alignment between the expected outcomes, learning opportunities and

assessments. Online mode of teaching was adopted last year in view of the COVID pandemic. This year we followed a blended learning and assessment methods using both online and offline modes. Orientation program for newly joined residents was further strengthened to include POC sonography in clinical medicine, quality improvement in patient care and workshop on Travel medicine. A national level quiz was organized for residents across India.

CMEs/Workshops/Symposia/National and International Conferences

- Virtual Symposium on “Respiratory Examination” held on 18 July 2021 at AIIMS, New Delhi
- Virtual Symposium on “Abdominal Examination” held on 1 August 2021 at AIIMS, New Delhi
- Virtual Symposium on “Dengue” held on 20 August 2021 at AIIMS, New Delhi
- Virtual Symposium on “NIPAH Virus Outbreak” held on 12 September 2021 at AIIMS, New Delhi
- Virtual Symposium on “Patient Safety” held on 17 September 2021 at AIIMS, New Delhi
- Symposium on “Travel Medicine” held on 28 November 2021 at AIIMS, New Delhi
- Virtual Symposium on “Cardiovascular Diseases Management Symposium Part-I” held on 4 December 2021 at AIIMS, New Delhi
- Virtual Symposium on “Quality Improvement” held on 22 December 2021 at AIIMS, New Delhi

Lectures delivered

Ashutosh Biswas: 1

Manish Soneja: 17

Ranveer Singh Jadon: 2

Gaurav Gupta: 2

Sanjeev Sinha: 11

Neeraj Nischal: 3

Animesh Ray: 7

Naval K Vikram: 1

Arvind Kumar: 8

Ved Prakash Meena: 1

Oral papers/posters presented: 4

Oral Presentations

Year	Number
2021-2022	4
2020-2021	4
2019-2020	3

RESEARCH

Funded projects

Ongoing

1. A Phase 2 randomized, multi-centric, Clinical Trial of Heterologus Prime-Boost Combination of SARSCoV-2 Vaccines to evaluate the immunogenicity and safety of BBV152 (COVAXIN®) with BBV154 (Adenoviral Intranasal COVID-19 vaccine) in Healthy Volunteers, Dr Sanjeev Sinha, AIIMS, 2 years, 2021-2023, Rs 16 lakhs
2. A pilot study on frequency, risk-factors and characteristics of upper respiratory tract microbiome in COVID-19 associated mucormycosis, Dr Animesh Ray, AIIMS, 1 year, 2021-2022, Rs 7,48,590
3. A randomised controlled trial of 6 months yogic exercise vs regular physical activity on body composition, multiple metabolic measures in North India individuals with non-alcoholic fatty liver disease and obesity, Dr NKVikram, DST, 3 years, 2019-2022, Rs 96,39,720
4. A study on pulmonary microbiome and metabolomics in patients with Chronic pulmonary aspergillosis, Dr Animesh Ray, AIIMS, 1 year, 2020-2022, Rs 9,98,168
5. AIIMS : New Delhi Initiating Antimicrobial stewardship activities in hospital in India Implementation of AMS program, Dr. Naveet Wig, ICMR, 2 years, 2019-2021, Rs 10 lakhs
6. Artificial Intelligence based Decision Support System for Diagnosing Ventilator Associated Pneumonia, Dr. Animesh Ray, DHR, 3 years, 2021-2024, Rs 26,86,419
7. Association between Immunological characteristics and Clinical Outcomes in COVID-19, Arvind Kumar, AIIMS, New Delhi, 2 years, 2021-2022, Rs 5 lakhs
8. Association of GRP78, Zinc, Iron and Vitamin C levels in patients with COVID-19 and the occurrence of Mucormycosis, Dr. Ranveer Singh Jadon, AIIMS Intramural Grant, 1 year, 2021-2022, Rs 9,79,600
9. Clinical and cytokine profile of acute febrile illness patients with multi-organ dysfunction presenting with and without shock: a prospective observational study, Dr. Ranveer Singh Jadon, AIIMS Intramural Grant, 1 year. Extension taken, 2019-2021, Rs 2 lakhs
10. Clinical and Socio-demographic Profile of COVID-19 Patients at AIIMS, New Delhi, Upendra Baitha, Intramural Project, 2 years, 2020-2022, Rs 5 lakhs
11. “COVID-19 Survivors: Short-Term and Long-Term Complications”, Professor Ashutosh Biswas, AIIMS, 2 years, 2020, 2022, Rs 8,31,513

12. Cytokine profile in patients with Acute Respiratory Distress Syndrome due to COVID-19: A proof of concept study, Neeraj Nischal, AIIMS Intramural, 1 year, 2020-2021, Rs 5 lakhs
13. Development and evaluation of a women centric comprehensive weight management module. Dr. Piyush Ranjan, DST, 2 years, 2022-2024, Rs 38,29,000
14. Development and Evaluation of a Yoga based intervention program to deal with the psychological distress among family members of the healthcare workers engaged in the management of COVID-19 patients. Dr Piyush Ranjan, DST SATYAM, 1 year, 2021-2022, Rs 9,28,000
15. Development of Multidimensional scale and study of psychosocial and behavioural impacts during COVID-19 pandemic among different population groups in India. Dr Piyush Ranjan, AIIMS Intramural Research, 1 year, 2020-2021, Rs 6,21,000
16. Effect of general anaesthesia with mechanical ventilation on biomarkers of lung inflammation/injury in COVID-19
17. Effect of probiotics on gut microbiome and clinical course in patients with critical care illnesses-a pilot study, Dr. Animesh Ray, ICMR, 2 years (One year extension granted), 2019-2022, Rs 35,33,234
18. Effect of weight loss on Hemoglobin and its association with immunometabolic parameters in obese patients, Prayas Sethi, AIIMS Intramural, 2 years, 2021-2023, Rs 5 lakhs
19. FTIR based ultrafast detection and assessment of COVID-19 viral load. Dr Piyush Ranjan, SERB, 3 years, 2020-2023, Rs 13,92,000
20. Function analysis of human CD8-T cell response induced during Dengue disease: A molecular approach, Dr. Naveet Wig, DBT, 3 years, 2019-2022, Rs 25,18,800
21. Mechanism of rapid propagation of dengue virus during infection”, Dr. N.K.Vikram, DBT, 3 years, 2018-2021, Rs 20 lakhs
22. National Guidelines for the management Opportunistic infections in HIV patients, Neeraj Nischal, NACO, 3 years, 2019-2022, Rs 54 lakhs
23. Need-based vs guidelines-based fluid administration in dengue patients with warning sign: Open-label randomized study., Dr Manish Soneja, ICMR, 3 years, 2019-2022, Rs 57 lakhs
24. New Bio therapeutic Approaches to the Treatment of Tuberculosis. , Dr Sanjeev Sinha, Department of Pharmaceuticals, Govt. of India, 5 years (Got 2 years extension), 2015-2022, Rs 1,17,00,000
25. Paradoxical reaction in lymph node tuberculosis among non HIV subjects–Clinical implications and Outcome., Pankaj Jorwal, RNTCP, 1 year, 2019-2021 (ongoing, extended due to covid-19), Rs 1,90,000
26. Prevention of Relapse in Category I Treated Pulmonary Tuberculosis Patients with & Without Vitamin D3 Supplementation: A Randomized Double Blind Control Clinical Trial, Dr Sanjeev Sinha, DHR, ICMR, 5 years (Got 2 years extension), 2016-2023, Rs 2 crores
27. Randomised controlled trial to compare the impact of exercise and nutritional interventions on muscle functional improvement and changes in skeletal mass in obese patients with sarcopenia, Dr NK Vikram, ICMR, 3 years, 2019-2022, Rs 83,01,698
28. Role of biomarkers and its utility in algorithm for early diagnosis of invasive fungal infections, Dr Manish Soneja, AIIMS, 3 years, Extension taken, 2018-2021, Rs 10 lakhs
29. Sarcopenia in people living with HIV/AIDS: Clinical and Laboratory correlates and effect of resistance training exercises, Prayas Sethi, ICMR, 3 years, 2021-2024, Rs 10 lakhs
30. SOLIDARITY Plus trial, Dr Manish Soneja, WHO-ICMR, 6 months, 2022-2022, Rs 4,59,061
31. Survival analysis of PLHA with Adult and Paediatric HIV Progression Model. (Multicentric project having 3 sites from all over country. AIIMS, New Delhi is LRI). Funded by NACO/CDC, Dr Sanjeev Sinha, NACO, 6 years, 2016-2022, Rs 1.5 crores
32. To compare the effect of Intermittent fasting and Continuous energy restriction on body composition, multiple metabolic and physiological parameters in obese adults, Dr NK Vikram, ICMR, 2 years, 2021-2023, Rs 53,16,985
33. To evaluate efficacy of Bacillus Calmette-Guerin (BCG) in Reducing the Incidence and severity of COVID-19 in the high-risk population (BRIC): A phase III, Multicentric, Quadruple blind Randomised controlled trial, Dr Sanjeev Sinha, ICMR, 2 years, 2020-2022, Rs 2 crores
34. To study the effect of Vitamin C and Thiamine in patients with sepsis in Indian Population: Single blind, Parallel Group, Randomized controlled trial, Arvind Kumar, ICMR New Delhi, 3 years, 2019, 2022, 50,00,000
35. Translational Research Consortium for Establishing Platform Technologies to Support Prophylactic and Therapeutic Strategies for Dengue – Discovery to Proof-of-Concept, Professor Naveet Wig, BIRAC, 4 years, 2019-2023, Rs 33,56,908
36. Yoga Based Rehabilitation Program for patient with successfully treated COVID-19 A Randomised Controlled Trial”, Upendra Baitha, DST, 1 year, 2021-2022, Rs 8,54,635

Research Projects

Year	Number	Amount
2021-22	36	139,785,331
2020-21	32	106,544,773
2019-20	18	101,943,452

Completed

1. A Study comparing nebulised amphotericin b with oral itraconazole for treatment of chronic cavitary pulmonary aspergillosis patients”.(Funded by AIIMS), Dr. Animesh Ray, AIIMS Intramural Grant, 2 years, 2018-2020, Rs 4.6 lakhs
2. “A study on the effects of simulation on resident doctors and nurse’s knowledge and skills about basic & advanced life support, **Upendra Baitha**, Intramural project sanctioned by AIIMS, New Delhi, 2 years, 2019-2021, Rs 5 lakhs
3. Clinical Predictor of Severity among COVID-19 Cases”, Pankaj Jorwal, Intramural, 2 years, 2020-2022, Rs 10,00,000
4. Consumption pattern of food and food products/items high in fat, salt and sugar among selected cities/towns and rural population of India, Dr NK Vikram, ICMR, 15 months, 2018-2020, Rs 62,59,700
5. Efficacy of LD Bio Aspergillus ICT Lateral flow assay for serodiagnosis of Chronic pulmonary aspergillosis, Dr Animesh Ray, Pvt. Company (Jolly Healthcare), 6 months, 2021-2021, Rs 2,49,700
6. Post-mortem minimally invasive tissue sampling in patients of COVID-19 with histopathologic examination, Dr Animesh Ray, AIIMS, 1 year, 2020-2021, Rs 8,53,600
7. Safety and efficacy of Hydroxychloroquine chemoprophylaxis for COVID-19 among healthcare workers, Dr Manish Soneja, AIIMS, 1 year, 2020-2021, Rs 2,60,000
8. Sero-prevalence of COVID-19 in hospitalised patients, Dr Animesh Ray, AIIMS, 1 year, 2020-2021, Rs 75,000
9. SOLIDARITY trial, Dr Manish Soneja, WHO-ICMR, 6 months, 2020-2021, Rs 4,11,862

Departmental projects

Ongoing

1. A comparative study on lung ultrasound based PEEP titration Vs FiO2 based PEEP titration in patients with acute respiratory distress syndrome: A two year prospective randomised study at a tertiary hospital in New Delhi
2. A cross-sectional study of develop reference equations for prediction and validating respiratory impedance parameters of healthy Indian Adults in North India
3. A Prospective Observational Study to determine the utility of Modified Shock Index for the diagnosis of septic shock.
4. A study to determine the effectiveness of outpatient pulmonary rehabilitation on functional exercise capacity and health-related quality of life (HRQOL) in patients with post tubercular lung disorder: pre- and post interventional study
5. A study to evaluate the efficacy of pirfenidone and Nintedanib in patients with moderate to severe COVID 19 infection.
6. Active Surveillance and Targeted intervention on Hospital infection Control Practices and its impact on Ventilator Associated Pneumonia rates in medical ICU
7. Adherence need assessment tool development and validation among PLHIV to improve adherence to anti-retroviral therapy.
8. Anti-tubercular therapy induced liver injury in patients with type 2 diabetes mellitus: prospective cohort study
9. Assessment of adreno-cortical function and its clinical implications in PLHIV population
10. Assessment of body composition and metabolic profile of young health care providers
11. Assessment of Cardio-Respiratory Fitness In Obese Adults Through Spiroergometry And Effect Of Structured Exercise In Improvement Of Cardiorespiratory Response
12. Assessment of doubling dose of dexamethasone in progressively worsening severe COVID-19 pneumonia not responding to standard dose – an open label pragmatic randomized controlled trial.
13. Assessment of sarco-metabolic and hemostatic profile of people living with HIV/AIDS (PLHIV) population on highly active antiretroviral therapy (HAART)
14. Assessment of sarco-metabolic profile of HIV patients stable on Antiretroviral therapy.
15. Assessment of sarcopenia in HIV population
16. Association of Pneumocystis jirovecii infection in bronchiectasis and its effect on clinical characteristics and disease progression
17. Candida auris: Infection, Colonization and Risk of Transmission in Healthcare Setting.
18. Clinical characteristics and outcomes of COVID 19 and TB co-infection – retrospective, observational study from tertiary care center in India.
19. Correlation of impulse oscillometry with clinico radiological profile of patients with post pulmonary tubercular sequelae
20. Diagnostic accuracy of procalcitonin for detecting bacterial infection / sepsis in chronic kidney disease patients.
21. Diagnostic accuracy of the Gene Xpert MTB/Rif Ultra in tubercular lymphadenitis.
22. Dynamic measurement of hemodynamic parameters in Dengue fever: A prospective observational study.
23. Dyslipidemia -A cardiovascular risk factor in HIV-AIDS patients
24. Effect of probiotics on whole gut microbiome in patients with critical care illnesses
25. Effects of obstruction sleep apnea on diameter of great vessels 7 upper parameters in CT scan.
26. Frequency and Risk Factors for LTBI among Medical Students and Residents”
27. Impact of upper body exercise on body composition and weight in obese patients with knee osteoarthritis
28. Incidence and outcome of ventilator associated pneumonia among adults: A Prospective observational study
29. Observing the changes in upper airway anatomy using magnetic resonance imaging and correlating with changes in apnea-hypopnea index in patients undergoing weight loss with bariatric surgery
30. Post covid-19 pulmonary changes: a prospective observational study
31. Prediction of VAP using AI based decision support system

32. Predictor of Hiv sero- discordance among couple. A Retrospective Study.
33. Prevalence of Aspergillus Co-infection in Newly Diagnosed Pulmonary Tuberculosis patients and on Treatment completion by serological and microbiological methods.
34. Prevalence of obstructive sleep apnea/hypopnea syndrome in patients with interstitial lung disease.
35. Procalcitonin as a biomarker of bacterial sepsis in patients with or without acute kidney injury.
36. Role of GeneXpert ULTRA in Diagnosis of Tubercular Meningitis
37. Spectrum of opportunistic infections in patients living with HIV aids at a tertiary care centre
38. Study of brain volume and cognitive assessment in patients with NAFLD
39. Study of osteosarcopenia in obese adults
40. Study of prevalence & clinic metabolic profile of osteosarcopenic obese adults.
41. Study to assess the prevalence of metabolically healthy obesity (MHO) and metabolically unhealthy obesity (MUO) among obese patients.
42. Study to assess the prevalence of metabolically healthy obesity (MHO) and metabolically unhealthy obesity (MUO) among obese patients
43. To study the effect of different vitamin D supplementation practices on hemoglobin levels in vitamin D deficient mechanically ventilated patients with sepsis in a medical ICU at day 0 and day 14

Completed

1. A prospective observational study on clinical profile and outcome of patients with chronic pulmonary aspergillosis attending a Tertiary care hospital
2. Anti-tubercular therapy induced liver injury in patients with type 2 diabetes mellitus: prospective cohort study
3. Assessment of body composition and metabolic profile of young health care providers
4. Association of Pneumocystis Jirovecii infection in bronchiectasis and its effect on clinical characteristics and disease progression
5. Catheter-associated urinary tract infection (cauti)– a prospective observational study
6. Clinical and aetiological profile of patients with eosinophilia
7. Clinico-etiological profile and outcome of patient of fever of unknown origin at a tertiary care center
8. Comparison of histology, microbiology and molecular methods in diagnosis of LNTB and effect of past ATT intake.
9. Effect of implementation of protocol based nutrition therapy on outcomes in medical ICU
10. Effects of implementation of evidence-based practices in the care of patients on mechanical ventilation: a quasi-experimental study
11. Evaluation of commonly used bedside early warning scores in patients with suspected infection for Prediction of outcome
12. Evaluation of loop mediated isothermal amplification (tb-lamp) assay in the diagnosis of tuberculous meningitis
13. Expression of immune exhaustion markers in pulmonary tuberculosis”
14. Incidence, outcome and predictors of paradoxical reaction in HIV negative lymph node tuberculosis
15. Lung function impairment and radiological sequelae post pulmonary tuberculosis: A systematic review
16. M. Ultrasonography of neck in patients with obstructive sleep apnea
17. Predictors of severe dengue and development of a scoring system for severity
18. Prevalence and risk factors of anal HPV infection and cytological abnormalities in HIV positive males in a tertiary care center in North India
19. Role of Human cytomegalovirus (HCMV) reactivation in causing pneumonia in immunocompetent mechanically ventilated patients
20. Role of impulse Oscillometry (IOS) in the evaluation of newly diagnosed cases of interstitial lung disease
21. Role of serum ca-125 level in diagnosis and monitoring of treatment response in pulmonary and extra-pulmonary tuberculosis
22. Spectrum of bacterial infections and their antibiotic sensitivity pattern in patients admitted to the medicine wards: an Ambispective study
23. Utility of gene-xpert in diagnosis, clinico-radiological profile and outcomes of urinary tract tb

PUBLICATIONS

Journals: 92 Abstracts: 02

Last 3 years Publications Details

Year	2021-22	2020-2021	2019-2020
Number of publications	94	121	92
Number of Journal articles	92	118	89
Number of Abstracts	0	0	2
Number of chapters in book	2	1	1
Number of books/monographs	0	2	0

PATIENT CARE
Medical OPD

Year	Number of cases
2021-22	70397 (including tele OPD)
2020-21	22974 (including tele OPD)
2019-20	157590

Infectious Diseases, Travel Health & Adult Immunization Clinic

Year	Number of cases
2021-22	1823 (including tele OPD)
2020-21	300 (including tele OPD)
2019-20	3809

Sleep Clinic

Year	Number of cases
2021-22	330
2020-21	51
2019-20	767

Chest Clinic

Year	Number of cases
2021-22	1191 (including tele OPD)
2020-21	260
2019-20	5151

Obesity and Metabolic Disorders Clinic

Year	Number of cases
2021-22	711 (including tele OPD)
2020-21	87
2019-20	1405

Antiretroviral (ART) Centre

Year	Number of cases
2021-22	Pre-ART 485 ART 60717
2020-21	Pre-ART 433 ART 59078
2019-20	Pre-ART 870 ART 61360

Laboratories:

POCT Lab:	2021 - 22	2020-21	2019-20
Procalcitonin (PCT)	3284	3504	5115
NT - Pro BNP	1411	1868	2600
Troponin (Trop I)	1429	1907	2654
ABG	29108	25641	
Blood Culture	4375	3025	1350
ROTEM		131	
INTEM	150		
EXTEM	119		

FIBTEM	99		
APTEM	97		
Dengue NS1 IgG/ IgM	283		
SCRUB TYPHUS IgG/ IgM	195		
Malaria Antigen	122		
Arterial blood gas analysis			26672
Sleep lab:	2021 - 22	2020-21	2019-20
Sleep studies	217	52	330
Ambulatory monitoring of blood pressure	6	8	12
Actigraphy	2		
Endothelial dysfunction studies		-	10
PFT Lab:	2021 - 22	2020-21	2019-20
Pulmonary Function Test	2992	428	6688
6 Minute walk test	409	90	398
FOT	376	48	446
SVC	436		
DLCO	434		
TLC	76		
MIP/ MEP	9		
CPET	1		
Number of Bronchoscopy done:	2021 - 22	2020-21	2019-20
Fibre-optic bronchoscopy			424
Bronchoalveolar (BAL)	173	78	
Biopsy	31	17	
Transbronchial needle Aspiration (TBNA)	15	27	
EBUS	43	6	62
Tracheostomy	4	1	9
BPF Closure	3		
Thoracoscopy	1		
Ampho B	14		
Pictail Insertion	2		
Radial Probe Biopsy	1		
ADA/ACE Lab:	2021 - 22	2020-21	2019-20
ACE tests	790	340	508
Intermediate Reference Laboratory (IRL) services:	2021 - 22	2020-21	2019-20
No. of samples for sputum smear-		13299	12000
No. of samples for liquid culture-	8969	9972	18739
No. of samples for liquid DST (1 st line)	73	113	205
No. of samples for liquid DST (2 nd line)	135	201	559
No. of samples for Line Probe Assay (1 st line LPA)	3940	5683	5448
No. of samples for Line Probe Assay (2 nd LPA)	417	718	848

No. of samples for Gene/Xpert	1880	4835	12407
No. of samples for TB Ag MPT64			
No. of samples for Solid culture-			600
No. of samples for solid Drug Susceptibility test			92

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Naveet Wig was Chairperson of COVID-19 Task Force and Chairman Medical Board at AIIMS, New Delhi; member of National Task Force on COVID-19, Clinical Research Group (ICMR) on COVID-19; Nodal Officer, WHO Collaborating Centre for Training and Research in Tuberculosis; Chairman, National Technical Working Group on TB – comorbidities; Chairman Expert Committee, DHR – ICMR for funded workshop on clinical training and translational research; Co-chair, Standing Treatment Guidelines (Medicine), ICMR; Member, Governing Body of All India Institute of Ayurveda; Member of Scientific Body of Indian Pharmacopoeia Commission; Member of ICMR Technical Resource Group on HIV/AIDS and member of HIV/AIDS Project Review Committee (PRC) of ICMR.

Professor Ashutosh Biswas was nominated the Reviewer of WHO Bulletin manuscripts, nominated one of the expert member of National Vector Borne Disease Control Programme, Ministry of Health & Family Welfare, Govt. of India to making National Guidelines on Dengue Case Management During Covid-19 Pandemic, Awarded Council member of International Society of Infectious Diseases (ISID) - 2020-22, Expert member to visit Timor, Leste as WHO Expert Support for Dengue Clinical Management Training from 28th February to 16 March 2022, External Expert in the Meeting of Personal Promotion Assessment Board for Promotion of Faculty member in the Department of General Medicine Patna on 17 September 2021, Expert Member nominated by M/o Health and Family welfare (Disaster management Cell), Govt. of India for Deployment of Central Multi – Disciplinary teams and Central Nodal Officer to investigate and control outbreak of Corona Virus Disease in the Kapurthala, Punjab on 9 April 2021 to 13 April 2021, Meeting of the High-Powered Expert Committee on Aircraft Disinsection, Delhi International Airport on 12 and 13 August 2021, Meeting of the High-Powered Expert Committee on Aircraft Disinsection, Delhi International Airport on 28 and 29 July 2021, Expert member of UPSC, New Delhi to assist the commission in Personality Test Board for the Combined Medical Services Examination, 2021 at UPSC, Dholpur House, Shahjahan Road, New Delhi-8 February 2021.

Professor Sanjeev Sinha is Member of Association of Physician of India, Member of Indiaclen, Member of National Academy of Medical Sciences (MNAMS), Member of Indian Chest Society, Member of Indian Thyroid Society, Member of American Thoracic Society, Member of International AIDS Society, Fellowship of National Academy of Sciences India (NASI). He is also Member of Medical Board Antarctica Expedition, Govt. of India, Goa, Member of Scientific Committee, NACO, Ministry of Health & FW, Govt. of India, Member of Health wellness programme, Ministry of Tourism, Govt. of India, Member of FDC, DCGI, India. He is Member Secretary of AIIMS Ethics Committee of PGR. He is Member of Editorial board of “Cases Journal”, Member of Review Committee of Journal of Physical Education and Sport Management. Published from South Africa, Member of Review Committee of Journal IJMR, Member of Review Committee of Journal of Current HIV Research, Member of Review Committee of projects funded by DHR, ICMR, Government of India, Fellowship of National Academy of Sciences India (NASI) and Member of Council of National Academy of Sciences India (NASI).

Dr Manish Soneja delivered lectures and participated in discussions for physicians and public on various platforms including CoE, MoHFW, AIIMS CGR, national media including various news channels and newspapers on issues related to COVID pandemic. Integrally involved in planning and executing various strategies for response to COVID-19 situation at the institute level as well as contributed to drafting of various preparedness documents at National level, preparing AIIMS COVID-19 Management Guidelines and algorithm. I have been awarded the prestigious Smt Pawan Kumari Jain Oration award by the Association of Physicians of India, Delhi State Chapter.

Dr Upendra Baitha was awarded as CORONA Warrior by Salute Tiranga, national organisation, NCR on 2 October 2021.

Dr Animesh Ray was awarded Fellowship in Indian College of Physicians, APICON 2021 and Two-year part-time fellowship in “Clinical Research Methodology and Evidence Based Medicine” in 2021.

9.20 Microbiology

Professor and Head

Rama Chaudhry

Professors

Arti Kapil	Lalit Dar	Bimal K Das
Bijay Ranjan Mirdha	Benu Dhawan	Immaculata Xess
Seema Sood	Urvashi B Singh	

Additional Professor

Sarita Mohapatra	Aashish Choudhary	Gagandeep Singh
Hitender Gautam	Nishant Verma	

Associate Professor

Kiran Bala	Megha Brijwal
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Assistant Professor (Contract)

Rojaleen Das	Priyam Batra
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HIGHLIGHTS

The Department of Microbiology has been NABL Accredited w.e.f. November 2019 (As per ISO 15189:2012). While a total of 48 routine tests were accredited in 2019, the SCOPE was enhanced to 64 tests during renewal of accreditation in 2021-2022 (All routine microbiological tests have been covered under accreditation and newer tests to be added). Further, all the sections in the department participate in EQAS/PT program. The National HIV Reference Laboratory (NRL) has been NABL accredited since 2012 (more than 10 years) and the NACO Regional Reference Laboratory for HIV Viral Load and Early infant diagnosis is accredited since 2017. Our lab is amongst the few Parasitology labs across the country which is NABL accredited.

Activities/steps taken to improve patient care services, education and research

In our continuous endeavour to provide timely reports to our patients, rapid reporting from all sections is being done using automated techniques. Also, residents are being posted on weekends and holidays to avoid any delays in reporting. The Department of Microbiology has been at the forefront in fighting the COVID-19 pandemic during the past one year, be it the diagnostic support including RT-PCR and CBNAAT as well as infection control activities. In view of the COVID-19 pandemic, Microbiology Department initiated a new laboratory to offer rapid diagnosis for COVID-19, using CBNAAT/TRUENAT systems. These systems provide diagnosis in 1-1.5 hrs. These services were offered to patients reporting to Emergency Department and those requiring Emergency Interventions. The CBNAAT-COVID laboratory started functioning from 29 May 2020 and started 24 hours services since July 2020 and is functional till date. This service not only helped in early triage and isolation of infected patients but also contributed immensely to protection of health care workers. The facility continues to give 24 hours services for the ongoing epidemic.

The Mycology Section has been designated as 'Advanced Mycology Diagnostic and Research Centre in Northern Region of India' (AMDRC) under ICMR in March 2021. The laboratory worked tirelessly to provide timely diagnosis to patients during the Mucormycosis outbreak that happened during the second wave of pandemic, thus facilitating early initiation of treatment.

The Department of Microbiology, which is an essential component of health care services, contributed significantly towards patient care. During this year it carried out a total of 2,96,909 diagnostic tests.

The Department of Microbiology was the first in India to start a clinically relevant organ-system and syndrome based curriculum in this subject. It also started the first truly collaborative DM programme in Infectious Diseases with the Department of Medicine. The virology laboratory helped MCI in designing the first curriculum for starting a DM programme in Virology.

A number of faculty members are members of the Hospital Infection Control Committee and have been involved in training the entire staff of the institute for prevention and control of COVID-19. They have also prepared a number of documents related to infection prevention and control guidelines which serve as ready reckoners to all our healthcare workers.

The past year has been unique in terms of innovations in teaching for all of us. The academic curriculum of the undergraduate and postgraduate students enrolled in MBBS, MD, DM, PhD and BSc (Nursing) courses was managed in hybrid mode (online + offline) to facilitate dissemination of knowledge while maintaining adequate social distancing.

The department successfully organised a workshop under the headship of Dr Rama Chaudhry, HOD in collaboration with entitled ICMR-AIIMS Workshop on "Laboratory Diagnosis of Lyme Disease" in October.

The department released its first Newsletter in November 2021 to acquaint the medical fraternity about the services being provided by the department.

Action Plan

For the diagnostic services, provision of 24*7 reporting facility, provision of complete automation and provision of molecular genotyping of resistance markers for the appropriate patient management is being planned. Further, with reference to teaching, simulation models for various microbiological teachings, diagnostic procedures, and resistance mechanisms are being proposed. Additionally, for the research activities, provision of biorepository facility to facilitate diagnostics, research and patient management is being considered.

Summary of the last three years (Details Enclosed along with the report below)

	2019-2020	2020-2021	2021-2022
Tests done in the department	2,51,925	2,89,009	2,96,909
Books and Monographs	2	1	0
Chapters in the book	5	2	5
Abstract Published	7	0	9
Publications	57	90	69
Oral Papers and Posters	27	24	25
Ongoing Funded Projects	48	50	64

Photographs





Newsletter Release





ICMR-AIIMS Workshop on “Laboratory Diagnosis of Lyme Disease”



EDUCATION

Undergraduate Teaching

MBBS for Medical Microbiology
BSc (Nursing)–Medical Microbiology
BSc OT Technology - Medical Microbiology

Postgraduate Teaching

PhD (Microbiology)

Lecture - Once/week

Journal Club - Once/week

MD (Microbiology)

Lecture/Seminar - Once/week

Journal Club - once/week

Tutorial - Twice/month

Practical Exercise presentation - Twice/month

Laboratory postings in different sections of the department

DM (Infectious Diseases)

Seminar - Once/week

Laboratory postings in different sections of the department

Besides undergraduate, postgraduate and paramedical teaching on virtual mode, there were two MSc short-term trainees who joined the parasitology section.

CME/Workshops/Symposia/National & International Conferences:

1. ICMR-AIIMS Workshop on “Laboratory Diagnosis of Lyme Disease” 25 and 26 October 2021 at AIIMS, New Delhi
2. **Workshop/Training Organized for HIV State Reference Laboratory**

Workshop:

- EQAS panel distribution Workshop- March- 2022 (virtual)
- Participants: **Four State Reference Laboratories participated** i.e., PGIMER, Chandigarh; Govt. Medical College, Patiala; Govt. Medical College, Amritsar and Indira Gandhi Medical College, Shimla and staff of HIV Laboratory, AIIMS

Trainings:

- Successful participation in online HIV sentinel surveillance program (HSS-DBS) training conducted by ICMR- NARI.
- Online one day workshop/training for HIV EQAS- participant ICTC laboratory technician: 14 March 2022
- Training CD4 labs on NACO Prayogshala, 4 February 2022- Participant: Mr Ashutosh Sharma Technical Officer, HIV NRL AIIMS.
- Attended: Refresher training programme for laboratory technicians of Sysmex Cyflow CD4 labs conducted by NACO, 8 and 9 December 2021.

Lectures delivered

Rama Chaudhry: 5

Bijay Ranjan Mirdha: 2

Urvashi B. Singh: 7

Gagandeep Singh: 4

Megha Brijwal: 1

Arti Kapil: 7

Immaculata Xess: 1

Sarita Mohapatra: 5

Hitender Gautam: 3

Bimal K Das: 1

Seema Sood: 2

Aashish Choudhary: 1

Kiran Bala: 1

Oral Papers/Posters Presented: 25

RESEARCH

Funded Projects

Ongoing

1. A multi-centric observational study to examine replicative fitness and pathogenic properties of the emerging new viral strains of HIV-1 in India, Dr Bimal Kr Das, DBT, 6 years 6 months, 2014-2021, Rs 78.87 lakhs
2. A prospective study of viral infections in hematopoietic stem cell transplant recipients at a tertiary care hospital in India, Dr Megha Brijwal, ICMR Delhi, 3 years, 2019-2022, ~ 45 lakhs
3. Active surface modification strategies to inhibit biofilm formation and bacterial infections, Dr Sarita Mohapatra, Funded, (AIIMS-IIT), 2 years, 2019-2022, Rs 20 lakhs
4. Bacteriophage endolysins: An alternative strategy for MDR Acinetobacter spp, Dr Rama Chaudhry, ICMR, 3 years, 2020-2023, Rs 48.62 lakhs

5. Biomarkers for bacteremia, antimicrobial resistance and hospital acquired infections by NMR and Mass Spectrometry among febrile neutropenic patients”, Dr Hitender Gautam, Biotechnology Industry Research Assistance Council (BIRAC), DBT, 3 years, 2019-2022, Rs 36.46 lakhs
6. Changing epidemiology of tuberculosis among SARS CoV-2 pandemics, Dr Kiran Bala, AIIMS, Intramural, 1 year, 2021-2022, Rs 7.14 lakhs
7. Clinical and Epidemiological study of Lyme disease: A multi-centric task force study in India (Indian Council of Medical Research (ICMR) a multi-centric task force study), Dr. Rama Chaudhry, ICMR, 3 years, 2020-2022, Rs 90 lakhs
8. Comparison of diagnostic accuracy of Real time PCR versus Nugent’s scoring in Indian women with and without Bacterial Vaginosis (BV), Dr Seema Sood, Award of SRFship by ICMR, 3 years, 2019-2022, Rs 16.6 lakhs
9. Crohn’s Disease in India: A multicentre study from country where intestinal tuberculosis as well as Johne’s disease in endemic, Dr Urvashi B Singh, DHR, 3 years, 2016-2021, Rs 19,83,780
10. Detection and genotyping of BK polyomavirus in renal transplant recipients, Dr. Megha Brijwal, AIIMS Delhi(Intramural grant), 2 years, 2018-2020, ~ Rs 9 lakhs
11. Development of Novel Method for Rapid Pathogen Culture to Facilitate their Identification and Antimicrobial Susceptibility Testing. Dr Arti Kapil, TSHTI, DBT and AIIMS, New Delhi, 2 years, 2019-2021, Rs 10 lakhs
12. Development of super hydrophobic catheters to inhibit bacterial and yeast growth, Dr Sarita Mohapatra, Funded, (AIIMS-IIT), 2 years, 2019-2022, Rs 20 lakhs
13. Development of superhydrophobic catheter to inhibit bacterial and yeast growth, Dr Immaculata Xess, AIIMS-IIT, 2 years, 2020-2022, Rs 10 lakhs
14. Development of Surface Plasmon Resonance Array Biosensor for Rapid Molecular Drug Resistance Detection for MDR and XDR TB, Dr Urvashi B Singh, ICMR, 2 years, Sanctioned in March 2022, Rs 40 lakhs
15. Diagnosis of Invasive mucormycosis in COVID patients using conventional and molecular methods, Dr Immaculata Xess, AIIMS Intramural, 1 year, 2021-2022, Rs 5 lakhs
16. Diagnosis Of Pulmonary and Extra Pulmonary Tuberculosis Patients Using Differently Expressed Proteins as Potential Biomarkers. Approach towards Development of Point of Care Test, Dr Urvashi B Singh, ICMR, 3 years, 2018-2021, Rs 64,77,460
17. Early Bactericidal Activity (EBA) and Pk/Pd Study of Rifampicin Feropenem Cefdinir with Clavulanate vs Standard of Care in Newly Diagnosed Smear Positive Rifampicin Susceptible TB, Dr Urvashi B. Singh, ICMR, 2 years, 2019-2023, Rs 73,94,419
18. Early Bactericidal Activity (EBA) of Rifampicin and Feropenem in Tuberculosis (Rifampicin Susceptible)-, Dr Urvashi B Singh, ICMR, 2 years, 2019-2022, Rs 68,79,584/-
19. Effectiveness of bundled intervention in surgical site infections among patients undergoing clean orthopedic surgeries with hardware implants: A randomized controlled trial”, Dr Benu Dhawan, ICMR, 3 years, 2019-2022, Rs 43,01,220 lakhs
20. Efficacy of cold atmospheric plasma jet for its antimicrobial activity against drug resistant bacterial and fungal pathogen: An in-vitro and in-vivo study, Dr Sarita Mohapatra, Funded, (AIIMS-IIT), 2 years, 2019-2022, Rs 20 lakhs
21. Efficacy of cold atmospheric plasma jet for its antimicrobial activity against drug resistant bacterial and fungal pathogen: An in-vitro and in-vivo study, Dr Gagandeep Singh, AIIMS-IIT, 2 years, 2020-2022, Rs 5 lakhs
22. Emerging drug resistance in community acquired urinary tract infection and molecular insights into dynamics of resistant traits in Indian isolates- A pan-India multi-centric cross-sectional study, Dr Sarita Mohapatra, Funded, (ICMR), 3 years, 2019-2022, Rs 65 lakhs
23. Epidemiological impact and intersection of the COVID-19 and Tuberculosis Pandemics in Brazil, Russia, India and South Africa, Dr Urvashi B Singh, DST, 2 years, 2021-2023, Rs 1,71,49,452/-
24. Evaluating immune mechanism leading to carrier stage in typhoid infection among Indian Population; prospective cohort study, Dr Bimal Kr Das, ICMR, 3 years, 2022-2023, Rs 1,01,52,555
25. Evaluating immune mechanisms in individual with Mycormycosis in COVID-19 infected patients, Dr Bimal Kr Das, AIIMS, 1 year 6 months, 2021-2022, Rs 4.95 lakhs
26. Evaluation of NF- κ B based reactivation of latency in HIV infected individuals who are on antiretroviral therapy for more than 15 years: A Quest for Cure, Dr Bimal Kr Das, DHR, MoHFW, GOI, 3 years, Technically Approved (yet to start), Rs 50,92,497
27. Evaluation of role of B-1 cells in modulating the response of T cells in HIV infected patients pre and post antiretroviral therapy: cohort study, Dr Bimal Kr Das, ICMR, 3 years, Technically Approved (yet to start), Rs 50,40,572
28. Expanded viral etiological investigation of genital ulcer disease with phenotyping and genotyping for antiviral drug resistance in herpes simplex viruses, Dr. Megha Brijwal, Indian Council of Medical Research (ICMR), 2 years, 2022-2024, ~ 20 lakhs
29. Exploration into the potential sources of Mucorales in a dedicated COVID-19 treatment centre (NCI), Dr. Rama Chaudhry, AIIMS Intramural Research Grant, 1 year, 2021-2022, Rs 5 lakhs
30. External Quality Assurance Scheme (EQAS) of National HIV/AIDS Reference Laboratory, AIIMS, Delhi, Dr Bimal Kr Das, NACO, Continuous, 2005, Rs 13,93,800
31. Genomic profiling of invasive and hospital acquired Escherichia coli pathotypes from different clinical samples to identify the virulence and antimicrobial resistance markers, Dr Hitender Gautam, Science and Engineering Research Board SERB (Under DST), 2 years, 2022-2024, Rs 45,45,816

32. HIV integrated counselling and testing and CD4 testing programme, Dr Bimal Kr Das, NACO, Continuous, 2005, Consumables and kits provided by NACO, rest will be taken care under EQAS budget (duration, sanctioned project fund)
33. Human cytomegalovirus disease in pediatric hematological malignancies, Dr Aashish Choudhary, AIIMS Delhi (Intramural grant), 2 years, 2019-2023, ~ Rs 10 lakhs
34. ICMRs: Advanced Mycology Diagnostic and Research Centre (AMDRC), Dr Immaculata Xess, ICMR, 5 years, 2022-2027, Rs 500 lakhs
35. Identification of possible co-infections in COVID-19, and its impact on patient outcomes, Dr Rama Chaudhry, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
36. Implementation of An Institutional Antifungal Stewardship Program (AFSP) on the Appropriate Use of Antifungal Therapy and Outcomes in Patients with Invasive Fungal Infections., Dr Gagandeep Singh, ICMR, 3 years, 2020-2023, Rs 48 lakhs
37. In vitro susceptibility of Cefiderocol against carbapenem-resistant gram-negative bacilli from patients with blood stream infection/sepsis, urinary tract infection or pneumonia, Dr Sarita Mohapatra, Funded (Intramural), 2 years, 2021-2023, Rs 9.7 lakhs
38. *In vitro* susceptibility of Plazomicin in clinical isolates of *Enterobacteriaceae* and its correlation with Aminoglycoside modifying enzyme resistance mechanism. Dr Hitender Gautam, Intramural Project at AIIMS, 1 year, 2020-2022 (Extended by 1 year), Rs 4,82,500
39. Magnitude of asymptomatic malaria infections in pregnant women in a community hospital, Dr Nishant Verma, AIIMS, New Delhi, 1 year, 2018-2019 (work continued in this year too), Rs 4.98 lakhs
40. Mapping hotspots of MDR-TB in Assam, Sikkim and Tripura using Genomics approaches, Dr Urvashi B Singh, DBT-NER, 3 years, 2018-2023, Rs 1,40,97,800
41. Molecular characterisation, biofilm formation, in vitro antifungal susceptibility of Mucorales causing COVID associated Mucormycosis (CAM), Dr Gagandeep Singh, AIIMS Intramural, 2 years, 2021-22, Rs 5 lakhs
42. Molecular detection of viral pathogens causing non-gonococcal urethritis (NGU), Dr. Aashish Choudhary, AIIMS Delhi (Intramural grant), 1 years, 2021-2022, ~ Rs 2 lakhs
43. Molecular Epidemiology and In-Vitro Antifungal Susceptibility of Cryptic Aspergillus species from Clinical and Environment samples, Dr Gagandeep Singh, ICMR, 3 years, 2022-2025, Rs 35 lakhs
44. Multi-centric study on prevalence of Mycoplasma genitalium and its resistance markers in the high-risk group (MSM and FSW) attending sexually transmitted disease clinics in North India. Dr Benu Dhawan, ICMR, 3 years, 2021-2022, Rs 28,65,104 lakhs
45. NACO Regional Reference Laboratory for HIV viral load (VL) and early infant diagnosis (EID), Dr Lalit Dar, National AIDS Control Organization (NACO), No fixed duration, 2012-Ongoing, ~ Rs 11 lakh (per annum) + reagent support
46. National Surveillance System for Enteric Fever in India (NSSEFI)- Tier 3, Dr Arti Kapil, Wellcome Trust, CMC, Vellore, 2 years, 2012-2022, Rs 20 lakhs/year
47. National Vector Borne Disease Control Programme Apex Laboratory for Dengue and Chikungunya, Dr Lalit Dar, National Vector-borne Disease Control Programme (NVBDCP), No fixed duration, 2012-Ongoing, ~ Rs 3 lakhs (per annum) + reagent support
48. National Viral Hepatitis Control Program Surveillance laboratory , Dr. Aashish Choudhary, Ministry of Health & Family Welfare (MoHFW), No fixed duration, 2019-Ongoing, ~ 95 lakhs
49. Nodal Center for National surveillance of Antimicrobial resistance- 2018-2023 ICMR, New Delhi. Dr Arti Kapil, ICMR, 5 years, 2018-2023, Rs 50 lakhs for 2nd year
50. Platform for discovery of novel therapeutic monoclonal antibodies against MDR and XDR *Klebsiella pneumoniae*, Dr Sarita Mohapatra, Funded (DBT BIRAC), 3 years, 2021-2024, Rs 89.9 lakhs
51. Point of care Urinary Lipoarabinomannan antigen (LAM) detection as a diagnostic tool for Extra-pulmonary tuberculosis. Dr Kiran Bala, AIIMS, Intramural, 1 year, 2021-2022, Rs 4.94
52. Post exposure effect of COVID-19 infection on *Nuclear factor kappa B* (NF- κ B) activity in immune cells: friend or foe in long term complications? Inter-Disciplinary for COVID-19 IMRG 2020-21. Dr Hitender Gautam, Inter-Disciplinary for COVID-19 Intramural Project at AIIMS, 1 year, 2021-2022, Rs 9.95 lakhs
53. Rapid Molecular Drug Resistance Detections for MDR and XDR-TB and Molecular Typing of Mycobacterium Tuberculosis From Ziehl-Neelsen's Stained Microscopic Slides From Delhi State, Dr Urvashi B. Singh, ICMR, 3 years, 2018-2021, Rs 60,71,808/-
54. Regional Virus Research and Diagnostic Laboratory (RL-VRDL), Dr Lalit Dar, Department of Health Research (DHR), No fixed duration, 2019-Ongoing, ~ Rs 5 crores
55. Seroepidemiological study of Rickettsia and Scrub typhus among patients with acute febrile illness and molecular detection by Real time PCR. DBT Twinning Programme for NER, Dr Rama Chaudhry, DBT, 3 years, 2018-2021, Rs 70 lakhs
56. *Streptococcus pneumoniae* and Hemophilus serotype distribution and antibiotic resistance in isolates from pediatric pneumonia cases in Assam, Dr Bimal Kr Das, DBT, 3 years, 2019-2022, Rs 38,18,360
57. Studies on halophilic/ haloalkaliphilic actinomycetes and bacteria from hypersaline habitat as potential source of antibacterial molecules for drug resistant microbes, Dr Seema Sood and Dr Arti Kapil, AIIMS-IIT Delhi Collaborative Research Grant, 2.5 years, 2019-2021, Rs 10 lakhs
58. Study of hyaline non-sporulating moulds isolated from clinical samples of tertiary care respiratory hospital in Delhi, Dr Gagandeep Singh, ICMR, 3 years, 2021-2024, Rs 27 lakhs

59. Study of immune-pathogenesis and disease dynamics of *Pneumocystis jirovecii* pneumonia (Pneumocystis pneumonia), Dr BR Mirdha, SERB EMR/2017/004303 Dated 8 May 2018, 3 years, 2018-2021, acs (sanctioned project fund)
60. To determine gut colonization of *Clostridiodes difficile*, Vancomycin resistant Enterococci and Carbapenem Resistant Enterobacteriaceae in recovered COVID cases, Dr Rama Chaudhry, AIIMS, 2 years, 2021-2023, Rs 10 lakhs
61. Towards point of care test development for Bacterial Vaginosis, a polymicrobial infection, Dr Seema Sood, ICMR, 3 years, 2020-2023, Rs 51 lakhs
62. Validation of Indigenously Developed Diagnostic kit based on Detection of Proteomic markers from Urine for Diagnosis of Pulmonary and Extra-pulmonary Tuberculosis, Dr Urvashi B Singh, ICMR, 3 years, Sanctioned in March 2022, Rs 1,49,51,387/-
63. Whole genome sequencing of the SARS-CoV-2 novel coronavirus strains at a tertiary care center in Delhi., Dr Aashish Choudhary, AIIMS Delhi (Intramural grant), 1 year, 2020-2023, ~ Rs 11 lakhs

Departmental Projects

Ongoing

1. A cross-sectional study to determine the cause of death in adults using minimally invasive tissue sampling (MITS)
2. Antibody response among healthcare workers recovered from COVID-19
3. Association of Microbial Pathogens in Oral Infection with Various Systemic Diseases such as Cardio Vascular Disease and Preterm Birth and Effects of Neem Leaf and other Herbal Medicine Extracts on Oral Pathogens (*Texila American University*)
4. Biomarkers for bacteremia, antimicrobial resistance and hospital acquired infections by NMR and Mass Spectrometry among febrile neutropenic patients
5. Central line-associated bloodstream infections and bacterial contamination among health care workers in medical ICU: a prospective observational study
6. Clinical and radiological outcomes of revision Joint replacement surgery in periprosthetic joint infections: An ambispective study
7. Detection of Parvovirus B19 infection in patients with hematological disorders (Dr. Megha Brijwal)
8. Development of POCT using Aptamers: *Neisseria gonorrhoeae* as a prototype
9. Diagnosis of catheter related bloodstream infections at a tertiary hospital in North India- A prospective study
10. DM thesis: Incidence and determinants of outcome of neutropenic enterocolitis in Paediatric cancer patients
11. Epidemiology of Invasive Fungal Infection in Covid and Non Covid patients
12. Evaluation of lateral flow assay for diagnosis of chronic pulmonary aspergillosis
13. Human cytomegalovirus (HCMV) disease in pediatric leukemias (ALL and AML) (Dr. Aashish Choudhary)
14. In vitro evaluation of alternate antimicrobial combinations for *Neisseria gonorrhoeae*
15. In vitro susceptibility of Cefiderocol against carbapenem-resistant gram-negative bacilli from patients with blood stream infection/sepsis, urinary tract infection or pneumonia
16. In vitro susceptibility of Isepamicin in clinical isolates of *Enterobacteriaceae* and its correlation with Aminoglycoside modifying enzyme resistance mechanism
17. In vitro susceptibility of Omadacycline against Extensively Drug Resistant (XDR) *Acinetobacter baumannii* and *Klebsiella pneumoniae* clinical isolates from bacterial meningitis and blood stream infections
18. Incidence and Impact of Gut Colonization by Multi-Drug Resistant Bacteria in Patients receiving Standard Induction Chemotherapy for AML or Conditioning for Autologous HSCT
19. Incidence, risk factors and complications of venous thrombosis associated with central venous catheters
20. Multiplex PCR assay for diagnosis of malaria and molecular detection of chloroquine resistance in *P.vivax*
21. Occurrence of *Chlamydia trachomatis*, *Ureaplasma urealyticum*, *Mycoplasma hominis* and *Mycoplasma genitalium* in patients with sterile pyuria
22. PhD thesis: Effect of probiotic and trans cranial magnetic stimulation on cognitive and motor function in 6 hydroxy dopamine rat model of Parkinson's disease
23. PhD thesis: Frequency and genetic characterization of *Mycoplasma pneumoniae* and *Pneumocystis jirovecii* in immunocompromised patients
24. Prevalence and characterisation of *Chlamydia trachomatis*, *Neisseria gonorrhoeae* and Genital Mycoplasmas at Genital and Extra-genital sites
25. Prevalence of parasitic infections in patients with eosinophilia in a tertiary care hospital in North India
26. Rapid electrochemical detection of MRSA and azithromycin- resistant NG: A Novel strategy
27. Role of 99m-Tc-Ubiquitin scintigraphy in diagnosis of orthopaedic implant infection
28. Role of aptamer technology in detection of Bacterial Vaginosis (BV) associated bacteria
29. *Streptococcus pneumoniae* and *Hemophilus influenzae* serotype distribution and antibiotic resistance in isolates from pediatric pneumonia cases in Assam
30. Studies of malaria with special focus on detection of sub-microscopic malaria, characterisation of species and correlation of clinical outcome
31. To characterise Non-typeable *Haemophilus influenzae* (NTHi) for evaluating the phenotypic and genotypic diversity

32. To evaluate the effect of Doxycycline versus Azithromycin for the treatment of rectal Chlamydia trachomatis infection in men who have sex with men
33. To explore the association of enteric parasitic infections with duodenal eosinophilia in patients with functional dyspepsia (FD)

Completed

1. Study of bacterial infections in a cohort of patients clinically diagnosed of *Pneumocystis jirovecii* pneumonia (PjP)/ *Pneumocystis* pneumonia (PCP) and its impact on outcome of the disease.
2. Audit for antifungal treatment usage in adults with invasive fungal infections.
3. Azithromycin for poorly controlled Asthma in Children: A randomised controlled trial.
4. Characterisation of lactobacillus strains and assessment of their immune modulatory effects
5. Clinico-Microbiological Profile and Outcome of Urosepsis – A Prospective Study in A Tertiary Care Hospital In North India.
6. Comparison of conventional and molecular techniques for the diagnosis of herpes zoster (shingles) (Dr Aashish Choudhary)
7. DM thesis: Isolation and Characterization of bacteriophages against *Acinetobacter baumannii* clinical isolates
8. Identification and antimicrobial susceptibility pattern of hypervirulent *Klebsiella pneumoniae* in clinical specimens.
9. Identification and characterisation of cryptic species of *Aspergillus* isolated from clinical samples.
10. *In vitro* susceptibility of Eravacycline v/s Tigecycline in clinical isolates of XDR *Acinetobacter baumannii* and study of resistance mechanisms.
11. Isolation and Identification of Bacteriophages against MDR bacterial strains.
12. MD thesis: Isolation and identification of bacteriophages against MDR bacterial strains
13. MD thesis: To assess the vaginal microbial flora and colonization of placenta in antenatal patients
14. Molecular detection of *Legionella pneumophila* by real time PCR and characterisation of isolates by sequence-based typing
15. Profile of vaginal and placental microbial flora in antenatal women.
16. Study of *Pneumocystis jirovecii* as an etiology of bronchiectasis and its effect on disease progression.

Collaborative Project

Ongoing

1. A phase IIB Open label randomized controlled clinical trial to evaluate the anti-bacterial activity, pharmacokinetics, safety and tolerability of metformin when given along with rifampicin, isoniazid, pyrazinamide and ethambutol in adults with newly diagnosed sputum positive pulmonary tuberculosis: an 8- week study Funded by ICMR, New Delhi; 2018-19, Pulmonary Medicine and Sleep Disorders, AIIMS
2. A Phase-IV, double blind, comparative, prospective, multicentric study to assess safety and efficacy of fixed dose combination of Clindamycin 100mg & Clotrimazole 100mg vs Clotrimazole 100 mg vaginal suppositories in patients with mixed vaginal infection, Obstetrics & Gynaecology, AIIMS
3. A study on frequency, risk-factors and characteristics of sino-nasal mycobiome in COVID-19 associated mucormycosis. , Department of Medicine
4. A study validating the efficacy of a herbal mouthwash in reduction of plaque and gingivitis: An in vitro evaluation and a randomised controlled clinical trial, Department of periodontics, AIIMS, New Delhi
5. Analysis of the diagnostic / or predictive potential of metabolomics in BV, its treatment failure, relapse and susceptibilities to other STIs., Dermatology, AIIMS
6. Analysis of vaginal microbiome and metabolome in women affected with bacterial vaginosis before and after treatment and their correlation with relapse or recurrences, Department of Dermatology and Venereology
7. Analysis of vaginal microbiome and metabolome in women affected with bacterial vaginosis before and after treatment and their correlation with relapse or recurrences, Dermatology, AIIMS
8. Antifungal Effect of Lactoferricin, a natural potent antimicrobial peptide derived from the innate immunity protein, Lactoferrin and its use in the therapeutics of Mucormycosis, Department of Biophysics
9. Antiseptic efficacy and plasma chlorhexidine levels following two different methods of application of 1% aqueous CHG for skin disinfection in preterm newborns: A blinded, parallel group, randomized trial, Dept. of Paediatrics
10. Burden of multidrug-resistant neonatal sepsis in district hospital settings in India, Dept. of Paediatrics
11. CDC-AIIMS Cooperative Agreement projects on Influenza and other respiratory viruses, Centre for Disease Control (CDC), Atlanta (USA) and Centre for Community Medicine, AIIMS
12. Central line-associated bloodstream infections and bacterial contamination among health care workers in medical ICU: a prospective observational study, Dept. of Medicine
13. Characterisation of the uterine microbiota from women with unexplained infertility and recurrent implantation failure planned for in-vitro-fertilisation (IVF)- a pilot study., Department of Obstetrics and Gynaecology
14. Clinical profile and outcomes of ventilator associated pneumonia due to MDR & XDR gram-negative bacilli, Dept. of Medicine
15. Comparative analysis of different methods of disinfection of Medical Records, Dept. of Hospital Administration

16. Developing an antibiogram based on culture samples of suspected patients of infection presenting to the emergency department, Emergency Medicine
17. Developing an app-based bilingual e-learning module for primary health care workers in response to COVID-19 pandemic, Centre for Community Medicine
18. Dietary supplementation with a probiotic sachet of 8 strains in patients with fluctuating Parkinson's disease; duration 3 years: June 2019 – May 2022, With Prof. K P Kochar, Department of Physiology, AIIMS
19. Does the fetal immune response in case of neonatal early onset sepsis begin in utero?, Department of Paediatrics
20. Effect of glycemic control on initial presentation and treatment response in newly diagnosed sputum positive pulmonary tuberculosis patients: a prospective study, Gyne & Obs
21. Effect of probiotic supplementation on cognition and motor symptom in patients with fluctuating Parkinson's disease, Department of Physiology, AIIMS, New Delhi
22. Effectiveness of a Cranberry extract mouth rinse vs sodium fluoride mouth rinse on microbial counts in Caries active children – a double blinded Randomised Controlled Trial, Department of Paedodontics, AIIMS, New Delhi
23. Effectiveness of Robot in floor cleaning for minimizing human exposure in view of COVID-19 pandemic. Department of Hospital Administration, AIIMS, New Delhi
24. Efficacy of Energy Dense Nutritional Supplement (EDNS) as adjunct to standard DOTS therapy improving treatment outcomes in malnourished newly diagnosed sputum positive pulmonary tuberculosis adult patients, Centre for Community Medicine (CCM)
25. Etiological profile of infants, children and adolescents presenting with acute, subacute and chronic encephalitis/encephalopathy in a tertiary care centre in north India: 2019-2022, With Dr Shefali Guati, department of Pediatrics, AIIMS
26. Evaluation of a novel herbal antiseptic formulation – SEPIL for the treatment of chronic limb ulcers and pressure ulcers: A randomized, double-blind, placebo-controlled Multi-centric Trial, Department of Orthopedics, AIIMS, New Delhi
27. Evaluation of diagnostic potential of Hysteroscopy, Histopathology, and molecular Microbiology in chronic endometritis in women with tubal and unexplained infertility undergoing IVF- A Prospective Cohort study, Obstetrics & Gynaecology, AIIMS
28. Evaluation of nasal swab PCR as a preliminary screening tool to detect Mucorales in nasal turbinates of post covid patients, Department of Medicine
29. Evaluation of newer molecular methods and antigen based diagnostic modalities against RNTCP recommended methods in early diagnosis of female genital tuberculosis , Gyne & Obs
30. Exploration of alternate salivary diagnostic strategies for ovarian cancer, Biophysics, AIIMS
31. Identification, antimicrobial susceptibility pattern and clinical correlation of the rare pathogens detected by MALDI-TOF MS in North India. , Dept of Microbiology, AIIMS, New Delhi
32. Impact of air quality interventions on air quality including microbial load in inpatient environmental air, Department of Hospital Administration
33. In vitro evaluation of sulbactam combination therapies for *Acinetobacter baumannii* ventilator-associated pneumonia (VAP), Medicine, AIIMS
34. Incidence and determinants of outcome of neutropenic enterocolitis in paediatric cancer patients. duration 2 years: June 2019 – May 2021, With Professor Rachna Seth, Department of Pediatrics, AIIMS
35. Investigation of Colistin sensitivity by different methods and rapid detection of Colistin resistance in *Enterobacteriaceae*, Department of Microbiology
36. In vitro susceptibility of Eravacycline V/S tigecycline in clinical isolates of XDR *Acinetobacter baumannii* and study of resistance mechanisms, Department of Microbiology
37. Isolation and Identification of Bacteriophages against MDR Bacterial strains, Department of Microbiology
38. Metabolic resuscitation using early administration of ascorbic acid, thiamine and corticosteroids in perioperative management of surgical patients with septic shock: an exploratory Randomized Controlled trial., Department of Surgery
39. Metagenomic assessment of microbiome of placenta, Department of Gynecology, AIIMS, New Delhi
40. Multi-centric prospective hospital based sentinel surveillance to determine the aetiology of acute bacterial meningitis in children, Central Research Laboratory, K.I.M.S. Hospital & Research Centre, Kempegowda Institute of Medical Sciences, Bangalore
41. Phase III, Randomized, Double blind , Placebo controlled Trial to Evaluate the Efficacy and Safety of VPM1002, Immunovac Vaccines in Preventing of Tuberculosis Disease in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB (PTB) Patients Funded by ICMR, New Delhi; 2018-20, Pulmonary Medicine and Sleep Disorders, AIIMS
42. Prevalence and persistence of IgG Antibodies to SARS-CoV-2 in COVID-19 confirmed health care worker and their family cluster Duration- 2020-2022, with Dr Bimal Das, Department of Microbiology, AIIMS
43. Role of 99m-Tc-Ubiquidinscintigraphy in diagnosis of orthopaedic implant infection., Department of Nuclear Medicine, Clinical and radiological outcomes of revision Joint replacement surgery in periprosthetic joint infections: An ambispective study., Department of Orthopaedics
44. Role of tuberculosis and genital Chlamydia trachomatis infection in women with “unexplained infertility”, Gyne & Obs

45. Sero-epidemiological study of Rickettsia and Scrub typhus among patients with acute febrile illness and molecular detection by Real time PCR,
46. To study the effect of Vitamin C and Thiamine in patients with sepsis in Indian Population: Single blind, Parallel Group, Randomised controlled trial, Department of Medicine
47. Utility of Blood Real Time PCR for early detection of Mucormycosis in Patients with COVID-19, Department of Onco-Anaesthesia

Completed

1. A Detail Study to Understand the Non-Putrefying Property of River Ganga in both Water and Sediment, Funded by to National Mission of Clean Ganga (NMCG) , Ministry of Water Resources and River Rejuvenation (MoWR), Government of India
2. A Prospective Observational study on Clinical profile and treatment outcome of patients with Chronic Pulmonary Aspergillosis attending tertiary care Hospital, Department of Medicine
3. A study validating the efficacy of a herbal mouthwash in reduction of plaque and gingivitis: An in vitro evaluation and a randomized controlled clinical trial: duration 2 years: June 2019 – May 2021, With Professor OP Kharbanda, CDER
4. Abdominal infections in immune-compromised hosts: A radiological, microbiological and clinical correlation, Department of Haematology
5. AMR –Diag: A novel diagnostic tool for sequence based prediction of AMR, PI- Dr. Punit Kaur
6. Association of anti-malarial antibody levels and disease outcomes in Coronavirus disease 19 infection, Department of Medicine, AIIMS
7. Bacteriophage endolysins: An alternative strategy for superbug MDR Acinetobacter spp., Department of Microbiology
8. Candida auris: infection, colonization and risk of transmission in healthcare setting, Department of Medicine
9. Clinical efficacy of using MALDI-TOF MS over Conventional processing in Blood Stream Infections patients combined with Prescription pattern monitoring: A pre-post quasi experimental study, Department of Medicine
10. Comprehensive National Nutrition Survey, UNICEF
11. Effectiveness of a Cranberry extract mouth rinse Vs a Sodium Fluoride mouth rinse on microbial counts in caries active children - A double blind randomised controlled trial, Center of Dental Research and Education
12. Efficacy of two different Chlorhexidine gluconate preparation for skin antisepsis in neonates: a noninferiority randomized trial, Department of Pediatrics
13. Evaluation of various clinical and immunological parameters in predicting the outcome of sino-nasal and skull base invasive fungal diseases: A descriptive study, Department of Otorhinolaryngology
14. Identification of bacterial agents causing atypical pneumonia in COVID-19, and its impact on patient outcomes, Department of Anaesthesia, AIIMS, New Delhi and Department of Medicine, AIIMS, New Delhi
15. NeoAMR Global Observational Study: a prospective cohort study of sepsis in hospitalised neonates, Dept. of Paediatrics
16. Profile of vaginal and placental microbial flora in Antenatal women, Obstetrics & Gynaecology, AIIMS
17. Secular trend of the urinary tract infection in diabetic patients and their antibiotic sensitivity, Department of Endocrinology & Metabolism
18. Umbilical cord blood culture positivity in preterm and term neonates: prospective cohort study, Dept. of Paediatrics

PUBLICATIONS

Journals: 69

Abstracts: 9

Chapters in Book: 5

PATIENT CARE

The Department of Microbiology carried out a total of 2,96,909 tests during the year 2021-22.

Name of assay /test/investigation	No. of tests performed	Name of assay /test/investigation	No. of tests performed
BACTERIOLOGY LAB.		PARASITOLOGY LAB	
Pus samples culture and identification	14529	A. SEROLOGICAL INVESTIGATIONS	
Orthopedic implants for sonication	181	Serology for anti- <i>amoebic</i> IgG antibodies by ELISA	137
Urine samples culture and identification	38545	Serology for anti- <i>echinococcus</i> for IgG antibody by ELISA	103
Blood samples culture and identification	25550	Serology for anti- <i>toxoplasma</i> IgG antibodies by ELISA	38
Sputum/Throat swab/Tracheal swab samples culture and identification	13936	Serology for anti- <i>Taenia solium</i> IgG antibodies by ELISA	11

CSF/sterile samples culture and identification • Automated culture of CSF samples for routine patient care	6136	Serology for anti- <i>Strongyloides</i> IgG antibodies by ELISA	69
Stool samples culture and identification	1405	Serology for anti- <i>Toxocara canis</i> IgG antibodies by ELISA	18
		B. INVESTIGATION FOR MALARIA	
		Fluorescent staining (Acridine Orange)	4118
		Giemsa staining	4118
		Quantitative Buffy Coat (QBC) Assay	4118
Antimicrobial susceptibility testing		HRP-II Antigen Detection test	4118
Pus/Exudates/Tissue -Antimicrobial susceptibility testing	3620	C. INVESTIGATION FOR KALA-AZAR	
Urine - Antimicrobial susceptibility testing	4643	Fluorescent staining (Acridine Orange)	58
Blood - Antimicrobial susceptibility testing	3720	Giemsa staining	58
Respiratory samples - Antimicrobial susceptibility testing	3352	Kala-azar serology (rk-39)	404
CSF/sterile samples - Antimicrobial susceptibility testing Automated anti-microbial susceptibility testing (VITEK-2) from CSF/Sterile samples	780	D. EXAMINATION OF FECAL SAMPLES FOR INTESTINAL PARASITOSIS	
Stool samples - Antimicrobial susceptibility testing	04	Direct and concentration techniques	1147
Total	16119	<i>In –vitro</i> Cultures	20
		Modified Acid-fast and special staining for intestinal coccidia	1147
HOSPITAL INFECTION CONTROL (HIC) LAB.		PCR assay for the detection of microsporidia species	1147
Surveillance cultures	22,029	E. EXAMINATION OF ASPIRATES	
CSSD/Sterilization Monitoring	2,969	Sputum, pus and other aspirates	97
Water samples	1,676	F. INVESTIGATION FOR FILARIASIS	
Total	26,674	Direct and Concentration techniques	481
		Acridine Orange	481
ANAEROBIC&SPECIAL BACTERIAL PATHOGEN LABORATORY		Thin Smear examination	481
Samples for Anaerobic culture (Blood, Bile, BAL, CSF, Tissue)	602	Thick Smear examination	481
		Filarial Antigen detection	481
<i>Clostridioides difficile</i>		QBC	481
Stool culture for <i>C. difficile</i>	429	G. OTHER INVESTIGATIONS	
Stool samples for <i>C. difficile</i> ELISA	429	Investigation for the detection of <i>Pneumocystis jirovecii</i> infection (PCP) by staining & PCR assay	201
Stool sample for <i>C. difficile</i> PCR	350	Cerebrospinal fluid examination for Free living Amoebas (FLAs)	24
Stool sample for <i>C. difficile</i> Genexpert	33	Worm Specimens	01
Stool sample for <i>C. difficile</i> chemiluminescence assay	157	Arthropod Specimens	01
Special Bacterial Pathogen Laboratory (SBPL)		Total	24,037

Leptospira			
Citrate blood samples for Culture for <i>Leptospira</i> spp.	44		
Urine samples for Culture for <i>Leptospira</i> spp.	44	VIROLOGY LABORATORY	
ELISA for Leptospira IgM antibodies	478	Molecular tests (Conventional, Real time PCR)	
Urine Dark Ground Microscopy	473	SARS-CoV-2 novel coronavirus real time RT-PCR	67,952
Plasma Dark Ground Microscopy	472	Whole genome sequencing (NGS) for SARS-CoV-2	55
Leptospira PCR	08		
Scrub typhus and Rickettsia		Influenza real time multiplex RT-PCR	1198
IgM ELISA for Scrub typhus	587	Respiratory virus panel (other than influenza) multiplex PCR	362
IFA for Scrub typhus	142	HSV 1&2 DNA PCR (CSF, GUD, Ocular etc.)	77
ICT for scrub typhus	120	HCMV DNA PCR (Urine, Colonic biopsy, CSF etc.)	727
Scrub typhus nested PCR 56 kDa gene	246	HIV-1 RT-PCR for Early Infant Diagnosis (DBS samples)	3757
Scrub typhus Real time PCR 47 htra gene	421	HIV-1 RNA RT-PCR (Viral load)	5594
Rickettsia Spotted fever group IgM ELISA	240	Dengue & Chikungunya virus real time RT-PCR	31
Rickettsia Typhus group IgM ELISA	240	Polyomavirus (BK/JC) real time RT-PCR	796
Rickettsia nested PCR glt gene	62	Fever with Rash Viral Panel (Measles, Enterovirus, Parvovirus B19, HHV-6 & HHV-7)	02
Rickettsia real-time PCR glt gene	198	Viral Meningitis/Encephalitis PCR panel (HSV, Enteroviruses, Parechoviruses, VZV, Mumps)	178
Rickettsia IgM IFA screen	86		
Bartonella		Viral Gastroenteritis Panel (Rotavirus, Norovirus, Adenovirus 40/41)	64
Samples for Bartonella Culture	14	Epstein-Barr virus (EBV) DNA PCR (Conventional, real time PCR)	214
Sample for Bartonella IgM IFA	80	Parvovirus B19 real time PCR	259
Sample for Bartonella IgG IFA	12		
Sample for Bartonella conventional PCR	31	Dengue virus serotyping by real time RT-PCR	161
Sample for Bartonella Real Time PCR	14		
Legionella pneumophila		Antigen detection	
Legionella serology	114	Dengue NS1 antigen (ELISA)	5212
Legionella PCR	42		
Legionella urine antigen	90	Rotavirus antigen (ICT)	01
Legionella culture	50	VZV Antigen detection (IFA)	41
		Antibody detection (Serology)	
Legionella MLST	0	Anti-Dengue IgM (ELISA)	4696
Mycoplasma pneumoniae		Anti-Dengue IgG (ELISA) for primary vs. Secondary dengue determination	166
Mycoplasma serology	108		
Mycoplasma PCR	42	Anti-Chikungunya IgM (ELISA)	132
Mycoplasma culture	86	Anti-Japanese Encephalitis IgM (ELISA)	75
Chlamydia pneumoniae		Anti-VZV IgM (ELISA)	04
ELISA for <i>Chlamydia pneumoniae</i> IgM antibodies	104	Anti- EBV (VCA) IgM (ELISA)	02

ELISA for <i>Chlamydia pneumoniae</i> IgG antibodies	00	Anti-SARS-CoV-2 IgG (ELISA)	63
Lyme Disease		Direct Microscopy	
Lyme Disease IgM ELISA	205	Tzanck smear (for HSV 1&2, VZV)	41
Lyme Disease IgG ELISA	215	PS for Downey cells/atypical lymphocytes (EBV-related Infectious mononucleosis)	01
Lyme Disease IgM immunoblot	36	Total	92,097
Lyme Disease IgG immunoblot	27		
Borrelia 16S Real-time PCR	142	MYCOLOGY LABORATORY	
Total	7273	Direct Microscopy & Culture	
		Blood culture/Bone marrow/Blood BACTEC	1397
MYCOPLASMA LABORATORY		Respiratory (BAL, Sputum, Tracheal aspirate)	5222
<i>Chlamydia trachomatis</i> PCR	357	Urine	1747
<i>Ureaplasma urealyticum</i> culture	245	C.S.F	1412
<i>Ureaplasma urealyticum</i> PCR	333	Tissue/Biopsy	1322
<i>Mycoplasma hominis</i> culture	245	Skin scrapping/Nail/Hair	67
<i>Mycoplasma hominis</i> PCR	333	Fluids (Peritoneal, Pericardial and Ascitic fluid)	693
<i>Mycoplasma genitalium</i> PCR	314	Pus	686
Total	1,827	Miscellaneous (Plates, Swabs, Catheter tips)	1417
		Total	13,963
SEXUALLY TRANSMITTED DISEASES (STD) LABORATORY		Fungal Serology/Antifungal/TDM/PCR	
<i>Clinical samples for Culture (Routine/NG)</i>		Cryptococcal antigen	1061
High vaginal swabs (HVS)	500	Galactomannan antigen	3906
Semen	735	Urinary Histoplasma Antigen	90
Expressed prostatic secretions (EPS)	12	Therapeutic Drug monitoring for antifungals	328
Urethral discharge	68	Antifungal susceptibility	245
Cervical discharge	114	PCR (Panfungal 9, Histoplasma 2)	38
Vaginal discharge	07	Total	5668
Pharyngeal swabs	41	Total tests in Mycology section	19631
Rectal swabs	42		
<i>Clinical samples for microscopy alone</i>		TUBERCULOSIS LABORATORY	
Vaginal swabs for BV	25	Tuberculosis Diagnosis	
<i>Clinical samples for PCR for NG</i>		Gene Xpert MTB/RIF	3000
Urethral discharge	68	Samples processed for ZN Smear	7245
Vaginal discharge	07	PCR for <i>Mycobacterium tuberculosis</i>	2465
Cervical discharge	114	Rapid Culture on MGIT 960	2019
Rectal swab	42	Culture on LJ medium	6334
Pharyngeal swab	41	MGIT DST	14
		Total	21077
Total	1816	COVID-19 Diagnosis by CBNAAT	
		Gene Xpert	13175
<i>Antimicrobial susceptibility testing</i>	122	TRUENAT	43144
		Total	56319

MOLECULAR BIOLOGY LABORATORY			
Multiplex PCR for Acute Bacterial Meningitis (ABM)	351	HIV IMMUNOLOGY LAB.	
		HIV testing	1378
SEROLOGY LABORATORY		CD4 counts	
		<ul style="list-style-type: none"> ● ART centre of AIIMS ● Linked centre: LRS Hospital ● Admitted patients in AIIMS hospital 	3399 2065 110
VDRL	7000	Western blot for HIV indeterminate samples (Received from linked State Reference Laboratories)	05
Widal	3855	<i>ICTC activity</i> <ul style="list-style-type: none"> ● Pre-test Counselling ● Post-test counselling ● Patients referred to RNTCP centre 	1378 1314 40
TPHA	396	HIV testing of Dried blood spot samples under HIV DBS sentinel surveillance program <ul style="list-style-type: none"> ● Total sample received till 31st March 2021 (Total samples tested: 2523) *Rejected = 266	2789
ASO	45	Activity Completed	
Standard Agglutination Test (SAT) for Brucella antibody	158	Viral Markers testing (HIV, HBV, HCV) and RPR of HSS-ANC sample from linked SRLs	
		HIV	1081
<i>H. pylori</i> IgG antibody	19	HBV	1058
<i>H. pylori</i> Stool Antigen	88	HCV	1335
Serum Procalcitonin	1525	RPR	1001
Total	13,086	Total	16953

STD Lab

Participated in external quality assurance (EQA) programme of WHO GASP (Gonococcal Antimicrobial Surveillance Program) and the results are awaited. Our previous percentage score was 99.2%.

Serology Laboratory:

External Quality Assessment Scheme (EQAS): Participated in ILC for Syphilis Serology (VDRL/TPHA) with APEX Regional STD Centre, Department of Dermatology & STD, VMMC & Safdarjung Hospital, New Delhi and our results were 100% Concordant. Participated in IAMM-EQAS, New Delhi, with concordant result.

HIV Laboratory

1. EQAS activity with Apex lab, National AIDS Research Institute, Pune

- August 2021 and January 2022: Performance: 100%

2. EQAS Panel Distributed to 4 HIV State reference laboratories

- July 2021 and December 2022: Performance: 100%

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Rama Chaudhry was associated with **Scrub typhus in Children's: A hospital based study**. Thakur CK, Vinayaraj EV, Sagar T, Batra P, Das BK, Chhabra M, Kabra SK, Chaudhry R. Indian Association of Medical Microbiologists (IAMM) Delhi Chapter Meeting. Institute of Liver and Biliary Sciences, New Delhi, India, 9 April, 2022; **Outreach Grant** in 31st European Congress of Clinical Microbiology and Infectious Diseases on 9–12 July 2021; Received prestigious Dr KB Sharma Oration 2021 during Indian Association of Medical Microbiologists (IAMM) – Delhi Chapter, 25-27 November 2021, Delhi; Member of the Committee to review the Schemes of “Setting up of Nation-wide network of laboratories for managing epidemics and national calamities” by Ministry of Health and Family Welfare Department of Health Research, Government of India; Member of the Committee for “Development of Tools to prevent outbreaks and epidemics”-by Ministry of Health and

Family Welfare Department of Health Research, Government of India; Member of the Committee for Central Sector Schemes of NCDC by Standing Financial Committee of Ministry of Health and Family Welfare, Government of India; Member of the Scheme review Committee under the Chairmanship of Dr. Anurag Agarwal, Director, CSIT -IGIB by Ministry of Health and Family Welfare, Public Health Division; Member of the Scientific Advisory Committee, 2021 of ICMR - National Institute of Cholera and Enteric Diseases; Member of Governing Body Member of the Gut Microbiota and Probiotic Science Foundation (India); Member of the Annual Review Committee (VC) meeting to review the 1 annual report with a brain storming session to finalize the protocol of the qualitative research objective titled “Situation Analysis of the Food procurement, storage, processing and consumption practices among the North Eastern population of India” as a modification of the component of the ongoing Task- force project titled “surveillance of Food Borne Pathogens (FBP) for North-East India” on 28 September 2021, held at ICMR Hqrs, New Delhi; Member of a High Value Technical Committee (HVTC) meeting for establishment of BSL 3, Facility at VPCI held on 27 September 2021 at Vallabhbhai Patel Chest Institute (VPCI), Delhi University, Delhi; Invited as Chairperson of CME on COVID-19 by Department of Microbiology, SGPGIMS, Lucknow, 26 March 2022 (Online); Invited as expert in the Global Sepsis Experts Meeting on 13 October 2021 (Online). Invited in Asian Organization for Mycoplasmaologist on 25 and 26 September 2021 (Online); Invited as an expert in 49th Scientific Advisory Committee meeting of the ICMR-National Institute of Cholera & Enteric Diseases, Kolkata held on 28 and 29 September 2021 at ICMR-NICED (online); Invited to participate in International Conference on “Gut -Brain-Health Connections” on 28th October 2021 (Online); Invited as an expert in 5th Advanced National Hands-on Workshop on Anaerobes from 10-13 November 2021 organized by Department of Microbiology, Fr. Muller Medical College, Mangalore; Invited to chair a session in the International e-Symposium on Probiotics, Prebiotics and GUT Microbiome: Key Regulators for Human and Animal Health on 11 November 2021 (online); Invited to participate in 6th Annual International Conference Indian Network for Soil Contamination Research (INSCR) Micro-basin Sustainable Development from 15 to 18 November 2021 (online).

Professor Lalit Dar is a member of the ICMR High Level Task Force for the SARS-CoV-2 /COVID-19; Member, Joint Monitoring Group (JMG) for emerging diseases, MoHFW (Under the DGHS); Designated by DHR-ICMR as a Chair of the Viral Research and Diagnostic Laboratory (VRDL) national network comprised of 105 virology laboratories across the country; Nominated as a member of the National Technical Advisory Group on Immunization (NTAGI), the apex body for advising the Government of India on its immunization policies; Actively contributes to various agencies outside of AIIMS: Member, Core Accreditation Committee of the National Accreditation Board for Testing and Calibration Laboratories (NABL); Adjunct Faculty, Public Health Foundation of India; Member, Technical Resource Group, National Viral Hepatitis Control Programme (NVHCP); Member, ICMR Virology Project Review Committee for Virology; Member, ICMR Fellowship Committee; Member, NACO Technical Resource Group (Laboratory Services)

Professor Bimal K Das was awarded First Prize in oral paper presentation at 13th National Conference of AIDS Society of India, Hyderabad, 3-5 April 2022 (Dr Shesh Prakash Maurya, Research Associate under Dr Bimal K Das); Scholarship to attend in-person AIDS 2022, the 24th International AIDS Conference, to be held in Montreal, Canada, from 29 July to 2 August 2022, and the official pre-conference events, taking place on 27 and 28 July (Dr Shesh Prakash Maurya, Research Associate under Dr Bimal Kr Das); Sanjay Sardana Memorial Award for best poster presentation in MICROCON-Delhi chapter 27 November 2021 (Sonu Tyagi, PhD student under Dr Bimal Kr Das).

Professor Bijay Ranjan Mirdha: The Work entitled “A multiplex nested PCR Assay for diagnosis of human malaria and comparison with other diagnostic methods” under guidance of Dr BR Mirdha, MD Professor of Microbiology AIIMS New Delhi, received IAMM SILVER JUBILEE BEST PAPER in Parasitology during 44th National Conference of Indian Association of Medical Microbiology held at Guwahati Medical College & Hospital in Guwahati from 21-24 December 2021; was invited and chaired a session on “One health approach for the control of Parasitic infections during 15th National Conference of Indian Academy of Tropical Parasitology held on 10 and 11 December 2021, Department of Medical Parasitology, PGIMER, Chandigarh; was invited as an expert from Additional Secretary, Odisha Public Service Commission (OPSC), Cuttack; Continuing as Board member of Journal Acta Scientific Microbiology (India); Delivered Guest Lecture on “Evolution of Parasitism” on January 7, under aegis of Indian Academy of Tropical Parasitology; was invited to participate in CMC Parasitology EQAS, The Wellcome Trust Research Laboratory, Christian Medical College, Vellore.

Professor Seema Sood was nominated as Executive Member- IUSTI World Committee in July, 2021 for a period of 4 years; Grant of Teachers Associateship for Research Excellence (TARE) fellowship – SERB; was invited as Member- Brain storming meeting in ICMR on STIs for action points; Expert- Project Review Committee (PRC) for ICMR extra mural Ad-hoc Proposals and RA/SRF Fellowships for HIV/AIDS & STIs; Member- TRG on surveillance & Epidemiology under NACP-constituted by NACO, Min of H & FW, GOI; Faculty- National Board of Examination (NBE); Member -International Scientific Committee for ISSTD, July 2023, Chicago; was invited as expert for IITD-AIIA Interdisciplinary projects; Member- Institution Human Ethical Committee (IHEC), ACBR (Dr. B.R. Ambedkar Centre for Biomedical Research); Reviewer- Nature Reviews, IJMR, IJMM, Ind J of STD & AIDs; Evaluated MD Thesis: IP University.

Professor Urvashi B Singh is Member, Subject Expert Committees (Antimicrobial and Antiviral), CDSCO (DCGI), GoI; Member, Subject Expert Committees (In-vitro Diagnostic Devices), CDSCO (DCGI), GoI; Expert, National Technical Expert

Group under National TB Elimination Program, GoI; Member, Operational Research Committee, National TB Elimination Program, GoI; Co-Chair Person, National Technical Expert Group on Diagnosis of Tuberculosis under National TB Elimination Program, GoI; Member, National Technical Working Group on LTBI Management in India, National TB Elimination Program, GoI; Member, National Technical Expert Group on Treatment of Tuberculosis under National TB Elimination Program, GoI; Member, National Technical Expert Group on Treatment of Pediatric Tuberculosis under National TB Elimination Program, GoI; Member, National Technical Working Group on TB Co-morbidities, National TB Elimination Program, GoI; Member, Technical Specifications Committee for National TB Elimination Program, GoI; Member 'STOP TB New Diagnostics Working group', WHO since 2009; Member 'Expert Committee for finalizing validation protocols for Indian Indigenous Technologies', ICMR; India TB Research Consortium, ICMR, Member on Diagnostic, Therapeutic, Vaccine and Implementation Research Groups; Member, State TB Task Force and Operation Research Committee; Expert member on International SAG committee of India TB Research Consortium, ICMR; Member Editorial Board – Frontiers in Microbiology; Reviewer: Scientific Reports, AJRCCM, Emerging Infectious Diseases, Medical Microbiology, Microbes and Infection, Epidemiology and Infection, PLOS One, Journal of Biosciences, Indian J Med research, Indian J Tuberculosis; Member - Indian Association of Medical Microbiologists

Dr Sarita Mohapatra received Meghna Krishna Baveja Memorial Award for Best poster on pediatric infectious Diseases at MICROCON, Delhi Chapter, 9 October 2021; was awarded for Best poster under free poster category at MICROCON, Delhi Chapter, 9 October 2021; Received 3rd prize for Best poster at Innovative physician Forum, 9 and 10 October 2021.

Dr Aashish Choudhary was awarded the 'HIV Expert' Credential/degree after passing the on-line examination conducted by the 'American Academy of HIV Medicine' (AAHIVM), USA in September 2021; Member - Institute Biosafety Committee (IBSE), AIIMS Delhi; Member- BSL-3 facility, Central Core Research Facility (CCRF), AIIMS Delhi.

Dr Gagandeep Singh The Mycology Section has been designated as '**Advanced Mycology Diagnostic and Research Centre in Northern Region of India**' (AMDRC) under ICMR in March 2021; is Member, Standing National Committee on Medicines and Healthcare Products (SNMC & HCP) under the National List of Essential Medicines (NLEM), Subcommittees 1. Hygiene and other healthcare products and 2. Anti-infectives, MOHFW and ICMR; Member, Joint Monitoring Group (JMG) of MOHFW for COVID-19; Member, Resource Management Committee for COVID-19, Subcommittee: PPE purchase, AIIMS; Member of team for weekly monitoring COVID response in Delhi hospitals, GNCTD; Member, Core Committee of the Hospital Infection Control Committee (HICC), AIIMS, New Delhi involved in Preparation of Infection Prevention and Control Guidelines for COVID-19 for AIIMS, New Delhi and delivered lectures for Health Care Staff of Main AIIMS on Prevention and Control of COVID-19. Faculty resource person, Resident training program for COVID-19 on SARAL platform; Member, Department Contact Tracing Team (DCTT) for COVID-19; Member, AIIMS Kaya Kalp Team for Infection Control, 2021-22; Nodal person for NABL accreditation of Mycology lab; Member, Committee for monitoring progress of ICMR Advanced Mycology Diagnosis and Research Centres; Chairperson, Committee looking into equipment for large scale renovation of Laundry at Main AIIMS; Member, Committee for monitoring progress of work for new CSSD at Masjid Moth Complex; Member, Departmental Store purchase committee; Member, Departmental Committee for AIIMS Master Plan; Member, Committee for Departmental Equipment audit (external and internal); Member, Committee for MBBS Curriculum reforms & AIIMS Undergraduate Curriculum Organizing Group (AU-COG) at AIIMS, New Delhi; Executive Committee Member: Indian Association of Medical Microbiology-Delhi Chapter; Reviewer: Frontiers in Fungal Biology, Mycopathologia, BMC Infectious Diseases, Mycoses, Indian J Med Microbiology, Indian J of Dermatology, Venereology and Leprosy, Journal of Lab Physicians, Iranian J of Microbiology, National Medical Journal of India etc.

Dr Hitender Gautam was Nodal Officer for COVID-19 for Department of Microbiology; Contact tracing of Positive COVID-19 cases; Defining and managing high risk & low risk contacts of positive cases; Provision of PPE for whole department including the COVID-19 testing laboratories; Infection Prevention and Control activities of department; Management of Cleaning & Disinfection of department; COVID-19 related Bio-Medical Waste management for the department; Nodal Officer for Department: Information Technology Program Management Consultant (IT PMC) facilitation; Clean and Green AIIMS Sub-committee member for Key Result areas (KRA)": For KRA 5: Waste Management and For KRA 6: Infection Control; **Chairperson and Moderation of Session** on "Automated reading and interpretation in AST (Disk diffusion method) at National Conference of Indian Association of Medical Microbiologists (IAMM) MICROCON 2021 at Guwahati Medical College, Assam on 24 December 2021; Technical Specification & Evaluation Committee (TSEC) member for Antiseptics, Disinfectant & Chemicals at AIIMS w.e.f. February 2022; Nodal Officer for department: Equipment audit of Department; SARS CoV-2 IgG Sero-surveillance of Delhi under MOHFW, GOI, India; Member: Department Contact Tracing Team (DCTT) for COVID-19; In House preparation of Anti-Microbial Handrub for Department of Microbiology in concern with COVID-19; Member Secretary: Infection Control Committee in Dr BRA IRCH, AIIMS, New Delhi; Initiation of Environmental Cleaning Monitoring through ATP bioluminescence in Dr BRA IRCH, AIIMS, New Delhi; Hospital Infection Control Committee (HICC), Core Committee Member AIIMS, New Delhi; Team member from HICC for setting up of new inpatient wards for management of COVID cases; Formulation of Infection Prevention & Control Guidelines for 2019-nCoV (COVID-19) for AIIMS, New Delhi, as a core group member for HIC at AIIMS, New Delhi; Series of Lectures for Health Care Staff of Dr. B.R.A.IRCH & Main AIIMS on "Prevention & Control of COVID-19 in Health Care Setting" AND "Donning & Doffing of PPE"; Involved with making & implementation of Cleaning & Disinfection Protocols and checklist; Centralised preparation of Checklists for prevention of

Device associated infections (CLABSI, CAUTI, VAP) and SSI; Hospital Infection Control activities at Surgical block; External Assessor for Peer assessment of Safdurjung Hospital, under KayaKalp Award Scheme for year 2021-22, 29 October 2021; Incharge: Departmental KAYA KALP Committee. Part of AIIMS KAYA KALP Team. KAYA KALP Inspection Management for Department; Department NABL Core Committee Member & Deputy Quality Manager for Dept. of Microbiology, AIIMS, New Delhi: Department has been NABL Accredited w.e.f. 15 November 2019; **Member:** Australasia College for Infection Prevention and Control (ACIPC), Member of the British Society for Antimicrobial Chemotherapy (BSAC); Committee member for MBBS Curriculum reforms & AIIMS Undergraduate Curriculum Organizing Group (AU-COG) at AIIMS, New Delhi; Co-Guide for PhD in Medicine by Research Medical Microbiology program at Texila American University; Committee member for Department for AIIMS Master Plan of the department; Store Purchase Committee Member for Department of Microbiology; Technical Expert for Equipment Purchase for AIIMS, Rai Bareilly; External Expert as reviewer for Technology Development Board (TDB), Department of Science and Technology (DST).

Dr Nishant Verma was NABL accreditation of investigations in parasitology laboratory; Undergraduate teaching in-charge; Member departmental Store purchase committee; Departmental DM ID teaching committee member; Core committee member for DM infectious diseases curriculum; Member-AIIMS under graduate curriculum organizing group; Coordinator –AIIMS master plan departmental committee; Member of the committee coordinating the establishment of Microbiology services at NCI, Jhajjar; Co-editor for Microbiology newsletter released by the department; Member of the ‘clean & green AIIMS’ sub-committee; Member of the team for peer assessment of NITRD, New Delhi under Kaya Kalp award scheme; CAPIO-RTI; Core Group Member: Hospital Infection Control Committee (HICC), AIIMS, New Delhi; A series of training sessions for healthcare staff regarding COVID-19; Member Secretary: Infection Control Committee at CDER, AIIMS, New Delhi; External examiner for II MBBS (Microbiology) examinations at LHMC and UCMS; External examiner for II MBBS (Microbiology) supplementary examination at MAMC, LHMC and UCMS; Internal examiner for Second Prof. MBBS (Supple.) exam (Microbiology) at AIIMS, New Delhi; Internal examiner for BSc (Post-basic) Nursing Ph-I (Microbiology) prof. examination at AIIMS, New Delhi; Executive committee member: Indian Association of Tropical Parasitology; Member-Hospital Infection Society- India; Member-IAMM- Delhi Chapter; Reviewer: Journal of Hospital Infection, Tropical Parasitology and PLoS neglected tropical diseases.

Dr Kiran Bala is Member - Indian association of Medical Microbiologists (Life Membership 3301/19), The Union International union against tuberculosis and lung disease (Membership CU 0783207). Hospital Infection control society, HISS Life Membership Number (L-1111); Member - Infection prevention and control team of centralised core research facility at AIIMS, New Delhi; Expert member BSL-3, BSL-2 Sub-committee of CCRF core committee at AIIMS, New Delhi; Reviewer: BMJ case reports, Indian J of Urology, International J of Medicine and public health, Medical mycology, Indian J Med research, Indian J Tuberculosis, Mycopathologia, Plos one, Journal of Medical Virology.

9.21. Nephrology

Professor and Head

Sanjay Kumar Agarwal

Professors

Dipankar Madhusudhan Bhowmik

Sandeep Mahajan

Additional Professor

Soumita Kamal Kumar Bagchi

Associate Professor

Raj Kumar Yadav

Assistant Professor

Arunkumar Subbiah

HIGHLIGHTS

The department was regularly doing state of art nephrology care including renal transplantation at affordable cost. However, due to COVID-19, all patient's care got significantly affected in the department. Last renal transplant in 2020 was done on 18 March 2020. After that, renal transplant could be resumed only in February 2021 for various reasons related to COVID-19 pandemic. What has been significant development was that department could establish regular hemodialysis facilities for COVID-19 patients at all the COVID-19 areas in institute; suspect area, trauma dedicated COVID-19 center, NCI Jhajjar COVID-19 area. Regular dialysis in the department was never stopped for even a single day. We continued to provide dialysis 24 x 7. Department organised dialysis and other patient's consumable much in advance so that there was no effect of lock down etc. on consumables required for nephrology patient's care. The department continued to provide hemodialysis to nearly 80-100 patients per week at very low cost and free for patients below poverty lines. Department also provided bed side dialysis in many departments across institute. Department faculty was responsible for making COVID-19 related guidelines, which were part of government guidelines related to hemodialysis and peritoneal dialysis. Dr SK Agarwal contributed to various guidelines related to renal transplant and these guidelines were accepted by NOTTO and put on NOTTO website as national guidelines.

Steps taken to improve patient care, education, and research

Department started doing virtual meeting, both administrative and academic for department staff and residents of the department during COVID-19 pandemic to avoid discontinuity in the academic and administrative services. Department opened a helpline on email as well as mobile number for continuity of patient care. For transplant patients, therapeutic drug monitoring of immunosuppressive medicine was continued free of cost. During pandemic, consumables for dialysis were also provided free to patients who could not purchase the consumable due to non-availability or due to financial issue during pandemic.

Action Plan for coming year

Depart of nephrology is having critical shortage of space and manpower for last few decades and we hope that after surgical block, geriatric block and mother and child block, department will get reasonable space to expand as per need of the society and country and we will be able to deliver medical care to best of our capability and will be able to serve much larger societal need.

EDUCATION

Long-term training

The department runs DM Nephrology, a three-year degree course for post MD (Medicine and Pediatric) candidates, selected by AIIMS on the basis of merit through all India entrance examination. Along with AIIMS Delhi, department is conducting examination for other AIIMS like institution as per need. Three candidates were admitted to DM nephrology course at AIIMS, New Delhi during this period. Residents from department of pediatrics, and pathology regularly comes for the training courses in Nephropathology. At present the department has three non-academic junior residents for 6 months each.

Short-term training

The department is providing short-term training for following:

1. Postgraduates from the department of Internal Medicine, Geriatric Medicine, Emergency Medicine, Urology, Anesthesia, Infectious disease, Critical Care Medicine and Transfusion Medicine are posted on rotational basis for a variable period of few weeks to few months.

CME/Workshops/Symposia/National and International Conference Organized by Department

- World Kidney Day 2022, on 10 March was organised with following activities
 - Morning seminar related to kidney disease on 10 March
 - Public Lecture in evening
 - Nukad Natak in the evening

Lectures Delivered

SK Agarwal: 10 Dipankar Bhowmik: 8 Sandeep Mahajan: 5
Soumita Bagchi: 3 RK Yadav: 2 Arunkumar S: 3

ORAL papers/posters presented: 4**Number of Oral Presentation in last three years**

Year	No of Oral/Poster Presentation
2019-2020	14
2020-2021	14
2021-2022	4

RESEARCH**Funded Projects****Ongoing**

- A multi-center, randomised, double-blind, placebo controlled, parallel group, phase III study to evaluate the efficacy and safety of LNP023 in primary IgA nephropathy patients, Soumita Bagchi, Novartis Ltd, 2 years, 2021-2023, Rs 2 lakhs per patient
- A multi-centre, randomised, double-blind, parallel group, placebo-controlled study to evaluate the efficacy and safety of iptacopan (LNP023) in complement 3 glomerulopathy, Soumita Bagchi, Novartis Ltd, 2 years, 2022- 2024, Rs 5.59 per year (CRC salary) + 224275 per patient
- A randomised, treatment open-label, dose-blinded parallel group, three arm, proof-of-concept clinical trial to investigate the efficacy and safety of LNP023 compared with rituximab in the treatment of subjects with idiopathic membranous nephropathy, Soumita Bagchi, 4 years, 2019-2023, Rs 2 lakhs per patient + CRO salary
- Expression of Immune checkpoints (CTLA-4, PD-1, PD-L1), cytokines and T-reg cells in Lupus Nephritis, Sandeep Mahajan, ICMR, 3 years, 2021-2024, Rs 86.16605 lakhs
- Hydroxychloroquine blood concentration and its correlation with disease activity in lupus nephritis, Arunkumar Subbiah, Intramural grant, 2 years, 2020-2022, Rs 4.75 lakhs per year
- Prospective cohort study to find Circulating Levels of Anti Phospholipase A2 receptor (PLA2R) Antibodies and its Correlation with Idiopathic Membranous Nephropathy (IMGN), Dr SK Agarwal, ICMR, New Delhi, 3 years, 2017-2022, 31 lakhs
- Randomised, double-blind, placebo-controlled and parallel dose group trial to investigate efficacy and safety of multiple doses of oral BI 690517 over 14 weeks, alone and in combination with empagliflozin, in patients with diabetic and non-diabetic chronic kidney disease, Dr RK Yadav, Boehringer Ingelheim Clinical Trial, 1 year, 2022-2023, Rs 1.32 per patients
- Role of T-regulatory cells (T-regs) and their clinical correlation in obesity associated inflammation in type-2 diabetic & CKD, Sandeep Mahajan, ICMR, 3 years, 2019-2022, Rs 56.53300 lakhs
- Therapeutic drug monitoring of valganciclovir in renal transplant recipients, Arunkumar Subbiah, Indian Society of Nephrology, 2 years, 2020-2022, Rs 5 lakhs

Completed

- A Randomised, Double-blind, Placebo-controlled, Parallel-group, Multicenter Study to Demonstrate the Effects of Sotagliflozin on Cardiovascular and Renal Events in Patients with Type 2 Diabetes, Cardiovascular Risk Factors and Moderately Impaired Renal Function, Dr RK Yadav, Sanofi Pharma, 5 years, 2018-2023, Rs 4.71 per patient
- An adaptive seamless randomised, double blind, placebo-controlled, dose ranging study to investigate the efficacy and safety of LNP023 in primary IgA nephropathy patients, Soumita Bagchi, Novartis Ltd, 2 years, 2019-2021, Rs 1.98 per patient
- The Association of HLA antigens with primary IgA nephropathy in Indian patients, Soumita Bagchi, Intramural grant, 1 year, 2019-2020, Rs 5 lakhs

Year	Projects	Funding
2019-2020	6	Not possible to give funding for the year as project continue for more than a year. Also, it is not always financial year funding. It may vary depending on start date of project
2020-2021	7	
2021-2022	10	

Departmental Project

Ongoing

1. A cohort study to evaluate the changes in exercise tolerance and nutritional status in chronic kidney disease patients on hemodialysis before and after renal transplantation
2. A prospective multi-centric randomized open label trial to assess efficacy of Hydroxychloroquine (HCQ) in reducing proteinuria in moderately severe primary IgA Nephropathy (EQUALITY study)
3. A study of proteinuria in kidney transplant recipients in first year post transplant
4. Characterisation of Chronic Kidney Disease of Unknown Origin in Patients attending Nephrology OPD of AIIMS, New Delhi-A cross-sectional study
5. Clinical profile, clinicopathological correlation and treatment outcomes in lupus nephritis
6. Clinicopathological correlation of HBV and HCV infection in patients on renal replacement therapy
7. Designing of rapid and cost-effective Nano-LAMP based detections of BK virus from serum and urine samples of post-renal transplant patients
8. Effect of Intravitreal Bevacizumab on Renal Function and Proteinuria Among Diabetic Patients: A Prospective Observational Study In North India
9. Evaluation of changes in measured GFR, Echocardiography, markers of bone mineral metabolism and carotid intimal medial thickness (CIMT) after renal donation
10. Evaluation of changes in measured GFR, Echocardiography, markers of bone mineral metabolism and carotid intimal medial thickness (CIMT) after renal donation
11. Evaluation of nutritional status and exercise tolerance in chronic kidney disease
12. Frailty and nutritional assessment scores in chronic kidney disease patients and their correlation
13. Impact of Hepatitis C treatment on long term outcomes of renal allograft recipients in Indian setting
14. Practice patterns in IgA nephropathy: a questionnaire-based survey
15. Retrospective multi-centric study for evaluating the clinical course and outcome of IgA nephropathy with crescents in the Indian population
16. Risk of contrast-induced nephropathy among diabetic patients undergoing fundus fluorescent angiography – A prospective observational study
17. Study to assess the effect of audio-visual distraction on fistula cannulation pain and biophysiological parameters among patients undergoing hemodialysis at AIIMS, New Delhi
18. Supportive management of IgA nephropathy-a prospective study
19. To study vitamin D deficiency as a risk factor for PTDM after kidney transplantation
20. Transplant outcomes in patients with primary FSGS

Completed

1. A cohort study to evaluate the changes in exercise tolerance and nutritional status in chronic kidney disease patients on hemodialysis before and after renal transplantation
2. A randomised control trial to assess the efficacy of renal care bundle on the quality of life among CKD patients at AIIMS, New Delhi
3. Correlation of serum Immunoglobulin A/complement factor 3(IgA/C3) with the clinical and histologic severity in patients with IgA nephropathy
4. Evaluation of nutritional status and exercise tolerance in chronic kidney disease- dialysis and non-dialysis
5. Tele nephrology service for patients with kidney disease during the COVID- 19 pandemic

Collaborative Projects

Ongoing

1. A Prospective study Comparing outcomes and quality of life after Laparoscopic donor nephrectomy Versus open donor nephrectomy, Surgery
2. A Randomised trial- To compare the catheter malfunction in Laparoscopic CAPD insertion with omentectomy versus Open CAPD insertion, Surgery
3. An immunohistochemical and ultra-structural study of glomerular capillary endothelial injury in cellular rejection, Pathology
4. An Open Label Randomised Controlled Trial to Study the Effect of Psychosocial Intervention on Quality of Life, Adherence and Psychiatric Morbidity in Patients with ESRD Undergoing Hemodialysis, Psychiatry
5. Antifungal susceptibility testing and genotyping of Cryptococcal isolates from Delhi and other parts of India, Microbiology
6. Assessment of Fok I polymorphism of VDR gene, vitamin D and parathyroid hormone levels in stage 4-5 CKD patients, Laboratory Medicine
7. Detection and genotype distribution of BK polyoma virus in renal transplant recipients, Microbiology
8. Detection and genotyping of Human Cytomegalovirus from Neonates and Renal Transplant Recipients, Microbiology
9. Development of Immunoblot assay for diagnosis of subclinical Cryptococcus, Microbiology

10. Genetic landscape of Alport's syndrome in India with phenotypic correlation, Pathology
11. Genotypic characterisation of Autosomal Dominant Polycystic Kidney disease (ADPKD) in Indian population: a pilot study, Biochemistry
12. Improving maturation rates of AV fistula haemodialysis access in CKD V patients using autologous adipose tissue derived mesenchymal stem cells: a double blind, randomised placebo-controlled trial, Cardiovascular Radiology & Endovascular Interventions
13. Intestinal Parasitic and microsporidia infections in renal transplant patients at a tertiary care centre, Lab Medicine
14. Molecular detection and characterisation of Pneumocystis jiroveci in respiratory samples from the patients both immunocompromised as well immunocompetent with suspected interstitial pneumonia and other chronic lung diseases, Microbiology
15. Short term and long-term outcomes following laparoscopic donor nephrectomy and open donor nephrectomy: An ambispective comparative cohort study, Department of Surgery
16. Study of muscle enzyme elevation in neurosurgery and its relevance in postop acute kidney injury: a pilot study, Neuroanaesthesia (PI)
17. Study of Population genetics of clinical strains of Pneumocystis Jiroveci and its clinico-epidemiological correlation, Microbiology
18. Study to evaluate the efficacy of BCG vaccine in reducing the incidence and severity of COVID-19 in the high risk population (BRIC): A phase II, multicentric, quadruple blind randomized controlled trial, Medicine
19. To define intestinal insufficiency in patients with celiac disease, Gastroenterology
20. To study the effect of 24 hour versus standard 7 day prophylactic antibiotic regimen in renal transplant recipients: a randomized control study, Department of Surgery
21. To study the prevalence of UL 97 Gene Mutation In Ganciclovir Non-Responders vis a vis Responders In Indian Renal Transplant Patients, Lab Medicine

Completed

1. Assessment of Fok I polymorphism of VDR gene, vitamin D and parathyroid hormone levels in stage 4-5 CKD patients, Department of Laboratory Medicine
2. Genotypic characterization of Autosomal Dominant Polycystic Kidney disease (ADPKD) in Indian population: A pilot study, Department of Laboratory Medicine
3. Short term and long-term outcomes following laparoscopic donor nephrectomy and open donor nephrectomy: An ambispective comparative cohort study, Department of Surgery
4. Surgical audit of renal transplantation data of a single surgical unit over the last decade, Department of Surgery

PUBLICATIONS

Journals: 24

Chapters in Book: 2

Year	Numbers
2019-2020	32
2020-2021	16
2021-2022	26

PATIENT CARE

Dr Arunkumar Subbiah has worked as nephrology faculty for health Camp for Hon'ble MP's (7 December 2021)

Facilities available in the department

In addition to providing general nephrology care for all nephrology related illnesses, department provide state of art renal replacement therapy; hemodialysis, CAPD and renal transplant at very low cost to any patient of end stage renal disease. Department provide swap transplant and ABO incompatible renal transplant. Department also provide immunosuppressive drug monitoring free of cost. During hemodialysis, ultrapure water is provided to machine so as to absolutely safe hemodialysis can be provided to patients. During COVID period also, hemodialysis facility was never restricted, not only to COVID patients but also to non-COVID infected patients.

SN	Area	Sub-heading	2019	2020	2021
1	HD Related	HD New Patients	1377	1304	1089
		Emergency HD Patients	1113	1228	1089
		Total HD	11453	10761	9826
		Plasmapheresis	84	58	170
		Femoral Vein catheterisation	933	677	511
		Jugular / Subclavian catheterisation	336	152	177
		AV Shunts	0	0	0
		AV Fistula	570	88	32
		Permcath Insertion	133	17	48
2	ICU Related	CRRT/SLED	23	3	109
3	Peritoneal Dialysis	Acute PD	12	16	2
		CAPD	17	6	7
4	Indoor Related	Kidney Biopsy	819	346	434
		Liver Biopsy	2	3	1
		Indoor regular admission	1378	573	512
		Indoor short admission	4382	1736	2114
		Indoor Death / male	60/37	65/40	39/17
		Nephrology consultation	6320	4448	2993
		Ultrasound	762	329	433
5	Day Care Treatment	Pulse Methylprednisolone Tt	66	31	53
		IV iron Therapy	189	34	25
		IV Cyclophosphamide Therapy	27	22	42
		Other Miscellaneous Therapies	1742	1649	1994
6	Renal Transplant	Evaluation of LRRT	441	88	269
		Evaluation of Cadaver recipient	141	46	56
		Living RT done	114	28	62
		Cadaver RT done	6	4	0
7	Renal Lab related	Blood sampling	140685	60107	85482
		Biochemistry (Urea, Cr, Na, K)	88211	38469	45548
		Urine osmolality	1324	1140	1187
		24 hr urine testing	19683	7213	10370
		Hemogram for RT Patients	12746	5372	11468
		CO2	29239	11520	14270
		Serum iron	6513	3931	4798
		TIBC	6513	3931	4798
		UIBC	6513	3931	4798
		T Saturation	6513	3931	4798
		Serum Ferritin	2749	1326	2249
		NGAL	0	0	0
		Tac Level	5365	2666	3258
		Vit-D & PTH	0	0	3876
		Urine PO4	0	0	0
8	OPD Related	Renal clinic new patient	11282	3091	337
		Renal clinic old patient	48029	13779	1031
		Renal clinic Total Patients	59311	16870	1368
		RTCC New Cases	441	101	299
		RTCC Old Cases	1447	252	560

		RT new cases	212	27	62
		RT old cases	10492	3323	5261
		RT Clinic Total Patients	10704	3350	5323
	COVID-19 Dialysis		NA	2215	NA
	Teleconsultation		NA	20713	NA

AWARDS, HONORS AND SIGNIFICANT EVENTS

Professor Sanjay Kumar Agarwal was Subject expert for collaboration strategy between National Tuberculosis Elimination Program and National Organ Transplant Program in India, Subject expert for collaboration strategy between National Tuberculosis Elimination Program and Pradhan Mantri National Dialysis Program in India, Champion in Transplantation from South Asian region by The Transplantation Society of the world, Member of Expert Committee to comprehensively review the National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS) 2021 onward, Expert member of National Oversight Committee (NatCom) for Pradhan Mantri National Dialysis Programme (PMNDP), International Society of Nephrology mentor for ISN mentorship program, Nominated as member of Academic Committee of Janakpur Superspeciality Hospital, Delhi Government Aug 2021 onward, Elected as council member for National Academy of Medical Sciences, New Delhi (2021-2024); Awarded “Eminent Transplant Professional Award” by MOHFW-Govt. of India on 12th Indian organ Donation Day on 27 November 2021 at New Delhi, Appreciation certificate by CEHB, MOHFW for conducting a session during Nationwide online “Training of Doctors on Management of Post Covid- 19 Sequelae” two times in November and December 2021 on virtual platform, Successfully completed “Training program on good clinical practice” conducted by CDSA and THSTI in four days module.

Professor Dipankar M Bhowmik was Visiting Professor Nephrology AIIMS Rishikesh, President Indian Society Nephrology Northern Zone, Member Credential Committee Delhi Nephrology Society, Deputy Editor of Indian Journal of Nephrology, National Coordinator for National Board DNB (Nephrology) Practical Examination, External expert for faculty selection in ILBS, New Delhi and IGIMS Patna, Secretary of Institute Kidney Foundation of Delhi, Treasurer of Indian Academy of Nephrology, Trustee of Guru Kripa Trust, Appeared in Doordarshan and AIR to increase public awareness on kidney diseases, Member of National Committee List of Essential Medicines (Devices) ICMR, Reviewer of several national and international journals, Judge to evaluate abstracts in Annual Conference Indian Society Nephrology.

Professor Sandeep Mahajan was Nominated as fellow to Royal College of Physician (London), Nominated as Member of Expert Committee for Grant-in-Aid (GIA) Scheme of Department of Health Research (DHR) (2021-onwards), Nominated as Member to editorial board of Indian Journal of Nephrology (2021-onwards), Nominated as Member the Committee to Develop Guidelines to Identify Individuals with Co-morbidities that Enhance Risk of Mortality in COVID-19 Disease for Possible Priority Vaccination. Constitute by the National Expert Group on Vaccine Administration for COVID-19 (NEGVAC), Invited to the National Expert Panel of the Certificate Course in Management of Hypertension by Public Health Foundation of India (2016-continue), Member of the Scientific Committee of Peritoneal Dialysis Society of India (2019-continue), Program Chair for the Post Graduate Medical Program (Nephrology) for the Taxila American University (2017-continue), Expert member of the reconstituted Task Force of **Metabolic Disorders and Auto-Immune Diseases, by Department of Biotechnology, Ministry of Science & Technology (2017-continue)**, Member of Committee for roll-out of Peritoneal Dialysis under the National Health Mission (2017-continue), Nominated as Co-chairperson for the Expert Group set up by ICMR, for the preparation of standard treatment workflows (STWs) for Nephrology (2018-continue), Nominated as Member of South Asian Guidelines for Travel and endemic infections in solid organ recipients (2019-continue), Member of the Drug Selection Committee of AIIMS (2018-continue), Member of the Committee on Extra Budgetary Resources and Corporate Social Responsibility (2018-continue), Member of the AIIMS Public Awareness Committee (2018-continue), Member of the AIIMS Project Management Committee for New Paid Ward Block (2018-continue), Member of the Committee to review plans for expansion of AIIMS, New Delhi (2018-continue).

Dr Soumita Kamal Kumar Bagchi was Deputy editor Indian Journal of Nephrology, Associate editor Seminars in Dialysis, Member of the working group for the TTS guidelines and recommendations on BK Polyomavirus in kidney transplantation.

Dr Raj Kumar Yadav was Nominated as the referee to evaluate the research work for promotion to the rank of Associate Professor by Permanent Committee for Academic Promotions, Kingdom of Saudi Arabia, Ministry of Education, University of Jeddah, (Secretariat Academic Council's) on 1 February 2022.

Dr Arunkumar Subbiah was selected as the Editorial Fellow of the Indian Journal of Organ Transplantation (IJOT); Expert Committee member of FSSAI, Member/Nodal Officer for various committee's in AIIMS, New Delhi – Bill Verification committee, Learning Management System, Information Technology Program Management Consultant (ITPMC) facilitation.

9.22 Nuclear Magnetic Resonance

Professor and Head

Rama Jayasundar

Professor

S Senthil Kumaran

Additional Professors

Uma Sharma

Virendra Kumar

Scientists

Sujeet Kumar Mewar

Pawan Kumar

Dushyant Kumar

HIGHLIGHTS

The clinical MRI facility functioned 24x7 (for One MRI) and more than 12 hours daily for the other two MRI scanners through the pandemic from April 2021 to March 2022. A total of 7182 patients had their MRI scans from April 2021 to March 2022. The department obtained Cardiac 4D Flow MRI under the Research Agreement from M/s Siemens Healthineers Ltd and has carried out experiments using the protocol.

Action Plan

To augment the human resources in the Clinical MRI facility for 24x7 functioning of all the three MRI scanners. To give impetus to research in the fields of elastography and fingerprinting, which can be used for Clinical research and patient care. To augment the Faculty and staff strength to have Clinical oriented Research with new perspectives and developmental research

EDUCATION

The faculty and Scientists participated and delivered lectures for course titled “Course 10: Structural Biology and NMR Technology, Course 11: Bioinformatics” and “Molecular Medicine”, of M Biotech Programme of the Dept. of Biotechnology, AIIMS; MBBS Course Third Semester and MD Physiology Course.

Lectures delivered

Rama Jayasundar: 25 S Senthil Kumaran: 4 Uma Sharma: 3

Oral papers/posters presented: 17

RESEARCH

Funded projects

Ongoing

1. Elucidating pathophysiology of rheumatoid arthritis and identification of biomarkers of response using metabolomics and proteomics. Uma Sharma ICMR, Govt. of India, 3 years, 2021-2024, Rs 44.23 lakhs
2. Elucidating the structural, neurobiological changes and identification of non-invasive biomarkers using magnetic resonance imaging and spectroscopy in major depressive disorder, Uma Sharma, Science and Engineering Research Board (SERB), DST, Govt. of India, 3 years, 2020-2023, Rs 33.08 lakhs
3. Exploring Auditory Perception in House Crows using Functional Magnetic Resonance Imaging and Neuroanatomical Techniques, S. Senthil Kumaran, DST, 3 years, 2020-2022, Rs 36.42 lakhs
4. Identification of Metabolic Biomarkers by using Metabolomics and Metagenomics of Prostate Cancer Associated Microbiome to Distinguish Aggressive Prostate Cancer. Virendra Kumar, Department of Health Research, Govt. of India., 3 years, 2022-2025, Rs 60 lakhs
5. Immunomodulatory effects, protease inhibitory activity and spectroscopic characterisation of select ayurvedic prophylactics and formulations: In vitro studies for novel SARS Cov infection, Rama Jayasundar, Ministry of AYUSH, Govt. of India, 2 years, 2021-2023, Rs 67.69 lakhs
6. Morphological and Neurobiological Changes in Spinocerebellar Ataxia Affected Patients (SCA) through MRI Techniques Using Computer Vision Based Analysis, S. Senthil Kumaran, SERB, Department of Science & Technology (DST), 3 years, 2018-2022, Rs 21.01 lakhs

- MR spectroscopy for identification of non-invasive biomarkers in patients with gluten ataxia and celiac disease, Uma Sharma, AIIMS, 2 years, 2019-2021, Rs 4.5 lakhs
- Scientific validation of ayurvedic concepts of guna and anupana by studying its interplay with NMR phytometabolomics and permeability analyses in intestinal and liver cells, Rama Jayasundar, ICMR, Govt. of India, 3 years, 2022-2025, Rs 23 lakhs

Completed

- Effects of environmental and occupational noise on cognition, S. Senthil Kumaran Life Sciences Research Board (LSRB), DRDO, 3 years 10 months, 2018-2021, Rs 59.25 lakhs

Departmental projects

Ongoing

- Brain Functional changes and Metabolic alterations in Spinocerebellar Ataxia (SCA)
- Evaluation of brain behavior relationship associated with cognitive deficit in early-onset Schizophrenia (EOS) using multi-modal MRI
- Evaluation of fumaric acid esters (FAEs) in experimental model of stroke in rats.
- In-bore MRI guided targeted prostate biopsy in patients with prostate cancer.
- Metabolomic NMR Fingerprinting Blood to Identify Metastases Prostate Cancer
- Metabolomics of patients with gluten ataxia
- Neuroprotective study of nano carrier based Berberine chloride in middle cerebral artery occlusion model of transient focal cerebral ischemia in rats.
- Quantitative Imaging Biomarkers in Prostate Carcinoma
- Role of multiparametric MRI in detection and localization of prostate cancer.
- Understanding pathophysiology of patients with major depressive disorder by MRI and MRS
- Understanding the structural and neurobiological changes in the patients with major depressive disorder using magnetic resonance imaging and spectroscopy.

Completed

- Evaluation of fumaric acid esters (FAEs) in experimental model of stroke in rats.

Collaborative Projects

Ongoing

- A comparative study of neurochemical alteration on 1H MRS in schizophrenia, obsessive compulsive disorder and schizophrenia with obsessive compulsive symptoms, Psychiatry, AIIMS, New Delhi
- Add-on effect of yoga and physical activity in persons with epilepsy on antiepileptic drugs: assessment of seizure control status, neurobehavioral adverse effects and neurotransmitter level, Pharmacology, AIIMS, New Delhi
- Analysis of anti-neurotoxicity of amyloid beta in Alzheimers (AD) disease pathology targeting lipooxygenases, Biophysics, AIIMS, New Delhi
- Biomarkers for bacteremia, antimicrobial resistance and hospital acquired infections by NMR and Mass spectrometry among febrile neutropenic patients, Microbiology, AIIMS, New Delhi
- Breast cancer stratification and biomarker discovery. Computer Science and Engg, University of Delhi
- EEG cortical sources and connectivity of working memory and language processing in attention deficit hyperactivity disorder, Physiology, AIIMS, New Delhi
- EEG cortical sources and connectivity of working memory and language processing in Attention Deficit Hyperactivity Disorder, Physiology, AIIMS, New Delhi
- Elucidating the pathobiology of classical ayurvedic interventions in post stroke recovery using Magnetic Resonance and other technique based structural, functional and chemical, biomarkers, Neurology and Neuroradiology
- Gene Expression Profiling by RNA Seq. and Metabolomic Signatures in post-Covid Pulmonary Fibrosis, Physiology, AIIMS, New Delhi
- Immunomodulatory effects, protease inhibitory activity and spectroscopic characterisation of select ayurvedic prophylactics and formulations: In vitro studies for novel SARS Cov infection, Biochemistry, AIIMS, New Delhi
- NMR phytometabolomics and studies of chemosensory signature of ayurvedic medicinal plant Department of Ocular pharmacology and pharmacy, AIIMS, New Delhi
- Quantitative analysis of MR images for Characterization and Diagnostic Assessment of Prostate cancer Biomedical Engg, IIT Delhi
- Role of advanced MRI in the prognostication of urinary bladder cancer, Radiodiagnosis, AIIMS, New Delhi
- Role of advanced ultrasound and advanced MRI in evaluation of prostate cancer, Radiodiagnosis, AIIMS, New Delhi
- Serum Metabolomics Profiling and Identification of Potential Biomarkers in Periodontitis by Nuclear Magnetic Resonance Spectroscopy. Center for Dental Education and Research (CDER), AIIMS, New Delhi

16. Spectroscopic analysis of medicinal plants for standardization and quality assessment, Ocular pharmacology and pharmacy, AIIMS, New Delhi
17. Study of vaginal microbiome and metabolome in women with bacterial vaginosis (BV) and healthy controls, Dermatology, AIIMS, New Delhi
18. To evaluate the role of donor and recipient blood metabolomics in the monitoring and prognostication of pediatric patients undergoing hematopoietic stem cell transplantation. Dept. of Pediatrics, AIIMS, New Delhi
19. Understanding and Facilitation of Neural Plasticity for Enhancing Post Stroke Recovery Using Low-Cost Non-Invasive Brain Stimulation Techniques, Neurology, AIIMS, New Delhi

Completed

1. Elucidating the science of yoga as a therapeutic intervention in post stroke recovery study of brain using the technique of magnetic Resonance, Neurology and Neuroradiology, AIIMS, New Delhi
2. Metabolomics of serum in sepsis patients using proton nuclear magnetic resonance spectroscopy, Medicine, AIIMS, New Delhi
3. Metabolic profile of serum samples of tuberculosis patients, contacts and control, Biotechnology, AIIMS, New Delhi
4. Engineered multifunctional nanomaterials for multimodal imaging of retinoblastoma. (SASTRA University, Thanjavur).

PUBLICATIONS

Journals: 23

Abstracts: 1

Chapters in Book: 2

Last 3 Years Data

	2021-22	2020-2021	2019-2020
Number of oral presentations	17	15	44
Number of funded projects	8	8	8
Extramural/intramural funding	Rs. 290.44 Lacs	Rs. 352.25 Lacs	Rs. 411.94 Lacs
Number of publications	29	21	16
Number of Journal articles	23	21	16
Number of Abstracts	01	15	44
Numbers of chapters in book	2	0	0
Numbers of books/Monographs	0	0	0

PATIENT CARE

The department has three MRI scanners (two 3.0 Tesla and one 1.5 Tesla scanners) for patient care and research. The department provides continuous patient care MRI (24x7) services. The details of the number of patients scanned during the period of

April 2021 to March 2022:

Clinical Diagnostic MRI Scan: 6604 patients

Research: 578 patients and subjects

April 2020 to March 2021:

Clinical Diagnostic MRI Scan: 3657 patients

Research: 198 patients and subjects

Preclinical fMRI: 22 patients (including tumour, epilepsy); rTMS planning: >3

April 2019 to March 2020:

Clinical Diagnostic MRI Scan: 6119 patients

Research: 876 patients and subjects

Throughout the COVID-19 pandemic last year, clinical MRI facility were available round the clock (24x7x365), following the protocol for MRI scans.

Last 3 years Data

Item	2021-22	2020-2021	2019-2020
Clinical Diagnostic MRI Scan	6604 Patients	3657 Patients	6119 Patients
Research	578 patients and subjects	198 Patients and subjects	876 Patients and Subjects
Preclinical fMRI including tumor epilepsy	0	22 Patients	0

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Rama Jayasundar was Member, Madhya Pradesh Ayurveda task Force, Government of Madhya Pradesh, Governing Body member, NIT, Jamshedpur, MHRD, Govt. India, Member, Society of the Indian Institute of Advanced Study, Shimla, Ministry of Education, Department of Higher Education, Govt. India, Governing Body member, Forum on Indian Traditional Medicine by Research and Information System for Developing Countries, MEA, Govt. India, Member, Working Group on Integrative Health System (Research), NITI Aayog, Govt. India, Member, Government of India's Interdisciplinary AYUSH Research and Development Task Force on COVID-19, Honourable President of India's nominee for Nagaland University; Member, Executive Council of Delhi University, Indian Institute of Technology (IIT), Mumbai, and Indian Institute of Technology (IIT), Hyderabad. Member, Academic Council for Annual Refresher Program in Teaching Course in History of Indian Science and Technology, Jawaharlal University. Member, Advisory Committee of CSIR-Traditional Knowledge Digital Library. Member, Scientific Advisory Committee, Centre of Excellence, Interdisciplinary School of Health Sciences, Savitribhai Phule Pune University. MHRD, Government of India's nominee for the Board of Governors of IISER, Kolkata. Reviewer for (i) J Medical Physics, (ii) J BioSciences, (iii) Current Science, (iv) Food Biophysics, (v) Biomed J, (vi) J Ayu Integ Med, (vii) Adv Nutr Food Sci, (viii) Annals Ay Med, (ix) Anc Sci Life, (x) Evidence based CAM, (xi) Ind J Med Ethics, (xii) J Comp Med Res, (xiii) Plos one. Editorial Board member J Ayu Integr Med, Elsevier, Invited by DG-CSIR to participate in an online meeting on Traditional Knowledge with the PMO, Invited member, Council for Ayurveda Research, Boston Centre of Excellence, Boston, Southern California University of Health Sciences, USA.

Professor S Senthil Kumaran was Editorial Board Member for Indian Journal of Radiology and Imaging, Reviewer for (i) Journal Magnetic Resonance Imaging, (ii) Journal of Parkinson's Disease, (iii) Journal of Medical Physics, (iv) Journal of BioSciences, (v) Brain Research and (vi) PLOS ONE, Reviewer for Department of Biotechnology, Department of Science & Technology, SERB and ICMR grant projects in the field of Magnetic Resonance.

Dr Uma Sharma was Associate Editor for Frontiers in Oncology, Editorial Board panel of Current Metabolomics and Systems Biology, Bentham Science and World Journal of Gastroenterology, Reviewer for Journals: Scientific Reports, Springer Nature, Journal for Magn. Reson Imaging, Frontiers in Neurosciences, Biochemistry and Biophysics Report, NMR in Biomedicine, Plos One, Frontiers in Neurology, Thesis examiner for Delhi University.

Dr Virendra Kumar was International Society for Magnetic Resonance in Medicine (ISMRM) Adhoc Advisory Committee Member on hybrid meeting, 2021, Program Committee Member, The 6th Mediterranean Conference on Pattern Recognition and Artificial Intelligence (MedPRAI-2022), to be held in Las Palmas de Gran Canaria, Spain, November 25-27, 2022, Member of the Institutional Biosafety Committee, Mahatma Gandhi University of Medical Sciences and Technology (MGUMST), Jaipur, External Expert, Board of Studies (BoS), Department of Bio-Science, Manipal University, Jaipur, Ph.D. Thesis Examiner, Manipal University, Jaipur, Reviewer for Journals: Scientific Reports, Cancer Imaging, Medicine, IEEE Access, BMC Medicine, ANAMS.

9.23. Nuclear Medicine

Professor and Head

CS Bal

Professors

Rakesh Kumar

Chetan D Patel (CNC)

Additional Professors

Madhavi Tripathi

Anil K Pandey (Medical Physics)

Nishikant A Damle

Shamim A Shamim

Assistant Professor

Khangemam Bangkim Chandra

HIGHLIGHTS

The year 2021-22 was trying time for the whole country, and especially for the medical profession due to the 'once in life time' covid19 pandemic situation. This year the number of elective diagnostic procedures performed was relatively less due to lockdown and similarly, therapeutic procedures too. However, the department was functional during the entire period and provided services to in-patients as well as OPD patients. In the history of Nuclear Medicine in India, for the first time in 70 years, the Society of Nuclear Medicine and Molecular Imaging, USA nominated Indian research work that's to be from AIIMS, New Delhi as the "2021 Dr. Henry Wagner Jr. Best Research Paper of the Year award". Secondly, another major work in the field of therapeutic nuclear medicine got recognition by the American Thyroid Association (ATA). THYROID – the official journal of ATA put our work on the cover page of this prestigious journal. It is also important to mention here that Nuclear Medicine in the Cardiothoracic Centre (CTC) received two important projects from IAEA: a) "Transthyretin Amyloid Cardiomyopathy Study (iTAC study)" and "International Study on Imaging in Cardio-Oncology Study (iCOS)", both were funded by the International Atomic Energy Agency, Austria.

Education

No. of Postgraduate students: 54 (28 MD Nuclear Medicine students & 26 MSc. Nuclear Medicine Technology students).

No of DM (NM Therapy)- 8, PhD student – 1.

Lectures delivered

CS Bal: 4

Rakesh Kumar: 3

Chetan Patel: 3

Anil K Pandey: 3

Madhavi Tripathi: 3

Nishikant Damle: 3

Shamim A Shamim: 4

Khangemam Bangkim Chandra: 1

Oral papers/posters presented: 25

RESEARCH

Funded projects

Ongoing

1. Comparison of Alpha Emitting ²²⁵Ac-DOTATATE Versus Beta Emitting ¹⁷⁷Lu-DOTATATE Therapy in Advanced End-stage Gastroenteropancreatic Neuroendocrine Tumor (GEP-NET) Patients., Chandrasekhar Bal, ICMR, 5 years, 2019-2024, Rs 49 lakhs per year
2. Comparison of Re-188-HDD Lipiodol Transarterial Radionuclide Therapy (TART) with Re-188-DEDC Lipiodol TART in the Management of advanced Hepatocellular, Dr Shamim A Shamim, ICMR, 3 years, 2019-2022, Rs 47,56,910-lakhs
3. Diagnostic accuracy of antifungal scintigraphy in diagnosing invasive fungal disease (IFD) in febrile neutropenia in pediatric hematologic malignancies, Dr. Nishikant A. Damle, Intramural, 2 years, 2019-2021, Rs 5 lakhs peryear
4. Evaluation of long acting octreotide therapy in steroid resistant Graves ophthalmopathy with somatostatin receptor expression on ⁶⁸Ga-DOTANOC PET/CT, Dr Nishikant A Damle, Intramural, 3 years, 2019-2022, Rs 5 lakhs per year
5. Gastric Emptying Scintigraphy using a Standard Vegetarian Meal: Establishment of Reference Values in Post-Sleeve Gastrectomy Patients on Mid-Term Follow-Up, Dr Khangembam Bangkim Chandra, AIIMS, New Delhi, 1 year, 2021-2022, Rs 2 lakhs

6. IAEA Transthyretin Amyloid Cardiomyopathy Study (iTAC study), Dr Khangembam Bangkim Chandra, International Atomic Energy Agency (IAEA), Vienna, 4 years 2 months, 2021-2025, 20,000 Euros
7. International study on imaging in Cardio-Oncology Study (iCOS), Dr. Chetan D. Patel, International Atomic Energy Agency (IAEA), 5 years, September 2019-ongoing, 25,000 Euros
8. Mutation spectrum of BRAF gene among patients with Papillary Thyroid Carcinoma: A patho-genetic study in Indian population, Chandrasekhar Bal, ICMR, 4 years, 2018 –2022, Rs 35 lakhs per year
9. Prospective Single Arm Post Marketing Phase IV Study to Assess The Safety And Efficacy Of Lenvatinib In Subjects With Locally Recurrent Or Metastatic, Progressive, Radioiodine Refractory Differentiated Thyroid Cancer". PHASE IV FDA TRIAL, Chandrasekhar Bal, CLIANTHA RESEARCH LTD, Until all patient attain an event, 2018-Year August ongoing, No funds for manpower Funds directly to patients
10. Role of ¹⁷⁷Lu-PSMA therapy in patients with Adenoid Cystic carcinoma, Dr Shamim A Shamim, Intramural Funding, 2 years, 2021-2023, Rs 10 lakhs
11. Use of PET-CT with Gallium-68 Labeled Prostate Specific Membrane Antigen in the Diagnosis and Follow-up of Patients with Prostate Cancer", Dr Rakesh Kumar, International Atomic Energy Agency (IAEA), Vienna, Austria, 5 years, 2017-2022, 5000 Euros Per Years
12. Use of PET-CT with Gallium-68 Labeled Prostate Specific Membrane Antigen in the Diagnosis and Follow-up of Patients with Prostate Cancer", Dr Anil Kumar Pandey, funded by the 'International Atomic Energy Agency (IAEA), Vienna, Austria, 5 years, 2017-2022, 5000 Euros Per years
13. Utility of Radiolabelled Antibiotics as Imaging Agents in Establishment of a Decision Support Algorithm in Patients with Pyrexia of Unknown Origin (PUO) caused by Infection and its Impact on Short Term and Long Term Clinical Outcomes, Dr Nishikant A Damle, ICMR, 2019-2022, 3 years, Rs 36 lakhs

Completed

1. Comparison of targeted ²²⁵Ac-PSMA-617 alpha particle therapy versus ¹⁷⁷Lu-PSMA-617 beta particle therapy in metastatic castration resistant prostate cancer patients: An open-label, two-arm, phase II RCT, Chandrasekhar Bal, ICMR, For 3 years, 2018-2020, Total Sanction Rs 21 lakhs
2. Evaluation of Multimodality Imaging in the Assessment and Diagnosis of early Stage Alzheimers Disease with and without co-morbidities, Madhavi Tripathi, IAEA, 5 years, 2017-2021, 24,000 Euro

Departmental projects

Ongoing

1. ⁶⁸Ga-PSMA PET/CT in Metastatic Renal Cell Carcinoma
2. A Phase II Study of Gemcitabine Docetaxel Combination in Metastatic Relapsed Synovial Sarcoma.
3. A study to evaluate heterogeneity of estrogen receptor (ER) expression in Breast cancer using ¹⁸F-FES PET and ¹⁸F-FDG PET/CT
4. An ambispective study of risk factors, potential diagnostic clues, course and outcome of the cases of pyrexia with prolonged duration admitted in the medicine ward.
5. Analysis of the role of few biomarkers in thyroid carcinoma
6. Assessment of labelling efficiency, dosimetry and safety profile of ¹⁸⁸Re-N-DEDC/lipiodol Trans-arterial radionuclide therapy in hepatocellular carcinoma
7. Assessment of small bowel transit on routine gastric emptying scintigraphy: establishment of reference values
8. Clinical profile and outcome of patients with suspected OR confirmed granulomatous myocarditis
9. Comparison between kit based and in-house preparation of ^{99m}Tc-UBI
10. Comparison of diagnostic accuracy of CEUS with Sestamibi/SPECT for localization in PHPT: A pilot study
11. Comparison of whole-body MRI with ¹⁸F-FDG PET/CT in pediatric lympho-histiocytic neoplasms
12. Compression of Nuclear Medicine Images Using Discrete Cosine Transform
13. Compression of scintigraphic images using Singular Value Decomposition
14. Contrast enhancement of F-18-FDG PET images of Liver scan
15. Design and methods of the YOGICAD study- A probe trial to evaluate the efficacy of yoga based cardiac rehabilitation in Post PCI patients
16. Detection of oncogenic viruses HPV and EBV by immunohistochemistry in secondary cervical lymph nodes from primary of oropharynx, nasopharynx, and unknown primary
17. Edge aware contrast enhancement (EACE) of Nuclear medicine images
18. Establishing the ideal time point for imaging of tuberculous lesions using Ethambutol scintigraphy
19. Etiological and clinical profile of non-diabetic hypoglycemia: an ambispective study
20. Etiological and clinical profile of patients with ectopic ACTH syndrome-ambispective study
21. Evaluating the spectrum of cardiac involvement in sarcoidosis.
22. Evaluating tumor heterogeneity in mCRPC with Ga-68 PSMA & F-18 FDG PET/CT: A prospective study.
23. Evaluation of ^{99m}Technetium labelled Ethambutol scintigraphy in diagnosis and monitoring of tuberculosis with bone involvement.

24. Evaluation of Function and Viability of the Medial Gastrocnemius Flap in Proximal Tibial Endoprosthesis for Bone Tumors.
25. Genetic changes of TP53 and its role in treatment management of patients with advanced soft tissue sarcoma
26. Image Restoration using Blind Deconvolution Analysis
27. Immune microenvironment of anaplastic thyroid carcinoma
28. Metabolic patterns in Autoimmune encephalitis: SPM and Scenium evaluation of F-18 FDG PET Brain studies.
29. Prospective study evaluating the role of F-18 Fluorodeoxyglucose Positron Emission Tomography in Autoimmune Encephalitis
30. Quality control of therapeutic radiopharmaceuticals
31. Radiolabeling efficiency of a standard vegetarian Indian meal for gastric emptying scintigraphy
32. Response evaluation in skin keloids patients treated with 188Re-Patch
33. Role of 99m-Tc-Ethambutol scintigraphy in diagnosis of pulmonary and extrapulmonary tuberculosis
34. Role of 99mTc-Pyrophosphate Imaging in detection of transthyretin cardiac amyloidosis (ATTR-cardiac amyloidosis) in high- risk population
35. Role of 99m-Tc-Ubiquitin scintigraphy in diagnosis of orthopaedic implant infection
36. Role of F-18 FDG in mapping Covid-19 functional sequelae in Covid -19 survivors
37. Role of F-18 Fluoride PET/CT in diagnosis and assessment of response to radiofrequency ablation in Osteoid Osteomas
38. Role of Integrated ¹⁸F-Fluorocholine PET/4DCT in the localization of culprit lesions in patients with primary hyperparathyroidism
39. Role of PET-CT in assessment of treatment response to neo adjuvant chemotherapy in primary extraocular retinoblastoma
40. Role of PET-CT in initial staging of small cell lung cancer
41. Role of whole body MRI with diffusion weighted Imaging in the evaluation of lung cancer.
42. Scintigraphic image contrast enhancement using Fuzzy Logic
43. Study of prevalence of concomitant Transthyretin Amyloidosis in elderly patients with severe aortic stenosis by PYP scan
44. Synthesis, yield and biodistribution of 18F-FES
45. Texture analysis in Breast Cancer
46. Texture Analysis in Lymphoma Patients
47. To study the clinical profile, investigation and outcome of patients undergoing parathyroidectomy: A retrospective and prospective experience
48. Utility of 99mTc-Ubiquitin scintigraphy in diagnosis of Sinonasal Mucormycosis
49. Utility of Ga-68-NOTA-UBI in infectious and Non-infectious lesions
50. Whole body PET/CT using low activity F18-FDG in lymphoma patients
51. Whole body radiation exposure to nuclear medicine personnel during the manual synthesis of 188Re-labelled radiopharmaceuticals
52. Whole gut transit scintigraphy: establishment of reference values
53. Whole gut transit: establishment of reference values

Completed

1. A retrospective cohort study to analyse the diagnostic accuracy of SISCOS in drug refractory epilepsy.
2. Evaluation of 99mTechnetium labelled antibiotic scintigraphy in diagnosis and monitoring of tuberculosis with abdomen involvement. (DM Infectious diseases)
3. Gastric Emptying Scintigraphy using a Standard Vegetarian Meal: Establishment of Control Values
4. Prospective comparison between 18F-FDG PET/CT and conventional modalities for Ewing's family of tumors
5. Role of ⁶⁸Ga-PSMA-HBED-CC PET/CT in Adenoid Cystic Carcinoma
6. Role of Integrated ¹⁸F-Fluorocholine PET/CT in the localization of culprit lesions in patients with persistent/recurrent primary hyperparathyroidism

Collaborative projects

Ongoing

1. A study to determine the prognosis of patients with cardiac involvement with sarcoid: development of diagnostic and treatment algorithms, Cardiology, Cardiac Radiology
2. Aortic and lung inflammation following COVID: a marker of cardiac event an Indo-Australian joint project- funded by Department of Science & Technology, Cardiology
3. Biodistribution and radiation dosimetry of [⁶⁸Ga]-DOTA.SA.FAPi& [⁶⁸Ga]-DATA.SA.FAPi in patients diagnosed with various cancers., Department of chemistry, Johannes Gutenberg University Mainz, Germany
4. Diagnostic Accuracy of 68Ga PSMA-11 PET-CT and conventional Imaging for Initial staging of Intermediate and High Risk Prostate cancer Patients (PROCA study), Urology
5. Efficacy of yoga based cardiac rehabilitation in Post-PCI patients: A prospective randomized, open-label, blinded end-point trial- funded by Ministry of AYUSH, CIMR, Cardiology
6. Gastric Emptying Scintigraphy using a Standard Vegetarian Meal: Establishment of Reference Values in Post-Sleeve Gastrectomy Patients on Mid-Term Follow-up, Surgery

7. Inflammatory Cardiomyopathy: A study using Artificial Intelligence to validate a diagnostic algorithm combining novel proteomic biomarkers, non contrast MRI and somatostatin receptor based PET/CT, Cardiology, Cardiac Radiology
8. Role of [⁶⁸Ga]-DOTA/ DATA.SA.FAPi in the staging of breast cancer, Department of chemistry, Johannes Gutenberg University Mainz, Germany.
9. Transthyretin Amyloid Cardiomyopathy study (iTAC study), Cardiology
10. Use of PET-CT with Gallium-68 labelled PSMA in diagnosis and follow-up of patients with Prostate Cancer, Urology
11. Value of Gated-SPECT MPI for Ischemia-Guided PCI of non-culprit vessels in STEMI Patients with Multivessel Disease after primary PCI- funded by International Atomic Energy Agency, Cardiology

Completed

1. FDG PET in the evaluation of PSP variants, Neurology

PUBLICATIONS

Journals: 107

Chapters in Book: 2

Diagnostic Scans and Radionuclide Therapies Administered in the Department of Nuclear Medicine and PET from April 2021 to March-2022

<i>Therapeutics</i>	
I-131 Therapy	429
¹³¹ I-Therapy for Hyperthyroidism	128
¹⁷⁷ Lu – DOTA TATE therapy	46
¹⁷⁷ Lu- PSMA-61 therapy	34
¹⁷⁷ Lu-DOTAGA-FAPI therapy	70
²²⁵ Ac-DOTA-TATE therapy	17
²²⁵ Ac- PSMA-617 therapy	9
²²⁵ Ac-DOTA-GA-FAPI therapy	3
¹³¹ I-MIBG-Therapy	7
<i>Diagnostics Studies</i>	
F-18 FDG-PET	4933
F-18 FCH PET	43
F-18 FDOPA PET	5
Ga-68 DOTANOC PET	680
Ga-68 PSMA PET	387
Ga-68 Exendin PET	9
Ga-68 FAPI PET	200
Plain CT-Scans	247
GFR	2087
RAIU	283
Diagnostic I-131 WBS	1165
Blood pool studies	7
DMSA Scan	349
DRCG	24
ECD-SPECT	147
GER	44
GET	35
GHA SPECT	2
HIDA	68
Lymphoscintigraphy	39
MDP Bone scans	307
MIBG-Diagnostic	51

Meckel's Scan	19
PTH SPECT	62
Renal Dynamic scans	838
Sentinal Lymphoscintigraphy	20
Thyroid Scan	84
Myocardial perfusion studies	890
RNV study	489
Cardiac PET	163
Perfusion studies (V/Q scan,1st pass)	71

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor CS Bal received 2021 Dr. Henry N. Wagner Jr., Best Research Paper of the Year” Award by Society of Nuclear Medicine and Molecular Imaging, USA; elected as Member of the “International Committee for the Defining Radioiodine Refractory Differentiated Thyroid Cancer”. Other six members are from Europe and USA; SMT. SHAKUNTALA KRISHNAMURTHY AWARD 2021- for Best paper in Nuclear Hepatology presented on 52nd Annual Conference of SNM India; Oral paper presentation- First prize in ANMPI Con 2021.

Professor Chetan D Patel became **Convenor**, Expert Group for the Revision of Curriculum for MD in Nuclear Medicine by National Medical Commission.

Last 3 years Data

Item	2019-20	2020-21	2021-22
Oral presentations	43	39	29
Funded Research projects-number	8	12	11
Funded Research projects- total amount	98 lc+35,000 Euro	2.75 crore+18,000 euro+20,000 US\$	187 lac+35,000 Euro
Number of articles	75	112	107
Number of abstracts	40	22	Nil
Number of chapters	2	2	2

9.24. Obstetrics and Gynaecology

Professor and Head

Neerja Bhatla

Professors

KK Roy Neena Malhotra Vatsla Dadhwal
JB Sharma Neeta Singh

Additional Professors

K Aparna Sharma Garima Kachhawa Reeta Mahey
Vidushi Kulshrestha Seema Singhal Rajesh Kumari
Jyoti Meena

Associate Professor

Juhi Bharti

Assistant Professor

Nilanchali Singh Richa Vatsa Deepali Garg
Rinchen Zangmo Archana Kumari Anju Singh
Neha Varun Soniya Dhiman Anubhuti Rana
Nimisha Agrawal Rakhi (Contract) (from 18 January 2022)
Sarita Kumari (Contract) (from 18 January 2022)

Scientist-IV

Rohini Sehgal

Scientist-I

Arun Kumar

HIGHLIGHTS

The Department of Obstetrics and Gynaecology is committed to providing the highest quality of care in the field of women's health, strengthening research and innovations in teaching. The second wave of Covid posed considerable challenges as the impact on pregnant women was far more severe than in the first wave. The department provided Covid care services at the Trauma Centre as well as collaborated with WHO SEARO and MOHFW to develop Obstetric Modules for the training of doctors, paramedical and frontline workers. The WHO Collaborating Centre for Research in Human Reproduction in the Department worked actively on these efforts.

Fetal medicine reached a new frontier as we reported the first case of intrauterine laser surgery for fetal bronchopulmonary sequestration successfully performed in India. Various activities were conducted to increase public awareness about cervical cancer screening and general health improvement (Figure 1). Under the National Family Welfare Program, new initiatives started, including non-scalpel vasectomy (NSV) camps (Figure 2) and state level training programs for PPIUCD insertion (appreciation certificate was awarded by the Delhi Government). Posters designed by Student Nurses in an in-house competition featured on the cover page of the Delhi State Report of the NSV Awareness fortnight (Figure 3).

Professor Ranjit Manchanda, Consultant Gynaecologic Oncologist from the University College of London, was awarded the Infosys Chair in Oncology. The department was awarded the Dr SN Mukherjee Rotating Trophy of the Association of Obstetricians and Gynaecologists of Delhi (Figure 4). Several awards were won by faculty and students of the department for their outstanding research. The department also hosted several visiting faculty including oncologists Dr Dean Brenner, University of Michigan; and Dr Karen Anderson, Arizona State University, USA and Dr Suresh Seshadri, renowned Fetal Medicine expert from Chennai.

Activities/Steps taken to improve patient care services, education and research

The Laqshya program of MoHFW was implemented in the Labour Room for provision of respectful maternity care, along with various Quality Improvement initiatives to improve patient care services and experience, including display of signages, sensitization of staff, meetings of all stakeholders including nurses and others, and incorporation of feedback.

Patient awareness and cancer screening camps were conducted by the department on several occasions. HPV Awareness Day was celebrated on 4 March. An HPV Testing Camp was conducted on International Women's Day.

Online and hybrid teaching were continued for undergraduates and postgraduates. Extra classes were organized for postgraduates for a detailed understanding of the latest developments and surgical procedures that were being presented by faculty members in webinars. Additional tutorials for small group teaching of postgraduates were designed. Standard treatment protocols for the management of Covid-19 infection in pregnancy were developed by the WHO-Collaborating Centre. The department has a prominent presence in the activities of the SET facility and is involved in designing skill modules and in incorporating skill teaching in the regular MBBS teaching.

A Departmental Research Committee of senior professors was constituted to facilitate and streamline research by providing academic inputs and suggestions on feasibility while proposals are being developed. WHO CCR initiated projects on topics of national importance e.g., barriers for increasing the uptake of cervical cancer screening, developing birth plans and improving counseling of patients admitted, improving attendance and content of postnatal clinics, and improving acceptance of post-partum contraception.

Action Plan

The department aims to create an enabling environment to promote translational and implementation research, collaborations with national and international organizations and provide each individual with a conducive platform to realise their potential.

It is anticipated that the long-delayed transition to the Mother and Child Block will be completed soon, allowing the implementation of various plans for expansion and strengthening existing programmes. The fellowship programme in Maternal Fetal Medicine is planned to be upgraded to a DM course. This will complement the existing super-specialty courses in Gynaecologic Oncology and Reproductive Medicine in accordance with national needs and priorities. A new Menopause Clinic will cater to the unique needs of an aging population. Integration of simulation-based training in various courses will allow the standardisation of skills in students. The Quality Framework will be strengthened for providing the highest level of care with dignity and respect. The department aims to achieve national certifications in requisite care areas with the use of SOPs and quality improvement initiatives.

EDUCATION

Undergraduate Teaching

Undergraduates are posted in the department for clinical postings from 4th semester onwards. Didactic lectures are taken for 6th and 8th semester students. Department faculty members also participate in multidisciplinary seminars with other departments as per schedule. The list of didactic lectures is as follows:

- 1 Physiology of menstruation; Normal & abnormal puberty; adolescent problems
- 2 Physiology & diagnosis of pregnancy, maternal adaptation to pregnancy
- 3 Antenatal care & diagnosis of high-risk pregnancy, Prenatal Diagnosis
- 4 Bad Obstetric History
- 5 Hypertensive disorders of pregnancy
- 6 Gestational diabetes mellitus
- 7 Antepartum haemorrhage
- 8 Antenatal & intranatal fetal monitoring
- 9 Physiology of labour; induction & augmentation of labour
- 10 Preterm labour, PPRM
- 11 Infertility & assisted reproductive technology
- 12 Obstetric emergencies
- 13 Ovarian Tumours
- 14 Abnormal uterine bleeding
- 15 Menopause and its problems
- 16 Reproductive tract infections
- 17 Contraception I (Medical methods)
- 18 Contraception II (LARC & Sterilisation)

8th Semester

- 19 Multiple pregnancy and hydramnios
- 20 Postdatism and IUD
- 21 Heart disease in pregnancy
- 22 Hepatitis & HIV in pregnancy
- 23 Fetal growth restriction & oligoamnios
- 24 Rhesus incompatibility & non-immune hydrops

- 25 Anemia in pregnancy
- 26 Puerperium and its complications
- 27 Benign & premalignant lesions of cervix
- 28 Malignant lesions of cervix
- 29 Benign lesions of uterus
- 30 Premalignant & malignant lesions of uterus
- 31 Pelvic organ prolapse & genital fistulae
- 32 Amenorrhoea & Hirsutism
- 33 Endometriosis and Adenomyosis
- 34 Intersex and Genital tract malformations
- 35 Benign and Premalignant & malignant lesions of vulva & vagina
- 36 Gestational trophoblastic neoplasia

In 4th, 5th, 6th and 8th semesters undergraduates have daily clinical postings and bedside teaching by faculty. In the 6th and 8th semesters they are posted in Labour Room also. Evening tutorials are taken by senior residents on a daily basis. The training of interns is also closely supervised to ensure acquisition of essential skills.

Postgraduate teaching

Postgraduate classes are held in the form of weekly seminars, journal clubs and case presentations. The super-speciality classes are similarly held on a weekly basis.

The department had regular Caesarean section audits and statistics presentations. Surgico-pathological conferences, radio-conferences, perinatal audits, colposcopy audits were held regularly in collaboration with concerned departments. The list of seminars for postgraduates is listed below:

Date	Seminar Topics for Postgraduates
12 April 21	Ureteric injuries in Obs & Gynae
19 April 21	Adnexal masses- Diagnosis and Management
26 April 21	Cervical insufficiency – Dx and Mx
10 May 21	Evaluation of primary and secondary amenorrhea
17 May 21	USG in Obstetrics and Gynaecology
24 May 21	Immunotherapy in Obstetrics and Gynaecology
31 May 21	Management of Rh incompatibility
14 June 21	Intrapartum fetal monitoring
21 June 21	Menopause and HRT
28 June 21	Dysfunctional labour
13 September 21	Current concepts in management of Fibroid uterus
5 July 21	Evaluation of primary and secondary amenorrhea
12 July 21	USG in Obstetrics and Gynaecology
19 July 21	Immunotherapy in Obs and Gyn
26 July 21	Management of Rh incompatibility
2 August 21	Intrapartum fetal monitoring
9 August 21	Menopause and HRT
16 August .21	Dysfunctional labour
23 August 21	Cervical insufficiency
20 September 21	Intrapartum maternal monitoring
27 September 21	Uterine Artery Embolization in obstetrics and gynaecology
11 October 21	Abnormal presentations
18 October 21	Puerperal sepsis
25 October 21	Diagnosis and management Endometrial hyperplasia: Problem based learning
8 November 21	Energy sources in obstetrics and gynaecology
15 November 21	Prevention and treatment of thromboembolism in obstetrics and gynaecology
22 November 21	Antimicrobials in obstetrics and gynecology

29 November 21	Difficulties and dilemmas in the management of endometriosis
13 December 21	Current scenarios of ovulation induction
20 December 21	Basic principles of hysteroscopy
10 January 22	Antimicrobials in obstetrics and gynecology
24 January 22	Ovulation induction -Current concepts
31 January 22	Oral contraceptive pills
7 February 22	Treatment of Diabetes in pregnancy
14 February 22	Adenomyosis
28 February 22	Intrauterine infections
7 March 22	HIV in pregnancy
14 March 22	MTP: Current Update
28 March 22	Screening modalities for cancer cervix

The Department offers super-specialty courses MCh in Gynaecologic Oncology and DM in Reproductive Medicine. It also offers short term training in various subspecialty subjects like Gynae Endoscopic Surgery, High Risk Pregnancy, Gynae Oncology, Ultrasonography and Infertility.

Short & Long-Term Training

The Department offers on-demand short and long-term training in various subspecialty subjects like Gynae Endoscopic Surgery, High-Risk Pregnancy, Gynae Oncology, Ultrasonography and Infertility.

1. Dr Shilpi Nain, Lady Hardinge Medical College, 16-30 October 2021, Maternal Fetal Medicine
2. Dr Neha Sahay, Army Hospital, Delhi, 16-31 March 2021, Maternal Fetal Medicine
3. Dr Atul Kumar, Himachal Pradesh Government, 4 January 2019-3 January 2022, Gynaecology Oncology
4. Dr Yogita Dogra, IGMCI, Shimla, 2 July 2018-1 July 2021, Urogynaecology
5. Dr Dipanwita Banerjee, CNCI, Kolkata, 4-5 February 2021, Gynaecology Oncology
6. Dr Suday Halder, West Bengal Health Services, 24 January 22-23 January 25, Gynaecology Oncology
7. Dr Shweta Prasad, GTB Hospital, Delhi, 12 December 20-13 December 23, Reproductive Medicine

CMEs, Workshops, Symposia, National and International conferences

The following programmes were organised by Departmental faculty members:

1. AIIMS workshop on systematic review (First Research Methodology Workshop) under the aegis of IVF Research Society, 18 January 22, Virtual
2. AOGD Post-Conference Workshop on Safe Abortion Values, Evidence and Respect (SAVER) Workshop for Obstetricians and Gynaecologist Master Trainers (MTs) in association with AOGD QI committee and WHO-India, 25 November 21, AIIMS, New Delhi
3. AOGD Webinar on Optimising in the Pregnancy Outcomes in Thalassaemic Women, 22 February 22, Virtual
4. General Body Meeting of IVF Research Society, 15 December 2021, Virtual
5. ICOG online course on Everyday Practice in Gynaecologic Oncology (8 Modules), 28 August 2021 to 16 October 2021, Virtual
6. International CME on “Life Beyond Cancer” under the aegis of IVF Research Society and Fertility Preservation Society (India) (Hybrid Mode), 12 February 2022, AIIMS New Delhi
7. Optimising Caesarean Section Rates: Utilising the Quality Improvement Methodology: NARCHI Pre-congress Workshop, 28 August 2021, Virtual
8. Point of Care Quality Improvement (POCQI) workshop (WHO CC-AIIMS and AOGD QI Committee), 6 August 2021, Virtual
9. Shobha Seth Wenger CME series in Gynaecologic Oncology, Palliative Care Course for Gynaecologists and Gynae Oncologists, 19 March 2022, Virtual
10. Tenth Annual National Conference of AOGIN India, 3-5 December 2021, Virtual
11. Training For Residents’ Doctors for PPIUCD Insertion: under the aegis of Delhi Family Welfare Program, 15 March 2022, AIIMS, New Delhi
12. Training of Trainers to create a cadre of SEAR Master Trainers for Competency-based Pre-Service Medical Abortion Training: Progress so far and way forward - WHO Collaboration Centre for Research in Human Reproduction, 6-7 January 2022, Virtual
13. Training on post-partum contraception by Directorate of Family Welfare in collaboration with Department of Obs. & Gynae, AIIMS, 29 June 2021, Virtual

14. Virtual Expert Group Meeting to Review Competency based Pre-service curriculum and Training Resources for Safe Abortion (WHO CCR AIIMS), 3 May 2021, Virtual
15. WHO Expert Group Meeting for Development of Standard Treatment Protocols (STPs) for Clinical Management of COVID-19 infection in pregnancy, 7-8 December 2021, New Delhi
16. Workshop on first multi-centric study for developing the Normogram for HSA on Indian subjects, 21 January 2022, Virtual
17. World Population Day-FOGSI-WHO, India, 11 July 2021, Virtual

LECTURES DELIVERED

Neerja Bhatla: 60
JB Sharma: 8
Garima Kachhawa: 1
Seema Singhal: 28
Juhi Bharti: 2
Deepali Garg: 1
Neha Varun: 4

Neena Malhotra: 27
Neeta Singh: 9
Reeta Mahey: 10
Rajesh Kumari: 1
Nilanchali Singh: 8
Rinchen Zangmo: 3
Anubhuti Rana: 3

Vatsla Dadhwal: 21
K Aparna Sharma: 49
Vidushi Kulshrestha: 4
Jyoti Meena: 12
Richa Vatsa: 2
Archana Kumari: 8
Nimisha Agrawal: 5

Oral Papers/Posters Presented: 106

	2021-2022	2020-2021	2019-2020
Total Number of Oral/Poster Presentation	106	53	61

RESEARCH

Funded Projects

Ongoing

1. A Phase-II/III, Partially Double-blind, Randomized, Active-controlled, Multicentric Study to Assess the Immunogenicity and Safety of SIPL's qHPV Vaccine Administered Intramuscularly in Healthy Volunteers According to a Two-dose Schedule to Cohort 1 (Girls and Boys Aged 9-14 years) and a Three-dose Schedule to Cohort 2 (Women and Men Aged 15-26 years) as Compared to Merck's HPV6/11/16/18 vaccine (Gardasil®), Dr Neerja Bhatla, Serum Institute of India Pvt. Ltd, Pune, 5 years, 2018, 2023, Total = 85,78,380, 2021-22 = 24,51,260, 2020-21 = 30,55,511, 2019-20 = 19,02,706
2. A prospective study to develop a preeclampsia prediction model for the Indian Population based on contingent utilisation of historical factors and biophysical and biochemical parameters, Dr K Aparna Sharma, AIIMS, 2 years, 2018, 2020 Continued for 2022, Rs 3, 50, 000
3. A prospective, open-label, single-center, single arm, post-marketing study to evaluate the efficacy and safety of D-chiro inositol and myo-inositol combination on ovarian function and metabolic factors in women with polycystic ovarian syndrome (PCOS), Dr Garima Kachhawa, Ambrosia Life Science Pvt. Ltd., 3 years, 2019-2022, Rs 16,96,900
4. A randomised controlled trial to study the outcome of 'Routine episiotomy' versus 'No episiotomy' on perineal injury and pelvic floor dysfunction during normal vaginal delivery among primigravida women: A pilot study, Dr Archana Kumari, AIIMS intramural grant, 2 years, 2021-2023, Rs 8,80,000
5. A Randomised, Multi-Center, Assessor-blind Phase 3 Study to Compare the Efficacy, Safety and Ease of Use of Two FSH - R (BSV & Gonaf® by Merck Serono) in Subjects Undergoing COH for ART, Dr Reeta Mahey, Bharat Serum and Vaccines, 2 years, 2022-2024, Rs 20,00,000
6. Age specific nomograms of Anti-Mullerian Hormone (AMH) and Antral Follicle Counts in infertile and fertile Indian women, Dr Neena Malhotra, CSR funded by RECPDCL, Government of India, 3 years, 2016, 2021, 50,00,000
7. AIIMS-WHO Multi-Site Study on Women's Health and Life Events in Covid Pandemic, Dr Neerja Bhatla, WHO, 9 months, July 2021-March 2022, 2021-22 = 2,92,695
8. Assessing & creating fertility awareness among youth in premier Indian Technical Institutions, Dr. Neeta Singh, Bill & Melinda Gates Foundation, 4 years, 2020 (started in 2021 due to Covid), 2024, 5, 00, 000
9. Characterisation of the uterine microbiota from women with unexplained infertility and recurrent implantation failure planned for in-vitro-fertilization (IVF)- a pilot study, Dr Neena Malhotra, Intramural Collaborative Research Project, 2 years, 2020, 2022, Rs 5,00,000 (2020-21)
10. Circulatory exosomal microRNA as marker of endometriosis- A Pilot study, Dr Juhi Bharti, Intramural AIIMS, 2 years, 2020-2022, Rs 5,00,000
11. Demographic Profile and Tumor Markers in Women Presenting with Benign and Malignant Ovarian Masses and the Effect of these Neoplasms on their Lifestyle, Dr Nilanchali Singh, Intramural AIIMS Under Graduate Research, 1 year, 2021-2022, Rs 2,00,000
12. Detection of SARS-COV-2 using RT-PCR in semen and seminal Plasma from men with COVID-19- A Pilot Study, Dr Neena Malhotra, Intramural, 2 years, 2020-2021, Rs 4,26,500
13. Development and pilot testing of smart phone-based app for non-invasive detection of anaemia in pregnant women, Dr Vatsla Dadhwal, AIIMS, 10 months (Extended for 06 months), 2020, 2022, 4,85, 200

14. Development and Validation of phone-based App, Swasth Garbh, for improving antenatal care (ameliorating maternal and fetal health), Dr Vatsla Dadhwal, ICMR, 3 years, 2022-2025, 12,81, 000
15. Development of Augmented Reality (AR)-enabled tool for guidance in Cervical Cancer screening by Visual Inspection method in Single Visit Approach, Dr. Seema Singhal, DST SERB Under Core Research Grant Scheme, 3 years, 2020, 2023, 38,00,000
16. Diagnostic and Prognostic role of oncometabolites in Endometrial cancer, Dr Seema Singhal, AIIMS, 2 years, 2022, 2024, 10,00,000
17. Effectiveness and safety of 2 vs 3 doses of HPV vaccine in preventing cervical cancer: An Indian Multi-centric randomized trial, Dr. Neerja Bhatla, WHO-IARC, 17 years, 2009, 2026, Total = 2,38,21,330, 2021-22 = 32,75,463, 2020-21 = 17,65,234, 2019-20 = 20,90,185
18. Enhanced, tailored antenatal care to reduce anaemia in pregnancy – the Comprehensive Anaemia Program and Personalized Therapies (CAPPT) project, Dr Vatsla Dadhwal, DBT, 3 years, 2018, 2021, 1,16, 988
19. Evaluation of newer molecular methods and antigen based diagnostic modalities against RNTCP recommended methods in EARLY DIAGNOSIS of Female Genital Tuberculosis, Dr JB Sharma, Ministry of Health and Family welfare, 3 years, 2021-2025, Rs 67,10, 938
20. Evaluation of paternal RhD zygosity and fetal RhD genotype using circulating cell-free fetal DNA from maternal plasma in the antenatal monitoring of alloimmunised pregnant women, Dr Anubhuti Rana, AIIMS Early Career Intramural Grant, 2 years, 2020-2022, Rs 9,85,000
21. Evaluation of prevalence, regional phenotypic variation, co-morbidities, risk factors and the variation in response to different therapeutic modalities among Indian women with PCOS: A multicenter study across India, Dr Neena Malhotra, ICMR, 4 years, 2018-2022, Rs 37,58,900
22. Evaluation of stress biomarkers in pregnancy and correlation with maternal-fetal outcomes, Dr Anju Singh, AIIMS Early Career Intramural Grant, 1 year, 2021-2022, Rs 5, 00, 000
23. Evaluation of the role of m-health strategies using a mobile application in enhancing access to cervical screening by Human Papillomavirus (HPV)self-sampling in a north Indian community, Dr Neerja Bhatla, Shobha Seth Wenger Distinguished Chair, 2 years, 2021, 2023, 2021-22 = 7,50,000
24. Expression of erbB receptor family and estrogen receptors (ER) in endometrium and ectopic lesion during ovarian endometriosis, Dr Deepali Garg, AIIMS Early Career Intramural Grant, 2 years, 2021-2023, Rs 9,60,000
25. First trimester quadruple test and its correlation with fetomaternal outcome, Dr Rinchen Zangmo, AIIMS EarlyCareer Intramural Grant, 2 years, 2020-2022, Rs 10,00,000
26. Implementation of non-invasive pre-implantation genetic testing for aneuploidies using next-generation sequencing (NGS) on spent culture media, Dr. Neeta Singh, DHR, 3 years, 2020, 2023, 30, 00, 000
27. Implementation of WHO ANC Model using web-based application in primary, secondary and tertiary health care levels by trained health care providers, semi-skilled healthcare providers and community health workers, Dr K Aparna Sharma , DST, 3 years, 2022, 2025, 66, 69, 320
28. Longitudinal follow up of pregnant women and their infants after COVID-19 exposure in pregnancy, Dr K Aparna Sharma, AIIMS-UCL, 1 year, 2021, 2022, 5, 00, 000
29. Ovarian Tissue Cryopreservation (OTC) for fertility preservation in young cancer survivors – comparison of freezing and vitrification techniques, Dr Neena Malhotra, ICMR, 3 years, 2020-2023, Rs 56,20,000 (2020-21)
30. Prevalence of Psychosocial stress in female infertility and its correlation with cytokine levels, Dr. Nimisha Agrawal, AIIMS Research Section Under-graduate Research mentorship scheme, 1 year, 2022-2023, Rs 2,00,000
31. Rapid point of Care Detection of HPV-Associated Malignancies, Dr Neerja Bhatla, NCI, USA through Arizona State University, 5 years, 2017, 2022, Total = 2,17,48,756, 2021-22 = Nil, 2020-21 = 1,28,77,052, 2019-20 = 31,50,556
32. Role of Endocrine Disrupting Chemicals (EDCs) in Maternal and Child Health, Dr Garima Kachhawa, ICMR, 4 years, 2018, 2022, 45,72,010
33. Serum Visfatin and Serum Adiponectin levels in patients with Carcinoma Endometrium, Dr Jyoti Meena, Intramural, 2 years, 2020-2022, Rs 2,00,000
34. Standardising data collection and cervical cancer screening protocols to improve facility preparedness and capacity building for cervical cancer elimination, Dr Neerja Bhatla, WHO SEARO, 1 year, 2021, 2022, 2021-22 = 25,91,890
35. Study of Effects and Safety of Gold IUD Copper T375 Au, Dr Neerja Bhatla, SMB, Mumbai, 5 years, 2021, 2026, 2021-22 = 2,00,000
36. The TRACK Trial – Role of Telemedicine in the Training of Accredited Social Health Activists (ASHA) in counseling women for HPV Self-Sampling for Cervical Cancer Screening, Conquer Cancer, Dr. Nilanchali Singh, American Society of Clinical Oncology-International Innovation Grant Award, 1 year, 2021, 2022-20000 USD 15,56,400
37. To evaluate combination of biochemical endothelial markers and arterial stiffness in prediction of preeclampsia, Dr Garima Kachhawa, ICMR (DHR), 4 years, 2018-2022, Rs 83,89,861
38. To investigate the role of natural Killer cells in implantation failure and to study immunomodulatory effect of Intralipids in women with elevated uterine natural Killer (u-NK) cells in fresh non donor IVF cycles- A randomized Controlled trial, Dr. Neeta Singh, ICMR, 3 years, 2019-2022, Rs 40, 00, 000

39. To study the sequential changes in maternal Corticotropin Releasing Hormone level during the course of pregnancy and correlate with outcome its role as an endocrine mediator of parturition, Dr Neha Varun, AIIMS Early Career Intramural Grant, 2 years, 2020-2022, Rs 5,00,000 (2020-21) 5,00,000 (2021-22)
40. Use of pyruvate kinase M1 and M2 biomarker in predicting coexistent carcinoma endometrium, in cases of atypical endometrial hyperplasia, to facilitate choice of fertility sparing surgery, Dr Richa Vatsa, AIIMS Intramural Grant, 2 years, 2020-2022, 5,00,000 (2020-21) 5,00,000 (2021-22)
41. Validation of Preeclampsia Congo Red Detection kit (Point-of-Care test): Multicentric trial, Dr K Aparna Sharma, Perkin-Elmer, 2 years, 2019-2022, Rs 9,50,000
42. Women's Health and Domestic violence against women during COVID-19 pandemic in India or Strengthening Health Sector to Gender Based Violence during COVID-19 Pandemic, Dr Vatsla Dadhwal, World Health Organisation (WHO), 1 year, 2021-2022, Rs 18,00,000

Total Funded Research Projects	Total amount of funding
42	12,86,42,029 INR

Completed

1. Developing a low-cost training model for teaching the skills of screening and treatment of pre invasive lesions of cervix to healthcare professionals, Dr. Seema Singhal, AIIMS Intramural research grant, 2 years, 2019 to 2021, Rs 3,54,750
2. Implementation of WHO ANC Model using web-based application in primary, secondary and tertiary health care levels by trained health care providers, semi-skilled healthcare providers and community health workers, Dr K Aparna Sharma, DST, 2 years, 2019-2022, Rs 19,75,552
3. To study the prevalence of FSH receptor gene polymorphisms in infertile and fertile Indian women and evaluate response to ovarian stimulation in the infertile subset undergoing IVF/ICSI, Dr Reeta Mahey, SERB, 3.5 years, October 2018 to March 2022, Rs 43,00,000
4. Training of trainers to create a cadre of SEAR Master Trainers for Competency-based Pre-Service Medical Abortion Training, Dr Neerja Bhatla, WHO SEARO, 6 months, August 2021-January 2022, 2021-22 = Rs 13,57,020

Departmental projects

Ongoing

1. A comparative study of optimum versus fixed positive end expiratory pressure on incidence of postoperative lung atelectasis in patients undergoing laparoscopic gynecological surgery: a double blinded randomized control trial
2. A cross-sectional study to screen for psycho-sexual health disorders and measure neurochemical correlates in gynecology cancer survivors
3. A pilot study to assess the correlation of serum anti-mullerian hormone for prediction of response to letrozole and/or gonadotropin among infertile women with polycystic ovarian syndrome undergoing ovulation induction cycles
4. A pilot study to evaluate the role of POTEE gene and machine learning as preoperative diagnostic and prognostic prediction tools for epithelial ovarian cancer
5. A prospective study to develop nomograms of fetal brain structures in the north Indian population and assess these fetal brain structures in growth restricted fetuses using the developed nomograms
6. A randomized randomised controlled study of Burch Colposuspension versus inside out TVT-O and outside in Trans-obturator vaginal tape procedure in women with urodynamic proven Stress urinary incontinence
7. A Randomized randomised controlled trial comparing the efficacy of bupivacaine injection in vaginal vault and paracervical region vs vaginal vault infiltration with bupivacaine after Total Laparoscopic Hysterectomy
8. A randomized randomised controlled trial to study the outcome of 'Routine episiotomy' versus 'No episiotomy on perineal injury and pelvic floor dysfunction during normal vaginal delivery among primigravida women: A Pilot study
9. Anaemia Quality Improvement Collaborative, on the reduction of prevalence of anaemia in booked antenatal patients at birth
10. Analysis of molecular biomarkers in serum and tumor tissue of epithelial ovarian cancer
11. Assessment of fetal cardiac morphometry and function in maternal diabetes using conventional and speckle tracking echocardiography and its association with neonatal outcome
12. Assessment of quality-of-life among PCOS women and validation of Hindi version of PCOSQOL tool in India
13. Assessment of Response to Neoadjuvant Chemotherapy in Women with Advanced Stage Epithelial Ovarian Cancer by F18-Fluorodeoxyglucose Positron Emission Tomography
14. Cardiac function of monochorionic diamniotic twins complicated by selective fetal growth restriction
15. Collaborative multi-centric project in 38 hospitals for Surveillance of Hospital acquired Infections, supported through the GHSA's CDC program, technically coordinated by the ICMR, tailored for C-Sections
16. Comparison between barbed suture and 1-0 Vicryl in total laparoscopic hysterectomy- a randomized controlled trial

17. Comparison between Intraperitoneal Sodium Bicarbonate and Normal Saline for Peritoneal Irrigation in Reducing Post-Operative Pain in Diagnostic Laparoscopy: A Randomized Controlled Trial
18. Comparison between patient-controlled analgesia with fentanyl and multimodal parenteral analgesia in reducing pain due to second trimester medical termination of pregnancy: A randomized randomised controlled trial
19. Comparison of cervical shear wave elastography, bishop score, and transvaginal cervical length measurement for prediction of successful labor induction: A pilot study
20. Comparison of letrozole plus gonadotropins versus gonadotropins alone for controlled ovarian stimulation in PCOS women undergoing IVF-ICSI cycles- a randomized controlled trial
21. Comparison of modified WHO partograph and Labour Care Guide during labour: A prospective Randomized Randomised Controlled Trial
22. Comparison of sexual outcome after hysterectomy through open and laparoscopic routes for benign uterine disorders
23. Comparison of three techniques for skin closure in caesarean delivery (subcuticular sutures, non-absorbable nylon sutures, surgical staplers): A randomized controlled trial
24. Correlation of serum inflammatory biomarkers with fetomaternal outcome in cholestasis during pregnancy: A pilot study
25. Correlation of Serum Visfatin, Adiponectin and Tissue expression of Pyruvate kinase M2 with prognostic factors in Carcinoma Endometrium
26. Correlation of Visceral Adiposity Index (VAI) and Lipid Accumulation Products (LAP) with metabolic and endocrine markers in women with Polycystic Ovary Syndrome (PCOS)
27. Demographic profile and tumor markers in women presenting with adnexal masses and their effect on outcome: a pilot study
28. Detection of Sperm associated antigen 9 (SPAG 9) in liquid-based cytology (LBC) for ovarian and endometrial cancer screening
29. Development and evaluation of a women centric comprehensive weight management module
30. Development and pilot testing of smart phone-based app for non-invasive detection of anaemia in pregnant women
31. Effect of chronic pancreatitis and recovered acute pancreatitis on women's menstrual and reproductive behavior
32. Effect of integrated yoga on assisted reproductive techniques outcomes and psychological stress in patients undergoing in vitro fertilization cycles: a prospective randomized controlled trial
33. Effect of Music Therapy on Pain and Anxiety Levels in Women undergoing Office Hysteroscopy
34. Effect of preoperative & postoperative counselling on prevalence of depressive symptoms, anxiety and stress in women planned for gynecological surgeries
35. Efficacy and feasibility of Enhanced Recovery After Surgery (ERAS) protocol on functional recovery in women undergoing elective caesarean delivery: A randomized clinical trial
36. Efficacy of levonorgestrel intrauterine system in reducing blood loss in women with haematological disorders
37. Evaluation of 18F FDG PET specific quantitative tumour parameters and Sentinel lymph node mapping by radionuclide injection of Tc99m sulphur colloid in management of Endometrial cancer
38. Evaluation of an Artificial Intelligence based device for screening and management of Preinvasive Lesions of Cervix
39. Evaluation of diagnostic potential of Hysteroscopy, Histopathology and Molecular Microbiology in chronic Endometritis in women with tubal and unexplained infertility undergoing IVF: A prospective cohort study
40. Evaluation of extra-cellular micro-RNA profiles in the follicular fluid of women with Polycystic Ovarian Syndrome and their correlation with IVF outcomes- A Case Control Study
41. Evaluation of feasibility and perioperative outcome of HIPEC at the time of interval debulking surgery in Stage IIIC/IV epithelial ovarian, fallopian tube and primary peritoneal carcinoma: A Pilot Study
42. Evaluation of insulin resistance during pregnancy and its correlation with maternal and fetal outcome
43. Evaluation of newly recommended antral follicle count (AFC) cut-off in the diagnosis of various PCOS phenotypes and comparison of low AFC and high AFC groups in terms of clinical, metabolic and endocrine parameters
44. Evaluation of ovarian reserve after ovarian cystectomy in endometriomas by two different surgical techniques – a randomized randomised trial
45. Evaluation of renal function parameters during pregnancy and its correlation with maternal and fetal outcome
46. Evaluation of role of cardiotocography based short term variability in prediction of adverse perinatal outcome in late small for gestational age and appropriately grown fetuses
47. Expression of erbB receptor family and estrogen receptors (ER) in endometrium and ectopic lesion during ovarian endometriosis
48. Feasibility and acceptability of implementation of standardized still birth screening module based on clinical and USG in rural and semi urban settings: a pilot project
49. Fetal cardiac profile in Intrahepatic Cholestasis of Pregnancy and its association with perinatal outcome
50. FOGSI VISTRIT - Project (Jharkhand): Technical Engagement For Accelerating Safe Motherhood (Initiative by FOGSI, Safe Motherhood Committee FOGSI, in collaboration with USAID, IPE Global Vriddhi)
51. Implementing birth companion Practice in labour room: a quality Improvement study in a tertiary care Center of Uttarakhand
52. Incidence and risk factors for Surgical site infection (SSI) in women undergoing obstetric and gynecological surgeries and effect of introducing an evidence-based SSI bundle
53. Initiative to improve the quality of counseling provided to laboring women admitted in labour room

54. Jeevandhara- Virtual Workshop of Life Saving Skills for the Management of PPH in States of Uttar Pradesh, Jharkhand and Bihar Initiative by- FOGSI and Safe Motherhood Committee FOGSI Supported by- Jhpiego, NHSC, MGH, MGIMS, UNICEF and Pathfinder International
55. Maternal dengue and its impact on perinatal outcome: a tertiary care experience
56. Menstrual and reproductive behaviors in chronic pancreatitis patients
57. Prediction of ovarian function in reproductive age women with breast cancer undergoing gonadotoxic chemotherapy using ovarian reserve biomarkers – a prospective cohort study
58. Pregnancy outcome in extremes of reproductive age
59. Prevalence of cytological lesion and HPV type in vulval lesions on visual inspection and colposcopy
60. Profile of vaginal and placental microbial flora in antenatal patients
61. Pulmonary vein pulsatility index cardiac remodeling (global sphericity index) and function (myocardial performance index) in growth restricted and normally grown fetuses
62. Quality improvement initiative establishing the practice of clinical breast examination in all women attending gynecology clinic, as a part of breast cancer screening in low resource settings
63. Quality Improvement methodology project titled Improvement of Percentage of COVID Vaccination among pregnant women attending antenatal OPD
64. Quality Improvement Study to increase the practice of proper handwashing prior to vaginal examination in the labour room
65. Relationship of Middle cerebral artery peak systolic velocity and perinatal outcome in growth restricted fetuses
66. Role of Bisphenol A in pathogenesis of PCOS: A case control study
67. Role of Endometriosis fertility index for prediction of pregnancy outcome in women with endometriosis undergoing in vitro fertilization or ICSI cycles: A prospective study
68. Role of intra-ovarian instillation of autologous platelet rich plasma in premature ovarian ageing: A prospective pilot study
69. Role of serum estradiol levels in letrozole-FET versus HR-FET cycles: A pilot randomized controlled trial
70. Role of Spalt-like transcription factor 4 (SALL4) in cervical oncogenesis and its correlation with clinicopathological parameters
71. Role of Targeted metabolites as diagnostic and prognostic biomarkers in Endometrial Cancer
72. Role of Transvaginal 3D Power Doppler Ultrasound and Hysteroscopy for endometrial evaluation in patients with postmenopausal bleeding
73. Standardizing Standardising data collection and cervical cancer screening protocols to improve facility preparedness and capacity building for cervical cancer elimination
74. Study of psycho-social and behavioral responses and concerns of peripartum women during COVID-19 pandemic and developing Comprehensive Counselling Module for Obstetricians and General Practitioners for enhancing their holistic well being
75. Sub-endometrial instillation of Platelet Rich Plasma in women with thin endometrium undergoing In Vitro Fertilization Fertilisation cycles – A feasibility study
76. To assess the impact of implementation of systematic childbirth education through a birth planning visit on the outcome and experience of childbirth: A Quality Improvement Project
77. To compare the use of dedicated PPIUCD inserter over conventional technique with Kelly's forceps for PPIUCD insertion: A Randomized controlled trial
78. To create and assess the feasibility and usability of smartphone application for streamlining Training, Assessment of Risk (Contact tracing), Screening and awareness of Employees, and Infection Control activities of the Nodal Team of various areas of the hospital for COVID-19 activities (TASC App)
79. To evaluate the IVF outcome in low prognosis women according to POSEIDON (Patient Oriented Strategies Encompassing Individualized Oocyte Number) stratification and to evaluate the possible etiologies of decreased ovarian reserve (DOR) in Indian women
80. To evaluate the rule of serum D-dimer, neutrophil/Lymphocyte Ratio, Platelet/Lymphocyte ratio and CA125 in assessment of ovarian masses
81. To study the diagnostic performance of IOTA Simple rules, IOTA ADNEX, GIRADS and ORADS reporting systems in evaluation of adnexal masses
82. To study the effect of yoga in pregnancy on maternal and perinatal outcome
83. To study the efficacy and safety of DIOSMIN (900mg) given along with Tranexamic acid (500mg) and Mefenamic acid in reducing menstrual blood loss in patient with abnormal bleeding
84. To study the efficacy of lignocaine in distension medium in improving pain score during Office hysteroscopy: A double blinded randomized controlled trial
85. To study the incidence of Obstetric Anal Sphincter Injuries (OASIS) in postpartum females in North India using Endoanal Ultrasound
86. To study the prevalence of FSH receptor gene polymorphisms in infertile and fertile Indian women and evaluate response to ovarian stimulation in the infertile subset undergoing IVF/ICSI
87. Trend of Aspartate Aminotransferase to Platelet Ratio Index (APRI) Score and Immature Platelet fraction (IPF) in preeclampsia: A Case-control Study

88. Validation of Menstrual Questionnaire in SLE Patients
89. Validation of Preeclampsia Congo Red Detection kit (Point-of-Care test): Multicentric trial
90. Women's Health and Domestic violence against women during COVID-19 pandemic in India

Completed

1. A comparative study of Anxiety and Depression in low-risk Vs High-risk pregnant women in Indian settings
2. A comparison of ultrasonography and magnetic resonance imaging in assessing tumour characteristics and locoregional spread in cervical cancer
3. A prospective study to evaluate the effect of laparoscopic salpingectomy on ovarian reserve in patients with hydrosalpinges
4. Association of placental volume and vascularization indices in pregnancy following in-vitro-fertilization & adverse pregnancy outcome
5. Comparison of direct trocar and Veress' needle in establishing pneumoperitoneum during laparoscopy: a clinical trial
6. Comparison of dual versus single trigger in antagonist cycles in non-donor in vitro fertilization: A randomized controlled trial
7. Comparison of efficacy and safety of GnRH agonist with low dose hCG for Luteal phase support in women undergoing GnRH agonist triggered antagonist cycles: a randomized controlled study
8. Comparison of insulin resistance as a marker of psychological morbidity (perceived stress, depression and anxiety) and quality of life (QOL) in PCOS and non-PCOS infertile women-a case-control study
9. Comparison of Letrozole plus gonadotropins versus gonadotropins alone for controlled ovarian stimulation in PCOS women undergoing IVF-ICSI cycles-a randomized controlled trial
10. Comparison of Quality of Antenatal Care delivered using a Web Based mobile Application as compared to the standard care protocol: A Pilot Study
11. Comparison of the portable advanced intrapartum monitoring system and standard cardiotocography for assessment of fetal heart rate and uterine contractions and correlation with neonatal outcome
12. Dienogest versus GNRH Agonist (LEUPROLIDE) prior to in-vitro-fertilization (IVF) cycle in women with endometriosis associated infertility: A Randomized Controlled study
13. Evaluation of Hormonal and Metabolic parameters in adolescent and Young Indian Girls with Menstrual dysfunction
14. Evaluation of knowledge, attitude, perception and concerns regarding COVID 19 vaccine among pregnant and lactating women
15. Evaluation of leucocyte and platelet indices in preeclampsia compared to normotensive Asian Indian pregnant women
16. Evaluation of ovarian reserve after ovarian cystectomy in endometriomas by two different surgical techniques: a randomized trial
17. Evaluation of surgical resectability of epithelial ovarian, fallopian tube and primary peritoneal carcinoma using a Computed Tomography based reporting system
18. Evaluation of WHO and intergrowth-21 fetal growth charts in Indian population
19. Feasibility and outcome of minilaparotomy assisted laparoscopic myomectomy for large myomas
20. Prevalence of mental health problems (Anxiety, Depression and Stress Reaction) in mothers of pre term infants admitted to NICU: A Cross Sectional Study
21. Randomised control trial comparing pregnancy outcome using Letrozole versus GnRH agonist HRT for endometrial preparation during frozen embryo transfer cycles
22. To evaluate role of TB loop mediated isothermal amplification assay as compared to other conventional techniques in diagnosing female genital tuberculosis
23. To evaluate the effect of intralipid supplementation on implantation rate in women with two or more failed in vitro fertilization with elevated natural killer cell levels: A pilot randomized controlled trial
24. To study CD138 immunohistochemistry sample in women with infertility: A prospective observational study

Collaborative projects

Ongoing

1. A Cross sectional descriptive study to categorise the etiology in patients with self-reported excessive facial hair, Dermatology & Venereology
2. A Cross-Sectional Study to Screen for Psycho-sexual Health Disorders and Measure Neurochemical Correlates in Gynecology Cancer Survivors, Psychiatry & NDDTC
3. A double blinded randomised controlled trial to compare the effectiveness of oral multiple micronutrient supplement Vs oral iron and folic-acid, for anemia prophylaxis among non-anemic pregnant women in rural Haryana, Centre for Community Medicine (CCM)
4. A population based prospective cohort study to unravel the causes of stroke and cognitive decline: A cross cultural perspective, Neurology
5. Artificial Intelligence in Oncology: Harnessing big data and advanced computing to provide personalized diagnosis and treatment for Cancer patients, Biochemistry
6. Assessment of workload and musculoskeletal symptoms among minimal access surgeons: A Prospective Study, General Surgery (Minimal Access Surgery) (MAS)

7. Bio-markers for prediction of successful pregnancy in women undergoing IVF: using the proteomics approach in a North Indian population: hospital-based prospective cohort study, Clinical Epidemiology Unit
8. Characterisation of Parasite ligand host receptor interactions in Plasmodium vivax infections, Molecular Parasitology Lab, Biotechnology
9. Comparing the vascularization potential of MSCs and MAPCs in monoculture and coculture systems with human OECs under normoxia and hypoxia, Stem Cell Facility
10. Comparison of Freestyle Libre Pro and Medtronic CGMS for glucose monitoring, using self-monitored glucose values (using blood glucose meter) as reference in women with hyperglycemia in pregnancy, Endocrinology & Metabolism
11. Detection of HPV circulating tumor DNA in cervical cancer patients before and after chemoradiotherapy by droplet digital PCR, Preventive Oncology, IRCH
12. Development and validation of a Gas Chromatography- Combustion-Isotope Ratio Mass Spectrometry (GC/C/IRMS) method for the confirmation analysis of 19-Norandrosterone (19-NA) in human urine sample, National Dope Testing Laboratory (NDTL)
13. Effect of Circulating Exosomes Isolated from Normal Pregnant and RPL Women on Trophoblast Cells, Reproductive Biology
14. Exploring proteomic and genomic factors associated with idiopathic recurrent pregnancy losses in male partner of affected couples, Biophysics
15. Exploring the potential of Exosomes derived from Endothelial Colony Forming Cells (ECFCs) primed with Mesenchymal Stromal Cells (MSCs) as a cell-free therapy for Cardio-Vascular Diseases (CVDs), Cardiac Biochemistry
16. Genetic determinants of premature and primary ovarian failure, Reproductive Biology, Incidence of vertical transmission of COVID 19 infection in a tertiary hospital in India - A prospective study, Neonatology
17. Knowledge, attitude and practices of travel medicine among medicine and Infectious Diseases resident doctors in All India Institute of Medical Sciences, New Delhi: A quasi-interventional study, Medicine
18. Molecular characterisation of Endometrial Cancer and correlation with Clinicopathological features, Pathology
19. Molecular mechanisms involved in the development of insulin by the environmental exposure of phthalates, Ocular Pharmacology
20. Paternal factors in early pregnancy loss, Anatomy
21. Postural impact on gastric ultrasound assessment in pregnancy, Anaesthesiology
22. Prevalence of gestational diabetes mellitus among 1st and 2nd trimester pregnant women in a rural community of Haryana using Government of India operational guidelines, Centre for Community Medicine (CCM)
23. Prevalence of psychosocial stress in female infertility and its correlation with cytokine levels, Transplant Immunology and Immunogenetics
24. Psychosocial dynamics of pregnancy loss: development of a multidimensional scale & development efficacy, Psychiatry
25. Role of aptamer technology for detection of sialidases of Bacterial Vaginosis (BV) associated bacteria, Microbiology
26. Role of Hydrogen sulphide as a pharmacological modulator in adverse pregnancy outcomes like pre-eclampsia, Anatomy
27. STAT3 regulation via miRNAs in ovarian cancer stem cells: A therapeutic approach, Reproductive Biology
28. Status of hydrogen sulphide producing enzymes, matrix metalloproteinases and miR-22 in preeclampsia and their role in modulating trophoblast invasion, Anatomy
29. Study of vaginal microbiome and metabolome in women with bacterial vaginosis and healthy controls, Dermatology and Venereology
30. To develop a strategy for postpartum follow up of woman with history of gestational diabetes mellitus by using the right test and frequency of testing and developing patient centric approach after incorporating their views, Endocrinology & Metabolism
31. To establish mother-offspring-spouse cohort of women with history of gestational diabetes mellitus to study the vertical and horizontal influence on cardiovascular risk factors, Endocrinology & Metabolism
32. To evaluate combination of biochemical and biophysical marker in prediction of preeclampsia, Physiology
33. To evaluate the effectiveness of lifestyle intervention program in overweight/obese women [within 2 years of last child birth] when delivered to them along with their spouse as compared to them alone: Two arm parallel Randomized Control Trial, Endocrinology & Metabolism
34. To study gene expression, epigenetic profile, oxidative DNA damage in infertile men post yoga intervention and to analysis the effect of their serum on cancer cell lines, Anatomy

Completed

1. A lifestyle intervention program for the prevention of type 2 diabetes mellitus among South Asian women with gestational diabetes mellitus. India, Bangladesh, Sri Lanka, Endocrinology & Metabolism
2. Effect of Human Sperm Vitrification on Phospholipase C Zeta Expression, Reproductive Biology
3. Evaluation of menstrual pattern, fertility, pregnancy outcomes and its modulation by gluten free diet in females with Celiac disease, Gastroenterology
4. Molecular interaction of reactive oxygen species in mitochondrial dysfunction and nrf-2 gene expressions in polycystic ovary syndrome (PCOS), Laboratory Medicine
5. Role of L-carnitine in oocyte activation, Reproductive Biology

PUBLICATIONS**Journals:118****Abstracts:15****Chapters in Book:07**

	Year 2021-22	Year 2020-21	Year 2019-20
Journal Articles	118	90	57
Abstracts	15	3	9
Chapters in books	07	11	13
Books/ Monographs	0	7	0

PATIENT CARE

In addition to services at AIIMS Main Hospital, Gynae Cancer Clinics are running at IRCH twice weekly. The department provides round-the-clock obstetrics and gynaecological services to patients at CRHSP, Ballabhgarh. The complete range of Gynaecological Oncology services is being provided at NCI, Jhajjar.

The department met the unprecedented challenges due to the ongoing Covid pandemic with total dedication to providing uninterrupted emergency obstetric and gynecological care to patients. The second and third waves with Delta and Omicron variants required reinstatement of the facility for three separate areas for labour and delivery of Covid-positive, Covid-suspect and Covid-negative cases, which were formed at the beginning of the pandemic. Teleconsultation services were also provided to non-emergency gynecological and obstetric patients throughout the pandemic. During the Covid peak waves, gynaecological surgeries continued to be performed for emergency and semi-emergency cases.

Care was provided to gynae cancer patients both by teleconsultations and by physical consultations where needed. Cancer surgeries were given high priority as also emergency life-threatening cases with ectopic pregnancy, severe bleeding, etc.

High-risk obstetrics and fetal medicine services including procedures like amniocentesis, cordocentesis, chorion villus sampling and intrauterine transfusion were continued. A large number of unbooked obstetric cases referred from other hospitals and neighbouring states with serious complications were attended throughout the pandemic.

Details of procedures carried out during 2021-2022

Year	2021-2022	2020-2021	2019-2020
Gynaecological Cancer Surgeries (Total)	207	207	72
Carcinoma Uterus	47	35	-
Carcinoma Ovary	149	153	72
Carcinoma Cervix	3	15	-
Carcinoma Vulva	8	4	-
Benign Gynecological Surgeries			
• Hysterectomy	412	194	160
1. Laparoscopic (TLH)	175	88	53
2. Abdominal	201	80	59
3. Vaginal	36	26	48
Ovarian Cystectomy/Oophorectomy (including dermoid and endometriosis)	162	91	71
• Open	5	12	43
• Laparoscopic	159	57	28
• Oophorectomy	8	22	-
Ectopic pregnancy	24	27	21
• Open	17	-	21
• Laparoscopic	7	-	-
Pre-IVF Salpingectomy	-	37	-

Cerclage	18	11	27
• Abdominal	2	5	5
• Vaginal	16	6	22
Myomectomy	92	42	91
• Open	20	12	11
• Laparoscopic	42	16	50
• Hysteroscopic	28	12	25
• Adenomyomectomy	2	2	6
Vaginoplasty	13	9	13
• Mc	6	9	10
• Indoe	7	-	3
• Laparoscopic			
Day Care Surgeries			
Diagnostic Laparoscopy + Hysteroscopy +/- CT	244	49	300
Hysteroscopy (Diagnostic)	397	90	
Hysteroscopic Polypectomy	93	24	
Hysteroscopic Septal Resection	44	5	
Hysteroscopy +LNG-IUS Insertion	40	-	
Hysteroscopic Adhesiolysis	24	10	
Hysteroscopic IUCD Removal	19	9	
Hysteroscopy + Mock ET	9	-	
Relook Hysteroscopy	4	-	
Hysteroscopic Placenta Removal	1	-	
Diagnostic Laparoscopy + Hysteroscopic Adhesiolysis	27	32	
Laparoscopy + Hysteroscopic Cannulation	2	7	
Relook Laparoscopy + Hysteroscopy + CT	8	-	
Laparoscopy + Hysteroscopy + CT Fimbrioplasty	6	-	
Laparoscopic Salpingectomy/ Clipping	98	-	
Laparoscopic Ovarian Drilling	19	-	
Laparoscopic Rudimentary Horn Excision	6	-	
Laparoscopic Gonadectomy/ Gonadopexy	5	-	
LNG-IUS Insertion	7	-	
Other Vaginal surgeries			
McDonald's cerclage	16	36	
CPT repair	5		
TVT-O	5		
Sacrospinous fixation	5		
Manchester repair	3		
Fothergill's operation	1		
Vesicovaginal fistula repair	3		
Rectovaginal fistula repair	1		
Labial mass excision	1		
Vaginal cyst excision	1		

Fetal Medicine			
Amniocentesis	194	110	252
Chorionic Villus Sampling (CVS)	204	148	312
IUT (Intrauterine Transfusion)	100	59	183
RFA (Radiofrequency Ablation)	22	8	22
Cordocentesis	18	5	29
Selective fetal reduction	13	5	16
Amnio reduction	7	-	7
Pleural fluid aspiration/shunt	4	1	2
Placental biopsy	4	-	-
Ovarian cyst aspiration	4	-	4
Pericardiocentesis	2	1	-
Laser	2	-	1
Vesicocentesis	1	-	4
Minor Procedures			
Bartholin cyst excision	13		
Excision of scar endometrioma	7		
Resuturing	37		
Transverse vaginal septum excision	5		
Examination under anaesthesia	5		
Pap Smear	6236	2997	
HPV test	1521		
VIA	208		
Cervical biopsy	456	298	
Colposcopy	321	112	806
Thermal ablation	25	8	26
LEEP	10	3	29
Cryotherapy	-	-	23
Vulval biopsy	13		
Vaginal biopsy	7		
Vault biopsy	3		
Labial cyst excision/labial biopsy	7		
Pyometra/hematometra drainage	26		
Mould change	28		
Granulation tissue removal/barb suture removal	1		
EA + ECC + polypectomy	11		
EA + ECC	888		
3 Swab test	3		
VACC	49		
HSG	196		
Obstetric			
Total No. of deliveries	1931	1622	2461
Total Vaginal delivery	921	679	1120
Total Caesarean sections	1010	943	1341

Details of Obstetric patients as per Covid status (2021-2022)

COVID Status	Vaginal delivery	Caesarean section	Total
Negative	893	965	1858
Positive	28	45	73
Total	921	1010	1931

Family planning services:

Family planning programme is one of the important National programmes in India with the objectives of achieving population stabilization, promoting reproductive health and reducing maternal, infant and child mortality and morbidity.

The department continued uninterrupted Family planning OPD 6 days a week to provide the following services:

- Postpartum ligation
- Postabortion ligation
- Medical Termination of Pregnancy
- IUCD insertion
- Follow-up of patients for monitoring/managing the complications due to IUCD and postpartum IUCD

Post-partum Clinics were re-established and provided services to women delivering at AIIMS. Various contraceptives were made available free of cost, with newly introduced contraceptives: Injectable Contraceptive, MPA (Medroxyprogesterone acetate) under Antara program and Chhaya (earlier marketed as Saheli) also available. Spacing methods like IUCD and postpartum IUCD (PPIUCD) were emphasised and following family planning services were provided during the COVID-19 pandemic. Implanon insertion training was imparted to department members. Implanon procurement process has started.

Method	Numbers (2021-2022)	Numbers (2020-2021)	Numbers (2019-2020)
MTP	418	159	577
Oral contraception (pkt)	2031	122	811
DMPA	76	24	120
Interval Cu-T	240	47	1001
PPIUCD	356	225	
Post abortion IUCD	58	28	
LNG-IUS insertion	-	14	
Tubal ligation	457	71	526
Vasectomy	14	-	-

COMMUNITY SERVICES/CAMPS

1. Workshop on 'Cancer Screening and Awareness' was organised under the aegis of AOGIN India on 3rd December 2021
2. Panelist Interactive session on Working Together for Cervical Cancer Elimination- Public Forum IFCPC India 2021, "Yes, Cancer Cervix is Preventable!! IFCPC India 2020" on 4 July 2021, New Delhi/Virtual.
3. Cervical cancer screening programme for women attending Gynae OPD by HPV testing, on International Women's Day- 8 March 2022.
4. No-Scalpel Vasectomy (NSV) Camp was organized by the Family Planning Unit from 29 March to 31 March 2022. A total of 12 NSVs were done.
5. Faculty Members of the department participated in Mega Health Camps Specialist faculty from Obstetrics and Gynaecology for Hon'ble Members of Parliament in December 2021 at Parliament House Annexe, New Delhi.
6. On the occasion of World Population day, 11 July 2021, patient education and awareness related poster displays were held in patient care areas along with the family planning unit of the department.
7. The department members participated in a Pledge for screening minimum one woman free of charges for 'preventable cervical and breast cancers' every month during the year, as promoted by FOGSI for commitment for elimination of cervical and breast cancers in India
8. AOGIN INDIA – Public Forum on Ways to spread Awareness of Cancer on 5 December 2021, Online
9. AOGIN INDIA – Public Forum on Cervical Cancer- Magnitude of Problems on 6 December 2021, Online.
10. Public awareness talk on Genital tuberculosis at Jantantra Television Live Show (Baat Sehat Ki/ Health Talk) featured on their YouTube channel on 23 January 2022, Online.
11. 41st Annual Conference of Indian Association for Cancer Research (IACR-2022) on The Role and Challenges of Women in Science, Cancer Research and Treatment at 2 March 2022, Noida.
12. Cervical cancer Awareness Talk, Punjab Kesari on Cervical Cancer Prevention Strategies on 8 March 2022, Online.

AWARDS, HONOURS AND SIGNIFICANT EVENTS

- **The Department was awarded the Dr S.N. Mukherjee Rotating Trophy** of the Association of Obstetricians and Gynaecologists of Delhi (AOGD) for the best clinical presentations for the year 2021.

Professor Neerja Bhatla Awarded Honorary FRCOG (ad eundem) by the Royal College of Obstetricians & Gynaecologists of UK, its highest recognition of contribution to women's health and development of the speciality, Indian College of Obstetricians and Gynaecologists (ICOG); Awarded the Shobha Seth Wenger Distinguished Chair in Gynaecologic Oncology under Mira Seth Corpus Fund from 10 February 2021 for 2 years; Appreciation Award for being First Convenor of Journal Club, Dr Subhash Mukhopadhyay Gynae Oncology ICON Award 2021, ISAR Delhi Chapter for outstanding achievement in the field of Gynae Oncology and Oncofertility; Professor Thankam Memorial Oration: Cervical Cancer Elimination – Turning a promise into reality. 43rd All Kerala Conference of Obstetrics and Gynaecology, April 2021; ICOG – Dr Usha Saraiya Oration: Leveraging HPV self-sampling to meet the challenges of elimination of cervical cancer in India, Vijayawada, November 2021; MOGS – Dr Subhash Penkar & Dr Marie Pereira Oration 2021 on Changing Paradigms in Management of Endometrial Cancer, Mumbai Obstetric & Gynaecological Society, December 2021. **Advisory Committee and Expert Group Member:** Governing Council Member, Indian College of Obstetricians and Gynaecologists (ICOG) – 2021-2022, w.e.f, June 2021. Initiated a new online ICOG course on Gynae Oncology as Course Coordinator; Member of Governing Body, National Health Systems Resource Centre (NHSRC), MoHFW; Chairperson, SAC, National Institute for Research in Reproductive Health, Mumbai; Member, PCPNDT Cell of FOGSI; Advisor, Association of Obstetricians & Gynaecologists of Delhi (AOGD); National Coordinator of FOGSI Online Comprehensive Module Cervical Cancer Elimination in North East India Cervical Cancer Elimination Project, May 2021. **International Achievements:** Elected Council Member, Asian Society of Gynecologic Oncology for third term – 2022-2024; Member, WHO DG's Technical Advisory Group of Experts and Working Groups for Cervical Cancer Elimination; Member, Strategic Advisory Group of Experts (SAGE) Working Group on HPV vaccines, WHO; Member, WHO Guideline Development Group for Screening and Treatment Recommendations to prevent cervical cancer; Member, Policy Committee, International Papillomavirus Society; Scientific Committee Co-Chairperson, International Federation of Colposcopy and Cervical Pathology; Member, Programme Advisory Committee, XXIII FIGO World Congress 2021, Australia, Scientific Track – Gynecological Oncology; Scientific Committee Member, 7th Biennial Meeting of ASGO, Thailand; External Examiner for PhD defense of Katayoun Taghavi, University of Bern; **Scientific Advisory Committees:** Member, National Scientific and Research Advisory Committees of MoHFW, ICMR, DBT, etc.; Chairperson, Scientific Advisory Committee, ICMR-NIRRH, Mumbai; Member, Scientific Advisory Board, ICMR; Member, National Technical Advisory Group on Immunization (NTAGI); NTAGI Influenza Working Group; Sub-group on Maternal Immunization; Working Group on Code of Practice; Member, SAC, Knowledge Integration & Translation (KnIT) program, BIRAC; Member, Expert Committee to comprehensively review the National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS), MoHFW; Member, Board of Studies of Department of Obstetrics and Gynaecology, Jamia Hamdard and Institute of Medical Sciences and Research, to review UG and PG Curriculum; Guest Expert in the 1st Technical Expert Committee Cervical Cancer Screening Project in Punjab, Chandigarh; **Examiner and Faculty Selections:** Assessor for NBE Accreditation of (i) Gynaecologic Oncology, (ii) Obstetrics & Gynaecology, External Examiner for MCh. Practical Examination June, 2021, AIIMS, Rishikesh; Subject Expert for Faculty Selection, Dr B.R. Ambedkar State Institute of Medical Sciences (AIMS Mohali), Chandigarh. AIIMS Kalyani, West Bengal, Assessment Promotion Scheme (APS), Department of Obstetrics & Gynaecology, AIIMS, Rishikesh. Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Puducherry, AIIMS, Raipur; **Memberships:** Indian Menopause Society (IMS), Delhi Chapter; Indian Society of Peritoneal Surface Malignancies (ISPSM); Kolkata Gynecological Oncology (KolGOTrg).

Professor Neena Malhotra Positions Held: Secretary General of Indian Fertility Society in April 2020, **Organisational activities** FERTILITY KONNECT- Fortnightly webinar for post-graduates and senior residents covering the curriculum on Reproductive Endocrinology and Infertility; VIBRATE- Fortnightly webinar on controversies in Infertility and ART (through lectures and case files); "ITS NOT HER FAULT"- for patients, connecting with them directly over virtual mode, through social media to create awareness on fertility treatment option (organised in Hindi, English, Bengali, Marathi and Telegu); Involved in organization of the 17th Annual Conference FERTIVISION 2021, on 10–12 December (Conference) and pre-congress workshops on 4–5 December 2021 over hybrid mode since March 2021. Involved in designing the Scientific programme inviting 58 International and 218 National faculty to deliberate over recent advances in Reproductive Medicine.

Professor Vatsla Dadhwal Examiner Onsite digital evaluation of Answer Sheets of DNB/DrNB Final Theory Examination, December 2020 Session. Expert for assessment of theory answer sheets of OBSTETRICS & GYNAECOLOGY Paper 4A DNB/DrNB Final theory examination, which was conducted by NBE. Evaluation of the answer sheets shall be done on digital format on computer platform (digital marking/e-evaluation) at the newly set up spacious digital assessment lab at NBE Ansari Nagar; Invitation for Setting of Question Paper in the specialty of Obstetrics and Gynaecology Paper I to IV at NBEMS, Dwarka, Sector -9, PSP Area, New Delhi-110075; Examiner for Practical & viva voce examination for Fellowship (High Risk Pregnancy & Perinatology) on 4 December, 2021 (Saturday) at PGIMER, Chandigarh; Invited as external expert in the 3rd Board of Study meeting on 4 March 2022 (Friday) at Sanjay Gandhi Postgraduate Institute of Medical Sciences, Raebareli Road, Lucknow, Uttar Pradesh; Invited as an Examiner for Fellowship Exit Examination of NBEMS in the specialty

of Maternal and Foetal Medicine (High Risk pregnancy & Perinatology) on 29 and 30 March 2022 (Tuesday and Wednesday) at Maulana Azad Medical College, New Delhi conducted by National Board of Examinations in Medical Sciences; **Expert** Member of selection committee for the post of Senior Residents/ senior Demonstrators, AIIMS, New Delhi; Invitation as member in the meeting of Standing Selection Committee for the recruitment of Faculty in the department of Obstetrics and Gynaecology, AIIMS Mangalagiri on 28 May 2021 from 03:30 pm to 06:00 pm- Virtual mode (Video conferencing); Meeting of the Standing Selection Committee for Assessment Promotion Scheme for Faculty of NEIGRIHMS, Shillong on 9 December 2021; Invited as external expert in the 03rd Board of Study meeting on 04th March, 2022 (Friday) at Sanjay Gandhi Postgraduate Institute of Medical Sciences, Raebareilly Road, Lucknow, Uttar Pradesh. Alternate chairperson for Standing Medical Board on medical termination of pregnancy beyond 24 weeks gestation, AIIMS, New Delhi; Meeting of MBBS Curriculum Committee for (Phase-II/III). Committees for the Skills, E-learning and Tele-medicine (SET) Facility at AIIMS; Reviewer for IJGO, BJOG, EJOGRB, WHO-SEAJPH, JFM, IJMR; Providing state of art care in fetal medicine, interventions and therapy, Performed first case of ablation of feeding artery by RFA in a case of bronchopulmonary sequestration in 29 weeks fetus.

Professor Neeta Singh Invited as a NBEMS assessor to evaluate the ongoing FNB training program in Reproductive Medicine in LNJP Hospital, New Delhi in October 2021; Invited as an expert in the meeting of “Personal Promotion Assessment Board” in IGIMS Patna; Invited to attend the confidential meeting for question bank for civil services at UPSC, New Delhi in October 2021 and February 2021; Invited by NBEMS as a faculty for setting of question paper in the specialty of Reproductive Medicine for FNB Exit Level program in March 2022; Coordinator Examiner for DM (Reproductive Medicine) in Obst. & Gynae at AIIMS, New Delhi on 17 April 2021; Examiner for MD (Obst. & Gynae.) at AIIMS, Jodhpur on 12 & 13 December 2021; Examiner for Fellowship Exit Exam in the subject of Reproductive Medicine at Sir Ganga Ram Hospital, New Delhi on 23 & 24 March 2022.

Dr K Aparna Sharma Received the FOGSI-Dr. Rajat Ray Award in Fetal Medicine for the year 2021; Selected for the 2022 India Cohort of the Women Lift Health Leadership Journey, supported by the Stanford University the Bill and Melinda Gates Foundation; Enrolled in the International Masters in Maternal Fetal Medicine Program under the FETAL I+D Education Barcelona, University Of Barcelona; Antenatal care app developed under the DST project has been identified as a potential technology that can be utilised at the COVID CARE RESILIENCE centres across the country supported by DST; Invited to the National Social Organisations and Institutions Meet (NSOIM) during the India International Science Festival, 2021 to present the study on Antenatal Care APP under the DST project, 12 December 2021; Certified external assessor for NQAS facilities across the country; Felicitated for contribution to SET facility academic activities 24 February 2022; Received various awards for research papers presented under my guidance; First Prize in AOGD, 2021 ‘Quality Improvement Study to Increase the Practice of Proper Hand-washing Prior To Vaginal Examinations In The Labor Room’; First Prize in NARCHICON-Delhi, 2021 ‘Initiative to Improve the Quality of counseling provided to antenatal women admitted to a tertiary government hospital in India: A Quality Improvement Project’; Third prize in All India poster competition Family Welfare Committee FOGSI (Topic: Male Participation in family planning) in July 2021; Silver Prize for second best E-poster “Guillain Barre Syndrome in pregnancy and postpartum: series of two rare presentations” at NARCHI, 27-29 August 2021; Special mention in senior category for E-poster titled “Isthmocolle due to genital tuberculosis leading to delayed and massive secondary postpartum haemorrhage: A diagnostic dilemma” at 43rd AOGD Conference, 2021; First Prize winning E-poster on “Perioperative management of a polycythemia patient undergoing hysterectomy for symptomatic adenomyosis”, 43rd AOGD Conference, 2021; First Prize For Best Free Paper Presentation on “Pregnancy Outcome In Extremes Of Reproductive Age: Experience At A Tertiary Care Facility In Northern India” in national conference, FOGSI North Zone Conference with YUVA, in March 2022 at Ludhiana, India; Prize for 3rd best e-poster at the scientific sessions of ISOPARB 2022 at Varanasi (Theme: Respectful Maternity Care: Fighting the odds) on the topic “Postpartum Cerebral Transverse Sinus Thrombosis: From Diagnostic Dilemmas to headaches”; **Membership of Committees** Expert Committee for framing of Rules under the Medical Termination of Pregnancy (Amendment) Act, 2021, Part of the central team deployed to assess the situation and support Government of Kerala in investigating the outbreak and institute requisite Public health measures, July 2021; Member secretary for Empowered Group 3 on ‘Capacity Building of Healthcare professionals’ as a part of proactive preparedness for Covid wave 3, GOI; Member of expert committee for revising the Constitution of Association Of Obstetricians and Gynaecologists of Delhi; Member of expert committee for revising the Constitution of Society of Fetal Medicine; TRG for Guidelines on Operationalization of Maternal Health Services for PW during Covid-19 Pandemic, MOHFW; Member of SFM Invasive Fetal Therapy Program Committee; Member, Committee to revise the Comprehensive Abortion Care (CAC) and MMA (Medical Methods of Abortion) Manual, MOHFW as a reference document under MTP (Amendments) Rules 2021. Member, National informal stakeholder consultation hosted by WHO India to initiate discussions to ultimately prepare a report on “Gendered implications of COVID-19 with a focus on mitigation measures, 28 March 2022; Member, Technical Advisory Group (TAG), Indian Newborn Action Plan (INAP); **Positions held** Secretary, Society of Fetal Medicine, India, 2022-2024; Chairperson, Multiple Pregnancy Committee, Still birth Society of India; Chairperson QI Committee, AOGD; Co-Convener, Early Pregnancy Special Interest Group, IFS, 2020-2022; North Zone Coordinator, Safe Motherhood Committee, FOGSI, 2021-2023; Member, Youth Cell, FOGSI, 2021-2023; Chairperson, District Advisory Committee (South), PC&PNDT cell, South District, Government of NCT, Delhi.

Dr Garima Kachhawa received Consolation prize for Clinical work titled, “Malignant Germ Cell Tumors in Disorders of Sex Development: A Missed Opportunity” received at 10th National Conference of Asian Oceania Research Organisation on

Genital Infections and Neoplasia, India organised by AOGIN INDIA and AIIMS, New Delhi in December 2021; Appreciation for senior category at 43rd Annual Virtual AOGD Conference 2021, ND on November 2021 (Co presenter); PG Thesis work of my candidate titled “Cabergoline effectively reduces pain and preserves ovarian function in women with endometriosis.” N Jain, G Kachhawa, V Kulshrestha, R Kumari, R Mahey, R Khadgawat, N Bhatla, H Nihlani. BJOG2021; 128:43-44 was among Top Scoring Abstracts of RCOG Virtual World Congress 2021; PhD thesis work entitled “Vaginal microbiome profiling in Indian women with and without bacterial vaginosis” received Scholarship at the STI & HIV World Congress 2021, Netherlands (virtual) from 14-17 July 2021; Keystone Symposia Scholarship at the eKeystone **Symposia Global Priorities in Vaginal Health: Microbes, Mucosal Immunity and Interventions from 10-12** November 2021; Awarded Leelawati Salwan Book Prize 2020 by AIIMS, ND for best thesis in Obstetrics & Gynaecology Dr Priyanka Prabhakar (as Co guide).

Dr Reeta Mahey Comparison of cumulative live birth rate (CLBR) according to POSEIDON (Patient Oriented Strategies Encompassing Individualised Oocyte Number) stratification among low prognosis women undergoing IVF-ICSI cycles- Dr Reeta Bansiwala (DM Reproductive Medicine)- received best clinical research paper (>40 years category) at annual conference of Indian Fertility Society, FERTIVISION, 2021; Successful IVF outcome after transfer of OPN embryo- Monika Rajput (DM Reproductive Medicine)- received best poster award at annual conference of Indian Fertility Society, FERTIVISION, 2021; Serum Anti-Mullerian hormone (AMH) levels among different PCOS phenotypes - received best clinical research paper (<40 years category) at annual conference of Indian Fertility Society, FERTIVISION, 2021; Co-convenor of SIG-PCOS group, organized by Indian Fertility Society (2020-2022).

Dr Seema Singhal received First Prize in Free poster presentation in 10th National Conference of AOGIN India 2021 titled “Proximal type Epithelioid Sarcoma of Vulva-A rare case report” authored by Mittal S, Singhal S, Malhotra N, Mathur S, Sharma DN, Saha S, Seth A, Bhatla N; Second Prize in Paper presentation in AOGIN India 2021 Rai R, Singhal S, Meena J, Sharma A, Kumari R, Singh A, Bhatla N. Initiatives to improve cervical cancer screening coverage at a tertiary care institute. Oral paper presentation at 10th National Conference of AOGIN India 2021, 5 December 2021; Executive member of AOGIN India; Executive member AOGD Gynae Oncology Committee; Member of QI committee ISCCP (Indian Society of Colposcopy and Cervical Pathology); Member of Social Media Committee AGOI (Association of Gynae Oncologists of India).

Dr Jyoti Meena Evaluated 3 MD thesis of University of Delhi; Was member of organizing team and Treasurer of AOGIN India Conference 2021 held in December 2021; Reviewer of BMJ case reports, Cureus Journal and Journal research and reports in urology.

Dr Nilanchali Singh Awarded the “American Society of Clinical Oncology- International Innovation Grant Award (ASCO-IIG Award)” with research grant of 20,000 USD for a year duration; WHO-IARC (World Health Organization- International Agency for Research on Cancer) Fellowship in Colposcopy; Awarded the Chandravati Devi Jagannath Singh Prize in Oncology, FOGSI, 2022 at AICOG Conference, April 2022 at Indore; Awarded the Kamini Rao Oration, FOGSI, 2021 delivered at Yuva FOGSI, Ludhiana, 2022 and to be delivered at Annual FOGSI Conference, Calcutta, 2023; Silver Medal for paper presentation in category- Surakshit Nari hai Hamari Zimmedari. Topic: Quality Improvement Initiative - Audit on Colposcopy service in a tertiary care center. (Authors: Maninder Kaur Ghotra, Nilanchali Singh, Jyoti Meena) delivered at Yuva FOGSI, Ludhiyana, 2022; MNAMS fellowship awarded by of the National Academy of Medical Science (India); FIMSA fellowship awarded by International Medical Sciences Academy; First Prize (Gold Medal) in AOGD, 2021 on paper titled ‘Quality Improvement Study to Increase the Practice of Proper Hand-washing Prior To Vaginal Examinations In The Labor Room’ First Prize (Gold Medal) in NARCHICON-Delhi, 2021 on paper titled ‘Initiative to Improve the Quality of counseling provided to antenatal women admitted to a tertiary government hospital in India: A Quality Improvement Project’; Member of AOGD-Quality Improvement Committee; Member of FOGSI-HIV Committee; Chairperson and Organizing team member of Free paper and poster presentation at NARCHI- Delhi Conference on 28 August 2021, Online; Quiz Master for Undergraduate Quiz at IFCPC Conference on 4 July 2021, Online.

Dr Deepali Garg Received felicitation from SDG Choupal for proving exemplary healthcare work during Covid period.

Dr Neha Varun Awarded with **FIMSA** degree in January 2022; Felicitated for contribution to SET facility academic activities in annual SET facility felicitation on 24 February 2022

Dr Nimisha Agrawal received Third prize in All India poster competition on the occasion of World Population Stabilization fortnight 2021 conducted by Family Welfare Committee FOGSI (Topic: Male Participation in family planning) in July 2021; Silver Prize for second best E-poster (Theme: Perinatal Medicine) on “Guillain Barre Syndrome in pregnancy and postpartum: series of two rare presentations” at virtual 27th Annual Conference of NARCHI, Delhi Chapter, NARCHIDELCON 2021 from 27-29 August 2021, organised by NARCHI & MAMC, New Delhi; Special mention in senior category for E-poster titled “Isthmocolle due to genital tuberculosis leading to delayed and massive secondary postpartum haemorrhage: A diagnostic dilemma” at the virtual 43rd Annual Association of Obstetricians & Gynaecologists of Delhi (AOGD) Conference, November 2021; Gold medal for Best Free Paper Presentation on “Pregnancy Outcome in Extremes Of Reproductive Age: Experience At

A Tertiary Care Facility In Northern India” in national conference, FOGSI North Zone Conference with YUVA, on 27 March 2022 at Ludhiana, India; Silver medal for 2nd best e-Poster titled “Uterine Arterio-Venous Malformation After Gestational Trophoblastic Neoplasia: A Rare Presentation” at the 10th National Conference of Asia Oceania Research Organization on Genital Infections and Neoplasia (AOGIN), India at AIIMS New Delhi, on 5 December 2021; Prize for 3rd best e-poster at the scientific sessions of 37th Annual National Conference of ISOPARB 2022 at Varanasi (Theme: Respectful Maternity Care: Fighting the odds) on the topic “Postpartum Cerebral Transverse Sinus Thrombosis: From Diagnostic Dilemmas to headaches”; First Prize winning Oral Paper on “Quality improvement to increase the practice of proper handwashing prior to vaginal examination in labor room” at the virtual 43rd Annual AOGD virtual Conference 2021 (Co-presenter); First Prize winning E-poster on “Perioperative management of a polycythemia patient undergoing hysterectomy for symptomatic adenomyosis” at the virtual 43rd Annual AOGD virtual Conference 2021 (Co-presenter); Fellowship of Indian College of Maternal & Child Health (FICMCH); Life membership of NARCHI (National Association for Reproductive and Child Health of India); Life member of Association of Obstetricians and Gynaecologists of Delhi (AOGD); Life member of Stillbirth Society of India; Fetal Medicine Foundation India (FMFI) Member; Member of NQOCN (Nationwide Quality of Care Network).

VISITING SCIENTISTS

S. No.	Name	Date	Activity	Institutional Affiliation, City, Country
	Dr Dean Brenner	12.11.2021	Research Project Writing	University of Michigan, Michigan, USA
	Dr Karen Anderson	12.11.2021	Collaboration Meeting	Arizona State University, Tempe, USA
	Dr Suresh Seshadri	19.02.2022	Demonstration of LASER photocoagulation Lecture on “Interventions in Complicated Monochroionic Twins”	Chief Medical Director, Mediscan, Chennai, India

Figure 1: Cervical Cancer Awareness Camp on HPV Vaccination



Figure 2: Non-Scalpel Vasectomy Camp: 28 March to 31 March 2021



Figure 3: Posters made by AIIMS Student Nurses on the Front page of Vasectomy Fortnight report of DFW, NCT of Delhi



Figure 4: Dept of Obs Gyn receiving the “SN Mukherjee Rotating Trophy” for the best AOGD Monthly Meet 2021



9.25. Orthopaedics

Professor and Head

Rajesh Malhotra

Professors

Hira Lal Nag Ravi Mittal
Shah Alam Khan Vijay Kumar

Additional Professors

Bhavuk Garg Mohd Tahir Ansari

Assistant Professors

Vijay Kumar Digge Vikrant Manhas
Vivek Shankar Venkatesan Sampath Kumar

EDUCATION

CMEs/Workshops/Symposia/National and International Conferences

1. Webinar: OTA - Best of Orthopaedic Techniques 2021, 8 May 2021.
2. Webinar on Direct Anterior Approach, 19 June 2021.
3. CME: How to set up Bone Bank, 14 August 2021.
4. Pre-conference Cadaveric workshop on Direct Anterior Approach to Hip, Current Concepts in Arthroplasty 2021, 29 October 2021.
5. Current Concepts in Arthroplasty 2021, 30-31 October 2021.
6. Global Live Summit Webinar, 19 February 2022.
7. Gender based Violence Webinar in collaboration with American Embassy, 31 March 2022.

Lectures delivered

Rajesh Malhotra: 26

Vijay Kumar: 8

Vijay Kumar D: 2

Venkatesan Sampath Kumar: 3

Ravi Mittal: 6

Bhavuk Garg: 31

Vikrant Manhas: 2

Shah Alam Khan: 2

Mohammed Tahir Ansari: 2

Vivek Shankar: 1

Oral papers/posters presented: 19

RESEARCH

Funded projects

Ongoing

1. A comparative study between pentoxifyline and Teriparatide for the treatment of postmenopausal osteoporosis: A randomized controlled Trial, Dr Bhavuk Garg, ICMR, 3 years, 2022-2025, Rs 44,50,713/- (1st Year)
2. A prospective randomized study to compare the systemic emboli in computer assisted navigation Vs conventional surgical technique of knee replacement, Prof Rajesh Malhotra, ICMR, 3 years, 2018-2021, Rs 50 lakhs
3. Assessment of bone health in Transgender population of India, Dr Bhavuk Garg, ICMR, 3 years, 2018- 2021, Rs 72 lakhs
4. Biomechanical Design Evaluation of Knee Implants for Indian Population, Prof Rajesh Malhotra, IIT, 2 years, 2020-2020, Rs 5 lakhs
5. Comparative Evaluation of Genetic and Biochemical profile in postmenopausal osteoporotic and age matched healthy women, Prof Rajesh Malhotra, ICMR, 3 years, 2019-2022, Rs 1,39,03,260
6. Comparative Evaluation of Genetic and Biochemical profile in postmenopausal Indian and German women population, Dr Bhavuk Garg, ICMR, 3 years, 2018-2021, Rs 77 lakhs
7. Comparative evaluation of genetic and cytokines profile in as match Indian subjects with and without knee Osteoarthritis A follow up study, Dr Bhavuk Garg, ICMR, 3 years, 2021-2024, Rs 1,24,36,788/-
8. Computer based surgical planning for patient with fused hip and spino-pelvic deformities, Dr Deepak Gautam, IIT, 2 years, 2020-2020, Rs 5 lakhs
9. Designing of patient specific Total Elbow Replacement prosthesis for Indian Population, Dr Bhavuk Garg, ICMR, 3 years, 2019-2022, Rs 1,30,00,000

10. Evaluation of Immune Checkpoints in tumour micro-environment of Osteosarcomas, Venkatesan Sampath Kumar, AIIMS, 2 years, 2019-2021, Rs 5 lakhs
11. Impact of bisphosphonates on bone health outcomes post cardiac transplantation: An ambispective cohort study. Dr Vivek Shankar, AIIMS, 2 years, 2021-2023, 3.04 lakhs
12. Integration and application of artificial intelligence in care of patients with scoliosis, Dr Bhavuk Garg, ICMR, 3 years, 2021-2024, Rs 84,63,485 lakhs
13. Musculoskeletal and Rheumatological Disease in post COVID 19 patients, Prof. Shah Alam Khan, AIIMS, New Delhi, 1 (+1) year, 2022-2023, Rs 5 lakhs
14. Prospective observational study to evaluate the impact of cancer treatment on families of bone sarcoma patients, Prof Shah Alam Khan, Aroh Giving Hope, 3 years, 2022-2024, Rs 5 lakhs per year
15. Prospective Randomised Controlled Trial to assess the effectiveness of Yoga Vs standard physiotherapy and to validate yoga as a standard rehabilitation program in Anterior Cruciate Ligament (ACL) reconstruction patients, Dr Vijay Kumar D, DST, 3 years, 2021-2023, Rs 3,40,000
16. Prospective, Multi-centre Outcomes Study of Persona Knee System in Total Knee Arthroplasty. Study Protocol # CSA2014-02K, Prof Rajesh Malhotra, Zimmer, 9 years, 2015-2024, Rs 24 lakhs
17. Role of biomarkers in patients undergoing major musculoskeletal tumor surgery and its correlation with different anesthetic techniques and peri-operative outcomes, Venkatesan Sampath Kumar and Lokesh Kashyap, AIIMS, 2 years, 2021-2023, Rs 10,00,000
18. To develop low cost Indigenous Magnetic Growth Rod for Early Onset Scoliosis Patients, Dr. Bhavuk Garg, ICMR, 3 years, 2021-2024, Rs 80 lakhs
19. To investigate the long-term impact of COVID-19 on bone health, Dr Bhavuk Garg, AIIMS, 2 years, 2021-2022, Rs 10 lakhs
20. To investigate the regulatory potential of Estrogen in modulating differentiation and function of regulatory B cell: implications in bone remodeling, Dr Bhavuk Garg, AIIMS, 1 year, 2021-2022, Rs 5 lakhs

Summary of the ongoing projects

Year	Number of funded research Projects	Total funds
2019-20	7	4.97 crores
2020-21	2	1.00 crores
2021-22	11	3.71 crores
Total	20	9.68 crores

Completed

1. Assessment of bone health in Transgender population of India, Dr Bhavuk Garg, ICMR, 3 years, 2018-2021, Rs 72 lakhs
2. Study of osteogenic humoral factors on fracture healing in patients with head injury: decoding the mystery, Dr Vijay D, DST, 3 years, 2017-2021, Rs 48 lakhs
3. Surveillance in Paediatric Bone Sarcomas, Shah Alam Khan, Jeev Daya Foundation, USA, 6 years, 2016-2022, USD 20000
4. Treatment response evaluation in extra spinal musculoskeletal tuberculosis using molecular imaging (PET-CT), Prof Shah Alam Khan, Indian Council of Medical Research, 3 years, 2018-2021, Rs 8 lakhs

SUMMARY OF THE COMPLETED PROJECTS

Year	Number of funded research projects completed	Total funds
2019-20	00	00 crores
2020-21	03	01.28 crores
2021-22	01	15.92 lakhs
Total	04	1.3592 crores

Departmental projects

Ongoing

1. 6.Lu-177 TIN colloid radiosynovectomy in small and medium sized joints with chronic inflammatory arthritis
2. A pilot parallel arm Randomized Control Trial evaluating the impact of Yoga intervention in treating post traumatic limb fractures which develop Complex Regional Pain Syndrome (CRPS I) and assessment of their quality of life.
3. A prospective randomized study to evaluate kinematic and mechanical alignment in total knee arthroplasty
4. Ambispective study on epidemiology and functional outcomes in ACL reconstruction patients
5. An ambispective study of the clinical, functional and radiological assessment of scoliotic patients preoperatively and postoperatively.
6. An ambispective study to assess the obstetrical and reproductive Health of female patients with Scoliosis and to determine the Prevalence and nature of Menstrual irregularities and Related disorders

7. Analgesic efficacy and safety of Clonidine as an additive to 0.25% Ropivacaine for Stellate Ganglion block for the treatment of complex regional pain syndrome. A prospective randomized single blind study.
8. Clinical and radiological outcomes of revision joint replacement surgery in periprosthetic joint infections: An ambispective study
9. Clinico Radiological outcomes of Revision Joint Replacement Surgery in Prosthetic Joint Infections-An Ambispective Study
10. Comparative evaluation of spinopelvic and lower limb morphological parameters in patients with knee osteoarthritis and age-matched normal population using low dose biplanar radiography.
11. Comparison of gait mechanics before and after ACL reconstruction: hamstring tendon versus patellar tendon autografts: a prospective randomized clinical trial.
12. Comparison of MRI and Synovial fluid analysis with Histopathological Correlation in detecting Joint involvement by Extremity Sarcomas
13. Correlation of instrumented gait analysis in patients with primary osteoarthritis of knee with functional outcome scores and radiographic grades in Indian population
14. Correlation of instrumented gait analysis in patients with primary osteoarthritis of knee with functional outcome scores and radiograph grades in Indian population
15. Cost Effective Analysis in Scoliosis Surgeries between Adolescent Idiopathic Scoliosis Vs Congenital Scoliosis
16. Delay in Surgery after Hip Fracture: Reasons and Impacts on Outcomes
17. Effectiveness of Ultrasound guided interventions for soft tissue pain in foot and ankle.
18. Evaluation of function and viability of the medial gastrocnemius flap in Proximal tibial endoprosthesis for bone tumors
19. Evaluation of outcomes following fingertip injuries
20. Gait analysis of anterior talofibular ligament (ATFL) injured patients managed conservatively or surgically : A prospective cohort study
21. Preoperative MDCT evaluation of bipolar bone loss in recurrent anterior instability of shoulder joint.
22. Prospective Observational study of Transfusion Practices in Severely injured Trauma Patients in Emergency department at Level I Trauma Centre
23. Randomised Control Trial comparing manipulation of shoulder under inter scalene brachial plexus block followed by surgeon guided physiotherapy versus surgeon guided physiotherapy alone in treatment of primary adhesive capsulitis
24. Randomised Controlled Trial Evaluating the efficacy of Trans-Cather Genicular Arterial Embolization in Patients with Knee Pain in Kellgren Lawrence grade II /III Osteoarthritis Refractory to Optimal Non-Surgical Management”
25. Study of p53, Ki 67 labelling index, CXCL12 Chemokine and its receptors CXCR4 and CXCR7 in Ewing Sarcoma
26. The comparison of clinical and radiological outcomes of total hip arthroplasty with direct anterior approach versus posterior approach – A randomised control trial
27. The comparison of efficacy of manipulation of shoulder under inter scalene brachial plexus block followed by physiotherapy versus physiotherapy alone in treatment of primary adhesive capsulitis: A randomized clinical trial.
28. To compare the Forgotten Joint score, clinical, radiological outcomes and gait parameters in patients undergoing total knee arthroplasty with ultra-congruent bearing versus cruciate-retaining bearing: A Randomized control trial
29. To compare the Forgotten Joint Score, Clinical, Radiological outcomes and Gait parameters in patients undergoing Total Knee Arthroplasty with Ultracongruent Bearing versus Cruciate Retaining Bearing: A Randomized Control Study
30. To evaluate the tunnel/socket morphology in arthroscopic ACL reconstruction with two different graft fixation methods: a retrospective cohort study
31. Triple randomised Controlled Trial Comparing The Accuracy And Safety Between Free Hand, O-Arm Navigated And Robot-Assisted Pedicle Screw Placement In Thoracolumbar Spine

Completed

1. Ambispective analysis of effect of introduction of valant in a tertiary care centre
2. Biomechanical Investigation of Extracorporeal Irradiation Therapy in Malignant Bone Tumors
3. Co Guide in PhD Thesis: Disability Outcomes after Total Knee Arthroplasty for Degenerative Osteoarthritis
4. Co-guide in Mch Thesis: Epidemiology and analysis of predictors of mortality in trauma patients at a level I Trauma Centre
5. Co-guide in MD Thesis: Study of Complement levels in Hospital Admitted COVID-19 Patients and its association on Coagulopathy and survival
6. Functional and radiological outcomes of fixed versus mobile bearing navigated UKR in patients with AMOA: a RCT
7. Response evaluation in extra spinal musculoskeletal tuberculosis using PET/CT scan
8. “Role of CT guided percutaneous biopsy in suspected case of tuberculosis spine”

Collaborative projects

Ongoing

1. Clinical Research to assess efficacy of repetitive transcranial magnetic stimulation along with neurotrophic coated nanoparticles in complete spinal cord injury patients, DBT
2. Advanced MRI and Radiological Interventions in Patients of Osteoarthritis of Knee. Department of Radiodiagnosis

3. Retrospective analysis of factor and blood product requirement in patients with bleeding disorders (BDs) who underwent different surgical interventions at AIIMS, New Delhi. Candidate Dr. Akash Khandelwal (MD), Dept of Hematology
4. Effect of nicotine replacement therapy on peri-operative opioid requirement in abstinent tobacco smokers undergoing spinal fusion, a double blind randomized controlled trial, ICMR
5. Effectiveness of Ultrasound-guided interventions for soft tissue pain in the foot and ankle, Department of Radiodiagnosis
6. Establishing the Ideal time point for imaging of tuberculous lesions using 99mTc- Ethambutol scintigraphy. Dept of Nuclear medicine
7. Impact of upper and lower body exercise on body composition, weight, muscle strength in obese patients with knee osteoarthritis, Department of Medicine
8. Markers of muscle senescence in inflammatory myositis. Department of Rheumatology
9. Randomised Controlled Trial Evaluating The Efficacy Of Transcatheter Arterial Embolization In Moderate Medial Knee Pain Refractory To Optimal Non-Surgical Management - A Pilot Study, Department Of Cardiovascular Radiology and Endovascular interventions.
10. Role of 99m Tc Ethambutol in the diagnosis of pulmonary and extrapulmonary TB. Department of Nuclear medicine
11. Study of the Serum complement C3 and C4 levels in patients undergoing intramedullary nailing for fracture shaft femur” Candidate Dr Ginni Bharti, Department of Biochemistry
12. Transarterial Embolization For Clinical Improvement In Adhesive Capsulitis, Deptt Of Cardiovascular Radiology and Endovascular interventions
13. Understanding Differences In The Patterns Of Osteoarthritis In Indian And Western Population: Impact on Symptoms, Treatment Options and Their Outcome, UKIERI-DST

Year	Number of Departmental projects	Number of collaborative projects
2019-20	10	03
2020-21	06	03
2021-22	08	04
Total	24	10

Completed

S. No.	Title of the project	Collaborating department/institution
	Biomechanical Investigation of Extracorporeal Irradiation Therapy in Malignant Bone Tumors	IIT, Delhi
	The PARITY Trial	McMaster University, Canada
	Biomechanical Investigation of Extracorporeal Irradiation Therapy in Malignant Bone Tumors	IIT, Delhi

PUBLICATIONS

Journals: 62

Chapters in Book: 06

Year	Number of Research Papers published	Number of Abstracts published	Number of Chapters/ Books published
2019-20	83	00	03
2020-21	03	00	04
2021-22	62	00	06
Total	148	00	13

PATIENT CARE

Year	Orthopaedics OPD		Total admission	Total no of surgery
	New registration	Old registration		
2019-20	60,145	1,16,331	7969	6583
2020-21	16,710	33,192	1905	2412
2021-22	24,918	41,107	5312	4475
TOTAL	1,01,773	1,90,630	15186	13470

1. Sports clinic once a week
2. Hand clinic once a week
3. Brachial plexus clinic
4. Fracture fragility clinic for Orthopedic problems in elderly

COMMUNITY SERVICES/CAMP

1. Medical Camp: Orthopaedics Medical Camp at Patna: 14 November 2021 and 13 March 2022

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Rajesh Malhotra was listed among top 1% Researchers in the world and 3rd among Orthopaedics Surgeons of India (Stanford University, California); **Best Paper Award** - Delhi Orthopaedic Association Conference; “Medial Pivot Design Improves Satisfaction in Total Knee Arthroplasty” selected for an OE Advance Clinical Evidence (ACE) Report; delivered **Dr KT Dholakia Oration** on “My experiences with Revision TKA over 3 decades with Time Dilation-Tides of challenges and opportunities”, Silver Jubilee, IAACON 2021, 22-24 October 2021, Mumbai; **Dr MG Kini Memorial Oration** on “The Saga of Overcoming Dilemmas and Breaking the Taboos in Arthroplasty- The Reminiscences and Reflections of My Career” 66th Annual Conference of Indian Orthopaedic Association (IOACON) 2021, IAACON 2021, 21-25 December 2021, Goa; **Member:** SICOT Research Grants Committee 2020, Inspection Committee for Organs and Tissues (Upper Limb, Hand, Digits, Face Skin (including scalp), Bone and Soft Tissues) transplantation facilities JIPMER Puducherry, Executive Board of Indian Society of Hip and Knee Surgeons, Academic Council at Baba Farid University of Health Sciences, Faridkot; **Chairman**, Technical Specification and Evaluation Committee for the procurement of Cautery Machine, AIIMS; **Founding Member**, Asia Pacific Osteoporosis and Fragility Fracture Society (APOFFS), New Section of APOA; **President Elect**, Asia Pacific Osteoporosis and Fragility Fracture Society (APOFFS); **Co-Chairman**, Research Committee of Indian Society of Hip and Knee Surgeons (ISHKS); **Member**, Screening Committee “**DBT-BUILDER Programme and DBT-SAHAJ Programme**”, **3rd Technical/Advisory core committee (TACC)** DBT Indo-Aus joint call, Task Force on “**Research Resources Service Facility and Platforms (RRSFP) Programme**”, Task Force for **Research Resource Service Facility Platform (RRSFP)** under DBT-BUILDER Programme; Expert Member; 6th **DBT-TEC Meeting- Biomedical Engineering**, Screening Committee under “**DBT-BUILDER Programme and DBT-SAHAJ Programme**”; Expert for Expert Committee on Extra-pulmonary (EPTB) and Paediatric Tuberculosis (PPTB) of ICMR; Member, National ICMR-CTD Task Force for development of Standard Treatment Workflows for management of EPTB; Coordinator for Groups for STWs and action points for discussion in National ICMR-CTD Task Force on EPTB (Musculoskeletal TB); Member, Apex Technical Committee, NOTTO (National Organ & Tissue Transplant Organization); Member, Implementation group for “Tribute to Life” Board, it was formed to promote organ donation and transplantation to coincide with their commonwealth games in UK; Conducted “Fellowship Exit Exam NBE (Trauma Care)” and (Spine Surgery)” between 29-31 March 2022 at AIIMS, New Delhi; Pioneered Direct Anterior Approach for THA and First surgeon to perform bilateral simultaneous THA by DAA in India; First ever Day Care THA in India; First in India to perform THA through Bikini incision; Did 62 live TV shows and 6 Radio programs; Expert, Standing Selection Committee, Interviews for Faculty (Orthopaedics) of AIIMS Jodhpur, 24 June 2021, AIIMS Kalyani on 28 October 2021 and Professor, Department of Orthopaedics, Rajendra Institute of Medical Sciences (RIMS), Ranchi, Jharkhand; For Associate Professor, Department of Orthopaedics, Ambedkar State Institute of Medical Sciences, Mohali; Expert, Selection Committee, for selection of Faculty, Department of Orthopaedics, Directorate of Research and Medical Education, Chandigarh, 6 August 2021 and Medical Faculty, Department of Orthopaedics, Directorate of Research and Medical Education, Chandigarh; Interview for APS, Orthopedic Surgery, King George Medical University, UP

Professor Hira Lal Nag was Chairman, Sports Medicine Section, Central working committee of IOA; Editorial board member, Journal of arthroscopy and sports medicine, official journal of IAS; Expert Member, Human Rights Committee; Member EHS Advisory Committee; Honorary consultant for Sports Authority of India (SAI); Co-chairman, Technical specification committee for procurement of common equipment for new OPD Block; Appointed Member, Hospital Management Board; Nominated Member, Technical Specification Selection Committee of Surgical Items; External Examiner for Internal Assessment of FNB Students, Sports Injury Center, Safdarjung Hospital; Vice President, Orthopaedic Research Society, AIIMS; Member, Technical specification committee for purchase of different types of rubber gloves; Member, store purchase committee, AIIMS; External Expert, Standing Selection Committee for selection of Faculty, Department of Orthopaedics, AIIMS Patna; External Expert, Standing Selection Committee for selection of Faculty, Department of Orthopaedics, RIMS Ranchi; External Expert, Standing Selection Committee for selection of Faculty, Department of Orthopaedics, AIIMS Raipur; Subject Expert, UP UPSC, for selection of Professor; Subject matter Expert, for OSCE writing workshop; External Expert, Standing Selection Committee for selection of Faculty, Department of Orthopaedics, IGIMS Patna; Unit In- charge of Orthopaedics Unit – II; Faculty In-charge, Orthopaedics OT; Member, Medical equipment committee for SIC (expansion), Safdarjung; Member, Medical team of Health Camp at Leh; Expert Member, Indian Standard Bureau for Orthopaedic Implants; Internal examiner, Fellowship in Arthroscopy; Internal expert, Exit Examination of Fellows in Arthroscopy; Expert, Subject matter for OSCE writing workshop of NBE.

Professor Ravi Mittal was External examiner for MD sports medicine at GGSIP university on 16 July 21; Nominated as Member of panel of experts of the appellate mechanism under National Medical Commission Act 2019 in Jan 2022.

Professor Shah Alam Khan was Nominated Member to the Skeletal Dysplasia subcommittee of the Rare Diseases Consortium of the Ministry of Health and Family Welfare, Govt of India.

Professor Vijay Kumar was Awarded Fellow of American College of Surgeons; Fellow of International College of Surgeons.

Dr Bhavuk Garg attended Blood based signatures of Pott's spine: bench to bedside, IOACON Silver Jubilee Oration, Goa, 21-25 Dec 2021; ASSI Basic Sciences research Award 2022; Honorary fellow: Global Association of Physicians of Indian Origin (GAPIO); Member: North American Spine society committee on spinal deformities; DOA publication award >40 years category; Chaired WIROC APSS combined session, WIROC Global 2022, 24-27 March 2022, Mumbai

Dr Vikrant Manhas was Faculty in a webinar on Direct Anterior Approach for Total Hip Arthroplasty on 19 June 2021; Faculty in India's first cadaveric workshop on Direct Anterior Approach for Total Hip Arthroplasty at AIIMS, New Delhi; Faculty in AIIMS first webinar on bone banking in Orthopedics; Co-organising secretary of the annual physical conference "Current concepts on Arthroplasty" at AIIMS, New Delhi; Core faculty for the Joint Replacement fellowship programme in AIIMS, New Delhi; Internal examiner for fellowship in Joint Replacement exit examination at AIIMS, New Delhi; External examiner for final year MBBS examination at MBBS on 15-18 April 2021; Reviewed multiple articles for the Indian Journal of Orthopedics and the Indian Journal of orthopaedic and trauma; Membership of professional bodies: a) Indian orthopaedic association. b) Delhi orthopaedic association. c) SICOT international. d) International society for computer-assisted orthopaedic surgery.

Dr Vijay Kumar D was selected for the EMEQ award by the DST and received extramural research grant for the same.

9.26. Otorhinolaryngology

Professor and Head

Alok Thakar

Professor

Rakesh Kumar

Additional Professors

Kapil Sikka	Chirom Amit Singh
Rajeev Kumar	Prem Sagar
Arvind Kairo	Shuchita Singh
Hitesh Verma	

Assistant Professors

Anup Singh	Smriti Panda
Subhashini PR	Neha Shakrawal

HIGHLIGHTS

The department continued its activities to impart quality education to its own students and also to delegates and observers. Through the year that was plagued by the COVID-19 pandemic, the department was committed to providing quality education to its own residents, students, fellows, and other delegates both online and offline. Training was augmented by conducting in house surgical simulation workshops for otologic surgery, sinus surgery, laryngeal surgery, head and neck surgery, reconstruction, and microvascular anastomoses training for our residents.

The Department played its role in sharing the massive responsibility undertaken by the institute in providing care to COVID-19 patients. This year, the department was also tasked with the huge responsibility of handling COVID-19 related Mucormycosis. Department handled over 200 Mucormycosis cases across all hospital centres (Main hospital, Trauma Centre and NCI). Department also assisted government agencies in making guidelines and creating general awareness among clinicians and public at large. Despite the pandemic, our faculty and residents provided services in COVID areas and in the main hospital, CRHSP Ballabgarh, and NCI Jhajjar to the fullest extent possible.

EDUCATION

MBBS-The formal lecture schedule for the MBBS students is included in the 6th and 8th semesters and consists of 1-hour lectures. The undergraduate students are posted in the ENT department (OPD and Ward) for a total period of 2 months on rotation basis. Here they learn the basics of ENT examination, become familiar with diagnosing the common ENT diseases and learning the elementary management, including communication skills. The clinical training consists of

1. Two classes on introduction to the clinical aspects of ENT including proper Ear, Nose and throat examination
2. Bed side teaching and case discussion on common ENT conditions like CSOM, Deviated Nasal septum, Nasal polyps, Cancer larynx etc
3. They are also exposed to common ENT procedures

Where direct clinical postings were not possible, all efforts were made to take clinical and practical sessions online

MS (Otolaryngology) - For postgraduates, major goals are patient care, teaching, research ability, and team work. PG students present seminars/papers, research writing, and acquire clinical decision-making ability and management expertise. Postgraduate students perform major and minor surgical procedures under supervision of a faculty member/a senior resident. They are trained to perform major and minor operations independently. During training, they are posted for exposure to Audiology Section and Vestibular Laboratory, learn bedside history taking in ward, OT exposures, casualty, fulfill ICU training requirements and training visits to related disciplines such as Neurosurgery/Anaesthesia, and care for indoor (Medical; preoperative and postoperative) patients. They attend operation theatre and emergency operations, assist in ward rounds and visit other wards with senior colleagues to attend call/consultations from other departments. They participate in the teaching sessions in ward for bedside clinical aspect, in specialty clinics in afternoon in seminar/journal Club and do emergency duty as per Roster of the department. A postgraduate student also has to do thesis under guidance of faculty.

MCh (Head Neck Surgery and Oncology) – The MCh trainees are currently deployed both at the main AIIMS New Delhi campus in the Department of Otolaryngology and also at the National Cancer Institute (NCI) Jhajjar campus. The MCh

residents have been allocated duties in the respective specialties in OPD, OT and also attend academic activities jointly with departments of radiation oncology, medical oncology, pathology, neurosurgery etc. MCh residents and Skull Base Fellows also are encouraged to participate in research projects jointly with faculty members. They present Seminars and Journal clubs by rotation. This year, residents and faculty were also posted in COVID care areas.

Fellowship- Skull Base Surgery- This 1-year fellowship for advanced trainees is modelled on a direct one-to-one faculty-trainee mentorship model and allows the trainee flexibility in pursuing their knowledge and training. The trainee works in close liaison with the Departments of Radiology and Neurosurgery, and the course includes a period of direct posting in the Department of Neurosurgery.

The department also organizes workshops and conferences for the benefit of national and international delegates from time to time on various recent topics of interest. The department also welcomes delegates for observership from India and abroad and hosts them to observe departmental activities, specialty clinics, seminars and operative procedures.

Online teaching schedules continued over virtual platforms during the pandemic.

Short Term Training

- Dr Sarita Kumari Mishra, Additional Professor (ENT), IGIMS, Patna, 3 days, 14-16 March 2022
- Ms Sneha and Ms Aparna Kumari, Nursing staff, IGIMS, Patna, 3 days, 14-16 March 2022

Elective training

- Elective posting of interns of AIIMS, New Delhi
- Department had observers and rotation postings from Departments of Emergency Medicine, Paediatrics, Medicine and Physiology
- Internship observership posting of students of Bachelor's in Audiology and Speech Language Pathology (BASLP), AYJNISHD, Regional Centre, Noida

CMEs/Workshops/Symposia/National and International Conferences*

1. Word Hearing Day (3 March 2022)
2. Hands on Temporal Bone Dissection Course - 2021, Department of ENT & HNS & ORL Research Society, AIIMS, New Delhi on 9-10 October 2021
3. Third AIIMS Hands on FESS cadaveric workshop from 18-19 September 2021 at ACSST JPNTC, AIIMS

Lectures delivered

Alok Thakar: 42	Rakesh Kumar: 10	Kapil Sikka: 23
Chirom Amit Singh: 8	Rajeev Kumar: 2	Hitesh Verma: 10

Oral papers/posters presented: 1

Total Number of Invited Talks by the faculty

Year	No.
2019-20	149
2020-21	66
2021-22	95

RESEARCH

Funded projects

Ongoing

1. Phased pilot study to assess baseline serum level of Prestin in healthy individuals and in patients of definite Meniere's disease and ototoxicity as a biomarker of cochlear outer hair cell functional status, Dr Prem Sagar, AIIMS, New Delhi, Intramural project, 2 years, 2020- 2022, Rs 4.25 lakhs
2. Clinical validation of the effectiveness of automated speech therapy for stuttering delivered by digital means, Shuchita Singh Pachauri, BIRAC, 2 years 3 months, 2020-22, Rs 10 lakhs
3. ACE-2 receptor expression in sino-nasal mucosa in patients with COVID 19 associated mucormycosis, Hitesh Verma, AIIMS, 1 year, 2021-2022, Rs 3.5 lakhs
4. An evaluation of HLA, phagocytic function and trace elements in cases of sinusitis, invasive fungal sinusitis and non-invasive fungal sinusitis, Hitesh Verma, AIIMS, 2 years, 2019-2022, Rs 10 lakhs

5. Centre for Medical Innovation and Entrepreneurship (CMIE), Alok Thakar, AIIMS BioNEST, 3 years, 2020-2023, Rs 8.44 crores
6. Clinical and Social Outcomes of Cochlear Implantation in older prelinguals, Dr Kapil Sikka, CIGI, 3 years, 2019-2021, Rs 6 lakhs
7. Development of single-cell derived clonal spheroids as a tool for drug discovery in cancer research with focus on Head and Neck Cancer, DR HITESH VERMA, Dr RP Singh, ICMR, 3 years, 2019-2022, Rs 3 crores
8. Effects of non-ionizing electromagnetic field on human health: effects on auditory and vestibular system, Dr Rakesh Kumar, ICMR, 3.5 years (extended), 2012-2022, Rs 90 lakhs
9. Evaluation of factors impacting outcomes of cochlear implants in pediatric population, Dr Kapil Sikka, ICMR, 3 years, 2019-2022, Rs 35.3 lakhs
10. Evaluation of unknown head and neck primaries metastatic to cervical lymph nodes, Dr Chirom Amit Singh, AIIMS, 3 years, 2018- Ongoing, Rs 5 lakhs
11. Exome sequencing and molecular characterization in juvenile nasopharyngeal angiofibroma 2021-22, Dr Hitesh Verma, Dr Bhupinder Verma (biotechnology), AIIMS, 2 years, 2021-2023, Rs 20 lakhs
12. Minimally invasive nano enabled targeted technology for Sentinel Lymph Node SLN detection, Prof Alok Thakar, BIRAC, 1.6 years, 9 December 2019-Ongoing, Rs 45 lakhs
13. Prevention of Radiotherapy Induced Xerostomia by intraductal administration of N- Acetyl, Dr Arvind Kumar Kairo, ICMR, 3 years, 2020-2023, Rs 36 lakhs
14. Prospective study to evaluate the role of Systemic Bevacizumab therapy in patients with aggressive and complex laryngotracheal and pulmonary recurrent respiratory papillomatosis., Dr Rajeev Kumar, AIIMS, New Delhi, Collaborative Intramural project (AC-41), 2 years, 2021-2023, Rs 20 lakhs
15. Re-Engineering High end audiometric devices for robust and affordable audiological testing (Sound4All) Phase 2, Dr Kapil Sikka, IGSTC (Indo German Science and Technology Center), 3 years, 2016-Ongoing, Rs 36 lakhs
16. Study to determine the role of mTOR pathway in the pathogenesis of juvenile nasopharyngeal angiofibroma, Dr Rajeev Kumar, AIIMS, New Delhi, Intramural Project (A-916), 1 year, 2021-22, Rs 5 lakhs
17. The Clinicopathological evaluation of Cholesteatoma aggressiveness, Dr Kapil Sikka, AIIMS, 2 years, (2018-Ongoing, Rs 6.5 lakhs
18. To evaluate nasal epithelial brushing miRNAs as potential diagnostic, prognostic and predictive bio-markers in vitamin D deficient allergic rhinitis., Shuchita Singh, Pachauri, AIIMS, 2 years, 2021-23, Rs 10 lakhs

Completed

1. Evaluation of genetic profile of olfactory neuroblastoma, Dr Rajeev Kumar, AIIMS, New Delhi, Intramural project, 2+1 years, 2018- 2021, Rs 9.9 lakhs
2. Multi-centric clinical trial of indigenous cochlear implant "Sravan", Professor Alok Thakar, DRDO, 12 months, June 2019-2021, 10 lakhs
3. Study of Human Papilloma Virus (HPV) Association in Sinonasal Tumors, Dr Kapil Sikka, AIIMS (Collaborative Intramural Scheme), 2 years, 2018-2021, 20 lakhs

Funded projects (Ongoing)

Year	No	Amount
2019-20	14	6.58 Crores
2020-21	16	6.0 Crores
2021-22	20	14.86 Crores

Departmental projects

Ongoing

1. A pilot study to assess the effect of intraductal N acetyl cysteine on swallowing and voice outcomes of patients with oropharyngeal cancer undergoing radiotherapy
2. A prospective pilot study to evaluate the effect of supraglottoplasty on Tracheomalacia in pediatric patients with Laryngotracheomalacia
3. A prospective study of bony versus soft tissue reconstruction for posterior mandibular defects
4. A prospective study to determine early predictive factors of hypocalcemia in patient undergoing total or completion thyroidectomy.
5. A Prospective study to evaluate the impact of histological staging of oral submucous fibrosis on occult and overt lymph nodal metastases in gingivobuccal complex squamous cell carcinoma of oral cavity (T1-T4)
6. Ambispective study to calculate the incidence of Covid-19 infection in children less than 18yrs and underwent Adenoidectomy and Adenotonsillectomy

7. Ambispective study to evaluate the utility of Supraclavicular artery island flap [SCAIF] reconstruction in Head and Neck Cancers
8. An Ambispective Study to Assess Various Primary Tumour and Ipsilateral Nodal Factors Associated with Contralateral Nodal Metastasis in Patients with OCSCC.
9. Analysis of voice outcomes after radiation or chemo radiation in carcinoma larynx and the effect of N acetyl cysteine on voice parameters
10. Association of hearing loss in geriatric patients with cognitive Impairment
11. Clinicoradiological correlation in ascertaining the endpoint of treatment of Invasive Fungal Sinusitis
12. Comparison of suction verses microdissection method for harvesting supporting cell from inner ear
13. Detection of extra-nodal extension in node positive oral cavity squamous cell carcinoma
14. Detection of oncogenic viruses HPV and EBV by immunohistochemistry in secondary cervical lymph nodes from primary of oropharynx, nasopharynx and unknown primary
15. Effect of Itraconazole in Allergic Fungal Rhinosinusitis: A clinico-radiological correlation.
16. Evaluation of factors impacting prognosis in Skull base osteomyelitis
17. Evaluation of respiratory and voice outcomes in patients with unilateral vocal cord palsy post injection laryngoplasty
18. Exploration of Vitamin D and WNT/beta catenin signalling pathway in Juvenile Angiofibroma
19. Functional evaluation of spinal accessory nerve after selective neck dissection
20. Observational study to correlate site of obstruction in OSA with eustachian tube dysfunction and reflux disorder
21. Outcomes of Cochlear Implant in older prelingual SNHL patients
22. Prospective study to determine incidence of intraglandular, periparotid, occult, overt cervical lymphnode metastasis in primary parotid malignancy
23. Prospective Study to Evaluate the efficacy of Nasal Douches in the treatment of Vitamin D deficient Allergic Rhinitis
24. Prospective study to evaluate the utility of infra-hyoid myocutaneous flap in reconstruction following resection of oral tongue carcinoma
25. The study impact of cochlear implant on school and educational performance in pre-lingual deafened children.
26. To assess the prevalence of lingual lymph nodes and pattern of lymph nodal spread in squamous cell carcinoma of the tongue
27. To compare different Cochlear Implantation outcome scores with auditory cortical activity seen on functional near infrared spectroscopy in prelingual profound SNHL patients after Cochlear Implantation
28. To study the role of PET in surgical management of Oral cavity squamous cell carcinoma

Completed

1. Comparison of outcomes, post cochlear implantation in children with congenital inner ear malformation and normal ear anatomy
2. Design and Development of Tracheoesophageal prosthesis for improved deployment and voice rehabilitation in post laryngectomy patients
3. Evaluation of clinical features and treatment outcomes in patients with skull base osteomyelitis
4. Evaluation of fat implantation in patients with sulcus vocalis and video laryngostroboscopic assessment before and after treatment
5. Parathyroid identification in thyroid surgery by naked eye evaluation, surgical microscopy and by near infra-red fluorescence using indocyanine green
6. Severity of obstructive sleep apnea evaluation of effect of surgery by inflammatory markers and correlation with anatomical factors
7. To determine the incidence of paratracheal lymph node metastasis in patients with carcinoma larynx and hypopharynx planned for partial/total laryngectomy.

Collaborative projects

Ongoing

1. A cohort study to assess the feasibility of WHO ICOPE approach in tertiary health centers, Department of Geriatric Medicine,
2. A phase II study of EMF (Erlotinib+Methotrexate+Celecoxib) in platinum refractory recurrent /metastatic head neck squamous cell carcinoma, Department of Medical Oncology
3. A Phase II trial of Pentoxifylline and alpha tocopherol (PAT) in prevention of radiation induced dysphagia in head and neck squamous cell carcinoma, Department of Radiotherapy
4. A Phase III prospective randomised trial comparing dysphagia-aspiration related structures and submandibular gland sparing Intensity modulated radiotherapy (SWOAR-IMRT) versus standard IMRT (s-IMRT) paring in locally advanced oropharyngeal and laryngeal carcinomas, Department of Radiotherapy
5. Assessment of Oral Microbiome and its significance in upper aerodigestive tract cancers, Department of Medical Oncology
6. Comparison between kit based and in-house preparation of Tc -99m Ubiquitin, Department of Nuclear Medicine

7. Diagnosis of NIFTP using molecular criteria and nuclear characteristics evaluated by artificial intelligence: A Preliminary Study, Department of Pathology
8. Evaluation of genetic profile of olfactory neuroblastoma, Department of Pathology
9. Molecular characterization of olfactory neuroblastomas for classification into prognostically and therapeutically relevant subgroups, Department of Pathology
10. Study of PD-L1 expression in Parathyroid carcinoma and its correlation with immune microenvironment, Department of Pathology
11. The SWOAR trial: A phase III trial evaluating dysphagia-aspiration related structures and submandibular gland sparing Intensity modulated radiotherapy (SWOAR-IMRT) versus standard IMRT in Head and neck squamous cell carcinoma, Department of Radiotherapy
12. Ultrasonographic assessment of tonsillar volume in children undergoing tonsillectomy: a predictor of postoperative morbidity, Department of Anaesthesiology
13. Utility of 99m Tc- Ubiquitin scintigraphy in diagnosis of sinonasalmucormycosis, Department of Nuclear Medicine
14. Utility of Ga - 68 - NOTA- UBI in infectious and non- infectious lesions, Department of Nuclear Medicine
15. Evaluation of Morphologic structure of external auditory canal from 3D reconstructed models of temporal bone, AIIMS
16. Development of nanomaterials based point of care device for head-neck cancer biomarkers detection, JNU- AIIMS

Complete

1. A longitudinal Survey to assess Patient Satisfaction for Nurse Initiated Follow Up Tele-Consultation among patients discharged from a selected tertiary care hospital, Nursing department
2. An OMR sheet based feed-back survey on in-patient satisfaction regarding various hospital services in a selected tertiary care hospital, Nursing department
3. “Development of wearable voice health monitoring device”, Technology in Biomedical Engineering
4. Evaluation of WNT and SHH signaling pathways in olfactory neuroblastomas, Department of Pathology, AIIMS, New Delhi

Departmental projects

Year	Number of Departmental projects	Number of Collaborative projects
2019-20	14	21
2020-21	24	38
2021-22	28	15

PUBLICATIONS

Journals: 75

Abstract: 4

Chapters in Book: 15

Books/Monographs: 1

3 years Publications details

Year	Number
2019-20	49
2020-21	97
2021-22	95

PATIENT CARE

Apart from OPD, Operation theatre and minor OT services, the Department runs a rehabilitation unit of audiology and speech pathology and specialty clinics in Otology and Skull Base, Cochlear implant, rhinology, vertigo, voice and swallowing, and twice a week Head and neck cancer clinic. The Department also provides rural services at CRHSP Ballabhgarh and Outreach OPD, Jhajjar. The statistics are as follows:

Ward Admissions: D4 Ward: 4030*

*Long admissions: 2632

*Short Admissions: 1398

Number of patients operated

Main OT: *Major cases- 1762

*Minor Cases- 383

Total - 2145

Minor OT: OPD procedures-17360

Number of patients seen in OPD

New patients- 17326 Old registration – 18800

Total - 36126

Total Number of Patients seen in RUAS

New Patients: 1118 Old Registrations: 941

Total RUAS: 2059

Total audiological tests done (PTA + Tympanometry + FFA + BERA + OAE + ASSR): 13235

Teleconsultation Services

Total number of outpatient teleconsultation: 710

Total number of RUAS teleconsultation: 5800

No of cases in Specialty Clinics

S. No.	Clinic	New cases	Old cases	Total
1	Vertigo	38	51	89
2	Otology and Skull Base	34	6	40
3	Cochlear Implant	123	98	221
4	Voice	108	25	133
5	Rhinology	44	14	58
6	Head and Neck Cancer	424	1435	1859
7	HNRC (Head and Neck Rehabilitation Clinic)	62	24	86
8	Neonatal Hearing Screening	1254	0	1254
9	Swallowing and FEES Therapy (AIIMS and NCI)	448	0	448
10	Mucor Screening and Follow up Clinic	546	611	1157

NCI (Jhajjar)

- Number of patients seen in OPD
- New patients - 738 Old registration - 3869
- Number of patients operated
- Major cases - 469

Community service clinics

- Twice weekly clinics in community hospital in Ballabhgarh with once-a-week operating facilities
- Weekly clinics in primary health center in Gurgaon
- Weekly clinics in community hospital in IIT Delhi
- The department is providing daily OPD services at Outreach OPD Jhajjar and thrice a week OT Services

Total number

Year	Patients operated	Patients seen in OPD	Specialty Clinics
2019-20	21588	112292	1024
2020-21	7555	51448	579
2021-22	19505	55871	1157

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Alok Thakar Chairman-Core Committee for COVID Associated Mucormycosis; Project incharge-Centre for Medical Innovation & Entrepreneurship (CMIE); Lead Expert for ENT-National Health Authority; Consultant (ENT) to the Honorable Vice President of India; Member-Expert committee for Review of National Program for Prevention and Control of Deafness; Co-Chairperson, Subcommittee for Medical Devices, Standing National Committee on Medicines; President-Foundation for Head-Neck Oncology (FHNO); Council Member - Asia-Pacific Society of Thyroid Surgery (APTS); Convenor for Asia - IFHNOS (International Federation of Head-Neck Oncology Societies) Virtual Tour 2021; Member - WHO Regional Expert Group on Hearing Care for South-East Asia Region; Member - National Board of Examinations -Head-Neck Oncology Specialty Board; Visiting Professor - Department of Otolaryngology, AIIMS Rishikesh; Scientific Director - UChicago-UCMS Webinar Series on Head-Neck OncoSurgery; Invited Speaker - Mayo Clinic CPD, Webinar; Professor C Das Oration- North East Asscn of Otolaryngologists of India; Presidential Oration - Annual Meeting of the Asscn of Otolaryngologists of India; Keynote Speaker - Indonesian Society of Otolaryngology and Head-Neck Surgery, Annual Meeting; Keynote Speaker - Shaikat Khanum Cancer Hospital Symposium, Lahore.

Dr Rakesh Kumar Chairperson of MHD-4 of BIS for looking after standards of ENT surgical instruments in India; Honorary Vice President, Otorhinolaryngologic Research Society of AIIMS (ORSA); Honorary Consultant Department of Otorhinolaryngology and HNS, IGIMS Patna; Honorary Visiting Consultant at Department of Otorhinolaryngology and HNS; AIIMS, Rishikesh; Member of the studies of the Department of Otorhinolaryngology, Faculty of Medicine of Aligarh Muslim University; Starting new facilities at other places in India; Cochlear implant programme at various Government Medical College Hospitals in India; Invited as external examiner for MS (ENT) at AIIMS, Bhubaneswar; Invited as external subject expert in the panel of standing selection committee for recruitment of faculty at AIIMS, Bhubaneswar and Bhopal; Co-Director for 3rd AIIMS Hands on FESS cadaveric workshop from 18-19 September at ACSSTJPNTC, AIIMS; Co-Chairperson-Temporal dissection course at AIIMS, New Delhi from 9-10 October 2021; Invited guest faculty at various National clinical meetings and presented papers and participated in panels; Chairman of Sectorial Committee looking after ENT Instruments Standard at BIS; Member of Negotiation committee of AIIMS; Deputy Superintendent of Hostel and looking after store purchase of it beside other duties; Member, Medical board, AIIMS; Member, Committee to look into matter for OT working; Anti Ragging Duty.

Dr Kapil Sikka Conversation and awareness program with Punjab Kesri Group on Black Fungus on 28 May 2021; Debate with Tribune India Journalists on twitter Spaces on 25 May 2021 on Black Fungus; Conversation and awareness program with TV-9 on Black Fungus on 24 May 2021; Conversation and awareness program with Zee Business Group on Black Fungus on 27 May 2021; Black Fungus: Epidemic within a larger pandemic in TV show Desh Deshantar on Rajya Sabha TV on 21-5-2021 Editorial Board Member and Assistant Editor, Indian J of Otolaryngology; Reviewer, Indian J Otolaryngology, Head and Neck Surgery, Indian J Pediatrics, Indian J Cancer, Laryngoscope Investigative Otolaryngology, Indian J Neurology; Joint Secretary, Association of Otolaryngologists of India, Delhi State Branch; Honorary Treasurer, Otorhinolaryngologic Research Society of AIIMS (ORSA), 2017-Member Medical Board, AIIMS; Member, editorial team for research directory, AIIMS; Internal examiner, AIIMS, MS, Otolaryngology; External Examiner, DNB, National Board of examinations, ENT; Member, Advisory board for implementation of ADIP Cochlear Implant Program; Empanelled faculty for academic activities of National Board of examinations; Reviewer BMJ innovations.

Dr Chirom Amit Singh Delivered **UPAOICON Oration** on Oral cancer management- Indian perspectives for UPAIOCON 2022 held in Orchha, MP on 27 March 2022; Performed live surgical demonstration on oral cancer surgery in UPAIOCON 2022 held in Orchha, MP on 26 March 2022.

Dr Rajeev Kumar was Reviewer in BMJ Case Reports, BMJ Journals; Indian Journal for Otolaryngology and Head and Neck Surgery; Journal of Medical Case Reports; Indian Journal of Radiology and Imaging; Cureus; Clinical Otolaryngology; World Journal of Paediatric Surgery.

Dr Prem Sagar was Member of Expert group for review of Health Benefit Packages for ENT under AB-PMJAY, Ministry of Health and Family Welfare, Government of India; Specialist in the Medical Cell of National Health Authority, Govt of India under the project/ task on standard treatment guidelines (STGs), Health Benefit Packages (HBPs), Quality Assurance (QA); Member of Expert group for Standard Treatment Workflows (STWs) for ENT by Ministry of Health and Family Welfare, Govt of India; Co-opt Member of the panel on ENT Sectional Committee looking after and setting up the standard of ENT Surgery Instruments, MHD 4 by Bureau of Indian Standards; Reviewer in ORL, Karger publishers; Indian Pediatrics Journal, official publication of the Indian Academy of Pediatrics (IAP), Springer Nature; Developmental Medicine and Child Neurology, official journal of the American Academy for Cerebral Palsy and Developmental Medicine (AACPDM), Australasian Academy of Cerebral Palsy and Developmental Medicine (Aus ACPDM), British Academy of Childhood Disability (BACD), British Paediatric Neurology Association (BPNA), European Academy of Childhood Disability (EACD), and Mexican Academy for Cerebral Palsy and Neurodevelopmental Disorders; Annals of Otolaryngology, Rhinology and Laryngology, Sage Journals; International Archives of Otorhinolaryngology (IAO), Thieme publication; BMJ Case Reports, BMJ Journals; Frontiers in Surgery, section Otorhinolaryngology and Head Neck Surgery; BMJ Innovations, BMJ Journals; Journal of International Medical Research, SAGE publisher; Journal Trends in Anaesthesia and Critical Care, Elsevier Inc; Cureus.

Dr Shuchita Singh Pachaury Have successfully completed the Good Clinical Practice online training program, organized by the Clinical Development Services Agency (CDSA), a center of Translational Health Science & Technology Institute (THSTI), an autonomous institute under DBT in collaboration with the All India Institute of Medical Sciences (AIIMS), New Delhi; Have been invited to be a global partner in the collaborative effort of UCLA Global Health Seed Grant Program concerning HPV related cancers to assess physician, trainee, and medical student knowledge and attitudes regarding HPV and HPV vaccination, as well as creation of educational activities and follow-up of HPV related malignancies; Have been involved as a Co-investigator in a nation-wide oral screening project by Atom360, an Indian Artificial Intelligence Startup and winners of Elevate 2018 by Govt of Karnataka. The project title is "Analysis of Image Based Diagnosis using Artificial Intelligence and Pathological Correlation".

Dr Hitesh Verma was Treasurer Delhi AOI 2021-23; Adjunct faculty. SCSM, JNU; Ethics Committee Member. JNU; Committee member. PhD program. SCSM, JNU; External expert for instrument purchase. AIIMS Raebareli; External examiner for regular MBBS exam. SMS MEDICAL COLLEGE 23-26 March 2022; Reviewer of Journals- Journal Of Clinical And

Diagnostic Research, Indian Journal Of Pediatrics, Eurasian Journal Of Medicine, Case Reports In Otolaryngology, Journal Of International Medical Research, BMJ Case Report, Clinical Case Reports, Case Reports In Neurology Medicine, Neurology India, International Journal Of Clinical Practice; MS (ENT) Thesis evaluation- PGIMER Chandigarh, AIIMS Raipur, UCMS New Delhi; Allergy testing facility; Community services CORONA virus talk. Live TV show on NEWS X 13 April 2021; CORONA virus talk. Live TV show on NEWS X 14 April 2021; CORONA virus talk. Live TV show on INDIA TV 22 April 2021; How to improve oxygenation. Live talk on India TV 15 May 2021; Oxygen and Vaccination. Live TV show on TV 9 Bharatvarsh 15 May 2021; Black fungus and vaccination in children. Live TV show on TV 9 Bharatvarsh 19 May 2021; Awareness on black fungus. Live India TV 20 May 2021; Awareness on black fungus. Live Zee TV 20 May 2021; How to improve immunity. Live Zee TV 23 May 2021; White fungus. Live Zee TV 27 May 2021; Awareness on COVID 19 infection and Black Fungus. 30 May 2021 Prajapati Seva Samiti. Zoom meeting; COVID 19 awareness. ND TV live 30 July 2021; PrashanKal. India Science online show 10 August 2021; Creating cancer awareness. News x 8 November 2021; What is OBSTRUCTIVE SLEEP APNEA. Editorial in The daily Guardian 7 December 2021; Awareness on Omicron. CNBC, 7 January 2022; Awareness on Omicron. News x 10 January 2022; Awareness on Omicron. ND TV 17 January 2022.

9.27. Paediatrics

Professor and Head

Ashok Deorari (upto 28 February 2022)

Arvind Bagga (from 1 March 2022)

Professors

Sushil K Kabra (Pulmonology, Intensive Care, Tuberculosis)

Madhulika Kabra (Genetics) Pankaj Hari (Nephrology)

Sheffali Gulati (Neurology)

Rakesh Lodha (Pulmonology, Intensive Care, Tuberculosis)

Rachna Seth (Oncology) Vandana Jain (Endocrinology)

Ramesh Aggarwal (Neonatology)

Additional Professors

Neerja Gupta (Genetics) M Jeeva Sankar (Neonatology)

Aditi Sinha (Nephrology) Biswaroop Chakrabarty (Neurology)

Kana Ram Jat (Pulmonology, Intensive Care, Tuberculosis)

Jhuma Sankar (Pulmonology, Intensive Care, Tuberculosis)

Rajni Sharma (Endocrinology) Anu Sachdeva (Neonatology)

Prashant Kumar Jauhari (Neurology) Rohan Malik (Gastroenterology)

Jagdish Prasad Meen (Oncology) Narender Kr Bagri (Rheumatology)

Other Staff

Anuja Agarwala (Dietician) Sumita Gupta (Physiotherapist) Pallavi Mishra (Biochemist)

Savita Saini (Senior Technical Officer) D Yadav (Medical Social Service Officer)

Neena Mehta (Medical Social Service Officer) Sushila Yadav (Technical Officer)

Suresh Kumar (Laboratory Technician)

HIGHLIGHTS

The department of Pediatrics offers multidisciplinary and comprehensive clinical care to a large number of patients through its outpatient and specialty clinics, and inpatient and outreach services. All divisions are providing clinical services, at a magnitude, similar to the pre-COVID period.

Centers of excellence

The Division of Neonatology continues to be a WHO Collaborating Centre (2019-23) for training and research in newborn care. The Division of Genetics is the WHO Collaborating Center for Training in Clinical and Laboratory Genetics for developing countries. Three divisions continue to contribute as Centres of Advanced Research: Pediatric Nephrology, Pulmonology, and Childhood Neurodevelopmental Disorders.

Education

The department is directly involved in undergraduate training for medical and nursing students. It continues to have one of the best postgraduate (MD) programs in the country, and manages 6 DM programs (Neonatology, Neurology, Nephrology, Pulmonology and Intensive Care, Clinical Genetics, and Oncology). A new DM program, in Pediatric Endocrinology, was also approved this year.

The Department has significantly contributed to the development and dissemination of COVID care guidelines for children in the country: [https://www.mohfw.gov.in/pdf/Guidelines for Management of COVID-19 in CHILDREN18June2021final.pdf](https://www.mohfw.gov.in/pdf/Guidelines%20for%20Management%20of%20COVID-19%20in%20CHILDREN18June2021final.pdf). On the recommendations of EG3, seven thematic groups were formed and e-contents were created, which are available on iGOT/DIKSHA platform. The mission was led by Professor Ashok K Deorari. The aim was development and standardisation of training e-content for effective implementation. The Department of Pediatrics and College of Nursing trained 300 nurses for COVID care through the Pediatric Nursing Emergency Preparedness Program.

Research

Faculty members continue to attract considerable extramural and intramural funding for multidisciplinary research projects. Work from the department is recognized, and well-cited by national and international agencies.

Future action plan

The department would endeavor to maintain its leadership in the country as well as regionally, through focused attention on issues pertaining to clinical service, education and promoting prospective research.

CLINICAL

Neonatology: The pre-service package for 'Quality Improvement' (QI) initiatives and communication skills to improve the care of neonates in the member countries of the South East Asia Region (SEAR) was developed and pilot tested. 'Telegram' - a freeware, cloud-based messaging software - for interactive and asynchronous learning of nursing professionals and doctors was used over ten weeks. Pre-service (undergraduate and postgraduate) nursing students and in-service (clinical care) nursing professionals working in neonatal units (medical colleges, district hospitals, special newborn care units) across the country and who are willing to spend at least six to eight hours each week for online learning were eligible for enrolment for free. They were mentored by over 62 facilitators (doctors and nursing staff). Three courses were conducted in 2021-2022 wherein 10,000 nurses and doctors overall from India, Bhutan, Bangladesh, and UAE have been trained. The WHO-CC at AIIMS has contributed immensely to COVID-19 related activities in collaboration with WHO-SEARO, WHO-India Country Office, and other agencies in developing the 'Guidelines for Perinatal COVID-19' in collaboration with IAP-FOGSI-NNF India.

Neurology: The Division continued to maintain and upgrade its various e-learning modules on childhood neurodevelopmental disorders available on the Child Neurology website. The Division also organized pedneurogenomics webinars in collaboration with the International Child Neurology teaching network and IGIB. Series of webinars on various aspects of childhood epilepsy in collaboration with the Academy of Pediatric Neurology, IAP was organised by the Division which is available on YouTube and a handout for the same is available in soft and hard copy (released in Pedicon 2022).

EDUCATION

Neonatology

MD Program

1. The division undertook one training workshop on Neonatal Resuscitation Program 2021 for postgraduate students of the department
2. The division organised 12 weekly workshops on kangaroo mother care, parenteral nutrition, and basic neonatal equipment training involving hands-on training of residents and nurses. The attendees of these workshops include postgraduate residents and nurses in the division.

DM program

1. The division organised weekly workshops on bedside echocardiography, parenteral nutrition, ventilator settings in respiratory disorders and neonatal equipment. The model of teaching is a senior DM resident (final year) under the mentorship of division faculty steers the training which involves other DM residents and senior MD residents.
2. The division organised five integrated seminars and case discussions involving other disciplines in the teaching programme.

MBBS teaching

The Department has contributed for development of skill modules (pulse oximeter, chest compression and pediatric resuscitation, neonatal orogastric feeding and lumbar puncture for Undergraduate Medical students for SET facility.

Cross- cutting contributions in education for in-service and pre-service education

1. WHO-CC AIIMS New Delhi has created new set of webinars on different components of essential newborn care and sick newborn care based on current evidence. These webinars would be value addition to learning, if supplemented with skill demonstration. These may be used for flip class teaching by teachers in medical and nursing colleges (<https://newbornwhocc.org/webinars-for-enc-2021.html>, <https://newbornwhocc.org/webinars-for-snc-2021.html>)

Nephrology

On the occasion of World Kidney Day, a one-day teaching session on Hemodialysis was organised for dialysis nurses, technicians and pediatric nephrology fellows on 12 March 2022.

Neurology

Organised series of Lectures “Pediatric Neurogenomics” as part of academic activities under the aegis of Centre of Excellence and Advanced Research in Childhood Neurodevelopmental Disorders in collaboration with CSIR-IGIB, International Child Neurology Teaching Network (ICNA) and ICMR-AIIMS Computational Genomics Centre in 2020 and 2021. The talk relevant for this academic year is: Gene therapy for childhood neurological disorders by Steven Gray, University of Texas, 22 April 2021 (on-line). Organised a series of 8 modules with 2 talks each on Epilepsy for the pediatrician; total of 16 talks from 13 June to 1 August 2021 in collaboration with Academy of Pediatric Neurology, IAP Dehradun and IAP Aligarh with speakers/ chairpersons from across India and SAARC countries with a quiz in each session and a grand finale. It was well acclaimed and the recordings are on you tube with overall viewership of over 15000

Organised the preconference workshop “Epilepsy module for pediatricians” in PEDICON, 2022.

Oncology

1. Nursing module in Pediatric Oncology, 9 September 2021, AIIMS, New Delhi
2. Counselling and Communication Skills for Health Practitioners in Paediatrics, 5 December 2021, AIIMS, New Delhi
3. Module on Common Oncological emergencies, 27 March 2022, AIIMS, New Delhi

Pulmonology and Intensive Care

1. Organised a module on mechanical ventilation for MD and DM residents.
2. Undertook in-service training for nurses for care of critically ill children
3. Organised Basic life support, IAP-Basic Life Support (BLS) provider course, 12 September 2021, AIIMS, New Delhi

Lectures delivered

Vandana Jain: 14
Neerja Gupta: 16
Ashok K Deorari: 6
Anu Sachdeva: 17
Arvind Bagga: 9
Sheffali Gulati: 66
Rachna Seth: 19
Sushil K Kabra: 35
Jhuma Sankar: 5

Rajni Sharma: 12
Madhumita Roy Chowdhury: 2
Ramesh Agarwal: 2
Ankit Verma: 5
Pankaj Hari: 6
Biswaroop Chakrabarty: 17
Jagdish P Meena: 7
Rakesh Lodha: 9
Narender Kr Bagri: 7

Madhulika Kabra: 28
Rashmi Shukla: 1
M Jeeva Sankar: 15
Kajal Jain: 1
Aditi Sinha: 11
Prashant Kumar Jauhari: 11
Aditya Kumar Gupta: 6
Kana Ram Jat: 12

Oral papers/posters presented: 46

Year	Number of oral presentations
2019-20	96
2020-21	49
2021-22	47

RESEARCH**Funded projects****Ongoing**

1. Clinico-pathological significance of tumor biomarkers in serum, aqueous humor and tumor tissue of intraocular retinoblastoma patients, Dr Rachna Seth, Dr Seema Kashyap, AIIMS, 2 years, 2021-2023, Rs 10 lakhs
2. A collaborative, multicenter, national study for newly diagnosed patients with acute lymphoblastic leukaemia (ICiCle), Dr Rachna Seth, National Cancer Grid & ICMR, 5 years, 2017-2022, Rs 30 lakhs
3. A Double Blind, Placebo-Controlled, Multicentre Study with an Open-Label Extension to Evaluate the Efficacy and Safety of 2'O Methyl Antisense Oligonucleotide in Patients with Duchenne Muscular Dystrophy, (PI) Dr Sheffali Gulati, Dystrophy Annihilation Research Trust, 3 years, 2021–2024, Rs 20 lakhs
4. A Multicenter, Safety and Efficacy Study of Taliglucerase Alfa in Subjects with Type 3 Gaucher Disease, Madhulika Kabra, Shaare Zedek Medical Center Israel, 1 year, 2021-2022, Rs 27.67 lakhs
5. A Multicentric Cross-sectional Study of Leukodystrophies in India: A Pilot Project ^[1]_{SEP}, Dr Sheffali Site PI, IAN, 1 year, 2020-2022 Rs 5 lakhs to Coordinating site PGI, Chandigarh
6. A multimodality assessment of brain metabolism, microstructural organization and neuroinflammation in Subacute Sclerosing Panencephalitis: A cross-sectional observational study, Mentor (Dr Prashant Jauhari), AIIMS UG Mentorship Grant, 1 year, 2021-2022, 2,00,000
7. A randomised, sham-Controlled, double-blind study to evaluate the efficacy and safety of intrathecal (IT) OAV101 in patients with later onset Type 2 spinal muscular atrophy (SMA) who are > 2 to <18 years of age, treatment naïve, sitting, and never ambulatory, (PI) Dr Sheffali Gulati, Novartis Healthcare Private Limited, 2 years, 2021 - 2023, Rs 17 lakhs
8. Association of serum antiepileptic medication levels with behaviour and cognition in children and adolescents aged 6-17 years with pharmaco-responsive non-lesional epilepsy: An observational study, Mentor (Dr Biswaroop Chakrabarty), AIIMS UG Mentorship, 1 year, 2021-2022, Rs 2 lakhs
9. Breakpoint Mapping of Apparently Balanced Chromosome Rearrangements Associated with Clinical Phenotypes, Rashmi Shukla, AIIMS Intramural Grant, 2 years, 2020-2022, Rs 10 lakhs
10. Burden of multidrug resistant neonatal sepsis in district hospital setting in India, Dr. M. Jeeva Sankar, Bill and Melinda Gates Foundation, USA, 3.6 years, 2019-2022, USD 12,43,286
11. Center for advance research in Pediatric Respiratory Diseases. Indian Council of Medical Research, S K Kabra ICMR, 5 years, 2018-2023, Rs 6 crores
12. Center of Excellence and Advanced Research on Childhood Neurodevelopmental disorders with its projects in 5 thrust areas, Sheffali Gulati (PI), AIIMS GIA(supported by MOHFW) and IIFCL (as part of its CSR), 5 years, 2017-2022, currently ongoing, Rs 11.3 crores
13. Chemo to Cure (C TO C)” study of cancer survivorship, Dr Rachna Seth, CANKIDS-KIDSCAN, 11 years, 2011-2022, Rs 1,20,00,000
14. Clinical and genomic characterization of Indian patients with Arthrogyriposis Multiplex Congenita (AMC) using Next Generation Sequencing, Neerja Gupta, ICMR, 3 years, 2019-2022, Rs 45 lakhs
15. Clinical and Molecular characterisation of Indian patients with Classical Homocystinuria, Neerja Gupta (SRF Fellowship awarded to Ms Puneeta Mishra), ICMR, 3 years, 2019-2022, Rs 10, 81,600
16. Clinical efficacy of addition of Agastya Haritaki avaleha [Classical Ayurvedic formulation] and Yoga to standard treatment care in the management of Bronchial Asthma in Children and Adolescents. A randomized controlled trial, Professor Rakesh Lodha, ICMR, 3 years, 2021-2024, Rs 40 lakhs

17. Comparison of dried blood spots and plasma samples for the quantification of amino acids using HPLC method among inborn error of amino acid metabolism patients, Pallavi Mishra, AIIMS, Intramural Grant, 2 years, 2020-2022, Rs 10 lakhs
18. Contribution of Copy Number and Sequence Variants in Cilia and Sonic Hedgehog Pathway Genes in the Formation of AVSD in Down Syndrome, Rashmi Shukla, ICMR, 3 years, 2020-2023, Rs 65 lakhs
19. COVID-19 in children- risk factors for mortality and morbidity, Jhuma Sankar, AIIMS, 2 years, 2020-2022 (ongoing), Rs 3.6 lakhs
20. Deciphering idiopathic intellectual disability (DIID) through Next Generation Sequencing (DIID-NGS study), Neerja Gupta, DBT, 2 years, 2018-2021(Extension), Rs 86,81, 682
21. Deciphering the complexities of apparently balanced chromosomal rearrangements associated with clinical phenotype by whole genome sequencing, Rashmi Shukla, ICMR, 3 years, 2022-2025, Rs 65 lakhs
22. Detection of circulating cell free micro-RNA in the blood samples of Neuroblastoma patients and its clinical correlation, Dr Aditya Kumar Gupta, AIIMS, 3 years, 2020-2023, Rs 10 lakhs
23. Developing models based on biomarker signature and clinico-electroencephalographic parameters to predict severity and outcome in pediatric status epilepticus: a longitudinal observational study, PI (Dr Biswaroop Chakrabarty), DHR, 3 years, 2021-2024, Rs 53.9 lakhs
24. Developing reinforcement based AI model for improvising the predictive skills of individuals with autism, Sheffali Gulati PI (AIIMS), AIIMS – IIT Delhi Collaborative Research Project, 2 years, 2019-2021, Rs 5 lakhs
25. Development of a high throughput genome editing pipeline based on an orthologous CRISPER/Cas9 system (FnCas9) and its application in the generation of 3D organoids for disease modelling and correction” In collaboration with IGIB, Madhulika Kabra, DBT, 2 years, 2019 -2021, Rs 1.2 crores
26. Differentiating monophasic and recurrent acquired demyelinating disorders of childhood and adolescence: an HLA typing, serum and CSF inflammatory biomarkers based longitudinal observational study, Dr Biswaroop Chakrabarty, AIIMS-IRG, 2 years, 2020-2022, Rs 10 lakhs
27. Effect of SMOFLipid® vs. Intralipid® on Time to Regain Birth Weight in Preterm Neonates (≤ 34 weeks): A Randomised Control Trial”, Dr Anu Sachdeva, AIIMS, New Delhi, 2 years, 2020-2022, Rs 10 lakhs
28. Efficacy of low dose, short course prednisolone regimen for relapse of steroid sensitive nephrotic syndrome in children: A multicenter, randomised, placebo-controlled trial, Pankaj Hari, DHR, 3 years, 2022-2025, Rs 169,00,943
29. Efficacy of Metformin in reduction of hepatic fat fraction and insulin resistance in overweight adolescents with NAFLD: an RCT, Vandana Jain, ICMR, 4 years, 2018-2022, Rs 59.2 lakhs
30. Evaluation of geno-phenome of Indian patients with skeletal dysplasia using comprehensive genomic evaluation and translational bioinformatics, Neerja Gupta, ICMR, 3 years, 2019-2022, Rs 57 lakhs
31. Evaluation of read through compounds for nonsense suppression of ATM mutations in Indian patients, Rashmi Shukla, ICMR, 3 years, 2020-2023, Rs 45 lakhs
32. Ex vivo Correction of ATM Splice Variants Using Antisense Oligonucleotides, Rashmi Shukla (SRF Fellowship awarded to Ms AkhilaSankar), ICMR, 3 years, 2019-2022, Rs 16 lakhs
33. Exploring presence of SMN hybrid genes in molecular diagnosed SMA patients, Amita, AIIMS Intramural Grant, 2 years, 2022-2024, Rs 10 lakhs
34. Exploring the effect of incentive spirometry on pulmonary function and quality of life in 5- to 18-year-old patients of Duchenne Muscular Dystrophy on oral steroids for at least 6 months, Mentor (Professor Sheffali Gulati), AIIMS, 1 year, 2021-2022, 2 lakhs
35. Functional Characterisation and Antisense Oligonucleotide (AON) Mediated Correction of Novel ATM Variants, Rashmi Shukla, ICMR, 4 years, 2021-2024, Rs 50 lakhs
36. Genomic Landscape of Pediatric Acute Myeloid Leukemia, Dr Jagdish Prasad Meena, AIIMS, 2 years, 2021-2023, Rs 10 lakhs
37. Genomics and Clinical Outcome of Pediatric Acute Myeloid Leukemia (AML) Relapse, Dr Jagdish Prasad Meena, ICMR, 2 years, 2021-2024, Rs 45,15,354
38. Host inflammatory response and its correlation with paradoxical worsening in childhood tubercular meningitis, PI (Dr Prashant Jauhari), Intramural Research Grant, AIIMS, New Delhi, 2 years, 2021-2023, 8.75 lakhs
39. ICMR Registry for rare and other inherited disorders, Madhulika Kabra, ICMR, 6 years, 2019-2025, Rs 1.09 crores
40. Identification of potential pathogen(s) among neonates with culture -negative sepsis, Dr Kajal Jain, DBT, Govt. of India, 5 years, 2021-2026, Rs 2,41,62,700
41. Improving Nutrition In Children With Cancer, Dr Rachna Seth, Cuddles foundation, 3 years, 2019-2022, Rs 11,20,000
42. Infectious and genetic triggers in children with hemolytic uremic syndrome, Arvind Bagga, ICMR, 3 years, 2020-2023, Rs 82 lakhs
43. Leveraging Genomic Advances to Ascertain Pathogenesis of Congenital Hand Anomalies in Indian Subcontinent, Neerja Gupta (DHR young scientist fellowship to Ms Nitika Langeh), DHR, 3 years, 2020-2023, Rs 46,70,397
44. Low cost and Painless Transdermal Smart Insulin Delivery Device, Vandana Jain, AIIMS-IIT Kharagpur grant, 2 years, Sanctioned in November 2019 Operative approval for 2 years, 24 Jan 2022 (delayed due to Covid), March 2023, Rs 20 lakhs
45. Mapping the genomic landscape of pediatric JMML patients using whole exome sequencing, Dr Aditya Kumar Gupta, ICMR, 3 years, 2021-2024, Rs 44,71,278

46. Mobile app based Augmentative and Alternative Communication based intervention in Children with ASD, Sheffali Gulati (Mentor), AIIMS UG Research mentorship Scheme, 2 years, 2019-2021, Rs 2 lakhs
47. Multimodal evaluation of neural network and neuroinflammatory nexus of Electrical status epilepticus in sleep (ESES) in children, PI (Dr Prashant Jauhari), Interdisciplinary funding, AIIMS, New Delhi, 2 years, 2021-2023, 10 lakhs
48. NeoAMR global Neonatal Sepsis Observational Study (NeoOBS): a prospective cohort study of sepsis in hospitalized neonates, Dr. Kajal Jain and Dr. Ramesh Agarwal, DNDi and GARDP Switzerland, 4.2 years, 2018-2022, Rs 4,422,440
49. Neurodevelopmental outcomes in infants undergoing surgery for congenital heart defects-A prospective multi-center cohort study, (CoPI) Dr Sheffali Gulati, ICMR, 4 years, 2021-2025, Rs 2285050
50. Neuromodulation of cortical excitability and plasticity by low frequency repetitive Transcranial magnetic stimulation in infantile hemiplegic cerebral palsy patients. **(CoPI)**, (CoPI) Dr Sheffali Gulati, ICMR, 3 years, 2019-2022, Rs 46,53,130
51. Non-invasive prenatal detection of de novo trisomies (Down's syndrome) from maternal blood samples, Madhulika Kabra, Seq India, 4 years, 2018-2022, Rs 12 lakhs
52. Partnership in cancer survivorship optimization (PICASSO), Dr Rachna Seth, Indian cancer Society, 3 years, 2021-2024, Rs 12,60,000
53. Predictors of outcomes in Juvenile Dermatomyositis: a cross-sectional study, NK Bagri (Mentor), Institute UG research grant, 2 years, 2020- 2021, Rs 1,94,000
54. Pro-Adrenomedullin as a Novel Biomarker for Predicting Infections and Response to Antimicrobial Therapy in Febrile Neutropenic Children with Cancer and its Comparison to Procalcitonin, Dr Jagdish Prasad Meena, SERB (DST), 3 years, 2020-2023, Rs 42,18,500
55. Procalcitonin guided antibiotic therapy in children, Jhuma Sankar, ICMR, 3 years, 2019-2022, Rs 81 lakhs
56. ICMR Advanced Centre for Research in Pediatric Kidney Diseases (Projects: Randomised open labeled controlled trial to compare the efficacy and safety of levamisole versus long term alternate days steroids made daily during infection, in patients with frequently relapsing steroid sensitive nephrotic syndrome; Open label, randomized, controlled trial to compare the efficacy of daily therapy with low dose prednisolone vs. standard therapy on alternate days in patients with frequently relapsing or steroid dependent nephrotic syndrome; Establishing a biorepository & registry for patients with hemolytic uremic syndrome; Whole exome sequencing in patients with non-diarrheal & non-autoimmune form of hemolytic uremic syndrome; Pilot study of genetic variations among Indian children with vesicoureteral reflux; Formulating & disseminating evidence-based guidelines for diagnosis & therapy of childhood renal illnesses) Arvind Bagga, Pankaj Hari, ICMR, 5 years, 2017-2022, Rs 16,095,653
57. Prospective study to evaluate the role of Systemic Bevacizumab therapy in patients with aggressive and complex laryngotracheal and pulmonary recurrent respiratory papillomatosis., Dr Kanaram Jat, AIIMS IRG, 2 years, 2021-2023, Rs 20 lakhs
58. Protocol 15Q-MC-CGAS(f)-A Randomized, Double-Blind, Placebo-Controlled Study of Galcanezumab in Patient 6 to 17 Years of Age with Episodic Migraine- the REBUILD-1 Study, Dr Sheffali Site PI CO-PI-Dr Biswaroop, Eli-Lilly & Company Private Limited, 4 years, 2021-2025, Rs 21,39,160
59. Protocol H8h-MC-LAHV (a) Pediatrics Options for Migraine Relief: A Randomized, Double-Blind, Placebo- Controlled Study of Lasmiditan for Acute Treatment of Migraine: PIONEER PEDS1, Dr Sheffali Site PI CO-PI-Dr Biswaroop, Eli-Lilly & Company Private Limited, 3 years, 2021-2024, Rs 16,90,880
60. Protocol H8H-MC-LAHW (a) – A Phase 3, 12-Month, Open Label Study of Lasmiditan in Pediatric Patients with Migraine- PIONEER-PEDS2, Dr Sheffali Site PI CO-PI-Dr Biswaroop, Eli-Lilly & Company Private Limited, 4 years, 2021- 2025, Rs 12,17,200
61. Quality assurance for birth defects and microcephaly surveillance in the SEAR, Madhulika Kabra, WHO, 1 year, 2020-2021, 12 lakhs
62. Reanalyzing unsolved exome data for improved genetic diagnoses using a comprehensive iterative approach, Neerja Gupta, ICMR, 3 years, 2020-2023, Rs 2,81,020
63. Regional Learning Platform for Improving Quality of Care, Dr Ramesh Agarwal, WHO SEARO, 1 year, 2022, 2022, Rs 18, 34,000
64. Role of Artificial Intelligence(AI) In Autism Spectrum Disorder, (PI) Dr Sheffali Gulati, DBT, 2 years, 2022-24, Up to Rs 40 lakhs
65. Sepsis-related mortality in neonates in India: A Multidisciplinary, multi-institutional research program for context-specific solutions, Dr M Jeeva Sankar, DBT, Government of India, 5 years, 2021-2026, Rs 45.5 crores (for the entire program)
66. Setting up registry and targeted exome sequencing in children with renal tubular disorders, Arvind Bagga, ICMR, 3 years, 2020-2023, Rs 6 lakhs
67. Signs of shock in children, Jhuma Sankar, DST, 3 years, 2019- 2022, Rs 35 lakhs
68. Systematic Pulmonary Tuberculosis Case finding among severely malnourished children admitted to nutritional rehabilitation centres", SK Kabra, ICMR, 2 years, 2018-2021, Rs 14,20,900
69. The differential gain of fat and lean mass during first 6 months of life in healthy preterm infants: Determinants and impact on subsequent health, Vandana Jain, ICMR, 3 years, 2021-2024, Rs 27.4 lakhs
70. The effect of low glycemic index diet in the form of traditional Indian millets in obese children: a randomized controlled trial, Dr. Rajni Sharma, ICMR, 3 years, 2021-2024, Rs 34 lakhs
71. The genetic basis of cystic kidney diseases in children, Aditi Sinha, AIIMS, 2 years, 2020-2022, Rs 10 lakhs

72. To compare efficacy and safety of Melatonin and Triclofos in inducing sleep in children posted for sleep deprived sleep EEG: A double blind, parallel design, randomised clinical trial, Dr Prashant Jauhari, AIIMS-UG Mentorship scheme, 1 year, 2019-2022, Rs 2 lakhs
73. To determine the clinical and neuroimaging characteristics and outcomes of Febrile Infection-Related Epilepsy Syndrome (FIRES) in children, Dr Sheffali Gulati (AIIMS) Prof. J Helen Cross (UCL PI), AIIMS-UCL collaboration, 1 year, 2020-2022, Rs 5 lakhs to AIIMS
74. To evaluate the efficacy of oral probiotic supplementation in children with Autism Spectrum Disorders (Asds): A randomised double blind, placebo controlled Trial, Sheffali Gulati (Site PI), ICMR, 3 years, 2019-2022, Rs 33,32,868
75. To evaluate the feasibility of multigene panel for diagnosis and management of Autism Spectrum Disorder in early neonatal period(< 7 days), Dr Sheffali Gulati CoPI, ICMR, 3 years, 2020-2023, Rs 2.85 crores (not coming to AIIMS any funds but to Genekart research)
76. To explore the association of Molecular, Genetic and Environmental markers in Autism Spectrum Disorder and other Neurodevelopmental Disorders including ADHD and Cerebral Palsy: A Cross-sectional study, Dr. Sheffali Gulati PI, ICMR, 3 years, 2021 -2024, Rs 1.38 crore
77. To explore the role of synovial fluid proteomics in predicting the disease course and subtypes of Juvenile Idiopathic Arthritis”, NK Bagri, ICMR, 3 years, 2019-2022, Rs 42,12,984
78. To study the prevalence, clinical characteristics and outcome of Pediatric multisystem inflammatory syndrome associated with COVID-19, NK Bagri, Intramural research grant, 1 year, 2020- 2022, Rs 6,75,240
79. Training of Clinicians cum Creation of Genetic Diagnostic unit’ in Human Genetics with an Aspirational District component under Unique Methods of Management and treatment of Inherited Disorders (UMMID) initiative. Madhulika Kabra Neerja Gupta, DBT, 4 years, 2019- 2023, Rs 4crores
80. Translation Research Consortium for establishing platform Technologies to support Prophylactic and Therapeutic Strategies for Dengue Discovery to Proof-of-Concept, Professor Rakesh Lodha, BIRAC, 4 years, 2019-2023, Rs 1,61,00,000
81. Use of Biomarkers and Imaging for early detection and treatment of chemotherapy induced cardio toxicity in newly diagnosed children of acute leukemia, Dr Rachna Seth, ICMR, 3 years, 2019-2022, Rs 70,68,462
82. Whole exome sequencing to detect the prevalence of monogenic variants in an Indian Paediatric Cohort with Inflammatory bowel disease, Dr Rohan Malik, ICMR, 2 years, 2022-2024, Rs 52 lakhs

Year	Number of funded projects
2019-20	75
2020-21	86
2021-22	95

Completed

1. Comprehensive evaluation of underlying molecular mechanisms of severe fetal and neonatal Mendelian developmental defects using whole exome sequencing, Neerja Gupta, DHR, 2 years, 2018-2021, Rs 49,30,000
2. Multicentre double-blinded, randomised placebo-controlled study of Arimoclomol in patients diagnosed with Gaucher Disease Type 1 or 3(ORARIGAU-01), Neerja Gupta, Orphazyme, 3 years, 2018-2021, Rs 20,95,258
3. Phenotypic and molecular characterisation of Mendelian forms of radial ray defects, Neerja Gupta, AIIMS IRG, 2 years, 2018-, July 2021, Rs 10 lakhs
4. Multi-system health outcomes (neurodevelopment, growth, respiratory, cardiac, metabolic and renal) of extremely preterm (<28 weeks OR <1000 g) at 2-5 years of age, Dr Anu Sachdeva, AIIMS, 1Y1year, 2019, -2020, Rs 5,00,000 lakhs
5. To establish the Comprehensive Lactation Management Centre (CLMC) to universalize access and uptake of human milk for babies to improve neonatal outcomes, Dr Kajal Jain, CHRI, India, 3 years, 2018, -2021, Rs 18,31,600
6. To provide technical support to sustain the regional learning platform for improving quality of care, Prof. Ashok Deorari, WHO, 1 year, 2020, -2021, Rs 34,44,000
7. Understanding disease biology and Diagnosis of bacterial sepsis among Hospitalised Neonates: A multi Centre study, Prof. Ramesh Agarwal, DBT, India, 5Y5 years, 2015, -2020, Rs 2,09,12,624
8. Pediatric Renal Biology Program: Research on nephrotic syndrome (Randomized, multicentric, open label, parallel group trial to compare the efficacy of 6-months versus 3-months therapy with prednisolone for the first episode of idiopathic nephrotic syndrome in children younger than 4 years; Serum and urinary microRNAs as biomarkers of renal histology and response to therapy in children with steroid resistant nephrotic syndrome; Autoantibody associated alternative complement pathway dysregulation in nephrotic syndrome secondary to membranoproliferative glomerulonephritis) Arvind Bagga, Pankaj Hari, DBT, 5 years, 2016-2022, Rs 8 crores
9. Molecular alterations in childhood acute lymphoblastic leukemia (ALL): Role of Cytokine receptor-like Factor-2 (CRLF2) rearrangements and Janus kinase (JAK) mutation, Dr Rachna Seth, ICMR, 3 years, 2015-2019, 38 lakhs

10. To determine the role of Ikzf1 gene and various IKAROS isoforms in pathogenesis of B cell acute lymphoblastic leukemia (BALL) in Indian pediatric population, Dr Kakali Purkayasta Dr Rachna Seth (mentor), DBT under BIOCARE grant, 3 years, 2018- 2021, Rs 60 lakhs
11. Biomarkers of Acute Gastrointestinal Injury in Critically ill Children, Professor Rakesh Lodha, ICMR, 2 years, 2019-2021, Rs 55,84,488
12. Detection of genetic mutations profile of Primary Ciliary Dyskinesia and correlation of mutation with clinical phenotype in Indian Children, Dr Kana Ram Jat, DBT, New Delhi, 3 years, 2018-2021, Rs 30.86 lakhs
13. Early detection of Sepsis in neonatal and Pediatric ICUs through integration of clinical and big data, Professor Rakesh Lodha, Wellcome Trust DBT Alliance, 6 years, 2015-2021, Rs 3,81,16,842
14. Human B Cell responses and receptor repertoire in dengue patients from India, Prof. Rakesh Lodha, DBT, 2 years, 2019-2021, Rs 46,60,000
15. Prevalence of mycoplasma and chlamydia infection in children with poorly controlled asthma, Dr Kana Ram Jat, Institute Research Grant, 2 years, 2019-2021, Rs 9.8 lakhs
16. The utility of digital stethoscope to maintain social distancing while evaluating children with respiratory complaints during COVID-19 pandemic, Dr Kana Ram Jat, Institute Research Grant, 1 year, 2020-21, Rs 8.73 lakhs
17. Implications of PD-1/PD-L1 Pathway: A New Immunological Paradigm for Juvenile Idiopathic Arthritis, Dr Lata Singh, DST-SERB, 2 years, 2021-2023, Rs 32 lakhs
18. Role of Ferroptosis: A new emerging therapeutic approach for Retinoblastoma, Dr Lata Singh, Intramural Research Grant (IRG-AIIMS), 2 years, 2021-2023, Rs 10 lakhs

Departmental projects

Ongoing

Endocrinology

1. Comparison of body composition between children born at term and preterm at 2.5 - 4.5 years of age
2. Fat gain trajectory from birth to 6 months in healthy term small for gestational age (SGA) infants, and its effect on serum insulin, IGF-1 and adiponectin at 2 years of age
3. Psychological impact on parents of children born with atypical genitalia in India
4. To evaluate the effect of birth weight and change in body mass index z-score between birth to mid-childhood on metabolic profile and exercise capacity in mid-childhood: A longitudinal cohort study
5. Validity of Predicted Adult Height Estimation Methods in Indian Children with Idiopathic Short Stature

Gastroenterology

1. Generating a noninvasive predictive model for gastroesophageal Varices

Genetics

1. Clinical and Molecular Characterisation of Congenital Limb Defects Using Genomic Approaches
2. Clinical, radiological and molecular profiling of uncharacterized skeletal dysplasias
3. Evaluation of copy number variation analysis on whole exome sequencing data as a tool for improving diagnostic yield in patients with suspected genetic disorders
4. Functional Characterisation and modulation of ATM splice variants
5. miRNA 132 expression in serum of children with Down syndrome : A potential marker of severity of Developmental delay
6. Prevalence of autoantibodies for common autoimmune disorders and their correlation with PTPN11 variants in patients with Noonan Syndrome
7. Study of single nucleotide polymorphism in TNF, TNFAIP3, TNIP1, TRAF3IP2, IL12B, IL23R, IL17 and HLA-C gene in Indian psoriasis patients and their association with clinical characteristics
8. Utility of rapid trio whole exome sequencing in critically ill children in the Intensive care unit

Neonatology

1. Antiseptic efficacy and plasma chlorhexidine levels following two different methods of application of 1% aqueous Chlorhexidine gluconate for skin disinfection in preterm newborns: A blinded, parallel group, randomised controlled trial
2. Comparing safety of two drug regimen for pupillary dilatation during retinopathy of prematurity screening in preterm infants: a randomised cross over trial
3. Comparison of two methods of estimation of Length of umbilical arterial and venous catheter insertion: A randomised trial.
4. Effect of SMOF Lipid vs Intralipid on time to regain birth weight in preterm neonates: A Randomised control trial
5. Haematological and iron status in infants with Rh isoimmunisation: a prospective cohort study, "Effect of Structured Oromotor
6. Incidence of vertical transmission of COVID-19 infection in a tertiary hospital in India – A prospective observational study.
7. Post procedure pain in preterm neonates undergoing retinopathy of prematurity screening: A descriptive study, Incidence of respiratory syncytial virus (RSV) infection until 6 months of corrected age in preterm infants (<32 weeks gestation) with bronchopulmonary dysplasia: A prospective cohort study
8. Risk Factors for Failure of Caffeine Therapy in Very Preterm Neonates: An Ambispective Cohort Study

9. Safety and feasibility of early transition of care of 'stable preterm neonates' of 28 to 33 weeks of gestation from 'largely provider driven' to 'largely mother driven' setup (step-down NICU to the postnatal ward): A single arm interventional study"
10. Stimulation by Mother of Preterm Neonates (≤ 32 weeks) on Time to Reach Full Katori Spoon Feeds - A Randomized Controlled Trial
11. Umbilical cord blood culture positivity in preterm and term neonates - Prospective cohort study.
12. Validation of three clinical prediction scores for predicting bronchopulmonary dysplasia in Indian preterm neonates: An ambispective cohort study

Nephrology

1. Comparison of low dose and standard dose albumin for inducing diuresis in children with nephrotic syndrome and severe edema: a randomised controlled trial
2. Comparison of renal function between children with primary vesicoureteric reflux grade 3-4 and mild renal scarring and no carrying
3. Efficacy and safety of abbreviated protocol of plasma exchange in anti-factor H associated atypical HUS
4. Efficacy and safety of oral dapagliflozin in reducing proteinuria in children with proteinuric chronic kidney diseases
5. Efficacy of prolonged release tacrolimus, administered once daily, in maintaining remission of calcineurin inhibitor dependent steroid sensitive nephrotic syndrome in children
6. Prevalence of anti-neutrophil cytoplasmic antibodies in children with nephrotic syndrome receiving levamisole
7. Prevalence of anti-tissue transglutaminase (tTG) antibodies in patients with idiopathic steroid sensitive nephrotic syndrome: A cross-sectional observational study
8. Short term efficacy & safety of sucroferric oxyhydroxide in nondialysis dependent pediatric chronic kidney disease with hyperphosphatemia
9. Systematic review and meta-analysis of the impact of the intensity of initial therapy with prednisone for the first episode of steroid sensitive nephrotic syndrome on subsequent disease course using an individual patient data meta-analysis
10. Systematic review and meta-analysis: Accuracy of equations for estimating glomerular filtration rate in children with chronic kidney disease
11. Systematic review and meta-analysis: Diagnostic accuracy of urine dipstick and microscopy in children with urinary tract infection: a systematic review and meta-analysis
12. Systematic review and meta-analysis: Efficacy and safety of cyclophosphamide in preventing relapses in children with steroid sensitive nephrotic syndrome

Neurology

1. Analysis of predictors of response to hormonal therapy in children with treatment naive West Syndrome with qEEG, serum biomarkers, fMRI and DTI: An observational study
2. Comparison of efficacy of ketogenic diet and ACTH therapy among children with west syndrome: a pilot randomised control trial
3. Development of questionnaire-based tool to measure the patient reported outcome in children with epileptic encephalopathy
4. Diagnostic and treatment gap in Neurodevelopmental Disorders in children aged 1 month to 18 years: An observational study
5. Early antiseizure medication tapering in children and adolescents aged 2-18 years with single calcified parenchymal neurocysticercosis in a low-risk subgroup identified by risk assessment: A single arm intervention study
6. Efficacy of repetitive transcranial magnetic stimulation in children and adolescents age 5-18 years with generalized dystonia: A randomised sham control trial
7. Estimating the incidence and pattern of paradoxical reactions in CNS tuberculosis
8. Evaluation of Theta Burst Transcranial Magnetic Stimulation as an adjunct to standard therapy in improving core
9. Five Days Versus Fourteen Days Oral Dexamethasone in Children and Adolescents (aged 5-18 years) with Parenchymal Neurocysticercosis (up to 5 lesions): An open labelled clustered randomised superiority trial function deficits in children 5-15-years of age with Autism Spectrum Disorder-a randomised, double blind, sham controlled trial
10. Neural correlates of Primary Monosymptomatic Nocturnal Enuresis: An autonomic function testing and polysomnography-based study
11. Role of nerve ultrasound as a prognostic modality in children with Gullian Barre syndrome (age 2-18 years): A prospective observational study
12. Sleep related breathing disorders in children with dystrophinopathy aged 5-18 years on oral steroids for at least 6 months: A cross-sectional study

Oncology

1. Clinical utility of serum survive in levels in Retinoblastoma
2. Effect of addition of Buffy Coat derived irradiated Granulocyte Transfusion to the standard of care in post chemotherapy high-risk febrile neutropenia in reducing mortality: An open label randomised controlled trial

- Effect of oral levofloxacin prophylaxis in decreasing the incidence of febrile neutropenia (FN) in children receiving intensive chemotherapy for acute leukemia: A randomised, single-blind, placebo-controlled trial
- Efficacy and safety of zinc in the prevention of oral mucositis in children with cancer receiving intensified chemotherapy: A randomised double-blind placebo-controlled trial
- Efficacy of cryotherapy in the prevention of oral mucositis in children with acute lymphoblastic leukemia receiving methotrexate-based chemotherapy: A randomised trial
- Evaluating the role of probiotics in prevention of febrile neutropenia in children receiving intensive chemotherapy: A double-blind randomised control trial
- Feasibility of an oral hydration regimen during high dose methotrexate administration in children with hematolymphoid malignancies – A single arm interventional pilot study
- Long-acting filgrastim versus conventional filgrastim as primary prophylaxis following pediatric dose-intensive chemotherapy: A randomised superiority trial”
- Prevalence of Hypoalbuminemia and its Association with Outcome of Childhood Cancers
- Significance of End of Treatment FDG-PET/CT in Newly diagnosed Hodgkin Lymphoma-A prospective observational Study
- Vincristine and Topotecan versus Carboplatin, Etoposide and Vincristine based chemotherapy for ocular salvage in Group D Intraocular Retinoblastoma: A randomised open label trial

Pulmonology, Intensive Care, Tuberculosis

- A prospective pilot study to evaluate the effect of Supraglottoplasty on Tracheomalacia in pediatric patients with Congenital Laryngotracheomalacia
- Coagulation dysfunction as assessed by thromboelastography (TEG) in critically ill children with severe sepsis.
- Correlation of ciliary function and structure with specific mutation in patients of primary ciliary dyskinesia.
- Ketamine vs fentanyl-midazolam combination as induction agents for tracheal intubation in critically ill children: a pilot open label, randomised control trial
- Mobile direct observation Physiotherapy in children with cystic fibrosis: A randomised controlled trial
- The prevalence and risk factors of cystic fibrosis related diabetes in children with cystic fibrosis: a cross-sectional study
- Utility of an indigenous method of assessing function of human nasal epithelial cilia for diagnosis of Primary Ciliary Dyskinesia in children

Rheumatology

- To estimate the prevalence of abnormal lung function tests in children (aged 6-18years) with juvenile idiopathic arthritis: a cross-sectional study
- To estimate the prevalence of articular and extra-articular damage in children with juvenile idiopathic arthritis: a cross sectional study
- To estimate the prevalence of nailfold capillaroscopic changes in children (aged < 18 years) with systemic lupus erythematosus: A cross-sectional study

Completed

Endocrinology

- Smartphone applications-based intervention to reduce body mass index and improve health related behavior among school children with overweight/obesity

Gastroenterology

- Multicenter project to assess the utility of the IMPACT III questionnaire in children with inflammatory bowel disease

Genetics

- Deciphering the phenotype and genotypic spectrum of Arthrogryposis Multiplex Congenita Using Next Generation Sequencing
- Etiological evaluation of microcephaly in children between 0-2 years
- Evaluation of diet-based interventions in Hepatic Glycogenoses using Continuous Glucose Monitoring
- Evaluation of trisaccharide BM-652 as a potential biomarker in serum of ERT naive patients with MPS I and MPS II aged 6 months-18 years

Neonatology

- Development and validation of a prediction model based on machine learning for early recognition of culture- positive sepsis in newborns with sepsis admitted in a tertiary health centre
- Performance of two visual methods for assessment of neonatal jaundice- Kramer’s and Modified Kramer’s in healthy term and near term neonates

Nephrology

- A pre-experimental study to assess the satisfaction of parents of children with nephrotic syndrome with Utsarjan App based home care and management

2. Furosemide stress test in predicting progression to acute kidney injury (AKI) stage 3 in children admitted to the ICU with early stages of AKI
3. Long-term safety of rituximab therapy in children with NS: Prevalence of human anti-chimeric antibodies, hypogammaglobulinemia and BK and JC viruria
4. Medium term outcomes in patients with primary renal tubular acidosis: Cross-sectional observational study
5. Short term efficacy and safety of atorvastatin for treatment of dyslipidemia in children with chronic kidney disease

Neurology

1. Cortical excitability in children aged 5 to 12 years with Electrical Status Epilepticus in Sleep (ESES) compared to non-epileptic healthy children using Transcranial Magnetic Stimulation
2. Optimal duration of EEG in children and adolescents with seizures: an observational study
3. Remediating Indian school going children having Specific learning disorder with Dyslexia using Artificial Intelligence based structured intervention program: A longitudinal intervention study

Oncology

1. Assessment of adipokines in survivors of acute lymphoblastic leukemia, Incidence and outcome of neutropenic enterocolitis in pediatric cancer patients
2. Efficacy and safety of olanzapine as an add-on therapy in children receiving highly emetogenic chemotherapy: A randomised double-blind placebo controlled trial
3. Neutropenic-Diet vs Standard Indian diet in reducing the incidence of febrile neutropenia following chemotherapy in pediatric oncology patients: A two arm parallel randomised controlled effectiveness trial
4. Safety of Procalcitonin Guided Discontinuation of Antibiotic Therapy among Children Receiving Cancer Chemotherapy and Having Low Risk Febrile Neutropenia – A randomised non-inferiority trial (ProFenC Study)
5. The incidence and risk factors for occurrence of acute kidney injury in newly diagnosed pediatric patients with acute lymphoblastic leukemia receiving high dose methotrexate Pulmonary dysfunction in Hodgkin lymphoma survivors
6. To study the prevalence and the risk factors of psychiatric morbidities and sleep disorders in pediatric Acute Lymphoblastic Leukemia survivors

Pulmonology, Intensive Care, Tuberculosis

1. A combination therapy of Norepinephrine PLUS Dobutamine as a first line agent in fluid refractory pediatric septic shock.
2. A pilot study on the causal relationship of gastro-esophageal reflux and obstructive adenoid or adeno-tonsillar hypertrophy in paediatric population
3. Azithromycin for Poorly Controlled Asthma in Children: A randomised controlled trial.
4. Comparison of protocol based continuous and intermittent tube feeding in mechanically ventilated critically ill children- An open label randomised control trial.
5. Depression and coping strategies used among adolescents with cystic fibrosis: An exploratory survey.
6. Development and Validation of a Weight Estimation Tool for Acutely Ill Children Who Cannot be weighed.
7. Efficacy of Pulse Dexamethasone in addition to standard therapy versus standard therapy alone in children with Juvenile Idiopathic Arthritis: A double blind randomised controlled trial
8. Evaluation of HIV-1 subtype C Envelop in infected children
9. Functional outcomes of children with severe sepsis
10. Prevalence of *Pneumocystis Jirovecii* in Induced Sputum and Broncho-Alveolar Lavage Fluid of adults and children with Bronchiectasis by polymerase chain reaction and 1 → 3 Beta D Glucan Assay.
11. Pulmonary dysfunction in Hodgkin Lymphoma survivors.
12. Study of bacterial infections in a cohort of patients clinically diagnosed of *Pneumocystis Jirovecii* Pneumonia (Pjp)/ *Pneumocystis* Pneumonia (Pcp) and its impact on outcome of the disease.
13. To develop algorithm for diagnosis of cystic fibrosis in resource limited setting using clinical features, lab tests and aquagenic wrinkling of palms
14. To evaluate infant pulmonary function test (Tidal Breathing Flow Volume Loop and Raised Volume Rapid Thoracic Compression) in children <18 months with suspected airway malacia and to correlate it with bronchoscopic findings

Collaborative projects

Ongoing

Endocrinology

1. A randomised controlled trial comparing the effects of multiple micronutrient supplement (including iron) with oral iron and folic acid, for iron deficiency anemia prophylaxis in pregnant women in rural Haryana, CCM
2. Effectiveness of a structured paediatric to adult management transition intervention to improve adherence to diabetes care and clinical outcomes among Type 1 Diabetes Mellitus (T1DM) patients in India” – PATHWAY trial, Endocrinology
3. ICMR Young Diabetes registry, Endocrinology

Genetics

1. Cystic Fibrosis in India: Prevalence, Mutation Profile and Development of Registry, Department of Pediatrics, AIIMS, New Delhi, SKIMS, AIIMS Jodhpur
2. Deciphering idiopathic intellectual disability (DIID) through Next Generation Sequencing (DIID-NGS study), IGIB, New Delhi
3. Development of a high throughput genome editing pipeline based on an orthologous CRISPER/Cas9 system (FnCas9) and its application in the generation of 3D organoids for disease modeling and correction”, IGIB, New Delhi
4. Whole-exome sequencing based genetic testing and functional characterization characterisation of rare pathogenic alleles causing neurodevelopmental disorders for biomarker identification and community genetics surveillance, SGPGIMS, Lucknow

Neonatology

1. Establishment of a Genomic Facility to develop, test and validate an informative, cost-effective and efficient panel of genetic markers for Chronic Pancreatitis, Department of Gastroenterology, AIIMS, New Delhi
2. Standardizing of data collection and protocol for improving the Quality of evidence on clinical characteristics and outcomes of COVID-19 and Pregnancy In collaboration” for looking neonatal outcomes in COVID-positive mothers, Department of Obstetrics and Gynecology, AIIMS, New Delhi

Nephrology

1. Efficacy of low dose, short course prednisolone regimen for relapse of steroid sensitive nephrotic syndrome in children: A multicenter, randomised, placebo-controlled trial, Maulana Azad Medical College, Delhi; Vardhaman Mahavir Medical College, Delhi; Lady Hardinge Medical College, Delhi; Chacha Nehru Bal Chikitsalaya, Delhi; AIIMS, Bhopal; AIIMS, Jodhpur; St John Hospital Bengaluru; SAT, Thiruvananthapuram
2. Emerging drug resistance of uropathogens in community acquired urinary tract infection and molecular insight into the dynamics of resistance traits in Indian isolates: A pan-India multicentric study, Department of Microbiology, AIIMS Delhi
3. Infectious and genetic triggers in children with hemolytic uremic syndrome, Institute of Liver and Hepatobiliary Sciences, Delhi
4. Pilot study of genetic variations among Indian children with vesicoureteral reflux, Institute of Genomics & Integrative Biology, New Delhi
5. Setting up registry and targeted exome sequencing in children with renal tubular disorders, All India Institute of Medical Sciences, Bhopal
6. Whole exome sequencing in patients with non-diarrheal & non-autoimmune form of hemolytic uremic syndrome, Institute of Genomics & Integrative Biology, New Delhi

Neurology

1. A Multi-center, Open labelled Trial to evaluate the sensitivity and specificity of DSM IV TR and DSM 5 in diagnosis of Autism Spectrum Disorder, 5 sites across India
2. A study to compare the anxiety, depression and quality of life (QOL) among caregivers of children with cerebral palsy and those with typically developing children attending Paediatric Neuro OPD at AIIMS, New Delhi., MSc Nursing
3. Clinico-Sero-Pathological classification and pathogenesis of Idiopathic inflammatory myopathies., Pathology
4. Community based assessment of disability among adult population in Delhi using WHO International Classification of Functioning, Dept. of Community Ophthalmology, AIIMS, New Delhi
5. Impact of advanced paternal age and poor lifestyle on sperm epigenome: possible etiology in Autism Spectrum Disorder, Department of Anatomy, AIIMS, New Delhi
6. Study of cerebral edema, neuroinflammation and blood brain barrier disruption in pediatric traumatic brain injuries., Neurosurgery

Oncology

Caregiver burden and quality of life of parents of children with cancer in a tertiary care centre in India- A cross-sectional study, Palliative medicine

1. Comparison of whole-body MRI with 18F-FDG PET/CT in pediatric Lympho-histiocytic neoplasms, Radiodiagnosis
2. Role of PET-CT in staging and evaluation of treatment response after 3 cycles of chemotherapy in locally advanced retinoblastoma, Nuclear medicine
3. Treatment outcomes of extra ocular Retinoblastoma following multimodal therapy-a prospective study, Ophthalmology

Pulmonology and Intensive Care

1. A longitudinal study of the effect of early initiation of ART on the innate immune responses in HIV-1 infected children, Department of Biochemistry
2. Advancing biomedical interventions for prevention of RSV disease in under-five children: India Case study, Center for community medicine

3. Development of novel phenotypic assay to evaluate antiretroviral drug resistance in HIV-1 infected children in India, Department of Biochemistry
4. Generation and characterisation of pseudoviruses from children with perinatally acquired HIV-1 infection, Department of Biochemistry

Lata Singh

1. Effect of regional anaesthesia on inflammatory biomarkers levels in patients undergoing surgery for giant cell tumor of bone and its correlation with perioperative bleeding and outcomes, Department of Anaesthesiology, Pain medicine and critical care, AIIMS, New Delhi
2. Evaluation of neutrophil CD64 and Myeloperoxidase as early diagnostic marker and predictor of mortality in patients with sepsis in the intensive care unit, Department of Anaesthesiology, Pain medicine and critical care, AIIMS, New Delhi
3. Hippo Signaling Pathway and its biological function in Uveal Melanoma, Department of Ocular Pathology, Dr RP Centre for ophthalmic Sciences, AIIMS, New Delhi
4. Molecular Mechanism of Melanogenesis pathway in Uveal Melanoma, Department of Ocular Pathology, Dr RP Centre for Ophthalmic Sciences, AIIMS, New Delhi
5. Role of Hypoxia Mediated Cell Metabolism in Pediatric Ocular Malignancy, Department of Ocular Pathology, Dr RP Centre for Ophthalmic Sciences, AIIMS, New Delhi

Completed

Endocrinology

1. Enhanced, personalized versus routine antenatal care in the amelioration of anemia in pregnancy in rural LMIC settings- the Comprehensive Anemia Program and Personalised Therapies (CAPPT) Project, Gynecology and Obstetrics

Gastroenterology

1. A multicentric study to validate the IMPACT III quality of life questionnaire in children with IBD, SGPGIMS Lucknow, AIIMS Rishikesh, Apollo Chennai, Medanta Gurgaon

Genetics

1. A comparative study to evaluate the efficacy of Ibedone in comparison with placebo in Leber's Hereditary optic Neuropathy patients- A pilot study, RP Centre, AIIMS, New Delhi

Nephrology

1. Pediatric Renal Biology Program: Research on nephrotic syndrome, Institute of Genomics & Integrative Biology, New Delhi; Translational Health Sciences & Technology Institute, Govt. of India, Faridabad; Research and Referral Hospital, New Delhi; St. John's Medical College, Bengaluru; Christian Medical College, Vellore

PUBLICATIONS

Journals: 191

Abstracts: 34

Chapters in Book: 93

Books & Monograph: 4

Year	Journal	Abstracts	Chapters	Books and Monographs
2019-20	159	46	23	9
2020-21	189	38	4	1
2021-22	191	34	93	04

PATIENT CARE

2019-20

Name of Service	New cases	Old cases	Total Attendance
Paediatric General OPD	32994	81124	114118
Pediatric Neurology Clinic	888	5683	6571
Paediatric Neuromuscular disease	208	1375	1583
Pediatric Gastroenterology Hepatology and Nutrition	244	1862	2106

Name of Service	New cases	Old cases	Total Attendance
Paediatric Well Baby Clinic	512	08	520
Paediatric High Risk Neonatology Clinic	315	1723	2038
Pediatric Renal Nephrology Clinic	455	3488	3943
Paediatric Chest Clinic	400	3422	3822
Paediatric Tuberculosis Clinic	186	1174	1360
Paediatric Rheumatology Clinic	452	2981	3433
Paediatric Genetics and Birth Defects Clinic	3317	1214	4531
Paediatric Genetic Antenatal cases	2477	144	2621
Paediatric Oncology Clinic	317	2341	2658
Pediatric Cancer Survivors' Clinic	177	1318	1495
Pediatric Endocrine and Metabolism Clinic	141	1053	1194
Child Development Clinic	1107	2480	3587
Neurocysticercosis clinic	194	1119	1313
Autism Clinic	470	2510	2980
Pediatric Psychology Clinic	442	185	627
Pediatric Myopathy Clinic	461	1871	2332
Grand Total	45757	117075	162832

2020-2021

Name of Service	New Cases	Old Cases	Teleconsultation	Total Attendance
Paediatric General OPD	7670	16565	19540	43775
Pediatric Neurology Clinic	57	124	33	214
Paediatric Neuromuscular disease	32	42	3	77
Pediatric Gastroenterology Hepatology and Nutrition	26	58	7	91
Paediatric Well Baby Clinic	13	2	2	17
Paediatric High Risk Neonatology Clinic	53	76	10	139
Pediatric Renal Nephrology Clinic	10	79	13	102
Paediatric Chest Clinic	32	198	3	233
Paediatric Tuberculosis Clinic	28	48	2	78
Paediatric Rheumatology Clinic	48	108	15	171
Paediatric Genetics and Birth Defects Clinic	11	3		14
Paediatric Genetic Antenatal cases	10	10	2	22
Paediatric Oncology Clinic	42	60	1	103
Pediatric Cancer Survivors' Clinic	32	78	3	113
Pediatric Endocrine and Metabolism Clinic	3	32	2	37
Child Development Clinic		2	4	6
Neurocysticercosis clinic			6	6

Autism Clinic			5	5
Pediatric Psychology Clinic	22	14		36
Grand Total	8089	17499	19651	45239

2021-22

Name of Service	New Cases	Old Cases	Total Attendance
Paediatric General OPD	15369	32157	47526
Pediatric Neurology Clinic	212	513	725
Paediatric Neuromuscular disease	115	206	321
Pediatric Gastroenterology Hepatology and Nutrition	88	334	412
Paediatric Well Baby Clinic	174	28	202
Paediatric High Risk Neonatology Clinic	121	226	347
Pediatric Renal Nephrology Clinic	86	195	281
Paediatric Chest Clinic	124	680	804
Paediatric Tuberculosis Clinic	85	309	394
Paediatric Rheumatology Clinic	76	381	457
Paediatric Genetics Clinic	811	1274	2085
Paediatric Oncology Clinic	171	240	411
Pediatric Cancer Survivors' Clinic	95	499	594
Pediatric Endocrine and Metabolism Clinic	32	198	230
Child Development Clinic	116	236	352
Neurocysticercosis clinic	28	158	186
Autism Clinic	267	217	484
Grand Total	17970	37851	55821

In addition, teleconsultation services from April to June 2021 were provided to 23482 patients.

Physiotherapy Services were provided to the patients in various clinics (Neurology, Myopathy, Genetics, High risk, Endocrinology, Development, Chest, Rheumatology) and seeking general OPD services.

Total Physiotherapy sessions provided during 2021-2022: **2347**

Total Dietetic consultations: 1102 in the outpatients and 1742 in the wards

Indoor services

- Indoor services include admission facilities in general wards, day care facility, neonatal units (NICUs A and B), Kangaroo Mother Care unit and Pediatric Intensive care facility.
- The Department continues to have an 8-bedded **High Dependency Unit** in children ward to cater to child patients with life-support and other special needs.
- Children requiring short procedures or interventions are admitted for a day in the Day Care Unit situated in the C5 ward.

Total indoor admissions	2021-22	2020-21	2019-20
Long admissions in Paediatric wards	1548	2219	2861
Admission in day care facility	13054	10	16600
Admissions in NICU A+B	1029	612	612

Specialised Tests

Endocrinology

2019-2020

1. Body composition analysis by PEAPOD: 385
2. ECLIA tests
 - a. Human Growth Hormone: 645
 - b. Insulin: 150
 - c. Vitamin B12: 165
 - d. Folic acid: 165
 - e. Ferritin: 65
 - f. HBsAg: 70
 - g. HCV: 70
 - h. PCT: 650
 - i. FT₄: 20
 - j. Vitamin D: 50
 - k. Cortisol: 30

2020-21

1. Body composition analysis by PEAPOD: 487
2. ECLIA tests: 977
 - a. Human Growth Hormone: 277
 - b. Insulin: 100
 - c. Procalcitonin: 600

2021-22

1. Hormonal assays (Growth Hormone, 25 Hydroxy-vitamin D, PTH, Free T3, Free T4, Cortisol and Insulin): 206
2. Body composition analysis (PEAPOD: 200 and BODYPOD: 60)

Organised a physical group interactive session for children with type 1 diabetes on 11 December 2021

Gastroenterology

Procedure	2019-2020	2020-21	2021-22
Endoscopic procedures	1202	500	500

Genetics

2019-20

Laboratory Tests

Cytogenetics Lab:

1. Peripheral blood and Cord blood cultures 398
2. Amniotic fluid cultures 233
3. Chorionic villi cultures 20
4. QF-PCR 583

Molecular Lab

Routine tests carried out

1. Beta Thalassemia (β Thal) mutation analysis carried out in – 201 families
2. Prenatal diagnosis for β Thal offered to – 81 families
3. Spinal Muscular atrophy (SMA) mutation analysis carried out in – 141 cases
4. Prenatal diagnosis for SMA offered to – 14 families
5. Duchene Muscular dystrophy (DMD) mutation analysis carried out in – 347 families
6. Prenatal diagnosis for DMD offered to – 22 families
7. Fragile X screening carried out in – 345 families
8. Cystic fibrosis molecular analysis carried out in – 104 cases
9. Prenatal diagnosis for Cystic fibrosis offered to – 5 families
10. Achondroplasia mutation analysis carried out in – 18 cases
11. Prenatal diagnosis for Achondroplasia offered to – 3 families
12. Non-syndromic hearing loss (Connexin 26) screening carried out in – 24 cases
13. Prenatal diagnosis for Connexin 26 offered to – 3 families
14. Sex Chromatin related abnormalities in – 42 cases

15. Albinism Screening carried out in – 1 case
16. Prenatal diagnosis for Achondroplasia offered to – 2 families
17. RETT Syndrome analysis carried out in – 31 cases
18. Prenatal diagnosis for RETT syndrome offered to – 3 families

Tests carried out on Research basis:

1. Prenatal diagnosis for BWS offered to – 1 family
2. Megalencephalic leukoencephalopathy (MLC) mutation analysis carried out in – 7 cases
3. Prenatal diagnosis for Mitochondrial mutation analysis carried out in – 2 cases
4. Prenatal diagnosis for MPS (MPS-I) offered to – 1 family
5. Prenatal diagnosis for GSD offered to – 1 family
6. Prenatal diagnosis for Krabbe Disease offered to – 1 family
7. Prenatal diagnosis for APERT offered to – 1 family
8. Prenatal diagnosis for GA offered to – 1 family

Biochemical Genetics Lab:

1. *Antenatal Screening: 1654*
Triple Marker– 65
Dual Marker – 1589
2. *Enzyme Assays for Inborn Error of Metabolism: 667 (including Chitotriosidase)*
 1. Gaucher Disease – 67
 2. Neimenn pick disease – 55
 3. Hurler (MPS-I) – 22
 4. Hunter (MPS-II) – 20
 5. Sanfilippo (MPS III B,C,D) – 16
 6. Morquio A (MPS-IVA) – 22
 7. Morquio B (MPS-IV B) – 11
 8. GM1 Gangliosidosis – 33
 9. Metachromatic- leukodystrophy – 43
 10. MPS-VI– 14
 11. Maroteaux- Lamy Syndrome (MPS VII) – 2
 12. Tay-Sach's – 35
 13. Sandoff disease – 5
 14. Mucopolipidosis – 6
 15. Krabbe's – 35
 16. Neuronal Ceroid Lipofuscinosis NCL – 42
 17. Pompe – 32
 18. Biotinidase Deficiency – 57
 19. Galactosemia – 48
3. *Biomarkers for LSDs*
 1. Chitotriosidase – 102
 2. Urinary GAGs – 74
4. *Prenatal Diagnosis of Lysosomal storage disorders – 34*
 1. Non-Immune Hydrops – 17
 - Other Lysosomal Storage disorders – 17
 - Gaucher Disease – 3
 - GM2 Gangliosidosis – 3
 - GM1 Gangliosidosis – 2
 - MPS IVA – 2
 - Others – 7 (MLD, MPSI, MPSII, MPSVI, NPD, Krabbes, NCL,)
5. *Small Molecule Inborn Errors of Metabolism*
 1. Blood Ammonia – 149
 2. TLC – 98
 3. HPLC – 63
6. *Urine Chemical tests*
 1. Small Molecules – 96
 2. Large Molecule (MPS, Oligosaccharide) – 15

2020-21

Laboratory Tests

Cytogenetics Lab

- | | |
|---|-----|
| 1. Peripheral blood and Cord blood cultures | 303 |
| 2. Amniotic fluid cultures | 116 |
| 3. Chorionic villi cultures | 23 |
| 4. QF-PCR | 255 |

Molecular Lab

Routine tests carried out

1. Beta Thalassemia (β Thal) mutation analysis – 34 cases
Prenatal diagnosis for β Thal – 33 families
2. Spinal Muscular atrophy (SMA) mutation analysis – 47 cases
Prenatal diagnosis for SMA – 11 families
3. Duchene Muscular dystrophy (DMD) mutation analysis – 110 families
Prenatal diagnosis for DMD – 10 families
4. Fragile X screening – 59 families
5. Cystic fibrosis molecular analysis – 50 cases
Prenatal diagnosis for Cystic fibrosis – 3 families
6. Achondroplasia mutation analysis – 6 cases
7. Non-syndromic hearing loss (Connexin 26) screening – 11 cases
8. Sex Chromatin related abnormalities in – 8 cases
9. RETT Syndrome analysis carried out in – 6 cases
Prenatal diagnosis for RETT syndrome – 3 families
10. APERT Syndrome molecular analysis carried out in – 5 cases
11. Molecular analysis for LSD (Gaucher Syndrome) carried out in – 8 cases
Prenatal diagnosis for Gaucher Syndrome offered to – 1 family
12. Molecular analysis for Von Hippel – Lindau syndrome carried out in – 6 cases
13. Molecular analysis for Multiple endocrine neoplasias type 2 carried out in – 2 cases

Tests carried out on Research basis

1. Prenatal diagnosis for BLAU Syndrome – 1 family
2. Prenatal diagnosis for Mitochondrial mutation analysis – 01 case
3. Prenatal diagnosis for MPS (MPS-I) – 02 families
4. Prenatal diagnosis for Krabbes Disease – 1 family
5. Prenatal diagnosis for Gaucher disease – 1 family
6. Prenatal diagnosis for MPS IV – 1 Family
7. Prenatal diagnosis for MLD – 1 family
8. Prenatal Diagnosis for SRD5A2 gene – 1

Biochemical Genetics Lab

Antenatal Screening: 411

1. Triple Marker – 40
2. Dual Marker – 371

Enzyme Assays for Inborn Error of Metabolism: 310 (including Chitotriosidase)

1. Gaucher Disease- 29
2. Neimenn pick disease- 29
3. Hurler (MPS-I)- 8
4. Hunter (MPS-II)- 7
5. Sanfilippo (MPS III B,C,D)- 9
6. Morquio A (MPS-IVA)- 7
7. Morquio B (MPS-IV B)- 5
8. GM1 Gangliosidosis- 19
9. Metachromatic leukodystrophy -11
10. MPS-VI- 2
11. Maroteaux- Lamy Syndrome (MPS VII)- 2
12. Tay-Sachs- 12
13. Sandoff disease- 4
14. Krabbes -12

15. Neuronal Ceroid Lipofuscinosis- 15
16. Pompe- 14
17. Biotinidase Deficiency- 30
18. Galactosemia- 42
19. Fabry- 03

Biomarkers for LSDs

1. Chitotriosidase- 45
2. Urinary GAGs- 37

Prenatal Diagnosis of Lysosomal storage disorders

1. Non-Immune Hydrops – 4
2. MLD-02
3. Others – 6 (GM1, MPS1, GAUCHER, MPSIVA, MPSII, MPSIIIB)

Small Molecule Inborn Errors of Metabolism

1. Blood Ammonia- 265
2. TLC- 41
3. HPLC - 92

Urine Chemical tests

1. Small Molecules – 29
2. Large Molecule (MPS, Oligosaccharide) - 8

2021-22

Cytogenetics Laboratory

Peripheral blood and Cord blood cultures	472
Amniotic fluid cultures	206
Chorionic villi cultures	24
Rapid aneuploidy testing by QF-PCR	614

Molecular Laboratory

	Prenatal diagnosis	Mutation testing (N)
Beta thalassemia	54	129
Spinal Muscular atrophy	15	42
Duchene Muscular dystrophy	9	109
Fragile X screening	-	124
Cystic fibrosis	11	41
Achondroplasia hot spot	-	-
Non-syndromic hearing loss (Connexin 26) hot spot	-	18
Rett Syndrome analysis	1	28
Metachromatic leukodystrophy (MLD)	1	1
Von Hippel-Lindau syndrome (VHL)	-	6
Mucopolysaccharidosis type I (MPS I)	2	5
Mucopolysaccharidosis type II (MPS II)	2	5
Mucopolysaccharidosis type III (MPS IIIB)	-	1
Multiple endocrine neoplasia type 2 (MEN2)	-	3
Prader willi Syndrome	1	5
Angelman syndrome	2	11

	Prenatal diagnosis	Mutation testing (N)
Beckwith Wiedemann syndrome	-	9
Silver Russel syndrome	-	6
Apert syndrome	-	8
Biotinidase deficiency	-	1
Ectodermal dysplasia	-	3
Fibrodysplasia ossificans progressive (FOP)	-	3
Glycogen storage disorder type III	1	3
Glycogen storage disorder type I	-	1
Krabbe disease	-	1
Gaucher disease	3	7
Pompe disease	1	1
Galactosemia	1	2
Incontinentia Pigmenti	-	2

Enzyme Assays for Inborn Error of Metabolism

S.No	Enzyme Assay	Disorder	Patients	Deficient
1	β – Glucosidase	Gaucher Disease	63	12
2	Sphingomyelinase	Neimenn pick disease	53	05
3	Chitotriosidase (Plasma)	Chitotriosidase (Plasma)	101	40
4	MPS-I	Hurler (MPS-I)	21	06
5	MPS-II	Hunter (MPS-II)	14	09
6	α -N-Acetylglucosaminidase	Sanfilippo B (MPS III B)	07	03
		Sanfilippo C (MPS III C)	06	01
7	Acetyl-CoA: α -Glucosaminide N-Acetyltransferase	Sanfilippo D (MPS III D)	-	-
8	Galactose-6-Sulphate Sulphatase	Morquet A (MPS-IVA)	08	05
9	Gangliosidosis	GM1 Gangliosidosis & Morquet B (MPS-IV B)	21	07
10	Arylsulfate A	Metachromatic leukodystrophy	28	08
11	Arylsulphatase-B	MPS-VI	04	-
12	β - Glucuronidase	Maroteaux- Lamy Syndrome (MPS VII)	03	-
13	Hexosaminidase A	Tay-Sach's	18	14
	Total Hexosaminidase	Sandhoff disease	01	-
14	Plasma Hex-A	Mucopolipidosis	05	02
15	Plasma – ASA	Mucopolipidosis	05	02
16	β -Galactocerebrosidase (Krabbe's)	Krabbe's	23	02
17	Palmitoyl-protein-thioesterase (INCL)	INCL-1	11	01
18	Tripeptidyl-peptidase-I	NCL-2	05	01
19	α - Glucosidase	Pompe	27	06
20	Fabry		06	01
21	Biotinidase	Biotinidase	48	
22	GALT	Galactosemia	41	
23	fucosidase		03	02

	Total CVS PND		
1	CVS(NIH)	Non- immune Hydrops	10
2	CVS(ASA)	Metachromatic- leukodystrophy	1
4	CVS(MPS-I)		2
5	CVS(MPSII)		3
6	CVS(Gaucher)		2
7	CVS (Krabbes)		1
8	Cord Blood (Galt)		1
9	Cord blood (NIH)		2
10	Cord blood (NIH) POMPE		1
11	CVS(pompe)		1

Neonatology

	2019-2020	2020-2021	2021-2022
Invasive blood pressure monitoring	110	110	126
Targeted neonatal echocardiography	120	145	178
Targeted neonatal ultrasonography	120	140	195
High frequency ventilation	34	34	32
Inhaled nitric oxide	14	14	12
Total parenteral nutrition	100	94	102
AABR	200	180	234
Therapeutic hypothermia	7	7	8
Arterial blood gas analysis	300	350	420
Point of care glucose estimation	800	800	2400
Hematocrit	450	400	1500
Total serum bilirubin	600	300	2400
Gram staining	300	300	200
Laser therapy for ROP	390	390	162
Laser therapy	—	5	20
Transcutaneous Bilirubin	—	600	1300
Intravitreal Bevacizumab	—	3	1

Nephrology

2019-2020

Kidney transplants in children	14
Hemodialysis	1535
Acute peritoneal dialysis(including automated peritoneal dialysis	64
Continuous ambulatory peritoneal dialysis	163
Plasmapheresis sessions	677
Continuous renal replacement therapy	13
Sustained low efficiency dialysis	27
Temporary hemodialysis catheter placement (internal jugular, femoral)	85
Renal biopsies	133
Ambulatory blood pressure monitoring	340
Monitored infusions (albumin, cyclophosphamide, rituximab)	1481

ELISA for antibodies to complement factor H	334
Surface CD46 expression	56
2020-2021	
Kidney transplants in children	2
Hemodialysis	1066
Acute or chronic peritoneal dialysis (including automated)	91
Plasmapheresis sessions	252
Continuous renal replacement therapy; Sustained low efficiency dialysis	1; 6
Temporary hemodialysis catheter placement (internal jugular, femoral)	32
Renal biopsies	114
Ambulatory blood pressure monitoring	52
Monitored infusions (albumin, cyclophosphamide, rituximab)	500
ELISA for antibodies to complement factor H; B	336; 409
Surface CD46 expression	22

2021-2022	
Kidney transplants in children	5
Hemodialysis	1091
Acute or chronic peritoneal dialysis (including automated)	69
Plasmapheresis sessions (membrane/centrifugation based)	335 (288/47)
Continuous renal replacement therapy; Sustained low efficiency dialysis	5; 15
Temporary hemodialysis catheter placement (internal jugular, femoral)	67
Renal biopsies	210
Ambulatory blood pressure monitoring	150
Monitored infusions (albumin, cyclophosphamide, rituximab)	665
ELISA for antibodies to complement factor H	390
Surface CD46 expression	10

Neurology

2019-2020

Total number of procedures done

1. EEG – 2207, Video EEG – 1637, Ambulatory EEG – 132 (Total EEG – 4076)
2. NCS and EMG – 295
3. RNST - 25
4. PSG – 150
5. Day Care Procedures: Lumbar Puncture – 176, Skin biopsy – 33, Nerve biopsy – 7, Muscle biopsy – 70
6. Spinraza treatment to spinal muscular atrophy patients under SIPHAP (SPINRAZA INDIVIDUAL PATIENT HUMANITARIAN ACCESS PROGRAM)

Loading dose (4 doses fortnightly) given to SMA type 1- 2 patients: SMA type 2- 10 patients.

Psychological and Developmental test	
VSMS for SQ (for SQ, Cochlear Implant)	3600
Developmental Profile 3	4000
Childhood Behavior Checklist	6800
Malin's Intelligence Scale for Indian Children	4500
Wechsler Intelligence scale for children	40
House Tree Person test	1100
Developmental scale for Indian Infants (DASII)	570
Sensory Profile 2	280
DSM-5 for Autism Spectrum Disorder	1010
Childhood Autism Rating Scale	540

Psychological and Developmental test	
INCLIN tool for ASD	126
ISAA tool for ASD	126
DSM-5 for Attention Deficit Hyperactivity disorder	120
INCLIN tool ADHD	74
AIIMS modified tool for ADHD	74
CONNER's rating Scale for ADHD	95
Grade Level Assessment Device	300
NIMHANS battery for learning disorder	152
Total Patients = 12,680 Including ward and Emergency Patients: (13, 535)	
Intervention and Counseling	
Total Psychological intervention	
Early stimulation therapy	1360
Behavioral Intervention	5600
Psychological & personality assessment using HTP (Functional)	740
Psychological counseling for Nocturnal Enuresis	65
Counseling for Tic disorder	52
Cognitive Behavior Therapy	1200
Parent's counseling in Ward	195
Parent's counseling in Emergency	35
Certification	
Disability Certification	
Patients evaluated for certification	325

2020-2021

1. EEG –105, Video EEG –112, Ambulatory EEG 132 – (Total EEG –349)
2. NCS and EMG -21
3. Diagnostic TMS- 27, Therapeutic TMS- 1
4. RNST– 4
5. PSG – 6
6. Day Care Procedures: Lumbar Puncture – 30, Skin biopsy– 2, Nerve biopsy– 2, Muscle biopsy – 15
7. Spinraza treatment to spinal muscular atrophy patients under SIPHAP (SPINRAZA INDIVIDUAL PATIENT HUMANITARIAN ACCESS PROGRAM)

Loading dose (4 doses fortnightly) given to SMA patients: 12 patients

Psychological and Developmental test	
VSMS for SQ (for SQ, Cochlear Implant)	180 (64)
Developmental Profile 3	95
Childhood Behavior Checklist	160
Malin's Intelligence Scale for Indian Children	245
Wechsler Intelligence scale for children	7
House Tree Person test	75

Psychological and Developmental test	
Developmental scale for Indian Infants (DASII)	214
Sensory Profile 2	0
DSM-5 for Autism Spectrum Disorder	155
Childhood Autism Rating Scale	6
INCLIN tool for ASD	85
ISAA tool for ASD	85
DSM-5 for Attention Deficit Hyperactivity disorder	25
CONNER's rating Scale for ADHD	21
Grade Level Assessment Device	44
NIMHANS battery for learning disorder	52
Intervention and Counseling	
Total Psychological intervention	
Early stimulation therapy	260
Behavioral Intervention	240
Psychological & personality assessment using HTP (Functional)	85
Psychological counseling for Nocturnal Enuresis	18
Counseling for Tic disorder	4
Cognitive Behavior Therapy	130
Parent's counseling in Ward	62
Parent's counseling in Emergency	12
Certification	
Disability Certification	
Patients evaluated for certification	116

2021-2022

1. EEG –1591, Video EEG –780, Ambulatory EEG-49 – (Total EEG –2420)
2. NCS and EMG -174
3. Diagnostic TMS- 64, Therapeutic TMS- 138
4. RNST - 14
5. PSG – 82
6. Day Care Procedures: Lumbar Puncture – 81, Skin biopsy –11, Nerve biopsy –1, Muscle biopsy – 24
7. Spinraza treatment to spinal muscular atrophy patients under SIPHAP (SPINRAZA INDIVIDUAL PATIENT HUMANITARIAN ACCESS program given to SMA patients as per protocol: 47 (12 old + 35 new) patients
8. Gene therapy Intravenous infusion-10 patients (admitted in private ward a day prior)
9. Risdiplam 5 patients have been selected for humanitarian access program, 2 have arranged from crowd funding and 6 are receiving the drug.

The toll free 24X7 Child Neurology tele-helpline addressed to issues for 7830 calls (average daily 21) from 1st April 2021 to 31st March 2022

Psychological and Developmental test	
VSMS for SQ (for SQ, Cochlear Implant)	559
Developmental Profile 3	512
Childhood Behavior Checklist	813

Psychological and Developmental test	
Malin's Intelligence Scale for Indian Children	630
Wechsler Intelligence scale for children	07
House Tree Person test	272
Developmental scale for Indian Infants (DASII)	636
Sensory Profile 2	63
DSM-5 for Autism Spectrum Disorder	987
Childhood Autism Rating Scale	457
INCLIN tool for ASD	59
ISAA tool for ASD	55
DSM-5 for Attention Deficit Hyperactivity disorder	35
DSM-5 for Social communication disorder	5
Comprehensive Test of Phonological Processing	31
Child Sleep habit questionnaire	79
Quality of life for children	66
Gassel drawing Test	55
CONNER's rating Scale for ADHD	33
Grade Level Assessment Device	87
NIMHANS battery for learning disorder	79
Total Patients = 5,520 including ward and Emergency Patients	
Intervention and Counseling	
Total Psychological intervention	
Early stimulation therapy	761
Behavioral Intervention	818
Psychological & personality assessment using HTP (Functional)	117
Psychological counseling for Nocturnal Enuresis	51
Counseling for Tic disorder	14
Cognitive Behavior Therapy	417
Parent's counseling in Ward	66
Parent's counseling in Emergency	18
Tele-Consultation	88
Disability Certification	
Patients evaluated for certification/UDID	Assessment done for 265 patients 29 UDID Certificate issued

Oncology
2019-2020

S. No.	Tests	Numbers
1	Pro BNP	175
3	URIC ACID	144
4	SGOT	84
5	SGPT	84
6	PHOSPHATE	24
7	MAGNESIUM	144
8	BILIRUBIN (DIRECT)	60
9	BILIRUBIN (TOTAL)	60
10	TROPONIN-I	175
11	TOTAL PROTEIN	24
12	ALBUMIN	24
13	CREATININE	24
14	UREA	24
15	POTASSIUM	24
16	Flowcytometry & MRD estimation for acute lymphoblastic leukemia	100
17	Hemogram I critical care lab	4000
18	Bone marrow	700
19	CSF/ITM	1100
20	Biopsy	600
21	PRP/PRBC transfusion	1200

2020-2021

S. No	Tests	Numbers
1	Pro BNP	175
3	URIC ACID	144
4	SGOT	84
5	SGPT	84
6	PHOSPHATE	24
7	MAGNESIUM	144
8	BILIRUBIN (DIRECT)	60
9	BILIRUBIN (TOTAL)	60
10	TROPONIN-I	175
11	TOTAL PROTEIN	24
12	ALBUMIN	24
13	CREATININE	24
14	UREA	24

S. No	Tests	Numbers
15	POTASSIUM	24
16	Flowcytometry & MRD estimation for acute lymphoblastic leukemia	100
17	Hemogram I critical care lab	4000
18	Bone marrow	700
19	CSF/ITM	1100
20	Biopsy	600
21	PRP/PRBC transfusion	1200

2021-22

S.No	Tests	Numbers
1	Pro BNP	547
2	TROPONIN-I	547
3	Uric Acid	20
4	SGOT	12
5	SGPT	12
6	MAGNESIUM	20
7	FLOWCYTOMETRY & MRD	100
8	Bone Marrow cultures	25
9	Hemogram Critical care Lab	4000
10	CSF/ITM	1500
11	BM aspirations	750
12	BIOPSY /FNAC	300
13	PRP/PRBC TRANSFUSION	2000

Pulmonology, Intensive Care, Tuberculosis

2019-2020

1. High Speed Video Microscopy:	274
2. Transmission Electron Microscopy from nasal brush:	150
3. Mutations for PCD:	150
4. Sweat chloride estimation:	631
5. Pediatric flexible bronchoscopy:	321
6. EBUS (Endobronchial ultrasound):	43
7. Spirometry:	1251
8. Infant PFT:	368
9. Plethysmography:	7
10. Impulse Oscillometry (IOS):	781
11. Fractional excretion of Nitric Oxide (FeNO):	671
12. Nasal Nitric Oxide (NO):	221
13. Total and specific IgE:	192
14. Specific IgE against aspergillus:	74
15. Specific IgG against aspergillus:	71
16. Specific IgG against Lentil:	12
17. Specific IgG against avian antigen:	15
18. Exercise testing:	72
19. 24 hours esophageal pH study:	15
20. Cryo lung biopsy:	2

21. Stool for Xpert ultra:	36
22. Urine for LAM by fusiLAM:	36
23. Rapid strip test for Dengue:	101

2020-2021

1. High Speed Video Microscopy:	10
2. Transmission Electron Microscopy from nasal brush:	15
3. Mutations for PCD	10
4. Sweat chloride estimation:	120
5. Pediatric flexible bronchoscopy	102
6. EBUS (Endobronchial ultrasound)	10
7. Spirometry	340
8. Infant PFT	120
9. Plethysmography	2
10. Impulse Oscillometry (IOS)	200
11. Fractional excretion of Nitric Oxide (FeNO)	65
12. Nasal Nitric Oxide (NO)	43
13. Total and specific IgE	43
14. Specific IgE against aspergillus	30
15. Specific IgG against aspergillus	30
16. Specific IgG against Lentil	6
17. Specific IgG against avian antigen	6
18. Exercise testing	5
19. 24 hours esophageal pH study	2
20. Cryo lung biopsy	1

2021-2022

1. High Speed Video Microscopy:	167
2. Transmission Electron Microscopy from nasal brush:	10
3. Mutations for PCD	25
4. Sweat chloride estimation:	498
5. Pediatric flexible bronchoscopy	259
6. EBUS (Endobronchial ultrasound)	13
7. Spirometry	650
8. Impulse Oscillometry (IOS)	600
9. Fractional excretion of Nitric Oxide (FeNO):	231
10. Nasal Nitric Oxide (NO):	89
11. Total and specific IgE	152
12. Specific IgE against aspergillus	30
13. Specific IgG against aspergillus	30
14. Specific IgG against Lentil	5
15. Specific IgG against avian antigen	6
16. Exercise testing	26
17. 24 hours esophageal pH study	5
18. Cryo lung biopsy	2

Rheumatology

2019-2020

Collaborative Uvea-JIA clinic in partnership with Department of Ophthalmology (July 2019 Onwards) children screened: 430

Transitional care services in collaboration with Department of Rheumatology (transferred to adult care): 05

Intra-articular steroid (IACS) administrations & US guided IACS:

- Joints injected: 279
- USG guided IACS injections: 14
- Diagnostic arthrocentesis: 6
- Diagnostic Skin biopsy: 4

Administration of Biological agents for various rheumatic disorder: 41

2020-2021

Transitional care services in collaboration with Department of Rheumatology (transferred to adult care): 01

Intra-articular steroid (IACS) administrations & USG guided IACS: 120

- Joints injected: 279
- USG guided IACS injections: 14
- Diagnostic arthrocentesis: 6
- Diagnostic Skin biopsy: 3

Administration of Biological agents for various rheumatic disorder: 55

2021-2022

Transitional care services in collaboration with Department of Rheumatology (transferred to adult care): 2

- Intra-articular steroid (IACS) administrations & USG guided IACS: 143
- Diagnostic arthrocentesis: 6
- Diagnostic skin biopsy: 7
- Nail fold capillaroscopy: 25

Collaboration with Jiv Daya foundation to help poor patients in getting biological agents

Mr D Yadav (MSSO)

Funds procured through various schemes for patient welfare and benefit

	2020-2021	2021-22
Chief Minister Relief Fund (CMRF)	6,00,000	73,62,000
Hospital Poor Fund (HPF)	58,750	2,33,000
RAN UMBRELLA SCHEME	1,69,07,202	42,00,000
Prime Minister Relief Fund (PMRF)	900,000	52,00,000
ESI	10,00,000	35,05,000
Other Sources	60,000	10,00,000
TOTAL AMOUNT	Rs 2,15,00,000	Rs 1,95,25,952

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Vandana Jain joined as Associate Editor for the international journal Frontiers in Endocrinology (Impact factor 5.6) in March 2022; Invited as expert by the Ministry of Health and Family, Welfare Government of India for a brainstorming meeting on 'Need to develop India-specific charts for 0-5-year-old children' in March 2022; Served as member of ICMR Taskforce on Non-alcoholic Fatty Liver Disease, Youth Onset Diabetes Registry, and Polycystic Ovary Syndrome (PCOS) and member of Technical Advisory Group for ICMR study on Growth Charts for 5-18 years old children.

Professor Madhulika Kabra was nominated as a member of the steering committee for DBT- BioCARE program; Nominated as Chairperson of the Committee of the Center of Excellence for Rare Diseases at AIIMS New Delhi; Nominated as a member of "National Apex Committee" by the MOHFW for planning a route map and monitoring of activities of the "National Consortium for Research and Development on therapeutics for Rare Diseases"; Nominated as a Vice-Chairperson of the New Committee of ICMR Task Force on Rare diseases.

Dr Neerja Gupta received 8th **Dr IC Verma Excellence in Research Award for Young Pediatricians**; Member of Undiagnosed Disease Network International (UDNI) (2021); Nominated as nodal officer for centre of excellence under National Rare disease policy at AIIMS, New Delhi 2021.

Dr Rashmi Shukla was nominated as expert Member (Life Science Professional) National Commission for Allied and Health Care Professions, Ministry of Health and Family Welfare.

Dr Amita Kajal Jain was nominated as an expert Project Review Committee member for ICMR Adhoc/extramural research projects submitted under the category "Microbiology".

Professor Ashok Deorari received Dr TS Mallesh Memorial Oration Award, Bengaluru Pedicon, 18th September 2021, Bengaluru; Delivered Dr PK Mishra oration, Central Zone UP NEOCON 2021, 26th September 2021, Meerut.

Dr Souraja and Dr Sukanya, won the NNF Quiz National Level at NNF Neocon Bengaluru, NNF NEOCON 2021, 16-19 December 2021, Bengaluru.

Ms Sweety Lochab and Ms Jubilant James won the NNF Nurses Quiz National Level at NNF Neocon Bengaluru, NNF NEOCON 2021, 16-19 December 2021, Bengaluru.

Professor Arvind Bagga was Secretary General, Asian Pediatric Nephrology Association; Assistant Secretary, International Pediatric Nephrology Association (IPNA); Editor: Pediatric Nephrology; Textbook of the IPNA; Editor: Asian Journal of Pediatric Nephrology; Cochrane Kidney and Transplant Group; Frontiers Pediatrics; Editorial Board: Pediatric Nephrology; Indian Journal of Pediatrics; Pediatrics & Child Health; World J Pediatrics.

Professor Pankaj Hari was Council Member, International Pediatric Nephrology Association; Vice Chair, Best Practices & Standards Committee, International Pediatric Nephrology Association; Member, European Rare Kidney Disease Reference Network (ERKNET) Expert Panel on ERN guidelines; Member, Editorial Board: Asian Journal of Pediatric Nephrology, Indian J of Trauma Emergency Pediatrics, Journal of Pediatric Urol, International Journal of Nephrology and Urology; Reviewer: Clinical Journal of American Society of Nephrology, British Medical J, Pediatric Nephrology, Nephron, Kidney and Blood Pressure Research, Acta Paediatrica, Renal failure, Indian Pediatrics.

Dr Aditi Sinha was Secretary and Treasurer, Indian Society of Pediatric Nephrology; Associate Editor, Asian Journal of Pediatric Nephrology; Section Editor (Nephrology): Indian Journal of Pediatrics; Member, Editorial Board: Pediatric Nephrology, Frontiers in Pediatric Nephrology, Indian Journal of Nephrology; Reviewer: Indian Pediatrics, Clinical Journal of American Society of Nephrology.

Students/ Research Staff

Dr Gautam received first prize in the Platform Presentation of Award Paper on “Electroclinical response to steroids in children with ESES: A Longitudinal cohort study” in NEUROPEDICON 2021 (20th Annual Conference of Neurology Chapter of Indian Academy of Pediatrics) at Kolkata, West Bengal, India, 22– 24 October 2021.

Dr Sonali and Dr Gautam received first prize in the National Pediatric Neurology Quiz in NEUROPEDICON 2021 (20th Annual Conference of Neurology Chapter of Indian Academy of Pediatrics) at Kolkata, West Bengal, India, 22– 24 October 2021.

Bursary awarded to **Dr Gautam** for 13th Asian and Oceanian Epilepsy Congress (AOEC) - 10– 13 June 2021.

Best Free Paper Presentation- **Dr Rahul Sinha**-“Effect of low frequency rTMS therapy on cognition and behaviour in childhood drug refractory focal epilepsy- A randomised double blinded sham controlled study” in NEUROPEDICON 2021.

Dr Arvinder and Dr Pawan received first prize in National Pediatric Neurology Quiz in CHILD NEUROCON 2022 at Ahmedabad, Gujarat.

Professor Sheffali Gulati Elected as fellow of Royal College of Paediatrics and Child Health; UK, October, 2021; Part of International consortium on dietary therapies (core KDT); Co-Chairperson National Consortium for Research and Development on Therapeutics for Rare Disease in India: neuromuscular diseases; Chairperson, Academy of Pediatric Neurology, Indian Academy of Pediatrics, 2021 and was under my chairpersonship selected as 3rd Best Chapter Award of Indian Academy of Pediatrics INSAR (International Society for Autism Research) Global Senior Leader For India 2021-2023 also reviewer for abstracts for INSAR 2022; President Elect, Association of Child Neurology, India 2023-2025; Executive Board Member, Indian Epilepsy Society, 2021-2023; Co-Convenor, Pediatric Epilepsy Subsection, Indian Epilepsy Society 2020 onwards; Site Lead for Clinical and Research in area of Autism Spectrum Disorder as part of Indo-Canadian Autism Network (ICAN) and actively involved in the Diagnostic evaluation and research sub committees; Member of the Board of advisors of ICNTN (International Child Neurology Teaching Network) of the ICNA(International Child Neurology Association) and Faculty lead for Neurodevelopmental disorders in childhood module; ‘Efficacy of Ketogenic Diet, Modified Atkins Diet, and Low Glycemic Index Therapy Diet Among Children With Drug-Resistant Epilepsy’ JAMA Pediatrics Aug 2020 article on dietary therapies in intractable epilepsy was quoted in medpage today, neurology live and many other citations in social media and print media globally and also features as podcast in ICNAPEDIA March 2021. It was also selected for the general public awareness by AIIMS public awareness committee for AIIMS institute day 2020 celebrations. Centre of Excellence and Advanced Research for Childhood Neurodevelopmental Disorders has been working towards research, academics and empowerment of professionals and parents. The toll free 24X7 Child Neurology tele-helpline addressed to issues for average daily 27 calls per day; Some of the children with Spinal muscular atrophy being followed up in Neuromuscular disorder clinic, have been lucky to have access to recently developed, prohibitively expensive, therapies on compassionate access global programs. Neurology division is collaborating with genetics division as they help us in doing genetic test for SMA. In Spinraza (intrathecal) Humanitarian Access program 12 children are currently on follow up and 34 more have been initiated. The 1st Gene therapy (Zolgensma) for SMA in

India was administered in May 2020 and total 8 patients have been given zolgensma. (intravenous infusion) and one more will be administered in next few days) For Risdiplam 7 patients have been selected for humanitarian access program and 2 more have been started on the medication through crowd funding. Member of the Taskforce to develop Guidelines for management of children with Spinal muscular atrophy during Covid 19 pandemic and beyond and member of Round table discussion on Universal Access to Life Science Medicine- Challenges and Solutions in the year after (Cure SMA); HSCT of children with Adrenoleukodystrophy other neurodegenerative disorders is being planned in collaboration with oncology division. Member, Global Research on Developmental Disabilities Collaborators. Member of IAP-WHO Task Force for incorporating “Nurturing Care for Early Childhood Development” (NC-ECD) in UG/PG Curriculum.

Dr Biswaroop Chakrabarty was Expert for IAP STG development for Status Epilepticus; Actively contributed as a core committee member for the ‘Education Vertical’ of Association of Child Neurology, India. Internal examiner for both DM Pediatric Neurology and MBBS Pediatrics; Associate Editor for BMC Neurology and BMC Pediatrics; Peer reviewer for Indian Journal of Pediatrics, Indian Pediatrics, BMC Neurology, Indian Journal of Medical Research, Annals of Indian Academy of Neurology, BMC Pediatrics, Neurology India, Clinical Nutrition ESPEN, Indian Journal of Physiology and Pharmacology; Part of the core organizing team and faculty for the “Pediatric Nursing Emergency Preparedness Program (PNEPP)” that trained 300 nurses, a collaborative effort of Department of Pediatrics and the Nursing College, AIIMS, New Delhi.

Dr Prashant Kumar Jauhari was Expert committee member for developing “consensus based guideline for Neurocysticercosis in children” under the aegis of AOCN, India; Taskforce member for Association of Child Neurology (AOCN) - Indian Epilepsy Society (IES) Consensus Guidelines for the Diagnosis and Management of West Syndrome; Member of the departmental Antibiotic Stewardship program. Contributed to development and revision of Departmental Antibiotic Policy and antibiotic surveillance; Technical Specification & Evaluation Committee (TSEC) member for procurement of equipment for Mother and Child Block, AIIMS, New Delhi; Member of the expert committee formulating consensus guidelines for management of DMD by National rare disease committee; Included as a peer reviewer of American Journal of Medical Genetics Part I; PLOS ONE; Frontiers Group of Journals; Journal of Pediatric Epilepsy; Neurology India; Departmental nodal officer for Fire safety; Departmental representative in the Institutional drug committee for finalizing fresh rate contract; Departmental representative for approving bills of Free Generic Pharmacy for release of payment at AIIMS, New Delhi.

Professor Rachna Seth was Nominated member of NOC expert committee of CARA, Ministry of Women and Child development, Government of India; Functioning as member subcommittee for monitoring adverse effects in clinical trials, AIIMS New Delhi; Nominated member in expert panel for “A Situational Analysis of Childhood Cancer Care Services in India’ by ICMR NCDIR; National expert for Pattern of Care and Survival Studies (POCSS) on Childhood and Adult Haematolymphoid Malignancies NCDIR-ICMR, Bangalore.

Dr Aditya Kumar Gupta Awarded Membership of the National Academy of Medical Sciences.

Professor Sushil Kabra was Member WHO Group for Developing Guidelines (GDG) Living recommendation on pharmacotherapy of Covid 19 infection; Member WHO Group for Developing Guidelines (GDG) GDG Clinical Management Group; Appointed as expert group member NTEP Program central TB Division, Government of India; Appointed as Member of Committee for Pulmonology Fellowship. Indian Academy of Pediatrics.

Professor Rakesh Lodha Was Editor, Indian Journal of Pediatrics; Associate Editor, Indian Pediatrics; Associate Editor, NMJI; Member of Technical Resource Group on Pediatric Antiretroviral Therapy, Ministry of Health and Family Welfare. Member of multiple technical committees; scientific advisory group at ICMR; Contributed to the development of Guidelines for management of COVID in Children, by the DGHS, and the Ministry of Health and Family Welfare, Govt. of India; Member of Working group on Multisystem Inflammatory Syndrome temporally related to COVID (MIS-C), WHO, Geneva; Member of Global Burden of Diseases group; Member of the Guideline Development Group for the WHO Living Guideline for COVID-19 Therapeutics; Member of the HPV Working Group of NTAGI; Special invitee for the COVID working group of NTAGI; Member of the vaccine data analytics committee (VDAC), and committees for COVID-19 vaccination tracker, and Breakthrough infections analytics of the ICMR; Coordinated the development of module of Pediatric COVID management for health care professionals by the Ministry of Health and Family Welfare. Member of the Expert Group for Review of Operational Guidelines for Strengthening of Pediatric care at District Hospitals (MoHFW, GoI).

Dr Kana Ram Jat was Associate Editor: BMC Pediatrics; Reviewer for following journals: Cochrane Collaboration, Chest, Pediatrics, Pediatric Pulmonology, Indian Pediatrics, Allergy, asthma and clinical immunology, Pediatric Allergy, Immunology, and Pulmonology, Indian Journal of Pediatrics, Respiratory care, Indian J of Critical Care Medicine (IJCCM), Plos One, BMC infectious disease, BMJ Open, Indian J of Medical Research (IJMR), J of Tropical Pediatrics, Systematic reviews; Membership of scientific societies: PRESIDE (Pediatric Research and Education Society of India), European Respiratory Society (ERS), American Thoracic Society (ATS), Respiratory Chapter of Indian Academy of Pediatrics (IAP), Indian Academy of Pediatrics (IAP), Rheumatology Chapter, IAP, Indian Rheumatology Association (IRA), Indian Immunology Society (IIS); Instructor

for Pediatric Advanced Life Support (PALS) and Basic Life Support (BLS); Trainer of Asthma Training Module (ATM), Respiratory Tract Infection-Group Education Module (RTI-GEM), and Pediatric Tuberculosis module.

Dr Jhuma Shankar has Received ICMR Kshanika Oration Award 2020 (Received in 2021); Fellowship of Indian Society of Critical Care Medicine 2021. Conducted IAP-ALS course for training of post graduates on 13 and 14 November 2021.

Dr Narendra Kr Bagri received Membership of Pediatric Rheumatology European Society membership PRESM/331; Academic collaboration with Gaslini Institute, Italy as a part of Pediatric Rheumatology European society's Sister hospital initiative; Awarded fellowship of pediatric Rheumatology European society; to be availed from May 2022 at department of pediatrics, Bristol Royal children hospital, Bristol, UK; AYR Member Asia Pacific League of Associations for Rheumatology (2020-IN-0028); Convener Indian academy of Pediatrics Parenting guidelines for Pediatric Rheumatic disorders; Section Editor Pediatric Rheumatology for PG Pediatrics, E-learning course by Dr Piyush Gupta, Jaypee Publications; Contributed to World health organisation (WHO) webinar series (Topic: Multisystem inflammatory syndrome in children) for disseminating knowledge during COVID-19 pandemic. Contributed to National guidelines (Ministry of health and family welfare) document on the management of COVID-19 and multisystem inflammatory syndrome in Children. Member task force of Indian Academic of Pediatrics (IAP) for drafting IAP guidelines for the management of Multisystem inflammatory syndrome in children. Invited as a subject expert for Pediatric Rheumatology by Himachal Pradesh Public service commission.

VISITING SCIENTIST

Professor Angelo Ravelli, President Pediatric Rheumatology European society and Chair, Pediatric standing committee, EULAR, delivered an online talk on "Experience on Multisystem inflammatory syndrome in children and hypothesis about its relationship with Kawasaki disease" on 25 June 2021.

9.28. Paediatric Surgery

Professor and Head

Minu Bajpai

Professors

Sandeep Agarwala M Srinivas (on deputation)

Additional Professors

Vishesh Jain Anjan Dhua
Prabudh Goel Devendra Kumar Yadav

Assistant Professor

Ajay Verma

Assistant Professor (Contract)

Vipan Kumar (upto 20 November 2021) Sachit Anand (from 17 January 2022)

HIGHLIGHTS

The department organised two international meetings focusing on pediatric urology. Pediatric Urology Update: Changing paradigms of the 21st century was organised from 23 to 24 December 2021. Pediatric Urology Update the Silver Lecture series and Symposium on Bladder Exstrophy Epispadias Complex was organized on 25 and 26 February 2022. The meeting discussed specific topics in pediatric urology in great detail. The department is poised for expansion with the faculty, space, and the staff in the upcoming maternal and child health Centre at AIIMS, developing all sub-specialties and caring for children with serious malformations, advanced cancers, trauma and others.

EDUCATION

The department is actively involved in teaching and training MCh pediatric surgery trainees, postgraduate, undergraduate, nursing students, BSc and MSc nursing students.

A new and innovative idea to develop and improve teaching and academics in our department is the creation of a Google Group called “Surgery-paedia”. Day to day in clinical practice and during seminar various doubts and queries are generated. The doubts and queries are allotted to residents who read about the query and post the answer in the Google group for the benefit of everybody. The platform has been further enhanced by cataloguing the communications system wise for easier and faster search and retrieval.

Due to ongoing pandemic, case-based templates have been created for virtual case presentations of index cases in absence of physical patients. Clinical examination videos of index cases have been created and uploaded to a cloud folder, this can then be assessed by all residents and faculty. Using this method, all the residents can benefit from a case seen in the OPD. All this data is catalogued in an easy manner in the cloud for easy access by even those who are not tech-savvy.

CMEs/Workshops/Symposia/National and International Conferences

Lectures delivered

M Bajpai: 10

Anjan Dhua: 3

Sandeep Agarwala: 11

Devendra Yadav: 4

Vishesh Jain: 3

Oral papers/posters presented: 51

RESEARCH

Funded projects

Ongoing

1. Biochemical and enzymatic analysis of bile in choledochal cyst and correlation with histopathological features & expression of immune modulators, Dr Ajay Verma, AIIMS, 2 years, 2020-2022, Rs 9,98,800
2. Centre for advanced research in congenital uropathies & CKD, Dr. Minu Bajpai, ICMR, 5 years, 2018-2023, Rs 1.9 crores
3. Cross-sectional Study to establish a normal reference range (nomogram) for Testosterone and Dihydro-testosterone in boys of age group 0-14 years, Dr Prabudh Goel, ICMR, 3 years, 2019-2022, ~ 60 lakhs

4. Development of a portable rapidly adjustable camera holding device to minimise image tremor and fatigue of the camera holding assistant during minimally invasive surgery in children, Dr Vishesh Jain, AIIMS- IIT Delhi, 2 years, 2020-2021, Rs 10 lakhs
5. Development of Technology based Doctor-Patient Interface to Facilitate Patient Care and Health Research in Paediatric Urology, Dr Prabudh Goel, ICMR, 3 years, 2021-2023, ~ 1.25 crores
6. Incidence and severity of psychosocial and somatic disorders in survivors of childhood solid malignant tumors, Dr Vishesh Jain, ICMR, 2.5 years, 2021-2023, Rs 25 lakhs
7. Patient-specific three-dimensional printed models of aberrant anatomy for surgical planning of anorectal malformation, Dr. Anjan K Dhua, AIIMS Intramural, 2 years, 2020-2022, Rs 3 lakhs
8. Role of Urinary Prohibition and other urinary biomarkers levels at diagnosis in children with favorable histology Wilms's Tumor in predicting tumor response and risk of recurrence, Dr Vishesh Jain, DHR, 3 years, 2021-2024, Rs 30 lakhs
9. Study of clinical significance of genetic alterations and feasibility of adopting Children Oncology Group (COG) risk stratification of Wilms tumor in Indian Children, Dr Devendra Kumar Yadav, ICMR (Extramural), 3 years, 2021-2023, Rs 48 lakhs
10. To Evolve Evidence-Based Hypospadias Repair Guidelines for Hypospadias Repair (Urological Condition) in Indian Context, Dr Prabudh Goel, ICMR, 3 years, 2020-2023, ~ 85 lakhs

Completed

1. Reference range of serum alpha feto protein in children below three years of age, Dr. Devendra Kumar Yadav, AIIMS (intramural), 2 years, 2015, Extended till July 2021, Rs 2,30,000

Departmental projects

Ongoing

1. A comparative study of smooth muscle characteristics and myofibroblasts in Processus vaginalis of pediatric inguinal hernia, hydrocele and undescended testis.
2. Assessment of ureteric jets as a supportive diagnostic modality in unilateral PUJO and its utility of follow-up
3. Compliance to the provisional date of elective surgery allotted to pediatric surgery out-patients of a tertiary-care, public-funded teaching hospital of North India
4. Correlation between hand digit length ratio and severity of hypospadias in pre-pubertal boys in Indian population
5. Differences in the microvessel density and growth factors between the inner and outer preputial skin in distal hypospadias
6. H19 long non-coding RNA (lncRNA) and its association with the clinical outcomes in Indian pediatric patients of Wilms tumor
7. Long-term outcomes in BEEC, normative values of renal length, parenchymal thickness and renal elastography in Indian pediatric population
8. Pediatric surgical point of view on achalasia cardia-an observational study.
9. To study the temporal relationship between urinary molecular markers (TFF3, NGAL and Microalbumin) and conventional markers of renal injury to elucidate elicit their relative value as a 'Point of care' test during follow-up of patients of bladder exstrophy epispadias complex.

Completed

1. Compliance to the provisional date of elective surgery allotted to pediatric surgery out-patients of a tertiary-care, public-funded teaching hospital of North India.
2. Electronic medical record system based tele-consultations in paediatric surgery: An initiative from a tertiary care public-funded hospital in North India to alleviate the COVID-19 imposed hospital visit restrictions
3. Long term outcomes in survivors of pediatric Solid tumors
4. Long term outcomes of bladder functions in patients treated for posterior urethral valves
5. To study the temporal relationship between urinary molecular markers (TFF3, NGAL and Microalbumin) and conventional markers of renal injury to elucidate elicit their relative value as a 'Point of care' test during follow-up of patients of bladder exstrophy epispadias complex

Collaborative projects

Completed

1. Efficacy of Hetastarch with ropivacaine in prolongation of duration of ilioinguinal and iliohypogastric nerve blocks in paediatric inguinal hernia repair: A pilot study, Anaesthesia
2. Impact of an enhanced recovery after surgery (ERAS) protocol on length of stay, perioperative outcomes, and complications in paediatric laproscopic surgeries, Anesthesia

PUBLICATIONS**Journals: 55****Abstracts: 44****Chapters in Book: 12**

Item	2019-2020	2020-2021	2021-2022
Oral papers presented	74	107	54
Projects			
<i>Funded Projects</i>			
<i>Ongoing</i>	5	13	9
<i>Completed</i>	3	4	1
<i>Departmental projects (including thesis/dissertations)</i>			
<i>Ongoing</i>	36	60	11
<i>Completed</i>	16	7	5
<i>Collaborative projects</i>			
<i>Ongoing</i>	10	12	NIL
<i>Completed</i>	4	3	2
Publications			
<i>Journal Articles</i>	30	73	55
<i>Abstracts</i>	26	38	44
<i>Chapters</i>	9	6	12
<i>Books/ Monographs</i>	NIL	NIL	NIL

PATIENT CARE**Out-patient Department.**

Pediatric surgery outpatient department is run every day. In addition specialty clinics are also run to provide more focused attention to few conditions.

Various specialty clinics run by the Department and faculty:

- Hydrocephalus Clinic
- Antenatal Diagnosis and follow-up
- Pediatric Urology Clinic
- Craniosynostosis Clinic
- GI Hepatobiliary
- Pediatric Urology, Follow-up Clinic
- IRCH: Pediatric Solid Tumor Clinic
- Main OPD: Pediatric Solid Tumor Clinic
- Pediatric Thoracic Surgery Clinic
- Pediatric Urology, Intersex and Hypospadias

Facilities available

- Intensive care unit for neonatal surgical patients
- High dependency area for Pediatric Surgical patients
- Computer-based Urodynamic and uroflowmetry study
- Computer-based Anorectal manometry
- Computer-based Esophageal manometry
- 24 hours pH monitoring for Gastroesophageal reflux
- Impedence Manometry for Gastroesophageal reflux

Community services

- Weekly outpatient clinic and operative session at CRHSP, Ballabhgarh (Suspended during the last year due to COVID)

Attendance in OPD and Specialty Clinics

OPD and Clinic	2019-2020	2020-2021	2021-2022
General OPD	25972	7577	17083
Hydrocephalus clinic	34	Nil	10
Pediatric urology clinic	2382	22	552
Intersex and urology clinic (DSD+ PISU)	266	Nil	31
Tumor Clinic (main hospital)	522	716	187
Craniosynostosis clinic	Nil	5	Nil
CRHSP, Ballabgarh	2207	Nil	1297

Admissions

ADMISSIONS	2019-20	2020-21	2021-22
AB5 WARD	2481	1095	1586
Long Admissions	1858	890	1233
Short Admissions	591	205	353
AB5/ICU	162	68	154

Surgical Procedures

Procedure	2019-2020	2020-2021	2021-2022
Main OT			
Major Procedures	1202	401	834
Minor Procedures	242	108	44
Emergency			
Major Procedures	343	88	327
Minor Procedures	11	5	Nil
OPD Procedures			
Total	2884	1011	1648
Biopsies	78	45	44
CRHSP, Ballabgarh			
Major procedure	82	Nil	71
Minor procedure	166	Nil	Nil

Special Investigations

Investigation	2019-2020	2020-2021	2021-2022
Urodynamic study	411	32	245
Uroflowmetry	216	7	43
Anorectal manometry	88	Nil	64
Esophageal manometry	Nil	Nil	Nil
24 hours pH monitoring	Nil	Nil	Nil

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Minu Bajpai was Executive Director: National Board of Examination in Medical Sciences (NBEMS); Vice President: NBEMS; Member of Governing Council: (NBEMS); Member of Governing Council: Translational Health Science and Technology Institute (THSTI); Governing Council Member — India–Sweden Healthcare Centre; Member of Scientific Advisory Committee (SAC) — under THSTI; Facilitation of Entrepreneurship Excellence Award at Indian Medical Association Head Office, New Delhi on 23 December 2021; Chief Guest at 5th Central Zone Post Graduate Assembly 2022 at 2-6 March 2022; Chief Guest and Eminent Guest Speaker at IACTS Score 2022 (Virtual) on 5 March 2022 organised by the Indian Association of Cardiovascular-Thoracic Surgeons and Sri Sathya Sai Institute of Higher Medical Sciences, Whitefield; Chaired a Session on Biomarkers for CAKUT: A game-changer and not just a gimmick! during Pediatric Urology Update — Changing Paradigms of the 21st Century (Hybrid conference) XXIV Year on December 23-24 December 2021 (Virtually).

Professor Sandeep Agarwala delivered the Asian Society of Pediatric Urology (ASPU) Oration for 2022 during the Annual Conference; the Chair for the Wilms Tumor study group for InPOG (Indian Pediatric Oncology Group) of the Pediatric Hematology Oncology Chapter of the Indian Academy of Pediatrics; the Chair for the hepatoblastoma group for the

Resource challenged Nations (RCN) of the International Society of Pediatric Oncology (SIOPEL). a member of the DSMB for a multinational study of the THSTI, funded by Research Council of Norway; An Editor for the Surgical section of the Indian Journal of Pediatrics (IJP) and a member of editorial board for the Journal of Indian Association of Pediatric Surgeons (JIAPS). Am a reviewer for a number of International Indexed journals; Has been the thesis evaluator and the examiner for MCh examinations for a number of universities. Also examiner for DNB (Pediatric Surgery) examinations; Current Hostel Superintendent for all the UG and PG hostels of AIIMS; Co-Chairman of the Pulse Coordination Committee that oversees all the UG MBBS social and cultural activities; Co-Chair for the AIIMS annual report committee for the year 2020-2021 and 2021-2022; Member of Selection Committee for the AIIMSONIANS of America award for Best Nursing candidate; Member of the anti-ragging committee; Secretary cum treasurer for the AIIMSONIANS (The alumni association of AIIMS); Chairman of the shops and establishment committee for AIIMS; Member of the Food safety and hygiene committee for AIIMS; National Chairman of the specialist cell for Pediatric surgery in the medical cell of the National Health Authority (NHA) under the AB-PMJAY program under the Ministry of Health and Family Welfare, GOI, for the development of health benefit packages for pediatric surgery; National Chairman for Pediatric Surgery for the development of Standard Treatment workflows by the Department of Health ICMR, Ministry of Health and Family Welfare; Discussor in the DD News program Total Health and another on DD Kisan on the occasion of childhood cancer day; Member of the AIIMS PhD counselling committee; Subject expert for the selection committee for faculty selections for a number of other AIIMS selections committees and for many other Universities; Superintendent of Hostels AIIMS, Delhi; Editor for the surgical section of Ind J Pediatrics; Delivered Asian Society of Pediatric Urology (ASPU) oration in the Biennial Joint Meeting of the Asian Society of Pediatric Urology (ASPU) and the Indian Society of Pediatric Urology (ISPU).

Dr Vishesh Jain was Department nodal officer for COVID pandemic; Session moderator in PESICON 2021; Judge for short paper session in IAPSCON 2021; Session moderator in the International Conference on Bladder exstrophy held in February 2022 on virtual platform.

Dr Anjan Dhua was Member as External Expert of Technical Specification Committee for procurement of goods for Paediatric Surgery Dept. in ABVIMS, Dr RML Hospital, New Delhi; Departmental nodal officer for “fire safety drills” & “Contact tracing for COVID-19” at AIIMS, Delhi; Elected as an Executive member (North Zone) of the Surgical Oncology Section of IAPS; Nominated as a “Specialist Board Member” in the discipline of “Paediatric Urology” of the National Board of Examinations in Medical Sciences; Member of AIIMS, Delhi’s “Convocation committee” & “Annual Report Drafting Committee”; “Theses examiner” for “MCh Paediatric Surgery” course of Delhi University; Chairperson cum Judge for two sessions in the 47th E- IAPSCON 2021 (online) held 22- 24 October 2021; Executive member (North Zone) and “Webmaster” of the Surgical Oncology Section of IAPS; Member as External Expert of Technical Specification Committee for procurement of goods for Paediatric Surgery Dept. in ABVIMS, Dr. RML Hospital; Editorial Board Member of the Journal of Progress in Pediatric Urology; Received “Fellowship of the International College of Robotic Surgery”.

Dr Prabudh Goel was awarded the Fellowship in Minimal Access Surgery: [F.MAS, Dubai]; Felicitated with the “Research Excellence Award - 2022”; Served as the Editorial Board Member for the Journal of Indian Association of Paediatric Surgeons which is the official journal of the Indian Association of Paediatric Surgeons and indexed with PUBMED; Served as Editor (National) of Journal of Clinical and Diagnostic Research; Served as the Editorial Secretary of Journal of Progress in Pediatric Urology; Editorial Board member of the Journal of Progress in Paediatric Surgery; Member of the International STROCCS group (for cohort studies); Invited as ‘Faculty’ during the ‘International Semi Live Operative Workshop & UroAndroMet” and “Annual Conference of Nursing Society of Men’s Health 2022 organized under the aegis of USI/ ISU; Invited as ‘Faculty’ during the “PESICON 2022” held in BHU from 8-10 April 2022; Invited to participate as Expert in the Project Review Committee of the Department of Health Research Member of the Expert Committee of the Division of ISRM, Indian Council of Medical Research (ICMR), New Delhi; Member of the International SCARE group (for case studies); Member of the International PROCESS group (for case series); Member of the Wet Lab Committee, Department of SET Facility, AIIMS, New Delhi; Participated as ‘Faculty’ during the “Deccan Course in Paediatric Urology”; Invited as ‘Chairman’ during the “5th Annual Meeting of Uttar Pradesh-Uttarakhand State Chapter of Indian Association of Pediatric Surgeons (IAPS)”; Actively involved with the Simulation Facility at the All-India Institute of Medical Sciences, New Delhi: framing of e-learning modules, conduct of simulation classes for under-graduates, training of faculty members (Training of Trainers), etc; Establishment of nomogram values, reference charts and centile curves for penile length in pediatric age-groups; Establishment of normal reference range for testosterone and dihydrotestosterone levels in boys 0-14 years; Invited to participate as expert in the preparation of the draft of Health Research Data Management Policy and Implementation plan.

Dr Devendra Kumar Yadav delivered an oration of Indian Society of Pediatric urology; Evaluated a thesis of MCh (Pediatric Surgery) from PGIMER, Chandigarh and MAMC, New Delhi; Session moderator in the International Conference on Bladder exstrophy held in February 2022 on virtual platform.

Dr Ajay Verma was elected unopposed as executive member North Zone for PESI - IAPS for 2021-2023; Chaired session in Paediatric surgery update 2022, MAMC, New Delhi; Participated in 41st Course on Forensic Examination in Sexual Assault Cases.

9.29 Pathology

Professor and Head

Manoj K Singh Venkateswaran K Iyer
(till April 2021) (from May 2021)

Professors

Ruma Ray Sandeep R Mathur

Additional Professors

Deepali Jain Prasenjit Das Sudheer Arava
Geetika Singh Asit Ranjan Mridha Shipra Aggarwal
Seema Kaushal Rajni Yadav Saumya Ranjan Mallick

Associate Professors

Adarsh Barwad Aanchal Kakkar

Assistant Professors

Kavneet Kaur Aruna Nambiranjana
Madhu Rajeshwari Ruchi Rathore

Group A Officers

Himender Singh Tomar

HIGHLIGHTS

In the year 2021-2022, the Department of Pathology has been able to maintain high-level academics and efficient clinical services, despite the waves and troughs of COVID-19 pandemic. The department is engaged in routine diagnostic reporting of surgical pathology and cytopathology, and teaching of undergraduate and postgraduate students in addition to performing high-quality research in various areas of pathology. The department provided services to large number of patients by processing approximately 40,000 surgical pathology and 17,000 cytopathology specimens.

New facilities have been added in the department for routine patient care services related to molecular pathology and cytogenetic work-up, which include in-situ hybridization, flow cytometry, tissue microarray, capillary electrophoresis, real-time PCR etc. The diagnostic and predictive immunohistochemical panel has been expanded and a total of 50,558 slides have been stained and studied during this period.

The department is regularly providing reports for molecular tests in all pathology sub-specialties. A few examples include Her-2/neu amplification in breast cancers, EGFR gene mutations, ALK and ROS-1 rearrangements in lung cancer, TCR clonality assay in lymphomas, multiple gene fusions and other molecular alterations in salivary gland tumors as well as soft tissue sarcomas, and has started providing MYCN amplification in pediatric neuroblastomas, and FOXO1 fusions in rhabdomyosarcomas. Liquid biopsy testing using patients' blood plasma has been standardised and included in the patient-care program. We have been doing resistant mutation analysis in therapy-progressed EGFR-positive lung cancer patients by liquid biopsy and reports are being released in clinics.

We are moving towards digital pathology sphere for the implementation of next generation pathology in future. In that context, the department has organised national cytology conference 'Cytocon 2021' entirely in virtual mode with overwhelming participation from all over the country. Many virtual workshops were organised including one on digital pathology where whole slide images were used for teaching purposes.

In addition, during this year also, the AIIMS Pathology monthly webinar series (Department of Pathology YouTube channel) was as successful as earlier years in which lectures from many international alumni including the eminent Dr. Vinay Kumar, editor of Robbins and Cotran basis of disease, Dr Rifat Mannan, Dr Sonika Dahiya, Dr Kamaljeet Singh, Dr Kalyani Patel from USA, were streamed on YouTube.

The department faculty have received funding for 30 extramural and 21 intramural projects related to pathology and molecular features of a wide spectrum of neoplastic and non-neoplastic diseases. The faculty of the department have presented their research work at various virtual national and international conferences and received awards individually or from their residents. A total of 220 papers have been published in peer-reviewed national and international journals.

Dr Sandeep R Mathur has been awarded the prestigious Earnest Fernandez slide seminar by the Indian Academy of Cytologists at Annual Conference held in November 2021. Dr Deepali Jain was the first Indian to receive the prestigious Mary J. Matthews Pathology/ Translational Research Award, the International Association for the Study of Lung Cancer (IASLC), September

2021, and was listed in most cited work of top 10 doctors of AIIMS New Delhi which was prepared from Stanford University California list of the world's top 2% of scientists.

We have many faculty members contributing to the World Health Organisation (WHO) Blue Books for classification of tumors of various systems edited by the International Agency for Research on Cancer (IARC), Lyon, France.

EDUCATION

Postgraduate

2019-2020

MD students: 31 Senior Residents: 19 PhD students: 10

2020-2021

MD students: 33 Senior Residents: 21 PhD students: 13

2021-2022

MD students: 34 Senior Residents: 20 PhD students: 12

Short term training/Long term training

1. Dr Varun Bajaj is currently undergoing Long Term Observership starting from 17 August 2020 ends on 16 August 2022.
2. Dr (Lt. Col.) Divya Gupta is currently undergoing long term observership starting from 15 January 2022 ends on 14 January 2024

CMEs /Workshop/Symposia/National and International Conferences

- Fiftieth Golden Jubilee Annual Conference of the Indian Academy of Cytologists from 19-21 November 2021 (CYTOCON 2021) organised by Department of Pathology, AIIMS, New Delhi with support of Delhi Chapter - Indian Academy of Cytologists; conducted in virtual mode.
- AIIMS Pathology Webinar Series entitled "Under my scope" monthly starting from August 2020 where National and International guest speakers are invited and is streamed on YouTube (Department of Pathology YouTube channel).

Lectures delivered

Venkateswaran K Iyer: 2

Deepali Jain: 16

Asit Ranjan Mridha: 1

Rajni Yadav: 8

Kavneet Kaur: 1

Sandeep R Mathur: 3

Sudheer Arava: 4

Shipra Agarwal: 7

Saumya Ranjan Mallick: 3

Aruna Nambirajan: 4

Prasenjit Das: 5

Geetika Singh: 5

Seema Kaushal: 4

Aanchal Kakkar: 10

Ruchi Rathore: 2

Oral papers/posters presented: 85

Years	Total number of oral presentations
2021-22	10
2020-21	6
2019-20	18
Total	34

RESEARCH

Funded projects

Ongoing

1. To investigate metabolic perturbations in Endometrial Cancer by targeted transcriptomics approach in an Indian cohort, Dr Sandeep R Mathur, ICMR, 3 years, 2022-25, Rs 44.5 lakhs
2. A multi centre study on determination of prevalence of incidental gall bladder carcinoma in India, Dr P Das (AIIMS), NCDIR-ICMR, Bangalore, 5 years, 2019-2024, Rs 10 lakhs
3. Affordable, Effective Personalised Point-Of-Use Wound Care Patches at Patient Bedside for Large Asymmetric Burn Wound, DR AK DINDA/ADARSH BARWAD, SERB, DST, 3 years, 2020-2023, 2020-2023, Rs 16,20,000.00
4. Analysis of circulating DNA for BRAF(T1799A) mutation as a futuristic non-invasive tool for diagnosis of papillary thyroid cancer., Dr Shipra Agarwal, ICMR, 3 years, 2018-2020, Rs 8,12,645
5. Assessment of hypoxia inducible factor- 1 alpha pathway activation and its correlation with tumor immune microenvironment and markers of tumor invasiveness in myxopapillary ependymomas, Aruna Nambirajan, AIIMS Intramural, 2 years, 2021-2022, Rs 10 lakhs
6. Clinical, Pathological and Genetic Characterization of Neonatal Cholestasis, Dr Rajni Yadav, DHR, 3 years, 2022-2025, Rs 51,57,604

7. Clinicopathological correlation and amyloid subtyping in cases of cardiac amyloidosis: AN observational study, Dr Ruma Ray and
8. Comparative analysis of host immune and tissue reaction to mucormycosis between SARS-CoV-2 positive and negative patients on surgical specimens, Kavneet Kaur, AIIMS Intramural, 1 year, 2021-2022, Rs 5 lakhs
9. Comparative analysis of the activation of EGFR/MAPK/SHH/NFkB pathways and mutation status of USP8/USP48/BRAF genes in clinically functioning and silent corticotroph pituitary adenomas to identify pharmacological targets for medical management of Cushing's disease, Aruna Nambirajan, ICMR, 3 years, 2021-2023, Rs 27 lakhs
10. Comparison of various diagnostic modalities for identification of refractory celiac disease in a cohort of patients with celiac disease unresponsive to gluten-free diet, Dr P Das, ICMR, New Delhi, 3 years, 2019-22, Rs 38,29,570
11. Correlation of Immunologic Milieu and PD-L1 in Non-Small Cell Lung Carcinoma, Deepali Jain, Research section, AIIMS, New Delhi, 2+2 years, 2018-2022, Rs 9 lakhs
12. Development of a Multiplexed Nanostring Based Locus Copy Number and mRNA Expression Evaluation Assay for Classification of Wilms Tumor for Diagnosis, Prognosis and Treatment Planning, Dr. Venkat K. Iyer, ICMR, 3 years, 2021-24, ~ 34 lakhs
13. Development of Labyrinth based mechanical and fast isolation technique for identifying circulating tumor cells of colorectal carcinomas for metastasis evaluation, Asit Ranjan Mridha, DHR, 3 years, 2019-2022, Rs 30
14. Development Of Minimal Invasive Novel Injectable Hydrogel and Nano-Carrier-Hybrid System for Localised Targeted Cancer Therapy, DR A.K. DINDA/ADARSH BARWAD, DHR – ICMR, 4 years 2018 –2022 and 2018-2022, Rs 73,75,437.
15. Development Of Novel Nanocarrier Based Oral Formulation of AmB as A Therapeutic Alternative, DR A.K. DINDA/ADARSH BARWAD, DBT, 2 years 2021– 2023 and 2021-2023, Rs 2,12,46,560
16. Dissecting the molecular pathogenetic mechanisms of covid-19 by RNA-sequencing of lung tissue from deceased patients, Deepali Jain, Research section, AIIMS, New Delhi, 2 years, 2020-22, 25 lakhs
17. Evaluation of ALK, ATRX and MYC immunoexpression in Neuroblastoma and their correlation with prognostic parameters, Aanchal Kakkar, AIIMS UG mentorship program, 1 year, 2021-2022, 2 lakhs
18. Evaluation of Artificial Intelligence as a Diagnostic Tool for Automated Detection and Grading of Colorectal Cancer, Dr Rajni Yadav, AIIMS-IIT Delhi, 2 years, 2019-2021, Rs 20 lakhs
19. Evaluation of EGFR mutations, HPV status and PD-L1 expression in pathogenesis of sinonasal squamous neoplasms, Aanchal Kakkar, AIIMS Intramural, 2 years, 2019-2022, Rs 10 lakhs
20. Evaluation of microsatellite instability(MSI) and PDL1 expression in molecular subtypes of upper and lower tract urothelial carcinoma, Dr. Seema Kaushal, AIIMS, 2 years, 2020-2023, Rs 10 lakhs
21. Explainable Deep Learning for Automated Evaluation & Grading of Duodenal Biopsies, Dr P Das & Dr Mausam, AIIMS – IIT Delhi Collaborative Research Project for the year, 2 years, 2019-2022, Rs 10 lakhs
22. Histopathological and Molecular Classification of Gastrointestinal Stromal Tumors, Dr Rajni Yadav, AIIMS, 2 years, 2022-2024, Rs 9,98,000
23. Identification of novel molecular subtypes of prostate cancer as potential therapeutic targets for immunotherapy, Dr Seema Kaushal, ICMR, 3 years, 2020-2023, Rs 45 lakhs
24. Immunomodulators in small cell lung cancer: Basis for implementation of cancer immunotherapy, Deepali Jain, Department of Science & Technology-SERB, 3 years, 2019-2022, Rs 35 lakhs
25. Molecular analysis of Giant Cell Tumour of Bone and its correlation with response to Zoledronic acid treatment, ADARSH BARWAD, AIIMS INTRAMURAL INTERDISCIPLINARY, 2 years, 2021-2023, Rs 10 lakhs
26. Molecular characterization of Endometrial Cancer and its correlation with Clinicopathological Features, Dr Sandeep R Mathur, AIIMS, 2 years, 2020-2023, Rs 10 lakhs
27. Molecular characterization of olfactory neuroblastomas for classification into prognostically and therapeutically relevant subgroups, Aanchal Kakkar, Science and Engineering Research Board (SERB), 3 years, 2020-2023, Approximately. Rs 47 lakhs
28. Molecular characterisation of salivary gland carcinomas: A comparative study between AIIMS and North-East regions of India, Aanchal Kakkar and Evarisalin Marbaniang, DBT, 2 years, 2021-2023, Approx. Rs 86 lakhs
29. Molecular mechanisms of resistance to EGFR tyrosine kinase inhibitors in EGFR mutant non-small cell lung carcinoma, Aruna Nambirajan, AIIMS intramural collaborative project, 2 years, 2021-2023, Rs 20 lakhs
30. Molecular sub-typing of small cell lung carcinoma (SCLC) to unravel the biological heterogeneity in clinical settings, Deepali Jain, ICMR, 3, 2020-2023, 25 lacs
31. MUC1 Pulsed DC-derived exosomes for cancer immunotherapy. Adarsh Barwad, DBT funded, 3 years, 2019-2022, Rs 62,27,000
32. Nano technological intervention in dental and bone implants: Tailoring smart, multifunctional interface towards improved osseointegrative and anti-bacterial properties, ADARSH BARWAD, DBT, 3 years, 2021-2024, Rs 70 lakhs
33. NIRMANN 3D Novel Minimally Invasive Implants for Reconstructive Surgery Using Material Providing Mechanical Instruction and Prepared By 3D Printing, DR AK DINDA/ADARSH BARWAD, DBT, 4 years 2018–2022, 2018-2022, Rs 50,88,400
34. Normal superior and inferior parathyroid glands: Molecularly similar or dissimilar?, Dr Shipra Agarwal, AIIMS, New Delhi, 2 years, 2019- 2021, Rs 10 lakhs

35. Novel Molecular Subtypes of Uterine sarcoma, Dr Ruchi Rathore, AIIMS Intramural Grant, 2 years, December 2020, 10 lakhs
36. PDL1 Immunohistochemistry in Lung Carcinoma, Deepali Jain, Research section, AIIMS, New Delhi, 1 year, 2021-2022, 2 lakhs
37. Relook at adult low grade glioneuronal tumors of central nervous system beyond 2016 WHO classification, Kavneet Kaur, AIIMS Intramural, 2 years, 2020-2022, Rs 10 lakhs
38. Study of HPV association in Sino-nasal epithelial tumors, Deepali Jain, Research section, AIIMS, New Delhi, 2+2 years, 2018-2022, Rs 20 lakhs
39. Study of Inherited Mismatch Repair deficiency and its correlation with tumor mutations burden and immune microenvironment in pediatric and adult gliomas (2020-5232), Kavneet Kaur, ICMR extramural project, 3 years, 2020-2023, Rs 37 lakhs
40. Study of Urinary Exosome as a Predictive biomarker for podocytic injury in childhood idiopathic nephrotic syndrome, Geetika Singh, DBT, 3 years, 2018- 2021, Rs 76,17,160
41. Sudden cardiac death in young: An autopsy and molecular study to identify the cause, Dr Ruma Ray and Dr Sudheer Arava, ICMR, 3 years, 2019-2022, Rs 70 lakhs
42. The Genetic Landscape of Alport Syndrome in India with Phenotypic Correlation, Geetika Singh, ICMR, 3 years, 2020 - 2023, Approximately Rs 80 lakhs
43. The prevalence of BRCAness related somatic mutation in uterine leiomyosarcoma, Dr Ruchi Rathore, Dr Sameer Rastogi, AIIMS Intramural grant for interdepartmental collaborative project, 2 years, 2021-2023, Rs 20 lakhs
44. To evaluate the genetic association in undiagnosed idiopathic cardiomyopathy patients, Dr Ruma Ray and Dr Sudheer Arava, ICMR, 3 years, 2021-2024, Rs 86 lakhs
45. To evaluate the molecular subtypes of peripheral t cell lymphomas, Dr Saumyaranjan Mallick, AIIMS, 2 years, 2019-2020, Rs 10 lakhs
46. To evaluate the role of cmyc, bcl2, bcl6 and Epstein Barr virus on survival in patients with refractory/relapsed primary diffuse large b cell lymphoma: an ambispective study, SaumyaRanjan Mallick, DST, 3 years, 2016-2019, Rs 30 lakhs
47. To evaluate the role of microenvironment clonality assay and 9p24 alteration in diagnosis and prognostication of refractory Hodgkin's lymphoma, drsaumyaranjan Mallick, DST, 3 years, 2017-2020, Rs 35 lakhs
48. To evaluate the role of R2TP Complex as a novel regulator of PI3K/Akt/mTOR and AR signalling pathway in prostate cancer, Dr. Seema Kaushal, DHR, 3 years, 2020-2023, Rs 46 lakhs
49. Tumor mutation burden in advanced non-small cell lung carcinomas: Implications for planning treatment strategies, Deepali Jain, Department of Science & Technology-SERB, 3 years, 2021-2024, Rs 30 lakhs
50. Utility of Artificial Intelligence in differentiating Non-invasive Follicular Thyroid Neoplasm with Papillary like Nuclear Features from other follicular-patterned thyroid benign and malignant lesions, Dr Shipra Agarwal, DBT, 3 years, 2020-2023, Rs 17,54,844

Completed

1. A comprehensive analysis of mammalian target of rapamycin (mTOR) and mitogen activated protein (MAP) Kinase signaling pathways in non-small cell lung carcinoma, Deepali Jain, Lady Tata Memorial Trust, 5, 2015-2021, 29 Lacs
2. Analysis of circulating DNA for BRAF(T1799A) mutation as a futuristic non-invasive tool for diagnosis of papillary thyroid cancer, Dr Shipra Agarwal, ICMR, 3 years, 2018-2020, Rs 8,12,645
3. Analysis of NPHS1, NPHS2, WT1, ACTN4 and INF2 in non-syndromic focal segmental glomerulosclerosis, Adarsh Barwad, AIIMS, 2 years, 2016-2018, Rs 10 lakhs
4. Association of BK Polyomavirus and urothelial carcinoma: A study in the Indian population, Geetika Singh, AIIMS Intramural grant, 1 year, 2012- 2014, Rs 4,93,500
5. Detection of SARS-CoV-2 nucleocapsid protein and evaluation of histological changes in tissue specimens for insights into COVID-19 pathogenesis, Aanchal Kakkar, AIIMS COVID Intramural project, 1 year, 2020-2021, Rs 10 lakhs
6. Evaluation of HPV status and its correlation with AKT/ mTOR signaling pathway activation in oral and oropharyngeal squamous cell carcinomas, Aanchal Kakkar, AIIMS intramural, 2 years, 2017-2019, Rs 8,80,000
7. Evaluation of Machine Learning Techniques including Deep Learning for Identification of Malignancy in Tissue Samples, Aanchal Kakkar and S Srirangarajan, AIIMS-IITD collaborative research project, 2 years, 2018-2020, Rs 20 lakhs
8. Evaluation of PDL1 expression and tumor mutational burden (TMB) in subtypes of Muscle Invasive Bladder cancer (MIBC), Dr. Seema Kaushal, AIIMS, 2 years, 2019-2021, Rs 9,86,000
9. Immunophenotypic profile of tumour infiltrating cells of the immune system & expression of PDL1 in triple negative/Her-2 neu positive breast cancer patients and their correlation with response to neoadjuvant chemotherapy, Dr Sandeep R Mathur, DST, 3 years, 2017-2020, Rs 21 lakhs
10. miRNA as disease modifier in HLA-DQ2/DQ8 matched first-degree relatives of patients with celiac disease', Dr P Das, DST, India, 3 years, 2018-2022, Rs 45 Lakhs
11. Normal superior and inferior parathyroid glands: Molecularly similar or dissimilar?, Dr Shipra Agarwal, AIIMS, New Delhi, 2 years, 2019-2021, Rs 10 lakhs

12. Pharmacological effects vitamin D in diabetic cardiomyopathy via ACE2/Angiotensin (1-7)/Mas receptor axis in experimental diabetic rats (Collaborative research), Asit Ranjan Mridha/Dr Harlokesh Narayan Yadav, AIIMS, New Delhi, 2 years, 2019-2021, Rs 10 lakhs
13. Study of Clinical, Laboratory and Pathological Profile of Pediatric Patients with Persistent Cholestasis, Dr Rajni Yadav, AIIMS, Delhi, 2 years, 2018-2020, Rs 9,90,000
14. Surrogate molecular and Immunohistochemical markers to categorize the Colorectal carcinomas as per the Comprehensive molecular subtypes and its clinical relevance, Dr P Das, AIIMS, New Delhi, 2 years, 2019-21, Rs 10 lakhs

Years	Funded research projects		Extramural funding		Intramural funding	
	Ongoing	Completed	Ongoing	Completed	Ongoing	Completed
2021-22	16 (8 extramural, 8 intramural)	4 (1 extramural, 3 intramural)	6,08,54,164	45,00,000	79,00,000	29,86,000
2020-21	15 (10 extramural, 5 intramural)	7 (3 extramural, 4 intramural)	4,26,74,844	58,12,645	65,00,000	49,90,000
2019-20	20 (12 extramural, 8 intramural)	3 intramural	5,19,50,212	–	99,00,000	23,73,500
Total	51 (30 extramural, 21 intramural)	14 (4 extramural, 10 intramural)	15,54,79,220	1,03,12,645	2,43,00,000	1,03,49,500

Departmental projects

Ongoing

1. Analysis of HUWE-1 regulated Metabolic and Immunological attributes in TNBC
2. An ultrastructural evaluation of glomerular and peritubular capillary endothelial injury in T cell mediated rejection
3. Assessment of Covid receptors and histological changes in liver core biopsies
4. Assessment of differences of molecular pathogenesis in right and left colonic aberrant crypt foci and carcinomas
5. Assessment of tumor budding in head and neck squamous cell carcinoma, and its correlation with clinicopathological parameters
6. Clinico pathological study of post-transplant endomyocardial biopsies
7. Clinico- pathological Profile of Anaplastic Large cell lymphoma
8. Comparison of Surrogate Immunohistochemical Markers with Molecular Alterations in Salivary Gland Neoplasms
9. Detection of streptococcal bacterial DNA with polymerase chain reaction in excised valvular tissue of RHD patients
10. Development of Quick and Specific Detection System of EWS-FLI-1 Fusion Protein
11. Diagnosis of NIFTP using molecular criteria and nuclear characteristics evaluated by artificial intelligence: A Preliminary Study
12. Elucidating the relationship between microsatellite instability, immune cell infiltration and expression of PDL-1 in epithelial ovarian carcinoma subtypes and its correlation with clinic-pathologic features, response to chemotherapy and survival
13. Expression of PD-L1 in Conventional Osteosarcoma and High-Grade Undifferentiated Sarcoma of Bone and PD 1 in Tumour Infiltrating Lymphocytes its correlation with disease progression
14. Genetic changes of TP53 and its role in treatment management of patients with advanced soft tissue sarcoma
15. Genomic profiling of Non-small cell lung carcinoma using Liquid Biopsy
16. Heterogeneity of histological findings across biopsy fragments taken from patients with celiac disease
17. Histopathological evaluation of surgically excises rheumatic heart valves
18. Immune microenvironment of Anaplastic Thyroid Carcinoma
19. Immunohistochemical characterization of sinonasal Undifferentiated carcinoma (SNUC) into IDH2 mutant and SMARCA4(BRG1) deficient carcinoma
20. MYH7 mutations in idiopathic cardiomyopathies
21. Novel prognostic markers in pulmonary neuroendocrine tumours (carcinoid tumors)
22. Pattern based classification of endocervical adenocarcinoma and correlation with HPV status, PDL1 expression and clinicopathological factors
23. Role of mpMRI in grading of soft tissue sarcoma
24. Role of PD-L1 in parathyroid carcinoma and its correlation with immune microenvironment
25. Study of EXOSTOSIN, NELL1 and Semaphorin-3B in Membranous Nephropathy
26. Study of EZH2 and MYD88 gene mutation in DLBCL, NOS
27. Study of FGFR3 alterations in molecular subtypes of muscle invasive bladder cancer
28. Study of histopathological characteristics, C-KIT, PDGFRA mutations and SDHB expression in gastrointestinal stromal tumors
29. Study of intra-tumoral heterogeneity in surgically resected gall bladder adenocarcinoma

30. Study of p53 immunoexpression and Ki67 LI in patients with advanced soft tissue sarcoma
31. Subtyping of HG-NMIBC
32. Subtyping of small cell lung carcinoma: an Immunohistochemical study
33. Sudden cardiac death in young: An histopathological and molecular study to identify the cause
34. The genetic landscape of Alports syndrome in India with phenotypic correlation, ICMR funded for year 2019-22

Completed

1. A comparative study of efficacy and composition of various cell populations of extracted hair follicle outer root sheath cell suspension prepared using a single enzyme (trypsin) and multiple enzymes (trypsin, collagenase and dispase) for transplantation in vitiligo
2. An immunohistochemical and ultrastructural study of glomerular capillary endothelial injury in cellular rejection
3. Analysis of selected Transcription factors and Receptors in Primary Hyperparathyroidism
4. Clinico- pathological Profile of Anaplastic Large cell lymphoma
5. Evaluation of chromatin remodeling, mTOR pathway and SSTR expression in pancreatic neuroendocrine neoplasms
6. Evaluation of MSI And PDL1 Expression In Upper Tract Urothelial Carcinomas
7. Expression of Matrix Metalloproteinase-2, Matrix Metalloproteinase-9, Tissue Inhibitor Metalloproteinase-1, Tissue Inhibitor Metalloproteinase-2, Collagen I and IV Expression in Thoracic Aortic Aneurysms
8. Fibrillin 1 gene mutation and TGF beta in TAAA of non-marfanoid individuals
9. Histological Analysis and Subcategorization of Progressive Familial Intrahepatic Cholestasis
10. Membranous Nephropathy: A study of immunofluorescence, electron microscopy and PLA2R profile with clinical correlation
11. Molecular characterisation of Endometrial Cancer and its correlation with Clinicopathological Features
12. p53 mutation and its relevance to treatment in patients with advanced soft tissue sarcoma: A Pilot Study
13. PDL-1 expression and tumor infiltrating lymphocytes in triple negative breast cancer and its correlation with clinico-pathologic features and response to chemotherapy
14. Study of galactose deficient IgA1 in glomerular diseases
15. Study of PD-L1 expression and correlation with mutational profiling in thyroid carcinomas
16. Study of PLA2R and THSD7A profile in Membranous nephropathy
17. Study on the activation of lectin pathway of complement in membranoproliferative glomerulonephritis
18. Utility of a Panel of Surrogate Immunohistochemical and Molecular Markers to Classify Human Colorectal Carcinomas according to the Consensus Molecular Subtypes and Clinical Correlation

Collaborative projects

Ongoing

1. A clinico-histopathological review of cases diagnosed histologically as Sarcoidal tissue reaction: A retrospective descriptive study, Dermatology, AIIMS, New Delhi
2. A population based screening trial to compare the effectiveness of mammography with Clinical Breast Examination in reducing all cause mortality: A two arm parallel design Cluster randomized controlled trial with Non-inferiority Hypothesis., Surgery
3. A prospective comparison of mri-inbore targeted biopsy with 12-core systematic transrectal ultrasound biopsy in the diagnosis of prostate cancer, Radiology, AIIMS, New Delhi
4. A prospective descriptive study to characterize the cutaneous and histological features in children with Langerhans cell histiocytosis, Department of Dermatology, AIIMS, New Delhi
5. A prospective observational study comparing CT scan vs PET CT scan in carcinoma ovary for determining the pre-operative disease burden and resectability, Surgical Oncology
6. A Prospective study to determine early predictive factors of hypocalcemia in patients undergoing total or completion thyroidectomy, Department of ENT, AIIMS, New Delhi
7. A prospective study to evaluate the accuracy of axillary staging using ultrasound guided fine needle aspiration cytology (fnac) in early breast cancer patients, Surgical Oncology
8. A Study of Immune Pathways in the Pathogenesis of Chronic Pancreatitis, Gastroenterology
9. A study to develop nano-LAMP based detection for BK virus in post-renal transplant individuals. Anatomy, AIIMS, New Delhi
10. Assessment of apoptosis, cell proliferation, histology and IgA anti-TG2 antibody deposits in patients with potential and nonceliac gluten sensitivity, Gastroenterology, AIIMS
11. Assessment of disease severity in patients with epithelial ovarian cancer by EMT related protein expression and micro RNA 200a,b,c, Gyn & Obs
12. Assessment of NETosis as a marker of disease severity in ulcerative colitis, Gastroenterology, AIIMS
13. Autologous non cultured dermal cell suspension transplantation in treatment of facial volume loss, Dermatology, AIIMS
14. Biostatistical Aspects of Prognostic Factors Including Molecular Parameters in Breast Cancer Patients: An Epidemiological Appraisal, BRA-IRCH
15. Biochemical and enzymatic analysis of bile in choledochal cyst and their correlation with histopathological features and expression of immune modulators, Pediatric surgery

16. Biomarkers based early diagnosis and understanding of breast cancer metastasis by infrared imaging, Biophysics
17. BRCC3 expression as a prognostic marker in Oropharyngeal squamous cell carcinoma patients and its effects on radiotherapy resistance, Otorhinolaryngology and Head Neck Surgery, AIIMS
18. Cellular and Immunomodulatory Functions of Dipeptidylpeptidase III in Esophageal Cancer, Biochemistry
19. Cervical cancer tumour micro-environment immune-profiling and effect on early response to standard chemoradiotherapy in Indian patients, Radiotherapy
20. Circulating microRNAs as biomarkers for testicular germ cell tumors: A pilot study Reproductive Biology, AIIMS New Delhi
21. Comparative evaluation of MicroRNA profiling and cytokine profiling analysis in patients with Pulmonary Sarcoidosis and Mediastinal tuberculosis Pulmonary Medicine, AIIMS
22. Comparison of cold cup versus bipolar biopsy specimens for bladder carcinoma, Urology, AIIMS, New Delhi
23. Comparison of quality of life between patients undergoing endoscopic thyroidectomy and conventional open thyroid Surgery, Department of Surgical disciplines, AIIMS, New Delhi
24. Comparison of standard 12 cores systematic TRUS guided biopsy and MRI-fusion biopsy in the detection of prostate cancer-a prospective randomized study, Urology, AIIMS, New Delhi
25. Consortium task force project on non-alcoholic fatty liver disease, Gastroenterology
26. Correlation of barrel index determined by MRI in early cervical cancer with operability, lymph node status and local extension of disease, Gynaecology & Obstetrics
27. CT texture analysis of renal masses for prediction of histopathology, Radiology, AIIMS, New Delhi
28. Detection of streptococcal bacterial DNA with polymerase chain reaction in excised valvular tissue of RHD patients, Cardiology, AIIMS
29. Development of a new formulation and packaging for reducing adverse effects and injection pain of Mycobacterium vaccine and its clinical trial in recalcitrant anogenital and extra-genital (common) warts., Dermatology, AIIMS
30. Development of non-invasive diagnostic kit for ovarian cancer: A new walk on old path, Biophysics
31. Differences in the Microvessel Density and Growth Factors between the inner and outer preputial skin in Distal Hypospadias, Pediatric Surgery, AIIMS, New Delhi
32. Dynamic contrast enhanced MR perfusion in the assessment of angiogenesis in Juvenile Nasopharyngeal Angiofibroma (JNA), Radiology, AIIMS
33. Effect of environmental particulate matter (urban pollutants) and gaseous (SO₂) pollutants on trophoblast invasion and differentiation: An insight into the role of pollution in placental insufficiency and maternal and child health. Biochemistry, AIIMS, New Delhi
34. Efficacy of cold atmospheric plasma jet for its antimicrobial activity against drug resistant bacterial and fungal pathogen: An in-vitro and in-vivo study, Department of Microbiology, AIIMS, New Delhi
35. Electron microscopic and genetic study in primary ciliary dyskinesia, Pediatric pulmonology, AIIMS, New Delhi
36. Estrogen Related Receptor gamma (ERR γ) as a potential biomarker and therapeutic target for thyroid cancer and its correlation with iodine handling genes in thyroid cancer., Department of Medical Oncology Lab, AIIMS, New Delhi
37. Etiological and clinical profile of patients with Ectopic ACTH syndrome: Ambispective study, Department of Endocrinology, Metabolism and Diabetes, AIIMS, New Delhi
38. Evaluation of anti-urolithiatic activity of herbal extracts in animal model, National Innovation Foundation, Ahmedabad
39. Evaluation of Coronavirus in tears and conjunctival secretions of patients with SARS COVID19, RP Centre, AIIMS
40. Evaluation of genetic profile of olfactory neuroblastomas, Otorhinolaryngology and Head Neck Surgery, AIIMS
41. Evaluation of Immune escape mechanism in RCC, Biochemistry, AIIMS, New Delhi
42. Evaluation of Renal Cell Carcinoma with C11-Methionine PET/CT and comparison with 18FFlourodeoxyglucosw PET/CT, Nuclear Medicine, AIIMS, New Delhi
43. Evaluation of unknown head and neck primaries metastatic to cervical lymph nodes, Otorhinolaryngology and Head Neck Surgery, AIIMS
44. Exploring the phenotypic and functional role of $\gamma\delta$ T cell subsets along with Pattern recognition receptors (PRRs) in the immunopathogenesis of PemphigusVulgaris”, Pharmacology, AIIMS
45. Expression of ACE2 receptor in mucormycosis patients, Otorhinolaryngology and Head Neck Surgery, AIIMS
46. FBXO4 as a novel Ubiquitin Ligase that targets cyclin D1 in pathogenesis of breast cancer, Biochemistry
47. Feasibility And Outcome Of Minilaparotomy Assisted Laparoscopic Myomectomy for Large Myomas, Obs & Gyn
48. Finding the correlation of toll like receptors (TLRs) with inflammation in patients with chronic heart failure, Cardiology. Safdarjung hospital
49. Genetic Study on Sertoli Cell Only Syndrome, Reproductive Biology, AIIMS, New Delhi
50. Histopathologic and immunohistochemical study of the distal rectal pouch in high and low anorectal malformations, Paediatric Surgery
51. Human Papillomavirus status in Penile carcinoma in Indian patients: Incidence, type distribution and correlation with Clinico-pathological staging, Urology, AIIMS, New Delhi
52. Identification of Glucose related protein 78(GRP78) as a biomarker for tumor behavior in patients of renal cell carcinoma, Urology, AIIMS, New Delhi

53. Identification of Potential Molecular markers (PRL3 phosphatase, CAV2, LAMA4) in Renal Cell Carcinoma for predicting tumour behaviour, Urology, AIIMS, New Delhi
54. Imaging BioBank for Cancer, Tata Memorial Hospital and 4 other centres
55. Imaging predictors of histological subtypes of breast cancer, Radiodiagnosis
56. Metabolic associated liver disease (MAFLD) in lean and obese: search for disease and progression biomarkers, Gastroenterology
57. Molecular and immunological characterization of benign fibroosseous lesions affecting oral and maxillofacial region, Oral Pathology, CDER
58. Molecular identification of proteases as biomarkers for early stage breast cancer detection, Preventive Oncology
59. MUC1 Pulsed DC-derived exosomes for cancer immunotherapy, AIIMS and IIT, Delhi
60. Nano technological intervention in dental and bone implants: Tailoring smart, multifunctional interface towards improved osseointegrative and anti-bacterial properties, AIIMS IITG
61. Oncostatin M in assessment of severity of activity in ulcerative colitis, Gastroenterology, AIIMS
62. Phenotypic and molecular characterization of Th17 and Treg cells in renal cell carcinoma, Biochemistry, AIIMS, New Delhi
63. Prevalence and characteristics of Multiple endocrine neoplasia in cases with primary hyperparathyroidism admitted in Endocrine ward in the last 5 years: A retrospective study, Department of Endocrinology, Metabolism and Diabetes, AIIMS, New Delhi
64. Prevalence of BRCA 1/2 germ line mutations in young Indian women (<40 years) with Triple negative breast cancers, Surgery
65. Prevalence of circulating tumour cells (CTC) in patients with periampullary carcinoma and its correlation with recurrence-free and overall survival, Department of GI surgery and Liver Transplant
66. Prospective evaluation of diagnostic imaging methods and its impact on surgical decision-making algorithm in the management of nodal disease in recurrent differentiated thyroid cancer and audit of the thyroid cancer database for evaluation of clinical and surgical spectrum and outcomes, Department of Surgical Oncology, AIIMS, New Delhi
67. PSMA nucleotide therapy, Nuclear Medicine, AIIMS
68. Pyruvate kinase M1 and M2 biomarker in atypical endometrial hyperplasia as predictor of coexistent endometrial carcinoma, Obs & Gyn
69. Retrospective Analysis of Testicular Germ Cell tumours at IRCH, AIIMS, Medical Oncology, AIIMS, New Delhi
70. Role of B Cells in Urinary Bladder Carcinoma, Biochemistry, AIIMS, New Delhi
71. Role of CE-MRI of breast and MR guided breast biopsy for preoperative evaluation of patients diagnosed with breast cancer and selected for breast conservation surgery., Radiodiagnosis
72. Role of circulating tumour cells and CXCR1 expression in patients with metastatic RCC, Urology, AIIMS, New Delhi
73. Role of Integrated 18 F-Fluorocholine PET/4DCT in the localisation of culprit lesions in patients with primary hyperparathyroidism, Department of Nuclear Medicine, AIIMS, New Delhi
74. Role of micro RNA in identifying benign versus malignant variety of cystic neoplasm of pancreas, Gastroenterology
75. Role of MRI in evaluation of residual tumor burden following neoadjuvant chemotherapy in patients with breast cancer, Radiodiagnosis
76. Role of nuclear hormone receptors in pathogenesis of carcinoma gall bladder, Biochemistry
77. Role of PAQosome Complex in the Regulation of Beta Oxidation during Prostate Cancer Progression, Biochemistry, AIIMS, New Delhi
78. Role of Phosphofructokinase-P (PFKP) in Breast cancer, Med Oncology BRA-IRCH
79. Role of Plasma Cell-Free DNA in predicting disease status in patients with differentiated thyroid cancer, Department of Nuclear Medicine, AIIMS, New Delhi
80. Role of Serum Visfatin and Adiponectin Levels in Patients with Carcinoma Endometrium, Obs & Gyn
81. Role of Shearwave Elastography and Multiparametric MRI in the assessment of endometrial pathology, Radiodiagnosis
82. Role of Tele-consultation of ASHA Workers in counseling women for Cervical Cancer Screening by Self-Sampling for Human Papilloma Virus, Obs & Gyn
83. SCOPE - Surveillance of COvid in PrEgnancy Standardizing data collection and protocol for improving the Quality of evidence on clinical characteristics and outcomes of COVID-19 and Pregnancy, Obs & Gyn
84. Study of Autophagy associated HMGB-1 and its related molecules in Urothelial Carcinoma of Bladder, Biochemistry, AIIMS, New Delhi
85. Study of cardiac markers, gross findings and histopathological Changes in heart in cases of suspected cardiac death, Forensic Medicine, AIIMS
86. Study of heavy metals as etiology for carcinoma of gallbladder, Surgical Oncology
87. Study of histomorphological, proteomics and collagen in Rheumatic heart valve specimens, CTVS, New Delhi
88. Study of miRNA profile in Sertoli Only Syndrome (SCOS), Reproductive Biology, AIIMS, New Delhi
89. Study of miRNA-182 and miRNA-187 as potential biomarkers in prostate cancer patients and its correlation with serum PSA, Gleason score and staging of prostate cancer, Urology, AIIMS, New Delhi
90. Study of PKC ϵ signaling in Ovarian Serous Carcinoma., Med Oncology BRA-IRCH
91. Study of Sesamol in Bleomycin induced pulmonary toxicity in rat, Pharmacology, AIIMS

92. Study of spectrum of microbiome at gastrointestinal perforation site by metagenome sequencing, Surgical Disciplines
93. Study on a gene knock-out mice model of NAFLD and carcinogenesis, AIIMS-IIT Delhi
94. Study on a mice model of NAFLD, Pharmacology, AIIMS
95. Study the significance of tumour infiltrating lymphocytes in breast cancer patients, Surgery
96. Study to determine the role of mTOR pathway in the pathogenesis of juvenile nasopharyngeal angiofibroma, Otorhinolaryngology and Head Neck Surgery, AIIMS
97. Study to determine the role of mTOR pathway in the pathogenesis of juvenile nasopharyngeal angiofibroma, Otorhinolaryngology and Head Neck Surgery, AIIMS
98. The clinicopathological evaluation of cholesteatoma aggressiveness, Otorhinolaryngology and Head Neck Surgery, AIIMS
99. The Eliminate Trial: A Phase II/III randomised trial evaluating omission of post-operative radiotherapy in pathological proven N0/N1 neck for squamous cell carcinomas of the oral cavity., Radiation Oncology, NCI
100. The Role of 68Ga-PSMA-PET/CT Scan as a single Staging Modality in Prostate Cancer, Nuclear Medicine, AIIMS, New Delhi
101. To identify unique differential signatures for the diagnosis of stage-specific Non- alcoholic fatty liver disease using the multi-omics approach: A pilot study, Gastroenterology
102. To Study the Clinical Profile, Investigations and Outcome of Patients Undergoing Parathyroidectomy: A Retrospective and Prospective Experience. Department of Surgical Oncology, AIIMS, New Delhi
103. Tumor dynamics & immune cell interactions in Anaplastic Thyroid Carcinoma, Department of Biochemistry, AIIMS, New Delhi
104. Ultrastructure level mechanism of nanoparticle interaction, internalization and trafficking at cellular level. Anatomy, AIIMS, New Delhi
105. Understanding the impact of gut microbiome dysbiosis and metabolic alterations in the pathogenesis of early and late onset colorectal cancer, Surgical Oncology
106. Use of Cancer Testis Antigen POTE-E in preoperative diagnosis of Epithelial Ovarian Tumors: A Pilot Study, Gyn & Obs
107. Utility of Radiolabeled Antibiotics as Imaging Agents in Establishment of a Decision Support Algorithm in Patients with Pyrexia of Unknown Origin (PUO) caused by Infection and its Impact on Short Term and Long Term Clinical Outcomes, Nuclear Medicine, AIIMS, New Delhi

Completed

1. Association of HIPEC treatment with expression of T regulatory cells (FOXP3) in epithelial ovarian cancer and its clinical significance, Surgical Oncology
2. A Comparative Evaluation of HPV E6/E7 mRNA Assay and High Risk HPV DNA Test for the Diagnosis of High Grade Cervical Intraepithelial Neoplasia, Gynaecology & Obstetrics
3. A pilot study to assess the therapeutic potential of Lu-177_DKFZ_PSMA 617 in Ga-68 PSMA HBED CC PET CT positive anaplastic thyroid carcinoma, Department of Nuclear Medicine, AIIMS, New Delhi
4. Acute Variceal Bleed in Cirrhosis is Associated with Reversible Changes in Tight Junction Protein Expression in the Intestine: A Proof-of-Concept Study, Gastroenterology
5. An ambispective cohort study of clinicopathological characteristics in patients of locally advanced breast cancer Med Oncology, Medical oncology
6. Analysis of triple negative breast cancer, Medical oncology
7. Autoantibody associated alternative complement pathway dysregulation in nephrotic syndrome secondary to membranoproliferative glomerulonephritis, Division of Pediatric Nephrology, Department of Pediatrics, AIIMS, New Delhi
8. Development of a Highly Specific, Selective, and Sensitive Fluorescent Probe for Detection of Mycobacteria in Human Tissues, RCB, Faridabad
9. Evaluation of dual dye technique for sentinel Lymph node biopsy in breast cancer: two arm Open label parallel design non-inferiority Randomized controlled trial, Surgery
10. Mesenchymal tumors of the stomach: radiologic and pathologic correlation, Radiology
11. Minimally invasive autopsy (MIA) in the evaluation of fetal malformations and stillbirths- A feasibility study for the development of a standard protocol for stillbirth evaluation, Pediatrics, AIIMS, New Delhi
12. Molecular classification of breast cancer using FDG PET CT, MRI and NMR: A pilot study, Surgery
13. Optical Characterization of Breast Cancer, Surgery & Biophysics
14. Protective effect of methanol extract of latex of Calotropis procera in an experimental model of colorectal cancer, Pharmacology
15. Role of shear wave elastography and multiparametric MRI in the assessment of endometrial pathology, Radiodiagnosis
16. Role of sono-elastography in the assessment of uterine pathology, Radiodiagnosis
17. To study correlation of TIRADS and cytological grading with final histopathology in solitary thyroid nodule., Department of Surgical disciplines, AIIMS, New Delhi
18. Utility of Hepatic 2D Shear-Wave Elastography in Monitoring Response to Image-Guided Intervention in Children with Chronic Budd-Chiari Syndrome: A Prospective Study, Radiology

PUBLICATIONS

Journals: 153 Abstracts: 19 Chapters in Book: 23 Books & Monographs: 1

Years	Number of publications	Journal articles	Abstracts	Chapters in book	Book/monograph
2021-22	196	153	19	23	1
2020-21	246	207	12	26	1
2019-20	224	197	25	2	–
Total	666	595	56	51	2

PATIENT CARE

Laboratory Services		2019-2020	2020-2021	2021-2022
Surgical Pathology	Specimens processed	55,600	21,747	39,145
	Special stains	38,100	20,200	38,800
Cytopathology	Total specimens	26,719	11,007	16285
	FNAC (outpatient)	10,696	3210	4319
	Exfoliatives routine	13,943	4800	5730
	Cervical smears (PAP smears)	2080	2997	6236
Autopsies performed		13	9	-
Immunohistochemistry	Diagnostic	51,268	32,087	50558
	Research	805	211	288
Neuropathology	Total Specimens	2106	540	-
	Frozen Sections	359	32	-
	Routine IHC	8375	3851	-
	Research IHC	5238	2310	-
	Muscle IHC	1699	460	-
	Total Muscle Received	291	56	-
	Muscle Enzyme-histochemistry	658	151	-
Fluorescence in situ hybridization	Diagnostic	349	244	256
	Research	272	228	230
Electron Microscope Facility	Total samples	1505	310	921
	Muscle sample	288	56	197
	Nerve sample	37	15	35
	Skin Sample	-	-	30
	Tumor Sample	-	-	70
	Paraffin Block	-	-	5
	D2 biopsies	-	-	10
	Heart	-	-	14
	Kidney	-	-	548
	Other	-	-	8
	Immunoblot	55	17	-
Research Microtomy and Thesis IHC Lab	Research Blocks	2989	1689	1123
	Thesis Blocks	-	-	2824
	Autopsy Blocks	-	-	350
	H & E Slides	9827	7618	4000
	U/S (Coated) Slides	3289 +26295	2998 + 23976	10000
	Block Embedded			1473
	Special stains	1320 + H-Pylori 6239		-
	Immunohistochemistry	4979		-
	Frozen Sections	2380	1789	

Renal pathology	Urine sediment analysis	1860	911	940
	Immunofluorescence of kidney biopsy	968	354	610
	Electron microscopy of kidney biopsy	941	350	600
Cardiac pathology	Routine specimens	310	165	1008
	Research specimens	163	196	607
	Immunohistochemistry	392	296	720
	H & E stain	305	383	2020
	Special stains	102	143	2140
	Manual processing of post-transplant biopsies	29	34	114
	Cutting of blocks (unstained sections)	631	753	1793
	Skin biopsy cutting	282	130 cases	1825 cases
	Renal biopsy cutting		200 cases	-
	Frozen Section	80 cases (each 3 slides)	80 cases	885 cases
	DIF	-	-	805 cases
	Coated slides	2200	3000	3300

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Dr Rimlee Dutta received Dr Satya Monga Award for published paper titled Cytomorphology of primary pulmonary NUT carcinoma in different cytology preparations. Cytocon November 2021

Dr Swati Mahajan received **Col. D. B. Nayar Memorial Award** for best paper in oncology titled Malignant pleural effusion cell-blocks are reliable candidates for PD-L1 analysis in advanced lung adenocarcinomas: a concordance study with matched histology samples. Cytocon November 2021.

Dr Aruna Nambirajan received **Developing Nation Early Career Award** World Lung Cancer Congress 2021. To evaluate the complementary utility of combined ALK/ROS1 FISH with immunohistochemistry for ALK/ROS1 rearrangement testing in lung cancer.

Dr Diya Roy was awarded the **First prize for Best Original Paper Presentation** at the 27th AIPNA ICP International CME in Pathology AIICME 2022, February 2022, Gajra Raja Medical College, Gwalior for “Immunohistochemical evaluation of Wnt and Sonic hedgehog signaling pathways in olfactory neuroblastomas leads to identification of distinct subgroups”.

Professor Sandeep R Mathur has been given extended appointed as Secretary of the Delhi Chapter of Indian Academy of Cytologists; Awarded the prestigious Earnest Fernandez slide seminar by Indian Academy of Cytologists in Annual Conference held in November 2021.

Dr Prasenjit Das was appointed as Associate Editor of the Indian Journal of Pathologists and Microbiologists for the year 2021-2022. Faculty-in charge of Histopathology services, Department of Pathology, AIIMS, New Delhi. Faculty-in-Charge for Histopathology Records, Department of Pathology, AIIMS, New Delhi. External Examiner, 2nd Prof final examination MBBS. AIIMS Rae Bareli, 4-6 March 2022. Moderator of the CME on the preneoplastic colonic lesions and colorectal carcinomas: an update in APCON 2021, 1-5 December 2021. External Examiner for DNB practical Examination at MAMC, New Delhi, 23 and 24 August 2021. Subject Expert Meeting for Question paper setting, National Board of Examinations, New Delhi, 29 September 2021. External Examiner PDCC Hepatopathology Exit Examination, ILBS, Delhi, 16 August 2021. External Expert UPSC interview for of Assistant Professors of Pathology under the Govt of Uttar Pradesh, 24-25 November 2021. External Examination for Gastrointestinal pathology Fellowship Final Examination, 23 November 2021, AIIMS, Kochi.

Professor Deepali Jain was awarded Mary J Matthews Pathology/Translational Research Award, International Association for the Study of Lung Cancer (IASLC), September 2021. Listed in most cited work of top 10 doctors of AIIMS New Delhi prepared from Stanford University California list of world's top 2% of scientists. Chairperson EBUS case-based review, Cytocon 2021 (Online) 20 November 2021. Member, DST-SERB Teachers Associateship For Research Excellence (TARE) Committee. Special Invitee DST-SERB Scientific and Useful Profound Research Advancement (SUPRA) Committee. Special Invitee DST-SERB SERB International Research Experience(SIRE) Committee.

Dr Geetika Singh was invited to be part of Renal Pathology Society, Case of the Month working group for the year 2021. Invited to be part of the Renal Pathology working group, International Society of Nephrology. Invited to be part of the Editorial board of international journal - Glomerular Diseases. Invited to be part of the Editorial Board of Indian Journal of Nephrology.

Contributing author to the South Asian edition of Robbins Textbook of Pathology in the section – Kidney. Invited to be part of South Asia Regional Board of the International Society of Nephrology 2021-2022. Invited to be part of Renal Pathology working group of the International Society of Nephrology 2021–2022.

Dr Shipra Aggarwal Contributed to the poster on ‘Artificial intelligence and the Pathology diagnosis of disease’. The poster got the award for best work at the 66th AIIMS foundation day celebrations held on 25 September 2021 from the honourable Health Minister Shri. Mansukh Mandaviya and honourable Minister of state for health Dr Bharti Pravin Pawar.

Dr Seema Kausal was awarded authorship for chapters in upcoming WHO Blue Book on Classification of GU Tumors 5th Edition, 2021

Dr Aanchal Kakkar invited to contribute to 5th editions of WHO Classification Blue book series published by International Agency for Research on Cancer (IARC): Contributed to three chapters in WHO Classification of Head and Neck Tumors 1. Nasal cavity, paranasal sinuses and skull base: Meningioma 2. Soft tissue tumours: Solitary fibrous tumour 3. Melanocytic tumours: Mucosal Melanoma, one chapter in the WHO Classification of Endocrine Tumors (Haematolymphoid tumours: MALT Lymphoma), and one chapter in the WHO Classification of Hematolymphoid Neoplasms (MALT Lymphoma).

Dr Kavneet Kaur Contributed to chapters in the 5th Edition of WHO Classification of Tumors of Central Nervous System 2021, and upcoming WHO Classification of Pediatric Tumors 2022, published by International Agency for Research on Cancer, Lyon.

Dr Aruna Nambirajan Developing Nations Award – Winner in IASLC 2021 World Conference on Lung Cancer | Worldwide Virtual Event (WCLC 2021), held on 8 –14 September 2021.

9.30. Pharmacology

Professor and Head

VL Kumar

Professors

NR Biswas DS Arya Jatinder Katyal
KH Reeta Surender Singh Jagriti Bhatia

Additional Professors

Pooja Gupta Harlokesb Narayan Yadav Sudhir Chandra Sarangi

Assistant Professor

NS Raj (upto 30 November 2021)

Scientists

Thomas Kaleekal Amita Srivastava (upto 31 May 2021)
Madhuri Gupta Sunder Singh Samuel Swati Sharma

EDUCATION

The department is engaged in the teaching programmes of BSc Nursing (Hons), BSc OT Technician, MBBS, MSc (Medical Pharmacology), MD, PhD and DM (Clinical Pharmacology) courses.

Lectures delivered

VL Kumar: 1 Pooja Gupta: 1 Sudhir Sarangi: 1

Oral papers/posters presented: 10

S No	Year	Number of Oral/Poster Presentations
1	2021-2022	10
2	2020-2021	3
3	2019-2020	26

RESEARCH

Funded Projects

Ongoing

1. Ameliorative potential of vinpocetine in streptozotocin induced diabetic cardiomyopathy in Wistar rats funded by ICMR of 16.80 Lakh Dr Harlokesb Narayan Yadav, ICMR, 3 years, 2019-2022, Rs 16,80,000
2. An investigation into metabolomics of prostate cancer patients to identify diagnostic and prognostic biomarkers for disease burden and therapeutics outcome, and development of metabolomics database. DS Arya, AIIMS, 2 years, 2022-2024, Rs 10 lakhs
3. Anemia: Exploring the role of vitamin D, essential elements and lifestyle in Indian Population, Dr Harlokesb Narayan Yadav, ICMR, 3 years, 2022-2025, Rs 75 lakhs
4. Assessment of awareness, perception and KAP (Knowledge, Attitude & Practices) related to common poisons and development of scientific communication modules for lifestyle modulation and year-round strategy for public awareness towards prevention of poisoning, Swati Sharma, DST, 1.5 years, 2021-2022, Rs 42,57,771
5. Association of social cognition and behavioral impairment in persons with epilepsy on antiepileptic drug monotherapy: Correlation with neuroimaging findings and trace elements status, Sudhir Ch Sarangi, DST, 3 years, 2021-2024, Rs 37,89,000
6. Depression in persons with epilepsy (PWE): Correlation with Serum biomarkers and CYP2C19 polymorphism, a pilot study, Jatinder Katyal, AIIMS, New Delhi, 2 years and 9 months, 2018-2021, Rs 7,87,000
7. Design and development of nanoscale integrated system along with conformal antenna as capsule prototype for wireless capsule endoscopy, Dr Harlokesb Narayan Yadav, DST, 3 years, 2021-2024, Rs 74 lakhs
8. Design and development of wirelessly powered nanoscale integrated antenna enabled leadless cardiac Pacemaker system for wireless monitoring of Heart Health, Dr Harlokesb Narayan Yadav, ICMR, 3 years, 2022-2025, Rs 80 lakhs
9. Development of Reinforced nano dispersed Denture base resin with improved thermo-conductive, biocompatible and radio-opacity, Madhuri Gupta, ICMR, 3 years, 2021-2024, Rs 36,15,624

10. Early biomarkers for chemotherapy induced cardiotoxicity in patients with hematological malignancies, Shalini Rawal (Mentor: Pooja Gupta), DST (WOS-B), 3 years, 2019-2022, Rs 30,24,561
11. Effect of antidepressants on neurodegeneration and neuroplasticity in patients with depression, Sudhir Ch Sarangi, ICMR, 3 years, 2020-2023, Rs 29,03,000
12. Effect of trans 4-butylcyclohexane carboxylic acid (4-BCCA) upon epileptogenesis and neurodegenerative changes following status epilepticus, Sudhir Ch. Sarangi, AIIMS-UCL Collaborative, 1 year, 2021-2022, Rs 6 lakhs
13. Evaluation of decanoic acid in ischemia reperfusion injury in middle cerebral artery occlusion model of stroke in rats. Himanshu Sharma (Mentor: KH Reeta), ICMR (SRF), 2 years, 2021-2023, Rs 8,60,000
14. Evaluation of effect of asiaticoside and medicasoside on pharmacodynamics and pharmacokinetics of azathioprine in rat model of colitis, Thomas Kaleekal, AIIMS, New Delhi, 3 years, 2019-2022, Rs 9,96,000
15. Genomic and Biochemical Correlation of “Prakriti” Stratified Patients diagnosed with Coronary Artery Disease (CAD): An Integrative Approach towards Personalised CAD Management, Pamila Dua (Mentor: KH Reeta), DST (Women Scientist), 3, 2019-2022, 31,21,000
16. ICMR Task force Centre on Rational use of drugs, Pooja Gupta, ICMR, 3 years, 2019-2022, Rs 44,75,638
17. ICMR-Product Development Centre, D. S. Arya, ICMR, 5 years, 2019-2024, Rs 14,82,130
18. Modulation of AMPA receptor: Effect on post-stroke damage after focal cerebral ischemia reperfusion injury in rats, Dr KH Reeta, ICMR, 3 years, 2019-2022, Rs 54,07,560
19. Pharmacological and Molecular approaches to investigate the effect of *Adhatoda vasica* in experimental models of bleomycin induced pulmonary fibrosis., Jagriti Bhatia, Central Council for Research in Unani Medicine, Department of AYUSH,, 4 years, 2018-2022, Rs 55,42,932
20. Pharmacological screening of Homeopathic drugs used in rheumatoid arthritis, Surender Singh, Central Council for Research in Homeopathy, Ministry of AYUSH, Govt of India, 3 years, 2019-2022, Rs 37,18,596
21. Preventive efficacy of berberine nanoparticles in chemotherapy induced cardiotoxicity in animal model, Pooja Gupta, AIIMS, 2 years, 2021-23, Rs 10 lakhs
22. Prospective double-blind randomised controlled clinical study on Ayurveda intervention (Sarpagandha Mishran), DS Arya, Central Council for Research in Homeopathy, Ministry of AYUSH, Govt. of India, 3 years, 2021-2024, Rs 61,32,42 6
23. Randomized double blinded placebo controlled clinical trial for the evaluation of effect of vitamin K supplementation on bone mineral density in prostate cancer patient, DS Arya, ICMR, 3 years, 2022-2025, Rs 33,89,23 2
24. Role of Fisetin along with Sildenafil in Experimental High caloric diet induced Erectile Dysfunction in Male Wistar Rats, Dr Harlokes Narayan Yadav, ICMR, 3 years, 2022-2025, Rs 16 lakhs
25. Role of GSK3 β in modulating autophagy and apoptosis in permanent and transient model of ischemic stroke in rats, Devendra Singh (Mentor: KH Reeta), ICMR (RA), 3 years, 2019-2022, Rs 21,58,000
26. Safety studies of Homeopathic drugs, Surender Singh, Central Council for Research in Homeopathy, Ministry of AYUSH, Government of India, 2 years, 2022-2024, Rs 29,61,840
27. Study of vitamin D receptor expression and their correlation with seizure control in persons with drug resistant epilepsy after supplementation of vitamin D, Sudhir Ch Sarangi, AIIMS, New Delhi, 2 years, 2020-2022, Rs 10 lakhs
28. To study effects of 4-octyl itaconate in different models of cardiac fibrosis and to assess its role in NLRP3 inflammasome pathway, Jagriti Bhatia, DST, 3 years, 2021-2024, Rs 27,30,640
29. To study the regulatory mechanism of GSK-3 β by ischemic preconditioning against ovariectomized challenged Wistar rats, Dr Harlokes Narayan Yadav, AIIMS, 2 years, 2021-2023, Rs 10 lakhs

Completed

1. Development of herbal formulation of seabuckthron:” molecular and pharmacological investigation on efficacy of combination of seabuckthron oil and ramipril vis-à-vis ramipril alone in experimental models of myocardial infraction on streptozotocin induced diabetic rats, DS Arya, DBT, 4 years, 2017-2021, Rs 48 lakhs
2. Evaluation of Sildenafil in Experimental Model of Stroke and Post Stroke Seizure Behaviour in Rats, KH Reeta, DST, 3 years, 2018-2021, Rs 27,61,440
3. Pharmacodynamic and pharmacokinetic interactions of the ayurvedic formulation (BGR-34) with glibenclamide in experimental model of diabetes in rats, Sudhir Ch. Sarangi, AIMIL Pharmaceuticals, 3 years, 2019-2022, Rs 27,00,000
4. Pharmacological; and Molecular approaches to investigate selected drug in model of Ischemia-Reperfusion Injury in streptozotocin induced diabetic rats, DS Arya, Bristol Myers Squibb, USA, 3 years, 2018-2021, Rs 47,51,6 40
5. To evaluate the effect of topical urea in secondary prophylaxis of hand foot skin reaction in cancer patients undergoing sunitinib chemotherapy, Pooja Gupta, AIIMS, 2 years, 2019-2021, Rs 8 lakhs

Departmental projects

Ongoing

1. A pilot study to assess the effect of timing of gefitinib administration on blood levels in non-small cell lung cancer patients
2. A prospective cohort study on effect of atypical antipsychotics on chemokine levels in patients with schizophrenia
3. A randomised controlled trial to assess the effect of riboflavin supplementation with antidepressant treatment in persons with major depressive disorder

4. A randomized double blind placebo controlled pilot study evaluating the effect of topical urea as pre-treatment for preventing hand foot skin reaction in cancer patients on sunitinib therapy
5. Ameliorative potential of vitamin D in experimental Diabetic Cardiomyopathy in rats
6. Comparison of effect of antidepressants on neurodegeneration in patients with depression
7. Effect of add-on alpha lipoic acid in patients with treatment resistant schizophrenia: A randomized double-blind, placebo-controlled trial
8. Effect of antidepressants on the levels of indolamine 2, 3-dioxygenase (IDO) and social cognition in patients with depression: A prospective cohort study
9. Effect of atorvastatin on methotrexate induced liver and kidney toxicity in rats
10. Effect of benfotiamine as an adjuvant drug on oxidative stress in patients with type 2 diabetes mellitus – a randomized double-blind placebo-controlled clinical trial
11. Effect of Remote Ischemic Postconditioning on inflammatory markers and myocardial injury during thrombolysis in normal and vitamin D deficient patients suffering from Acute coronary syndrome
12. Effects of Calcitriol pre-treatment on the restoration of renal and right ventricular function in experimental model of cardiorenal syndrome in rat
13. Evaluation of effect of oral hypoglycaemic agents on cognitive function in young and middle-aged type 2 diabetes mellitus patients
14. Fenofibrate as adjuvant therapy in persons with active epilepsy: a double-blind, randomized, placebo-controlled study
15. Markers of Ototoxicity in Cervical Cancer Patients Receiving Cisplatin: A Pilot Study
16. Open-label placebo versus double-blind placebo treatment for experimentally induced pain in healthy volunteers: a pilot study
17. Pharmacological investigation of phlorglucinol in isoproterenol induced cardiac hypertrophy in rats
18. Pharmacological investigations of Moringa oleifera leaf extract in isoproterenol induced cardiac hypertrophy in rats
19. Quantifying placebo effect on psychomotor and cognitive functions in adult healthy human volunteers
20. Randomized placebo controlled crossover study to evaluate the effect of single dose of paracetamol on the psychomotor skills, cognitive and decision making capabilities in healthy volunteers
21. Role of PPAR modulators in seizure control and neurobehavioral parameters in status epilepticus model in rats
22. Studies on the effect of roxithromycin in an experimental model of prostatitis
23. Studies on the effect of vildagliptin in experimental model of pain and inflammation
24. Study of cardioprotective effect of redox cycle involving selenium and riboflavin on isoproterenol-induced myocardial injury in rats
25. Utility of electronic hand grip dynamometer for testing muscle endurance in healthy human volunteers

Completed

1. Effect of vitamin-D3 supplementation with newer antiepileptic drug on seizure control and neuronal injury in status epilepticus model in rats
2. Study of Sesamol in Bleomycin induced pulmonary toxicity in rats
3. Study to delineate and characterize the potential cardioprotective effect of Cinnamomum zeylanicum extract in experimental model of doxorubicin-induced cardiomyopathy

Collaborative projects

Ongoing

1. Comparison of lignocaine spray, lignocaine lozenges and lignocaine gargles for topical anaesthesia in flexible bronchoscopy: A random single-blind active controlled trial, Pulmonary medicine
2. Efficacy and safety of cyclophosphamide in the treatment of refractory proliferative arachnoiditis in central nervous system tuberculosis: A randomised double blinded placebo controlled trial, Neurology
3. HLA typing in hypersensitivity to Antiepileptic drugs in Indian population: A case control study, Neurology
4. Prevention of radiotherapy induced xerostomia by intraductal administration of N-acetyl cysteine in patients with oropharyngeal malignancies: a randomized clinical trial, ENT

Last 3 years project details

Year	Number of Projects	Total Funds
2021-22	29	9,21,52,950
2020-21	23	6,90,67,356
2019-20	23	6,30,34,000

PUBLICATIONS

Journals: 21

Abstracts: 3

Books & Monographs: 2

Last 3 years Data

Year	Journals	Abstracts	Books & Monographs
2021-22	21	03	02
2020-21	35	03	01
2019-20	31	16	00

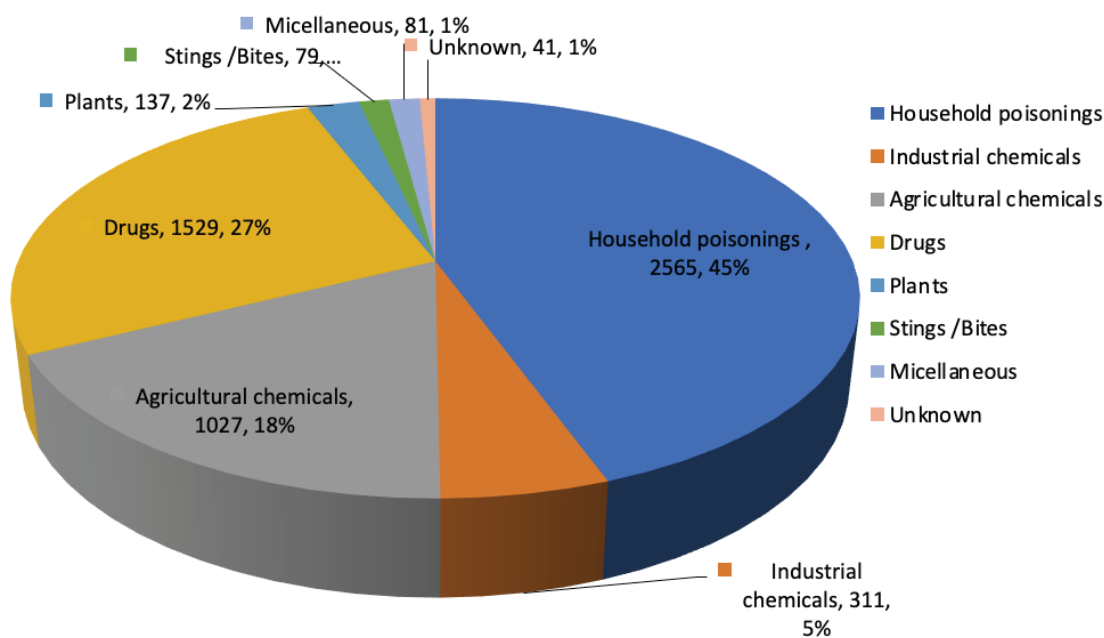
PATIENT CARE

Hospital services

Faculty, residents and staff actively participated in discharging hospital related covid duties as assigned.

National Poison Information Centre (NPIC)

The National Poisons Information Centre (NPIC) in the Department of Pharmacology has completed 27 years of service in imparting information on management of poisonings. Round the clock service is rendered by Scientists, Senior residents and Junior residents of the department. The NPIC receives calls from all over the country and plays a vital role in providing relevant information on management of poisonings. The services of NPIC are availed by treating physicians, government agencies, NGOs, and general public. In spite of the Covid-19 pandemic, the Centre was functional 24 x 7 and received 5819 calls from 1 April 2021 to 31 March 2022. 99.2 % of the calls were poisoning calls and 0.8% were information calls (where a patient is not involved). 62% of poisonings involved male patients, 37.0% were females and in 1.0% cases gender information was not available. The month-wise distribution of various types of products involved in poisonings are given in the pie chart given below:



S No	Year	Total number of Calls Received in NPIC
1	2021-2022	5,819
2	2020-2021	7,153
3	2019-2020	8,126

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor DS Arya was Chairperson, Subject Expert Committee (SEC) at Central Drugs Standard Control Organization (CDSCO), Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India; Member, CDSCO, Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India; Expert Member, National Anti-Doping Agency (NADA), Ministry of Youth Affairs and Sports, Government of India; Store In-Charge, Department of Pharmacology, AIIMS

Professor Surender Singh was Panel of Adviser, Union Public Service Commission (UPSC), Government of India; Member, Governing Body, CCRH & CCRUM, Ministry of AYUSH, Government of India; Certified GLP Inspector, National GLP Compliance Monitoring Authority (NGCMA), Department of Science and Technology, Govt. of India, New Delhi; Member, Task Force, Standardization of Homeopathic Drugs, CCRH, Department of AYUSH, Ministry of Health & Family Welfare, Govt. of India; Chairman, Animal Ethics Committee, Central Research Institute of Homeopathy (CRIH), Department of AYUSH, Ministry of Health & Family Welfare, Government of India; Member, Ethics Committee, CCRH, Department of AYUSH, Ministry of Health & Family Welfare, Government of India.

Professor KH Reeta was Member, Subject Committee meetings at Central Drugs Standard Control Organization (CDSCO), (New Drug Division), DGHS, Govt. of India; Convenor, Specialist Board in specialty Pharmacology, National Board of Examinations March 2019 onwards; Expert member, Board of Studies, Jamia Hamdard, Delhi.

Dr Pooja Gupta was Member Secretary: Institute Ethics Subcommittee for monitoring of adverse events in clinical trials at AIIMS, New Delhi; Member: Working Committee, Clinical Research Unit at AIIMS, New Delhi; Coordinator: Adverse Drug Reaction (ADR) Monitoring Centre at AIIMS under Pharmacovigilance Program of India; Medical Device Monitoring Centre at AIIMS under Materiovigilance Program of India; Causality assessment subcommittee and media and advocacy subcommittee under National AEFI (Adverse Events Following Immunization) Committee, MoHFW, Government of India; Ethics Committee, National Institute of Malaria Research, ICMR; Pulse coordination committee; AIIMS Institute day subcommittee for cultural programme

Dr HN Yadav: Chairperson in session on “Post COVID-19 pandemic era: Prospective shift towards clinical and translational research” in the National Conference-Cum-Workshop, organized by Punjabi University, Patiala, Punjab from 16-17 March 2022; Felicitated with “Pharmacy Ratna-UP 21 Award” by Pharmacist Federation Uttar Pradesh on World Pharmacist Day at Balrampur Government Hospital, Lucknow on 25 September 2021

9.31. Physical Medicine and Rehabilitation

Professor and Head

Sanjay Wadhwa

Professors

SL Yadav Gita Handa

Additional Professor

Srikumar V

Associate Professor

Asem Rangita Chanu

Chief Physiotherapist

Smita Das

Superintendent Physiotherapist

OP Yadav

Superintendent Occupational Therapists

Raman Kumar Singh Lily Farhat Parveen

Senior Technical Officer

Ajay Babbar

HIGHLIGHTS

The department was actively involved in the organisation of the 50th Annual National Conference of the Indian Association of Physical Medicine and Rehabilitation (Golden Jubilee) held from 24-27 March 2022 (hybrid mode) on the theme 'Post COVID World: Strengthening Healthcare-Rehabilitation 2030'. There was also active participation in the 16th Annual Conference of the Indraprastha Association of Rehabilitation Medicine "Delhi PMR Con. 2022" held in physical mode on 5 March VMMC and Safdarjung Hospital, Delhi. There was also active participation by the department in IAPMR Mid-Term CME (26 September 2021) held in Bengaluru (Virtual) and many online webinars and seminars etc. Many of the resident doctors and faculty members contributed to fight the ongoing Pandemic by doing COVID duties.

EDUCATION

Under-graduate teachings for the VIII and VI semester were undertaken by the faculty members of the department as per the schedule drawn up by the Academic Section. Twelve postgraduate students are pursuing MD (PMR) at present. Fellows of the Palliative Care and Onco-Anesthesiology, Pediatric Neurology and Pain Medicine are also being provided short-term orientation/training in the department.

LECTURES DELIVERED

Sanjay Wadhwa: 4

Gita Handa: 1

Srikumar V: 6

Asem Rangita Chanu: 1

Oral papers/posters presented: 16

Year	Number of oral presentations
2019-2020	14
2020-2021	4
2021-2022	16

RESEARCH

Funded projects

Ongoing

1. CARE-Neuroassistive technologies in Stroke Recovery, Dr Sanjay Wadhwa (Co-Investigator) Prof MV Padma Srivastava (Principal Investigator), Indian Council of Medical Research, 5 years, 2026, Rs 4 crores (approx.)
2. Real-Time Implementation of Force Myography: Development of Intelligent Prosthetic Leg, Dr Gita Handa, Department of Science and Technology, 5 years, 2020- 2025, Rs 35 lakhs

Year	Number of funded projects	Total amount of funding
2019-2020	1	10 lakhs
2020-2021	1 (continued from 2019)	10 lakhs
2021-2022	1	35 lakhs

Completed

1. Smart dynamic fabric actuator for prolonged standing professionals for management of chronic leg pain, Dr Srikumar Venkataraman, AIIMS-IIT Delhi Collaborative Research Project, 3 years, 2018-2021, Rs 10 lakhs

Departmental projects

Ongoing

1. A case control study to assess correlation between chronic low back pain and spino-pelvic parameters
2. A case of SIRVA: post-Covid vaccination
3. A cross sectional study to assess dual task interference in postural control in lower limb amputation
4. A Cross-Sectional Study to Assess the Clinical, Occupational, and Environmental Barriers in Patients with Spinal Cord Injury
5. A Cross-sectional study to assess the functional status in children with juvenile idiopathic arthritis and its correlation with their quality of life and burden of caregivers
6. A Cross-Sectional Study to Assess the Functional Status in Post-COVID Infected Persons and Symptoms in Long COVID Patients
7. A Randomized Control Trial to Compare the Efficacy of Caregiver Directed Home Based HABIT With and without Tele-rehabilitation in Cerebral Palsy Children.
8. Bilateral quadriceps tendon rupture and chronic kidney disease following anabolic steroid abuse in a young body-builder: A case report
9. Effect of exercise on the functional status and mental well-being in patients with chronic low back pain – a pre-post interventional study
10. Platelet-rich fibrin membrane as a novel autologous biomaterial for diabetic foot ulcer healing: A case report.
11. Platelet-Rich Fibrin Membrane-as a novel biomaterial for pressure injury healing in a person with spinal cord injury: A case report
12. ReCOVer study: A Cross-sectional Observational Study to Identify the Rehabilitation Need in Post-discharge COVID-19 Survivors
13. Rectal Prolapse in a Young Nulliparous Woman with Traumatic Spinal Cord Injury: A Case Report
14. Skeletal fluorosis sequelae non-traumatic spinal cord injury: Rehabilitation perspective: A case report
15. Telephonic screening of CoViD-19 survivors of severe or critical illness to assess post discharge symptoms and rehabilitation needs: A prospective study
16. The Effect of Online Classes during Covid-19 Pandemic on Cervical Axial Pain in Undergraduate and Postgraduate Medical Students: A Cross-Sectional Study of Prevalence and Associated Factors
17. The Effectiveness of Structured Rehabilitation program in patients with early Osteoarthritis knee- A Randomised Control Study.
18. To evaluate and associate the content of brief ICF core sets for low back pain with WHODAS 2.0 and ODI and to identify retention of patients' perspective in brief ICF core sets in chronic low back pain

Completed

1. A randomised controlled trial to compare effectiveness of smart dynamic fabric actuator with exercises in chronic musculoskeletal leg pain associated with prolonged standing

Collaborative projects

Ongoing

1. A placebo-controlled study of repetitive transcranial magnetic stimulation on functional recovery and cortical excitability in complete spinal cord injury patients, Department of Physiology, AIIMS, New Delhi

2. Assessment of workload and musculoskeletal symptoms among minimal access surgeons – a prospective study, Department of Surgical Disciplines, AIIMS, New Delhi
3. Effect of fMRI-based neurofeedback guided motor imagery training on cortical excitability and pain status in rheumatoid arthritis, Department of Physiology, AIIMS, New Delhi
4. Effect of yoga on pain and corticomotor excitability in chronic low back pain, Department of Physiology, AIIMS, New Delhi
5. Effect of yogic intervention on pain status and cortical excitability in fibromyalgia patients, Department of Physiology, AIIMS, New Delhi
6. Electrophysiological analysis of cognitive load during locomotion and balancing and to investigate the improvement in gait and balance in lower limb amputees after using tactile feedback, Department of Biomedical Engineering, IIT Delhi
7. Impact of intraoperative microbreaks on musculoskeletal symptoms and performance of surgical residents during minimal access surgical tasks in a simulated setting, Department of Surgical Disciplines, AIIMS, New Delhi
8. Impact of upper body exercise on body composition and weight in obese patients with knee osteoarthritis, Department of Medicine, AIIMS, New Delhi
9. Randomized controlled trial to study the impact of weight bearing and resistance exercise with nutritional interventions on bone and muscle health in obese patients with osteosarcopaenia, Department of Medicine, AIIMS, New Delhi
10. ReCOVER study: A cross-sectional observational study to identify rehabilitation need in post-discharge CoViD-19 survivors, Department of Critical and Intensive Care and Department of Anaesthesiology, AIIMS, New Delhi

PUBLICATIONS

Journals: 7 Chapters in Book: 1

Total number of publications:

Year	Journal articles	Abstracts	Chapters in books
2019-2020	12	4	1
2020-2021	4	4	1
2021-2022	7	0	1

PATIENT CARE

New Patients

	2019-2020	2020-2021	2021-2022
OPD (Physician Consultations)	10939	3054	6319
OPD visit (P & O Clinic)	2615	392	2080
Total New Cases	13554	3446	8399

Old Cases

	2019-2020	2020-2021	2021-2022
OPD (Physician Consultations)	24917	4652 (+ 1394 Telephonic Consults between 23/03/2020 and 31/07/2020)	10935
OPD visit (P & O Clinic)	5678	898	5241
Disability Evaluation Clinic	92	20	03
Railway Concession Certificates	159	28	52
OPD visits (PT Section)	18674	1639	9015
OPD visit (OT Section)	17156	830	4000
OPD visit (MSW)	4669	1198	2324
Minor OT procedures	5010	63	1123
Total old Cases	76,355	10,722	32,693

Special Clinics of the department

1. Brace Check-Out Clinic: checking prosthetic and orthotic devices made in our workshop before final delivery to the patients.
2. Case Conference: Discussion of long-term rehabilitation patients for goal setting and treatment evaluation.

3. Custom molded insoles in Foot Clinic
4. Foot lab/Clinic
5. Musculo-skeletal laboratory: Computerized evaluation and exercise equipment
6. Musculoskeletal ultrasound guided interventions
7. Wheelchair prescription and checkout clinic for customized wheelchair delivery as per WHO guidelines

Community Services: Distribution of Wheelchairs to many needy persons with disabilities after evaluation

Patient Care: Mass Media: Public Awareness Lectures and TV Health Programmes

Dr Sanjay Wadhwa appeared as a subject Expert on Health related programmes on Covid-19, Stroke, Spinal Injury etc. on Doordarshan and NewsX TV Channels

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Sanjay Wadhwa delivered IAPMR Presidential Oration on 25 March 2022 during the IAPMR Golden Jubilee Conference; Chairman, Bureau of Indian Standards Committee MHD-09, Convenor, PMR Specialty Board, National Medical Commission (NMC); Convenor, Specialty Board, National Board of Examinations in Medical Specialties (NBEMS); Chairman of the Organising Committee, IAPMR Golden Jubilee Conference March 2022.

Professor Gita Handa was Subject expert for Examinations in PMR conducted by National Board of Examinations; Nominated as Scientific Committee Chairperson for IAPMRCON 2022- 50th Golden Jubilee Conference of IAPMR; Vice President of the Indraprastha Association of Rehabilitation Medicine i.e., Delhi Chapter of IAPMR; Subject Expert for Project Evaluation Committee at ICMR; Subject Expert For Project evaluation at DBT; Examiner for KGMU MD Examination; Expert Faculty KGMU Interview Board; Expert for Interview Board for faculty interviews at AIIMS Deogarh; Member of Civil services, UG, PG, Nurses candidates Medical Examination Board; Member of Various medical board constituted by MS, AIIMS; CPIO for Processing RTI queries relating to the department; Member of Hospital Infection control committee of the department of PMR; Member of Covid care Task Force at Institute; Organised Workshop on “rTMS in Pain Management” during IAPMRCON2022 on 24th March 2022; Organised CME during IAPMRCON 2022 on 25 March 2022; Organised IAPMRCON 2022 26-27 March 2022.

Dr Srikumar V was Section Editor, Indian Journal of Physical Medicine and Rehabilitation; Reviewer, Cureus Journal of Medical Science; Reviewer, SN Comprehensive Clinical Medicine; Rehabilitation Research Award 2022 by Indraprastha Association of Rehabilitation Medicine for the best published paper; Co-ordinator, Bowel care and management, Module: Overview for the whole team; and Module: Doctors, www.elearnSCI.org, 2nd Edition, an initiative of International Spinal Cord Society; Member, Expert committee - Development of weight management guideline for postpartum and midlife women, AIIMS, New Delhi and Department of Science and Technology, GOI initiative; Member, Technical Committee, Wearable Electronic Devices and Technologies (LTD-33), Bureau of Indian Standards, Ministry of Consumer Affairs, GOI; External examiner, Practical Examination – MD Physical Medicine and Rehabilitation, Rajasthan University of Health Sciences at SMS Medical College and Hospital, Jaipur; External examiner, MD Physical Medicine and Rehabilitation – Thesis Evaluation, Rajasthan University of Health Sciences at SMS Medical College and Hospital, Jaipur; Jury member – PMR quiz, IAPMR Mid-term CME, 24-26 September 2021, Bengaluru/Online; Member, Civil Services Examination – 2020, Medical Board / Appellate Medical Board for Person's with Benchmark Disabilities (Locomotor Disability), Department of Personnel & Training, Ministry of Personnel, Public Grievances and Pensions, GOI; Member, Medical Board for Person's with Benchmark Disabilities (Locomotor Disability), Undergraduate Courses – Medical / Paramedical, AIIMS, New Delhi; Supervising faculty – Physiotherapy, Gymnasium & Electrotherapy Section and Occupational Therapy Section (April-June 2021); Supervising faculty – OPD & CRHS, Ballabgarh (July-December 2021); Organizing Secretary, 16th Annual Conference of Indraprastha Association of Rehabilitation Medicine, 5 March 2022, Delhi; Member, Organizing Committee, IAPMRCON 2022, 24-27 March 2022, Delhi, Online; Member, International Liaison Sub-Committee, IAPMRCON 2022, 24-27 March 2022, Delhi, Online; Coordinator, Workshop on Transcranial Magnetic Stimulation, IAPMRCON 2022, 24 March 2022, Delhi, Online; Chairperson, Session 12, PGT Award Paper Session – I, IAPMRCON 2022, 26 March 2022, Delhi, Online; Judge, Bindyeshwari Sudershan IAPMR Gold Medal Award, Dr Hanumantha Rao Foundation Award, and IAPMR National Quiz, IAPMRCON 2022, 24-27 March 2022, Delhi, Online; Secretary, Indraprastha Association of Rehabilitation Medicine (2021-23).

Dr Asem Rangita Chanu was reviewer, Journal of Medical Society; Chairperson, Civil Services Examination - 2020 Medical Board for Person's with Benchmark Disabilities (Locomotor Disability), Department of Personnel & Training, Ministry of Personnel, Public Grievances and Pensions, GOI; Co-ordinator in Equal Opportunity Cell for implementation of Schemes passed in the WP (C) No. 292/06 titled “Disabled Rights Group and Anr. Vs. UOI & Ors, AIIMS, New Delhi; Central Assistant Public Information Officer for PMR under the Right to Information Act at AIIMS, New Delhi; Nodal faculty officer for the submission of 65th AIIMS Annual Report for the year 2020-21 for PMR department; Non-examiner coordinator, Practical Examination, MD (Physical Medicine and Rehabilitation), 2 July 2021, AIIMS, New Delhi; Member of Doctoral Committee for PhD student (Dr Souvik Manna) in Community Ophthalmology –Community based assessment of disability among adult

population of Delhi using WHO-ICF; Content Provider from PMR for AIIMS website; Member, EHS Screening COVID-19 management team (May and June 2021); Faculty designated for supervision of Academics activities of our department from 1st July to 31 December 2021; Chairperson and Judge, Faculty Paper for Dadhichi Award session in IAPMRCON 2022; Jury member, IPARM Gold Medal session in DelhiPMRCon 2022 held on 5th March 2022; Co-author of 3 chapters (Regenerative Procedures in PMR Practice, Architectural Barrier Reduction, and Sexual Dysfunction) in the upcoming IAPMR Textbook; Nodal officer for PMR Physical verification of the Assets & Stores.

Resident doctors

Dr Charanjeev Kaur Memorial Award for Promising Young Active Resident, at the 16th Annual Conference of IPARM on 5 March 2022 at VMMC & Safdarjung Hospital was won by Dr Krishna B, Senior Resident.

Dr Sangeeth AP & Dr Raktim Swarnakar, Resident Doctors, won 3rd place in IAPMR National Quiz held on 27 March 2022. Our resident, Dr Raktim Swarnakar, obtained certificates as **Reviewer in Spinal Cord (Nature)** (one article), **Clinical Case Reports journal (Wiley)** (one article), **JCDR** (one article), and **Cureus** journal (two articles), **World Journal of Clinical Cases** (one article) for reviewing papers.

Other Staff Members

Mr Vikas Rana, Workshop Technician Grade II passed Final second year of two and half years BPO condensed Bridge course for which permission was granted by AIIMS New Delhi.

Mr Susanta Kumar Mohanty attended 26th National conference of orthotics and Prosthetic society of India from 28th to 30th March 2022 held at Panjim convention center Panjim Goa; Chaired the session in 26th National Conference of orthotics and Prosthetic society of India held from 28-30 March 2022 held at Panjim convention center Panjim Goa.

9.32. Physiology

Professor and Head

Kishore Kumar Deepak

Professors

Kanwal Preet Kochhar
Ashok Kumar Jaryal

Ratna Sharma
Raj Kumar Yadav

Suman Jain
Anjana Talwar

Additional Professors

Asmita Patil
Prashant Tulsidas Tayade

Renu Bhatia
Dinu Santha Chandran

Simran Kaur
Nasreen Akhtar

Associate Professors

Ritesh Kumar Netam

Akanksha Singh

Geetanjali Gokarn Bade

Assistant Professor

Suriya Prakash Muthukrishnan

HIGHLIGHTS

The department of physiology has been involved in undergraduate and postgraduate teaching in addition to the doctoral program. The faculty also undertook to train manpower for undergraduate, postgraduate teaching and research techniques in-house by holding workshops and symposia at AIIMS and other institutions. Several extramural and intramural research projects were taken up by the faculty in various areas such as neurophysiology (including the autonomic nervous system), cellular and molecular physiology, nutrition, vascular physiology, reproduction, respiration, sleep, cognition, transcranial magnetic stimulation and yoga. The research outcomes were presented in various national and international scientific forums and published in indexed journals. On the basis of its original research, the department has provided significant support in patient care by utilising cutting-edge technologies in autonomic and vascular function assessments, pain management, intraoperative monitoring during corrective surgeries, and yogic intervention. Several awards and honors have been received by faculty members and the students of the department in appreciation of their innovative contributions in research and medical education. The department organised “Techniques in Physiological Sciences (TIPS) 2021”, the workshop for SAARC Nations in hybrid mode from 1-3 December and shared their expertise with scientists from India and abroad.

EDUCATION

1. **Undergraduate teaching:** Lecture 200 hours & Practical 240 hours, UG students: Total number of students: 132
2. **Postgraduate teaching:** Total Number of PG students: 51
 - a. M.Sc. students: 12
 - b. M.D. students: 18
 - c. Ph.D. scholars: 21
3. **Nursing and allied courses:** Total number of students: 196 (93 BSc (H) Nursing, 10 MT.R (radiology), 20 O.P.H. (optometry), 46 P.C. (post-certified nursing) students, 20 students of B.Sc. Operation Theatre technician course, 7 B.Sc. Dental Operating Room Assistance, MSc Nursing Cardiology 2nd year, Neurophysiology for M.Sc Nursing II year students, MSc Nursing Nephrology)
4. **Academic/research training:** Total number of scholars: 17
 - a. Senior residents: 8
 - b. Young scientist: 1
 - c. Research associates: 3
 - d. Senior Research Fellows: 5

CMEs/Workshops/Symposia/National and International Conferences

The Faculty of the Department of Physiology has organised:

1. Panel Discussion on Art and Science of Medicine and Role of Medical Humanities, The Harvard Club of India and AIIMS Delhi, 14 April 2021
2. Symposia on “Shifting the obesity narrative: the use of language and imagery when talking about obesity”, Global Youth Meet on Health (GYM), 21 April 2021
3. Symposia on “Functional Near Infrared Spectroscopy: What, Why When, and How?”, IAN Delhi - NCR Chapter, 17 July 2021

- Series of 5 virtual workshops on “Brain Imaging and Mapping Protocols for Humans” at Department of Physiology, AIIMS, New Delhi, India in July 2021.
- Symposia on “Novel In Silico Approaches to study traditional Indian medicinal plants: Phyto genomics, Ayurgenomics, Nootropics and Phytoinformatics”, UGC-STRIDE, MDU, Rohtak, Haryana, 16 August 2021
- Workshop on “Cognitive neurophysiology lab protocol”, Department of Physiology, JN Medical College, Kaher, Belagavi, APPI, Belgaum, 16 October 2021
- Virtual workshop on “Transcranial Magnetic Stimulation and Pain Assessment Protocols” during the event “Edification - Expertise - Explore - Exchange – enhance, from knowledge update to translational research in Physiology”, held by APPI Belgaum, 23 October 2021
- “Techniques in Physiological Sciences (TIPS) 2021”, the workshop for SAARC Nations, 1-3 December 2021 in hybrid (physical & online) mode
- Virtual symposium on “Neural Plasticity and Repair in Neurotraumatic Injury” during 39th Annual Conference of Indian Academy of Neurosciences, 16-19 December 2021, Kolkata
- Preconference workshop on “Transcranial magnetic stimulation” at Indian Association of Physical Medicine and Rehabilitation IAPMRCON 2022 Golden Jubilee Conference, 24 March 2022.
- Virtual symposium on “Environment and Nutrition in Neuromodulation” at FIPS International e-conference “IX Annual Symposium of Federation of Indian Physiological Societies-2022”, NIPER Hyderabad, 25-27 March 2022
- Symposia on “Environment and Nutrition in Neuromodulation” at FIPS International e-conference “IX Annual Symposium of Federation of Indian Physiological Societies-2022”, NIPER Hyderabad, 26 March 2022
- Workshop on “Transcranial Magnetic Stimulation: A Non-invasive Diagnostic and Prognostic tool for Clinical Physiology” during APPICON 2021-22, ESIC Medical College and Hospital, Faridabad, 13 April 2022
- Pre-conference workshop on “Microgravity Countermeasure and Simulation Methods” (as part of APPICON 2021-2022), 13 April 2022, AIIMS, New Delhi.

Numbers related to the current year and the two preceding years

S. No.	Component	2019-20	2020-21	2021-22
1	Number of students/trainees registered in the department	318	384	396
2	Number of oral presentations and posters	56	13	24
3	Number of different sub-types of publications			
	I. Full article	41	51	46
	II. Abstract	14	11	2
	III. Book chapter	2	8	02
4	Total number of funding received for research	37	42	47
	Total amount of funding received for research	Rs 809.91 lakhs	Rs 958.61 lakhs	Rs 1340.89 lakhs
5	Number of patient-care related activities: specialty clinics, procedures, investigations etc.	5	5	5

Lectures delivered

Kishore Kumar Deepak: 22

Suman Jain: 11

Anjana Talwar: 5

Simran Kaur: 2

Nasreen Akhtar: 4

Suriya Prakash Muthukrishnan: 2

Kanwal Preet Kochhar: 10

Raj Kumar Yadav: 5

Asmita Patil: 4

Prashant Tayade: 2

Akanksha: 3

Ratna Sharma: 1

Ashok Kumar Jaryal: 6

Renu Bhatia: 4

Dinu S Chandran: 7

Geetanjali Gokarn Bade: 5

Oral / Poster presentation: 24

RESEARCH

Funded Project

Ongoing

- A multidisciplinary approach to understanding the interrelationships between sleep quality, brain morphometry and cognition: comparison between Indian individuals residing in the UK vs India (a SOLACE study), Dr Nasreen Akhtar, AIIMS - UCL, 1 year, 2022-2023, Rs 10 lakhs
- A novel combinatorial approach for neuroregeneration in an in-vivo spinal cord injured rat model: neurotrophic factors coated iron oxide nanoparticles impregnated in a biocompatible hydrogel system, Dr Suman Jain, DST, 3.2 years, 2017-2022, Rs 32.24 lakhs
- A randomised controlled trial to evaluate the efficacy of yoga in modifying gene expression of stress, inflammation, and ageing in Indian obese subjects, Dr Raj Kumar Yadav, ICMR SRF, 3 years, 2019-2022, Rs 14 lakhs
- A study of EEG microstates and source connectivity as state and trait markers in schizophrenia with depression, Dr Ratna Sharma, ICMR RA, 3 years, 2019-2022, Rs 21.58 lakhs

5. Acute effects of slow breathing on cardiovascular variability during head up tilt, head down tilt and lower body negative pressure in naïve healthy subjects and trained yoga practitioners, Dr KK Deepak, AYUSH, 3 years, 2016-2021, Rs 66.76 lakhs
6. ARTSENS® Age: A multimodal method & system for reliable assessment of vascular ageing associated early health markers in routine clinical practice for early screening & timely intervention, Dr Dinu S Chandran, SERB, 3 years, 2022-2025, Rs 10.64 lakhs
7. Circulatory exosomal microRNA (miRNA) as marker of endometriosis: A pilot study, Dr Asmita Patil, AIIMS, 3 years, 2019-2022, Rs 10 lakhs
8. Clinical research to assess efficacy of repetitive transcranial magnetic stimulation along with implantation of neurotrophic coated nanoparticles in complete spinal cord injury patients, Dr Suman Jain, DBT, 3 years, 2020-2023, Rs 88.35 lakhs
9. EEG microstates as a biomarker in addictive disorders, Dr Simran Kaur, AIIMS, 2 years, 2019-2022, Rs 8.06 lakhs
10. Effect of chronic exposure to low intensity magnetic field on streptozotocin induced synaptic dysfunction and amyloid precursor protein processing in rats, Dr Suman Jain, ICMR SRF, 3 years, 2019-2022, Rs 13.2 lakhs
11. Effect of endocannabinoid at septal nuclei on sleep wakefulness in rats, Dr KK Deepak, ICMR SRF, 3 years, 2018-21, Rs 16.22 lakhs
12. Effect of functional magnetic resonance imaging neurofeedback-guided motor imagery training on corticomotor excitability and pain status in rheumatoid arthritis, Dr Renu Bhatia, ICMR, 3 years, 2019-2022, Rs 26 lakhs
13. Effect of probiotic supplementation on cognitive functions and motor responses in fluctuating Parkinson's disease: A randomized controlled trial, Dr KP Kochhar, DST, 3 years, 2019-2021, Rs 57 lakhs
14. Effect of repetitive transcranial magnetic stimulation (rTMS) of dorsolateral prefrontal cortex (DLPFC) in patients with phantom limb pain, Dr Akanksha, AIIMS, 2 years, 2021-2023, Rs 6 lakhs
15. Effect of sleep deprivation on glucose sensitive neurons in arcuate nucleus in rats, Dr Ritesh Kumar Netam, AIIMS, 2 years, 2020-2022, Rs 8.78 lakhs
16. Effect of sleep deprivation on regional brain and body temperature in rats, Dr KK Deepak, ICMR RA, 3 years, 2018-2021, Rs 17.68 lakhs
17. Effect of yoga-based lifestyle intervention on oxidative stress, inflammation, vascular endothelial function and autonomic tone in diabetic retinopathy patients, Dr Ritesh Kumar Netam, AIIMS, 2 years, 2021-2022, Rs 10 lakhs
18. Effect of yogic intervention on pain status in fibromyalgia patients, Dr Renu Bhatia, DST, 3 years, 2019-2022, Rs 59 lakhs
19. Efficacy of a yoga-meditation based lifestyle intervention in patients with obesity and major depressive disorder: A randomized controlled trial, Dr Raj Kumar Yadav, DST, 3 years, 2022-2025, Rs 80 lakhs
20. Expression of erbB receptor family and estrogen receptor (ER) in endometrium and ectopic lesion during ovarian endometriosis, Dr Asmita Patil, AIIMS, 3 years, 2020-2022, Rs 9.60 lakhs
21. Facilitated recruitment of anterior cingulate cortex as a compensatory circuitry of contextual fear memory in the absence of hippocampus, Dr Suman Jain, CSRI, DST (NPDF), 2 years, 2022-2024, Rs 22 lakhs
22. Facilitating of IT enabled training for generating skilled HCW's in General Pandemic Management & Covid-19 Management-PRAKASHMAY (Pandemic Related Awareness Knowledge and Sensitization to Healthcare Management Amongst Youth), Dr KP Kochhar, MeitY, Ministry of Electronics and Information Technology, 3 years, 2021-23, Rs 199.79 lakhs
23. Functional and morphological study of antigravity muscle in spinal cord transected rats: combinatorial effect of electromagnetic field exposure and iron oxide nanoparticle implantation, Dr Suman Jain, ICMR SRF, 3 years, 2019-2022, Rs 13.2 lakhs
24. Gene expression profiling by RNA seq and metabolomics signatures in post COVID Pulmonary Fibrosis, Dr Geetanjali Gokarn Bade, ICMR, 3 years, 2021-2024, Rs 63.99 lakhs
25. Immunophenotyping and functional characterisation of peripheral and in-vitro induced T regulatory cells: putative role in pathogenesis of COPD, Dr Anjana Talwar, AIIMS, 4 years, 2018-2022, Rs 20 lakhs
26. Impact of facemask on emotion recognition and re-identification in controls and patients of major depressive disorder: A QEEG study, Dr Simran Kaur, ICMR SRF, 3 years, 2022-2025, Rs 16.22 lakhs
27. Mapping the effective human brain connectome of visual object recognition, Dr Suriya Prakash M, AIIMS, 1 year, 2020-2021, Rs 4.78 lakhs
28. Microstate signatures and resting EEG sources of meditation and stress, Dr Ratna Sharma, DST, SATYAM, 3 years, 2020-2023, Rs 52.86 lakhs
29. Neural correlates of chemotherapy induced cognitive deficits in Non- Metastatic osteosarcoma, Dr Simran Kaur, Indian Association of Supportive Care in Cancer, 2 years, 2021-2023, Rs 3 lakhs
30. Neuromodulation of cortical excitability and plasticity by low frequency repetitive transcranial magnetic stimulation in infantile hemiplegic cerebral palsy patients, Dr Suman Jain, ICMR, 3 years, 2019-2022, Rs 51.35 lakhs
31. Prognostic value of endothelial dysfunction and arterial stiffness for major adverse cardiovascular events in patients with Non-ST elevation Acute coronary syndromes, Dr Dinu S Chandran, AIIMS, 2 years, 2019-2022, Rs 9.93 lakhs
32. QEEG correlates of default mode network activity and its correlation with cognitive deficits in multiple system atrophy-Parkinsonian type and multiple system atrophy -cerebellar ataxia type, Dr Ratna Sharma, ICMR RA, 3 years, 2019-2022, Rs 20.7 lakhs

33. Quantification of systemic inflammatory biomarkers and immunophenotyping of immune cells in post tuberculosis sequelae patients, Dr Geetanjali Gokarn Bade, AIIMS, 3 years, 2019-2022, Rs 10 lakhs
34. Structural and functional correlates of visuospatial complexity in language processing in children with developmental dyslexia, Dr Simran Kaur, ICMR SRF, 3 years, 2022-2025, Rs 16.22 lakhs
35. Study of EEG microstates and cortical sources in visuo-spatially complex Hindi language, Dr Prashant Tayade, AIIMS, 1 year, 2020-2022, Rs 4.92 lakhs
36. Theranostics exosomes for imaging directed treatment of brain metastases, Dr Suman Jain, ICMR, 3 years, 2021-2024, Rs 61.27 lakhs
37. To investigate the biochemical and functional alterations by novel diagnostic tool GluCEST and prevention of progression of Alzheimer's disease by non-invasive magnetic field stimulation therapy in streptozotocin (STZ) induced rat model, Dr Suman Jain, ICMR RA, 3 years, 2019-2022, Rs 21.58 lakhs
38. To study effect of exposure to diesel biodiesel and biodiesel blend fuel-engine exhaust on testicular morphology and spermatogenesis in male Wistar rats, Dr Asmita Patil, AIIMS-IIT, 3 years, 2019-2022, Rs 20 lakhs
39. Transgenerational impact of diesel exhaust exposure on the male reproduction in the rat, Dr Asmita Patil, ICMR, 3 years, 2021-2024, Rs 29.9 lakhs
40. Ultrastructural, synaptic and neuromuscular changes in sleep and sleep deprivation in rats, Dr KK Deepak, ICMR SRF, 3 years, 2019-22, Rs 16.22 lakhs
41. Wearable soft robotics for Upper Limb Muscle Power Augmentation with BMI interface, Dr Suriya Prakash M, DRDO-IITD 'JATC', 4 years, 2021-2025, Rs 56.34 lakhs

Completed

1. Correlation of duration of screen time with day-time EEG absolute power and academic performance in young adults, Dr Nasreen Akhtar, ICMR -STS, 1 year, 2020-2021, Rs 20,000
2. Effect of acute changes in ambient air pollutants on pulmonary variables and inflammatory markers in healthy subjects and asthmatics, Dr Geetanjali Gokarn Bade, AIIMS, UG research mentorship scheme, 1 year, 2020-2021, Rs 2 lakhs
3. Effect of repetitive transcranial magnetic stimulation on pain status and corticomotor excitability in chronic low back pain patients, Dr Renu Bhatia, AIIMS, 1 year, 2019-2021, Rs 5 lakhs
4. Effect of yoga on pain status and corticomotor excitability in chronic low back pain patients, Dr Renu Bhatia, DST, 3 years, 2017-2021, Rs 22.63 lakhs
5. Neurohormonal response to mild haemorrhage using the model of blood donation, Dr Akanksha Singh, AIIMS, 3 years, 2018-2021, Rs 9 lakhs
6. To study the relationship between resting retrograde shear and atherogenic profile in peripheral, central and coronary arteries in patients of myocardial infarction, Dr Dinu S Chandran, ICMR SRF, 3 years, 2018-2021, Rs 10.68 lakhs

Departmental projects

Ongoing

1. A morphological and functional study on intracerebroventricular streptozotocin induced rat model of Alzheimer's disease: Effect of magnetic field stimulation
2. A randomised controlled trial to evaluate the efficacy of yoga in modifying gene expression of stress, inflammation and ageing in Indian obese subjects
3. A study of central pain modulation in chronic pancreatitis
4. A study of cortical connectivity and EEG sources in autism spectrum disorder
5. A study of differential proteome expression following Intermittent Theta-Burst stimulation and Nanoparticles implantation in Spinal Cord Injured rats
6. A study of endothelial function and gene expression in healthy individuals, and their correlation with various somatotype classifications
7. A study of pain inhibitory neurotransmitters in CSF and blood of women undergoing caesarean-section
8. A study on cellular physiology of endometriosis-associated estrogenic action in endometrial stromal cells
9. A study to investigate neuromodulatory role of Intermittent Theta-Burst stimulation in Iron Oxide Nanoparticles implanted complete Spinal Cord Injured patients
10. Assessment of cardiovascular autonomic functions in COVID-19 survivors
11. Association between Val 158 Met polymorphism in Catechol-O-Methyl Transferase and pain perception in Rheumatoid Arthritis
12. Autonomic and vascular responses during cold pressor test at three different temperatures
13. Autonomic function and vascular parameter as predictors of outcome in coronary artery disease patients: An individual patient data meta-analysis
14. Brain Morphometric Correlates of Sleep Quality in Older Adults
15. Correlation between neuropsychological deficits and lesions of white fiber bundle in Pre-frontal area
16. Cortical reorganisation in complete spinal cord injured rats: Effect of superparamagnetic nanoparticles and low intensity magnetic field exposure

17. Cortical sources of listening to north Indian classical music: A QEEG Study
18. EEG cortical sources and connectivity of working memory and language processing in attention deficit hyperactivity disorder
19. Effect of chemotherapy on cognitive function in patients with breast cancer
20. Effect of endocannabinoid in septal nuclei in sleep in rats
21. Effect of exercise on lung volumes and airway impedance in dominant somatotypes of young adults
22. Effect of fMRI-based neurofeedback guided motor imagery training on cortical excitability and pain status in rheumatoid arthritis
23. Effect of intermittent theta burst stimulation on neurogenic orthostatic hypotension in patients of Parkinson's disease
24. Effect of Nitrovasodilators on the blood flow and shear profile in human brachial artery and their autonomic correlates
25. Effect of probiotics and repetitive transcranial magnetic stimulation on cognitive and motor functions in 6-hydroxy dopamine rat model of Parkinson's disease
26. Effect of probiotics supplementation on cognition and motor symptoms in patients with fluctuating Parkinson's disease
27. Effect of prolonged theta burst stimulation protocols on corticomotor excitability and pain perception in healthy controls
28. Effect of repetitive transcranial magnetic stimulation in phantom limb pain
29. Effect of repetitive Transcranial Magnetic Stimulation on pain status in Post Mastectomy Pain Syndrome patients
30. Effect of rTMS neuromodulation on Left Ventricular structure and cardiovascular variables in complete low thoracic SCI rats
31. Effect of salient Phytocompounds on behavioural activity and bio markers level in an experimental model of Parkinson's Disease: An *In-Silico*, *In-Vivo* study
32. Effect of sleep deprivation on regional brain temperature in rats
33. Effect of sympatho-inhibitory manoeuvres on resting retrograde shear in brachial artery of middle aged and elderly human subjects
34. Effect of yoga on pain status and corticomotor excitability in chronic low back pain patients
35. Effect of yogic intervention on pain perception and autonomic profile in fibromyalgia patients
36. Effect of yogic intervention on pain status and cortical excitability in fibromyalgia patients
37. Emotional interference in opioid addiction: A QEEG study
38. Estimation of depth of anaesthesia using multichannel EEG and physiological variables
39. Functional analysis of regulatory T cells in asymptomatic smokers
40. Immunophenotyping and functional characterisation of peripheral T regulatory cells in COPD
41. Muscle regeneration in complete spinal cord injury: effect of iron oxide nanoparticle implantation along with magnetic field exposure in rats
42. Neural correlates of local sleep and its association with cognition: A QEEG study
43. QEEG based neural correlates and microstates of attention and interference in ADHD: An endophenotypic marker
44. Recovery of physical activity & sleep disturbances post SARS-CoV-2 infection
45. Role of baroreflex in lower body negative pressure simulated non-hypotensive hypovolemia
46. Sleep quality and acute stress during lockdown due to COVID-19 pandemic
47. Study of the effects of exposure to diesel, biodiesel and blend fuel engine exhaust on testicular morphology and spermatogenesis in male wistar rats
48. To Evaluate Combination of Biochemical Endothelial Markers and Arterial Stiffness in prediction of Preeclampsia
49. To investigate the arterial wall mechanics of low flow mediated constriction
50. To study the effect of diesel exhaust exposure on male reproduction in the laboratory rat
51. To study the mechanism of altered spontaneous baroreflex sensitivity during blood donation
52. Ultra-structural, synaptic and neuromuscular changes in sleep and sleep deprivation in rats

Completed

1. A study of pain status and corticomotor excitability in chronic low back pain patients: Effect of transcranial magnetic stimulation
2. Default mode network in major depressive disorder
3. EEG microstates in major depressive disorder
4. Effect of N 95 mask on cardiovascular parameter on healthy individual
5. Effective brain connectivity in visual object recognition
6. Genomic expression and protein profile correlates of peripheral blood mononuclear cells in obesity after yoga-based lifestyle intervention
7. Neuromuscular changes in sleep and sleep deprivation
8. To study the effect of simulated microgravity on the Baroreflex Sensitivity and carotid artery structure in rats

Collaborative projects

Ongoing

1. A randomised controlled trial of 6 months yogic exercise vs regular physical activity on body composition, multiple metabolic measures in North India individuals with non-alcoholic fatty liver disease and obesity, Medicine

2. A randomised controlled trial of adjunctive incremental pregabalin therapy vs placebo for pain management in chronic pancreatitis, Gastroenterology and Human Nutrition
3. A randomised controlled trial of three months of Yoga-based comprehensive treatment module vs standard therapy in improving severity of symptoms, disability, and quality of life in patients with medically unexplained physical symptoms, Department of Medicine
4. A study of Neurophysiological Predictors of Response to Methylphenidate in Children and Adolescents with Attention Deficit Hyperactivity Disorder, Psychiatry
5. An observational study to correlate site of obstruction in obstructive sleep apnea with eustachian tube dysfunction and reflux disorders, Department of Otolaryngology
6. Analysis of anti-neurotoxicity of amyloid Beta (A β) in Alzheimer's disease (AD) pathology targeting lipoxygenase, Biophysics
7. Correlation between noradrenaline, serotonin, GABA and glycine in cerebrospinal fluid with labor pain undergoing cesarean section: A preliminary Study, Department of Anaesthesiology
8. Cortical excitability in children with electrical status epilepticus in sleep compared to non-epileptic healthy children using Transcranial magnetic stimulation, Paediatric Neurology
9. Delhi glaucoma epidemiology study , RPC for ophthalmic Sciences
10. Effect of '365 breathing technique' on intraocular pressure and autonomic functions in glaucoma patients: A randomised control trial, RPC for Ophthalmic Sciences
11. Effect of an integrated yoga program on stress, sleep quality, symptoms, severity, quality of life and clinical outcome in Covid-19 positive patients undergoing conventional treatment: A multicentric trial, Anesthesia and palliative care, IRCH Central Council of Yoga and Naturopathy (CCRYN)
12. Effect of Ayurvedic oil dripping treatment (Shirodhara) on sleep quality in patients with recent cardiocerebrovascular events: A randomised controlled trial, Department of Cardiology
13. Effect of suryanamaskara practice on physiological variables: A pilot study, Centre for integrative medicine and Research
14. Effect of vitamin D on monocrotaline induced pulmonary artery hypertension in rats, Pharmacology
15. Effect of Yoga on maternal and perinatal outcome on Pregnancy, Obstetrics and Gynaecology
16. Effect of yoga-based lifestyle intervention on biomarkers of cellular aging in patients with depression, Anatomy
17. Effects of environmental and occupational noise on cognition, NMR
18. Efficacy of a family based comprehensive yoga program for weight reduction among overweight children and adolescents, Pediatrics
19. Efficacy of a yoga-based intervention module in improving psycho-socio-behavioral well-being of patients recovered from COVID-19 : An Open level randomised controlled trial, Department of Medicine
20. Efficacy of repetitive transcranial magnetic stimulation in children and adolescents age 5-18 years with generalized dystonia: a randomized sham control trial, Paediatric Neurology
21. Exploring the effect of aging and neurodegeneration on decision making and the underlying mechanisms using Rodent-Iowa gambling task in streptozotocin (STZ) induced AD rat model, IIT Delhi and JNU Delhi
22. Gene expression profiling by RNA seq and metabolomics signatures in post COVID Pulmonary Fibrosis, Department of Pulmonary, critical care and sleep medicine, NMR and CCRF
23. Heat and thermal regulation of human body, IIT Madras
24. Immunophenotyping and functional characterisation of peripheral and in-vitro induced T regulatory cells: putative role in pathogenesis of COPD, Pulmonary, critical care and sleep medicine
25. Impact of rTMS versus drug therapy on phantom limb pain in lower limb amputation patients: A randomised controlled trial, JPNAT, Trauma Centre
26. Impact of supervised diet and lifestyle modifications on weight loss, body fat distribution and insulin resistance in adult Indian obese patients, Surgical disciplines
27. Impact of yoga and meditation on epigenetic profile in rheumatoid arthritis, Anatomy
28. Influence of the restoration after pulpotomy on the electrical conductance of the tooth- A preliminary investigation, CDER
29. MR and other techniques based phenotyping and correlation with prakruti type in healthy population, NMR
30. Quantification of systemic inflammatory biomarkers and immunophenotyping of immune cells in post tuberculosis sequelae patients, Pulmonary, critical care and sleep medicine
31. Questionnaire based survey of musculoskeletal dysfunction among general surgeons and comparison of muscle activity and fatigue among expert and novice surgeons during laparoscopic surgery using surface electromyography, Surgery
32. Randomised double-blind, placebo-controlled study of oral gabapentin for prevention of sensory neuropathy in patients receiving paclitaxel, Department of Medical Oncology, Dr. BRAIRCH
33. Role of yoga based intervention as an adjunct in improving quality of life of glaucoma patients, RPC for ophthalmic Sciences
34. Single arm intervention study of low frequency repetitive transcranial magnetic stimulation in steroid resistant / relapsed ESES in children aged 5-12 years, Paediatric Neurology
35. Smartphone applications-based intervention to reduce body mass index and improve health related behaviour among school children with overweight/obesity: A controlled clinical trial, Paediatrics

36. Spatio-temporal photoplethysmography (PPG), IIT Madras
37. Study of the effects of exposure to diesel, biodiesel and blend fuel engine exhaust on testicular morphology and spermatogenesis in male wistar rats, IIT Delhi
38. Therapeutic intervention of small molecule based novel activator of sirtuin on rat model of Alzheimer's disease, Biophysics
39. To compare inflammatory markers in low pressure pneumoperitoneum with deep neuromuscular block versus standard pressure pneumoperitoneum among patients undergoing laparoscopic cholecystectomy for gallstone diseases: A pilot Randomised Control trial, Dept of Surgical disciplines
40. To investigate the behavioural and neurobiological alterations in the Decision Making in Affective Disorders by Rodent Iowa Gambling task with underlying sex differences, IIT Delhi
41. Unique aspects of idiopathic hypoparathyroidism, Endocrinology and Metabolism
42. Wearable soft robotics for Upper Limb Muscle Power Augmentation with BMI interface, IIT Delhi
43. Yoga in Coronary artery disease and quality of sleep (YOGA-CADETS), Department of Cardiology

Completed

1. A cross sectional study to assess the severity of chronic pruritus and its effect on quality of life using the 12-item pruritus severity scale and the 5-D itch scale, Dermatology and Venereology
2. A prospective study to evaluate the restoration of abdominal wall dynamics in patients with
3. A randomised randomised sham controlled trial of targeted low frequency repetitive transcranial magnetic stimulation therapy in childhood and adolescent with focal onset refractory epilepsy, Paediatric Neurology
4. A randomised, double-blind, placebo-controlled, split-head trial to study the effects of autologous platelet-rich plasma on hair growth and lesional T-helper and T-regulatory cells expression markers in alopecia areata, Dermatology and Venerology
5. Comparative study of effects of lignocaine vs dexmedetomidine administration on the incidence of post-operative cognitive dysfunction in the elderly, Anaesthesiology, Pain Medicine and Critical Care
6. Effect of acute changes in ambient air pollutants on pulmonary variables and inflammatory markers in healthy subjects and asthmatics, Pulmonary, critical care and sleep medicine
7. Evaluation of immediate and occlusal pattern changes and their influence on electromyographic activity of jaw muscles in growing patients treated with rapid maxillary expansion for posterior crossbite- A prospective clinical study, Orthodontics and dentofacial deformities, CDER
8. Evaluation of repetitive transcranial magnetic stimulation as an adjunct to modified constraint induced movement therapy in improving upper limb function in children with hemiparetic cerebral palsy aged 5–18 years - A randomized controlled trial, Paediatric Neurology
9. Exploring graphene functionalised 3D scaffolds for enhanced neuronal differentiation of human mesenchymal stem cells and use in rat Parkinson's disease model, Stem Cell facility, IRCH
10. Impact of transcendental meditation on stress and immunity of healthcare providers involved in COVID-19 patient care at AIIMS, New Delhi, Surgical disciplines
11. incisional hernia following laparoscopic IPOM plus repair in comparison to healthy controls using surface EMG, Surgery
12. Interventions for stigma for persons with epilepsy in India, Neurology
13. Is central sensitization is a characteristic feature of chronic nonspecific neck arm pain? - a comparison with fibromyalgia and healthy individuals, Neurosurgery
14. Longitudinal changes in EMG activity of masseter and temporalis muscles of patients undergoing temporomandibular joint replacement, Oral and & maxillofacial surgery, CDER
15. Neurobiological basis of early life stress induced aggressive behavior, Institute of Genomics and Integrative Biology, Delhi
16. Prospective study to evaluate the etiology of voiding lower urinary tract symptoms in young male patients, Urology
17. Prospective study to evaluate the etiology of voiding lower urinary tract symptoms in young male patients, Department of Urology
18. Repetitive transcranial magnetic stimulation to the inferior parietal lobule in task specific focal hand dystonia: A randomized cross over blinded outcome assessment study, Neurology
19. Role of selective neuropeptides in the spinal cord of morphine treated rats, Anatomy
20. The study of synaptic plasticity in rat model of chronic post-surgical pain, Anatomy

PUBLICATIONS

Journals: 46 Abstracts: 2 Chapters in Book: 2

PATIENT CARE

Autonomic Function lab and Vascular Function lab provide diagnostic facility for referred patients. The labs provide routine test of autonomic reactivity along with autonomic tone quantification. A total number of 630 humans have been tested for autonomic function test this year.

Gastrointestinal Physiology: Provided diagnostic facility with High resolution upper GI manometry for 30 patients and 24-hour pH monitoring for 15 patients from Department of Surgery

Intraoperative Neurophysiology Intraoperative neuro-monitoring support was provided to 235 (September 2021 – 31 March 2022) surgeries for the Departments of Neurosurgery and Orthopaedics.

Integral Health Clinic (IHC) is “a facility for mind, medicine & meditation integration”, primarily for health promotional activities. IHC is an outpatient facility which is used not only for therapeutic gains but also as part of a developing health consciousness. As a de-stressor facility, the IHC is a supportive facility to de-stress AIIMS employees including faculty, students, residents and staff. During this COVID pandemic, the clinic continued online & offline (physical) training & practice of yoga as much as possible as per COVID guidelines. This facility was used for our AIIMS healthcare providers involved in the COVID -19 patient care as well as patients of chronic diseases (like paediatric obesity, fibromyalgia) and referrals from R.P.C. ophthalmic center and so on. COVID batch TM, 2021 (physical), no. of participants-days, (each participant for 5 days at IHC): 5 April, 30 June, 30 July, 25 August, 15 September, October 10, November 20; Pediatric obesity batch (online, Sept 2021 onwards): 15 kids x 3 months intervention; Fibromyalgia batch (Physical, offline): 12 patients in January, February and March 2022. Each patient trained for total 28 days, 1 hour each day; Fitness batch (Physical, offline), January to March 2022, Total 12 participants, each participant for 14 days training/ practice, 1 hour each day.

Pain Research and TMS laboratory 300 rTMS (Repetitive Transcranial Magnetic Stimulation) sessions given at Motor cortex/Dorsolateral Prefrontal cortex, 20 supervised Yoga sessions with flexibility assessment in 18 patients and 15 motor imagery sessions to chronic pain patients were given. Pain and Somatosensory assessment of 50 chronic pain patients and healthy volunteers were done. EMG recordings of pericranial, epigastric, abdominal and cervical muscles done for 20 patients. Heart rate variability were done in 10 chronic pain patients (fibromyalgia) and healthy controls. Corticomotor excitability measurement and evaluation of 25 chronic pain patients and 10 healthy volunteers was also conducted. Quantitative sensory testing was performed for 25 patients. The chronic pain patients included patients with chronic low back pain, fibromyalgia, rheumatoid arthritis, chronic neck and shoulder pain, chronic pruritus, hypothyroidism, breast cancer, pancreatitis, phantom limb patients, pregnant women (undergoing cesarean section) and young children undergoing orthodontic therapy. Patients were referred from various clinical departments of AIIMS namely Rheumatology, Physical Medicine and Rehabilitation, Orthopaedics, Neurosurgery, Oral and maxillofacial surgery, Orthodontics, Dermatology, Endocrinology, Anesthesiology and Neurology, JPNAT Trauma centre, Gastroenterology, and Gynecology.

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Kishore Kumar Deepak is the Dean (Examination), AIIMS, New Delhi; Received SK Manchanda Oration Award conferred by Federation of Physiological Societies (FIPS, 2021). Advisory Board of American Academy of Yoga and Medicine (AAYM), USA; Executive Editor, Indian Journal of Physiology and Pharmacology of India; Chairman, Ethics committee, National Institute of Fashion Technology (NIFT), New Delhi; Chairman, Ethics committee ESIC Medical College Faridabad; Member, Pulse Coordination Committee, AIIMS, ND; Expert, NRDC Expert screening committee, National Research development Council (NRDC), ND; Chairman, Main Negotiation committee-I, AIIMS, ND; Chairman, Stores Purchase Committee, AIIMS, ND; Member, committee for selection cum screening for Physiology - Dr. BR Ambedkar State Institute of Medical Sciences, IMS, BHU, VPCI Delhi University, AIIMS Kalyani, AIIMS Deoghar; Member, committee to suggest various changes in Administration with names, AIIMS, ND; Professor In-charge (for Faculty Development of & Basic Sciences), CMET, AIIMS, ND; Expert invitee to discuss WHO guidelines on physical activity and sedentary behaviors and participate in the first technical discussion on drafting a road map for GAPPa implementation; PhD thesis examiner, NIMHANS; Dept coordinator for all Covid activities and participated in combined morning meetings; Expert for research committee for IIT Delhi PhD students for the title “Virtual Reality Applications for Stroke Rehabilitation”; Member of NRDC national innovation awards, national societal innovation awards and national budding innovators awards; Member, Biomedical device and technology development (BDTD) Expert advisory group (EAG), DST; Member, Initial screening committee (ISC) meeting for national award-2021 applications, Technology development board, Department of science and technology; Member, Science and technology for yoga and meditation (SATYAM), DST; Member of the advisory panel at national academy of medical sciences (NAMS); Chairman, Teaching schedule committee for the (Phase-I) 2020-2021; Filed 1 patent. Member PhD board, ESIC Medical College, Faridabad; Member, Election Commission, National Academy of Medical Sciences (NAMS); Member Secretary, Building Committee Meeting, National Academy of Medical Sciences (NAMS).

Professor Suman Jain is the Member of Funding Review Committee, North American Spine Society; Member of technical specification committee, AIIMS Raipur; External expert in Doctoral research committee of PhD student at Delhi Technical University, Delhi; Subject expert in selection committee for regularizing and upgradation of faculty positions in dept of Physiology at Hamdard Institute of Medical Sciences and Research; Member of Feedback Committee, North American Spine Society; Vice President, Indian Academy of Neurosciences; Secretary of Delhi-NCR Chapter of Indian Academy of Neurosciences; Member of IUPS-IUPHAR committee of INSA; Member of Review committee, ICMR; Committee member for counseling of Non Academic Junior residents, AIIMS Delhi; Faculty mentor of e-Student Welfare Cooking Club, AIIMS Delhi; Chaired a session on “Environment and Nutrition in Neuromodulation” during FIPS International e-conference “IX Annual Symposium of Federation of Indian Physiological Societies-2022” held at NIPER Hyderabad from 25-27 March 2022; Chaired a session on “Neural Plasticity and Repair in Neurotraumatic Injury” during 39th Annual Conference of Indian Academy of Neurosciences held from 16-19 December 2021 at Kolkata.

Professor Raj Kumar Yadav is the Editor of International Journal of Clinical and Experimental Physiology; Member, Editorial board - Annals of Yoga and Physical Therapy; Deputy Hostel Superintendent, AIIMS, New Delhi; Finance Secretary, Techniques in Physiological Sciences for SAARC nations 2021, AIIMS, New Delhi, 1-3 December 2021; Secretary, Association of Physiologists and Pharmacologists of India (APPI), Delhi chapter Secretary, Faculty Club, AIIMS, New Delhi; Chairman: Committee for evaluation of tenders on QCBS basis (AIIMS Hostels); Chairman: Inspection committee for hostel goods (Tables, CCTV etc); Member: Selection committee for recruitment of consultant/fellows/computer programmer etc in research projects at AIIMS (Research section); Member, AIIMS Students Benevolent Fund Committee for UG students; Organized 'Ramesh Bijlani Lifetime Achievement Award' ceremony (under the aegis of ASSOPI & APPI) at Dr Ramalingaswami Board Room, on 7th October, 2021, 9.30 am to 11 am. Awarded Prof AS Paintal Award for best research work in Physiology (as Chief Guide, PhD work of Dr Dipti Magan) on 7th Sept, 2021, during 7th ASSOPICON 2021(online); MNAMS: Member, National Academy of Medical Sciences (India); FIPS: Fellow, Indian Society of Hypertension; awarded Certificate of Completion for 'Training program on Good Clinical Practice' in Feb-March, 2022 organised by the Clinical Development Services Agency (CDSA), Translational Health Science and Technology Institute (THSTI), Department of Biotechnology (DBT), Ministry of Science and Technology, GoI; Nodal officer, Hostels, AIIMS: for infection control amongst hostelers/ residents during Covid 19 pandemic; External subject expert for Faculty selection at AIIMS Jammu, AIIMS Bathinda (Nov 2021) and RML Institute of Medical Sciences, Lucknow (November 2021); Technical cum Experts Committee member, Indian Council of Medical Research (ICMR), New Delhi; Reviewer/Domain Expert - Dept of Science & Technology (DST)/SATYAM, GoI.

Dr Renu Bhatia is the Member, International Association for Study of Pain (IASP); Member - AIIMS UG Curriculum organising group, AIIMS New Delhi; Member - Women in Brain Stimulation; Nodal Officer, e-content for learning management system.

Dr Simran Kaur won Jury award for e-paper presentation titled "Comparison of the postgraduate student's perception on the effectiveness of two formats of journal club" at Meducon 2021 (online), 2-3 September 2021; Member: Committee on compilation of information and coordination with various agencies for awards. Departmental Nodal officer, NMCN; Panelist in a Panel discussion entitled 'Ideas, inception, challenges and the way forward for establishing new and quality research' on 27 November 2021, organised by APPI, Belgaum Branch; Convenor, workshop on Principles and techniques for assessment of cognitive functions organized by APPI, Belgaum branch on 30 October 2021.

Dr Prashant Tayade is the Convenor for workshop on Cognitive Function Assessment at TIPS-2021 SAARC Nations Workshop, AIIMS, New Delhi; Convenor for IAN-2021 virtual workshop Delhi NCR Chapter on Brain Imaging and Mapping Protocols in Human.

Dr Nasreen Akhtar has received certification of Good Clinical Practices Course organized by Clinical Development Services Agency (CDSA), Translational Health Science and Technology Institute (THSTI), in collaboration with AIIMS, New Delhi. She is Associate editor of the journal 'Sleep and Vigilance'. She is departmental assistant central public information officer for Department of Physiology.

Dr Suriya Prakash Muthukrishnan is the Member of Society for Neuroscience (SfN); Event Coordinator, Techniques in Physiological Sciences Workshop 2021 (TIPS 2021), Nodal Officer, Annual Reports, Department of Physiology, AIIMS, New Delhi; Member, Committee for MBBS Curricular Reforms, AIIMS, New Delhi; He has completed an online course "Python Data Structures" through Coursera on 13 September 2021 conducted by the University of Michigan.

Social outreach programmes

Media coverage

S. No.	Media	Program detail	Date	Time
	India Science: The Nation's Science Channel, dept of Science & Technology, Govt. of India.	As a medical expert, Dr Raj Kumar Yadav, in the online show 'Science Time' discussing 'Yoga and Health' live on www.indiascience.in/ YouTube/ Facebook	18 June 2021	3 to 3.30 pm

9.33. Plastic, Reconstructive and Burns Surgery

Professor and Head

Maneesh Singhal

Associate Professors

Raja Tiwari

Shashank Chauhan

Rajkumar Manas

Assistant Professors

Shivangi Saha

Suvashis Dash

Archana Sinha

HIGHLIGHTS

The Department of Plastic, Reconstructive and Burns Surgery at AIIMS, New Delhi is now in its 7th year of existence and is operational from the newly constructed Burns and Plastic Surgery Block. The block has fully opened all of its services in the last year, including a dedicated state-of-the-art Burns ICU with round-the-clock critical care. The monthly inflow into our outpatient department, as well as admissions, has consistently climbed and the department continues to work in collaboration with various other specialties such as Neurosurgery, Cardiac surgery, Orthopedic surgery etc. and independently it caters to almost all emergency hand injuries, microvascular reconstruction for complex limb trauma, post burn reconstruction, maxillofacial trauma, oncoplastic reconstruction, aesthetic breast surgery, breast reconstruction and other congenital anomalies like cleft lip and palate, syndactyly, polydactyly, camptodactyly, hypoplastic thumb deformity, etc. The team works in collaboration with Orthopedic surgery to run the Hand Clinic, with the department of Orthodontics to run the Cleft Clinic, with the department of Dermatology to run the Aesthetic clinic, with the department of Neurosurgery to run the Brachial Plexus Injury clinic and the Amputation clinic along with PMR. With a facility for 100 indoor beds, dedicated burns emergency and ICU, equipped with modern state of the art care facilities and managed by highly trained faculty, dedicated residents, and health care staff, the block is expected to become the standalone facility to the cause of care of burns and multitude of reconstruction care in coming times. Besides formal training of MCh residents, the Department has taken a lead in capacity building for the nation, enhance and share the experience through various collaborations. It is in the process of establishing the country's first National center of excellence for gender affirmative care with support from NACO, Ministry of Social Justice and Empowerment, and World Professional Association for Transgender Health.



Infrastructure



Meeting to Setup up National Center of Excellence for Gender Affirmative Care at AIIMS, New Delhi

EDUCATION

Academic Activities for Undergraduate

Lectures related to plastic and reconstructive surgery topics as per undergraduate curriculum

Academic Activities for Postgraduate Students

- The department has 15 MCh Residents, two Post-MCh Residents and two Post MS non-academic residents
- There is regular conduct of teaching activities in form of case presentations, seminars, and journal clubs for the Plastic Surgery residents
- Due to COVID-19 interruption, all academic activities of the department were conducted in hybrid mode

CMEs/Workshops/Symposia/National and International Conferences

Organized by the department

1. **CME – Maxillofacial Trauma**, 13 November 2021, Online Event
2. **Advanced Emergency Burn Management Course**, 21-25 March 2022, New Delhi

Lectures delivered

Maneesh Singhal: 4
Suvashis Dash: 3

Raj Kumar Manas: 3
Shivangi Saha: 3

Raja Tiwari: 7
Archana Sinha: 1

RESEARCH

Funded projects

Ongoing

1. Artificial skin (Bio-inspired bi-layer polymeric hybrid scaffold) for burn injuries and trauma care, Dr Maneesh Singhal, DST IMPRINT, 1 year, 17 June 2021-16 June 2022, Rs 44,96,600
2. Comparative Analysis of skin grafts on Post Traumatic wounds with portable Negative Pressure Therapy device vs conventional dressing. An open labelled, parallel arm-cohort, Dr Shashank Chauhan, Triage Meditech Pvt Ltd, 6 Months, May 2020-ongoing, Rs 7,26,264
3. Development of training model for delineation of vascular supply relevant to reconstructive surgical procedures of face and hand: A novel method of cadaver processing, Dr Maneesh Singhal, ICMR, 2 years, 15 February 2022-14 February 2024, Rs 81,82,320
4. Evaluation of outcome of three-dimensional printing model and simulation program for post-traumatic nasal deformities correction, Rajkumar Manas, AIIMS Intramural, 2 years, 2021-2023, Rs 5 lakhs00,000
5. Pilot Study on utility of Robotic surgery for Brachial plexus reconstruction. Raja Tiwari, ICMR, 2 years, 2021-ongoing, Rs 29,50,000
6. Pilot Study on Vascular labelling of extra-cranial head and neck vessels using silicone dye injection: Avoiding danger zones during interventions., Raja Tiwari, AIIMS Intramural, 1 year, 2022-ongoing, Rs 4,95,300
7. Post Burn Scars and Contractures: A hospital-based study of the burden of disease, socioeconomic and clinical factors affecting the outcome, and steps to mitigate them, Dr. Shashank Chauhan, ICMR, 2 years, 2022-2024, Rs 68,28,678

Completed

1. Controlled Clinical trial to assess the effectiveness of topical application of C1 herbal oil on superficial external wounds. (Phase II), Maneesh Singhal, Ministry of AYUSH, Govt. of India, 1 year, 2018-2020, Rs 16,72,800

2. Situational Analysis of Burns in India, Maneesh Singhal, Ministry of Health and Family Welfare, Govt. of India, 4 years, 2015-2020, Rs 38,50,000

Departmental projects

Ongoing

1. A Comparative Evaluation of Smartphone Thermography and Clinical Methods of Postoperative Monitoring of Tissue Perfusion in Free Microvascular Tissue Transfer: A Prospective Cohort Study
2. Early Outcomes following mangled foot and ankle Trauma: Comparison of limb salvage vs below knee amputation from an Indian perspective
3. Feasibility of monitoring of free flaps with smartphone thermography
4. Cross finger flap for thumb distal soft tissue defects using index finger vs ring finger: a comparative study
5. Epidemiology of hand injuries in single centre (JPNATC-AIIMS- A prospective and Retrospective Study)
6. To evaluate the outcomes following fingertip Injuries
7. Outcomes following management of post traumatic thumb defects: a retrospective study
8. Pattern of metacarpal fractures in patients presenting to a tertiary care centre in North India

Completed

1. A Prospective study of Graft Reposition over Flap technique for reconstruction of fingertip amputation
2. Soft Tissue Reconstruction for exposed spinal implants: A pilot study
3. Prognostic factors associated with outcome in patients who were treated for Spaghetti Wrist Injuries
4. Analysis of factors affecting the survival of digital replant
5. Epidemiological analysis of amputation cases in a level 1 trauma centre in India
6. Role of hyperbaric oxygen therapy in salvage of compromised flaps
7. Role of triamcinolone acetate in the maturation of scar

Collaborative Projects

Ongoing

1. Intraarticular injection of Autologous adipose derived stromal vascular fraction or hyaluronic acid for treatment of symptomatic knee osteoarthritis: A Randomised controlled trial, Department of Orthopedics/AIIMS, New Delhi

PUBLICATIONS

Journals: 6

Year	2021-22	2020-2021	2019-2020
Number of oral presentations	21	9	29
Number of funded projects	7	6	8
Amount of extramural/intramural funding	24,179,162	9,699,064	10,077,800
Number of publications	6	6	14
Number of Journal articles	6	6	14
Number of Abstracts	-	-	-
Number of chapters in book	3	1	2
Number of books/Monograph	-	-	1

PATIENT CARE

We have started tele-rehabilitation services.

- The Burns and Plastic Surgery block has an easy access to trauma center by a connecting bridge which will enhance interdisciplinary collaborative care
- The department continues to work in collaboration with various other specialties such as neurosurgery, cardiac surgery, orthopedic surgery etc. and independently it caters to almost all emergency hand injuries, microvascular reconstruction for complex limb trauma, post burn reconstruction, maxillofacial trauma, oncoplastic reconstruction, aesthetic breast surgery, breast reconstruction and other congenital anomalies like cleft lip and palate, syndactyly, polydactyly, camptodactyly, hypoplastic thumb deformity, etc
- There is a dedicated team of physiotherapists and occupational therapists that play a key role in the rehabilitation of post traumatic as well as post-operative cases
- The team caters to reconstructive needs of patients at JPN Apex Trauma Centre, Dr RP Centre for Ophthalmic Sciences, Centre for Dental Education and Research, Dr BRAIRCH, CN Centre and main AIIMS hospital
- The Department participated in free camp for deformity correction of leprosy patients
- The department has started full-fledged acute burn care services backed by critical care

Statistical data of patient care services

Year	2021-22	2020-2021	2019-2020
Operative procedures (Major +Minor)	6560	2449	3643
Admissions (Short + Long)	939	289	1362
Outpatient attendance	15,365	4310	9996

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Maneesh Singhal was awarded S Raja Sabapathy APSI leadership award 2021 by Association of Plastic Surgeons of India; Invited Chairperson for session on New Technology, XX Annual Conference Evidence-Based Management of Cancers in India, EBM 2022 on 17 February 2022: Appointed as Associate Editor of Indian Journal of Plastic Surgery; Reviewer for the Journal of Wound Care, The International Journal of Surgery Journal, BMJ case reports, Burns, Journal of Cutaneous and Aesthetic Surgery, Indian Journal Plastic Surgery, Indian Journal of surgery; Invited master trainer for Operational Guidelines on Management of Common Emergencies, Burns and Trauma at Primary Care Level; Invited educational expert in The International Federation of Red Cross and Red Crescent Societies (IFRCCS): Became Full Life Member of Indian Association of Aesthetic Plastic Surgeons; Chairman of Task Force Expert Group NTF Multicentric community-based study to find the prevalence risk factor and causes of domestic burn injury and assessment of the knowledge, attitude, and practice of burn prevention and first aid in the Field of Burns: Subject expert for the interview of Assistant professor in Plastic Surgery at AIIMS Bhuvneshwar; Chairman of Indian Council of Medical Research National Task Force for study- “Multi Centric community-based study of prevalence, risk factors; KAP (knowledge, attitude & practice) assessment of burn injury and evaluation of IEC interventions devised based on the KAP assessment”: Certified as a Fellow of the Academy of the Asian Collaboration for Trauma: Expert on the formulation of training modules for Doctors, ParaMedical staff/Nurses of Hospitals/Autonomous bodies, etc. for MoHFW: Expert Member of Subcommittee for Hubs on Biomedical Devices at TBT and Biomedical Device and Technology Development (BTDT): Member NBE curriculum development committee - To Review/Revise the Curriculum/ Syllabus for DNB course in Plastic and Reconstructive Surgery for Final and Direct 6 Year course: Expert for the committee for finalizing the design of the Medical Research Centre in the NCR-BSC for Translational Health Science and Technology Institute: Subject expert member (**Dermatology and Allergy**) of Central Drugs Standard Control Organisation (CDSCO), Directorate General of Health Services (DGHS), Ministry of Health and Family Welfare (MoHFW): Member expert committee on subgroup for Burns National Injury Prevention Strategy organized on 21 September 2021 under the MoHFW, Government of India. Member of the expert group for preparation of competency-based Guidelines, and Minimum Standard Requirements (MSR) for MCh in Plastic and Reconstructive Surgery under the National Medical Council (NMC): Became Executive committee member of the Delhi Medical Council. I am also serving as the DMC Disciplinary Committee chairman: Became a member of the project sanctioning committee for the central sector scheme for up-gradation to the center of excellence, the Ministry of AYUSH: Part of the team for setting up the Center of Excellence for Gender Reassignment Surgery of Transgender patients: Member of The International Society of Plastic Regenerative Surgeons (ISPRES); Co-chairperson for Committee for Exemption of IPS from the purview of Section 34(1) of RPwD Act, 2016-reg: Invited panelist to the Interview Panel for Trauma Care Resources.

Dr Raja Tiwari won Presidential PEET prize for best paper at APSICON 2021 and Runners up Award in Best Paper Session of ISRM 2022

Dr Raj Kumar Manas Reviewer of Indian Journal of Plastic Surgery, International Microsurgery journal, The Surgery Journal, Journal of Cleft Lip, Palate and Craniofacial Anomalies; Invited faculty and Moderators in Wound Care Con 2021 and moderated the session on newer concepts in wound care, dated 13-14 November 2021; Participated as faculty and chairperson in the conference NABICON 2021-22, the annual conference of the National academy Of Burns-India. Also, was invited as a judge for the session on ideas and innovation in burn management; Invited faculty, Moderator, and webinar coordinator in series 2 and 3 of NABI Burn tutorial 2021-22 for health care professionals; Participated in NABI online general public awareness program as panelist and moderator in series 2 and 3.

Dr Shivangi Saha was awarded Indian Society of Reconstructive Microsurgery Traveling fellowship, invited as an Editor in the International Microsurgery Journal, Editor for the newsletter of Asian Society of Mastology and peer reviewer for Journal of Wound Care, Burns and Clinical case reports

Dr Suvashis Dash visited Hyderabad Mitr clinic- gender affirmative care-Nominated by NACO

Dr Amiteshwar Singh, Senior Resident, is serving as the member of the Resident Advisory Board of the Plastic and Reconstructive Surgery Journal and PRS Global Open Journal.

VISITING SCIENTIST

As a part of the ASPS International Visiting Professors program, we hosted Dr Andrea Pusic on 10 March 2022. Dr Pusic is the Chief of Plastic and Reconstructive Surgery at Brigham and Women's Hospital, the Joseph E Murray Professor of Surgery at Harvard Medical School and Director of the Patient-Reported Outcomes, Value and Experience (PROVE) Centre. Dr Pusic, an internationally renowned innovator and leader in patient-reported outcomes (PROM) and surgical experience, spoke about her years of research using psychometrics, quality of life, and social science methods to develop, validate, and use new quantitative measures to assess patient outcomes such as BREAST-Q, Cleft-Q, Hand-Q, and others. She also enlightened everyone about the PROVE CENTER'S PROMs SUMMER SCHOOL, encouraging AIIMS residents and faculty to attend and learn more about the PROM development process as well as tips and tricks for using PROMs in research and clinical practice.

Infosys chair in Cancer (Oncology) under AIIMS Endowment Fund (Infosys Foundation) awarded to Dr Amit Goyal (Consultant Oncoplastic Breast Surgeon and Associate Professor, Assistant Clinical Director of Breast Surgery University Hospitals of Derby and Burton NHS Foundation Trust) for 1 month.

9.34. Psychiatry

Professor and Head

Rakesh Kumar Chadda

Professors

Pratap Sharan Rajesh Sagar
Nand Kumar MMMamta Sood

Additional Professors

Raman Deep Sujata Satapathy (Clinical Psychology)
Koushik Sinha Deb Rohit Verma
Bichitra Nanda Patra

Associate Professor

Gagan Hans

Assistant Professors

Vaibhav Patil Barre Vijay Prasad

Child Psychologist

Renu Sharma

Clinical Psychologist

Vandana Chowdhary

Occupational Therapist

Vijay

HIGHLIGHTS

The Department of Psychiatry has been imparting quality training for M.D. (Psychiatry), PhD (Psychology) and MBBS students. The department also runs training programmes for B.Sc/M.Sc nursing students and residents from the departments of Medicine, Geriatric Medicine, Emergency Medicine, Palliative Medicine, and DM Neurology posted in psychiatry for various durations. The Department of Psychiatry is currently undertaking several key funded research projects in collaboration with international and national agencies like the National Institute of Health Research (NIHR UK), the Department of Science and Technology, India (DST), ICMR, etc. The Department successfully organised several key events in the year including the Asia Pacific Hybrid Congress of the World Association of Social Psychiatry from 16-18 September 2021, New Delhi; a Public Lecture on “Mental Health in Post Covid World” on the occasion of World Mental Health Day on 9 October, New Delhi; National CME of the Indian Association for Social Psychiatry on Medical Students’ Wellness: Challenges and Initiatives, AIIMS, New Delhi on 10 July 2021; Self-enrichment Workshop for MBBS students by Students’ Wellness Centre, AIIMS, New Delhi from 10-12 February 2022; Self-enrichment Workshop (Orientation Program) for BSc. Nursing students by Students’ Wellness Centre, AIIMS, New Delhi on 28 February 2022 and 2 March 2022. The Department runs daily walk-in and follow-up clinics in addition to weekly specialty clinics for child and adolescent psychiatric disorders, psychosomatic disorders, common mental disorders, severe mental disorders, dual diagnosis disorders and brain stimulation clinics. The Department also provides community outreach services 6 days a week at the CRHSP, Ballabgarh and primary health centres at Chhainsa and Dayalpur, and once a week service at the National Cancer Institute, Jhajjar. The Department provided out-patient consultation services at AIIMS, New Delhi to a total of 8762 new cases and 25013 follow-up cases in 2021-22 with in-patient management for 285 patients. Consultation Liaison services were provided to 1830 patients including 319 patients admitted for Covid management. The department provided emergency services to 900 patients in the hospital emergency, mECT to 543 patients, HD-tDCS to 47 patients and rTMS to 94 patients. The Department has also been at the forefront of providing mental health services during the Covid pandemic in addition to sparing substantial manpower for Covid duties including telemedicine service.



EDUCATION

Undergraduates (Online and Physical)

Theory lectures 6th Semester - 20 hours
Clinical teaching/posting 3rd Semester - 7 hours
4th –5th Semester - 25 days
6th –8th Semester - 40 days
Teaching in community at CRHSP, Ballabgarh
7th Semester – 12 hours (Community Psychiatry)

BSc Nursing (Online and Physical)

Theory lectures
First year (Psychology) for 15 hours Third year (Psychiatry) for 8 hours
Clinical posting
Third year in Psychiatry ward for 2 months

MSc Nursing (Online and Physical)

Theory lectures
First year for 8 hours
Clinical posting
First year – 8 months in psychiatry ward and one month in psychiatry OPD
Second year – 3-4 months in psychiatry ward
Thesis work
Conduct their thesis work in psychiatry OPD and ward.

Training of Junior Residents posted from other departments.

Junior residents from Departments of Medicine, Geriatric Medicine, Emergency Medicine and Palliative Medicine, and DM trainees in Neurology are posted to department of psychiatry for a period of 2-4 weeks for training in psychiatry.

M.D (Psychiatry) and PhD Teaching (Physical and Online)

- Seminar once a week
- Case Conference once a week
- Journal discussion once a week
- Thesis protocol and midterm presentation once a week
- Tutorials once a week
- Psychotherapy supervision for postgraduate psychiatry and doctoral level clinical psychology students
- Supervision of Consultation-Liaison training for junior residents in psychiatry

Organised the following conferences/ workshops.

1. The 'White Coat and Other Stories' by Students' Wellness Centre. AIIMS and Scientific Society of AIIMS Students Association: 2 sessions
 - i. S2E3: Mettle Meets Metal: Gurpreet Gulati and Blitzkrieg [Arjun, Joshua, Bharat & Ayur] (9 May 2021).
 - ii. S2E4: In Deanon Ki Baatein: Anita Saxena, KK Deepak (29 August 2021).
2. Workshop on Breaking Bad News, Students' Wellness Centre, AIIMS, New Delhi, 23 May 2021.
3. National CME of the Indian Association for Social Psychiatry on Medical Students' Wellness: Challenges and Initiatives, AIIMS, New Delhi, 10 July 2021.
4. Workshop on Sleep, Students' Wellness Centre, AIIMS, New Delhi, 14 June 2021.
5. The World Association of Social Psychiatry Asia Pacific Hybrid Congress 2021, 16-18 September 2021; New Delhi.
6. Public Lecture on "Mental Health in Post Covid World" on the occasion of World Mental Health Day on 9 October, AIIMS, New Delhi
7. The Resident Wellness Programme. Foundation Course. Students' Wellness Centre and Academic Section, AIIMS, JLN Auditorium, AIIMS (2 sessions: 27 October 2021, 11 November 2021).
8. Online Introduction and orientation Programme for New Students of MBBS (Batch – 2021) AIIMS, New Delhi, 8-9 February 2022.
9. Self-enrichment Workshop for MBBS students. Students' Wellness Centre, AIIMS, New Delhi, 10-12 February 2022.
10. Self-enrichment Workshop (Orientation Program) for BSc. Nursing students. Students' Wellness Centre, AIIMS, New Delhi, 28 February 2022 and 2 March 2022.
11. Self-Enrichment Workshop for MBBS Students (Batch 2020). Students' Wellness Centre and Academic Section, AIIMS, New Delhi/Online; 2-5 December 2021.
12. Orientation cum question & answer session for the parents' of AIIMS MBBS students(Batch-2020). Students' Wellness Centre and Academic Section, AIIMS, New Delhi/Online; 31 March 2021.

Lectures Delivered

Rakesh Kumar Chadda: 15
Mamta Sood: 6
Bichitra Nanda Patra: 4
Vandana Chowdhary: 2

Pratap Sharan: 20
Raman Deep: 3
Gagan Hans: 4

Rajesh Sagar: 69
Rohit Verma: 4
Vaibhav Patil: 3

Oral Papers/Posters Presented: 21

RESEARCH

Funded projects

Ongoing

1. Assessing the Feasibility and Impact of Physical Health Monitoring in Patients with First Episode Psychosis (AIIMS Centre), RK Chadda, National Institute of Health Research, UK, 1 year, 2021-22, 63604 GBP
2. Assessment of Clinical profile, mitochondrial DNA 10398, peripheral glucose utilization and inflammation (TNF- α) in Matrilineal Bipolar Disorder, Raman Deep, AIIMS Intramural, 2 years, 2019-2021, Rs 3,90,000
3. Assessment of emotional and behavioral problems and quality of life among children and adolescents with cleft lip and palate, Rajesh Sagar, Indian Council of Medical Research, 2 years, 2020-2023, Rs 39,89,890
4. Burden and magnitude of COVID-19 vaccine anxiety, hesitancy and its correlates in India, Rajesh Sagar, Indian Council of Medical Research, 3 years, 2022-2025, Rs 49,74,554
5. Comparative Mapping of Common Mental Disorders (CMD) over Lifespan, Pratap Sharan (for AIIMS), DBT, 3 years, 2019-2022, Rs 5.6 crores
6. Deliberate self-harm in adolescents: A school-based study, Bichitra Nanda Patra, ICMR, 2 years 9 months, 2019-2022, Rs 2625015
7. Detection of New Psychoactive Substances among Substance Abuse Treatment Seekers in India – Multi Centric Study, RK Chadda, Department of Revenue, Govt of India, 4 years, 2017-2022, Rs.6,51 crores
8. Development of Panic and Anxiety Indian Questionnaire (PANIQ), Pratap Sharan, ICMR, 4 years, 2018-2022, 2.1 crores,
9. Diffuse optical tomography based cortical analysis for evaluating auditory semantic and prosodic content, language acquisition and facial identification as determinants of emotion recognition in schizophrenia, Rohit Verma, DST CSRI Research Grant, 4 years, 2018-22, Rs 51,98,660
10. Effects of additional Yoga intervention in Children and Adolescents with Major Depressive Disorder: A Randomized Controlled Trial, Bichitra Nanda Patra, Department of Science & Technology, Government of India, 3 years, 2022-2025, Rs 3829560 Rupees
11. H1-MR Spectroscopy based evaluation of metabolic abnormalities in anterior cingulate cortex, hippocampus, and amygdala in treatment naïve patients with unipolar and bipolar depression and its relationship with peripheral glutaminase. Gagan Hans, AIIMS Intramural, 2 years, 2019-2022, Rs 3,60,000
12. Impact of Post-Partum Depression and Anxiety on Infant Growth and Development: A Community Cohort Study, Rajesh Sagar, Self (extension of previous project), 3 years, 2016-2023, Rs 8,57,940
13. Magnetic Resonance Spectroscopy in depressed subjects treated with Electroconvulsive Therapy, Gagan Hans, ICMR, 3 years, 2022-2025, Rs 26,04,132
14. National Guidelines for Responsible Media Reporting of Suicides in India, Rajesh Sagar, WHO-SEARO & Ministry Of Health And Family Welfare, 2 months, 2021, Rs 2,12,346
15. NIHR Global Health Research Group on Psychosis Outcomes: the Warwick-India-Canada {WIC} Network, RK Chadda, National Institute of Health Research, UK, 4 years, 2017-2021, 269,146 GBP
16. Peripheral inflammatory cytokines in Generalized Anxiety Disorder: A Case-controlled study, Gagan Hans, AIIMS Intramural, 2 years, 2021-2022, Rs 9,36,000
17. Psychiatric morbidity and its early antecedents in the New Delhi Birth Cohort, Rajesh Sagar, QED and WHO-SEARO, 3 years, 2018-2023, Rs 8,67,850

Completed

1. A study of acute and longitudinal effects of brain stimulation in treatment of depression and schizophrenia, Rohit Verma, AIIMS Intramural Grant, 3 years, 2018-21, Rs 10 lakhs INR
2. Biomarkers of Lithium response in Bipolar disorder: assessment of the clinical markers, peripheral blood based markers and structural neuroimaging markers (pertaining to gray matter volume) in individuals with bipolar disorder on long-term lithium prophylaxis, Raman Deep, SERB (Science and Engineering Research Board), DST, 3 years, Nov 2018-March 2022, with extension, Rs 24 Lakh
3. NIHR Global Health Research Group on Psychosis Outcomes: the Warwick-India-Canada {WIC} Network, Rakesh Chadda, National Institute of Health Research, UK, Four 4 years, 2017-2021, 269,146 GBP

Departmental Projects

Ongoing

1. A multigroup correlation study on mental health correlates and uncertainty during COVID-19 pandemic
2. A pilot randomised controlled trial of targeted prefrontal cortex modulation with anodal transcranial direct current stimulation (tDCS) for examining task dependent effect on executive functioning
3. A randomised controlled single blind trial of ketamine versus modified electroconvulsive therapy to improve neuropsychological and clinical outcomes in treatment resistant depression
4. A randomised double-blind sham-controlled trial for evaluating effectiveness and tolerability of high-definition transcranial direct current stimulation (HD-tDCS) in depression
5. A study of neurophysiological predictors of response to methylphenidate in children and adolescents with Attention Deficit Hyperactivity Disorder
6. A study on associative stigma and its relationships with stress and burden among parents of children and adolescents with psychiatric disorder.
7. A study to examine psycho-social and behavioural domains among school going adolescents during Covid 19 Pandemic: Mixed Study Design-ICMR funded
8. An exploratory study to assess the magnitude of in-patient restraint and seclusion practices in India through the development of a framework for uniform restraint reporting across the country-funded by ICMR
9. Assessment of cortical activation and connectivity using fNIRS
10. Assessment of echogenicity, volume and functions of thyroid gland in patients with bipolar disorder on long-term therapy
11. Assessment of psychological distress and factors associated with it among people receiving COVID-19 vaccination
12. Cognitive and psycho-physiological effects of AIIMS Cognitive Training Toolkit (CTT) and Computer Based Cognitive Training (PSS CogRehab) on children with ADHD aged 6-11 years: A Randomized Control Pilot Study-funded by DST
13. Cultural and phenomenological aspects of auditory hallucinations in patients with schizophrenia: an exploratory study
14. Deliberate self-harm in adolescents: A school-based study, funded by ICMR
15. Development and validation of an android based trail making test application (TMT App) for cognitive assessment
16. Elucidating the structural, neurobiological changes and identification of non-invasive biomarkers using magnetic resonance imaging and spectroscopy in major depressive disorder
17. Group cognitive behavioural therapy for obsessive compulsive disorder: Development and feasibility study
18. Impact of COVID-19 pandemic on mental health among healthcare workers in a tertiary care centre of India
19. Psychosocial Dynamics of Pregnancy Loss: Development of a multidimensional scale & development and efficacy (a Randomized Control Trial) of a Group Psychological Intervention Module-funded by ICMR
20. Study of behaviour, psychiatric morbidity and cognitive functioning in post-COVID children and adolescents
21. Validation and standardisation of indicators/markers of penetrative CSA in children's Draw-A-Person-Test (DAPT)

Completed

1. A cross sectional comparative study of saccades and pursuit eye movements in depression and psychosis
2. A cross sectional questionnaire-based study to assess anxiety among healthcare professionals in India due to COVID 19
3. A retrospective chart review of the consultation-liaison psychiatry services referral pattern in a tertiary care COVID-19 hospital in India
4. A study of childhood adversity, perceived parenting and perceived social support among subjects of common mental disorders
5. A study of saccades and smooth pursuit movements in patients with psychosis after a single dose of antipsychotic medication
6. Adaptation of brief cognitive behaviour therapy for suicide prevention
7. Assessment of psychological distress and factors associated with it among people receiving COVID-19 vaccination
8. Assessment of treatment response, inflammatory cytokine (TNF- α) and MtDNA 10398a/G Polymorphism In Familial Bipolar Disorder (BD)-I
9. Metacognitive therapy in depressive disorders
10. Proposition and validation of a self-rated questionnaire to measure the user experience in a passive immersive virtual reality environment
11. Study on psychiatric morbidities, psycho-social and cognitive functioning in adolescents with hemophilia

Collaborative Projects

Ongoing

1. A comparative study of anxiety and depression in low-risk vs high-risk pregnant women in Indian settings, Department of Obstetrics and Gynecology
2. A prospective study to evaluate the restoration of abdominal wall dynamics in patients with incisional hernia following laparoscopic IPOM plus repair in comparison to healthy controls using surface energy EMG, Department of Surgical Disciplines
3. A Randomised controlled trial comparing the efficacy of cognitive behavioral therapy vs yoga nidra in persons with psychogenic nonepileptic seizures, Department of Neurology

4. A Randomised Control Trial to study the impact of Yoga Intervention in lower limb amputees following trauma in relation to postsurgical outcome, behavior and quality of life at Level – I -funded by Department of Science & Technology (DST), Department of Trauma Surgery-JPNATC
5. A study to assess the effectiveness of mobile app-based psychoeducation program on activities of daily living, medicine adherence and the severity of disease among people with depression, attending outpatient Psychiatry Department, College of Nursing
6. A Translational randomized trial of yoga-based lifestyle intervention for major depressive disorder (MDD) management in India and analyzing biomarkers of cellular aging associated with it- funded by Ministry of AYUSH, Govt of India, Department of Anatomy
7. Adolescents' Resilience and Treatment needs for Mental health in Indian Slums (ARTEMIS)-funded by MRC(UK)/DFID/NIHR, George Institute of Global Health, New Delhi
8. Altered microRNA expression in peripheral blood and brain following severe traumatic brain injury, Department of Lab Medicine, JPNATC
9. An Exploratory Study to Evaluate Surgical Outcome and Financial Burden in Patients Treated with 3D Printing Technology Assisted Surgery versus Conventional Surgery for Facial Fractures at Level 1 Trauma Centre, AIIMS, New Delhi, Department of Trauma Surgery, JPNATC
10. Association of social cognition and behavioral impairment in persons with epilepsy on antiepileptic drug monotherapy: Correlation with neuroimaging findings and trace elements status-Funded by DST-CSRI, Department of Pharmacology
11. Autopsy findings and psychological profiling in suicidal hanging in adolescents, Department of Forensic Medicine & Toxicology
12. Brain Derived Neurotrophic Factor gene polymorphism (Val66Met) association with peripheral BDNF levels and clinical variables in Major Depressive Disorder patients, NDDTC
13. Comparative assessment of functional near-infrared spectroscopy in children for detecting emergence delirium with sevoflurane vs total intravenous anesthesia: a prospective observational study, Department of Anaesthesiology
14. Comparative study of cortical activation using fMRI and fNIRS across cognitive tasks in patients with depression, Department of NMR
15. Comparison of effect of antidepressants on neurodegeneration in patients with depression, Department of Pharmacology
16. Comparison of Insulin Resistance as Marker of Psychological Morbidity (perceived stress, depression and anxiety) and Quality of Life (QOL) Between PCOS and non-PCOS Infertile women - a case control study, Department of Obstetrics and Gynecology
17. Developing a Digital Health-enabled Intervention to tackle Multimorbidity in Primary care in India. funded by the Medical Research Council, UK under the Global Challenges Research Fund, Public Health Foundation of India (PHFI)
18. Development and validation of an assessment tool for traumatic maxillofacial and dental re-injury associated fear and anxiety in young boxers in Delhi NCR region, CDER
19. Development of Comprehensive Assessment Battery for Specific Learning Disorder (CABSLD), Student Wellness Centre, Department of Psychiatry
20. EEG cortical sources and connectivity of working memory and language processing in Attention Deficit Hyperactivity Disorder, Department of Physiology
21. Effect of antidepressant drug (Escitalopram) on testicular and adrenal functions, Department of Reproductive Biology
22. Effect of antidepressants on neurodegeneration and neuroplasticity in patients with depression funded by ICMR, Department of Pharmacology
23. Effect of integrated Yoga on Psychological stress and Ovarian Reserve Markers in patients undergoing In-Vitro-Fertilization (IVF) cycles: A Prospective Randomized Controlled Trial, Department of Gynaecology & Obstetrics
24. Effect of paravertebral anaesthesia on quality-of-life scores and circulating tumour cells in breast cancer patients, Department of Anaesthesia
25. Effect of structured yoga program on stress on frontline workers during Covid pandemic-DST Funded, Department of Community Medicine
26. Effect of structured yoga program on stress, well-being and the selected biomarkers at the community level in an urban resettlement colony of Delhi-funded by DST, Department of community medicine
27. Effect of yoga therapy on QoL in laparoscopic Incisional hernia repair, Department of Surgical Disciplines
28. Effect of yoga therapy on Quality of life in patients undergoing laparoscopic incisional hernia and ventral hernia repair- a randomized control trial, Department of Surgical Disciplines
29. Effects of add-on integrative approach to yoga therapy on adults with clinical depression: A randomised controlled trial. , Department of CIMR
30. Efficacy of a yoga-meditation based lifestyle intervention vs repetitive transcranial stimulus (rTMS) in patients with obesity and major depressive disorder: a randomized controlled trial (RCT)-funded by DST, Department of Physiology
31. Elucidating the structural, neurobiological changes and identification of non-invasive biomarkers using magnetic resonance imaging and spectroscopy in major depressive disorder, Department of Nuclear Magnetic Resonance
32. Evaluation of brain behaviour relationship associated with cognitive deficit in early-onset schizophrenia (EOS) using multi-model MRI-funded by DBT, Department of NMR

33. Evaluation of effect of ketofol and ketodex on duration of seizure activity, hemodynamic profile, recovery times and cortical activity (using fNIRS) in patients undergoing electroconvulsive therapy for depression, Department of Anaesthesiology
34. Evaluation of visual cortex activity using fNIRS in primary glaucoma, Department of Ophthalmology, Dr Rajendra Prasad Centre for Ophthalmic Sciences
35. Evaluation of visual cortex activity using fNIRS in primary glaucoma, Department of Ophthalmology, Dr Rajendra Prasad Centre for Ophthalmic Sciences
36. Examining Stress, and Cognitive-Affective Processing in Emotion Disorders, Department of Psychology. Indian Institute of Technology, Delhi
37. Exploratory study on problematic use of cybererotica, Department of Nuclear Magnetic Resonance
38. Field Testing the SCII-11 in five English speaking WHO member countries (USA, Canada, UK, India, South Africa), University of Cape Town, South Africa
39. Financing of expenditure on mental illness-a case study of NCR, IGNOU-, IGNOU, Delhi
40. Genetic association of cytokines with suicidal behavior in Indian population, Department of Forensic Medicine & Toxicology
41. Genetic expression of monoaminergic neurotransmission related polymorphisms and their association with antidepressant response in Indian patients suffering from depression-funded by DHR-ICMR, Department of Pharmacology
42. Hindi translation and psychometric validation of Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES), National Drug Dependence Treatment Centre
43. Impact of psychosocial intervention on quality of life in patients with post traumatic limb/s amputation: A Randomized Controlled Trial- Department of Trauma Surgery, JPNATC
44. Internal Consistency and Divergent Validity of the Hindi Version of the Addiction Severity Index-Lite among Individuals with Alcohol and Opioid, National Drug Dependence Treatment Centre
45. International Sex Survey, University of Montreal, Montreal, Quebec, Canada
46. Long term outcome of patients with walled off necrosis/pseudocyst of pancreas in terms of recurrence of pancreatitis, fluid collection and functional consequences following internal drainage by laparoscopic or endoscopic method-funding by AIIMS, Department of Surgical Disciplines
47. Mapping functional and biochemical correlates in brain of Parkinson's Patient with Mild Cognitive Impairment, Department of NMR
48. Mental health needs of the survivors of North East Delhi Communal Riots of February 2020, Bal Umang Drishya Sanstha (BUDS)
49. Mental health risk factors among Older Adolescents living in Urban SluMs: An Intervention to Improve Resilience (ANUMATI)-funded by ICMR, George Institute of Global Health, New Delhi
50. Multicentric prospective cohort study evaluating risk factors, comorbidities and impact of various interventions among adolescent and reproductive age women with PCOS ICMR PCOS Task force study-phase 2 , Department of Obstetrics and Gynecology
51. National Mental Health Survey-phase 2 megacity survey-funded by MoHFW, NIMHANS, Bangalore
52. Neuropsychological Basis of Decision Making: Testing Lateralization of Cognitive Function in Medial Temporal Lobe Epilepsy, Department of Neurology, Neurosciences Centre, All India Institute of Medical Sciences, New Delhi & Department of Psychology; Indian Institute of Technology, Delhi
53. Prevalence and determinants of selected chronic conditions among adolescents aged 10-19 years in a rural community in North India, Centre of Community Medicine
54. Psychological distress among health care workers in India during COVID-19 outbreak: A Nationwide Survey, Department of CIMR
55. Psychological impact on parents of children born with atypical genitalia in India, Department of Pediatrics
56. QEEG based neural correlates and microstates of attention and interference in ADHD: An endophenotypic marker, Department of Physiology
57. Short term and long-term outcomes Following laparoscopic donor nephrectomy and open donor Nephrectomy: Anambispective comparative study, Department of surgical disciplines
58. Study of Common Mental Disorders in adolescent living with HIV (ALHIV) attending the paediatric HIV services at AIIMS, New Delhi: A Case-Control Study, Department of Community Medicine
59. Surgery for corrosive pharyngoesophageal stricture: Assessment of quality of life, Department of Gastrointestinal Surgery
60. Systematic Medical Appraisal, Referral and Treatment (SMART) Mental Health Programme for Wellcome Trust-DBT Alliance Fellowship, George Institute of Global Health, New Delhi
61. The effect of adjunctive transcranial direct current stimulation over left dorsolateral prefrontal cortex on craving in alcohol dependent subjects, Department of Psychiatry, All India Institute of Medical Sciences, Rishikesh
62. The feasibility and efficacy of yoga on Quality of Life and psychophysiological parameters among adolescents and adult patients treated for Cynotic Congenital Heart Disease (CCHD) more than a year ago: A randomized controlled trial. funded by DST (SATYAM), Department of Cardiology

63. To compare different cochlear implantation outcome scores with auditory cortical activity seen on functional near infrared spectroscopy in prelingual profound sensorineural hearing loss patients at least 3 years after cochlear implantation, Department of Otorhinolaryngology
64. To evaluate cognitive impairment in patients of glaucoma, Department of Ophthalmology, Dr Rajendra Prasad Centre for Ophthalmic Sciences
65. To study effects of antidepressant drugs in mild and moderate depression in patients with epilepsy- A randomized controlled trial, Department of Neurology
66. To study the impact of yoga based lifestyle intervention on childhood depression -funded by ICMR, Department of Anatomy
67. To study the prevalence and the risk factors of psychiatric morbidity and sleep problems in pediatric Acute Lymphoblastic Leukemia survivors, Department of Pediatrics
68. To test effects of breath-focus on lateralized cognitive and affective processing in Generalized Anxiety Disorder (GAD) patients, Department of Physiology, All India Institute of Medical Sciences, New Delhi & Department of Psychology, Indian Institute of Technology, Delhi
69. Two Arm Parallel Open-Label Randomized Controlled Add on trial to investigate the efficacy of Shirodhara (Ayurvedic Oil-Dropping Treatment) in the subjects with Chronic Insomnia Disorder-funded by AYUSH, Department of CIMR
70. Women's Health and Domestic violence against women during COVID-19 pandemic in India: a cross-sectional study-funded by WHO & MoHFW, Department of Obstetrics and Gynecology
71. Yoga as a therapy for tobacco cessation: A Probe Trial, Department of CIMR

Completed

1. A cross-sectional study to assess the impact of social media on body image, social competency, quality of sleep and self-esteem among undergraduate nursing students of AIIMS, New Delhi, College of Nursing
2. A randomised controlled study to compare antidepressants in mild to moderate depression in person with epilepsy (PWE), Department of Neurology
3. A retrospective chart review of the pattern of mental health co-morbidities in post-COVID follow up patients, Department of Pulmonology
4. Association between pre-operative frailty and post-operative delirium and cognitive dysfunction in elderly patients undergoing spinal surgery under general anaesthesia: A prospective observational study, Department of Anaesthesiology
5. Correlation between preoperative CSF melatonin levels and post-operative delirium in geriatric hip fractures-intra-mural funding (AIIMS), Department of Orthopaedics
6. Effect of transcranial direct current stimulation on left dorsolateral prefrontal cortex on cognitive insight and working memory deficits in schizophrenia – single blind randomised sham-controlled study, Department of Psychiatry, All India Institute of Medical Sciences, Rishikesh
7. Effects of environmental and occupational noise on cognition- 2018-20-funded by Life Sciences Research Board (LSRB), DRDO, Department of NMR
8. Implementation of COVID-19 related policies: Implications for household inequalities across five countries, Department of Anthropology, Johns Hopkins University, USA
9. Neural correlates of obsessive-compulsive disorder and its washing subtype: A cross-sectional fMRI study, Department of Nuclear Magnetic Resonance
10. Neurocognitive rehabilitation modules for patients with schizophrenia, Division of Neuropsychology, CN Centre
11. Translational application of novel clinically accessible biological predictors to improved identification of mild and moderate Traumatic Brain Injury (TBI) induced neuro psychological impairment. -funded by ICMR, Department of Laboratory Medicine, JPNATC

PUBLICATIONS

Journals: 100

Abstracts: 5

Chapters in Book: 22

Books and Monographs: 2

	2021-22	2020-2021	2019-2020
Number of oral presentations	156	127	192
Number of funded projects	21	22	23
Total amount of extramural/intramural funding (in INR)	235,688,356	198,174,172	200,341,111
Number of publications	129	141	132
Number of Journal articles	100	108	91
Number of Abstracts	5	6	19
Numbers of chapters in book	22	22	19
Numbers of books/Monograph	2	5	3

PATIENT CARE

SPECIAL CLINICS

Psychosomatic Clinic: Once in a week
Common Mental Disorders Clinic: Once in a week
Child and Adolescent Psychiatric specialty services
Severe Mental Disorders Clinic: Once in a week
Brain Stimulation /TMS clinic on Thursday once in a week
Neuropsychiatry OPD in C N Centre on Tuesday. Once in a week.
Psychiatry services at CRHSP, Ballabgarh.
Dual Diagnosis Clinic: Once in a week

COVID-19 Services:

In the wake of ongoing COVID 19 Pandemic, the department of psychiatry has done following activities:

- Teleconsultation facility
- Psychiatric care in COVID areas of the hospital
- Development of public health educational material on mental health issues related to the pandemic were developed. For lay public, The posters on “Coping with stress during the 2019-nCoV outbreak” and “Helping children cope with stress during 2019-nCov outbreak” by WHO were translated into various Indian languages (Hindi, Punjabi, Gujarati, Marathi, Bengali, Kannada, Telugu, Tamil, Malayalam, Odia and Manipuri, after taking due permission from the WHO.)
- Development of guidance notes for healthcare workers at our hospital giving general instructions about how to identify stress in them and to cope with it. Focus on basics of stress management was done. We also prepared short video clips on the subject, and these were put on social media and the Institute’s website. A tele helpline was also created for the in-house employees.
- Development of guidance notes both in English and Hindi for the persons in quarantine or put in isolation using resource materials from the relevant literature, adapting it to local needs.
- Development of guidance notes for physicians and mental health professionals.

FACILITIES IN DEPARTMENT (SPECIAL LABS)

- **Brain Mapping Lab facility** –static fNIRS & QEEG system for development of a state-of-the-art facility for brain mapping.
- **MECT facility**
- **High-definition Transcranial Electrical Stimulation** –HD-tDCS, tACS & tRNS

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Rakesh Kumar Chadda was Secretary General, World Association of Social Psychiatry; Associate Editor, British Journal of Psychiatry; Issue Editor, World Social Psychiatry, September-December 2021; Vice President, Addiction Psychiatry Society of India; Handling Editor, BJ Psych International; Member, Executive Council, National Academy of Medical Sciences (India); Member, Delhi High Court Legal Services Committee; Convenor, Specialist Board in Psychiatry, National Board of Examinations; Nominated Member, Institute of Eminence, University of Delhi; Nominated Member, Governing Body, Ramanujan College, University of Delhi; Chair, Awards Committee, Indian Association for Social Psychiatry; Member, Deans Committee, AIIMS; Member Selection Committee, KGMU, AIIMS, Jodhpur, AIIMS, Kalyani, AIIMS, Bhatinda, Institute of Mental Health and Hospital, Agra.

Professor Pratap Sharan was Professor-in-Charge of Student Welfare; the chief coordinator for the Committee for MBBS curricular reforms; a member of the Project Review Committee (Clinical Sciences); and the mental health lead for the Transgender Clinical Services at AIIMS; Member of the International Advisory Group for Training and Implementation for ICD-11 Mental, Behavioural and Neurodevelopmental Disorders (2018 – onwards); the Group developing Structured Clinical Interview for ICD-11 (SCII) and Flyer Interview Version of ICD-11 (Flii-11); the WHO Guideline Development Group (GDG) for Mental Health and Work; the WHO Topic Expert Group (TEG) for the Mental Health Gap (mhGAP) Guideline Update 2021; and the Expert Group on MBBS Curriculum Review for the WHO SEAR NCD Service Delivery Network. He served as the Co-Chair of the Mental Health Specialty Expert Consultation and as an expert for the General Medicine Specialty Expert Consultation for the Rationalization of Health Benefit Package for AB-PMJAY (MoH & FW); President, Indian Association for Social Psychiatry (2021), and the Co-Chair, Indian Psychiatric Society – Indian Association for Social Psychiatry (IPS – IASP) Steering Committee on WPA-IPS-IASP response to 2nd wave of COVID in India (2021). He is a member of Award Committee for the World Association of Social Psychiatry (WASP) Yves Pelicier Award 2022. He delivered the Presidential address at two National CMEs (10 July 2021; 23 October 2021) and the 28th National Conference of Indian Association for Social Psychiatry (26-28 November 2021); Ombudsman for the Indian Journal of Social Psychiatry; and served as the Senior Editor of Journal for Eating Disorders; Associate Editor of the National Medical Journal of India; Guest Editor, Indian Journal for Social Psychiatry Special Issue on “Occupational Health and Student Wellness”; and member of the Editorial Board of the many journals. He served as a peer reviewer for many journals including Plos One, BMJ Open, Journal of Public Health, Psychological Medicine,

Culture, Medicine, and Psychiatry, World Social Psychiatry, and Indian Journal of Medical Research; Member on the Research Advisory Committee of the George Institute for Global Health, India; the Resilient Futures India Initiative of the Queen Mary University of London and its National Steering Committee (India) for 'Research Priorities & Agenda Setting for Migration and Health in South Asia for 2020-2030; National Expert for Mental Health Capacity Building Programme of the Public Health Foundation of India; and the Indian Association for Child and Adolescent Mental Health (IACAM) Academy; He is a member of the Selection/Promotion Committee of various universities including National Institute of Mental Health and Neurosciences, Bengaluru and Jawaharlal Nehru Institute of Postgraduate Medical Education and Research, Puducherry. He is a reviewer for National Institute for Health Research, UK, Medical Research Council, UK, Wellcome Trust, UK, Agency for Health Quality and Assessment of Catalonia, the Indian Council of Medical Research, and the National Commission for Women (NCW). He served as an examiner for MD (Psychiatry) and PhD and MD (Psychiatry) thesis for various national centres.

Professor Rajesh Sagar was Awarded Fellow of National Academy of Medical Sciences (NAMS) 2021; Received the National Health Conclave Award under Distinguished Service -Psychiatrist category by the Public Health Foundation of India (PHFI) and AHPI; Name listed in the World's Top 2% Scientists ranking by the Stanford University publication for the year 2020; Vice-chairman for development of training modules for 1. doctors & nurses and 2. paramedical staff for healthcare workers for post COVID - 19 mental health issues. Released by hon'ble Union Minister of Health & family Welfare; Expert member, Board of Studies for undergraduate MBBS Psychiatry curriculum as a separate subject in AIIMS, Rishikesh; Member of Ethics Committee of Central Council of Homeopathy Research (CCRH), Ministry of AYUSH, Government of India-contd; Honorary visiting Professor, University of Leicester, UK, Member, UKRI International Development Peer Review College, UK; Member, North East England South Asia Mental Health Alliance (NEESAMA)-supported by Newcastle University, British Council & NTW NHS trust, UK; Fellowship of Royal College of Physicians of Edinburgh, FRCP (Edin.) 2019-contd; Chair of the Global Disease Burden (GBD) India of Mental Health Expert Group for India State-Level Disease Burden Initiative by ICMR, PHFI, IHME(USA)-contd; Honorary Professor by department of Psychiatry, University of Melbourne, Melbourne, Australia,-contd; Member, Central Mental Health Authority (Regulatory body under Mental Healthcare Act, Govt. of India) -contd and CMHA meet in April, 2021; Honorary Advisor for mental health to Directorate General of Health Services, Ministry of Health & Family Welfare, Govt. of India, 2013 and continuing. Expert Member of Project Review Committee for woman health and mental health of ICMR, DBT; Expert member of Signal Review Panel of National Coordination Centre-Pharmacovigilance Programme of India. Indian Pharmacopoeia Commission; Expert Member of the Institutional Ethics Committee of the Public Health Foundation of India (PHFI-IEC); Invited as expert in Doordarshan, DD News (6), DD National (2), DD Kisan (3), Lok Sabha TV (3), Rajya Sabha TV (3) India TV, Zee TV, DD Bharti, Aajtak and Radio program, FM Rainbow (2), All India Radio, Radio City; Advisor on WHO's Schedule for Clinical Assessment in Neuropsychiatry (SCAN) group and participated in several online international meetings; Expert member of International (multi-national) COVID-19 consortium (CNS-SARS-CoV-2) group along with Epidemiology work group; Neurocognition work group and participated in several online meetings; Expert member of WHO-Alzheimer's Association International Cohort Study of Chronic Neuropsychiatric Sequelae of SARS-Cov-2 (CNS-SARS-CoV-2); External examiner for MD Psychiatry examination for Lady Hardinge Medical college & Maula Azad Medical college, Delhi University; Member, faculty selection committee AIIMS-Rishikesh, KGMU, Lucknow, NIMHANS, Bengaluru, North Delhi Medical College, Delhi; Member of National Suicide strategy meet under the chairmanship of Hon'ble Union Minister of Health & Family Welfare, April, 21; Member of project monitoring Committee of National Institute of Mental Health Rehabilitation (NIMHR) under Ministry of Social Justice & Empowerment; Contribution in development of IEC material on COVID for Indian Psychiatry society; Honorary Advisor to a project titled "Project CACA – Children Against Child Abuse by Social Axiom Foundation (SAF) – NGO; Received President's Appreciation Award by the Indian Psychiatry Society at national level for distinguished achievement in the field of mental health & contributions to the society-January 2021; Received the prestigious Dr Vidya Sagar award at national level by the Indian Council of Medical Research (ICMR)-January 2022; Selected and featured as world-leading expert in behavioral sciences in the online platform www.psychwire.com/ask; Contributed to post budget webinar on Tele-mental health programme organized by Ministry of Health & family welfare & PMO, inaugurated by speech of Hon'ble Prime Minister of India; Contributed in Health Benefit Package (HBP) 2022 rationalization activity with the vision to come up with a revised comprehensive rationalized package master to provide the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) beneficiaries with secondary and tertiary care in the empanelled healthcare providers by the National Health Authority, Govt. of India; Invited & contributed to the WHO Informal Consultation with People Living with Noncommunicable Diseases and Mental Health Conditions in the South-East Asia Region Concept Note Co-hosted with WHO Regional Office for South-East Asia and the WHO Global Coordination Mechanism for Noncommunicable Disease, February 2022; Contributed in COVID-19 Home Isolation Guidelines for Vulnerable Populations Developed by United States Agency for International Development (USAID) -NISHTHA/Jhpiego and Indian Association of Preventive & Social Medicine (IAPSM), 1-68 pages; Expert member in initiation of Centre of Medical Humanities at AIIMS, Delhi; Expert member for moderation of activities for national Board of Examination; Expert member for faculty selection for National Institute of Mental Health Rehabilitation (NIMHR) under Ministry of Social Justice & Empowerment; Expert member for Project review committee (PRC) of maternal health research, and various other committees of Indian Council of Medical Research (ICMR); Chairperson for PRC on mental health by the Indian Council of Medical Research (ICMR), January 2022; Expert member on discussion with Clinton Health Access Initiative (CHAI) India about TB-mental health integration-February 2022; Expert member on meeting with regard to Eligibility criteria for Post Graduate Medical Education Board, National

Medical Commission, January 2022; Invited and participated in Online/free virtual medical camp organized by the Patient Care Trust Centre, Dalai Lama Temple, Dharmasala, Himachal Pradesh, February 2022; Member of Project advisory group (PAG) for USAID Supported project on Gender integrated response to COVID 19 priorities in India project by EngenderHealth, India country office.

Professor Mamta Sood was EC member, Indian Association for Social Psychiatry; Organising Secretary, WASP Asia-Pacific Hybrid Congress 2021; Chairperson, NOC Committee for International Adoption, Central Adoption Resource Authority; Member Institute Ethics Committee, All India Institute of Medical Sciences, New Delhi; Chief Election Commissioner, Indian Psychiatric Society North Zone; N N De Oration award of Indian Association for Social Psychiatry; University Representative on the Advisory Committee of Lady Harding Medical College; External subject expert for the board of studies of AIIMS Mangalagiri; Member Selection Committee, AIIMS, Bibinagar, AIIMS, Bhubaneswar.

Dr Rohit Verma was Assistant Editor of the Journal – Asian Journal of Cognitive Neurology; Secretary General & Founder Member of Neuromodulation Society (India); Executive Committee Member of Indian Association of Social Psychiatry (IASP); Ethical Committee Member of the University Institutional Ethical Committee (IEC), SRM University, Delhi-NCR, Sonapat, Haryana; Technical Expert – for Eye Tracking at AIIMS, Raipur; Certificate of Completion – Good Clinical Practice (GCP) Training Program organized by the Clinical Development Services Agency (CDSA), a center of Translational Health Science & Technology Institute (THSTI), an autonomous institute under DBT in collaboration with All India Institute of Medical Science (AIIMS), New Delhi; External Supervisor for University of Queensland - IIT Delhi Academy of Research (UQIDAR) - AIIMS joint PhD program; Honorary Advisor – to an Indian start-up company (StimVeda Neurosciences Pvt Ltd.) for developing make-in-India tDCS device for managing depression and cognitive deficits; Doctoral Committee Member for PhD – Effect of Probiotics and repetitive Transcranial Magnetic Stimulation on cognitive and motor function in 6-hydroxy Dopamine rat model of Parkinson's Disease; Department of Physiology, AIIMS, New Delhi.

Dr Gagan Hans was Co- Editor: Special Theme Issue on “*Student Wellness*” of Indian Journal of Social Psychiatry. May-June 2021; Joint Organizing Secretary and Master of Ceremony of IASP Online CME on Medical Students Wellness: Challenges and Initiatives. 10 July 2021; Member Secretary, Student Wellness Activities Committee at AIIMS, New Delhi.

Dr Renu Sharma was Member, Medical Board for Autism Spectrum Disorder in Department of Psychiatry, AIIMS, New Delhi in accordance with Ministry of Social Justice and Empowerment.

Dr Vandana Chowdhary was Nominated as member of “Expert Group” under Director General of Health Services (DGHS) to develop training module for psychosocial counselling of post COVID - 19 patients and their family members June 2021.

9.35 Pulmonary, Critical Care and Sleep Medicine

Professor and Head

Anant Mohan

Professor and Director

Randeep Guleria

Associate Professors

Karan Madan Vijay Hadda

Assistant Professors

Saurabh Mittal Tejas M Suri

Scientist-I

Sneh Arora A Surendranath

HIGHLIGHTS

The Department successfully conducted the “AIIMS EBUS Masterclass” which was a six-part online webinar series providing a “step-by-step” comprehensive overview of endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) with involvement of national and international faculties.

The Department also conducted the “Severe Asthma Symposium” in online mode on 17 December 2021 which was attended by doctors from across the country.

EDUCATION

CMEs/Workshops/Symposia/National and International Conferences

Lectures delivered

Anant Mohan: 19

Randeep Guleria: 30

Vijay Hadda: 8

Saurabh Mittal: 8

Year	Lectures Delivered
2021-22	65
2020-21	55
2019-20	65

RESEARCH

Ongoing

1. A Phase 2/3, Observer-Blind, Randomised, Controlled Study To Determine The Safety And Immunogenicity of Covovax [SARS-CoV-2 Recombinant Spike Protein Nanoparticle Vaccine (SARS-CoV-2 rS) With Matrix-M1™ Adjuvant] In Indian Adults, Dr Vijay Hadda, ICMR, 5 Months, July 2021-November 2021, Rs 40 lakhs
2. A comparative proteomics and metabolomics study of Idiopathic pulmonary fibrosis (IPF) and Post-COVID pulmonary fibrosis (pCPF) to identify new pathological and therapeutic pathways, Dr Vijay Hadda, AIIMS New Delhi, March 2022, Ongoing, Rs 89 lakhs
3. A longitudinal multisystem and genetic assessment of incidence and risk factors for chronic sequelae following Covid-19 infection, Dr Anant Mohan, ICMR, 3 years, 2021-2024, Rs 95.85 lakhs
4. Application of the Sciences of Breathomics in Respiratory Diseases, Dr. Anant Mohan, ICMR-CARE (Centre for Advanced Research and Excellence), 5 years, 2019-2024, Rs 5.0 crores
5. Delineating the mitochondrial alterations in immune cells during post COVID-19 pulmonary fibrosis, Dr Vijay Hadda, AIIMS New Delhi, March 2022, Ongoing, Rs 10 lakhs
6. Evaluation of a point -of-care rapid antibody testing for the diagnosis of COVID19 infection in an Indian population, Dr Anant Mohan, AIIMS, 2 years, 2020-2022, Rs 8.9 lakhs
7. Homeopathic treatment of respiratory sequelae of post-covid cases: an open label prospective interventional pilot study, Dr Anant Mohan, Ministry of Ayush, 1 year, 2021-2022, Rs 26 lakhs
8. Longitudinal effects of Air Pollution Exposures on Lung growth and development of biomarker of lung function deficit in Urban Children, Dr. Anant Mohan, DBT, 5 years, 2020-2025, Rs 1.37 crores

9. MicroRNAs in exhaled breath condensate and bronchial brushings as Biomarkers for Early Diagnosis of lung cancer, Dr Anant Mohan, DBT, 3 years, July 2019-2022, Rs 1.8 crores
10. Preventing Adverse Cardiac Events (PACE) in Chronic Obstructive Pulmonary Disease (COPD), Dr. Anant Mohan, National Health and Medical Research Council, 3 years, 2022-2025, Rs 22.88 lakhs
11. Randomised double blind placebo controlled clinical study of ayurvedic coded drug “Ayush – A” in the management of bronchial asthma (tamakashwasa), Dr. Anant Mohan, Ministry of Ayush, 2 years, 2019-2021, Rs 60.4 lakhs

Year	Number of Funded Research Projects	Total Sanctioned Funds (Intramural + Extramural)
2021-22	11	Rs 11.69 crore
2020-21	25	Rs 16.49 crore
2019-20	9	Rs 8.88 crore

Departmental projects

Ongoing

1. A Longitudinal Study to evaluate visual functions and OCT parameters in ethambutol induced optic nerve toxicity.
2. A study on predictors of response and treatment outcomes in patients with sarcoidosis
3. Characteristics, outcomes and consumption of hospital resources: A study of sepsis
4. Comparison between ¹⁸FDGPET/CT and ⁶⁸ga dotanoc pet/ct in patients of small cell carcinoma lung.
5. Evaluating the role of MicroRNAs as Biomarkers for Early Diagnosis and prognosis of Lung Cancer: A comparative study using Exhaled Breath Condensate and Bronchial brushing.
6. Evaluation of subjects for lung transplant at a tertiary level health facility
7. Exploration of immune transcriptomics in non-specific interstitial pneumonia
8. Indications and outcomes of rigid bronchoscopy and other airway interventions performed under general anesthesia
9. Microbiological follow-up and genotypic investigation of household contacts of MDR-TB patients.
10. Role of a protocolized pulmonary rehabilitation programme in improving performance status and quality of life in patients with end stage lung disease eligible for lung disease.
11. Short versus long spontaneous breathing trial among patients with initial failure (SL-SBT trial)
12. Study of asthma phenotypes and endotypes in patients with difficult to treat asthma and assessment for guideline based add on therapy in severe asthma subset
13. Subtyping of small cell lung carcinoma: An immunohistochemical study
14. To study the effect of oral morphine prescribed for dyspnoea in cancer patients presenting to the Departments of Onco-Anaesthesia and Palliative Medicine and Pulmonary Medicine and Sleep Disorders in a tertiary care hospital in India: A prospective observational study
15. Utility of exhaled breath analysis using electronic nose as a diagnostic and prognostic tool for lung cancer

Completed

1. Determination of serum levels of anti-tubercular drugs as predictor of treatment outcomes in extra-pulmonary tuberculosis

PUBLICATIONS

Journals: 168

Year	Journal Articles	Abstract
2021-22	168	0
2020-21	79	5
2019-20	40	11

PATIENT CARE

● Pulmonary Medicine OPD

Year	New Cases	Old Cases
2021-22	4874	8751
2020-21	2685	4151
2019-20	10213	24408

- **Lung Cancer Clinic**

Year	New Cases	Old Cases
2021-22	249	630
2020-21	111	115
2019-20	410	1860

- **Combined Pulmonary Surgery Clinic**

Year	New Cases	Old Cases
2021-22	93	308
2020-21	12	31
2019-20	160	773

- **Sleep Disorder Clinic**

Year	New Cases	Old Cases
2021-22	79	134
2020-21	14	08
2019-20	177	304

- **ILD/ PAH Clinic**

Year	New Cases	Old Cases
2021-22	211	756
2020-21	36	84
2019-20	170	1650

- **LABORATORIES**

- **(A) Respiratory laboratory**

	2021-22	2020-21	2019-20
PFT	5650	1516	14400
BDR	1889		
DLCO	2344	505	2750
Body Plethysmography (Body Box)	49	20	210
Feno	42		
IOS	40		195

- **(B) Bronchoscopy Laboratory**

	2021-22	2020-21	2019-20
Radial EBUS	54	17	102
Endobronchial Ultrasound (EBUS)	330	143	582
Thoracoscopy	12	10	44
Cryotherapy	14	04	10
Stenting	34	09	40
Electrocautery	05	25	
Flexible bronchoscopy	872	357	1371
Rigid bronchoscopy	108		
Balloon Dialatation	38		
Spigot	01		
APC	05		

- **(C) Sleep laboratory**

	2021-22	2021-21	2019-20
Polysomnography studies	263	150	414
Actigraphy	09		
Watch PAT	32	34	181
MSLT	04		

• **(D) Allergy Testing Lab**

	2021-22	2020-21	2019-20
Total IgE Level	3320	1250	3245
Specific Aspergillus IgE Level	2020	938	2860
Specific Aspergillus IgG Level	1580	490	855
Skin Prick Test	35	07	70
ADA Level	156	92	
CPET	21		

• **(E) Rehabilitation Lab**

	2021-22	2020-21	2019-20
6MWT	2438	894	1806
Inhaler Technique	120	84	

• **(F) DOTS Centre**

	2021-22	2020-21	2019-20
Total Referral Patients	1500	879	
Total DMC	251	139	

• **(G) Indoor Outdoor Patients**

	2021-22	2020-21	2019-20
ICU / Ward	301	665	767
Day Care	3148	1684	5074

• **(H) Chemotherapy Procedure**

	2021-22	2020-21	2019-20
Total Procedure	1003	996	

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Anant Mohan continues to be the member-secretary of the Delhi-NCR chapter of the Indian Chest Society and Honorary Secretary of the Indian Association of Bronchology. He continues to be member of the Project Review Committee of ICMR, Serious Adverse Events, Pulmonary of the CDSCO, Bureau of Indian Standards, Nodal Incharge of the AIIMS DOTS centre, Chairman of the AIIMS Transport Department, member of Ethics committee of Ashoka University, Scientific Project review Committee Endowment fund of AIIMS, Ethics Committee of Patel Chest Institute, Chairman of Extended Research Advisory Committee, VPCI, Member of High-Powered Committee for Project Review of ICMR, Member of Expert panel of Air Quality Management in National Capital Region and Adjoining Areas Ordinance of Commission for Air Quality in National Capital Region and Adjoining Areas, member of AIIMS Transplant committee, Chairman of the AIIMS Drug Selection Committee, Chairman of the Oxygen Audit Committee of AIIMS, Chairman of the Store Committee of the AIIMS Dental Centre. Thesis evaluated as follows: DM (Pulmonary)- PGIMER – 3; MD Medicine (PGIMER)-3; MD (Pulmonary Medicine)-JIPMER)-3 thesis

9.36. Radiodiagnosis

Professor and Head

Deep Narayan Srivastava

Professors

Raju Sharma	Sanjay Thulkar (IRCH)	Sanjay Sharma (RPC)
	Ashu Seith Bhalla	Smriti Hari
Shivanand Gamanagatti (Trauma Centre)		Atin Kumar (Trauma Center)

Additional Professors

Chandan J Das	Madhusudhan KS	Surabhi Vyas
Manisha Jana	Devasenathipathy Kandasamy	Chandrashekhara SH (IRCH)
Smita Manchanda	Ankur Goyal	Priyanka Naranje
Mukesh Yadav (IRCH)	Ekta Dhamija (IRCH)	

Assistant Professors

Krithika Rangarajan (IRCH)	Richa Yadav (Trauma center)
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Scientist-IV

Shashi B Paul

Chief Technical Officers

Braham Singh	Anil Kumar Sharma	Ashwani Kumar
Bhushan Sharan	Pawan Kumar Popli	Arun Kerkette
Poonam Mukhi	Bhanu P Singh	Surender Singh

HIGHLIGHTS

The initial part of this year was primarily dedicated to management of the imaging services required for COVID-19 patients. Our workforce of resident doctors and faculty also provided services as doctors for general duties in the special COVID wards. Currently, the department has resumed all clinical services and teaching activities. As a consequence of the lessons learned, and the teaching facilities enhanced/created during the pandemic, the clinico-radiological meetings among radiologists, treating physicians/surgeons and several teaching sessions are now conducted in “hybrid” mode with both on-site and virtual participation. The radiology wing in the new RAK OPD was also set up during this period with state-of-the-art digital flat panel Radiography systems, ultrasound scanners and PACS (Picture archiving and Communication system). In total 2 USG scanners, 1 digital radiography machine, 1 CT scanner and a RIS-PACS system were installed in our department. Reporting of all investigations is currently electronic, done on work-stations; and is available online to the treating units. The organisation and enhancement of services in the RAK OPD resulted in a significant reduction in waiting time for radiology services. Same-day investigation could be achieved for some of these, such as radiographs; with no waiting period. The departmental faculty continued to be actively engaged in patient care, education and research. Faculty members delivered over 148 lectures in various CMEs, national and international conferences. Faculty members were also actively involved in research and published over 200 papers in various indexed national and international journals and contributed 16 chapters to textbooks of Radiology in addition to editing 1 book. About 22 posters and oral papers were presented at various conferences out of which 3 received awards in different forums. The department faculty members were principal investigators in 4 funded projects. Besides, they were involved in 34 ongoing departmental projects and around 75 collaborative projects with other clinical departments.

EDUCATION

Undergraduate:

The department faculty was actively involved in teaching undergraduate students. There were a total of 40 lectures taken by the faculty for them in this period.

Postgraduate:

There were a total of 39 junior residents in the department during this period, including 23 new residents who joined the department. The department had six fellows pursuing fellowships during this period. Academic activities for postgraduate students were regularly conducted in online mode and included around 12 introductory classes for new first-year postgraduates, 23 seminars, 62 case discussions, 84 interesting film sessions and 34 didactic lectures. The online platform was harnessed to the maximum extent so that teaching did not suffer during the pandemic.

B.Sc. (Hons) Medical Technology in Radiography (MTR):

The duration and structure of this course have been updated. The name has been changed from B. Sc (H) Medical Technology in Radiography (MTR) course to Bachelor of Medical Radiology and Imaging Technology (BMRIT); and the duration will henceforth be four years including one-year of Internship. Under the new BMRIT structure, 10 students have joined in January 2021. There are 10 students in 3rd year and 12 students in 2nd year under the 3-year MTR format.

CMEs/Workshops/Symposia/National conferences organized:

The department held the *2nd Anoop Memorial Lecture* on 17th October 21 in online mode, on the topic of *Imaging in Carcinoma Rectum*

Lectures Delivered

Deep N Srivastava: 4	Raju Sharma: 16	Ashu Seith Bhalla: 22
Shivanand Gamanagatti: 10	Atin Kumar: 27	Chandan Jyoti Das: 7
Surabhi Vyas: 7	Manisha Jana: 7	Devasenathipathy Kandasamy: 5
Smita Manchanda: 14	Ankur Goyal: 16	Priyanka Naranje: 7

Oral papers/posters presented: 21

RESEARCH

Funded projects

Ongoing

1. Correlation of CT severity of invasive fungal sinusitis/ mucormycosis with clinical outcome in COVID 19 patients., Dr Smita Manchanda, AIIMS Intramural Grant, 6 months, 2021-2021, Rs 1,68,000
2. CT based texture analysis and radiology-pathology correlation in pediatric Renal and pararenal masses, Dr Manisha Jana, Extramural, by SPR Research and education foundation (REF), 18 months, 2020-2022, USD 10,000
3. Development of Atlas of Standard Chest Radiographic Images of Tuberculosis, Dr Ashu seith Bhalla, Delhi State National Tuberculosis Elimination Programme (NTEP), 1 year, 2021-2022, Rs 2 lakhs
4. Dynamic contrast enhanced MR perfusion in the assessment of angiogenesis in Juvenile Nasopharyngeal Angiofibroma (JNA), Dr Smita Manchanda, AIIMS Intramural Grant, 2 years, 2020-2022, Rs 7,65,000

Completed

1. Correlation of classification of CXR patterns and CXR-based disease severity score with clinical outcome, in patients with COVID-19 pneumonia, Dr Priyanka Naranje, AIIMS, 6mon, 2021, 2021, 54,000
2. Standardized reporting system in chest radiography and CT in predicting likelihood of COVID-19 pneumonia, Dr Manisha Jana, AIIMS, 6 months, 2021-2021, Rs 1,08,000

Departmental projects

Ongoing

1. Advanced MR imaging of pancreas in patients with a prior history of Gestational Diabetes Mellitus
2. AI in rib fracture detection
3. BIPSS in ACTH dependent Cushing's syndrome
4. Clinical spectrum in MEN syndrome
5. Comparison of Whole-Body MRI with ¹⁸F-FDG PET/CT in Pediatric Lympho-Histiocytic Neoplasms
6. Contrast enhanced ultrasound in retinoblastoma.
7. Development of Atlas of Standard Chest Radiographic Images of Tuberculosis
8. Diagnostic utility of dual energy CT in pulmonary nodules and masses
9. Effectiveness of ultrasound-guided interventions for soft-tissue pain in foot and ankle
10. IJV thrombosis in ICU patients
11. IVIM in lung carcinoma staging
12. IVIM in rectal carcinoma
13. IVIM in urinary bladder carcinoma
14. Lateral spinal measurements in chronic low backache
15. Liver fat and T1 mapping in NAFLD
16. NAFLD in GDM Osteoporosis in Pheochromocytoma/paraganglioma
17. Outcome of non-operative management of unilateral PUJO
18. Outcome of Transjugular Intrahepatic Portosystemic Shunt in Budd Chiari Syndrome: An Ambispective Study
19. Pre and post-operative scoliosis
20. Pulmonary dysfunction in childhood HL survivors
21. Renal Doppler Ultrasound To Predict Acute Kidney Injury In Patients With Acute Circulatory Failure In Icu
22. Role of MRI in response assessment of thoracic tuberculosis in children.

23. Role of Shear Wave Elastography and Multiparametric MRI in the Assessment of Sonographically Indeterminate Masses
24. Role of split bolus spectral CT protocol in the evaluation of biliary malignancies.
25. Spinopelvic deformity in EOS
26. SWE and mpMRI in Adnexal masses
27. The Anatomic basis of the Deep Inferior Epigastric Artery Perforator Flap and the Internal Mammary Artery Perforator Flap
28. TIPS in HVOTO
29. To evaluate the role of Dynamic contrast enhanced MR perfusion in the characterization of sinonasal and skull base masses
30. Tumors and Cysts of Jaw: Evaluation by Dual Energy Computed Tomography with Limited MRI Correlation.
31. Utility of Ureteric Jet in PUJO
32. Whole Body Magnetic Resonance Imaging (WB-MRI) In Assessment Of Disease Activity And Damage In Children With Juvenile Idiopathic Arthritis (JIA)

Completed

1. Characterisation of RCC with DECT and mpMRI and correlation with histopathology.
2. Diagnostic accuracy of MRI with respect to HRCT in connective tissue disease related interstitial lung disease
3. Evaluation of soft tissue vascular anomalies using contrast-enhanced ultrasound and shear wave elastography'
4. MDCT Vs MRI in bronchiectasis: A non-inferiority trial
5. Pre And Post-Operative Dysglycemia In Cases Of Pheochromocytoma / Paraganglioma –A Tertiary Care Center Study In Northern India
6. Response Assessment to Anti-Tubercular Therapy in Tuberculosis of Spine on MRI
7. Role of dual energy computed tomography and magnetic resonance imaging in the evaluation of chronic pancreatitis.
8. Role of preoperative chest wall embolization in patients of chronic fibro-inflammatory lung diseases
9. To study and compare the prevalence of NAFLD in women with and without previous history of GDM
10. To study the management outcomes in patients with Primary Aldosteronism
11. To study the prevalence of primary aldosteronism in subjects with hypertension
12. Utility of trabecular bone score and bone mineral density in assessing bone health including vertebral fracture in primary hyperparathyroidism and their change after parathyroidectomy

Collaborative projects

Ongoing

1. A comparative proteomics and metabolomics study of Idiopathic pulmonary fibrosis (IPF) and post-COVID pulmonary fibrosis (pCPF) to identify new pathological and therapeutic pathways, Pulmonary Medicine and Sleep Disorders
2. A cross sectional descriptive study of dermoscopic features in congenital and acquired vascular lesions in children, Dermatology
3. A multicenter safety and efficacy study of taliglucerase alfa in subjects with type 3 Gaucher's disease, Pediatrics
4. A prospective study to determine early predictive factors of hypocalcemia in patients undergoing total or complete thyroidectomy. Dr Ashish Saini, MS (Otorhinolaryngology - Head and Neck Surgery), December 2020-2022, Otorhinolaryngology – Head and Neck Surgery
5. A Prospective Study to evaluate the impact of Oral Submucous Fibrosis (OSMF) on occult and overt lymph nodal metastases in Gingivo-buccal complex carcinomas (GBCC) (T1-T4) of Oral cavity, Otorhinolaryngology- Head and neck surgery
6. A randomized clinical trial comparing the efficacy of arthrocentesis with mandibular manipulation and anterior repositioning splint versus arthrocentesis and mandibular manipulation in the management of temporomandibular joint disc displacement without reduction. Dr Anuvindha JS, MDS (Oral and Maxillofacial Surgery), December 2020 – 2022, Oral and Maxillofacial
7. A randomized controlled trial to evaluate the outcomes of subcondylar fracture of mandible treated using operative and non-operative methods. Dr P Silambarasan, MDS (Oral and Maxillofacial Surgery), December 2020 – 2022, Oral and Maxillofacial Surgery
8. A study on the predictors of response and treatment outcomes in patients with sarcoidosis, Pulmonary Medicine
9. Ambispective study to evaluate the utility of Supraclavicular artery island flap [SCAIF] reconstruction in Head and Neck Cancers, Otorhinolaryngology- Head and neck surgery
10. An ambispective study determining the prevalence of menstrual irregularities and related disorders in female patients of scoliosis and assessment of their obstetrical and reproductive health, Orthopedics
11. An Ambispective Study to Assess Various Primary Tumor and Ipsilateral Nodal Factors Associated with Contralateral Nodal Metastasis in Patients with OCSCC, Otorhinolaryngology- Head and neck surgery
12. Central nervous system hemorrhage and thrombosis in acute promyelocytic leukemia, Hematology
13. Clinical, radiological and molecular profiling of uncharacterized skeletal dysplasia, Pediatrics
14. Coblation Assisted Endoscopic Excision of Juvenile Nasopharyngeal Angiofibroma: A Prospective Pilot Study, E.N.T- Otorhinolaryngology
15. Comparative analysis of host immune and tissue reaction to mucormycosis between SARS-CoV-2 positive and negative patients on surgical specimens, Pathology

16. Comparative analysis of orbital volume in 3D-model assisted mesh adaptation versus conventional technique in reconstruction of orbital floor fracture.(OMFS), (OMFS) Oral and Maxillofacial Surgery
17. Comparison of articular disc position following non-surgical treatment and open reduction in condylar fracture of mandible – MRI study. Dr. Hrangbung Deborah, MDS (Oral and Maxillofacial Surgery), June 2020 – 2022, Oral and Maxillofacial Surgery
18. Comparison of MRI & synovial Fluid analysis with Histopathological correlation in detecting joint involvement in extremity sarcomas, Orthopedics
19. Comparison of outcomes in post cochlear implantation children with and without congenital inner ear malformation, E.N.T-Otorhinolaryngology
20. Detection of extranodal extension (ENE) in node positive oral cavity squamous cell carcinoma (OSCC)., Otorhinolaryngology-Head and neck surgery
21. Detection of oncogenic viruses HPV and EBV by immunohistochemistry in secondary cervical lymph nodes from primary of oropharynx, nasopharynx, and unknown primary. Dr Harithraa C B. MS (Otorhinolaryngology – Head and Neck Surgery), June 2020-2022, Otorhinolaryngology – Head and Neck Surgery
22. Diagnostic performance of IOTA-simple rules, IOTA- ADNEX, GI-RADS and O-RADS USG reporting system in evaluation of adnexal masses, Obstetrics and Gynecology
23. Efficacy of Partial Corpectomy in canal clearance for thoracolumbar burst fractures, Orthopedics
24. Evaluation of clinical features and treatment outcomes in patients with skull base osteomyelitis (ENT), E.N.T-Otorhinolaryngology
25. Evaluation of Hormonal and Metabolic Parameters in Adolescent and Young Indian Girls with Menstrual dysfunction, Obstetrics and Gynaecology
26. Evaluation of newly recommended antral follicle count (AFC) cut-off in the diagnosis of various PCOS phenotypes and comparison of their endocrine and metabolic profiles, Obstetrics and Gynecology
27. Evaluation of outcome of oral sildenafil in orbital lymphangioma, RPC
28. Evaluation of tumor micro-environment and PDL1/PD1 expression in osteosarcoma and undifferentiated sarcoma of bone and correlation with disease progression, Pathology
29. Exploration of the Vitamin-D and WNT/ Beta-catenin signaling pathway in Juvenile Angiofibroma, Otorhinolaryngology-Head and neck surgery
30. Functional and Radiological outcomes following Dual Plating in the management of AO33-C2 and AO33-C3 Femoral Fractures - A Prospective Cohort Study, Orthopedics
31. Gait Analysis of Anterior Talofibular Ligament (ATFL) Injured Patients Managed Conservatively or Surgically: A Prospective Cohort Study, Orthopedics
32. Imaging Biobank for cancer, Pathology
33. Liquid Biopsy for Early Prediction of Hepatocarcinogenesis in Chronic Liver Disease Patients, Gastroenterology
34. Metabolic syndrome in children with Down syndrome between 10-18 years- A cross sectional study, Pediatrics
35. Negative predictive value of MRI for significant prostate cancer in Indian men: An ambispective study, Urology
36. Neoadjuvant chemotherapy in sebaceous gland carcinoma of eyelids, RPC
37. Outcomes of patients of microtia with canal atresia undergoing same stage pinna reconstruction and canalplasty, E.N.T-Otorhinolaryngology
38. Prospective study to determine the incidence of intraglandular, periparotid, occult and overt cervical lymph node metastasis in patients with primary parotid carcinomas, Dr Shijitha P. MS (Otorhinolaryngology – Head and Neck Surgery), June 2020-2022, Otorhinolaryngology – Head and Neck Surgery
39. Prospective study to evaluate the utility of infra-hyoid myocutaneous flap in reconstruction following resection of oral tongue carcinoma. Dr. Abhimanyu Singh, MS (Otorhinolaryngology – Head and Neck Surgery), December 2020-2022, Otorhinolaryngology – Head and Neck Surgery
40. Randomized Control Trial comparing Radiological, Clinical and Functional Outcomes following the Supra-patellar and Infra-patellar nail insertion techniques in the treatment of extra-articular Tibial shaft fractures in Indian Population, Orthopedics
41. Retrospective analysis of patients with proven Li Fraumeni syndrome presenting in medical oncology clinic, Medical Oncology
42. Role of 18F FDG PET/CT in assessment of treatment response to neoadjuvant chemotherapy in primary extraocular retinoblastoma, Nuclear Medicine
43. Role of MR guided biopsy in detection of prostate cancer, NMR
44. Role of PET in Surgical management of Oral Cavity Squamous cell Carcinoma, Oral Cavity Squamous cell Carcinoma
45. Role of transvaginal 3D Power Doppler Ultrasound and hysteroscopy for endometrial evaluation in patients with postmenopausal bleeding, Obstetrics and Gynecology
46. Spectrum and profile of patients with Interstitial lung diseases presenting at a tertiary care center in north India (AIIMS-ILD registry), Pulmonary Medicine and Sleep Disorders
47. Study of prevalence and Clinico-metabolic profile of osteosarcopenic obese adults, Internal Medicine
48. Study to assess the prevalence of metabolically healthy obesity (MHO) and metabolically unhealthy obesity (MUO) among obese patients, Internal Medicine Surgery
49. Targeted Orbital Intervention in Management of (RSOM) rhino-sino-orbital mucormycosis cases in the Covid Era, RPC
50. The comparison of Clinical and Radiological Outcomes of Total Hip Arthroplasty with Direct Anterior Approach versus Posterior Approach - A Randomized Control Trial, Orthopedics

51. To compare the outcomes of Banded versus non-banded gastric bypass procedures (Roux-en-Y gastric bypass & One anastomosis gastric bypass) for patients with morbid obesity -A Prospective Randomised controlled trial, Surgery
52. determine the incidence of paratracheal lymph node metastasis in patients with carcinoma larynx and hypopharynx planned for partial /total laryngectomy (Otorhinolaryngology- Head and neck surgery), June 2019-2021, E.N.T-Otorhinolaryngology
53. To evaluate osseous changes on the non-operated temporomandibular joint after unilateral total joint replacement. Dr Aarti Jha, MDS (Oral and Maxillofacial Surgery), December 2020 – 2022, Oral and Maxillofacial Surgery
54. To evaluate the role of intralesional bleomycin in periocular capillary hemangiomas unresponsive to oral propranolol, RPC
55. To study the incidence of Obstetric Anal Sphincter Injuries (OASIS) in postpartum females in North India using Endoanal Ultrasound., Obstetrics and Gynecology
56. Utility of 68Ga-NOTA-Ubiquitin in differentiation of infective and non-infective lesions, Nuclear Medicine
57. Utility of 99Tc Ubiquitin scintigraphy in diagnosis of sinonasal mucormycosis, Nuclear Medicine

Completed

A comparison of ultrasonography and MRI in assessing tumor characteristics and locoregional spread in carcinoma cervix, Obstetrics and Gynecology

1. Baseline and Post Neoadjuvant Chemotherapy Imaging of Optic Nerve in Extraocular Retinoblastoma. Can MRI Predict Prognosis? RPC
2. Economic Burden, Prevention and Control of Pneumonia among Elderly, Center for Community Medicine
3. Effects of use of bolster and its orientation on kidney position in reference to prone percutaneous lithotomy, Urology
4. Evaluation of Dual dye technique for sentinel lymph node biopsy in breast cancer: Two arm open label parallel design Non-inferiority Randomized controlled trial, Surgery
5. Exploring the usage of Ultrasonography in assessing mid palatal suture opening in Rapid Palatal Expansion: Pilot study, Orthodontics
6. Oncological outcomes of breast conservation surgery in patients with locally advanced breast cancer post neoadjuvant chemotherapy, Surgery
7. To determine the incidence of paratracheal lymph node metastasis in patients with carcinoma larynx and hypopharynx planned for partial /total laryngectomy, Otorhinolaryngology- Head and neck surgery
8. To establish an algorithm for the management of axilla in patients with early operable breast cancer having clinically negative axilla, Surgery

PUBLICATIONS

Journals: 159

Chapters in Book:14

Books & Monographs: 01

		2019-20	2020-21	2021-22
Oral Presentations+Posters		59	36	22
Journal Articles		107	178	159
Abstracts		02		
Chapters in Book		42	26	14
Book/ Monograph		04		01
Funded Research Projects		4+12	4+4	4+2
Extramural		3	3	2
Intramural		1	2	2
2019-20	Total amount	INR 11,33,000+USD 10,000		
2020-21	Total amount	INR 20,12,000+USD 10,000		
2021-22	Total amount	INR 1,05,04,000		

AWARDS, HONORS AND SIGNIFICANT EVENTS

Professor Ashu Seith Bhalla was President Society of Chest Imaging and Interventions (SCII); Appointed faculty for consultation on AI for Chest X-rays by Ministry of Health and Family welfare; Guideline expert group member for COVID-19 associated Mucormycosis constituted by PGI Chandigarh; Sub-speciality chapter head (Chest Radiology) of Indian Radiology and Imaging Association (IRIA); Associate Editor Indian Journal of Radiology and Imaging (IJRI).

Professor Atin Kumar was Sub-speciality chapter head (Emergency Radiology) of Indian Radiology and Imaging Association (IRIA); Editorial board member of Indian Journal of Radiology and Imaging (IJRI); Distinguished Services Award by Delhi Chapter of Indian Radiological and Imaging Association presented at Delhi Imaging Update 2021.

Dr Chandan J Das received Distinguished Reviewer Award 2021 by Abdominal Radiology; Chief of Guideline expert group member for Renal mass Imaging.

Dr Madhusudhan KS received AJR Silver Reviewer Lifetime Achievement Award in 2021 by American Roentgen Ray Society; “JCIR Best reviewer award 2019” (for Journal of Clinical Interventional Radiology) presented by the Indian Society of Vascular and Interventional Radiology, at the annual conference, Goa, 31 March–3 April 2022; Distinguished Reviewer Award 2021 by Abdominal Radiology.

Dr Smita Manchanda was Awarded the Fellowship of ICRI (Indian College of Radiology and Imaging) at “74th Annual National Conference IRIA” held at Bengaluru, Karnataka, on 24 March 2022.

Dr Shivanand Gamanagatti received Dr Niranjana Khandelwal Oration in the Field of Interventional Radiology (NAMS Oration 2021).

Dr Ankur Goyal was Distinguished Reviewer Award 2021 by Abdominal Radiology; Recipient Onco-Imaging Award 2019 of ICRI for the innovative research paper titled ‘Role of MR texture analysis in histological subtyping and grading of renal cell carcinoma: A preliminary study’ at the 74th Annual Conference of IRIA held at Bengaluru (24 March 2022); President Appreciation Award IRIA Delhi presented in Delhi Imaging Update 2021 (announced on 17 April 2021); Treasurer delhi state chapter of IRIA and JOINT SECRETARY, Delhi State Chapter of ISVIR.

Detail of Investigations for the period 2021-2022

S. No.	Name of Investigations / Special procedures	Total no. of Investigation
1	Routine X-rays	
	<ul style="list-style-type: none"> OPD Indoor Casualty Portable 	101668 22267 43528 61013
2	Special Investigations	
	<ul style="list-style-type: none"> Barium Studies Intravenous pyelography Micturating cystourethrography Hysterosalpingography Operation Theater Studies Other contrast studies 	1421 650 1529 192 107 598
3	Mammography	2112
4	Dexa Scan	654
5	Ultrasound	
	<ul style="list-style-type: none"> Routine Emergency Doppler (Routine + Casualty) 	30197 36364 4168
6	CT	
	<ul style="list-style-type: none"> Body Head 	16269 6792
7	MRI (Main + NMR)	6232
8	Interventional Procedures	
	<ul style="list-style-type: none"> Interventional Vascular Studies 	2122
	Interventional Non-Vascular studies	
	<ul style="list-style-type: none"> CT Guided Ultrasound Guided Fluoroscopy Guided Mammography Guided 	397 3687 1700 8
	Grand Total	3,43,675

* Numbers of many elective procedures are less than last year due to OPD and Indoor services being curtailed in view of the Covid 19 pandemic.

9.37. Reproductive Biology

Professor and Head

Ashutosh Halder

Professor and Officer In-charge CRIA facility

Pradeep Kumar Chaturvedi

Additional Professors

Surabhi Gupta Mona Sharma

Scientist II

Deepak Pandey Neeraj Kumar

Scientist I

Manish Jain

Chief Technical Officer (MLT)

Mariama Mathew

HIGHLIGHTS

Department is mainly involved in teaching, training and research work besides diagnostic services (reproductive hormones & cancer biomarkers; semen analysis; FISH & QF PCR for various genetic disorders) and reproductive genetic counseling. Most of the reproductive genetic counseling was self-referral and last one year (cases were with reproductive disorders, malformation, cancer, infertility, etc). CRIA facility provides tests for more than 50 parameters including cancer markers, reproductive hormones etc. Department has started online reporting for CRIA tests. CRIA facility has done 95138 tests this year. The Andrology laboratory provides detailed semen analysis whereas the molecular laboratory of the department provides various genetic tests using FISH, QF PCR technologies. Training and teaching are provided to our PhD students, MSc students and various trainees of the department besides other departments (Laboratory Medicine, Biochemistry, Obstetrics & Gynecology) of AIIMS. Faculty members of the department were invited by several national academics for different academic contributions (NII stem cell committee, NABL core accreditation committee, ICMR APS & SRF project review/selection committee, MCI assessment for DM (medical genetics) courses, MCI DM Medical Genetics Guidelines, PAC & IRB committee member of NIHFW, taskforce member of various committee of DBT, Ayush, etc). Professor KR Lauma's memorial oration of the department for 2021-22 was awarded to Prof. Mohammad Abdulkader Akbarsha, PhD, Hony. Research Coordinator, National College, Tiruchirappalli, TN.

Activities/steps taken to improve patient care services, education and research in the past year

During Covid-19 pandemic, new test-SARS CoV-2 IgG test was started for healthcare workers and staff of AIIMS. Apart from providing routine assays of more than 50 parameters two more tests (D-Dimer and CRP) were started. Research-based on semen cryopreservation and sperm function tests was started. Various research works initiated on PCOS at the epigenomic and genomic levels.

Action Plan for the coming year

Standardisation of newer sperm function tests and sperm preparation techniques will be done. We are planning to initiate feasibility for NIPT (non-invasive prenatal testing) and semen banking in the department.

EDUCATION

PhD Student (Registered/Ongoing):	12	MSc students	11
JRF/SRF/RA/RO	6		
Postgraduate- MD Laboratory Medicine Students (Laboratory training for 15 days)			
MD Biochemistry Students (Laboratory training for 15 days)			
DM Reproductive Medicine Students (Laboratory training for 60 days)			

No. of students/trainees registered in the department

S. No.	Degree/Course	2019-20	2020-21	2021-22
1.	Ph.D.	10	11	12
2.	M.Sc.	11	11	11
3.	JRF/SRF/RA/RO	02	05	06

Lectures delivered**Ashutosh Halder: 15****Mona Sharma: 2****Oral papers/poster presented: 5****Oral/Poster Presentations:**

	2019-20	2020-21	2021-22
Number of Oral / Poster Presentations	9	4	5

RESEARCH**Funded projects****Ongoing**

1. An investigation on underlying mechanism of PCOS in association with endocrine disrupting chemicals (Bisphenol A and Advanced Glycation End products), Ashutosh Halder, DBT, 3 years, 2022–2025, Rs 68.8 lakhs
2. Development of diagnostics and experimental therapeutics using CRISPR-based technologies, Surabhi Gupta, DBT, 3 years, 2020–2023, Rs 288.34 lakhs
3. Effects of Non-ionizing Electro Magnetic Field (EMF) on Human Health (referral center), PK Chaturvedi, ICMR, 5 years, 2017–2022, Rs 32.7 per year
4. Evaluation of Non-invasive Biomarker potential of Circulating Endometrial Cells in Peripheral Blood of Women with Endometriosis, Neeraj Kumar, AIIMS, New Delhi, 2 years, 2020–2022, Rs 10 lakhs
5. Idiopathic Sertoli Cell Only Syndrome (SCOS): An Investigation to find out Epigenomic Etiologies, Manish Jain, ICMR, 3 years, 2021–2023, Rs 45 lakhs
6. In vitro evaluation of effects of electromagnetic field (EMF) on male reproductive health, P.K. Chaturvedi, ICMR, 3 years, 2019–2022, Rs 58 lakhs
7. Integrative analysis of ovarian cancer transcriptome to identify potential therapeutic targets & biomarker discovery, Ashutosh Halder, ICMR, 3 years, 2020–2023, Rs 54 lakhs
8. Quality control for hCG kits, P.K. Chaturvedi, HLL Lifecare Limited/ Ministry of Health, Yearly, Yearly, Rs 9 lakhs per year
9. Role of Mitochondrial Fatty Acid Shuttle System in Premature Ovarian Failure, Mona Sharma, ICMR, 3 years, 2021–2024, Rs 42 lakhs
10. Study of semen cryopreservation and its effects on sperm parameters in male cancer patients, Mona Sharma, AIIMS, New Delhi, 2 years, 2021–2023, Rs 10 lakhs
11. Targeting potential fusion molecules of mammalian fertilization fertilisation using CRISPR-Cas genome editing technology, Surabhi Gupta, AIIMS, New Delhi, 1 year, 2021–2022, Rs 2.0 lakhs
12. Therapeutic targeting of ER Chaperones exploiting Small Molecules: A Virtual Screening Approach to alleviate ER stress in Preeclampsia, Surabhi Gupta, DBT, 3 years, 2019–2022, Rs 55.52 lakhs
13. To Decipher the Functional Interaction of Reproductive Longevity Regulating Transcriptional Targets induced by TGF- β and Insulin Signalling in Gonads, Neeraj Kumar, ICMR, 3 years, 2020 – 2023, Rs 50 lakhs
14. To delineate the impact of selective estrogen receptor modulators (SERMs) on hormone mediated stromal-epithelial interaction in prostate cells, Deepak Pandey, AIIMS, New Delhi, 1 year, 2021–2022, Rs 4.9 lakhs
15. To elucidate the impact of micronutrients and vitamins on sex-steroid mediated stromal-epithelial interaction in prostate cells: role in maintenance of normal prostate physiology, Deepak Pandey, ICMR, 3 years, 2021–2024, Rs 41.56 lakhs
16. To study the effect of Endocrine Disrupting Substance BisPhenol A on Steroidogenesis and apoptosis in Leydig Cells mediated by MicroRNA, PK Chaturvedi, ICMR, 3 years, 2021–2023, Rs 76 lakhs
17. To Study the Mechanisms Underlying the Pathogenesis of Pre-eclampsia, Surabhi Gupta, ICMR, 3 years, 2021–2024, Rs 76.12 lakhs

Year	Funded Research Projects	Amount of Extramural/Intramural Funding (Rs)
2019-2020	16	640 lakhs
2020-2021	16	597.66 lakhs
2021-2022	18	923.94 lakhs

Completed

1. An investigation to find out genetic factors in idiopathic familial ovarian failure, Ashutosh Halder, DST, 3 years, 2018–2021, Rs 44 lakhs
2. Elucidating health-span regulatory modules by genome-wide combinatorial effects of transcription factors downstream of insulin signaling, Neeraj Kumar, DBT, 3 years, 2018–2021, Rs 50 lakhs
3. Embryo-uterine cross-talk for implantation & beyond: Role for exosomal microRNAs, Surabhi Gupta, Science and Engineering Research Board (DST-SERB), 3.5 years, 2018–2022, Rs 44.2 lakhs
4. High resolution Genomic Screening using SNP Microarray to find out Genomic Causes in Idiopathic Sertoli Cell Only Syndrome (SCOS) cases, Manish Jain, AIIMS, New Delhi, 3 years, 2017–2021, Rs 14 lakhs
5. Poly Cystic Ovarian Syndrome (PCOS): An investigation to find out reasons for discrepancy between hyperandrogenism (clinical) & hyperandrogenemia (biochemical) & underlying etiologic factors, Ashutosh Halder, DST, 3 years, 2018–2021, Rs 50 lakhs

Departmental projects

Ongoing

1. An investigation of the etiological factors associated with polycystic ovary syndrome
2. An Investigation to Determine Etiological Factors in Apparent Idiopathic Hypospermatogenesis
3. Analysis of anti-cancer activity of herbal extracts on prostate cancer cell lines
4. Analysis of anti-cancer activity of novel benzoxazole derivatives on prostate cancer cells
5. Characterization of testis-enriched proteins with potential role in mammalian fertilization
6. Delineating the Role of Insulin/insulin-like Growth Factor Signalling (IIS) in *Caenorhabditis elegans* Reproductive Aging
7. Effect of antidepressant drug (Escitalopram) on testicular and adrenal functions
8. Effect of Circulating Exosomes Isolated from Normal Pregnant and RPL Women on Trophoblast Cells
9. Effect of sperm vitrification on its telomere length in testicular cancer patients
10. Effects of Catechins on Hormone Mediated Stromal Epithelial Interaction in Prostate Cells
11. Epigenetic changes during epithelial to mesenchymal transition in trophoblast cells under physiological and pathological conditions.
12. Genetic determinants of idiopathic premature ovarian failure
13. *HDAC inhibitor(s) mediated genome-wide transcriptional networks in reproduction and longevity using Caenorhabditis elegans as model system*
14. Investigation of potential biomarkers for the differential diagnosis of Non-Obstructive Azoospermia (NOA)
15. Isolation of Circulating Endometrial Cells from Peripheral Blood of Women with Endometriosis
16. MicroRNA expression profiles in testicular FNAC samples of apparent idiopathic Sertoli cell only syndrome (SCOS) cases
17. Role of DNA methylation in modulating Trophoblast functions
18. Role of micronutrients and flavonoids in modulation of prostate stromal-epithelial interaction
19. Role of mitochondrial fatty acid shuttle in premature ovarian failure
20. Role of placenta derived exosomes in decidualization in Recurrent pregnancy loss patients.
21. *Sero – prevalence and/or persistence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) IgG antibody among SARS-CoV-2 positive cases, untested healthcare workers and non-healthcare workers*
22. Study of sperm oxidative state, shelterin protein expression and chromatin function in infertile males
23. Study of sperm oxidative state, TERRA expression and chromatin function in infertile males
24. To evaluate the potential of circulating microRNAs as biomarkers for endometriosis in the Indian population

Collaborative projects

Ongoing

1. A comparative study of melatonin, gabapentin and alprazolam in reducing preoperative anxiety, Anaesthesiology
2. A multicentric Novel Corona Virus population-based Age stratified Sero epidemiological study, WHO Center for Community Medicine
3. An ambispective cohort control study to evaluate the effect of SARS-Cov-2 infection post adenoidectomy patients, Otorhinolaryngology
4. Antibody response among health care workers recovered from covid-19, Department of Medicine, AIIMS
5. Assessment of adreno-cortical function and its clinico-metabolic implications in PLHIV population, Medicine
6. Association of small intestinal bacterial overgrowth and gastrointestinal symptoms in patients with non-alcoholic fatty liver disease, Department of Medicine, AIIMS
7. Clinico-genetic prognostic signatures for development of metastatic Castration Resistant Prostate Cancer, Department of Urology, AIIMS, New Delhi.
8. Correlation of bio inflammatory markers with the fetomaternal outcome in IHCP of pregnancy, Department of Obstetrics and Gynaecology, AIIMS

9. Establishment of a normal reference range (nomogram) for Testosterone and Dihydrotestosterone in boys of age group 0 – 14 years, Department of Pediatric Surgery, AIIMS
10. Feasibility and efficacy of lung water estimation on Cardiac Magnetic Resonance Imaging (MRI) in predicting adverse cardio-vascular events in patients with heart failure, Department of Cardiac Radiology, AIIMS
11. Fetal cardiac profile in intrahepatic cholestasis of pregnancy and its association with perinatal outcome, Department of Obstetrics and Gynaecology, AIIMS
12. Impact of Checkpoint inhibitors on suppressed state of immunity in tuberculosis, Transplantation Immunology & Immunogenetics, AIIMS
13. Molecular Genetic Evaluation of Unexplained Stillbirths, Genetics Unit, Pediatrics, AIIMS
14. Study of prevalence, risk factors and metabolic profile of sarcopenia in Indian adults, Medicine
15. To study the long term effects of disease and its treatment in survivors of pediatric solid tumours, Department of Pediatric Surgery, AIIMS
16. Unique aspects of idiopathic hypoparathyroidism, Endocrinology, AIIMS

Completed

1. Impact of parental history of type 2 diabetes in Indian women with PCOS, Endocrinology, AIIMS
2. MicroRNA and hTERT gene profiles as biomarkers in oral potentially malignant and malignant lesions, Dental Science Centre, AIIMS
3. Reference range of serum alpha fetoprotein in Indian children below 3 years of age, Department of Pediatric Surgery, AIIMS
4. Role of Bone Marrow Microenvironment in Multiple Myeloma, Medical Oncology, IRCH, AIIMS
5. Role of miRNA mediated modulation of signal transduction in pancreatic cancer, Department of Gastroenterology, AIIMS
6. Understanding the pathophysiology of endometriosis by protein profiling and correlation with stress, Physiology, AIIMS

PUBLICATIONS

Journals: 14

Chapters in Book: 1

Year	Journals	Abstracts	Chapters in books	Books and monographs
2019-20	09	NIL	01	NIL
2020-21	13	01	02	01
2021-22	14	NIL	01	NIL

PATIENT CARE

Patient care in outpatient service: not part of standard outpatient service

~50 cases were referred to Dr Halder mainly from other hospitals of Delhi or self-referral for Counseling/Planning of Management/Advice (all in my office/department) and related to Reproductive Genetics in particular Male Primary Hypogonadism, Recurrent Abortion, Recurrent IVF failure, Genetic Disorders and Malformation Syndromes

Workload in the form of laboratory service

Standardised additional molecular cytogenetic technique (in addition to ongoing fluorescent in situ hybridization services) using STR/microsatellite markers and used for patient care

Special laboratory facilities in Department of Reproductive Biology (Molecular Cytogenetics lab), AIIMS

Microdeletion FISH on blood (Interphase/ Metaphase cell), buccal cell, urine cell, solid tissue etc

Recruited 110 patients which all are suspected Microdeletion syndrome and 70 cases of Primary Testicular Failure cases. We have done FISH & QF-PCR of all cases and Yq microdeletion of Primary Testicular Failure cases in our Molecular Cytogenetics lab and given reports to all the patients.

List of Microdeletion Syndrome:

- Digeorge syndrome (22q11.2)
- William syndrome (7q11.23)
- Prader willi syndrome (15q11.13)
- Retenoblastoma (13q)
- Miller decker syndrome (17p13.3)
- Langer Giedions syndrome (8q24.11)
- 1p36.13
- Wolff Hirschhorn (4p16.3)

Prenatal FISH (Amniotic fluid cells/chorionic tissue)

- Trisomy 21 (Down syndrome)
- Trisomy 18 (Edward Syndrome)
- Trisomy 13 (Patau Syndrome)
- Any autosomal aneuploidies (on request)

Karyotyping (only research use)**Sex Chromosome FISH** (X, Y, SRY: only research & infertility)**Yq Microdeletion PCR** (Cover app. 20 primer)**PRINS** (Chromosome 13, 18, 21, X, Y)**QF-PCR** (DG, WS, PWS, RB, MD, Langer-Giedions, Trisomy 13, 18, 21, etc.)**Methyl Specific PCR** (PWS)**DNA Microarray**

- All microdeletion Syndrome
- Primary Testicular Failure / POF/PCOS cases

CRIA Facility:

Routine assays of **more than 50** parameters in the blood samples of admitted and OPD patients were carried out in the facility. In Covid-19 pandemic, we have started new test SARS CoV-2 IgG test and we have done SARS CoV-2 IgG test for health care workers and Staff.

Name Of Investigation	Total no. of tests done
17-OH Progesterone	378
ACTH	212
Active B12	10616
AFP	1826
AMH	3048
Anti-CCP	3007
Anti-Tg	289
Anti-TPO	1662
Beta-hCG	1032
BNP	2206
CA-125	2186
CA15.3	2
CA19.9	2752
CEA	2635
CKMB	187
CMV-IgG	22
CMV-IgM	24
Cortisol	1046
C-Peptide	104
Cyclosporine	592
DHEAS	695
DHT	107
Estradiol	957
Ferritin	5094
Folate	7446
Free PSA	89
Free T3	974
Free T4	1352

FSH	4951
Growth Hormone (GH)	274
HbA1c	499
Homocysteine	149
Inhibin B	246
Insulin	902
Intact PTH	7334
LH	4524
Methotrexate	381
Procalcitonin	11262
Progesterone	302
Prolactin	4313
PSA	2249
Rubella-IgG	21
Rubella-IgM	22
SARS-CoV-2 IgG	611
SHBG	325
Testosterone	1833
Total T3	5354
Total T4	6403
Toxo-IgG	11
Toxo-IgM	9
Troponin-I	840
TSH	20076
Vitamin D,25 - Hydroxy	18967
Thyroid profile	7760
D-dimer	4
HE4	7
TOTAL	150169

No of tests for JSSK patients	No of tests for BPL patients	No of tests for AB-PMJAY patients
2455	6191	432

In addition, more than **10660** tests for various markers were done for research project studies.

Andrology Lab

Andrology lab provided semen analysis services to 357 patients.

No. of Patient related tests/laboratory services

Year	CRIA Facility	Molecular Cytogenetics Lab	Andrology Lab
2019-20	262304	300	59
2020-21	95138	300	83
2021-22	150169	180	357

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Ashutosh Halder Fellow, Indian Academy of Biomedical Sciences (IABS), 2021; Fellow, Endocrinology & Reproduction, 2021; Expert members of the task force of Human Developmental and Disease Biology - Maternal and Child; Health committee of DBT (cont.) Member expert group on fellowships of reproductive biology and maternal health, ICMR (cont.) Advisory panel- expert member (Genetics: Fellowship & Membership) of NAMS (cont.); Core Accreditation

Committee Member of Quality Council of India (formerly NABL) on; Genetics & Cytogenetics (cont.); Member of Program Advisory Committee (PAC) and Institutional Review Board (IRB) of NIHFW, Munirka, Delhi (cont.); Member of Institutional Committee-Stem Cell Research (IC-SCR) of NII (cont.); Member of the Scientific Advisory Committee, ICMR-NIRRH, Mumbai; Assessment Board Expert for promotion of ICMR scientists (cont.); Editorial board member of various journals e.g., Journal of Clinical Diagnosis and Research, *EC Gynaecology*, Austin Journal of Reproductive Medicine & Infertility, Journal of Reproductive; Healthcare and Medicine, SM Journal of Gynecology and Obstetrics, Clinical Case Reports and; Reviews (OA Text's Editorial Board), Journal of Health Science Research, etc; Reviewer of various journals/government funding organisations (national and international); New citations since last one year are over 100 (total citation 1214).

Professor Pradeep Kumar Chaturvedi One of our poster title “Calotropis procera extract (CPE) inhibits prostate cancer by modulation levels of reactive oxygen species” has been awarded best International abstract in 54th SSR meeting held in USA 2021. Chaired one session in International conference on challenges and strategies in reproductive and environmental health with special reference to COVID-19 pandemic and 31st Annual Meeting of Indian society for the study of reproduction and fertility held Online on 19-21 Feb 2021. Participated as chairperson. Member of ethic committee for PG, AIIMS, Examiner for PhD and MSc for IMTech Chandigarh, Gwahati University, Calcutta University, NDRI Karnal, Reviewer of projects of Department of Biotechnology (DBT), Member Selection Committee ICMR), Member expert committee ICMR for review projects on Centre for Advance Research and also Ad-hoc projects, Reviewer Journal of Andrologia.

Dr Surabhi Gupta Reviewer for grants submitted to Department of Biotechnology (DBT), Govt of India; Reviewer for International Journal of Reproductive Medicine; Reviewer for Journal of Food Sciences; Panelist for PhD Viva-voce examination for Sri Ramachandra Institute of Higher Education and; Research, Chennai.

Dr Mona Sharma Chaired a session/panel discussion at the IFS virtual conference 2021. Member of special interest group (applied genetics/quality control) of IFS and was involved in webinars, panel discussions and newsletter editing. Member of editorial board of Journal of infertility and reproductive biology and IFS newsletter. Reviewer of DBT projects and journal articles (JRHM).

9.38. Rheumatology

Professor and Head

Uma Kumar

Associate Professors

Danveer Bhadu Ranjan Gupta

Assistant Professors

Rudra Prosad Goswami

Assistant Nursing Superintendent

Karuna V Manik

HIGHLIGHTS

This department is providing state-of-the-art patient care services and is also instrumental in building resources, which are required to deal with a tremendous load of patients with acute and chronic rheumatic ailments. Its 6-bed Rheumatology Day Care service is the first of its kind in India and is continuing to cater to the needs of patients requiring short admissions for various interventions, treatments and procedures. Various educational activities to increase awareness about arthritis and related disorders amongst the public and medical professionals are regular features. Department has been at the forefront of research also; it has research grants worth Rs 4,21,22,541 and many collaborative projects are also running. Department faculty published their work in reputed scientific journals. Collaborative research activities have led to filing of three patents which are currently in the pipeline. The departmental Clinical Immunology Laboratory caters to the whole hospital in terms of performing various immunological investigations.

Activities/steps taken to improve patient care services, education and research

1. Realising the need for trained rheumatology specialists, short-term training to medical specialists from various government organizations is being provided on regular basis.
2. All efforts are made to provide specialized immunological investigations results as early as possible without compromising on the quality.
3. New specialized tests are added to the list like nail fold capillaroscopy, musculoskeletal ultrasound, Schirmer's test, which are being done free of cost.
4. Services are initiated to reduce patient's hospital visits like giving intra-articular injections in OPD itself, and doing tests like 6MWT, nail fold capillaroscopy, musculoskeletal USG on the same day (as far as possible).

Action Plan: The department has an active teaching programme and it is trying to start super-specialty course 'DM' in Rheumatology once in-patient management is started.

EDUCATION

Undergraduates

1. Scope of clinical immunology, present concept in autoimmunity & autoimmune disorders for semester 8
2. Approach to a patient with polyarthritides for semester 3
3. Systemic sclerosis & overlap syndromes for semester 8
4. Management of rheumatoid arthritis for semester 8
5. Inflammatory muscle disorders for semester 8
6. Seminar on primary systemic necrotizing vasculitis for semester 8
7. Seminar on SLE for semester 8

Postgraduate: Seminars, bedside teaching, mortalities reviews, journal scan and journal club and case discussions every week

Nursing lectures: Lecture series on rheumatologic disorders for various cadres of nursing staff

Number of short term/long term trainees: Four non-academic Senior Residents

CMEs/Clinical Meetings: Organized monthly clinical meetings under the aegis of Delhi Rheumatology Association (Delhi Chapter of Indian Rheumatology Association)

Lectures delivered

Uma Kumar: 14

Ranjan Gupta: 2

Danveer Bhadu: 1

Rudra Prosad Goswami: 2

Oral papers/posters presented: 5

	2021-22	2020-21	2019-20
Number of Oral presentations	0	8	26

RESEARCH

Funded projects

Ongoing

1. A Multicenter, Double-blind, long term extension study to assess the Safety and Efficacy of Filgotinib in subjects with Rheumatoid Arthritis, Dr Uma Kumar, Galapagos, 6 years, 2019-2025, Rs 28.77 lakhs
2. ALK20/ENZ129-ADA1 Study—A prospective, multicenter, randomised, double blind, Phase III study to compare the efficacy and safety of Biosimilar Adalimumab injection of Enzene Biosciences Ltd. with HUMIRA® (adalimumab) injection in subjects with active Ankylosing spondylitis (AS), Dr Uma Kumar, Alkem Pharmaceuticals, 1 year, 2021-2022, Rs 2.5 lakhs
3. A randomised, controlled trial to evaluate the efficacy of multimodal Ayurveda intervention interventions in Jananu Sandhigatavata (Primary Knee osteoarthritis), Dr Uma Kumar, AYUSH, 3 years, 2022-2025, Rs 62.42 lakhs
4. A randomised, double-blind, placebo-controlled, parallel group, phase III multicenter study of intravenous secukinumab to compare efficacy at 16 weeks with placebo and to assess safety and tolerability up to 52 weeks in subjects with active Psoriatic Arthritis, Dr Uma Kumar, Novartis, 1 year, 2021-2022, Rs 1.56 lakhs
5. A randomised, double-blind, placebo-controlled, parallel group, phase III multicenter study of intravenous secukinumab to compare efficacy at 16 weeks with placebo and to assess safety and tolerability up to 52 weeks in subjects with active Ankylosing Spondylitis or non-radiographic axial SpondyloArthritis., Dr Uma Kumar, Novartis, 1 year, 2021-2022, Rs 6.24 lakhs
6. CAIN457X12301 Ref: A randomised, parallel-group, double-blind, placebo-controlled, multicenter phase III study to investigate the efficacy and safety of secukinumab (Cosentyx) 300 mg administered subcutaneously in patients with active peripheral spondyloarthritis (pSpA), Dr Uma Kumar, Novartis, 4 years, 2022-2025, Rs 39.43 lakhs
7. An Indian initiative to study Granulomatosis with Polyangiitis through clinical and genomics approach., Dr Uma Kumar, ICMR, 3 years, 2020-2023, Rs 18.68 lakhs
8. An open-label, multi-center protocol for patients who have completed a previous Novartis sponsored Secukinumab study and are judged by the investigator to benefit from continued Secukinumab treatment. CAIN457A02001B, Dr Uma Kumar, Novartis, 2 years, 2022-2024, Rs 4.54 lakhs
9. Assessment of the beliefs, knowledge and perception of the patients and health care providers about rheumatoid arthritis and effect of the information course, Ranjan Gupta, Pfizer Inc. 1 year, 2021-2022, Rs 13.86 lakhs
10. Assessment of the Knowledge Gaps of Primary Care Physicians in the Diagnosis and Management of Rheumatoid Arthritis and Impact of a Short-Term Training Course, Ranjan Gupta, Pfizer Inc, 2, 2021-2023, USD 46,111
11. Comparison of Metabolomics Profiles Between Patients with Proliferative and Membranous Lupus Nephritis in London and New Delhi, Ranjan Gupta, AIIMS Intramural AIIMS-UCL grant, 1 year, 2021-2022, Rs 5 lakhs
12. Macrophage Migration Inhibitory Factor (MIF) and CD74/CD44 system as a biomarker of treatment response in Rheumatoid Arthritis, Ranjan Gupta, Institutional Intramural Grant, 2 years, 2020-2022, Rs 10 lakhs
13. Multi-institutional Network Program on Systemic lupus Erythematosus: Understanding the diversity of SLE, Ranjan Gupta, DBT, 5 years, 2018-2023, Rs 99.85 lakhs
14. Phase IV, open label, non-comparative, multicentre study to evaluate safety and efficacy of subcutaneous tocilizumab in subjects with Giant cell arteritis (gca), Danveer Bhadu, CBCC contracted by Cipla Ltd, 1 year, 2021-2022, Rs 55,000/patient
15. Popularizing science and technology for alleviating occupational health hazards among women studying or working in schools, colleges and IT sector, Dr Uma Kumar, DST, 2 years, 2020-2022, Rs 30.19 lakhs
16. Role of TLR-4 in Acute Gouty Arthritis, Danveer Bhadu, AIIMS, 1 year, 2020-2022, Rs 2.3 lakhs
17. Systems biology of complex diseases: from genetic findings to lead molecule development for rheumatoid arthritis. Centre of Excellence on Genome Sciences and Predictive Medicine (GESPREM) Phase II, Dr Uma Kumar, DBT, 6 years, 2015-2021, Rs 59.6 lakhs

Total funded research projects and total amount of extramural/intramural funding:

	2021-22	2020-21	2019-20
Number of projects	17	16	12
Total fund amount (Rs)	4,21,22,541/-	3,09,49,000/-	2,18,90,000/-

Completed

1. A Phase-IV, Multicenter, Noncomparative, Open-Label Study Evaluating the Safety and Efficacy of Golimumab (a Fully Human Anti-TNF α Monoclonal Antibody, Administered Subcutaneously) in the Treatment of Indian Patients with Active Spondyloarthritis of Ankylosing Spondylitis or Psoriatic Arthritis, Dr Uma Kumar, Jansen, 1 year, 2021-2022, Rs 7.07 lakhs
2. A randomised, double-blind, active control, multicenter study to evaluate the efficacy at week 52 of subcutaneously administered secukinumab monotherapy compared with subcutaneously administered adalimumab monotherapy in patients with active psoriatic arthritis. Study Protocol No: CAIN457F2366, Uma Kumar, Novartis Pharmaceuticals, 2 years 6 months, 2018-2020, Rs 9.39 lakhs
3. Endogenous TLR4 ligands MRP8/14 and Tenascin-C as biomarkers of lupus nephritis disease activity: Cross sectional and longitudinal assessment, Ranjan Gupta, AIIMS, 3 years, 2017-2020, Rs 10 lakhs
4. Markers of muscle senescence in inflammatory myositis, Danveer Bhadu, Indian Rheumatology Association, 3 years, 2020-2022, Rs 2 lakhs
5. Prediction of response to methotrexate in rheumatoid arthritis: Role of adenosine ectoenzyme network on mononuclear cells, Ranjan Gupta, Asia Pacific League of Associations for Rheumatology (APLAR), 3 years, 2017-2020, Rs 7.50 lakhs
6. Prevalence and outcome of COVID-19 infection among patient with rheumatological and autoimmune disorders, Rudra Prosad Goswami, AIIMS Intramural Grant, 1 year, 2020-2021, Rs 4.5 lakhs
7. To study the interplay of air pollution, autoimmunity and inflammation, Uma Kumar, DST, 4 years, 2017-2021, Rs 60.59 lakhs

Collaborative projects

Ongoing

1. Association of non-classical HLA-G Gene polymorphism in rheumatoid arthritis and impact of yoga intervention on its levels, Anatomy, AIIMS, New Delhi
2. Clinical and Genetic Characterization of Patients presenting with Renal Tubular Acidosis in Primary Sjögren's syndrome, St Stephen's Hospital, New Delhi
3. Correlation of Tear inflammatory Mediators and serum autoantibodies in patients with systemic autoimmune disorders, RP Centre, AIIMS, New Delhi
4. Effect of motor imagery on corticomotor excitability and pain status in Rheumatoid arthritis patients, Physiology, AIIMS, New Delhi
5. Effect of MRI based neurofeedback guided motor imagery training on cortical excitability and pain status in rheumatoid arthritis., Physiology, AIIMS, New Delhi
6. Effect of yogic intervention on pain and autonomic profile in Fibromyalgia patients, Physiology, AIIMS, New Delhi
7. Effects of antiphospholipid antibodies of varying specificities on
8. Epidemiological studies and registry development of rheumatic diseases across, Indian Rheumatology Association
9. Evaluation of immunomodulatory activities of toll like receptor signalling inhibitors in lupus peripheral blood mononuclear cells, Biotechnology AIIMS, New Delhi
10. Identification of new and specific proteins biomarkers in Rheumatoid arthritis by using proteomic approach, Institute of genomics and Integrative Biology, New Delhi
11. Identification of plant-based miRNA for the treatment of Rheumatoid arthritis, IGIB, New Delhi
12. inflammasome activation and NETosis in Antiphospholipid Syndrome and Rheumatoid Arthritis, National Institute of Immunology, New Delhi
13. Interdisciplinary Collaborative Intramural Research project "Musculoskeletal and Rheumatological disease in post COVID-19 patients: A cross sectional study." (Institutional Research Grant, 10 Lac), Department of Orthopedics, AIIMS
14. Interplay between innate and adaptive immunity in lupus: Inflammatory effects of apoptotic cell-reactive antibodies on neutrophils and monocytes, National Institute of Immunology, New Delhi
15. Prevalence of Autoantibodies for common Autoimmune disorders and their correlation with PTPN11 variants in patients with Noonan Syndrome, Genetics, Paediatrics, AIIMS, New Delhi
16. Rational use of drugs, Department of pharmacology, AIIMS
17. Studies on anti- inflammatory activities of TLR antagonist in mononuclear cells of Rheumatoid arthritis patients, Biotechnology, AIIMS, New Delhi
18. To estimate the prevalence of nailfold capillaroscopy changes in children (aged < 18 years) with systemic lupus erythematosus: A cross Sectional Study, Paediatrics, AIIMS, New Delhi

PUBLICATIONS**Journals: 16****Chapters in Book: 1**

Year	2021-22	2020-2021	2019-2020
Number of publications	16	35	34
Number of journal articles	16	28	16
Number of abstracts	00	4	15
Numbers of chapters in book	1	2	3
Numbers of books/Monograph	Nil	1	0

PATIENT CARE**Physical attendance of patients in the OPD was restricted because of ongoing pandemic****OPD: Total: 13550**

New patients: 3331

Follow up patients: 10219

Rheumatology Clinic: 1890

Teleconsultations: 1884

Day Care Facility: Total: 4077

Biologics/immunosuppressive drug infusions: 1119

Intra-articular injection: 332

SC/IM injections (biologic, steroids, etc.): 491

Biopsies: 48

Ultrasound: 440

Case discussions: 1621

Others: 26

Clinical immunology Lab:

Total number of tests performed: 37300

Total number of patients tested: 14385

Number of tests performed:

RF: 5194

ASMA: 2944

ANA: 10860

ACL Ig A and IgG: 3603

Ant-dsDNA antibody: 3457

Anticardiolipin antibody: 2210

ENA profile: 2159

Cryoglobulin/cryofibrinogen: 97

ANCA: 4637

Polarised microscopy: 1248

Anti LKM1 antibody: 2795

	2021-22	2020-21	2019-20
Total number of OPD and clinic patients	15,440	7,957	28,641
Rheumatology Day Care	4,077	3,424	5,031
Clinical Immunology Lab	37,300	18,889	42,528

USER CHARGE EXEMPTION DETAILS

Month & Year	EHS	Faculty exemptions	BPL, JSSK, PM-JAY (AYB)	Total
April 2021	25,100	6,925	10,375	42,200
May 2021	13,275	1,375	4,625	19,275
June 2021	32,500	9,075	15,500	57,075
July 2021	56,925	20,800	14,350	92,075
August 2021	43,450	18,525	29,500	91,475
September 2021	47,825	18,675	17,575	84,075
October 2021	46,375	21,725	26,225	94,325
November 2021	35,125	17,950	40,775	93,850
December 2021	43,925	15,150	38,350	97,425
January 2022	18,850	8,050	17,250	44,150
February 2022	38,150	15,300	31,200	84,650
March 2022	44,175	19,650	43,075	1,06,900
Total	4,45,675 /-	1,73,200 /-	2,88,800/-	9,07,475/-

Several patient and public awareness programs were organized online during COVID.

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Uma Kumar recognised as an eminent Indian Women Scientist in the field of medical sciences for taking initiatives of scientific excellence and contribution to science policy, particularly gender equity in STI and science communication in a report being prepared by UNESCO; got an EXCELLENT rating on research project (DST/CCP/NHH/117/201) evaluation under National Network Programme on Climate Change & Human Health by Project Advisory and Monitoring Committee of DST (GOI). Collaborative research activities have led to the detection of novel molecules with therapeutic potential in rheumatoid arthritis (3 patents in the pipeline).

Dr Ranjan Gupta was conferred the Young Rheumatologist Oration for the year 2021 Gupta by the Indian Rheumatology Association

Dr Danveer Bhadu elected as an executive member of Delhi Rheumatology Association 2022-2022 term.

9.39 Surgical Disciplines

Professor and Head

Sunil Chumber

Professors

Rajinder Parshad V Seenu Sandeep Aggarwal
Virinder Kumar Bansal Anita Dhar

Additional Professors

Hemanga K Bhattacharjee Asuri Krishna Piyush Ranjan
Manjunath Maruti Pol Mohit Joshi Kamal Kataria
Suhani Yashwant Rathore

Associate Professor

Om Prakash

Private Secretary

Ajai Pal Singh

HIGHLIGHTS

The department of Surgical Disciplines is involved in Minimal Invasive, Thoracic, Vascular, and Renal transplants, Breast, Endocrine, Gastrointestinal, Bariatric and General Surgery. The department has actively contributed its services during the ongoing COVID-19 pandemic by providing services (including conducting operations) in COVID-designated areas as well as non-COVID areas. The department runs specialized breast cancer, bariatric, renal transplant and follows up clinics. The department has shifted its entire outpatient services to the new surgical block at the Majid Moth campus. It has also initiated its inpatient and OT services in a staged manner and is in the process of shifting completely to the new block. The first manual for newly joined surgery residents was released during the annual day celebrations on 5 Sept 2021. The department conducted multiple courses in the wet lab for providing simulation-based training on open and laparoscopic procedures as hands-on training to undergraduate, post graduate and MCh residents. The department has organised various CME, workshops and conferences at the regional and national levels. Our residents and faculty have been regularly presenting research work at various national and international forum and have received awards as well as an appreciation for the same. The department has actively participated in public awareness activities for diseases such as breast cancer, peripheral vascular diseases and obesity.

EDUCATION

1. Postgraduate Seminar: weekly.
2. M.Ch seminar: Twice weekly
3. Renal transplant fellowship seminar: once weekly
4. Mortality and mortality discussions by Junior/Senior Resident once in a week in each unit.
5. Lectures, Teaching Schedule in OPD/Ward for MBBS students.
6. Internal Assessment for Junior and MCh Residents (06monthly), MBBS students.
7. Lectures for Nursing students
8. Lectures for BSc. OT technicians
9. **CCRs** presented by the Department:
 - Unit I: MEN TWO B (E) on 16-11-2021
 - Unit II: The Menacing MC4R- beating the odds on 15-03-2022
 - Unit III: Uncommon cause of a common surgical condition
 - Unit IV: ICAP Flaps: Expanding Surgeon's Armamentarium in Breast Reconstruction on 12-10-21.
- CGRs** by the Department:
 - Unit III: Evolving trends in the Management of Achalasia Cardia on 15-02-2022
 - Unit IV: Focused Parathyroidectomy: Standard of care or short of expectations

CMEs/Workshops/Symposia/National and International Conferences

1. Hands on training activity on Da vinci Xi surgical system
2. Annual day & CME in Surgery 2021
3. BARIME 2021

4. Linear progression in surgery: An orientation program for successful APS
5. Workshop on VATS lobectomy in 3D lung model
6. Suturing workshop
7. Thesis Writing Workshop
8. Protocol writing Writing Workshop
9. Orientation workshop for 1st year MS(Surgery) students
10. Thesis writing workshop
11. Protocol writing workshop

Lectures delivered

Rajinder Parshad 8

Virinder Kumar Bansal 15

Asuri Krishna 1

Mohit Joshi 8

Yashwant Rathore 5

V. Seenu 5

Anita Dhar 4

Piyush Ranjan 3

Kamal Kataria 4

Sandeep Aggarwal 16

Hemanga K. Bhattacharjee 5

Manjunath Maruti Pol 2

Suhani 14

Oral papers/posters presented: 38

Last 3 years Data

Years	2019-2020	2020-2021	2021-2022
No. of Oral Presentation	62	63	41

RESEARCH

Funded projects

Ongoing

1. A Label Extension, Single Arm Multicentric Phase III Study To Assess The Efficacy And Safety Of Approved Product Stempeucel® In Patients With Critical Limb Ischemia Due To Buerger's Disease, Prof Anita Dhar, Stempeutics, Pvt. Ltd., 4 years, 2019-2022, Rs.33,075
2. An observational study to evaluate the role of impaired NAD⁺ biosynthesis in calf skeletal muscle dysfunction in people with peripheral arterial disease, Prof Anita Dhar, ICMR, 4 years, 2022-2026, Rs 40 lakhs
3. Clinical significance of Proteomics in liquid biopsy for Indian breast cancer women: An Exploratory stud, Dr Suhani, AIIMS Collaborative project, 1 year, 2021-2022, Rs 5 lakhs/ year
4. Comparision of wire-guided lumpectomy versus sonographic hematoma guided lumpectomy in management of nonpalpable breast cancers. (Intramural Project), Dr. Kamal Kataria, Research Section, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
5. Development of aptamer-based assay for the diagnosis of breast tuberculosis, Dr Kamal Kataria, AIIMS, 3 years, 2018-2022, Rs 10 lakhs
6. Development of aptamer-based assay for the diagnosis of breast tuberculosis (Breast TB), (AIIMS-THSTI collaborative project), Dr Kamal Kataria, Research Section, AIIMS and THSTI Faridabad, 2 years, 2020-2022, Rs 20 lakhs
7. Identification of factors predictive for weight loss after Bariatric Surgery: Building a Model for improving outcomes and maintaining weight loss, Prof Sandeep Aggarwal, ICMR, 3 years, 2021-2024, Rs 71 lakhs
8. Long Term Outcome of Patients with Walled off Necrosis/Pseudocyst of Pancreas in terms of Recurrence of Acute Pancreatitis, Fluid Collection and Functional Consequences following Internal Drainage by Laparoscopic or Endoscopic method, Dr Om Prakash, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
9. Metabolic resuscitation using early administration of ascorbic acid, thiamine and hydrocortisone in perioperative management of surgical patients with septic shock: A Randomised Controlled trial, Manjunath Maruti Pol, AIIMS, 2 years, 2022, Rs 10 lakhs
10. Prevalence of BRCA1/2 germline mutation in young Indian Women with triple negative breast cancer , Dr Om Prakash, AIIMS, 2 years, 2022-2024, Rs10 lakhs
11. RNA-seq based case-control study to identify alternatively spliced events in colorectal adenocarcinoma- Bioinformatics and genomics based study, Manjunath Maruti Pol, ICMR, 2 years, 2022, Rs 88,01,820
12. Role of heavy metals in breast cancer, Dr Kamal Kataria, Research Section, AIIMS, 2 years, 2021-2023, 5 lakhs
13. Study of effectiveness of Maharishi Amrit Kalash on Breast cancer as adjunct therapy along with Neo Adjunct Chemotherapy: An open Randomised controlled cl, Prof Anita Dhar, Maharishi Ayurveda Corporation Ltd, 4 years, 2019-2022, Exempted
14. "Study of Gut Microbiome in patients with gall bladder carcinoma - Asuri Krishna, Intramural Project under AIIMS research grant, 2 years, 2019-2021, Rs 10 lakhs
15. Study of heavy metals and trace elements (Arsenic, cadmium, chromium, and nickel, selenium, zinc, copper, lead, mercury, lead, cobalt) in gall bladder cancer and cholelithiasis patients.", Dr. Kamal Kataria, Research Section, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
16. Study to evaluate the presence of SARS-Cov-2 in different body fluids in SARSCOV- 2 positive/suspect patients undergoing laparoscopic, open surgery and endoscopic procedures, Asuri Krishna, AIIMS intramural, 2 years, 2020-2022, 1 lakh

17. To check the feasibility of aortoplasty balloon catheter for endovascular occlusion of aorta- a cadaveric study, Mohit Joshi, AIIMS, New Delhi, 1 year, 2019, ongoing delayed due to COVID Pandemic), Rs 75000
18. To study the role of inflammatory markers in low pressure vs standard pressure laparoscopic cholecystectomy. RCT., Dr Yashwant Rathore, AIIMS, 2 years, 2021- 2023, Rs 2 lakhs
19. Transcendental meditation (TM) to reduce stress and enhance immunity of health care workers during COVID-19 pandemic: a randomized trial (TURMERIC trial), Dr Hemanga K Bhattacharjee, SATYAM, DST, Government of India. 1 year 6 months, 2020-2022, Rs.1470182

Completed

1. Hydrostatic dilatation plus balloon angioplasty versus hydrostatic dilatation plus malleable vascular dilator for 2mm or less caliber veins used during creation of arteriovenous fistula for hemodialysis. A randomised controlled trial. Manjunath Maruti Pol, Department funds, 2 years, 2016-2018, Rs 20000
2. To study the effect of handgrip exercise on the outcome of arteriovenous fistula surgery. A randomised controlled trial. Manjunath Maruti Pol, Department funding, 2 years, 2016-2018, Rs 25000

Last 3 years project details

Years	2019-2020	2020-2021	2021-2022
No. of ongoing funded projects	6	14	21
Amount of Funds	35,74,680/-	4,33,82,075/-	3,13,09,895/-
No. of completed funded projects	1	1	2
Amount of Funded Projects: -	—	22,050/-	45,000/-

Departmental projects

Ongoing

1. A pilot study to compare interstitial multicatheter brachytherapy (IMB) versus volumetric modulated arc therapy (VMAT) for accelerated partial breast irradiation in early breast cancer: An adaptation, toxicity, and cosmesis comparison
2. A prospective study to evaluate the restoration of abdominal wall dynamics in patients with incisional hernia following laparoscopic IPOM plus repair in comparison to healthy controls using surface EMG
3. A randomised controlled study to assess the efficacy of using uniform umbilical hygiene preoperatively to reduce incidence of umbilical port site complications in patients undergoing laparoscopic cholecystectomy.
4. A randomized control trial comparing mesh fixation with penetrating fixation device versus fibrin sealant during laparoscopic repair of ventral hernia
5. A randomized control trial to evaluate the safety and efficacy of 1cm Versus 2cm resection margin In Phyllodes tumours
6. A RCT to study the efficacy of using uniform umbilical hygiene preoperatively to reduce incidence of umbilical port site complications in patients undergoing laparoscopic cholecystectomy.
7. A study to explore the role of gamma synuclein as a potential biomarker in breast cancer.
8. A study to quantify the burden of insulin resistance in breast cancer women and its relation with other known prognostic and predictive factors of breast cancer.
9. A study to quantify the burden of Insulin Resistance in Breast Cancer Women and its relation with other known prognostic and predictive factors of Breast Cancer
10. A study to validate the accuracy of the AIIMS modification of Paddington score in diagnosing phyllodes tumours, followed by a randomized control trial to evaluate the safety and efficacy of 1CM versus 2CM resection margin in phyllodes tumors
11. Affect of preoperative management on peri operative events in patients with neuroendocrine tumors of the adrenal medulla- an ambispective cohort study.
12. An Ambispective study to evaluate the outcomes of living kidney donors left with multiple renal arteries.
13. Analysis of patterns of neck trauma and its outcomes at level 1 trauma center: an ambispective observational study.
14. Assessment of transferability of skills acquired on 3D HD and 4K HD endovision system to 2D HD endovision system: An exvivo study
15. Assessing effectiveness of a video based intervention administered across virtual platform on the existing knowledge, attitude and practices of breast cancer awareness and breast self examination among literate women in metropolitan city of Delhi: A quasi- experimental community based interventional study.
16. Assessing effectiveness of a video-based intervention administered across a virtual platform on the existing knowledge, attitude and practices of breast cancer awareness and breast self-examination among literate women in the metropolitan city of Delhi: A Quasi-experimental community based interventional study
17. Assessment of Amphiregulin and CRISPLD1 as visceral adipose tissue derived modulators of cardiovascular health in obesity.
18. Assessment of lateral thermal spread and tissue damage associated with the use of various electrosurgical devices

19. Assessment of transferability of skills acquired on 3D HD and 4K HD endovision system to 2D HD endovision system: An ex-vivo study
20. Assessment of workload And Musculoskeletal Symptoms Among Minimal Access Surgeons – A Prospective Study
21. BRCA mutation in young triple negative breast cancer patients.
22. Clinical applicability of whole body Low dose CT scan for detecting bone metastasis in breast cancer patients - a cross sectional study.
23. Comparative Analysis between Different Stage Cancer Patients to Discover Novel Blood- Based Biomarkers for Detection of Early Stage Breast Cancer- A Pilot Study
24. Compare the standard vs low pressure laparoscopic cholecystectomy under deep neuromuscular block: RCT
25. Comparison of 3D-CT volumetry and routine spirometry for prediction of postoperative pulmonary function in benign lung diseases
26. Comparison of Early outcomes of interrupted double 'x' sutures vs continuous near far far near method for closure of abdominal wall incisions: A double blinded randomised control trial.
27. Comparison of mesotherapy (nonoperative) with surgery in management of superficial lipomas.
28. Comparison of outcomes in patients with intraductal papilloma undergoing duct excision with 2.5 cm versus 5 cm length: A randomised controlled exploratory study
29. Comparison of outcomes of Trans-oral vestibular and Axillo-breast approach for endoscopic hemithyroidectomy in patients with benign and indeterminate thyroid lesions- A randomized controlled trial.”
30. Comparison of quality of life between patients undergoing endoscopic thyroidectomy and conventional open thyroid Surgery
31. Comparison of Quality of Life, cosmesis and oncological outcomes of skin sparing mastectomy with total breast reconstruction using autologous fat grafting versus skin sparing mastectomy with silicone implant reconstruction versus breast conservative therapy among patients with early breast cancer: A Randomized controlled study
32. Correlation of pre and postoperative surgical findings with clinical course in patients undergoing early laparoscopic cholecystectomy for asymptomatic gall stone disease.
33. Development of aptamer-based assay for the diagnosis of breast tuberculosis (Breast TB)
34. Early Versus Delayed Laparoscopic Cholecystectomy in Moderate and Severe Acute Biliary Pancreatitis: A Randomised Controlled trial (ELCAP trial)
35. Effect of yoga therapy on quality of life in patients undergoing laparoscopic incisional and ventral hernia repair- A randomised control trial
36. End to side versus side to side anastomosis with Ligation of vein distal to anastomosis for proximal arteriovenous fistula surgery: An exploratory randomized controlled trial.
37. Evaluation of dual dye technique for sentinel lymph node biopsy in breast cancer: two arm open label parallel design non-inferiority randomized controlled trial
38. Evaluation of role of platelet rich plasma in healing of chronic diabetic and peripheral arterial disease ulcers as compared to standard medical care: a randomized controlled trial
39. Fast track emergency lap cholecystectomy vs emergency laparoscopic cholecystectomy in index cases of acute calculus cholecystitis patients presenting to emergency department – RCT.
40. Follow up Study to Evaluate Correlation of Imaging and Operative findings with Clinical and Biochemical Outcome in Patients with Primary Hyperparathyroidism.
41. From RECIST to PERCIST: evolving considerations for PET response criteria in carcinoma breast
42. Functional outcome of patients undergoing thoracic surgery for benign pulmonary and pleural diseases: An ambispective cohort study
43. Hem-O-Lok Versus Endoscopic Stapler For Securing Base Of Appendix During Laparoscopic Appendectomy: An Exploratory Randomized Controlled Trial 99, To compare inflammatory markers in low-pressure pneumoperitoneum with deep neuromuscular block versus standard pressure pneumoperitoneum among patients undergoing laparoscopic cholecystectomy for gallstone disease: A Randomized Control Trial
44. Identification of Dietary factors predicting weight loss after Bariatric Surgery
45. Identification of Sentinel Lymph node in Breast cancer by dual method both by Florescence and methylene blue. As co PI
46. Illness Wellness Scale: A new grading system to assess the performance status of COVID or non
47. Impact of Concomitant Hiatal Hernia Repair (HHR) on GERD-Q Score in Patients Undergoing Laparoscopic Sleeve Gastrectomy for Obesity: A Prospective Observational Study.
48. Impact of intraoperative microbreaks on Musculoskeletal symptoms and performance Of surgical residents during minimal access Surgical tasks in a simulated setting
49. Impact of Transcendental Meditation (TM) on Acute and Chronic stress among surgeons in training: An open labelled randomised controlled trial
50. Incidence of postoperative and long term Hypocalcemia after Indocyanine Green fluorescence guided vs Conventional assessment of parathyroid function following total thyroidectomy
51. Indocyanine Green Fluorescence Imaging For Identifying And Assessing The Perfusion Of Parathyroid Glands During Thyroid Surgery- A Pilot Study.

52. Investigation of the involvement of plasma membrane ATP binding transporter A1 (ABCA1) mediated insulin resistance.
53. Knowledge and attitude towards genetic counseling and testing in hereditary breast cancer in health care professionals and breast cancer patients
54. Long term outcomes in breast cancer patients in terms of overall disease-free survival and locoregional recurrence (2 decades of surgical audit of breast cancer patients).
55. Mesh fixation with penetrating fixation device versus fibrin sealant during laparoscopic repair of ventral hernia: A double blind randomised control trial
56. Molecular characterization of transfer RNA derived RNA fragments and Expression of Mitochondrial fusion proteins in Non-Alcoholic fatty liver disease.
57. Neoadjuvant chemotherapy with short course radiotherapy for locally advanced rectal cancer: a pilot study

Observational Study

58. Omega loop gastric bypass (mini gastric bypass) versus Roux-en-Y gastric bypass for resolution of type-II diabetes Mellitus in obese subjects: A Prospective Randomized controlled trial
59. Optimal timing (Early vs Delayed) of Laparoscopic Cholecystectomy after endoscopic retrograde Endoscopic Retrograde Cholangiopancreatography for Choledocholithiasis: A Randomized Control Trial.
60. Outcome of abdominal wall closure using poly 4 hydroxy butyrate suture in emergency midline laparotomy: An ambispective study
61. Outcomes following abdominal wall closure using MonoMax (poly 4 hydroxy butyrate) suture in emergency midline laparotomy: An ambispective study
62. Outcomes of difficult laparoscopic cholecystectomy- a prospective observational study.
63. Patient reported outcome measures and objective assessment of achalasia cardia following Laparoscopic Heller's myotomy and angle of His accentuation
64. Polymeric Clip versus Endoscopic Stapler for securing base of appendix during laparoscopic appendectomy: An exploratory randomized controlled trial.
65. Psychosocial factors affecting post-bariatric surgery weight loss: A Prospective study
66. Questionnaire Based Survey of Musculoskeletal Dysfunction among General Surgeons and Comparison of Muscle Activity and Fatigue among Expert and Novice Surgeons during Laparoscopic Surgery using Surface Electromyography
67. Role of indocyanine green in predicting limb perfusion in comparison to standard methods in cases of chronic limb threatening ischemia in correlation with clinical progression
68. Short term and long term outcomes following laparoscopic and open donor nephrectomy: An ambispective comparative study
69. Stapled versus concurrent stapled and hand-sewn anastomosis in small intestine surgery: An exploratory randomized controlled trial
70. Study of heavy metals and trace elements (Arsenic, cadmium, chromium, and nickel, selenium, zinc, copper, lead, mercury, lead, cobalt) in gall bladder cancer and cholelithiasis patients
71. Study to develop an objective scoring system to grade the difficulty of laparoscopic cholecystectomy
72. Study To Evaluate The Predictors Of Outcome In High Grade Blunt Liver Trauma
73. Surgical audit of Renal transplantation data of a single surgical unit over the last decade.
74. Symptomatic outcomes in patients of asymptomatic gall stones after laparoscopic cholecystectomy
75. Telecommunication: An effective tool for early operative follow up during the COVID
76. The Anatomical basis of the Deep Inferior Epigastric Artery Perforator Flap and the Internal Mammary perforator flap: A CT Angiographic and Cadaveric Study.
77. The Anatomical basis of Thoracodorsal artery perforator flap and Lateral intercostal artery perforator flap and Anterior intercostal artery perforator flap: CT angiographic and cadaveric study.
78. Three Arm Randomised Comparison of Laparoscopic Peritoneal Dialysis Catheter Insertion With or Without Omentectomy Versus Conventional Open Peritoneal Dialysis Catheter Insertion in Chronic Kidney Disease Stage 5 Patients in Terms of Catheter Malfunction and Post-Operative Complications.
79. To assess the cost effectiveness of laparoscopic standardized laparoscopic mesh repair in ventral hernia
80. To compare inflammatory markers in low pressure pneumoperitoneum with deep neuromuscular block vs standard pressure pneumoperitoneum among patients undergoing laparoscopic cholecystectomy for GSD: A RCT
81. To compare the outcomes of Banded versus non-banded bariatric procedures –A Prospective Randomized controlled trial.
82. To determine the best non-invasive marker or a combination of them correlate the most with liver biopsy in extent of fibrosis in morbidly obese patients with non-alcoholic fatty liver disease undergoing bariatric surgery.
83. To establish an algorithm for the management of axilla in patients with early operable breast cancer having clinically negative axilla
84. To Evaluate and Compare Gastroesophageal reflux After Antral preserving and Antral resecting Laparoscopic sleeve Gastrectomy for Morbidly Obese subjects: An Ambispective Study
85. To record the longterm outcome of patients suffering from benign breast disease: an ambispective study
86. To study causes of cancellation among patients scheduled for elective operations
87. To study etiology, clinical presentation and outcomes of patients with gastroduodenal perforation.

88. To Study the clinical profile, investigations and outcome of patients undergoing parathyroidectomy: A retrospective and prospective experience.
89. To study the complications of laparoscopic inguinal repair
90. To study the concordance of TIRADS and the Bethesda System for reporting Thyroid Cytopathology with final histopathology in STN
91. To study the correlation between pre-operative pain threshold measured using Quantitative Sensory Testing with post-operative pain scores using Visual Analogue Score in patients with laparoscopic groin hernia repair – A case control study
92. To study the effectiveness of laparoscopically delivered transversus abdominis plane block for postoperative pain control in laparoscopic ventral hernia repair - a placebo controlled randomized study
93. To Study the Efficacy of Laparoscopically Delivered Transversus Abdominis Plane Block for Postoperative Pain Control in Laparoscopic Ventral Hernia Repair – A Placebo-Controlled Randomized Study
94. To study the outcomes in patients with cholelithiasis following subtotal cholecystectomy.
95. To study the usefulness of pre-operative USG guided FNAC in avoiding radical surgery in patients with gallbladder wall thickness or polyp associated with gall stone disease
96. Use of Florescence and hematoma guided excision of the impalpable breast tumours as Co-PI
97. Use of prophylactic steroid to prevent hypocalcemia in patients undergoing thyroidectomy.
98. Validation of clinical examination with Doppler studies in the management of patients presenting with vascular disease: A Prospective study

Completed

1. A prospective, randomized controlled study to compare Antral resection versus antral preservation during laparoscopic sleeve gastrectomy for morbidly obese
2. A randomised control trial comparing mesh fixation with penetrating fixation device versus fibrin sealant during laproscopic repair of ventral hernia
3. A Randomized controlled trial to compare efficacy of complete decongestive therapy vs complete decongestive therapy and placement of hydrophobic silicone tube and look for their long term patency by ICG in upper limb lymphedema following ALND in breast cancer
4. Clinical Course Of COVID 19 In Obese Patients Who Have Undergone Bariatric Surgery: A Single Centre Retrospective Cross-Sectional Study
5. Compare the standard vs low pressure laparoscopic cholecystectomy under deep neuromuscular block
6. Comparison of different rates of intraoperative fluid therapy on early graft Function during live related renal transplantation.
7. Comparison of learning curve on Two-Dimensional (2D) endovision system, Ultra-High Definition (HD) (4K) endovision system and three-dimensional (3D) HD endovision system for standardized phantom tasks: An ex-vivo study
8. Comparison of mesotherapy (nonoperative) with surgery in management of superficial lipoms
9. Evaluation of Dual dye technique for sentinel lymph node biopsy in breast cancer: Two arm open label parallel design Non-inferiority Randomized controlled trial
10. Follow up study to evaluate correlation of imaging andoperative findings with clinical and biochemical outcome in Patients with primary hyperparathyroidism.
11. IL10 and micro RNA 106a correlation with survival in patients with carcinoma Breast
12. Impact of laparoscopic ultrasound on laparoscopic management of Hepatobiliary diseases (benign and malignant), a prospective observational Study
13. Incidence of Barret's Esophagus in Morbidly Obese Patients after Laparoscopic Sleeve Gastrectomy
14. Incidence of postoperative hypocalcemia after indocyanine green Flourescence versus conventional assessment of parathyroid function Following total thyroidectomy- a randomised controlled trial
15. Indocyanin green flourescence imaging for identifying and assessing the Perfusion of parathyroid glands during thyroid surgery- A pilot study
16. Neoadjuvant chemotherapy with short course radiotherapy for locally advanced rectal cancer: A pilot study
17. Neurological outcomes following minimally invasive thymectomy in non-thymomatous Myasthenia Gravis.
18. Optical characterization of breast cancer
19. Outcome of early mesh laparosctomy in patients with abdominal trauma at Level I trauma centre
20. Perioperative blood glucose variability in non-diabetic patients with peritonitis undergoing emergency laparotomy: A propective observational study
21. Pilot study on parathyroid dissection and preservation from thyroidectomy specimen and correlation with postoperative calcium and parathormone levels
22. Randomised control trial comparing angle of his accentuation v/s toupet fundoplication as a anti reflux procedure in patients of achalasia cardia undergoing Hellers Cardiomyotomy
23. Randomised controlled trial - Comparing development of lymphedema in level 1 ALND versus complete level 3ALND and comparing between One year administration of Benzathine Penicillin versus no Penicillin in breast cancer patients
24. RCT comparing quality of life following single stage LCBDE+ LC vs two stage ERCP f/b LC for management of concomitant gall stones with CBD stones

25. Role of consensus OT list for optimization of OT timing.
26. Standardized method for repair of ventral hernias.
27. Stapled versus concurrent stapled and hand sewn Anastomosis in gastro intestinal surgery performed by trained residents, a randomised controlled trial
28. Surgical outcome in geriatric population
29. Symptomatic outcome in patients of asymptomatic gall stones after laparoscopic cholecystectomy: a RCT
30. To define surgical outcome in patients who are converted to minimally invasive surgery to open procedure
31. To determine the non-invasive investigations which correlate with liver biopsy in extent of fibrosis in morbidly obese patients undergoing bariatric surgery
32. To establish an algorithm for the management of axilla in patients of early operable breast cancer with clinically negative axilla
33. To evaluate the effect of bariatric surgery on Sleep-Disordered Breathing Parameters using overnight Polysomnography
34. To evaluate the role of age adjusted Charlson comorbidity index scoring in predicting 30 day postoperative outcomes in patients undergoing surgery under general and regional anaesthesia
35. To study etiology, clinical presentation and outcomes of patients with gastroduodenal perforation--A prospective observational study
36. To Study port placement and ergonomics in laparoscopic splenectomy
37. To study the complications of standardized method for repair of ventral hernias.
38. To study the correlation between invasive and non-invasive markers of nonalcoholic Fatty Liver Disease in morbidly obese patients undergoing bariatric surgery
39. To study the perioperative complications of laparoscopic inguinal hernia repair

Collaborative projects

Ongoing

1. A molecular and immunohistochemical study of human colorectal carcinomas to classify them according to the consensus molecular subtypes and to evaluate its prognostic and therapeutic relevance, Department of Pathology
2. A single center randomized control trial to compare the efficacy of radiofrequency ablation with that of ultrasound guided foam sclerotherapy (polidocanol) for incompetent perforators in patients with varicose vein, Cardiac Radiology, AIIMS
3. Assessment of Amphiregulin and CRISPLD1 as visceral adipose tissue-derived modulators of cardiovascular health in obesity”, Biochemistry
4. Desflurane vs Total Intravenous Anaesthesia with Propofol in Patients undergoing Bariatric Surgery: Effects on Inflammatory Biomarkers and Respiratory Mechanics, Anesthesiology, Pain Medicine and Critical Care
5. Development of labyrinth based mechanical and fast isolation technique for identifying circulating tumour cells of colorectal carcinomas for metastatic evaluation, Department of Pathology
6. Double Blinded Randomized Controlled Trial evaluating the feasibility, safety and efficacy of Obturator Nerve combined with Femoral Nerve Block for analgesia in patients with varicose veins being treated by Endovenous Laser Ablation of Great Saphenous Vein, Cardiac Radiology, AIIMS
7. Effect of Paravertebral Anaesthesia on Quality of Life Scores and Circulating Tumour Cells in Breast Cancer Patients, Department of Anaesthesiology, AIIMS
8. Electrolyte and Acid-Base Disturbances in Renal Transplant Patients, Nephrology
9. Extracellular Matrix Remodelling in Obesity Induced Adipose Tissue Dysfunctions and Insulin Resistance, Biochemistry
10. Gastric Emptying Scintigraphy: Establishment of Reference values in Post-Sleeve gastrectomy Patients in mid-term follow-up, Nuclear Medicine
11. Immunohistochemical and Quantitative Analysis of Cytokeratin19 and cKIT in Gastrointestinal and Respiratory Neuroendocrine Tumors” Anatomy Department, AIIMS
12. Prospective open-label clinical trial for evaluating the feasibility, safety, and Efficacy of left gastric artery embolization for reduction of the weight in class I Obesity. Cardiac Radiology
13. Study of Androgen Receptors mediated events and molecular heterogeneity in Breast Cancer., Department Biochemistry, AIIMS
14. To elucidate the role of ECM-Adipocyte communication in obesity-induced adipose tissue dysfunctions, Biochemistry
15. To study the role of nuclear receptors in the pathogenesis of Gall Bladder Cancer, Biochemistry
16. To study the role of regulatory T cells in immune suppression in patient with colorectal cancer, Department of Transplant Immunology and Immunogenetics
17. Utility of Artificial Intelligence in differentiating Non-invasive Follicular Thyroid Neoplasm with Papillary like Nuclear Features from other follicular-patterned thyroid benign and malignant lesions. (Extramural Project, DBT), DBT funded Project (Coinvestigator)

Completed

1. A Phase III Randomized Controlled study of inj. Proluton (Hydroxyprogesterone caproate) as single dose preoperative therapy in patients with high risk operable breast cancer, Multicentric trial as PI for AIIMS site with no funds, TATA institute, Mumbai

2. A prospective study of changes in human gut microbiota (gm) and its association with insulin sensitivity in obese individuals undergoing bariatric surgery. Biochemistry
3. Analysis of genes related to metabolic flexibility in subjects undergoing weight Reduction surgery, Biochemistry
4. Effect of Paravertebral Anaesthesia on Quality of Life Scores and Circulating Tumour Cells in Breast Cancer Patients, Department of Anaesthesiology, AIIMS
5. Randomized controlled trial to assess blockade of voltage gated sodium channels during surgery in operable breast cancer. Multicentric trial as PI for AIIMS site with no funds, TATA institute, Mumbai
6. Role of T-regulatory cells (T-regs) in obesity and their clinical correlation in obesity associated inflammation in type 2 diabetic and chronic kidney disease (CKD), Nephrology
7. Study of vascular endothelial growth factor (VEGF) and its isoforms in obesity associated adipose tissue dysfunctions. Biochemistry

PUBLICATIONS

Journals: 103

Abstracts: 12

Chapters in Books: 5

Years	2019-2020	2020-2021	2021-2022
No. of publications	57	106	103
No. of Abstracts	20	22	12
No. of Books	0	0	0
No. of Chapters	8	5	5

PATIENT CARE

The department is providing regular services in various sub-speciality areas including multidisciplinary treatment for breast cancer patients, minimally invasive surgery, renal transplantation, Hepatobiliary and pancreatic surgery, thoracic and thoracoscopic surgery, endocrine surgery, metabolic and bariatric surgery, vascular surgery including surgery for vascular access in end stage renal disease patients and cancer surgery. The department runs the following special clinic besides regular General surgery OPD:

- Bariatric Clinic,
- Breast Cancer clinic,
- Combined pulmonary surgery clinic
- Follow up Clinics
- Renal Transplant clinic
- Vascular services including a Vascular laboratory

During the COVID 19 pandemic, the department has been providing telephonic consultations of various outdoor patients and emergent patient care as per the institutional SOPs. The department faculty and residents have contributed significantly to care of COVID patients by providing services in COVID dedicated areas as well as conducting emergent surgeries on COVID positive patients. The faculty members of the department have been involved in community outreach programs for various ailments like breast cancer, chronic kidney diseases, kidney transplant, COVID19, bariatric surgery. The department organised a No Scalpel vasectomy camp in the OPD complex and minor OT of surgery block and performed 12 NSV procedures during this period.

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Sunil Chumber visited Eritrea, North Africa to prepare a blueprint for Eritrean Health Sector.

Professor V Seenu: Participated in following community awareness programs: DD Total Health –Live Show Topic: Varicose Veins; DD Total Health- Live Show on World Kidney Day Topic: Chronic Kidney Disease; DD Kisaan – Live Show Topic: Breast Cancer; India TV – Live Show Topic : Covid -19; Live Talk Show Stri Kaal Topic: Kidney Transplant.

Professor Sandeep Aggarwal Nominated as the Associate Editor of Journal of Bariatric Surgery, The official journal of Obesity & Metabolic Surgery Society of India (OSSI); Nominated as the Academic Director of the Society for Surgery of Alimentary Tract (SSAT), India Chapter; Appointed as the Convenor for Specialist board for starting of Fellowship in Bariatric Surgery of National Board of Examinations (NBE); Transplant Expert for Inspection of Renal Transplant Program at SGRH.

Professor Virinder Kumar Bansal was selected as Fellow National Academy of Medical Sciences (FAMS) (2021); Member, Institute Body and Governing Body, AIIMS, Rishikesh, May 2020 till May 2025; Chairman, Standing Selection Committee, AIIMS Rishikesh, May 2020 till May 2025; Member, Standing Academic Committee, AIIMS, Rishikesh and JIPMER, Puduchery; Member Standing Finance Committee, AIIMS, Rishikesh May 2020 till May 2025; Member Hospital Affairs Committee, JIPMER, Puduchery May 2019 till May 2024; Member, Institute Body, JIPMER, Puducherry May 2019 till May 2024; Member Apex Technical Committee - Kidney of National Organ and Tissue Transplant Organization 2020-2023; Co- Chairman Surgery Group for Standard Treatment Workflow and National Health Authority, Ayushmann Bharat at ICMR New Delhi, 2019-2024; Member, Specialist Board in the discipline of MINIMAL ACCESS SURGERY of National Board of

Examinations, 2021-2026; Expert (General Surgery) Standing Selection Committee AIIMS, Jammu, Hyderabad, Rishikesh, PGIMER, Chandigarh, JIPMER Puduchery, PIMS, Mohali, PPSC, Punjab.

Professor Anita Dhar was Member of the Research Advisory Committee (RAC) for Division of Clinical oncology, ICMR-NICPR; Expert Faculty Examiner at Gurukul SCRUBS on 17 August 2021 organised by American College of Surgeons-Virtual mode; Invited as Faculty in SCOPE Course 2021 (Virtual) – 1-5 September, 5 September; Faculty in SCOPE Course 2021 (Virtual) – 5 September 2021; Faculty RRC-National Regional Refresher Course 2021 Zone-6, 6 September 2021(virtual); Panelist at 5th Annual Conference of Asian society of Mastology - ASOMACON2021 on 12 November 2021, Raipur; Faculty expert and moderator on SCRUBS 2022 (Surgical Clinics & Residents Update beyond Scalpel) for the vascular session on 9 January 2022.

Dr Manjunath was chairperson and Judge for the Competitive Event (Dr. C Palanivelu Best Post Graduate Paper Presentations and FREE Paper presentation), Annual Conference of ASI Virtual ASICON 2021, 18 and 19 December 2021, Virtual; Chairperson, ICNC-2022 transplant Nutrition (post-kidney Transplant surgery): IAPEN India clinical Nutrition National conference, 20 March 2022, Delhi; Co-secretary for organising conference and chairperson, BARIME 2021 and live surgery workshop; 3rd Postgraduate CME and Certificate course on Basics of Metabolic and Bariatric Surgery, 12 and 13 November 2021, Delhi; Chairperson, live surgery workshop and poster session SURGICON-2021, 19-21 November 2021, Delhi; Chairperson, Session IV - resident corner on the Annual Day & CME in Surgery, 5 September 2021, Delhi

Dr Mohit Joshi Recognised as state level trainer for no scalpel vasectomy in year 2022; Awarded membership of Committee on publication ethics (COPE).

Dr Suhani was Appointed as member of the core committee of skill lab at SET facility; Associate editor for Indian Journal of Cancer.

9.40 Transfusion Medicine

Medical Superintendent and Head

DK Sharma

Associate Professors

Hem Ch. Pandey
Poonam Coshic

Gopal Patidar
Anjali Hazarika

Rahul Chaurasia
Vedanand Arya

Diptiranjan Rout
Sulekha Karjee

HIGHLIGHTS

The department is committed to provide patients with quality and safe blood and works tirelessly to achieve its aim of providing “Right blood to right patient at right time”. The blood center functions 24 × 7 throughout the year. Despite the ongoing pandemic the department ensured that the services remain uninterrupted and maintained a sufficient inventory of blood products. The department worked tirelessly to collect >45000 blood units annually and conducted around 45 blood donation camps. Efforts to increase the voluntary blood donation program were done despite the challenges due to pandemic. We conducted a weeklong campaign with CISF in August to collect > 1600 units as well as a mega blood donation camp in February within the institute campus to spread the message of blood donation as well as to celebrate the 75th year of independence celebrations. The emphasis on blood safety and quality has been the core of the department and all the units are tested using fully automated chemiluminescence analyzer as well as by NAT. All the patient care activities have been automated from the time patient sample is received till blood components are issued using completely interfaced automated equipment and the blood bank management software.

Blood center increased the patient care activities as well by increasing the facilities of therapeutic plasma exchanges, PBSC collection and introduction of granulocyte collection. An automated cell processor was also procured to prepare an inventory of frozen red cells to cater to patients with rare blood groups. Laboratory services ensured that all the patients receive blood after antibody screen and complete cross match. A partial inventory of extended phenotyped red cells is also maintained to ensure that even patients with alloantibodies receive blood on time. The department also provides support to hemato-oncological patients, renal transplant patients and liver transplants. During the most part of the year we provided blood support to trauma patients as well.

The department has also been actively doing various academic activities with participation of departmental faculty in various academic programs conducted nationally and internationally. The department conducted a CME which was funded by the international society of blood transfusion and accredited by the Delhi Medical Council. The MD program and teaching activities are also being conducted regularly.

EDUCATION

1. CME on “Blood safety and Quality: Current Practices of Blood Donor Management” conducted on 26 March 2022.
2. Regular training of OT technicians (B.Sc. OTT) in various laboratory techniques related to safe blood transfusion practices.
3. Regular orientation and training programmes for AIIMS nursing students.
4. MD Transfusion Medicine: Presently nine students are pursuing this programme.
5. Teaching of Postgraduate students from Department of Pathology, Lab Medicine and Hematology is being done during their posting.

Lectures delivered

Hem Chandra Pandey: 7

Gopal Kumar Patidar: 9

Oral papers/posters presented: 4

Year	No of oral /poster presentations
2021-22	4
2020-21	8
2019-20	12

RESEARCH

Ongoing

1. A randomised control trial for evaluation of effects of leukoreduced blood transfusion on infection risk in severely injured trauma patients, Rahul Chaurasia, AIIMS, 2 years, 2019-2022, 10 lakhs

2. Diagnostic accuracy of using cell free fetal DNA isolated from mother's plasma for determination of fetal Rh D status during antenatal period as compared to determination of D status using serological tests in cord blood, Hem Chandra Pandey, AIIMS (Intramural), 2 years, 2019-2021, 10 lakhs
3. Peripheral inflammatory cytokines in Generalised Anxiety Disorder: A Case-controlled study, Hem Chandra Pandey, AIIMS (Collaborative intramural), 2 years, 2021-23, 10 lakhs

Completed

1. Epidemiology of SARS-CoV-2 antibodies in healthy blood donors and its implication in transfusion safety, Rahul Chaurasia, AIIMS, 1 year, 2020-2022, 10 lakhs

Total funded research projects and total amount of extramural/intramural funding

Year	No of Funded Projects	Total Amount (Rs)
2021-22	3	30 lacs
2020-21	4	40 lacs
2019-20	3	30 lacs

Departmental projects

Ongoing

1. A randomised control trial for evaluation of effects of leukoreduced blood transfusion on infection risk in severely injured trauma patients
2. Analysis of current Transfusion Practices in neonatal patients of ≤ 28 Days of Age.
3. Analysis of quality parameters for platelet concentrates prepared from whole blood stored overnight at ambient temperature.
4. Assessment of transfusion practices among doctors during COVID-19 pandemic using questionnaire-based survey
5. Characterisation of initially reactive discordant results tested by chemiluminescence (CLIA) and nucleic acid testing (NAT) during blood donor screening for hepatitis-B and hepatitis-C
6. Incidence of adverse transfusion reactions and analysis of factors associated with these reactions: A four-year experience from a tertiary care hospital from India
7. Incidence of delayed adverse events in blood donors following whole blood donation in Indian setting
8. Prospective observational study to assess the prevalence of platelet refractoriness and its reasons in patients receiving multiple platelet transfusion
9. Randomised controlled trial to determine the comparing effectiveness of Acute Normovolemic Haemodilution (ANH) for perioperative blood management in patients undergoing scoliosis surgery

Completed

1. Analysis of ABO antibody titre in healthy blood donors
2. Clinical and serological characterisation of autoimmune haemolytic anemia
3. Effect of whole blood donor parameters (age, gender and BMI) on outcome of patients undergoing cardiac surgery
4. Epidemiology of SARS-CoV-2 Antibodies in Healthy Blood Donors and It's Implication in Transfusion Safety
5. Evaluation of effect of early use of Cryoprecipitate on blood components usage in trauma patients with haemorrhagic shock
6. One year experience with massive hemorrhage protocol at an urban level-1 trauma center
7. Retrospective review of the transfusion practices in hospitalised COVID-19 patients
8. Vasovagal reaction prevention strategies in whole blood donors: a quadri-armed randomised control trial

Collaborative projects

Ongoing

1. Determination of reference ranges for healthy individuals for new red blood cell and reticulocyte parameters in Indian population, Department of Laboratory Medicine
2. Effect of pyrazole based small molecule on interleukin-1 beta response in healthy PBMC, Department of Biotechnology
3. Evaluation of immunomodulatory activities of Toll-like receptor signaling inhibitors in lupus peripheral blood mononuclear cells, Department of Biotechnology
4. Evaluation of the potential impact of determination of paternal RhD zygosity and non-invasive fetal RhD genotyping using circulating cell-free fetal DNA from maternal plasma in the antenatal monitoring of alloimmunised pregnant women: A pilot study on cost-benefit analysis, Department of Obstetrics and Gynaecology
5. H1-MR Spectroscopy based evaluation of metabolic abnormalities in anterior cingulate cortex, hippocampus and amygdala in treatment naïve patients with unipolar and bipolar depression and its relationship with peripheral glutaminase, Department of Psychiatry
6. Studies on anti-inflammatory activity of TLR antagonists in mononuclear cells of rheumatoid arthritis patients, Department of Biotechnology

Publications:**Journals: 11****Chapters in Book: 1****Total number of publications**

Year	Type	Total No
2021-22	Journal articles	11
	Book Chapters	01
2020-21	Journal articles	14
	Abstracts	07
	Book Chapters	01
2019-20	Journal articles	05
	Abstracts	08
	Book Chapters	01

PATIENT CARE

(a) Facilities available in the department (including special clinics and/or special laboratory facilities:

- Autologous blood donation
- Voluntary blood donation camp facility.
- Apheresis procedures (Plateletpheresis, Granulocytapheresis, Therapeutic plasma exchange, PBSC collection)
- Automated blood grouping and serology.
- Automated infectious markers testing
- ID-NAT testing
- 100% blood component preparation.
- Antibody screening and identification
- Antibody titers (ABO and alloantibodies).
- Rh (D, C, c, E, e) and K phenotypes inventory of red cells
- Leucodepleted blood/components.
- Irradiation facility.

Details of Patient care services for current year and previous 2 years

(b) Blood Collection

S. no	Workload	2021-22	2020-2021	2019-2020
1.	Total blood units collected	45196	38928	49238
	• Voluntary Donors	8448	7327	13975
	• Replacement donors	35003	30291	35263
	• Apheresis components	1743	1057	1938
2.	Voluntary donation camps organized	45	59	106
3.	Therapeutic plasma exchanges	270	135	220
4.	Peripheral blood stem cell collection	36	13	24
5.	Granulocyte collection	03	0	8

(c) Blood component preparation and discard

S.no	Workload	2021-22	2020-21	2019-20
1.	Packed red blood cells	44848	38928	50942
2.	Whole blood derived platelet conc	37960	34133	44497
3.	Fresh Frozen plasma	18980	14799	23715
4.	Fresh Plasma	24470	22925	24542
5.	Cryoprecipitate	504	450	524
6.	Component Quality control	412	364	432
7.	Units discarded due to TTI seroreactivity	1664	1399	1240

(d) Routine and emergency Laboratory activities including issue of blood components

S.no	Workload	2021-22	2020-21	2019-20
1.	Blood Grouping (Patient + Donor)	98947	84549	47591
2.	Antibody screening	98947	84549	47591
3.	Total patient requests received	55872	43675	51180
4.	Cross match (routine + emergency)	50747	38918	62460
5.	PRBC issued	41275	35962	49089
6.	PRBC issued to other blood centres / hospitals	2280	1226	216
7.	Surplus plasma issued to fractionators	4176 litres	3627 litres	3806 litres

(e) Immunohematology Laboratory

S.no	Workload	2021-22	2020-21	2019-20
1.	Indirect coombs test	1799	1833	3197
2.	Direct Coombs test	2198	1804	2671
3.	Antibody titre (ABO+ Alloantibody)	537	206	639
4.	Phenotype for minor blood group	2032	2322	3114
5.	Resolution of crossmatch incompatibility	770	640	1740
6.	Resolution of Blood group discrepancy	67	59	119
7.	Antibody identification	1301	780	804
8.	Work-up of Transfusion Reaction	80	72	94
9.	Quality control of reagents	07	14	03

(f) Infectious disease screening laboratory

S.no	Workload	2021-22	2020-21	2019-20
1.	Screening of blood units for HIV, HBV, HCV, Syphilis, and malaria	45651	38675	51178
2.	NAT screening of collected units (tests performed for CNC and JPNATC blood centres also)	63279	48875	79924

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Dr Gopal Patidar was awarded “Young scientist Award-2021” in 9th TRANSMEDCON 2021 Conference of Indian Society of Transfusion Medicine, Elected as secretary ISBT Hemovigilance working party, Elected as Co-Chair ISBT Wikipedia working party, Member of reviewing and analysis of reports of donor reaction submitted in Donor-Vigil software under National Blood Donor Hemovigilance Programme, India.

9.41. Transplant Immunology and Immunogenetics

Professor and Head

DK Mitra

Associate Professor

Uma Kanga

Assistant Professor

Rakesh Kumar Deepak

Scientist II

Sunil Kumar

Lata Kumari

Scientist I

Sanjeev Goswami

HIGHLIGHTS

Activities/Steps taken to improve patient-care:

Introduced Prenatal diagnosis for Primary Immune Deficiencies using Flowcytometry based immunophenotyping. Primary Immunodeficiencies (PID) are a heterogeneous group of inherited diseases of the immune system. Using flowcytometry we can rapidly evaluate specific cell populations and subpopulations, cell surface, intracellular and intranuclear proteins, biological effects associated with specific immune defects, and certain functional immune characteristics. This would allow for early diagnosis and subsequent counseling if a primary immunodeficiency is found in the first trimester of pregnancy.

Future Action Plan: To introduce Next Generation Sequencing (NGS) based HLA typing for HSCT recipients and donors at AIIMS.

EDUCATION

During the year 2021-2022, our department trained 26 students/doctors, 12 students/doctors (2020-2021) and 27 students/doctors (2019-2020) from various hospitals and institutions from India and abroad. These candidates received training on laboratory techniques in Transplant Immunology, Immunogenetics-HLA testing, post-transplant monitoring and other immunological investigations for immune deficiency.

Short-term training-AIIMS (1-2 weeks):

The Department provided short term training to the following Residents/Students:

Department / Specialty	2021-22	2020-21	2019-2020
Junior Residents Haemato-Pathology	04	00	00
Pathology		05	05
Laboratory Medicine	03	03	03
Haematology	03	06	06
Biochemistry	01	03	03
Transfusion Medicine	04	03	03
Nephrology (Senior Residents-Transplant)	00	01	01
Pediatric Nephrology	01		
Pediatrics		02	02
Junior Residents (Acad.)	04	00	00
Junior Residents Lab Medicine	02	00	00
Clinical Hematology	04	00	00
Medical Oncology	00	03	03

Long-term training-National (6 months): One candidate received Long-term training (2021-2022), one candidate received Long-term training (2020-2021) and one candidate received Long-term training (2019-2020).

Continuing Medical Education (CME)

During the year, the faculty and scientists of the department participated and delivered several lectures at National and International conferences. Our department regularly provides training on various cell culture assays, including flowcytometry-based assays to students and visiting trainees. Our department coordinates a national level Quality Control exercise for DNA-based typing of HLA genes for assessment of Quality of testing by other HLA laboratories in India. The Faculty also delivered special lectures in departments of Biotechnology and Pathology, AIIMS as part of the academic curriculum of these departments. Faculty/Scientists delivered lectures to MD/DM residents from Pediatrics, Hematology, Anatomy, Nephrology, Biochemistry, Medical Oncology, Pathology and Laboratory Medicine. Several lectures on Transplant Immunology were also delivered to College of Nursing students of our institute.

Lectures delivered

D.K. Mitra: 1

Uma Kanga: 9

RESEARCH

Funded

Ongoing

1. Clinical utility of liquid biopsy in cardiac allograft rejection, Rakesh Deepak, ICMR, 3 years, 2022-2025, Rs 101.65 lakhs
2. Development of a model healthcare network based on Integrated Medical devices for screening of prognosis continuity of care and machine learning based predictive modelling on Non-Communicable Diseases, DK Mitra, IMPRINT (HRD+ ICMR), 2 years, 2021-2023, Rs 25 lakhs
3. Efficacy of α PD-1 as an Adjunct Immunotherapy in Tuberculosis Patients, DK Mitra, Azure Software Pvt Ltd, 3 years, 2021-2024, Rs 140.20 lakhs
4. Evaluation of panel reactive antibodies (PRA), major histocompatibility complex (MHC) and donor specific antibodies in the outcome of post heart transplant rejection status: Clinicopathological study, Dr Rakesh Deepak, AIIMS Intramural, 3 years, 2019-2022, Rs 10 lakhs
5. Exosomes based immune profiling of Multi Drug Resistant (MDR) Tuberculosis, DK Mitra, ICMR, 3 years, 2021-2024, Rs 70 lakhs
6. Genome wide transcription analyses in DR Mtb: Identification and Immunomodulation of novel targets, DK Mitra DBT, 3 years + 1year Extn, 2018-2021, Rs 148 lakhs
7. HLA associated genetic predisposition for hypersensitivity to antiepileptic drugs in North Indians: A case control study, Dr Uma Kanga, (Co-PI) AIIMS Intramural, 2 years, 2020-2022, Rs 10 lakhs
8. HLA related Genetic propensity for manifestation of Oral Sub mucous Fibrosis among North Indians, Dr Uma Kanga, (Co-PI), AIIMS Intramural, 2 years, 2020-2022, Rs 10 lakhs
9. Identification of novel biomarkers for prediction of Renal Allograft Rejection, Dr Uma Kanga, AIIMS-THSTI, 2 years, 2019-2021, Rs 5 lakhs
10. Identification of the parabens modulated cellular signalling pathways in neutrophils, Dr Rakesh Deepak, AIIMS Intramural, 3 years, 2019-2022, Rs 10.00 lakhs
11. In Silico Trial for Tuberculosis Vaccine Development (STriTuVaD) European Commission Horizon 2020, DK Mitra, DBT, 4 years, 2020-2024, Rs 398.36 lakhs
12. Interrogation of human leukocyte antigen genetic variants in clinically, serologically and histologically defined subgroups of idiopathic inflammatory myopathies (IIMs), Dr Rakesh Deepak, AIIMS Intramural, 3 years, 2020-2023, Rs 20 lakhs
13. Islet-antibody negative type 1 diabetes (type 1B) in north Indians: clinical implications and pathogenesis, Dr Uma Kanga, (Co-PI), ICMR, 3 years, 2019-2022, Rs 56 lakhs
14. Reliability of seminal sample after BMT in forensic situations, Dr Uma Kanga (Co-PI), AIIMS Intramural, 2 years, 2020-2022, Rs 10 lakhs
15. Study of HLA allele, T-cell epitope recognition & virus variations in COVID-19: Bioinformatics & Immunoinformatic approach, Dr Uma Kanga, Serum Institute of India + ICMR, 1 year, 2021-2022, Rs 23.2 lakhs

Completed

1. Development of a Remote Healthcare Delivery System: Early Diagnosis, Therapy, follow-up and Preventive Care for NCDs (cardio-pulmonary).”, DK Mitra, IMPRINT, (HRD+ ICMR), 3 years, 2017-2020, Rs 64.85 lakhs
2. Evaluation of novel forensic exhibits and informativity of Y-STR markers in chimerism situation, Dr Uma Kanga, (Co-PI), AIIMS Intramural, 2 years, 2020-2021, Rs 10 lakhs
3. Functionalization and Validation of a Cloud based Integrated Medical Device (IMD): Delivery of Specialised diagnostic, therapeutic & follow up care to the remote underserved population, DK Mitra, Azure Software Pvt Ltd, 3 years, 2017-2020, Rs 16.44 lakhs
4. Genomic analysis of HLA and Non-HLA genes and humoral profile of Type 1 Diabetes Mellitus in the population of North East India, Dr Uma Kanga DBT (BCIL), 3 years, 2017-2020, Rs 127.8 lakhs, (Total NE and AIIMS)

5. Immunogenetic correlates of Dengue infection: Analysis of HLA and KIR genes in North Indian Population, Dr Uma Kanga, AIIMS, Intramural, 1 year, 2019-2020, Rs 5 lakhs
6. Multivalent Leishmania vaccine development, DK Mitra, BIRAC DBT, 3 years, 2015-2019, Rs 397.57 lakhs
7. NKT cell subsets: Impact on Mycobacterium tuberculosis specific effectors T cell responses, DK Mitra, DBT, 3 years, 2018-2021, Rs 70 lakhs
8. Studies to delineate the Immunoregulatory role of PD-L1/PD-1 pathway and exploring it as a potential tool for vaccination strategies against Visceral Leishmaniasis, DK Mitra, DST, 3 years, 2018-2021, Rs 70 lakhs
9. The Role of HLA antigens in primary IgAN in Indian patients: a case control study, Dr Uma Kanga, (Co-PI), AIIMS, 3 years, 2019-2021, Rs 13 lakhs

Departmental projects

Ongoing

1. Association of HLA class II DR/DQ alleles in children and adolescents with rheumatic heart disease from a tertiary care centre in north India
2. Clinico-sero-pathological classification and pathogenesis of Idiopathic inflammatory myopathies (IIMs)
3. Development of cost effective in-house assays for HLA diagnostic services
4. Effect of anesthetic technique on anti-tumor immunity and its markers in patients undergoing surgery for Gall Bladder Cancer: A prospective randomized comparative study.
5. Establishment of heterogeneity in genetic markers: potential use in transplant monitoring
6. Exosome based immune profiling in renal transplant Patients: relevance in acute graft dysfunction"
7. Identification of Signatures for predicting rejection in Renal Transplantation
8. Immune reconstitution following haploidentical Hematopoietic stem cell transplantation"
9. Impact of checkpoint inhibitors on suppressed state of immunity in tuberculosis
10. Inhibiting Check Point Molecules in Tuberculosis: Impact on Efflux Pump in Mycobacterium tuberculosis"
11. Inhibiting PD-1 in tuberculosis: impact on immunological and clinical outcome in drug resistant and drug sensitive patients
12. In-phase polymorphism analysis of HLA genes in North East Indian tribal populations
13. NKT Cells in Tuberculosis: Impact on Protective T cell response.

Collaborative Projects

Ongoing

1. A Phase III, Randomised, Double-blind, Three arm Placebo controlled Trial to Evaluate the Efficacy and Safety of two vaccines VPM1002 and Immuvac(Mw) in Preventing Tuberculosis (TB) in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB Patients Department of Centre for Community Medicine, AIIMS, New Delhi
2. An evaluation of HLA, phagocytic function and trace elements in cases of sinusitis, invasive fungal sinusitis and non-invasive fungal sinusitis, Department of ENT, AIIMS, New Delhi
3. Association between immunological characteristics and clinical outcomes in COVID-19 patients Department of Medicine, AIIMS, New Delhi
4. Development of a Remote Healthcare Delivery System: Early Diagnosis, Therapy, follow-up and Preventive Care for NCDs (cardio-pulmonary), ICMR, IIT-Kharagpur, IIT-Mumbai & AIIMS, New Delhi
5. Efficacy of Energy Dense Nutritional Supplement (EDNS) as adjunct to standard DOTS therapy in improving treatment outcomes in malnourished newly diagnosed sputum positive pulmonary tuberculosis adult patients, Department of Centre for Community Medicine, AIIMS, New Delhi
6. Evaluation of novel forensic exhibits and informativity of Y-STR markers in chimersm situation, Department of Forensic Medicine, AIIMS, New Delhi
7. Functionalisation and Validation of a Cloud based Integrated Medical Device (IMD): Delivery of Specialised diagnostic, therapeutic & follow up care to the remote underserved population, AIIMS, New Delhi and Azure Software Pvt Ltd
8. Genetic Diversity Among the Indian Gorkhas from Darjeeling Himalaya: Next Generation Sequencing (NGS) based In Phase Polymorphism Analysis of HLA Minigenome, Sikkim University
9. Genetic Propensity to Nasopharyngeal Carcinoma in Nagas from North East India, Naga Hospital and Authority, Nagaland
10. Identification of metabolic markers in Rheumatic Heart Disease (RHD) with Atrial Fibrillation using untargeted LC/MS based Metabolic Approach, Department of Pathology, Safdarjung Hospital, New Delhi
11. Multivalent Leishmania vaccine development, BIRAC, Department of Biotechnology, GoI, and ZydusCadila
12. Reliability of seminal sample after BMT in forensic situations, Department of Forensic Medicine, AIIMS, New Delhi
13. Study of HLA allele, T-cell epitope recognition & virus variations in COVID-19: Bioinformatics & Immunoinformatic approach, Savitribai Phule University, Pune and National AIDS Research Institute (ICMR), Pune
14. Study to evaluate effectiveness of BCG Vaccine in reducing morbidity and mortality in Elderly individuals in COVID-19 Hotspots in India, Department of Pulmonary, Critical Care & Sleep Medicine, AIIMS, New Delhi
15. The Role of HLA antigens in primary IgAN in Indian patients: a case control study Department of Nephrology, AIIMS, New Delhi

16. To study the prevalence and clinical characteristics of Pediatric Multisystem Inflammatory Syndrome associated with COVID-19, Department of Pediatrics, AIIMS, New Delhi
17. To study the prevalence and types of refractory celiac disease, as well as to work out the best possible cost-effective diagnostic panels, in a cohort of nonresponsive patients with celiac disease Department of Pathology, AIIMS, New Delhi
18. Utility of Lipoarabinomannan antigen detection in urine and CSF for the diagnosis of tuberculous meningitis, Department of Microbiology, AIIMS, New Delhi

PUBLICATIONS

Journals: 49

Abstracts: 3

Last 3 years data

Year	2021-22	2020-2021	2019-2020
Number of oral presentations	10	04	15
Number of funded projects	16	12	15
Amount of extramural/intramural funding (in lakhs)	1107.41	1017.56	1629.42
Total number of publications	52	20	21
Total number of Journal articles	49	19	18
Total number of Abstracts	3	1	3
Total numbers of chapters in book	0	0	0
Total numbers of books/Monograph	0	0	0

PATIENT CARE

Organ Transplantation

Nephrology, Cardiology, Pulmonary Medicine AIIMS & other referrals

Organ Transplant Service (Kidney, Lung, Heart)	2021-2022	2020-2021	2019-2020
HLA Tests - Live Related Transplant	461	234	1423
Cross Match Test - CDC (Serology)	832	141	1292
Cross Match Test - (Flowcytometry)	213	112	411
Luminex PRA	301	147	629
Luminex SAB (DSA monitoring)	247	128	531

BONE MARROW / HEMATOPOIETIC STEM CELL TRANSPLANTATION

Hematology, AIIMS & Other Referrals

Diagnosis	2021-22	2020-21	2019-20
Aplastic Anemia	279	184	731
Acute Leukemia (AML+ALL)	200	191	297
Thalassemia	133	32	122
Chronic Leukemia (CML+JMML)	50	28	120
Others	142	71	189
Total	804	506	1459

S.No.	Diagnosis	2021-22	2020-21	2019-20
A	Low Resolution HLA Typing (PCR-SSP or PCR-SSO Luminex based)			
1.	HLA-A locus	883	506	1579
2.	HLA-B locus	941	506	1579
3.	HLA-C locus	890	300	47
3.	HLA-DRB1 locus	170	126	451
4.	HLA-DRB3/4/5 loci	80	5	101
B	High Resolution HLA Typing (Sequence Based Typing (SBT)/Next Generation Sequencing (NGS)/SSO Luminex)			
5.	HLA-A locus	35	15	76
6.	HLA-B locus	35	18	76
7.	HLA-C locus	35	15	77
8.	HLA-DRB1	35	15	81
9.	HLA-DQB1	35	15	77
10.	HLA-DQA1	35	15	76
C	Donor Specific Antibody (DSA) Monitoring - Luminex			
11.	Mixed Screen (HLA class I & II)	23+23	29+29	00
12.	HLA class I (SAB)	20	8	29
13.	HLA class II (SAB)	15	8	29
D	Chimerism studies in BMT			
14.	Post HSCT recipients	36	12	24
15.	Pre HSCT recipients	31	10	24
16.	HSCT Donors	48	10	24
	TOTAL TESTS	3347	1528	4350
E	Unrelated Donor searches for BMT	6*	5*	35*

- Requests received by Asian Indian Donor Marrow Registry for HLA matched donors

	Diseases	HLA Test	2021-22	2020-21	2019-20
1.	Ankylosing Spondylitis & other Spondyloarthropathy	HLA- B-27	281	208	863
2.	Coeliac Disease	HLA-DQA1	6	2	64
3.	Coeliac Disease	HLA-DQB1	6	2	64
4.	Narcolepsy/Cataplexy	HLA-DQB1	2	1	12
5.	Behcets' Disease	HLA-B*51	44	31	52
6.	Drug hypersensitivity screening	HLA-B*57:01, B*15:02	4	3	4
	Total		343	247	1059

All Patient care services	2021-22	2020-21	2019-20
HSCT related & Quality Assurance Program	3368	1528	4350
Disease association screening	343	247	1059
Total	3711	1775	5409

BONE MARROW TRANSPLANTATION- IRCH, AIIMS Referrals

Diagnosis	2021-22	2020-21	2019-20
Acute Leukemia- ALL	31	28	97
Acute leukemia- AML	42	57	191
Chronic Leukemia – (CML+JMML)	5	09	55
Others	5	07	127
Donors	83	279	443
Total	116	380	913

S. No.	Diagnosis	No. of Tests 2021-22	No. of Tests 2020-21	No. of Tests 2019-20
A	Low Resolution HLA typing (PCR-SSP or PCR-SSO Luminex based)			
1	HLA-A locus	322	426	804
2	HLA-B locus	324	424	720
3	HLA-C locus	121	25	0
4	HLA-DRB1 locus	62	72	219
B	High Resolution HLA typing (Sequence Based Typing (SBT) / -SSO Luminex)			
5	HLA-A locus	10	08	3
6	HLA-B locus	12	08	4
7	HLA-C locus	11	08	3
8	HLA-DRB1	8	08	3
9	HLA-DQB1	6	08	3
10	HLA-DQA1	4	08	2
C	Donor Specific Antibody (DSA) Monitoring Luminex based assays			
11	HLA class I (SAB)	3	04	00
12	HLA class II (SAB)	3	04	00
D	Chimerism Study in BMT			
13.	Post HSCT recipients	1	01	00
14.	Pre HSCT recipients	1	01	00
15.	HSCT Donors	1	01	00
	TOTAL TESTS	889	1006	1761

Disease Association HLA Screening tests

S.no.	Diseases	HLA test	2021-22	2020-21	2019-20
16.	Ankylosing Spondylitis & other spondyloarthropathies	B-27	127	85	61
17.	Coeliac Disease	DQA1	3	02	00
	Coeliac Disease	DQB1	3	02	00
18.	Behcet's Disease	B*51	9	15	8
	TOTAL		142	104	69

PRIMARY IMMUNODIAGNOSTICS

Diagnostics	2021-22	2020-21	2019-20
Immune Deficiency Disorders	5664	6237	5948
No. of Tests per annum			

Free of cost service provided for Primary & Secondary Immunodeficiency Diseases

S.No.	Diagnosis	Markers/Assays	2021-22	2020-21	2019-20
1	T Cell Frequency	CD3 ⁺ /CD4 ⁺ /CD8 ⁺	1132	1052	1046
2	B Cell Frequency	CD19 ⁺ /CD20 ⁺	1251	1321	1170
3	NK Cell Frequency	CD3 ⁺ /CD16 ⁺ /CD56 ⁺	571	631	647
4	NK Cell Activity	CD3 ⁺ /CD56 ^{dim} /Perforin ⁺	228	329	315
5	NK Cell Activity	Soluble IL2R	12	18	24
6	ALPS	CD3 ⁺ /CD4 ⁺ /8 ⁺ /TCRαβ ⁺	11	52	104
7	Leukocytes Adhesion Deficiency	CD18 ⁺ /CD11a ⁺ /CD11b ⁺	183	251	355
8	Chronic Granulomatous Disease	DHR	1085	1123	1012
9	Hyper IgM	CD3 ⁺ /CD8 ⁺ /CD69 ⁺ /CD154 ⁺	2	15	37
10	T cell function (IFN-g)	CD3 ⁺ /CD4 ⁺ /IFN-γ ⁺ /IL-2 ⁺	68	125	136
11	Class Switch Memory	CD19 ⁺ /CD27 ⁺ /IgD ⁻	13	59	48

12	Degranulation Assay	CD3 ⁺ /CD56 ^{dim} /CD107a ⁺	17	9	7
13	IL-12 Assay	CD14 ⁺ /IL-12 ⁺	6	13	15
14	Memory T cell	CD3 ⁺ /CD45RA ⁺ /CD45RO ⁺	3	16	12
15	Serum IgA		245	325	315
16	Serum IgM		302	362	316
17	Serum IgG		359	351	323
18	Serum IgE		148	156	62
19	Serum IgG Subclasses		28	29	00
Total			5664	6237	5948

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Dr Uma Kanga was conferred the title of Fellow of the European Board of Surgery (FEBS) in Transplant Immunology in June 2021. The title was conferred after having passed the examination of the European Board of Surgery in the subject areas, i) Solid Organ Transplantation, ii) Hematopoietic Stem Cell Transplantation and iii) HLA Associated Diseases; continues as “Asia Pacific Region- Councillor” of the Asia Pacific Histocompatibility and Immunogenetics Association (APHIA) (2020-2022); continues as Treasurer of Indian Immunology Society (IIS) - (2018-2021); continues as Vice-President of the Asia Pacific Histocompatibility and Immunogenetics Association (APHIA) (2020-2022); designated the Co-Chair of the “International Committee” of the American Society of Histocompatibility and Immunogenetics (ASHI); nominated as Secretary of Association of PhD Medical Scientists (APMS).

9.42 Urology

Professor and Head

Amlesh Seth

Professor

Rajeev Kumar

Additional Professors

Prabhjot Singh

Rishi Nayyar

Brusabhanu Nayak

Associate Professors

Siddharth Jain

Manoj Kumar

Sanjay Kumar

HIGHLIGHTS

1. The department organised an USI-ISU international webinar on “Bowel segments in Urinary tract Reconstruction: Drainage, Diversion, Replacement’ on 5 June 2021.
2. The department organized an USI-ISU Live operative workshop on “Microsurgical varicocelelectomy and microsurgical VEA’ on 28 November 2021.
3. The department started a national level USI-CRC study on “Peri-operative antibiotic usage during endourologic surgery: A multi-institutional, national-level, cross-sectional audit of prevalent practice pattern in India”.
4. Dr Rajeev Kumar presided over as President-Elect of Société Internationale d’Urologie.

EDUCATION

The faculties of the department participated online and delivered lectures in continuing medical education programs, symposia, national and International conferences during the year. The senior faculty members are examiners for NBE and M.Ch. Urology in various universities. The faculty of the department is actively engaged in the development of various Indian guidelines under the aegis of the Urological Society of India.

The Department imparted lectures for the undergraduates and nursing students (BSc and MSc). The faculty is actively involved in curriculum revision for undergraduates. The department trains 11 postgraduates for the degree of MCh in Urology over a three-year period. Post-MCh Fellowship training is available for sub-specialties including minimally invasive urology, uro-oncology, reconstructive urology and urogynecology. The department also recruited 3 non-academic residents for the year. MS (Gen Surg) residents also rotated for urological training as per their curriculum.

Faculties of the department have actively taken part in development of various modules of skill sets for students, which is a step forward towards e-learning. Faculty also took lectures for the SET facility towards their faculty development program. Training of interns and MBBS students for urethral catheterization: male and female on mannequin pelvis was done in the SET Facility and has been incorporated into their regular curriculum. Training on Skill Simulators (URO/PERC Mentor) is a part of regular curriculum of urology residents training.

Due to the impact of Covid-19 pandemic, considerable part of the education was done in online mode. Surgical skill training and ward training took major impact because of limited OT time and restrictions on admissions, in-patient beds and available OT time.

CMEs/Workshops/Symposia/National and International Conferences

The department organized the following webinars/conferences

- USI-ISU international webinar on “Bowel segments in Urinary tract Reconstruction: Drainage, Diversion, Replacement’ on 5 June 2021
- USI-ISU Live operative workshop on “Microsurgical varicocelelectomy and microsurgical VEA’ on 28 November 2021

Lectures delivered

Amlesh Seth: 25
Rishi Nayyar: 22

Rajeev Kumar: 20
Brusabhanu Nayak: 9

Prabhjot Singh: 18
Manoj Kumar: 1

Total number of lectures delivered

	Lectures delivered	2021-22	2020-21	2019-20
1.	Amlesh Seth	-	33	36
2.	Rajeev Kumar	20	22	28
3.	Prabhjot Singh	18	16	18
4.	Rishi Nayyar	22	24	17
5.	Brusabhanu Nayak	9	17	8
6.	Siddharth Jain	-	2	-
7.	Manoj Kumar	1	1	-
8.	Sanjay Kumar	-	1	2
	Total	70	116	109

Oral papers/posters presented: 23**Total number of oral presentations**

	2021-22	2020-21	2019-20
Oral presentations	23	11	35

RESEARCH**Funded projects****Ongoing**

1. Clinico-genetic prognostic signatures for development of metastatic Castration Resistant Prostate Cancer, Prabhjot Singh, ICMR, 3 years, 2019-2022, Rs 1 crore
2. Environmental exposure of heavy metals, toxic elements and its impact on renal cell carcinoma induction and progression, Brusabhanu Nayak, ICMR, 3 years, 2019-2022, Rs 43,05,000
3. Molecular analysis to explore resistance against receptor tyrosine kinase inhibitors (TKI) in Renal Cell Carcinoma (RCC) and the prognostic role of Circulating tumor cells (CTC) in patients with metastatic RCC (mRCC), Brusabhanu Nayak, ICMR, 3 years, 2021-2024, Rs 59 lakhs
4. Randomised double blinded placebo controlled clinical trial for the evaluation of effect of vitamin K supplementation on bone mineral density in prostate cancer patients, DS Arya (Pharmacology) Co-PI: Sanjay Kumar, ICMR, 3 years, 2022-2025, Rs 33 lakhs
5. The Role of 68Ga-PSMA-PET/CT scan as a staging modality in prostate cancer, Sanjay Kumar, ICMR, 3 years, 2019-2022, Rs 48,85,740
6. The role of trace elements in renal stone disease, Sanjay Kumar, ICMR, 3 years, 2021-2022, Rs 97,61,605

Completed

1. A novel therapeutic approach of anti-B7H4 therapy in Urinary bladder cancer, Prabhjot Singh, AIIMS, 2 years, 2019-2021, Rs 10 lakhs
2. Environmental exposure of heavy metals, toxic elements and its impact on bladder cancer induction and progression, Brusabhanu Nayak, AIIMS, 2 years, 2020-2022, Rs 8 lakhs
3. Identification of Potential Molecular markers (PRL3 phosphatase, CAV2, LAMA4 and GRP78) in Renal Cell Carcinoma (RCC): Predicting tumour behaviour, Manoj Kumar, AIIMS, 2 years, 2019-2021, Rs 9,80,000
4. To evaluate the role of seminal miRNA's and inflammatory markers in cases of suspected prostate cancer and correlate with mpMRI and Biopsy findings, Siddharth Jain, AIIMS, 2 years, 2019-2021, Rs 5 lakhs

Total funded research projects and total amount of extramural/intramural funding

	2021-22	2020-21	2019-20
Funded research projects	6	8	6
Extramural/intramural funding (Rs)	3,81,52,345	3,17,52,345	2,06,90,740

Departmental projects**Ongoing**

1. 68 Gallium PSMA PET / CT in metastatic renal cell cancer
2. A 3-arm randomized control trial to compare the efficacy of recirculant hyperthermic intravesical chemotherapy versus intravesical BCG versus conventional intravesical mitomycin C therapy for intermediate risk NMIBC

3. An investigation to find out genomic & epigenomic etiologies in hypospermatogenesis (HP)
4. Audit of prostatectomy for benign enlargement of prostate – multicenter, national level study
5. Clinical outcome of patients with prostate biopsy negative for cancer
6. Cranio-caudal Bull's eye (CCB) technique for superior calyceal access during PCNL: Assessment of efficacy and complications
7. Effect of androgen deprivation therapy on cardiovascular function in patients with advanced prostate carcinoma: a prospective cohort study
8. Idiopathic sertoli cell-only syndrome (SCOS): An investigation to find out epigenomic etiologies
9. Immediate second resection versus re-stage transurethral resection of bladder tumor: a randomised, non-inferiority, pilot trial
10. Lymphorrhea after lymphatic ligation with titanium clips versus ultrasonic dissector during radical cystectomy: A prospective, double-blinded, randomized trial
11. MicroRNA expression profiles in testicular FNAC samples of apparent idiopathic sertoli cell-only syndrome (SCOS) cases
12. Negative predictive value of magnetic resonance imaging for significant prostate cancer in Indian men: an ambispective study
13. Outcomes of patients of locally advanced Ca Urinary Bladder patients presenting with obstructive uropathy with Acute kidney injury
14. Peri-operative antibiotic usage during endourologic surgery: A multi-institutional, national-level, cross-sectional audit of prevalent practice pattern in India with support of USI
15. Prospective evaluation of Tc99m Sesta MIBI scan to differentiate benign solid renal mass from more aggressive malignant RCC
16. Randomised trial on single dose perioperative instillation of intravesical gemcitabine versus mitomycin-C following complete resection of non-muscle invasive bladder cancer: Evaluation of efficacy and tolerance
17. Role of urethral povidone-iodine instillation before catheterization in routine urological surgery
18. Smart phone-based home monitoring of the patients with benign prostatic hyperplasia: Emerging telemedicine tool in COVID-19 era

Completed

1. Evaluation of seminal biomarkers for the diagnosis of obstruction as the cause of azoospermia in infertile men
2. Outcomes of Robot-Assisted Radical Prostatectomy: 10-year experience from a single center
3. Prospective study to evaluate the etiology of Voiding Lower tract symptoms in young male patients
4. Role of redo/extended medical expulsive therapy in patients of ureteric calculus
5. Unilateral versus bilateral vasoepididymal anastomosis: prospective randomized trial
6. Ureter-first approach to pyeloplasty

Collaborative projects

Ongoing

1. 68 Gallium PSMA PET / CT in metastatic renal cell cancer, Nuclear Medicine, AIIMS
2. A phase III double blind randomized placebo controlled study of Capivasertib + Abiraterone versus Placebo + Abiraterone as treatment for de novo metastatic hormone sensitive prostate cancer characterized by PTEN deficiency (CAPItello-281), Medical Oncology, AIIMS
3. A randomised, double blind, placebo controlled phase 3 study of darolutamide in addition to androgen deprivation therapy(ADT) Vs placebo + ADT in men with metastatic hormone sensitive prostate cancer (ARANOTE), Radiation oncology, AIIMS, International collaboration
4. Analgesic Efficacy of Ultrasound-Guided Triple-Level Erector Spinae Plane Block Versus Triple-Level Costotransverse Foramen Block in Patients Undergoing Percutaneous Nephrolithotomy Surgery: A randomized parallel-group double-blind non-inferiority trial, Anesthesia/AIIMS
5. Carboplatin in patients with metastatic castrate resistant prostate cancer harboring somatic or germ line homologous recombination repair gene mutations: A phase II single arm trial, Medical Oncology, AIIMS
6. Evaluation of PDL1 expression and tumor mutational burden (TMB) in subtypes of muscle invasive bladder cancer (MIBC), Pathology, AIIMS
7. Feasibility, Safety and Efficacy of Prostate Artery Embolization in Patients with Catheter Dependent Bladder Outlet Obstruction Induced by Advanced Prostate Cancer, Cardiac-radiology, AIIMS
8. Hemodynamic profile in the perioperative period in patients undergoing pheochromocytoma and paraganglioma surgery with and without low dose diltiazem infusion, Anesthesia/AIIMS
9. Metabolic profile and quality of life assessment in patients with metastatic carcinoma prostate receiving androgen deprivation therapy, Medical Oncology, AIIMS
10. Molecular profiling and phenotype-genotype correlation of patients with Pheochromocytoma/Paraganglioma: Deciphering implications in management and prognostication, Pathology/AIIMS
11. Prevalence of mutations influencing prostate cancer risk and progression, Medical oncology, AIIMS and University hospital network, Toronto
12. Telomere status and DNA repair mechanisms in idiopathic male infertility, Anatomy/AIIMS

13. To study gene expression, epigenetic alterations, oxidative DNA damage in infertile men after yoga intervention and to analyse effect of their serum on cancer cell lines, Anatomy/AIIMS

Completed

1. Characterization of Renal Cell Carcinoma with Dual Energy Computed Tomography and Multiparametric Magnetic Resonance Imaging and Correlation with Histopathology, Radiology/AIIMS
2. Incidence of various urogynecological problems in post-partum patients and its relation to the mode of delivery, Obst and Gynae/AIIMS
3. Preoperative intravascular volume status measured by inferior vena cava collapsibility index in patients with Pheochromocytoma and paraganglioma undergoing surgical tumor removal: a prospective observational cohort study, Anesthesia/AIIMS
4. Randomised double blinded placebo controlled clinical trial for the evaluation of effect of vitamin K supplementation on bone mineral density in prostate cancer patients, Pharmacology/AIIMS
5. Study of Association of Methylenetetrahydrofolate Reductase (MTHFR) Polymorphisms in Infertile Men, Anatomy/AIIMS

PUBLICATIONS

Journals:28

Abstracts:06

Chapters in Book:03

Total number of publications

	2021-22	2020-21	2019-20
Journal articles	28	41	40
Abstracts	6	5	14
Chapters in book	3	7	6
Book/monograph	-	1	-

PATIENT CARE

Main Hospital OPD

New cases: 7688 Old cases: 14075

BRAIRCH Uro-malignancy clinic

New cases: 437 Old Cases: 5155

Andrology and Infertility Clinic

New cases: 323 Old cases: 277

Admissions

Long Admissions: 1051 Short Admission: 513

Discharges: 1367

Main OT Surgical Procedures: 1125

Open surgery: 269

Radical cystectomy	24	Radical or cytoreductive nephrectomy	24
Radical cystectomy with nephroureterectomy	6	Radical nephrectomy with IVC thrombectomy	2
Salvage cystectomy	0	Radical Nephroureterectomy	4
Partial cystectomy	0	Simple nephrectomy	6
End To End Urethroplasty	12	Partial nephrectomy	10
Anterior lay open	4	Heminephrectomy	0
TranspubicUrethroplasty	1	RPLND	6
Augmentation Cystoplasty	3	Graft urethroplasty	11
Adrenalectomy	3	Second stage closure	1
Adrenalectomy with IVC thrombectomy	1	Pyeloplasty	2
Paraganglioma excision	0	Continent catheterisable pouch	0
Ureteric Reimplant	0	Boari flap	1
VVF repair	18	Ureteroureterostomy	0
Vesicouterine fistula repair	0	Total penectomy	2
Orchidopexy/orchiectomy (undescended testis)	51	Prostatectomy	0

AUS implantation/Penile prosthesis	1	Partial Penectomy	7
Perinealurethrostomy	7	Hypospadias repair	7
Ureterolithotomy/Cystolithotomy	5	TVT/TOT	0
Ilioinguinal lymph node dissection	2	Ureterocalycostomy	0
High Inguinal Orchiectomy	2	Circumcision	32
		Others	14

Endourology: 675

Upper tract: 224		Lower tract: 451					
PCNL	92	TURP/TUIP/TUEB	69	CPE	19	DJS	138
URS	91	TURBT	123	CLT/PCCLT	31	DJR	18
RIRS	36	TUR fulguration	2	HOLEP	0	OIU/BNI/ Endodilatation	22
PCNUL	3	TURED	0	HOLCT	0	Deflux injection	0
Endopyelotomy	2	Clot evacuation	4	PVP	0	Laser welding	0
		Endoevaluation/RGP	20	Ureterocele incision	2	Others	3

Laparoscopic: 65

Radical or cytorecuctivenephrectomy	11	Partial nephrectomy	2
Simple nephrectomy	19	Adrenalectomy	13
Simple nephroureterectomy	5	Radical Nephroureterectomy	4
Retroperitoneoscopic nephrectomy/nephroureterectomy	4	Ureterolithotomy	2
Pyeloplasty	0	Lap radical prostatectomy	0
Pyelolithotomy	0	Paraganglioma excision	0
Ureteric reimplant	0	Diagnostic lap	4
Lap radical cystectomy±nephroureterectomy	0	Others	1

Robotic: 105

Radical prostatectomy	34	Radical cystectomy	0	Pyeloplasty	39
Ureterolithotomy	0	Simple prostatectomy	1	Ureteric reimplant	0
Partial nephrectomy	29	Radical Nephrectomy	0	Others	2

Microsurgery: 11

VEA	8	VVA	1	MVL	2
Scrotal exploration	0	TESE	0		

Minor OT: 9363

Endoscopic	1779
Open	14
Minor cases	3926
Uroflowmetry	3403
Urodynamic Study	241

ESWL: 390

New cases	140	Old cases	250
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Ultrasound room procedures: 366

Prostate TRUS biopsy	127	SPC	1	PUC	4
MRI- TRUS Fusion biopsy	57	PCN	3	HIVEC	168
In Bore biopsy	1	USG	5		

NCI Jhajjar, OT Surgical procedures: 185**Open surgery: 33**

Radical nephrectomy	7
Radical cystectomy	12
Partial penectomy	6
High inguinal orchiectomy	5
Ilioinguinal lymph node dissection	2
Adrenalectomy	1

Laparoscopic: 3

Radical cystectomy + Nephroureterectomy	1
Radical Nephroureterectomy	1
RP mass excision	1

Endourology: 149

TURBT	149
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Total number of patient-related work (special clinics, investigations and procedures performed) in a tabular form (Last 3 years)

	2021-22	2020-21	2019-20
Main OPD new cases	7688	3715	14282
Main OPD old cases	14075	6640 + 1526 (Teleconsultations)	41284
BRAIRCH Uro-malignancy clinic New cases	437	270	24
BRAIRCH Uro-malignancy clinic Old cases	5155	2519	3090
Andrology and Infertility Clinic New cases	323	59	825
Andrology and Infertility Clinic Old cases	277	48	1125
Long Admissions	1051	834	1622
Short Admissions	513	365	1038
Discharges	1367	1199	2449
NCI Jhajjar OPD	-	-	-
Main OT surgical procedures – open	269	139	447
Main OT surgical procedures – endourology	675	435	1379
Main OT surgical procedures – laparoscopic	65	26	166
Main OT surgical procedures – robotic	105	33	109
Main OT surgical procedures – microsurgery	11	3	26
Minor OT	9363	3928	14424
ESWL	390	151	1042
Ultrasound guided procedures	366	55	225
NCI Jhajjar, OT Surgical procedures	185	-	-

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Amlesh Seth was Executive council member—World Uro-Oncology forum; Chairman—Committee of ICMR for Standard Treatment Workflows in Urology; Chairman- Urology Expert Group for consultation on Health Benefit Packages with NHA under PM JAY; Member- Subject Expert Committee on Urology and Reproduction under DCGI.

Professor Rajeev Kumar Elected Vice President, Société Internationale d’Urologie; Delivered SIU Lecture titled ‘Optimal management of incontinence in the elderly patient’ at 36th Annual meeting of the EAU, Online, 9-12 July 2021; Delivered SIU Lecture titled ‘Laparoscopic; Adrenalectomy: Technique and Complications’ at Caribbean Urology Association annual meeting, Online, 7 November 2021; Delivered SIU Lecture titled ‘Evaluation of male infertility’ at the Jamaican Urological Society, Hybrid-online, 6 March 2022; Member, Governing Body, University College of Medical Sciences, New Delhi; Member, Project Review and Steering Group, Ministry of Electronics and Information Technology, Government of India; Member, Expert Committee on Centre of Excellence on Additive Manufacturing, Ministry of Electronics and Information Technology,

Government of India; Associate Dean (Academics), AIIMS, New Delhi; Chief editor, Indian Journal of Urology; Associate editor, National Medical Journal of India; International consulting editor, Journal of Urology; Editorial board member, Indian Journal of Medical Research; Editorial board member, Journal of Endourology; Executive member, British Journal of Urology International; Associate editor, International Journal of Urology; Editorial board member, Investigative and Clinical Urology; Editorial board member, Asian Journal of Urology; Honorary secretary, Indian Association of Medical Journal Editors.

Dr Prabhjot Singh was Core Faculty for the Board of Education of Urological Society of India UROMET program; Faculty for the SET (Skill-e Learning-Telemedicine) Facility

Dr Rishi Nayyar was Member, Specialist Board of Pediatric Urology for concerned DNB/DrNB/FNB programme under National Board of Examinations in Medical Sciences (NBEMS), Jun 2021; Member, Collaborative Research Committee of the USI (CRC-USI), 2021-24; Best Oral paper award at 34th NATCON-IASO, 2021; Best Moderated Video Award, Video Session 1 at NZUSICON 2021; Best Moderated Video Award, Video Session 3 at NZUSICON 2021; First Retzius sparing Total posterior approach for Robotic radical prostatectomy at AIIMS, New Delhi; First Robotic RPLND procedure at AIIMS, New Delhi; Convenor USI-ISU webinar on 'Bowel segments in Urinary tract Reconstruction: Drainage, Diversion, Replacement', June 2021; Convenor 'Upper Tract Reconstruction' session of Reconstructive Urology Subsection of USI at USICON 2022; Member, Convenor group, Reconstructive Urology Subsection of USI, 2020-2022; Core Faculty for the Board of Education of Urological Society of India UROMET program; Faculty for the SET (Skill-e Learning-Telemedicine) Facility; Member of the Subject Expert Committee (SEC) (New Drugs including Investigational New Drugs (IND), Clinical Trials & New Medical Devices etc) under DGHSS, Office of DCGI (India); Member of the Subject Expert Committee (SEC) (Reproductive and Urology) under DGHSS, Office of DCGI (India); Co-opted member and subject expert (Urology) for DTAB under DGHS, Office of DCGI (India); Editorial committee member, Indian Journal of Urology.

Dr Brusabhanu Nayak was AIIMS International travel fellowship award by AIIMS Research Section; MIUC International travel fellowship award by USI; DUSCON Gold medal for best basic research by North Zone USI; MIUC National 2000 travel award by North Zone USI; Marudhar Jodhpur Best Paper award in NZUSICON 2021; Moderated Best poster Award (poster session-2) in NZUSICON 2021; Moderated Best poster Award (poster session-5) in NZUSICON 2021.

10.1. Cardiothoracic Centre

Cardiology

Professor and Head

Anita Saxena (upto 30 November 2021) SS Kothari (from 1 December 2021)

Professors

Balram Bhargava (On deputation)	KC Goswami	R Narang
S Seth	S Mishra	Rakesh Yadav
N Naik	G Karthikeyan	Gautam Sharma
S Singh	Ambuj Roy	S Ramakrishnan

Additional Professors

Saurabh K Gupta

Associate Professors

Deepti Siddharthan	Satyavir Yadav	Raghav Bansal
Jay Relan	Arvind B	Nirmal G

Cardiothoracic and Vascular Surgery

Professor and Head

SK Choudhary

Professors

UK Chowdhury (On Contract)	AK Bisoi	V Devagourou
Milind P Hote	Sachin Talwar	

Additional Professors

Manoj Kumar Sahu	P Rajashekar
Sarvesh Pal Singh	Ramesh P Menon

Assistant Professors

Pradeep Ramakrishnan Ummed Singh Dhatteval
Sukhjeet Singh (up to 27 January 2022)

Assistant Professors (Contract)

Navnita Kisku (from 18 January 2022) Sushma Gayatri (from 5 February 2022)
Bharath HV (from 7 February 2022)

Cardiac Anaesthesiology

Professor and Head

Sandeep Chauhan

Professors

Neeti Makhija	Poonam Malhotra	Minati Choudhury
Sambhunath Das	Parag Gharde	Vishwas Malik

Associate Professors

Suruchi Hasija Arindum Choudhury

Cardiac Biochemistry

Professor Incharge

Lakshmy Ramakrishnan

Scientist-I

Manoj Kumar Tembhre Ransi Ann Abraham

Technical Officer

Rajiv Kumar Saroj Rana

Cardiac Nuclear Medicine

Professor

Chetan D Patel

Cardiac Pathology

Professor

Ruma Ray

Additional Professor

Sudheer Kumar Arava

Cardiovascular Radiology and Endovascular Interventions

Professor and Head

Sanjiv Sharma (upto 30 April 2021)

Priya Jagia (from 1 May 2021)

Additional Professor

Sanjeev Kumar

Assistant Professors (Contract)

Amarinder Singh Malhi

Niraj N Pandey

Manish Shaw

Vineeta Ojha

Stem Cell Facility

Professor and Head

Sujata Mohanty

Blood Transfusion Services

Chief Medical Officer–Sr Adm Grade

Anjali Hazarika

Assistant Professor

Gopal Patidar

Chief Tech Officer

Bijay Majhi

Gulshan Mehta

Gajendra Singh Chauhan

PS Rajput

Anita Rani

HIGHLIGHTS

Cardiology

The Department catered to nearly 65,000 outpatient visits even during the pandemic and a substantial number of teleconsultations. More than 3,500 patients underwent interventional procedures including angioplasty, pacemakers, device implantations and balloon valvoplasties even during the COVID-19 pandemic. We offered cardiology services in COVID and non-COVID areas during these challenging times.

During this period, the Department participated in several research projects studying patients across a wide spectrum of cardiac diseases. Important publications relating to STEMI, hypertension, heart failure, rheumatic heart disease, and congenital heart disease were published in high-impact scientific journals. We organised a few major cardiology meetings including the Pediatric cardiac society of India (PCSI 2021) and the CSI Delhi branch meeting. The faculties of the department are part of major cardiology journals including the Indian heart journal, Annals of pediatric cardiology and JPCVS. Various faculty members were part of important committees.

In addition to patient care, research and teaching, the Department was involved in a major way in furthering the academic discourse in cardiology in the country. Faculty members from the Department have been elected to executive positions in the national and regional cardiology bodies and have helped refocus on the academic agenda.

Cardiac Thoracic Vascular Surgery

Even when COVID-19 pandemic restricted the working of the entire AIIMS, the Department of CTVS was actively involved in pursuing the goals of patient care, teaching and research in the subspecialty of Cardiothoracic and Vascular surgery. Despite an evolving situation, a total of 2405 patients underwent various cardiac surgical cardiac procedures. These encompassed the entire spectrum of Cardiothoracic and vascular surgery. Even in such a situation, five patients underwent cardiac transplantation; in three of these, the donor hearts were procured from outside Delhi in collaboration with institute outsiders AIIMS utilising all available resources in a timely and efficient manner. Even successful transplant was done after procuring heart a thousand miles away.

In collaboration with department of Cardiology, more than 6500 patients were treated on an in-patient basis and close to 83,000 patients were attended to in the outpatient services. Before resumption of normal outpatient services, an unlimited number of patients were provided teleconsultation on dedicated telephone numbers.

Another important focus of the department was on research, publications, and collaboration with National and International centers. The departmental faculty participated actively in webinars and physically attended and delivered invited lectures as and when feasible, and paper presentations were exclusively online as per part of webinars. The departmental faculty delivered 42 invited lectures and papers at various conferences and had more than 35 publications in peer reviewed national and international journals of repute.

Steps taken to improve patient care activities

The department started the “Anticoagulation Clinic” on Sunday to facilitate the follow up of patients of valvular heart surgery who are mostly from underprivileged section of society. This not only provides all the desired amenities in a single visit, but it also prevents loss of wages. It is first of its kind initiative in India which provides all the required services to follow up patients on walk-in basis.

Action Plan for 2022-2023

Besides all the current activities, the Department plans to undertake following three initiatives:

- To start the lung transplant program
- To initiate hybrid aortic interventions in CTVS OT
- Develop Minimally Invasive Cardiac Surgery

Cardiac Anaesthesiology

The Faculty and the Resident doctors from the department of Cardiac Anaesthesia are awarded at National and International Conferences. All Professors and Additional Professors had been examiners for various DM Cardiac Anaesthesia, MD Anesthesia and DNB anaesthesia courses all over India.

Department has been a pioneer in starting a fellowship in Pediatric Cardiac Anaesthesia and approval sanctioned to start a fellowship in vascular Anaesthesia soon

All the faculties in the department are the Editors, Editorial Board/Review members of various national and international Cardiac Anaesthesia, Anaesthesia and Echocardiography journals

Dr. Neeti Makhija was felicitated in the inaugural function of the 16th Annual Perioperative and Critical Care Echocardiography workshop from 11 March 22-13 March 22 at PGIMER, Chandigarh

Dr Poonam Malhotra is continuing as the President of SCA-Delhi and NCR Branch (nonelected)

She is appointed as Guest Editor of JAPI – an International journal in Medicine and Healthcare

She is nominated as President-Elect of the South West Asia and Africa Chapter of the. Extracorporeal Life Support Organisation (SWACELSO) for the year 2022-23

She is Re-nominated as “Fellow of International Society of Cardiovascular Ultrasound: 2021-22” by the International Society of Cardiovascular Ultrasound (ISCU) Society, Alabama USA, for my contribution to Echocardiography.

Continuing as Founding Secretary and Chairman Academics of “The Simulation Society”

Editor-In-Chief. Journal of Cardiac Critical Care, 5. 1, 5.2 and 5.3 issues of JCCC

Principal Editor of Book entitled “Hypertension: New Frontiers – textbook of Cardiology” Edited by Dr. HK Chopra published by Jaypee Publishers, 2021; ISBN: 978-9351521099

Content provider for online Fellowship in Cardiac critical care (FICCC), Fellowship in Advanced Echocardiography (FIAE) and Fellowship in Basic Echocardiography (FIBE) online Examination, conducted by The Simulation Society (TSS) and Journal of Cardiac Critical Care (JCCC).

Dr. Minati Choudhury was felicitated in the inaugural function of the 16th Annual Perioperative and Critical Care Echocardiography workshop from 11 March 2022-13 March 22 at PGIMER, Chandigarh

She was invited faculty at Royal university hospital, Liverpool

Dr. Vishwas Malik was Examiner for DNB Cardiac Anaesthesia Exam at SGRH, New Delhi (July 2021)

He was Nominated as Dean (Academics) of the Indian College of Cardiac Anaesthesia (Academic wing of IACTA) February 2022

He was Renominated as member Editorial Board Annals of Cardiac Anaesthesia (March 2022)

Dr. Suruchi Hasija is a Reviewer for the journal 'Journal of Anaesthesiology Clinical Pharmacology' since August 2021

Dr. Arindam Choudhury received a Certificate of appreciation award for academic contribution to the SET facility programs from the Director, AIIMS New Delhi during a faculty felicitation ceremony in February 2022

Most faculty members are on the Editorial/ Advisory board of the journal.

52 publications by the Department of Cardiac Anaesthesia published in various national and international journals.

The faculties of the Department attended several international conferences and presented papers /delivered lectures Under the Stalwart leadership of Professor Sandeep Chauhan, Head, Cardiac Anaesthesia and Critical Care, now the Chief of CT Centre, AIIMS, New Delhi, the faculties and residents of the department in both Phase II and Phase III of COVID-19 Pandemic, rendered round the clock ICU and ward management services of COVID-19 patients with PPE and all universal precautions. Morbidity, ventilatory management, ICU positioning and all allied critical care and administrative issues were managed in an exemplary manner along with the Department of Medicine and other allied departments of AIIMS. It was a great learning experience.

Cardiac Biochemistry

The faculty and scientists of the department have several extramural grants as Chief Investigators. Three students are currently pursuing PhD and the faculty from cardiac biochemistry is involved in 6 other PhD theses as co-guide. The faculty of the department is involved as technical advisory committee members for a nutrition survey being conducted by UNICEF and the health ministry. The faculty from the department is also a member of the technical advisory committee for AP government for a project on chronic kidney disease. This is in addition to being an expert member of the project review committee for ICMR in the area of non-communicable diseases and Endocrinology.

Cardiac Nuclear Medicine

Nuclear Medicine in Cardiothoracic Centre (CTC) performs diagnostic nuclear cardiology procedures and is equipped with a Dual Head SPECT-CT Gamma Camera. This year the number of elective diagnostic procedures performed were relatively less due to the lockdown during the COVID pandemic, however, the department was functional during the entire period and provided services to in-patients in the cardiology department and to cancer patients from IRCH awaiting chemotherapy. The unit was also actively involved in teaching and research work. Postgraduate students pursuing an MD degree in Nuclear Medicine and MSc. Nuclear Medicine Technology was trained on a rotational basis in nuclear cardiology procedures. I was involved in the thesis or research paperwork of 19 DM, MD, PhD and MSc. (Nuclear Medicine Technology) students where nuclear cardiology is part of their research work. Myocardial perfusion SPECT with Tc99m-labeled tracers and PET studies with F-18 FDG were routinely performed. We routinely use non-FDG tracer like Gallium-68 DOTANOC for cardiac sarcoidosis and inflammatory pathologies, the results of which were published in peer-reviewed journals. We have started imaging for cardiac amyloidosis using Tc99m Pyrophosphate (PYP) and are participating in a project titled "Transthyretin Amyloid Cardiomyopathy study (iTAC study)" funded by International Atomic Energy Agency, Austria. I am also Chief Investigator in an international multi-center research project titled "International study on imaging in Cardio-Oncology Study (iCOS)", funded by International Atomic Energy Agency, Austria.

Cardiac Pathology

Routine diagnostic reporting of Histopathology & Cytopathology cases

- Teaching of undergraduate students (Lectures, practical's, seminar, Group discussion, Clinicopathological case discussion, gross and microscopy demonstration)
- Teaching of Postgraduate students
- Teaching of Superspeciality students (DM, Mch)
- Coordinating post graduate seminars, journal clubs
- Conducting cardiopulmonary Pathology interdepartmental conferences
- Research and developmental activities, especially related to Cardiac and Pulmonary and Dermatopathology Pathology
- Departmental maintenance and in charge of departmental library committee
- Regular contribution of MCQ based questions to AIIMS Examination section
- Other duties as & when rendered by the department and the Institute

Cardiovascular Radiology & Endovascular Interventions

Education: In the time of this pandemic the department has shown an exemplary examples of leading medical education through digital platforms. We organised the word congress of emergency radiology on 23-25 April 2021 and the first virtual world round table conference for the propagation of medical education with a major focus on the Covid pandemic. The department also organised various online CME program for education and teaching on various aspects of cardiovascular imaging and endovascular interventions. The faculty are members of editorial boards and reviewers for numerous scientific journals.

Research: The departmental faculty has been running research projects and a thesis. In the time of pandemic, we published various scientific papers in national and international journals focusing on the role of different imaging modalities (CT/MRI) in the Covid pandemic. Papers were presented at an international meeting. In addition, chapters were published in books.

Clinical care: The department continues to provide cardiovascular imaging and vascular interventional treatment services to patients referred from various specialty departments in the hospital. In the time of Pandemic the faculties and staffs were given adequate training on how to handle Covid Pandemic and were deployed in various Covid and non-Covid areas for adequate care of the patients.

Action plan for the coming year: The department is planning to set up state of art Cardiac MRI machine for dedicated cardiac imaging 24x7. The department has created first of its kind educational forum named as Cardiovascular Radiology educational forum (CVREF) with the primary goal of teaching and education and the department is looking forward to organize worldwide educational activities.

Stem Cell Facility

It is committed to rendering excellent patient care services with an integral part dedicated towards basic, preclinical and clinical research in Stem Cell & Regenerative Medicine, during the past financial year, 2021-2022. Department of Biotechnology (DBT), Govt. of India has extended its financial support in Phase II from July 2017-December 2022, towards developing this Facility as a Centre of Excellence in Stem Cell Research. Overall, the Facility is currently engaged in 11 ongoing projects in collaboration with other departments of AIIMS and funded by DBT, ICMR, DST, IUSSTF, AIIMS etc. In terms of ad-hoc manpower, a dedicated team of 07 Ph.D, researchers, and 2 MD, DM students are registered for a degree, along with a team of 04 Scientists currently recruited in Govt. funded projects at the Facility. In the current year, the Facility has successfully published a total of 25 research publications in high impact peer-reviewed journals presented at various scientific forums (meetings, conferences). Dr Mohanty, is involved in several reputed international scientific organisations as a member of the editorial board committee in Scientific Reports (Nature publishing group), Translational Surgery, current Trends in Stem cells and Regenerative Medicine, Insights in Stem Cells, etc. She is also an active member of various International & National bodies like the International Society for Cellular Therapy (ISCT), the International Society for Stem Cell Research (ISSCR) and the International Society of Biological Chemists. During this financial year, the Facility has initiated scientific collaborations with five international universities (University of Michigan, Bridgeport University, Indiana University and Purdue University, USA and Iran University of Medical Sciences, Iran).

Blood Transfusion Services

The Blood Transfusion services of C.N. Centre caters to round-the-clock transfusion needs of patients admitted in C.N Centre of AIIMS by collecting, processing and providing safe and quality blood and blood components. The activities include both in-house and outdoor blood collection, blood donor motivation and pre-donation and post-donation counseling, blood component preparation, various serological tests and special procedures like apheresis and therapeutic phlebotomy.

Components like packed red cells, plasma, fresh frozen plasma, platelet-rich plasma, platelet concentrate, cryoprecipitate, leucodepleted red cells and platelets are available in adequate nos. at all times. Facility for Apheresis procedures and autologous donation is available. Surplus plasma is being sent for plasma product fractionation. Blood components are subjected to irradiation for heart transplant patients.

Serological tests performed in the BTS include tests for blood grouping, screening for irregular antibodies, and compatibility tests using the latest technology like column agglutination and SPRCA assay. Every unit of blood collected is tested for transfusion transmissible infections like Hepatitis B, Hepatitis C, HIV- 1 and 2, syphilis, and Malaria. Automation is used in most of the laboratories in the department for better output and quality. Donor blood samples are also being subjected to NAT (Nucleic Acid Amplification test) screening as an additional screening test to detect HIV/HCV/HBV and thus improve blood safety.

The quality management system is in place for its products like blood and blood components, equipments, processes, and services. The BTS also participates in the External Quality Assessment Scheme by SDMH Jaipur and IRCS Mumbai, for its various Lab Tests.

Haemovigilance, the department participates in the Haemovigilance Programme of India (HvPI) for both recipient as well as donor haemovigilance on a regular basis.

Pneumatic Tube System is available for transporting Patient blood samples and forms.

Computerisation of the Blood Bank procedures through e-blood bank software module by NIC, for real-time data generation and integration with the HIS is in place.

EDUCATION

Cardiology

The Department of cardiology is involved in the education and training of undergraduate, and postgraduates. The daily online academic activities include journal club, mortality meeting, cath conferences, short and long seminars, debates, clinical case discussions and spotters by faculty.

CMEs/Workshops/Symposia/National and International Conferences

STEMI council CSI National Conference 2021, Online, 25 - 26 September, 2021, New Delhi

21st Annual Conference of Pediatric Cardiac Society of India (PCSI) PCSI 2021, AIIMS, 16-24 October 2021, New Delhi

First Indian Cardiovascular Research Convergence (ICRC), AIIMS, 28 November 2021, New Delhi

Cardiological Society of India – Delhi Branch, Hotel Ashoka, 26- 27 March 2022, New Delhi

Lectures delivered

Anita Saxena: 5 SS Kothari: 3 Ambuj Roy: 5 S Ramakrishnan: 12 Saurabh K Gupta: 10

Cardiac Thoracic Vascular Surgery

The department was actively involved in the teaching of undergraduates, post-graduates, MCh students, BSc, and MSc Nursing students. During the COVID-19 pandemic, academic activities included regular online teaching activities comprising journal club presentations, mortality meetings, seminars, debates, clinical case discussions. The departmental faculty was actively involved in examiner panels of reputed universities.

Currently, 27 students are pursuing MCh in CTVS, 6 are pursuing DM in cardiac surgical intensive care. Seven students have completed and passed in MCh in CTVS. Six qualified post-MCh Senior Residents have actively contributed towards the clinical and educational activities of the department. Twenty postgraduates from the department of general surgery, the department of cardiology and 10 physiotherapists have been provided term clinical training in the department.

Seminars

Annual meeting of Indian Society of Heart & Lung Transplantation (a virtual conference) in AIIMS, New Delhi from 26-28 November 2021.

Lectures Delivered

**Shiv Kumar Choudhary: 23 Milind Hote: 1 Sachin Talwar: 3
Manoj Kumar Sahu: 3 Sarvesh Pal Singh: 5 Ummed Singh: 1**

Oral papers/posters presented: 1

Cardiac Anesthesiology

Six DM candidates including 1 sponsored and 4 other MD-Junior resident doctors from Main Anesthesia department have undergone superspecialty training in Cardiac-Thoracic-Anesthesia. 11 DM candidates are remaining in the department along with 2 Non-DM candidates. 1 candidate is pursuing fellowship in Paediatric Cardiac Anaesthesia. Zero Candidates including zero faculties are doing PhD in the department.

Lectures delivered

**Neeti Makhija: 7 Poonam Malhotra Kapoor: 41 Minati Choudhary: 19
Sambhunath Das: 3 Parag Gharde: 1 Vishwas Malik: 2 Suruchi Hasija: 3
Arindam Choudhury: 2**

Oral papers/posters presented: 7

Cardiac Biochemistry

1. PhD students-as chief guide-3
2. PhD students-as co-guide-6
3. Involved in undergraduate teaching

CMEs/Workshops/Symposia/National and International Conferences

Lectures delivered

R Lakshmy: 2 Manoj K Tembhre: 2

Oral papers/posters presented: 1

Cardiac Nuclear Medicine

- Number of lectures for undergraduates allotted & delivered: One
- No. of Postgraduate students: 54 (28 MD Nuclear Medicine students & 26 MSc. Nuclear Medicine Technology students on rotational basis in Nuclear Cardiology)
- No. of Thesis/research papers completed: 2
- Moderator in Journal Club/Seminars/Intra-department lectures: 8
- No. of new thesis started: 10
- 'On site' teaching of MD students while reporting clinical studies

Lectures delivered

Chetan D Patel: 3

Oral papers/poster presented: 6

Cardiac Pathology

- Routine diagnostic reporting of Histopathology & Cytopathology cases
- Teaching of undergraduate students (Lectures, practical's, seminar, Group discussion, Clinicopathological case discussion, gross and microscopy demonstration)
- Teaching of Postgraduate students
- Teaching of Superspeciality students (DM, MCh)
- Coordinating postgraduates seminars, journal clubs
- Conducting cardiopulmonary Pathology interdepartmental conferences
- Research and developmental activities, especially related to Cardiac and
- Pulmonary and Dermatopathology Pathology
- Departmental maintenance and incharge of departmental library committee
- Regular contribution of MCQ based questions to AIIMS Examination section
- Other duties as & when rendered by the department and the Institute

CMEs/Workshops/Symposia/National and International Conferences:

1. Conducted Immunopathology workshop in the Indian association of heart and lung transplant society. 26 November 2021

Lectures delivered

Sudheer Kumar A: 4

Cardiovascular Radiology & Endovascular Interventions

Teaching:

Extra-departmental

- Undergraduates: lectures on basics of cardiovascular imaging and vascular interventions
- Postgraduates: Cardiac Radiology quiz, moderating seminars in departments of allied specialties viz. Medicine, Surgery, Gastroenterology, Cardiology and Cardiothoracic Surgery
- Clinico-radiology meetings with Department of Cardiology and CTVS
- Participation in Clinical Combined Rounds and Clinical Grand Rounds with Allied specialties

Intra-departmental

- Daily case presentations
- Weekly journal clubs and seminars

Training

Training of junior and senior radiology residents, senior residents in Cardiology, CTVS and Cardiac Anaesthesia, and external observers in techniques of cardiovascular imaging and vascular interventions

CMEs/Workshops/Symposia/National and International Conferences:

1. Virtual Conference : Word Congress of Emergency Radiology; 23-25 April, 2021, AIIMS , Delhi
2. Cardiovascular Radiology Education forum: AIIMS primer in cardiovascular Radiology; 20-21 November 2021. The department has created first of its kind educational forum named as Cardiovascular Radiology educational forum (CVREF) and successfully conducted hybrid teaching program with participation across the globe.

Lectures delivered

Priya Jagia: 16

Niraj N Pandey: 9

Sanjeev Kumar: 20

Manish Shaw: 3

Amrinder Singh Malhi: 4

Vineeta Ojha: 7

Oral papers/poster presented: 2

Stem Cell Facility

- No. of PhD students: 7
- No. of Thesis completed: 2
- No. of new thesis started: 1
- No. of DM & MD: 5
- Short term training: 5

S. No	Program	Number of Students
1	M.Sc.	NA
2	Ph.D.	07
3	DM & MD	05
4	Training: a. Short term a. Long term	05 NA

CMEs/workshop/Symposia/National & International conferences

1. Workshop on 'Emerging trends in translational application of stem cell research', 25-27 February 2022, New Delhi
2. A talk on 'In vivo vasculogenic reprogramming: tissue nano transfection' by Dr Chandan Sen, Indiana University , 19-20 April 2021, New Delhi
3. Indo-US Meeting under IUSSTF scheme, 11 November 2021, New Delhi

Lectures delivered

Sujata Mohanty: 7

Blood Transfusion Services**Lectures delivered**

Anjali Hazarika : 1

Gopal Kumar Patidar: 9

Oral papers/Posters presented: 2

RESEARCH**Cardiology****Funded projects*****Ongoing***

1. A global registry to study the demographics, socioeconomic and clinical factors, etiologies, pathophysiology, management, barriers to outcomes of heart failure patients. (G-CHF), Dr. Ambuj Roy, Population Health Research Institute, Canada, 7 years, 2016-2023, Rs 98,00,000

2. A multicenter study to evaluate long-term safety and tolerability of open label sacubitril/valsartan in pediatric patients with heart failure due to systemic left ventricle systolic dysfunction who have completed study CLCZ696B2319, Dr. S. Ramakrishnan, Novartis Healthcare Pvt. Ltd, 2 years, 2020, Rs 14,38,200
3. A randomized controlled trial of influenza vaccine to prevent adverse vascular events (IVVE), Dr. Ambuj Roy, MRC (UK) /McMaster University, Canada, 4 years, 2016-2021, Rs 2,16,00,000
4. A randomized controlled trial to evaluate the efficacy of yoga on Quality of Life and psychophysiological parameters among adolescents and adult, one year post operated CCHD patients, Anita Saxena/S Ramakrishnan, DST, 3 years, 2020-2022, Rs 46.19 lakhs
5. Aortic & Lung Inflammation following COVID: A marker of cardiac events, Dr. Ambuj Roy, Department of Science & Technology, 1.5 years, 2021- End of 2022, Rs 17,46,948
6. Center of Excellence for Yoga and Ayurveda, Dr. Gautam Sharma, Ministry of AYUSH, Govt. of India, 5 years, 2017-2022, Rs 8.09 crores
7. Clinical efficacy of Arjuna ksheerpaka [A traditional Ayurvedic formulation of stem bark of Terminalia Arjuna (Roxb. ex DC.) Wight & Arn.] to standard treatment care in post CABG patients. A double blind, randomized placebo-controlled pilot study, Dr. Gautam Sharma, Dabur India Ltd, 3 years, 2019-2023, Rs 17, 18,640
8. Comparison of Video laryngoscope with direct laryngoscope for intubation by Cardiology residents: A randomized mannequin study, Satyavir Yadav, AIIMS, 2, 2020-2021, 1.5 lacs
9. Developing and testing a Collaborative Quality Improvement initiative for prevention of cardiovascular disease in India (C-QIP study)., Dr. Ambuj Roy, NIH, USA, 5 years, 2019-2024, Rs 10,05,040
10. Effect of Yoga- based intervention on VPC burden, quality of life and LV functions in patients with Ventricular premature complexes (VPC): A Randomized Controlled Trial. Dr. Gautam Sharma, DST-SATYAM, 3 years, 2021-2024, Rs 3,11,6064
11. Efficacy of YOGA in Indian Patient with Coronary Artery Disease (YOGICAD)., Dr. Gautam Sharma, Ministry of AYUSH, Govt. of India, 5 years, 2017-2022, Rs 1.55 crores
12. Establishing a repository of biological samples for coronary artery disease on a cohort of patients undergoing angiography at a Tertiary Hospital, Dr. Ambuj Roy, ICMR, 3 years, 2022-2025, Rs 1,69,48,580
13. Identification and functional validation of candidate microRNA biomarkers in coronary artery disease: An Exploratory Study, Dr. Ambuj Roy, ICMR, 3 Years, 2022-2025, 25,03,020
14. Inflammatory Cardiomyopathy: A study using Artificial Intelligence to validate a diagnostic algorithm combining Novel Proteomic Biomarkers, Non Contrast MRI and Somatostatin receptor based PET/CT, Sandeep Seth, ICMR, 3 years, 2021-2022, Rs 50 lakhs
15. Multicenter, open-label, study to evaluate safety, tolerability, pharmacokinetics and, pharmacodynamics of LCZ696 followed by a 52-week randomized, double-blind, parallel group, active-controlled study to evaluate the efficacy and safety of LCZ696 compared with enalapril in pediatric patients from 1 month to < 18 years of age with heart failure due to systemic left ventricle systolic dysfunction, Dr. S. Ramakrishnan, Novartis Healthcare Pvt. Ltd, 3 years, 2019, Rs 11,38,720
16. Neurodevelopmental outcomes in infants undergoing surgery for congenital heart defects – a prospective multicentre cohort study, Saurabh K Gupta, ICMR, 4 years, 2021, Rs 22.85 lakhs
17. Prediction of Heart Failure adverse events using Machine learning, Sandeep Seth, DBT, 2 years, 2020-2021, Rs 55 lakhs
18. Role of virtual dissection in clarifying morphology of double outlet right ventricle (DORV), Saurabh K Gupta, AIIMS, Delhi, 2 years, AIIMS, New Delhi, Rs 5 lakhs
19. Semaglutide effects on cardiovascular outcomes in people with overweight or obesity. (SELECT), Dr. Ambuj Roy, Novo Nordisk, 5 years, 2019-2024, Rs 30,80,000

Completed

1. Childhood and young adult predictors of myocardial structure and function at age 45 years in the New Delhi and Vellore Birth Cohorts, India, Dr. Ambuj Roy, British Heart Foundation, 4 years, 2016-2020, Rs 20,00,000
2. DHR funded study of prognostic role of proteomics and other biomarkers in heart failure., Sandeep Seth, DHR, 4 years, 2017-2021, Rs 79.48 lakhs
3. Effects of a yoga-based cardiac rehabilitation programme (Yoga-CaRe) on cardiovascular health: a clinical trial (India) and mechanistic study (UK), Dr. Ambuj Roy, ICMR-MRC (UK, 4 years, 2014-2018, Rs 24,00,000
4. Endothelial function and markers of valve damage in Acute rheumatic heart fever, Dr. S. Ramakrishnan, DHR, 3 years + 1 year Extension, 2014–2019, Rs 43,10,908
5. Funded study of Yoga life style changes in heart failure, Sandeep Seth, DST, 3 years, 2018-2021, Rs 46.47 lakhs
6. National Heart Failure Registry (NHF), Dr. Ambuj Roy, Indian Council of Medical Research, 3 years, 2018-2021, Rs 24,00,000
7. Population Prevalence of Vitamin D deficiency in Urban and Rural Delhi and its Association with Cardiovascular Disease risk factors, Dr. Ambuj Roy, Department of Health and Research, 3 years, 2016 -2019, Rs 28,00,000
8. Pre-clinical Development of penicillin Drug Delivery System for Prophylaxis of Rheumatic Heart Disease, Dr. S. Ramakrishnan, ICMR, 3 years, 2017, Rs 64,49,184

Departmental projects

Ongoing

1. A PROBE trial to evaluate the efficacy of yoga-based cardiac rehabilitation in Post-Percutaneous Coronary Intervention patients
2. Cardiac MRI in acute rheumatic fever
3. Characterization of atrial functional mitral regurgitation
4. Correlation of Imaging and other characteristics with clinical features in Ebstein's anomaly
5. Echocardiographic features of rheumatic mitral valve disease
6. Imaging characteristic of CCTGA
7. Lung ultrasound pre and post PDA device closure
8. Prevalence of HFpEF IN Outpatients
9. Utility of CT in PHVT
10. Yoga in coronary artery disease and quality of sleep. YOGA-CADETS

Completed

1. Influence of diabetes and outcome in heart failure
2. Retrospective study of in-hospital outcome in children admitted with CHD & infection

Collaborative projects

1. Evaluation of a liposome-based cholesterol efflux assay against a macrophage-based efflux assay for measurement of reverse cholesterol transport capacity of HDL. (Co-I), Dept. of Biochemistry, AIIMS, New Delhi
2. Identification of delays and barriers to acute cardiac care in NCR. (Co-PI), Dept. of Community medicine, AIIMS, New Delhi
3. Mission Delhi, Department of Emergency medicine & ICMR
4. Pre-clinical Development of penicillin Drug Delivery System for Prophylaxis of Rheumatic Heart Disease, NIPER, Punjab
5. STEMI ACT, Department of Emergency medicine & ICMR
6. The Integrated Tracking, Referral, and Electronic Decision Support, and Care Coordination (I-TREC) Platform (Co-PI), Dept. of Endocrinology, AIIMS, New Delhi, Emory University, Atlanta, USA
7. To Investigate the role of J receptors as primary causative factor leading to dyspnoea on exertion in patients with pulmonary hypertension 1(i) with and (ii) without atrial septal defect and 2 with connective tissue disease, Exertional Breathlessness Studies Laboratory (DST)/ Vallabhbbhai Patel Chest Institute

Cardiothoracic and Vascular Surgery

Funded projects

Ongoing

1. Dafodil-1: A prospective, multicenter, single arm clinical study to evaluate safety and performance of the Dafodil pericardial bioprosthesis in patients who require replacement of their natural or prosthetic aortic or mitral valve., Dr SK Choudhary, Meril Life Sciences Pvt Ltd, Survey No 135/139, Bilakhia House, Muktanand Marg, Chala, Vapi-396191, 5 years, 2019-2024, 30 lakhs
2. KAP study on the scientific awareness & health practices regarding ergonomics in school children and its effect on musculoskeletal and respiratory system, Dr S K Choudhary, Department of Science & Technology, Government of India, 3 years, 2019-2022, Rs 48.2 lakhs
3. Randomised control study to evaluate the efficacy of Ayush Card tea Raj Yoga meditation versus conventional treatment on clinical recovery and post-operative outcomes following mitral valve open heart surgery, Dr SK Choudhary, Ministry of AYUSH, AYUSH Bhawan, INA New Delhi-23, 3 years, 2019-2022, Rs 55 Lakhs

Departmental projects

Ongoing

1. A study of presentation surgical management and outcomes of paediatric mitral valve diseases
2. An assessment of neurodevelopmental outcomes in children with transposition of great arteries with intact ventricular septum who underwent primary arterial switch operation in infancy with integrated ECMO support compared to children who underwent surgery without integrated ECMO support.
3. Analysis of immediate and short-term outcomes of pulmonary root transfer surgery- a retrospective
4. Bidirectional superior cavopulmonary anastomosis: a comparison of outcomes of patients upto 6 months versus more than 6 months to one year age
5. Comparison of recovery of pulmonary function in patients with LV dysfunction undergoing CABG on pump vs offpump
6. Comparison of Del-nido cardioplegia solution and microplegia in paediatric patients undergoing elective repair of tetralogy of Fallot-a prospective randomized clinical trial
7. Comparison of early and mid-term outcomes of mechanical versus bioprosthetic valve in pulmonary position in TOF patients-primary surgery and redo surgery (corrected TOF).
8. Early outcomes of isolated aortic valve reconstruction using glutaraldehyde fixed autologous pericardium – Ozaki procedure

9. Effect of peri-operative use of vasopressin on pleural effusion after Fontan operation
10. Efficacy of dexmedetomidine and amiodarone in conversion of junctional ectopic tachycardia to sinus rhythm or to control heart rate in postoperative cardiac surgery patients.
11. Long term result following arterial switch operation for transposition of great arteries with intact ventricular septum operated at age more than or equal to 2 months of age
12. Outcomes of surgical correction of coarctation of aorta in adults-retrospective study.
13. Predictive value of metabolomic profiling in diagnosis and prognosis of rheumatic valvular heart disease
14. Preoperative use of febuxostat in cardiac surgery- a double blind prospective randomised phase II trial
15. Results of bio prosthetic valves - 20 yrs. Study.

Completed

1. Analysis of outcome of Fontan procedure over last 10 years and factors affecting them.
2. BNP as a predictor of atrial fibrillation in patients undergoing off-pump CABG patients- a prospective observational study.
3. Clinical and radiological features of type a dissection: a retrospective observational study
4. Clinical course and outcomes of heart transplant patients with covid infection.
5. Clinicopathological study and long-term surgical results of right atrial mass
6. Comparing biomarker levels and recovery of ventricular function in patients undergoing operation to the heart (CABG) having unstable angina vs stable angina.
7. Comparison of early outcomes of mechanical versus bioprosthetic valve in pulmonary position in corrected TOF
8. Detection of silent cardiac allograft vasculopathy with speckle tracking echocardiography in heart transplant recipients: a comparative study with conventional endomyocardial biopsy.
9. Early and late outcomes of TAPVC repair done in last 10 years surgical management of mechanical valve thrombosis: 10 years' experience.
10. Effect of leukoreduction on transfusion-related immunomodulation in patients undergoing cardiac surgery.
11. Impact of age, LV mass index, thickness of IVS, direction of movement of IVS on early recovery: morbidity and mortality in ASO in TGA.
12. Ivabradine versus amiodarone in the management of postoperative junctional ectopic tachycardia: a randomized, open label, noninferiority study, JACC: clinical electrophysiology,
13. Modified ultrafiltration & postoperative course in patients undergoing repair of tetralogy of Fallot
14. Outcome of ventilator-associated pneumonia in children after cardiac surgery – a prospective observational study
15. Outcomes of delayed sternal closure in paediatric cardiac surgical patients
16. Pathological comparison of degenerative changes in pulmonary trunk and ascending aorta in patients of bicuspid aortic valve and tricuspid aortic valve
17. Serum vitamin D levels in patients undergoing CABG: correlation with sternal healing after 2 months.
18. Surgical management strategies of TAPVC repair in children less than 2 years
19. Surgical outcome and perioperative management strategies of TAPVC repair in children less than 2 years.
20. The outcomes of tracheostomy in pediatric cardiac surgical patients.
21. Tracheostomy in paediatric surgery patients
22. Tracheostomy in postoperative pediatric cardiac surgical patients—the earlier, the better
23. Use of allopurinol in paediatric cardiac surgery

Cardiac Anaesthesiology

Funded projects

Ongoing

1. Efficacy of SUPAR in cardiovascular Disease, Poonam Malhotra Kapoor, JCCC-TSS research Grant, 1 year, 2021-2022, 5 lakhs
2. Efficacy of SUPAR and FIBTEM in CABG patients, Poonam Malhotra Kapoor, JCCC-TSS research Grant, 1 year, 2022-2023, 5 lakhs
3. Comparison of del nido cardioplegia solution and Microplegia in paediatric patients undergoing elective Repair of tetralogy of fallot - a prospective, Randomised clinical trial, Jaydeep Malakar, Poonam Malhotra Kapoor, AIIMS, 1 year, 2022-2023,
4. To compare the efficacy of subpecto-interfacial (a novel thoracic interfacial plane) block with erector spinae plane block in postoperative pain management for patient undergoing cardiac surgery through midline sternotomy', Arindam Choudhury, AIIMS

Completed

1. Platelet Aggregometry in On-pump CABG, Poonam Malhotra Kapoor, JCCC-TSS Research Grant, 2 years, 2020-2022, 10 lakhs

Departmental projects

1. A comparison of multiple injection costo-transverse block (MICB) and Erector spinae plane block (ESPB) for post-sternotomy pain relief in paediatric patients undergoing cardiac surgery- A prospective, randomized, comparative study

2. Comparison of TEE derived pulmonary venous flow deceleration time, tissue Doppler and diastolic strain indices for estimation of left ventricular end-diastolic pressure in patients undergoing CABG
3. Comparison of the effects of different anaesthetic agents on cardiac electrophysiology parameters in patients undergoing radio-frequency ablation for supra ventricular tachyarrhythmias.
4. Comparison of thoracic fluid content in off pump and on pump coronary artery bypass graft surgery by impedance cardiometry
5. Comparison of thoracic fluid content in off pump and on pump coronary artery bypass graft surgery by impedance cardiometry
6. Outcomes in Low flow ECMO.
7. Speed of intravenous induction of anaesthesia in patients with valvular heart disease.

Completed

1. BNP measurements for on pump and off pump BD Glenn
2. Comparative evaluation of the three point-of-care testing devices; Thromboelastograph (TEG), Rotational thromboelastometer (ROTEM) and Sonoclot analyzer in cyanotic congenital cardiac surgery: a correlation with routine laboratory tests and postoperative bleeding
3. FLEV & FIBTEM A5 as Point of Care Testing in Cyanotic cardiac children
4. Role of Echocardiography derived right ventricular function parameters as compared to $P_{RV/LV}$ ratio for evaluation of perioperative right ventricular function in children undergoing intracardiac repair for tetralogy of Fallot

Cardiac Biochemistry

Funded projects

Ongoing

1. Elucidating the role of alarmins in triggering the Neutrophil Extracellular Trap (NETs): Implication in immune regulation and skin homeostasis in psoriasis, Dr Manoj K. Tembhre, AIIMS Intramural grant, 2 years, 2021-2023, Rs 10 lakhs
2. Elucidating the role of TNIP1, IL2B and NFkBIA and their target micro RNA in regulating the inflammation and skin homeostasis in psoriasis. (ICMR-1125) as PI, Dr Manoj K. Tembhre, ICMR, New Delhi (extramural grant), 3 years, 2019-2022, Rs 45 lakhs
3. Endothelial colony forming cells (ECFC) functionality in adults born small for gestational age as compared to those born appropriate for gestational age in the New Delhi Birth Cohort: A possible mechanism linking fetal growth restriction with adult chronic diseases, Dr R. Lakshmy, ICMR, 2 years, 2019- 2021, Rs 40 lakhs
4. Exploring the potential of Exosomes derived from Endothelial Colony Forming Cells (ECFCs) primed with Mesenchymal Stromal Cells (MSCs) as a cell-free therapy for Cardio-Vascular Diseases (CVDs), Dr R. Lakshmy, ICMR, 3 years, 2021-2024, Rs 49 lakhs
5. The effect of Probiotic formulation on iron absorption in iron deficient women of reproductive age: a double-blind, randomised placebo-controlled trial, Dr R Lakshmy, Unique Biotech, 18 months, 2021-2022, Rs 50 lakhs

Completed

1. Deciphering the mechanism of alarmin induced necroptosis and its role in immune homeostasis and inflammation in atherosclerosis, Dr. Manoj K. Tembhre, DST-SERB (Early career research grant award-Extramural), 3 years, 2018-2021, Rs 50 lakhs
2. Defining the role of Neutrophil Extracellular Traps (NETs) in immune regulation and inflammation, Dr. Manoj K. Tembhre, AIIMS, New Delhi (Intramural grant), 2 years, 2017-2019, Rs 10 lakhs
3. Estimating biomarkers in DBS for cardiovascular risk assessment in geriatric population, Dr R. Lakshmy, ICMR, 2 years, 2018-2020, Rs 28 lakhs

Departmental projects

Ongoing

1. Defining the Fcγ receptor based immune landscape in Rheumatoid Heart Disease”
2. Elucidating the intricate network of alarmins-autophagy-necroptosis in driving inflammation, immune regulation and cardiac homeostasis in cardiomyopathy
3. Exploring the potential of Extracellular Vesicles derived from Endothelial Colony Forming Cells (ECFCs) primed with Mesenchymal Stromal Cells (MSCs) as a cell-free therapy for Cardio-Vascular Diseases (CVDs).
4. Factors leading to early onset degeneration of bioprosthetic valves implanted in younger population - A multidisciplinary analysis

Completed

1. Comparing biomarker levels and recovery of ventricular function in patients undergoing CABG, having unstable angina vs stable angina
2. Defining the role of microRNA in the pathogenesis of active generalized vitiligo and skin pigment regulation
3. Study of endothelial progenitor cell (EPC) tetrahydrobiopterin levels and its association with EPC number and function in coronary artery disease patients
4. The study of cardiovascular adversities among Yadav population of Firozabad district, Uttar Pradesh, India

Collaborative projects

Ongoing

1. A single blinded randomized control study to evaluate the effect of rajyoga meditation on biochemical and cognitive correlates of cardiac rehabilitation in patients of surgical repair for congenital heart disease. Cardiac Anesthesia
2. Clinical and immunological factors predicting relapse in patients with pemphigus treated with Rituximab: A prospective cohort study, Dermatology & Venereology, AIIMS,
3. Preoperative intravascular volume status measured by inferior vena cava collapsibility index in patients with pheochromocytoma and paraganglioma undergoing surgical tumour removal – a prospective observational cohort study, Anesthesia
4. The modulation of insulin resistance and HDL quality by adipose tissue ABCA1 and metabolic status, Biochemistry
5. Title of the study: Th2/Th17 inflammation modulating filaggrin expression and disease severity in children with moderate atopic dermatitis Title of the study: Th2/Th17 inflammation modulating filaggrin expression and disease severity in children with moderate atopic dermatitis Th2/Th17 inflammation modulating filaggrin expression and disease severity in children with moderate atopic dermatitis, Dermatology & Venereology, AIIMS

Completed

1. A Randomised Control Trial to access the effectiveness of Nurse-Led Structured Telephonic Heart Failure Management Programme on selected health related outcome variables at 3 months., College of Nursing, AIIMS, New Delhi
2. Defining miRNA signatures in vitiligo and skin pigmentation, Dermatology and Venereology, AIIMS
3. Defining the role of genetic, epigenetic and immunological components involved in the pathogenesis of Alopecia areata, Dermatology and Venereology, AIIMS

Cardiac Nuclear Medicine

Funded projects

Ongoing

1. International study on imaging in Cardio-Oncology Study (iCOS), Dr. Chetan D. Patel, International Atomic Energy Agency (IAEA), 5 years, September 2019 -ongoing, 25,000 Euros

Departmental projects

Ongoing

1. Assessment of small bowel transit on routine gastric emptying scintigraphy: establishment of reference values
2. Clinical profile and outcome of patients with suspected OR confirmed granulomatous myocarditis
3. Compression of Nuclear Medicine Images Using Discrete Cosine Transform
4. Compression of scintigraphic images using Singular Value Decomposition
5. Contrast enhancement of F-18-FDG PET images of Liver scan
6. Design and methods of the YOGICAD study- A probe trial to evaluate the efficacy of yoga based cardiac rehabilitation in Post PCI patients
7. Edge aware contrast enhancement (EACE) of Nuclear medicine images
8. Evaluating the spectrum of cardiac involvement in sarcoidosis.
9. Image Restoration using Blind Deconvolution Analysis
10. Radiolabeling efficiency of a standard vegetarian Indian meal for gastric emptying scintigraphy
11. Role of 99mTc-Pyrophosphate Imaging in detection of transthyretin cardiac amyloidosis (ATTR-cardiac amyloidosis) in high risk population
12. Role of F-18 FDG in mapping Covid-19 functional sequelae in Covid -19 survivors
13. Role of PET-CT in assessment of treatment response to neo adjuvant chemotherapy in primary extraocular retinoblastoma
14. Role of PET-CT in initial staging of small cell lung cancer
15. Scintigraphic image contrast enhancement using Fuzzy Logic
16. Study of prevalence of concomitant Transthyretin Amyloidosis in elderly patients with severe aortic stenosis by PYP scan
17. Texture analysis in Breast Cancer
18. Texture Analysis in Lymphoma Patients
19. Whole gut transit: establishment of reference values

Completed

1. Non-invasive tissue diagnosis – A comparison of the accuracy of parametric mapping on MRI with cardiac PET scan in determining the response to therapy in cardiac sarcoidosis
2. Role of F-18 FDG PET-CT in assessment of initial chemotherapy response in Pediatric Langerhan's cell histiocytosis.

Collaborative projects

Ongoing

1. A study to determine the prognosis of patients with cardiac involvement with sarcoid: development of diagnostic and treatment algorithms, Cardiology, Cardiac Radiology
2. Aortic and lung inflammation following COVID: a marker of cardiac event an Indo-Australian joint project- funded by Department of Science & Technology, Cardiology
3. Diagnostic Accuracy of 68Ga PSMA-11 PET-CT and conventional Imaging for Initial staging of Intermediate and High Risk Prostate cancer Patients (PROCA study), Urology
4. Efficacy of yoga based cardiac rehabilitation in Post-PCI patients: A prospective randomized, open-label, blinded end-point trial- funded by Ministry of AYUSH, CIMR, Cardiology
5. Gastric Emptying Scintigraphy using a Standard Vegetarian Meal: Establishment of Reference Values in Post-Sleeve Gastrectomy Patients on Mid-Term Follow-up, Surgery
6. Inflammatory Cardiomyopathy: A study using Artificial Intelligence to validate a diagnostic algorithm combining novel proteomic biomarkers, non contrast MRI and somatostatin receptor based PET/CT, Cardiology, Cardiac Radiology
7. Transthyretin Amyloid Cardiomyopathy study (iTAC study), Cardiology
8. Use of PET-CT with Gallium-68 labelled PSMA in diagnosis and follow-up of patients with Prostate Cancer, Urology
9. Value of Gated-SPECT MPI for Ischemia-Guided PCI of non-culprit vessels in STEMI Patients with Multivessel Disease after primary PCI- funded by International Atomic Energy Agency, Cardiology

Cardiac Pathology

Funded projects

Ongoing

1. Immunohistochemical characterisation of four common viruses in a clinically suspected cases of viral myocarditis, AIIMS. Research section Intramural, 2 years, 2018-2020, Rs 10 lakhs
2. Clinicopathological correlation and amyloid subtyping in cases of cardiac amyloidosis: AN observational study, DBT-ICMR, 3 years, 2022-2025, Rs 80 lakhs
3. Sudden cardiac death in young: An autopsy and molecular study to identify the cause, ICMR, 3 years, 2019- 2022, Rs 70 lakhs
4. To evaluate the genetic association in undiagnosed idiopathic cardiomyopathy patients, ICMR, 3 years, 2021- 2024, Rs 86 lakhs

Departmental projects

Ongoing

1. Clinicopathological study of post-transplant endomyocardial biopsies
2. Detection of streptococcal bacterial DNA with polymerase chain reaction in excised valvular tissue of RHD patients
3. Histopathological evaluation of surgically excised rheumatic heart valves
4. MYH7 mutations in idiopathic cardiomyopathies
5. Sudden cardiac death in young: An histopathological and molecular study to identify the cause

Completed

1. A comparative study of efficacy and composition of various cell populations of extracted hair follicle outer root sheath cell suspension prepared using a single enzyme (trypsin) and multiple enzymes (trypsin, collagenase and dispase) for transplantation in vitiligo
2. Expression of Matrix Metalloproteinase-2, Matrix Metalloproteinase-9, Tissue Inhibitor Metalloproteinase-1, Tissue Inhibitor Metalloproteinase-2, Collagen I and IV Expression in Thoracic Aortic Aneurysms
3. Fibrillin 1 gene mutation and TGF beta in TAAA of non marfanoid individuals

Collaborative projects

Ongoing

1. Autologous non cultured dermal cell suspension transplantation in treatment of facial volume loss, Dermatology, AIIMS
2. Clinicopathological evaluation of viral myocarditis, Cardiology. AIIMS, New Delhi
3. Comparative evaluation of MicroRNA profiling and cytokine profiling analysis in patients with Pulmonary Sarcoidosis and Mediastinal tuberculosis, Pulmonary Medicine, AIIMS
4. Detection of streptococcal bacterial DNA with polymerase chain reaction in excised valvular tissue of RHD patients, Cardiology, AIIMS
5. Development of a new formulation and packaging for reducing adverse effects and injection pain of Mycobacterium vaccine and its clinical trial in recalcitrant anogenital and extra-genital (common) warts, Dermatology, AIIMS
6. Electron microscopic and genetic study in primary ciliary dyskinesia, Pediatric pulmonology, AIIMS, New Delhi

7. Exploring the phenotypic and functional role of $\gamma\delta$ T cell subsets along with Pattern recognition receptors (PRRs) in the immunopathogenesis of Pemphigus Vulgaris, Pharmacology, AIIMS
8. Finding the correlation of toll like receptors (TLRs) with inflammation in patients with chronic heart failure, Cardiology. Safdarjung hospital
9. Histomorphological and clinical study in patients of ENL reactions, Dermatology, AIIMS, New Delhi
10. Histomorphological study of post-transplant endomyocardial biopsies, Pathology, AIIMS
11. Morphometric study of pulmonary blood vessels in cases of tetralogy of Fallot, CTVS, AIIMS, New Delhi
12. Study of cardiac markers, gross findings and histopathological Changes in heart in cases of suspected cardiac death, Forensic Medicine, AIIMS
13. Study of histomorphological, proteomics and collagen in Rheumatic heart valve specimens, CTVS, AIIMS, New Delhi
14. Study of Sesamol in Bleomycin induced pulmonary toxicity in rat, Pharmacology, AIIMS
15. To the study the etiopathogenesis of Halo nevus, Dermatology, AIIMS, New Delhi

Cardiovascular Radiology & Endovascular Interventions

Funded projects

Ongoing

1. Evaluation of therapeutic angiogenesis induced by intramuscular autologous platelet rich plasma in non revascularisable critical limb ischemia due to peripheral artery disease, Sanjeev Kumar, AIIMS, 2 years, 2019-2022, Rs 4.9 lakhs

Departmental projects

Ongoing

1. A cross sectional study to determine the role of P-31 MR Spectroscopy analysis of PCr-ATP ratio in differentiating Left Ventricular Hypertrophy and Hypertrophic Cardiomyopathy
2. Assessment of image noise and image quality in coronary CT angiography (CCTA) using different strengths of ADMIRE (Advanced modelled iterative reconstruction)
3. Comparison of myocardial deformation pattern on CMR in patients of LVNC with DCM
4. Comparison of the Left Ventricular strain, native T1 & T2 Mapping Parameters in patients with High normal blood pressure vs. Normotensive patients.
5. Endovascular treatment of carbon dioxide angiography in patients with heart failure (COACH): A prospective single center registry
6. Improving Maturation Rates of Haemodialysis Access Arterio-venous Fistula in Chronic Kidney Disease V Patients Using Autologous Adipose Tissue Derived Mesenchymal Stem Cells: A Double Blind, Randomised Placebo-Controlled Trial
7. Peri operative Outcome with embolisation of major aortopulmonary collaterals in Tetralogy of fallot
8. Quantitative multivariate analysis of morphological features of the left atrium, left atrial appendage, pulmonary veins and epicardial fat in recurrence of atrial fibrillation after catheter ablation: a retrospective and prospective study'
9. Role of CEUS in activity in NSAA
10. Role of dual energy CT in tissue iron identification quantification in iron overload syndrome
11. To study the lymphatic morphology & flow pattern in patients of congenital heart disease with Fontan circulation

Completed

1. Comparison of the outcomes of concomitant truncal laser ablation and tributary foam sclerotherapy versus truncal laser ablation alone in patients with lower extremity venous reflux - a single centre randomized controlled trial.
2. Detection of cardiac allograft vasculopathy with dual source computed tomography and MRI in heart transplant recipients: a comparative study with conventional coronary angiography and biopsy
3. Double Blinded Randomised Control Trial evaluating the feasibility, safety and efficacy of Femoral Nerve Block for analgesia in patients with varicose veins being treated by Endovenous Laser Ablation of Great Saphenous vein
4. Non-invasive tissue diagnosis''- a comparison of the accuracy of parametric mapping on MRI with cardiac PET scan in determining the response to therapy in cardiac sarcoidosis
5. Safety and efficacy of genicular artery embolization in patients with moderate knee pain
6. Stent graft migration after thoracic endovascular repair (TEVAR) for thoracic aortic pseudoaneurysm and type B dissection

Collaborative projects

Ongoing

1. Applied novel statistical learning and modeling techniques on CT imaging features for prediction of growth of Stanford Type B Aortic Dissection and real options financial assessment of such health care technology, AIIMS-IIT Project
2. DE-CMR compared with FDG-PET for assessment of viability and prediction of functional improvement in patients with CAD and LV dysfunction, Cardiology
3. Impact of bariatric surgery in reduction of cardiovascular risk in morbid obesity, Surgery

Completed

1. Role of 68 Ga-DOTANOC PET/CT in cardiac sarcoidosis; comparison with cardiac MR, Nuclear Medicine

Stem Cell Facility**Funded projects****Ongoing**

1. Centre Of Excellence for Stem Cell Research: Basic and Translational (Phase-II), Dr Sujata Mohanty, DBT, 5 years, 2017-2022, Rs 292 lakhs
2. Development of Amniotic Membrane and Nano-Fiber Composite Scaffold for Tissue Regeneration, Dr Sujata Mohanty, ATGC, 2 years, 2022-2024, Rs 82 lakhs
3. Development of exosome based off the shelf product for wound healing, Dr Sujata Mohanty, DBT-BIRAC, 2 years, 2020-2022, Rs 50 lakhs
4. Indo-US joint center: "Cellular reprogramming in Regenerative Medicine" with University of Indiana, Dr Sujata Mohanty, IUSSTF, 3 years, 2019-2022, 38 lakhs
5. Joint Call for Collaborative Research Projects between University College London (UCL) and All India Institute of Medical Sciences, Dr Sujata Mohanty, AIIMS, 1 year, 2020-2021, Rs 5 lakhs
6. Strategies to enhance stem cell delivery to the retina using iron oxide nanoparticle, Dr Sujata Mohanty, DBT, 4 years, 2019-2023, Rs 85 lakhs
7. To Investigate the Role of human Mesenchymal Stem Cell Derived Exosomes as a Cell Free Therapeutic Approach for amelioration of symptoms of autism spectrum disorders, Dr Sujata Mohanty, DBT, 3 years, 2022-2025, Rs 75 lakhs
8. Understanding the therapeutic role of adult stem cell- neurodegenerative disease, Dr Sujata Mohanty, DBT, 4 years, 2018-2022, 18 lakhs

Department projects**Ongoing**

1. Development of Bioengineered extracellular vesicles derived from human mesenchymal stem cells as a therapeutic intervention for liver disease
2. Development of human amniotic membrane and silk-based 3D printed scaffolds for stem cells and regenerative medicine
3. Elucidating the regenerative capabilities of exosomes derived from tissue specific mesenchymal stem cells in skin injury model

Completed

1. Evaluation of immunomodulatory properties of human mesenchymal stem cells
2. Hepatic regenerative potential of exosomes derived from human mesenchymal stem cells in liver fibrosis model

Collaborative projects

1. 3D printed tracheal grafts for regenerative applications
2. Immunomodulatory properties of mesenchymal stem cells in graft-versus-host-disease
3. Synthesis and characterization of the carbon-based nanostructures from bio-wastes for stem cell differentiation
4. Understanding the role of platelet-neutrophil interaction in dengue pathogenesis

Blood Transfusion Services**Departmental projects****Ongoing**

1. Analysis of current Transfusion Practices in neonatal patients of ≤ 28 Days of Age.
2. Analysis of quality parameters for platelet concentrates prepared using different component preparation techniques
3. Incidence of delayed adverse events in blood donors following whole blood donation in Indian setting
4. Prospective observational study to assess the prevalence of platelet refractoriness and its reasons in patients receiving multiple platelet transfusion
5. Randomized controlled trial to determine the comparing effectiveness of Acute normovolemic haemodilution (ANH) for perioperative blood management in patients undergoing scoliosis surgery

Completed

1. Analysis of ABO antibody titre in healthy blood donors
2. Clinical and serological characterization of autoimmune haemolytic anemia
3. Effect of whole blood donor parameters (age, gender and BMI) on outcome of patients undergoing cardiac surgery
4. Epidemiology of SARS-CoV-2 Antibodies in Healthy Blood Donors and It's Implication in Transfusion Safety
5. Evaluation of effect of early use of Cryoprecipitate on blood components usage in trauma patients with haemorrhagic shock
6. Vasovagal reaction prevention strategies in whole blood donors: a quadri-armed randomized control trial

Collaborative Projects

Ongoing

1. A study of immune responses in the pathophysiology of human Chronic Pancreatitis, Dept of Biochemistry, AIIMS
2. Comparing the Vascularising potential of MSCs and MAPCs in monoculture and coculture systems with human OECs under normoxia and hypoxia, Stem cell Facility, AIIMS
3. Complement factor H (CFH)-related protein 1 (CFHR1) and its role in maintenance of immunological tolerance”, Regional Centre for Biotechnology, Faridabad
4. Development of Diagnostics and experimental therapeutics using CRISPR-based technologies, Dept of Biochemistry, AIIMS
5. Effect of Hyperglycaemia on Macrophage Function in Pathophysiology of Pulmonary TB, Dept of Biochemistry, AIIMS
6. Evaluation of Mesenchymal Stem Cell derived exosomes on neutrophil –induced tissue damage in the animal models of liver and heart disease, Stem cell Facility, AIIMS
7. Exploring the potential of Extracellular vesicles derived from Endothelial Colony forming Cells (ECFCs) primed with Mesenchymal Stromal Cells (MSCs) as a cell free therapy for Cardiovascular Diseases (CVDs), Dept of Cardiac-Biochemistry, CNC, AIIMS
8. Regulation of HIV Reservoirs through Autophagy, Dept of Biochemistry, AIIMS
9. Study the Potential Role of HLA-G mediated Immunomodulation by Tissue Specific Human Mesenchymal Stem Cells, Stem cell Facility, AIIMS
10. Targeting Telomerase Reverse Transcriptase (TERT) gene to immortalize Peripheral Blood Mononuclear Cells of patients with coronary artery disease, Stem cell Facility, AIIMS
11. To study the immunomodulatory effect of tumour-derived exosomes on $\gamma\delta$ T-cells, Dept of Biochemistry, AIIMS

PUBLICATIONS

Cardiology

Journals:140

Cardiothoracic and Vascular Surgery

Journals: 23

Cardiac Anesthesiology

Journals: 35 Chapters in Books: 2

Cardiac Biochemistry

Journals:7

Cardiac Nuclear Medicine

Journals:12

Cardiac Pathology

Journals: 41

Cardiovascular Radiology & Endovascular Interventions

Journals: 55 Chapters in Book: 2

Stem Cell Facility

Journals: 18 Chapters in Book: 2

Blood Transfusion Services

Journals:11

PATIENT CARE

Cardiology

Total numbers

New OPD cases 18,209 Old Cardiology Cases 45,904

Patient Services

• TMT	287	• ABP	26
• Holter	2201	• TEE	60
• Echocardiography	23,528	• HUTT	71
• ECG	19,286		

Cath Lab Services

CART	846	ICD	34
Cath	430	CRT	24
Balloon Dilatation	56	RFA	83
PTMC	149	CARTO	21
PDA	44	DSA	92
ASD Device	51	Coil embolization	44
VSD Device	1	BAS	49
PTCA	558	EM Biopsy	14
Pacemakers	360		

Cardiothoracic and Vascular Surgery

Workload

A total of 2405 patients underwent various cardiac surgical procedures. 615 of these were adult patients; of these 260 patients underwent coronary artery bypass grafting, 355 underwent surgery for valvular heart disease, and 1790 were those with varying forms of congenital heart diseases. 92 of patients with congenital heart diseases were neonates, 446 were below one year of age, and 492 were up to 12 years of age. These patients ranged from a critically ill neonate to patients in infancy and adults with severe forms of neglected congenital heart disease valvular heart disease and diseases of the aorta and vascular tree. In collaboration with the department of Cardiology, more than 6500 patients were treated on an in-patient basis and close to 83,000 patients were attended to in the outpatient services; of these, more than 5500 patients were seen in special clinics. Before the resumption of normal outpatient services, an unlimited number of patients were provided teleconsultation on dedicated telephone numbers. The department also actively contributed to towards care of critically ill COVID-19 patients admitted to various wards of AIIMS. The department started the “Anticoagulation Clinic” on Sunday to facilitate the follow-up of patients of valvular heart surgery who are mostly from the underprivileged section of society

The facilities and infrastructure

Operating Rooms (OR's): There are 8 fully functional operating rooms in the Department of CTVS. Each one of these is equipped with all the necessary equipment required for performing the entire range of adult, aortic and paediatric cardiac surgery. These include state of a art monitoring system and anesthesia station, NIRS, BIS, EEG, 3-D echocardiography, cell saver, CPB machines, vacuum-assisted venous drainage, centrifugal pump, bronchoscope, and intra-operative neuromonitoring.

ICU Beds: The Department has 4 ICUs (54 beds) fully equipped with all advanced facilities for postoperative cardiovascular surgical care.

ICU-A:	16 Beds	ICU –B:	18 Beds
Neonatal ICU:	8 Beds	CT-5 ICU:	12 Beds

All beds are fully equipped and all facilities for cardiac intensive care are available.

General Beds: The bed strength in the wards is follows:

CT-4 Ward:	42 Beds + 2 Isolation beds
CT-5 Ward:	24 Beds (In addition, 12 beds in CT5 ICU as above) + 2 Isolation beds
CT-6 Ward:	12 Beds

CN Tower (Private Ward): Thirty-two (32) beds in private / paying ward, shared with Department of Cardiology

- **Homograft Valve Bank:** The Department runs the most successful valve bank of the country. This ensures adequate supply of homografts to manage complex paediatric cardiac surgical problems.
- **Supportive services:** Five cardiac catheterization labs including, advanced CT scan, MRI, nuclear medicine, ultra-sound, and echocardiography lab, state of the art blood bank, and laboratory services.

Cardiac Anesthesiology

1. Advanced monitoring facilities (TEE, TTE, NIRS, NICO monitoring) for management of routine, emergency and high risk cardiac surgical patients belongs to all spectrum
2. Specialized cognitive rehabilitation programme for heart failure, heart transplant and LVAD patients
3. Routine stress management programme both for pre and post operative patients
4. Different community programme by the faculties.
5. Special involvement with anesthesia for complex congenital heart surgery
6. Team member of heart failure treatment like heart transplant & LVAD

7. Transesophageal Echocardiography
8. Community Service- Charitable health camps and health education
9. Special involvement with anesthesia for complex congenital heart surgery and OPCAB
10. Team member of heart failure treatment like heart transplant & LVAD
11. Transesophageal Echocardiography
12. Community Service- Charitable health camps and health education

Cardiac Biochemistry

The Cardiac Biochemistry laboratory offering state-of-art diagnostic test facilities in patient care services and the test facilities are catering to patients of CN Centre as well as to other departments of the Institutes and also serves as referral lab for outside patients. The Lab operates as combined centralized laboratory for CN Centre and offers blood biochemistry (Blood sugar (fasting, PP, Random), LFT, KFT), hematology (hemogram, PT/INR, ESR), lipid profile, hormone (T3, T4, TSH, Testosterone, FSH, LH, Prolactin, Renin, Aldosterone) and vitamin profile (Vitamin D, B12, folate), drug testing (Cyclosporin, Tacrolimus, anti-epileptic drug testing (valproic acid, Carbamazepine, phenytoin, Phenobarbital, digoxin)), and various other specialized tests (HBA1C, Iron profile (serum iron, UIBC, TIBC, ferritin, catecholamine)) in the centralized lab (Now operates in coordination with newly started Smart Lab). The division of Cardiac Biochemistry will start providing the diagnostic test facilities for wide range of cardiac markers in CNC Lab including sepsis markers procalcitonin, IL-6 etc.

Cardiac Nuclear Medicine

This year the number of elective diagnostic procedures performed were relatively less due to decreased referrals of patients from OPD during the COVID pandemic. The department was functional during the entire period and provided services to in-patients in the cardiology department and to cancer patients from IRCH awaiting chemotherapy. When the pandemic conditions eased and the OPDs reopened, services were provided to patients referred from OPDs. The department performed myocardial perfusion SPECT imaging which is an integral investigation in the diagnosis and management of patients with coronary artery disease. We also performed cardiac PET imaging with F-18 FDG for assessment of myocardial viability and Gallium-68 DOTANOC for inflammatory cardiomyopathies. We have now started performing Tc-PYP scans routinely for patients referred for cardiac Amyloidosis. The department performed radionuclide ventriculography for assessment of left ventricular function in patients referred from the center and from IRCH for cardiac evaluation in patients receiving chemotherapy.

Total Number of patients investigated

Myocardial perfusion study: 890	RNV study: 489
Cardiac PET 163	Misc(V/Q scan, 1st pass): 71

Total number of studies performed: 1613

Cardiac Pathology

Specimens

Routine: 1008 Nos. of cases	Research: 607 Nos. of cases
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Other work

Immunohistochemistry: 720 slides	H & E stain: 2020 slides
Special stains: 2140 slides	
Manual processing of post-transplant biopsies: 114 cases	
Cutting of blocks (unstained sections): 1793 slides	

Cardiovascular Radiology & Endovascular Interventions

Facility	Procedures	Facility	Procedures
MRI	850	DSA/venogram/EVLA	450
CT	3986	Doppler and Ultrasound	5500
X ray 7058			

Stem Cell Facility

1. Amniotic Membrane Grafts: Recently, we have extended the Amniotic Membrane Graft distribution services from RPC, AIIMS to other departments of AIIMS (Paediatrics Surgery, Trauma Center, AIIMS) and to other Hospitals within and outside Delhi, (ESI Hospital, Safdarjung Hospital, Dr. Ram Manohar Lohia Hospital, etc).
2. Clinical Research: I am actively involved in the ongoing Clinical trials using autologous bone marrow derived mononuclear cell to evaluate their safety & feasibility in various disorders; Corneal Opacity (ocular surface disorder), Vitiligo, Bone regeneration.
3. Cryopreservation of Stem Cells from bone marrow & Umbilical Cord Blood for patients with cancer or other genetic diseases.

4. Dedicated and separate cGMP (current good manufacturing practices) laboratory for clinical research and patient care.
5. Establishment of various disease animal Models like liver fibrosis, wound model etc. for pre-clinical studies using Stem Cells.
6. iPSCs generation from MLC and derivation of invitro model of traumatic hemorrhage shock syndrome using iPSCs.
7. Maintaining Quality Assurance and Quality Control of all procedures involved in Stem Cell isolation and processing.

S. No.	Service Provided	Number of samples processed		
		2021-2022	2020-2021	2019-2020
1	Stem Cell Isolation from Bone Marrow	25	30	34
2	Stem Cell Isolation from Adipose Tissue	5	5	10
3	Stem Cell Isolation from Wharton's Jelly	12	10	12
4	MNC Isolation from Bone Marrow	2	2	2
5	MNC Isolation and Cryopreservation from Umbilical Cord Blood	4	4	4
6	Cryopreservation of Apheresis sample	9	8	9
7	Cultured Oral Mucosa Epithelial Transplantation	4	4	4
8	Culture Limbal Epithelial Transplant	3	3	3
9	Viability of stem cells (pre & post transplantation/infusion)	15	15	15
10	Amniotic Membrane preparation for grafting	20 batches (500 vials)	19 batches (470 vials)	19 batches (468 vials)
11	Stem Cell Enumeration (CD34+ count)	6	5	6

Blood Transfusion Services

Workload Statistics

Blood units collected	2019-20	2020-21	2021-22
Replacement donors	10438	3939	9090
Voluntary donors in the department	347	175	241
Voluntary through blood mobile	896	458	683
Family Voluntary Donors	8273	3598	5995
Blood received from Hosp. Blood Bank, AIIMS	142	224	63
Blood received from JPNATC, AIIMS	85	74	29
Blood received from other hospital	14	188	68
Total No. of Blood units collected	20195	8795	16169

Blood units issued			
Blood units issued to CTVS/NS	24061	9199	16832
Blood issued to Blood Bank, AIIMS	505	153	308
Blood issued to JPNATC	164	98	215
Blood issued to other hospitals	2284	743	910
HIV/HBsAg/HCV reactive units discard	477	243	504
Total No. of blood units issued	27041	10193	18265

Lab procedures			
Total no. of blood grouping (ABO)	84112	26836	66142
Total no. of blood grouping (RH)	84112	26836	66142
Total no. of Cross matching done	128512	51325	97981

Infectious markers			
HIV Testing	23688	11233	19437
HBV Testing	23688	11254	18521
HCV Testing	23712	11319	18491
Syphilis Testing	21944	10232	18637
MP testing	21944	10258	17300
Total	114976	54296	92386

No. of blood components issued			
Fresh Frozen Plasma (FFP)	20894	7513	15858
Platelet Concentrate	12770	5655	9907
Cryoprecipitate	1517	566	1326
Packed Red Cells	27014	10193	18265
Single Donor Plateletpheresis	58	17	55
Total	62253	23944	45411

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Cardiology

Professor Anita Saxena was President of National rheumatic heart consortium; Lifetime achievement of PCSI 2021; Post retirement - Vice Chancellor, Pt. BD Sharma University of Health Sciences, Rohtak;

Professor SS Kothari – Prestigious Raj Tandon Oration (PCSI 2021); - National Coordinator for weekly Cardiology webinars for National Board of Examination (DNB Cardiology) – 2021;- Ethics Sub-Committee of Medical Council of India (MCI) - 2020-2021.

Professor Balram Bhargava was Secretary, DHR.

Professor KC Goswami was Past president, CSI.

Professor S Seth was Editor in Chief, JPCS.

Professor S Mishra was Member, Internal Affairs Committee, SCAI; International Editor, Sri Lanka Journal of Cardiology; Editorial Board of European Medical Journal.

Professor N Naik was Secretary, CSI Delhi Branch; Convenor, STEMI Council of CSI

Professor Rakesh Yadav was Editor, Indian Heart Journal; Treasurer, CSI Delhi branch;

Professor S Singh was Executive director, School of International Biodesign

Professor Karthikeyan G was Executive editor, Heart; Associate Editor, European Heart Journal, South Asia.

Professor Gautam Sharma was Distinguished Professor (Honorary) in the division of Yoga & Life Sciences of Swami Vivekananda Yoga “Anuswadhana Samsthana” (S-VYASA), Bengaluru, Karnataka.

Professor Ambuj Roy won State Award of Punjab (2021) for guidance on Covid-19 Management; Nodal Officer, National Medical College Network; Awarded Fellow, National Academy of Medical Sciences; Awarded Fellowship, Royal College of Physicians, Edinburgh (UK); Member, Institute Body, JIPMER, Puducherry; Member, Technical Expert Committee for National Program for Prevention and Control of Cancer, Diabetes, CVD and Stroke (NPCDCS); Member, Task Force Committee of ICMR for Cardiovascular Research in India; Chairperson, Project Review Committee (Cardiovascular Diseases) of ICMR, New Delhi; Member, Task Force on COVID-19, Govt. of Punjab, India; Chairman, Clinician’s/ Expert sub-committee to examine the EHR Terminology for Govt. of India; Facility Coordinator In-charge, Skill, e-Learning & Telemedicine (SET) Facility, AIIMS, New Delhi; Member, Institute Ethics Committee (Post Graduates) at All India Institute of Medical Sciences; Member, AIIMS Institute Ethics Committee- Subcommittee for Serious Adverse Events in clinical trials; Member, Managing Committee, CMET, AIIMS; Collaborator, Global Burden of Disease; Member of the GBD India Cardiovascular Disease Expert Group;

Professor S Ramakrishnan was Chief Editor of Annals of pediatric cardiology; Treasurer of national rheumatic heart consortium; Associate editor of JPCS; Organizing secretary of PCSI 2021; Co-PI and task force member, India Hypertension management initiative (IHMI); National coordinator, STEMI-ACT, an ICMR initiative; Member, International travel grant award committee, ICMR; Member, A National Program for the Management of STEMI in India; FSCAI (Fellow of the Society for Cardiovascular Angiography and Interventions).

Dr Saurabh K Gupta was Expert member of writing committee for ethical guidelines for AI for healthcare; Core member of AI for Healthcare cell of ICMR; Expert member for DBT technical expert review for maternal and child health related proposals; Treasurer Pediatric Cardiac Society of India since 2015 onwards; Joint organizing secretary for PCSI 2021 – Annual meeting of Pediatric Cardiac Society of India; Deepti S - Sujoy B Roy award for best original research in the field of Cardiology, Dr Arvind B won Young Investigator award PCSI 2021.

Cardiothoracic and Vascular Surgery

Professor SK Choudhary was Section Editor: Aorta for Indian Journal of Cardiothoracic & Vascular Surgery; National Coordinator for Database project of Indian Association of Cardiothoracic & Vascular Surgeons; Member, Academic Council, Indian Association of Cardiovascular and Thoracic surgeons; Chairperson of Experts groups for development of Standard Treatment Workflows (STWs) in CTVS, Government of India, Ministry of Health & Family Welfare (Department of Health Research), New Delhi; Member Specialists Board in specialty of Cardiothoracic Surgery, National Board of Examinations; Reviewer for the American Association of Thoracic Surgeons 101st Annual Meeting and Aortic Symposium, 1-4 May 2021; expert for evaluation of Thesis for MCh CTVS at PGIMER, Chandigarh, 30 November 2021; expert for evaluation of Thesis for MCh CTVS at PGIMER, Chandigarh, 21 September 2021; Coordinator and Examiner for conduct of DNB/DrNB Final Practical examination of NBEMS in CTVS, February 2022; external expert to assist the Standing Selection committee of the All-India Institute of Medical Sciences, Jodhpur for selection of Faculty in the Department of Cardiothoracic Surgery, 25 June 2021; external expert for selection of faculty positions in the Department of Cardiothoracic Surgery, AIIMS, Kalyani, on 22 October 2021; subject expert for the faculty selection at Rajendra Institute of Medical Sciences, Ranchi, Jharkhand on 19 December 2021; external expert to assist the Standing Selection committee of the All-India Institute of Medical Sciences, Raipur for selection of Faculty in the Department of Cardiothoracic Surgery, 4 March, 2022; collaborating partner for effective establishment of virtual Resource Centre for Tobacco Control (RCTC) PGIMER, Chandigarh; Member of Scientific Research Committee of Rajiv Gandhi Super-specialty Hospital, Delhi; member of the Committee constituted by the Delhi Organ Transplant Cell, Health & Family Welfare Department, Govt. of NCT of Delhi for inspection of Fortis Escorts Heart Institute, Okhla Road, New Delhi dated 8 September 2021; member of a consortium of eminent medical professional formed by the IIT, Kanpur for development of a high-end affordable Left Ventricular Assist Device (LVAD)” for the end-stage heart failure patients; Chairman of the committee for inspection of Dr. B. L. Kapur Memorial Hospital, Pusa Road, New Delhi – 110005 for the purpose of Registration (Renewal) to perform Heart Transplant as per the Transplant of Human Organ & Tissues Act. Dated 27 November 2021.

Professor Milind P Hote was M Ch thesis evaluation – PGI Chandigarh, November 2021; 2 External examiner for MCh CTVS exam – PGI Chandigarh, December 2021; Member of Inspection committee for approval of a hospital in Gujarat as heart transplant Centre.

Professor Sachin Talwar was Executive director of the Society of Pediatric and congenital Heart Surgeons; Governing council member of World Society of Pediatric and Congenital Heart surgery; Governing council member of Asian Society of Pediatric and Congenital Heart surgery (APCHS); Governing council member of Asian Society of Pediatric and Congenital Heart surgery (ASVTS); Guest reviewer for Journal of Thoracic and Cardiovascular Surgery; Guest reviewer for Annals of Thoracic Surgery; Guest reviewer World Journal Pediatric and Congenital Heart surgery; Guest reviewer for European Journal of Thoracic Surgery; Guest reviewer for and Cardiovascular and Thoracic Annals; Guest reviewer for Annals of Pediatric cardiology;

Expert for selection of Faculty at AIIMS Patna; Expert for selection of Faculty at AIIMS Bhubaneswar; Expert for selection at AIIMS Bhatinda; Expert for Assessment of Facilities for DNB Course at Fortis Hospital, Sector-62, Phase-III, Mohali Punjab. Practical Examiner for DNB exam for National Board of Examinations. Sri Sathya Sai Institute of Higher Medical Sciences, Whitefield, Bengaluru-560066, Karnataka. OSCE Question Bank in the specialty of Cardiothoracic Surgery. Setting Theory Question Papers in the specialty of Cardio Thoracic Surgery. National Board of Examinations. Practical Examiner for DNB exam for National Board of Examinations. BLK Hospital, New Delhi. Workshop for Cardiothoracic Surgery, National Board of examination.

Dr Manoj Kumar Sahu is Life Member of Indian Society of Anaesthesiologists; Life Member of Indian Association of Cardiovascular and Thoracic Anaesthesia; Life Member of Indian Society of Critical Care Medicine; Life Member of Pediatric Cardiology Society of India; Life Member of Indian Society of Echocardiography; Life Member of Indian Society of Heart & Lung Transplantation; Associate Editor of Journal of Cardiac Critical care.

Dr Sarvesh Pal Singh was General Secretary of Indian Society of Heart and Lung Transplantation (INSHLT).

Cardiac Anaesthesiology

Professor Neeti Makhija was felicitated in the inaugural function of 16th Annual Perioperative and Critical Care Echocardiography workshop from 11 March 2022-13 March 2022 at PGIMER, Chandigarh; **Chaired** the session titled “ECHO in Hemodynamics and CPB weaning” & “congenital heart disease” in the 16th Annual Perioperative and Critical Care Echocardiography workshop from 11 March 2022-13 March 22 at PGIMER, Chandigarh that included following topics: (i) Hemodynamic Calculation using TEE; (ii) Strain and speckle tracking–technique, advances and limitations; (iii) Echo in CPB weaning; (iv) Systematic approach to segmental analysis in congenital heart disease. **Chaired** a session on “How the expert handle adversaries?” on 22 October in the 21st Annual Conference of Pediatric Cardiac Society of India – PCSI 2021 held from 16 and 24 October 2021 in hybrid mode. The session included following lectures: (i) Failure to wean from ventilator; (ii) Post op refractory low cardiac output; (iii) Severe pulmonary hypertension with extubation failure. The following paper was awarded 3rd prize in the oral free paper session: Malhotra R, Das SN, Chauhan S, **Makhija N**, Choudhury M, Lakshmy R. Impact of Preoperative Vitamin D deficiency on Post operative outcomes in adult cardiac surgery. Paper was presented surgery in 25th Annual Conference of the Indian Association of Cardio Thoracic and Vascular Anesthesiologists (IACTACON 2022) held in the cultural capital of Tamil Nadu- Madurai from 25 March 2022 -27 March 2022.

Professor Poonam Malhotra was Appointed as Guest Editor of JAPI – an International journal in Medicine and Healthcare; Nominated as President Elect of South West Asia and Africa Chapter of the. Extracorporeal Life Support Organization (SWACELSO) for the year 2022-2023; Re-nominated as “Fellow of International Society of Cardiovascular Ultrasound: 2021-22” by the International Society of Cardiovascular Ultrasound (ISCU) Society, Alabama USA, for my contribution to Echocardiography; Continuing as the President of SCA-Delhi and NCR Branch (non-elected); Continuing as Founding Secretary and Chairman Academics of “The Simulation Society”; Editor-In-Chief. Journal of Cardiac Critical Care, 5. 1, 5.2 and 5.3 issues of JCCC; Principal Editor of Book entitled “Hypertension: New Frontiers – textbook of Cardiology” Edited by Dr. H. K. Chopra published by Jaypee Publishers; Content provider for online Fellowship in Cardiac critical care (FICCC), Fellowship in Advanced Echocardiography (FAE) and Fellowship in Basic Echocardiography (FIBE) online Examination, conducted by The Simulation Society (TSS) and Journal of Cardiac Critical Care (JCCC); Examiner: DNB, Cardiac Anaesthesia, Medanta – The Medicity, Haryana (Physical Examiner); DM Cardiac Anaesthesia, PGIMER, Kolkata (Online); DM Cardiac Anaesthesia, U. N. Mehta, Ahmedabad (Online); DM Cardiac Anaesthesia, AIIMS, Delhi (Online); DM Cardiac Anaesthesia, Sri Jayadeva Institute, Bangalore (Online); DM Cardiac Anaesthesia, KEM, Mumbai (Online); Chief Moderator and Examiner for setting DNB Cardiac Anaesthesia Examination in September and November 2021; Online Fellowship in ECMO – August 2021; Online Fellowship in ECHO– August 2021; Online Fellowship in Cardiac Critical Care– August 2021; Online Fellowship in Cardio Diabetes– August 2021; Chaired a session on “TEE How I do it? Tricks of trade”, ECHOCON 2022, 6 March 2022, New Delhi.

Professor Minati Choudhury was invited faculty at Royal university hospital, Liverpool; Examiner/expert; PCSI 2021 Judge in competitive session; As an external examiner for DM Cardiac Anaesthesia exit exam, PGIMER Chandigarh, April 2021; As an external examiner for PDCC Cardiac Anaesthesia exit exam, IMS,BHU,27 August 2021; As an external examiner for DM Cardiac Anaesthesia exit exam, NRS Medical College, Kolkata 2 September 2021; As an external examiner for DM Cardiac Anaesthesia exit exam, RG Kar Medical College, Kolkata 15 September 2021; As an internal examiner for internal assessment: BSc OT technician course September 2021; Online consultation and management of more than 100 Covid-19 patients through AIIMS Covid helpline

Professor Vishwas Malik was Examiner for DNB Cardiac Anaesthesia Exam at SGRH, New Delhi (July 2021); Nominated as Dean (Academics) of Indian College of Cardiac Anaesthesia (Academic wing of IACTA) February 2022; Renominated as member Editorial Board Annals of Cardiac Anaesthesia (March 2022).

Dr Suruchi Hasija is Reviewer for the journal 'Journal of Anaesthesiology Clinical Pharmacology' since August 2021.

Dr Arindam Choudhury received Certificate of appreciation awarded for academic contribution to the SET facility programs by Director, AIIMS New Delhi during a faculty felicitation ceremony February 2022.

Cardiac Biochemistry

Professor Lakshmy Ramakrishnan is Expert member of project review committee of Indian Council of Medical Research in the area of Endocrinology; Member of expert group for ICMR in the area of Non Communicable Diseases; Reviewed projects for NCD division on obesity; Expert member for the Task Force Project on "ICMR-India Diabetes [INDIAB] study for estimating prevalence of Diabetes and Pre- Diabetes in different states of India; Member of CKD project monitoring technical advisory committee constituted by Health and Family welfare ministry, Government of AP; Member of research area panel on diabetes at NCDIR, Bangalore; Examiner for PhD thesis from CFTRI, Mysore and Delhi University; National editor, J of Practice of Cardiovascular Sciences; Adjunct faculty, PHFI; Member ethics committee, CCDC; Reviewed articles for J of Pediatric Urology, IJMR, Frontiers in Medicine, NMJI and Indian J of Experimental Biology.

Dr Manoj Kumar Tembhre Nominated as member of Review Board of MDPI journals; (Medicina, Bioengineering, J. Clinical Medicine, Children), PLOS One, Nominated as emerging Editors in the journal of Immunology and Immunology, Journal of Experimental Immunology (Wiley Publications); Nominated as member of Review Board of Indian Journal of Dermatology, Venereology and Leprology (IJDVL); Reviewer of National (IJDVL, Impact Factor = 3) and international Journal (British Journal of Dermatology, Impact Factor = 9.3); **Member of Indian Immunology Society (IIS); Indian Association of Dermatologists, Venereologists and Leprologists (IADVL); American Society of Nephrology (ASN);** invited guest faculty in the department of Clinical Microbiology, B. Sc. (MLT) Amity University, Gurgaon, School of Allied Medical Sciences, Sharda University; Department of Biomedical Sciences, Galgotias University, Noida; AlFalah School of Medical Science and Research Centre for M. Sc. MLT, Dhauj, Haryana; and Department of Biotechnology, APS, University, Rewa, M.P.

Cardiac Nuclear Medicine

Professor Chetan D Patel was Editor, Indian Journal of Nuclear Medicine (Official Journal of Society of Nuclear Medicine, India); Reviewer for national and international academic journals; Vice President, Nuclear Cardiological Society of India (till October 2021); Executive Member, Nuclear Cardiological Society of India; Subject expert for faculty interview for AIIMS, Jodhpur held via "online video conference" on 23 June 2021; External examiner for Work based Clinical Assessment for Formative Assessment on 31 July 2020, National Board of Examination at Sir Gangaram Hospital, Delhi; Chaired a session on Nuclear Cardiology at the Annual conference of Association of Nuclear Medicine Physicians of India (ANMPI) conference-ANMPICON held "online" on 19th September 2021; Delivered a lecture titled "Gallium-68 DOTANOC in inflammatory Cardiomyopathy" at the 13th Biennial Nuclear Cardiological Society of India, Conference held "online" on 3 October 2021; Evaluated thesis for National Board of Examination of DNB Nuclear medicine students; Evaluated thesis for MD Nuclear medicine student, AIIMS, Raipur; Evaluated thesis for MD Nuclear medicine students of AIIMS, Rishikesh; External examiner for MD Nuclear Medicine examination, AIIMS, Rishikesh, December 2021; Chaired a session and delivered lecture at the 73rd Annual conference of Cardiology Society of India (CSI) held from 2-5 December, Hyderabad; Chaired session on Clinicians Perspective of Nuclear Cardiology (online) at the 53rd Annual Conference of Society of Nuclear Medicine (SNMICON) held from 16-18 December, Hyderabad; Member Store Purchase Committee of Center for Integrative Medicine & Research (CIMR); Chairman, Selection Committee for recruitments in research projects at CIMR; Chairman, Selection Committee for recruitment of core staff at CIMR under COE Scheme, AYUSH.

Cardiovascular Radiology and Endovascular Interventions

Professor Sanjiv Sharma was Reviewer for many national and international radiology and cardiology journals; President of society of Emergency Radiology, President of society of Image Guided Therapy.

Professor Priya Jagia was National lead for Adult Cardiovascular Imaging subspecialty for ICRI, IRIA; Editor for Adult CV imaging volume of the upcoming 7-volume IRIA textbook of radiology; Hon'ble National Editor for "Hypertension: New Frontiers" Textbook of Cardiology; Executive member, Indian association of Cardiac imaging Secretary; Reviewer for many national and international radiology and cardiology journals; Chairperson for CHD sessions, Synergy meet IACI meets ICRI-IRIA, 6 March 2022, Online Virtual.

Dr Sanjeev Kumar was Reviewer for many national and international radiology and cardiology journals; Secretary of Delhi ISVIR, Joint Secretary SER; Secretary, Society of image guided therapy; Judge for CSI thesis award; Invited as chairperson in various national conferences; Invited as Judge for ISVIR annual conference 2022 for poster and paper session.

Dr Amrinder Singh Malhi was “Shinning Sikh Youth of India 2021”; Awarded Prestigious “Chikitsa Seva Ratn Puraskar 2021” by Speaker of Delhi Assembly.

Dr Vineeta Ojha received Best Publication Award in Interventional Radiology” at ISVIR (Indian Society of Vascular and Interventional Radiology) Annual National Conference, Goa, 2022.

Stem Cell Facility

Professor Sujata Mohanty reviewed PhD thesis of SGPGIMS, CSIR IGIB, PGI Chandigarh, University of Delhi, IISER Mohali; Scientific Committee Member: Member in various scientific bodies; Member of Institute Committee for Stem Cell Research, National Institute of Immunology, New Delhi; Institute of Liver & Biliary Sciences, New Delhi; National Brain Research Centre, Manesar; THSTI, Faridabad; IIT, Indore; University of Delhi; CSIR-Institute of Genomics & Integrative Biology (IGIB); Indian Spinal Injuries Centre, New Delhi; Kavikrishna Lab IIT – Guwahati; Jamia Hamdard University; Shri Govind Singh Try-centenary University; Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Puducherry; Regional Centre of Biotechnology (RCB), Faridabad; Amity University, Noida; IISER Bhopal; Member: International Society for Cellular Therapy (ISCT); International Society for Stem Cell Research (ISSCR); Society of Biological Chemists (SBC); Indian Immunology Society; Indian Society of Nanomedicine; Indian Science Congress Association; Stem Cell Research Foundation of India; The Cytometry Society, India; Indian Society for Translational Research; The Biomedical Engineering Society (BMES); International Society of Extracellular Vesicles (ISEV); Member of Advisory Bodies, Core Committee for Stem Cell Donor Registry for Bone Marrow Transplant in India; Stem Cell Donor Registry, Ministry of Science & Family Welfare, Govt. of INDIA; High Powered Committee by Ministry of Health and Family Welfare, Govt. of India; Brainstorming meeting on Bio-fabrication& 3D Bio-printing; Expert Group Committee- Limbal Stem Cell Transplantation- ICMR; Centre for induced pluripotent Stem Cell Research and Application (CiRA) –For collaboration; Investigating team of CDSCO-Dendritic Cell Vaccine Scandal; Department of Biotechnology Task Force on Bioengineering; DBT Expert Committee for Indo-Australian Career Boosting Gold Fellowships (IACBG-Fellowships); Technology Development Board, DST; Internal Committee for Sexual Harassment Cell: Redressal of Complaints NII; Institute of Life Sciences, Bhubaneswar; National Centre for Cell Science; Indian Association for Cancer Research; Aditya Jyoti Eye Hospital, New Delhi; Frontier Lifeline Hospital, New Delhi; AMITY University, Noida; Gangaram Hospital, New Delhi; Yash Raj Biotechnology, New delhi; Vallabhai Chest Institute, New Delhi; MEDANTA, Gurugram; Member- Research Grant Review Committee, Project Monitoring Committee (BIRAC), DBT, Govt of India; Biotechnology Career Advancement and Reorientation Program for Women Scientists (BioCare), DBT; Biotechnology Industry Research Assistance Council (BIRAC); Indian Council of Medical Research, New Delhi; Department of Science and Technology, New Delhi; Council of Scientific and Industrial Research, New Delhi; Peer Review Committee- DRDO-Apollo Hospital, Hyderabad; SPARC (Scheme for Promotion of Academic and Research Collaboration), Ministry of Human Resource Development, Government of India at IIT-Kharagpur; SERB-Department of Science and Technology; DBT Technical/ Advisory Core Committee (TACC); Project Monitoring Committee (PMC); Member- Journal Review Committee, Stem Cell Research Open library (SCROL); Life Science; Journal of Biosciences; Biomedical Research Journal; Insights in Stem Cells; World Journal of Stem Cells; CEINCA publishing group; Translational Surgery; Molecular and Cellular Biochemistry; Indian Heart Journal; BMC Ophthalmology; Future Science OA; Journal of **Clinical and Translational Research**; Asian Journal of Dental Sciences; Complementary Therapies in Clinical Practice; Frontiers Cellular Neuroscience; Research and Reviews of Infectious Diseases; International Wound Journal; Frontiers of bioengineering and biotechnology; Member- Editorial Committee, Journal- Current Trends in Stem cells and Regenerative Medicine (CTSR); Jacobs Journal of Bone Marrow and Stem Cell Research; Scientific Reports, Nature publishing house; Stroke Research & Treatment; Indian Paediatrics

Blood Transfusion Services

Dr Anjali Hazarika worked As Nodal officer for Donor Haemovigilance –Participated in “Severity Grading Tools on Adverse Donor Reaction-Validation Study” conducted by National Institute of Biologicals, NOIDA- 2021; Chaired scientific sessions during Joint congress by American Association of Blood Banks & Asian Association of Transfusion Medicine-2021 (3 & 4 December 2021)

Dr Gopal Kr Patidar received “Young scientist Award-2021” in 9th TRANSMEDCON 2021 Conference of Indian Society of Transfusion Medicine; Elected as secretary ISBT Hemovigilance working party; Elected as Co-Chair ISBT Wikipedia working party; Member of reviewing and analysis of reports of donor reaction submitted in Donor-Vigil software under National Blood Donor Hemovigilance Programme, India.

VISITING SCIENTISTS

Stem Cell Facility

1. Dr Justin Colacino (Associate Professor), University of Michigan, USA
2. Dr Dean E. Brenner (Professor), University of Michigan, USA
3. Dr Karen Anderson (Professor), Arizona State University, USA
4. Dr Kirk Herman (Clinical Project Manager), University of Michigan, USA
5. Dr Chandan K. Sen (Professor), Indiana University, USA

10.2 Centre for Dental Education and Research

Chief

Ritu Duggal
(Orthodontics and Dentofacial Deformities)

Professors

Ajoy Roychoudhury Veena Jain
(Oral and Maxillofacial Surgery) (Prosthodontics)

Vijay Prakash Mathur Ajay Logani
(Pedodontics) (Conservative Dentistry and Endodontics)

Ongkila Bhutia
(Oral and Maxillofacial Surgery)

Additional Professors

Dalim Kumar Baidya Devlina Goswami
(Anesthesia) (Anesthesia)

Prabhat Kumar Chaudhari Rahul Yadav
(Orthodontics and Dentofacial Deformities) (Oral and Maxillofacial Surgery)

Dheeraj Kumar Koli Kalpana Bansal Nitesh Tewari
(Prosthodontics) (Pedodontics) (Pedodontics)

Amrita Chawla Vijay kumar
(Conservative Dentistry and Endodontics)

Shalini Gupta Harsh Priya
(Oral Medicine) (Public Health Dentistry)

Deepika Mishra Kunaal Dhingra
(Oral Pathology and Microbiology) (Periodontics)

Associate Professor

Vilas Samrit Vikender Singh
(Orthodontics and Dentofacial Deformities) (Periodontics)

Assistant Professor

Krushna Bhatt Aditi Nanda
(Oral and Maxillofacial Surgery) (Prosthodontics)

Rahul Morankar G Sidhartha Sharma
(Pedodontics) (Conservative Dentistry and Endodontics)

Anika Daing Bharathi M Purohit
(Periodontics) (Public Health Dentistry)

HIGHLIGHTS

Orthodontics

Orthodontics at the CDER, AIIMS has been providing quality orthodontic care to patients with malocclusion, dentofacial deformities and cleft lip and palate. It has provided leadership in the field at both the national and international levels. In addition, the professional and academic expertise was also extended to various government/research organisations such as the ICMR and the Ministry of Health and Family Welfare and other institutions.

Oral and Maxillofacial Surgery

Oral and Maxillofacial Surgery is involved in providing high quality surgical care in trauma, facial esthetics, temporomandibular joint disorders, craniosynostosis, orthognathic surgery, complicated exodontia and oral surgery. It has the distinction of being at the forefront of maxillofacial trauma treatment. It is the only one in India that has a total temporomandibular joint replacement protocol in place. The state of art virtual surgical planning for facial deformity correction and execution by patient-specific 3D-printed implants are done routinely.

Conservative Dentistry and Endodontics

This entails the management of endodontic emergencies, dental trauma, and restorative and advanced nonsurgical/surgical endodontic manoeuvres. It has designed and presented educational videos on three clinically relevant topics which have been circulated for further use.

Pedodontics and Preventive Dentistry

It has been active professionally and served as experts to various national research and regulatory bodies. It was the host for symposia on 'How to handle Dental Trauma during the Pandemic', the Virtual Dental Traumatology National Conference in October 2020, Peer Reviewer's Training for the Indian Society of Pedodontics and Preventive Dentistry in November 2021 and also organised a virtual hands-on course in Risk of Bias in Finite Element Analysis Studies in Dentistry and Medicine in January 2021. It showed leadership by having several virtual programmes for different professional associations and continued patient care as per guidelines during the pandemic.

Periodontics

Periodontics deals with the prevention, diagnosis and treatment of periodontal diseases. It provides optimum care to a huge number of patients. The treatment procedures include conventional non-surgical and surgical periodontal therapy, periodontal plastic surgery, soft and hard tissue regenerative procedures, diode laser assisted soft tissue excision and adjunctive pocket debridement.

Oral Pathology and Microbiology

In the year 2021-2022, despite the COVID-19 pandemic, we were engaged in routine diagnostic reporting and routine teaching of undergraduate (BSc) students. We provided services to a large number of patients. During the lockdown periods of COVID-19, we used virtual platforms to continue teaching. It has initiated immunofluorescence for the diagnosis of vesiculobullous lesions, museum specimen preparation, additional diagnostic techniques for early detection of potentially malignant oral disorders and oral cancer (vital staining and autofluorescence and fluorescence spectrometry), and sialometry for the evaluation of xerostomia in patients, especially who are being treated for oral squamous cell carcinoma.

Public Health Dentistry

Ministry of Health and Family Welfare has designated Centre for Dental Education and Research as the National Centre of Excellence for the Implementation of the National Oral Health Programme (NOHP) and the WHO Collaborating Centre for Oral Health Promotion. Public Health Dentistry works for the execution of NOHP. It runs tobacco cessation and preventive clinics, conducts training programs for health and allied health professionals, organises outreach oral health promotion activities and caters to the preventive and curative dental needs at the Comprehensive Rural Healthcare Project-Ballabgarh. We have developed three modules on sugars and oral health for empowering school teachers on oral health promotion. It has vetted modules developed by experts in different domains (NIHFW). It has also got permission from the Kendriya Vidyalaya Society for the training of school teachers on 'role of sugars on oral health'. It helped in the development, validation and pre-testing of 'e-traumatic dental injury assessment questionnaire- among school teachers. It developed IEC materials on COVID and oral and general health, tobacco cessation IEC, pit and fissure sealant, mercury harm reduction, and training modules for nursing professionals for infection control procedures, cancer therapy and nursing care in the ICU. It has collaborated with the National Blindness Control Program, fluorosis control, National Kabbaddi and Boxing Federations for awareness on sports injury to the dentofacial region, and has provided technical support for the National Oral Health Policy, National Dental Commission Bill, National Registry of Oral and Associated Diseases and Operational Guidelines for the establishment of dental labs at district hospitals under NOHP. It has been actively involved in the eDant Seva. Further, under the WHO CC, the division has conducted a training program for dentists, medical officers, ASHAs and MPWs on oral cancer prevention and screening in collaboration with National Institute of Cancer Prevention and Research, NOIDA; department of CCM AIIMS, New Delhi and NHSRC, New Delhi. It also was involved in training of Parent Support group and treatment support group of CANKIDS on oral health, ASHA workers and community mobilisers in aspirational district of Nuh, Mewat, Haryana. It also has collaborations with WHO on the Minamata Convention and for capacity building of primary healthcare workers using MOOC modules.

EDUCATION

Undergraduate

BSc in Dental Operation Room Assistant (DORA) and Dental Hygiene (DH)

Postgraduate

At present Centre is conducting MDS in Orthodontics, Oral Surgery, Prosthodontics, Pedodontics, and Endodontics and Conservative Dentistry. PhD and fellowship programmes are running in Orthodontics and Oral Surgery.

Paramedical teaching

Short term/long term training/Continuing Medical Education

Undergraduates: The centre has been running full time courses for BSc (Dental Operating Room Assistant-DORA) and BSc Dental Hygienist (DH) students. In addition, MBBS and BSc (Nursing) students also have posting and classes at the centre.

CMEs/Workshops/Symposia/National and International Conferences conducted by Faculty Members of CDER

1. Dr Hari Prakash Oration, 14 September 2021, Dr Ramalingaswami Board Room, AIIMS
2. Post radiation caries and guidelines for prevention of osteoradionecrosis in head and neck cancer patients, 15 March 2022, Webinar
3. National Conference of Indian Society of Dental Traumatology topic Dental Trauma, 16–17 October 2021, Online
4. Workshop conducted for post-graduates at AIIMS, (OMFS and ENT) for hands-on trauma management on models, 9 March 2022
5. Empowering Dental Hygienists in Tobacco Cessation Counselling, 31 May and 3 July 2021, Webinars
6. Best mercury hygiene practices in Dental Clinics–Unlearning Myths & Rethinking Realities, 17 June 2021 and 4 July 2021, Webinars
7. Oral Hygiene and Oral Care during COVID- Empowering Dental Professional, 20 June 2021, Webinar
8. Empowering Nursing Professionals through webinar on Oral Health Considerations during COVID-19 infection for Nursing professionals, 10 July 2021, Webinar
9. Empowering Technicians working in Oral Health Laboratory during Covid-19 Pandemic, 11 July 2021, Webinar
10. Oral Health Considerations during COVID-19 infection, 17 July 2021, Webinar
11. Best mercury hygiene practices in Dental Clinics-Unlearning Myths and Rethinking Realities CDE module 1 for State Nodal Officers, 12 August 2021, Webinar
12. Role of Sugars in Oral and General Health for 354 Kendriya Vidyalaya Sangathan School Teachers, from Delhi Region, 21 August to 21 October 2021, Webinars
13. Oral Health Promotion among Dental Hygienists Empowering Health Workforce in Oral Health Prevention Strategies, 31 August 2021, Webinar
14. Organised 7 WHO CC programmes on “Massive Open Online Course for Accelerating Oral Health and Oral Cancer Early Identification for Empowering Tiered Health Level Oral Health Care Service Delivery in the Regional Countries”, 9 September 2021 to 10 November 2021, Virtual Platform.
15. Organised series of brainstorming meetings and Technical Dialogue with experts on Integration of Opportunistic Screening for Oral Potentially Malignant Disorders in health facilities among SEAR Countries between 11 September to 23 November 2021 through virtual platform.
16. Organised six virtual meeting series for State Nodal Officers under National Oral Health Program from 25 October to 15 November 2021.
17. Organised series of 22 webinars on “Oral Health Promotion” for 557 Navodaya Vidyalaya Samiti Staff Nurses from across the country from eight regions from 9 December 2021 to 24 February 2022.
18. Organised a Tobacco Cessation Training of Medical Officers and Auxiliary Nurse Midwifery in collaboration with National Tobacco Control Program District Tobacco Control Cell, New Delhi on 21 March 2022.

Lectures delivered

Ritu Duggal: 1

Ajay Logani: 9

Vijay Kumar: 1

Nitesh Tewari: 15

Dheeraj Kumar Koli: 1

Devalina Goswami: 3

Harsh Priya: 8

Aditi Nanda: 6

Ajoy Roy Choudhury: 2

Vijay Prakash Mathur: 14

Amrita Chawla: 3

Rahul Morankar: 2

Kunaal Dhingra: 4

Dalim Kumar Baidya: 5

Krushna Bhatt: 1

Veena Jain: 6

Prabhat Kumar Chaudhari: 1

Sidhartha Sharma: 1

Kalpana Bansal: 3

Shalini Gupta: 4

Deepika Mishra: 9

Bharathi M Purohit: 3

Oral Papers/Posters presented: 55

Oral presentations of last 3 years

Year	Total oral presentations
2019-2020	90
2020-2021	15
2021-2022	56

RESEARCH

Funded projects

Ongoing

1. A Prospective Pilot study to evaluate the clinical success of a Tooth Colored metal free Self-Curing Resin-based material as an alternate to silver amalgam for Class-II Posterior Restoration, Dr Amrita Chawla, AIIMS Early Career Intramural Research, 2 years, 2019-2021, Rs 3.71 lakhs
2. A Randomised Controlled Trial evaluating sub-epithelial connective tissue graft and injectable platelet-rich fibrin with or without enamel matrix derivative for treating multiple gingival recessions in smokers, Dr Kunaal Dhingra, AIIMS, New Delhi, 2 years, 2020-2022, Rs 10 lakhs
3. Automatic diagnosis and monitoring for orthodontic invisible appliance cases using artificial neural network, Dr Prabhat Kumar Chaudhari, India-Taiwan programme of co-operation [Department of Science and Technology (DST), Government of India], 3 years, 2020-2023, Rs 19.87 lakhs
4. Clinical, Histomorphometric and 3-Dimensional Cone Beam Computed Tomographic Analysis of Autogenous Tooth Bone Graft Mixed with Injectable Platelet Rich Fibrin for Ridge Preservation, Vikender Singh, AIIMS, 2 years, 2019-2021, Rs 8.89 lakhs
5. Comparative evaluation of Module for Sports Dental Injury Prevention (MSIP) and combination of MSIP with custom-fabricated mouth-guard for prevention of traumatic dental injuries in 10-18 years old Kabaddi Players of Delhi-NCR region in a sports season: a cluster randomized controlled trial, Dr Nitesh Tewari, ICMR, 3 years, 2020-2023, Rs 42 lakhs
6. Cytotoxicity of intracanal medicaments used for root canal disinfection and their effect on proliferation and differentiation potentials of Stem Cells from Apical Papilla-An in-vitro study, Dr Morankar Rahul, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
7. Development and testing of 3D printed tooth prototype with anatomic complexity for pre-clinical endodontic training, Dr Sidhartha Sharma, AIIMS Early Career Intramural Research, 1 year, 2020-2021, Rs 4.48 lakhs
8. Development and validation of Dental Trauma Awareness Tool for School Teachers, Dr Nitesh Tewari, ICMR, 3 years, 2019-2022, Rs 15 lakhs
9. Development of the mobile app for prevention of dental diseases in children, Dr Kalpana Bansal, AIIMS, 2 years, 2021-2023, Rs 8 lakhs
10. Evaluation of osteocalcin and metalloproteinase 8 levels in the periimplant crevicular fluid (PICF) around immediate dental implant placed with socket shield technique (SST) and conventional technique (CT) in maxillary anterior region- A randomized controlled pilot study, Dheeraj Kumar Koli, AIIMS, New Delhi, 2 years, 2021-2023, Rs 8 lakhs
11. Evaluation of the effect of newer simplified protocols for fabrication of complete denture on denture quality, patient satisfaction, and nutritional status, Dr. Aditi Nanda, AIIMS, New Delhi, 2 years, 2021-2023, Rs 4.89 lakhs
12. Evaluation of the efficacy of tooth movement with Alignwise Clear Aligner System, Dr Vilas Samrit, Alignwise Smile Technologies, 2 years, 2019-2021, Material and logistic support,
13. 3D printed aligners as a state-of-the-art smile designing appliance for its integration in Indian Public Hospitals, Dr Prabhat Kumar Chaudhari, Science and Engineering Research Board, Government of India, 3 years, 2022-2025, Rs 38.26 lakhs
14. Explore the novel use of fluorescence-based microendoscopy and Raman spectroscopy for detection of oral cancer and dysplasia, Deepika Mishra, AIIMS-IIT-Delhi Inter Institutional Collaborative Research Grant, 2 years, 2019-2021, Rs 20 lakhs
15. Explore the novel use of fluorescence-based microendoscopy and Raman spectroscopy for detection of oral cancer and dysplasia, Dr Rahul Yadav, AIIMS-IIT-Delhi Inter Institutional Collaborative Research Grant, 2 years, 2020-2022, Rs 20 lakhs
16. Fabrication and in-vivo (rat model) evaluation of novel local drug delivery system based on polymer nanocomposite for treatment of periodontitis, Dr Kunaal Dhingra, ICMR, New Delhi, 3 years, 2019-2022, Rs 42.00 lakhs
17. Finite Element Analysis and development of Miniscrew Implant Supported Bi-helix Appliance (MISBA) for true asymmetric maxillary expansion, Dr Prabhat Kumar Chaudhari, AIIMS, New Delhi and IIT-Delhi, 2 years, 2019-2022, Rs 10 lakhs
18. Fluoride and Sugar levels for the commercially available Baby food supplements are appropriate, Dr Ritu Duggal, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
19. HLA related genetic propensity for manifestation of Oral Submucous Fibrosis among North Indians, Dr Ritu Duggal, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
20. Impact of simulation based teaching on knowledge of performer, actual conduct of aerosol generating procedures and self-confidence while handling patients with COVID-19. Devalina Goswami, AIIMS, 2 years, 2021-2023, Rs 4.58 lakhs
21. Low intensity pulsed ultrasound (LIPUS) as a therapeutic adjunct to enhance periodontal healing subsequent to luxation dental injuries, Dr Vijay Kumar, AIIMS Early Career Intramural Research, 2 years, 2019-2021, Rs 3.86 lakhs
22. Molecular and immunological characterization of fibro-osseous lesions affecting oral and maxillofacial region, Dr Rahul Yadav, AIIMS, 3 years, 2021-2023, Rs 10 lakhs
23. Multiregion sequencing to unveil the intratumoral heterogeneity and novel biomarkers in oral squamous cell carcinoma in an Indian population: Case Control Study, Deepika Mishra, ICMR, 3 years, 2022-2025, Rs 50 lakhs
24. Multiregional sequencing to unveil the intratumoral heterogeneity and novel biomarkers in oral squamous cell carcinoma in an Indian population: Case Control Study, Dr Rahul Yadav, ICMR, 3 years, 2021-2023, Rs 50 lakhs

25. Serum and Saliva Metabolomic Profiling and Identification of Potential Biomarkers in Periodontitis by Nuclear Magnetic Resonance Spectroscopy. Dr Anika Dawar, AIIMS Intramural Early Career, 2 years, 2022-2024, Rs 9.2 lakhs
26. The detection of current and persistent oral HPV infection using non-invasive method in Oral Potentially Malignant Disorders with their clinical and molecular characteristics, Dr Shalini Gupta, ICMR, 3 years, 2021-2024, Rs 49.38 lakhs
27. The role of novel self-assembling peptides in prevention of post radiation caries in head and neck cancer patients: A randomised controlled trial, Dr Vijay Kumar, ICMR, 3 years, 2020-2023, Rs 41.14 lakhs
28. To determine the concentration of Betel nut alkaloids and Catechin in current and past betel nut users and their association with pro-oncogenic cytokines and oral potentially malignant disorders, Dr Shalini Gupta, AIIMS, 2 years, 2021-2023, Rs 10 lakhs
29. Treatment of temporomandibular joint disorders based on Vienna Concept of Functional Occlusion, Dr Ritu Duggal, Austria-Scientific and Technological Cooperation, Department of Science and Technology, Government of India, 2 years, 2020 –2022, Euros 15,000

Completed

1. A study validating the efficacy of a herbal mouthwash in reduction of plaque and gingivitis: An *in vitro* evaluation and a randomized controlled clinical trial, Vikender Singh, National Innovation Foundation, Govt. Of India, 2 years, 2019-2021, Rs 30.47 lakhs
2. Cluster randomised controlled superiority trial to evaluate the growth outcomes and jaw functions after interposition arthroplasty with constochondral graft versus gap arthroplasty in the management of temporomandibular ankylosis, Dr. Ajoy Roychoudhury, ICMR, 3 years, 2018-2021, Rs 15.46 lakh
3. Development and laboratory testing of a self-adhesive stainless steel dental splint material, Dr Ajay Logani, AIIMS-IIT collaborative research project, 2 years, 2019-2021, Rs 10 lakhs
4. Effect of scanning techniques and print layer heights on the accuracy of 3-dimensional printed orthodontic, Dr Prabhat Kumar Chaudhari, Indian Council of Medical Research (ICMR), 2 years, 2019-2021, Rs 14.9 lakhs
5. Effectiveness of a Cranberry Extract Mouth- Rinse Vs a Sodium Fluoride Mouth Rinse on Microbial Counts in Caries Active Children- A Double Blind Randomized Controlled Trial, Dr Kalpana Bansal, ICMR, 02 and a half years, 2019-2021, Rs 29 lakhs
6. Evaluation of inflammatory markers metalloproteinase-8 (MMP-8) and cathepsin- k (CTSK) levels in immediate loaded and delayed loaded dental implants: A randomised controlled trial and pilot study, Dheeraj Kumar Koli, Intramural project, AIIMS, New Delhi, 2 years, 2018-2020, Rs 7.5 lakhs
7. Evaluation of Success of Silver Modified Atraumatic Restorative technique with Conventional Restorative technique on Carious Primary molars –A Randomized Controlled Trial, Dr Kalpana Bansal, AIIMS Intra-mural, 2 years, 2020-2022, Rs 1.26 lakhs

Number of Funded Research Projects and amount of extramural/intramural funding in last 3 years

Year	Extramural or Intramural/ funded research project	Total no of projects completed/ongoing	Total amount
2019-2020	33	27 (completed)	5,89,22,358/-
		6 (ongoing)	2,85,900/-
2020-2021	35	24 (completed)	3,11,80,702/-
		11 (ongoing)	3,97,50,432/-
2021-2022	49	38 (completed)	5,60,52,243/-
		11 (ongoing)	1,27,59,604/-

Departmental projects

Ongoing

1. A bibliometric analysis of the top 100 most cited articles in nutrition and dietetics
2. A comparative clinical study to assess the outcome of full pulpotomy performed in either deep or extremely deep carious mature permanent mandibular teeth with symptomatic irreversible pulpitis
3. A comparative computerised occlusal analysis of conventional complete denture and implant supported over dentures:
4. A comparative evaluation of two protocols of topical fluoride varnish application in adult patients undergoing radiotherapy of head and neck regions for prevention of radiation caries
5. A comparative study to evaluate the alkaline phosphatase level and implant stability quotient in immediate implants placed by using socket shield technique and conventional technique in maxillary anterior region– A randomised controlled trial
6. A comparative study to evaluate the crestal bone level around immediate implant placed using socket shield technique and conventional technique – a pilot study.
7. A non-inferiority randomised controlled trial to compare lingual split bone technique and bur technique for post-operative pain and trismus following impacted mandibular third molar surgery.

8. A prospective cohort study to compare postoperative accuracy in virtual surgical planning and use of patient specific implants versus conventional planning and fixation of Le Fort 1 osteotomy.
9. A randomised control trial comparing the efficacy of arthrocentesis, mandibular manipulation and anterior repositioning splint versus arthrocentesis and mandibular manipulation in the management of temporomandibular joint disc displacement without reduction.
10. A randomised control trial to compare chisel and mallet with prezotome for third molar extraction in terms of intra operative and post-operative parameters
11. A randomised controlled trial to compare postoperative pain in buccal delivery approach in mandibular third molar surgery between the treatment groups using chisel and mallet and piezotome.
12. A randomised controlled trial to evaluate the outcome of subcondylar fracture treated with operative and nonoperative method.
13. A retrospective study to analyse the position of mandibular lingual and mandibular canal course in Indian population with skeletal class II and skeletal class III malocclusion using cone beam computed tomography.
14. A study to assess the outcome of a combination of non- surgical endodontic therapy and vital pulp therapy in comparison to full pulpotomy performed in mature permanent teeth with symptomatic irreversible pulpitis and periapical rarefaction – a randomised controlled trial
15. Accuracy of custom made TMJ prosthesis- a prospective study.
16. An ambispective study to evaluate the changes in oropharyngeal airway volume in the patient's of temporomandibular joint ankylosis treated with total temporomandibular joint replacement.
17. An evaluation of oral health related quality of life in children and Adolescents affected by Traumatic Dental Injuries
18. An *in vitro* evaluation of fracture resistance and failure-modes of two designs of PMMA endocrown in primary molars
19. An observational study to evaluate bone healing and recurrence rate within one year after topical application of 5-fluorouracil in the treatment of odontogenic keratocyst.
20. Analysis of the opinions and beliefs associated with the use of tobacco dentifrice among the individuals attending a dental hospital
21. Application of ROX Index And ROX-HR Index as predictors of response to high flow basal oxygenation in post extubation respiratory failure: A prospective observational study
22. Assessment of anatomical 'danger zone' thickness in the mesial roots of mandibular molar teeth with furcation involvement- a retrospective cone beam computed tomography study
23. Assessment of attentional bias to cariogenic versus non cariogenic food presentations in children: a visual tracking study.
24. Assessment of fluoride and silver ion concentrations in saliva and urine following Silver Diamine Fluoride application on carious teeth in the children-An exploratory Study
25. Assessment of irrigation dynamics in an anterior tooth at different stages of root development – A computational fluid dynamics study
26. Association between pre-operative frailty and post-operative delirium and cognitive dysfunction in elderly patients undergoing spinal surgery under general anaesthesia: A prospective observational study.
27. Association of intraoperative blood glucose variability with postoperative outcomes in emergency laparotomy
28. Cephalometric norms of north Indian people, orthodontic treatment need in non-syndromic unilateral cleft lip and palate patients - A hospital based retrospective cross-sectional study.
29. Comparative evaluation of AHI score and interleukin-6 levels between mandibular advancement device group and continuous positive airway pressure group in obstructive sleep apnea patients- A pilot study
30. Comparative evaluation of effectiveness of different school-based approaches for reduction of sugar and sugar sweetened beverages in children
31. Comparative evaluation of fit and accuracy of the rapid prototyped retainers of different print layer height
32. Comparative evaluation of retention rates of novel sealant with silver nanoparticles and conventional fissure sealant in molars- a randomised controlled trial
33. Comparative evaluation of surface roughness of denture base materials processed by using three different techniques following daily immersion in different denture cleansing agents- An *in vitro* study.
34. Comparative evaluation of the accuracy and cost-effectiveness of the rapid-prototyped orthodontic models 3D printed in vertical and horizontal orientations.
35. Comparative evaluation of wear of polished monolithic zirconia and opaque monolithic zirconia opposing natural teeth- an *in vivo* study
36. Comparative study to evaluate the occurrence of non-union (malunion in the double mandibular fracture patients who are treated with one load bearing fixation in anterior fracture and one load sharing fixation in posterior fracture VS two load sharing fixation-Randomised controlled trial
37. Comparative study to evaluate the occurrence of nonunion/malunion in the double mandibular fracture patients who are treated with one rigid and semirigid fixation vs two semirigid fixations- a randomised controlled trial.
38. Comparison between analgesic efficacy of sacral erector spinae block and caudal block in pediatric anorectal surgeries– A randomized controlled trial.

39. Comparison of Cmac-D Blade and Cmac-Macintosh Blade for Nasotracheal Intubation In Patients With Limited Mouth Opening – A prospective randomised controlled trial
40. Comparison of articular disc position following closed functional treatment and open reduction in condylar fracture of mandible- MRI study.
41. Comparison of Awake Nasotracheal Intubation Using Flexible Fibre-Optic Bronchoscope Versus D Blade CMAC video-laryngoscope in patients having anticipated difficult airway under topical local anaesthesia and dexmedetomidine sedation.
42. Comparison of bone density and implant stability between osseodensification and conventional drilling technique- a split mouth randomised controlled trial
43. Comparison of caudal epidural block with multiple injection Costotransverse block for pyeloplasty in paediatric patients: A prospective randomised, blinded clinical trial.
44. Comparison of diuresis with furosemide versus furosemide with albumin during de-resuscitation phase of sepsis in hypoalbuminemic patients: a randomised control trial
45. Comparison of efficacy of intra-articular injection of platelet rich fibrin in conjunction with arthrocentesis and conventional arthrocentesis for the treatment of internal derangement of temporomandibular joint: A randomised controlled trial.
46. Comparison of hands-on ORSIM simulator training versus high fidelity mannequin training of novice anaesthesiology residents for fiberoptic intubation proficiency and retention ability - A prospective randomised controlled trial.
47. Comparison of post-operative swelling after single dose of submucosal dexamethasone versus platelet rich fibrin in third molar extraction: A randomised controlled clinical trial
48. Comparison of spontaneous breathing versus Paralysed technique during fiber-optic intubation in anesthetised children and adolescents with Temporomandibular joint ankylosis: randomised parallel group trial
49. Comparison of standard vs trans pulmonary pressure guided intraoperative PEEP on postoperative oxygenation in patients undergoing laparoscopic lower abdominal surgery
50. Comparison of superior trunk block and interscalene brachial plexus block for analgesia in open shoulder surgery: a pilot study
51. Comparison of the accuracy of implants placed with 3D printed surgical guide and with conventionally prepared surgical guide: A split mouth study.
52. Correlation between Doppler derived carotid artery corrected flow time, pressure transducer derived radial artery flow time and pulse pressure variation: A prospective observational study
53. Correlation of periodontal characteristics with cephalometric and CBCT parameters in anterior dentition of individuals with different growth pattern
54. Cross cultural adaptation and evaluation of malocclusion impact questionnaire (MIQ) in young Indian Adolescents seeking orthodontic treatment, Comparison of translucency and roughness of lithium disilicate glass ceramic and two types of zirconia ceramic after finishing, polishing and glazing- an in vitro study
55. Cross sectional study to evaluate osseous and soft tissue changes on contralateral side after unilateral TJR.
56. Dental Trauma Splint Aid: An adhesive tape for positioning of wire composite splints in luxation injuries of permanent teeth
57. Development and preliminary validation of a novel pain assessment tool based on pulpal symptoms
58. Development and validation of an assessment tool for traumatic maxillofacial and dental re- injury associated fear and anxiety in 10-16 years old boxers in Delhi NCR region
59. Development of database of fluoride and other heavy metals and other sugar levels for commercially available baby food supplements
60. Diagnostic accuracy of diaphragmatic pulse-wave tissue Doppler imaging parameters in predicting weaning outcomes in critically ill mechanically ventilated patients
61. Effect of application of low-level laser therapy on orthodontically induced inflammatory root resorption in patients undergoing fixed orthodontic treatment– A randomised controlled trial.
62. Effect of cryotherapy on the treatment outcome of full pulpotomy performed on mature permanent mandibular molar teeth with symptomatic irreversible pulpitis- A randomised clinical trial
63. Effect of incremental PEEP titration on postoperative lung atelectasis in adult patients undergoing elective major abdominal surgery: A randomised controlled trial
64. Effect of systemic and local antibiotics therapies on clinical and patient reported outcomes in healthy, partially dentate patients undergoing dental implant placement– a preliminary study.
65. Effectiveness of an oral health promotion training program among Navodaya Vidyalaya Samiti Staff Nurses
66. Effects of parenteral Omega-3 Fatty Acid supplementation on clinical outcomes and organ failure in acute Pancreatitis - A randomised controlled trial
67. Efficacy of high volume Pericapsular Nerve Group (PENG) block in patients with acetabular fracture for positioning for Subarachnoid Block: Prospective observational study
68. Efficacy of a novel bundle of care to reduce complication following percutaneous dilatational tracheostomy in critically ill patients
69. Efficacy of a novel bundle of care to reduce ICU acquired weakness- A randomised controlled trial
70. Efficacy of a novel technique for percutaneous dilatational tracheostomy in critically ill patients

71. Efficacy of fixation of subcondylar fracture with lambda plate versus 2 mm high profile plate: A randomised controlled trial
72. Efficacy of injectable platelet rich fibrin (i-PRF) to reduce orthodontic treatment duration - A randomised controlled trial
73. Efficacy of occlusal pit and fissure sealant in moderate and high caries risk adult patients: A single blind randomised controlled trial.
74. Efficacy of thoracic fluid content by cardiometry in predicting weaning failure in ICU: A prospective observational study
75. Evaluation and comparison of marginal adaptation of cad cam monolithic peek and zirconia crown-an in vitro pilot study
76. Evaluation of accuracy of patient specific prosthesis for total joint replacement of temporomandibular joint- A prospective study
77. Evaluation of effect of Ketofol and Ketodex on duration of seizure activity, hemodynamic profile, recovery times and cortical activity (using fNIRS) inpatients undergoing electroconvulsive therapy for depression.
78. Evaluation of fracture strength of cad cam fabricated monolithic zirconia and peek crowns an in vitro comparative study
79. Evaluation of mesotherapy and diode laser for gingival depigmentation: A preliminary randomised clinical trial (pilot study)
80. HLA related genetic propensity for manifestation of oral submucous fibrosis among North Indians
81. Immunoexpression of HLA class II antigen system in oral sub-mucous fibrosis- Study of genetic propensity among North Indians
82. Impact of various front of pack nutrition labeling system on willingness to consumption
83. Incidence, risk factors and outcome of acute kidney injury in adult patients undergoing Emergency Laparotomy: A prospective observational study
84. Influence of the restoration on the electrical conductance of the tooth after pulpotomy- A preliminary investigation
85. Influence of the stage of root development and method of irrigant delivery on endodontic irrigation dynamics- A computational fluid dynamics study
86. Isotonic bicarbonate vs. balanced salt solution as resuscitation fluid in patients with severe metabolic acidosis: A randomised control trial
87. Longitudinal surveillance of serum metal ion levels in patient with total temporomandibular joint replacement.
88. Post operative pulmonary complication with high FiO₂ or standard FiO₂ in adult patients undergoing abdominal surgery: A non-inferiority trial
89. Prevalence of teething problems during eruption of primary teeth- A prospective cohort study
90. Prospective retrospective cohort study to evaluate bone formation in alveolar bone grafting cases treated with autologous iliac crest graft versus beta tricalcium phosphate graft at 6 months follow up.
91. Psychometric properties of NDESC index for white spot lesions in orthodontic patients - A cross sectional study.
92. Recovery characteristics of patients following two different anesthesia techniques in major maxillofacial surgery: a randomised controlled trial.
93. Reliability and validity of Hindi version Toronto outcome measure for craniofacial prosthetics scale.
94. Reliability of pulp sensibility tests in class II division I malocclusion patients with different facial patterns treated by En Masse Retraction – A pilot clinical study.
95. Response of dental pulp to cryotherapy when used as a hemostatic agent during pulpotomy – a histomorphologic study
96. Smokeless tobacco cessation using behavior intervention, mcessation and telephone counselling – A randomised control trial
97. Soft tissue norms for north Indian adults – A cephalometric study
98. Subepithelial connective tissue graft and injectable platelet-rich fibrin with or without enamel matrix derivative for treating multiple gingival recessions in smokers: a randomised clinical trial
99. The doppler renal resistive index and semiquantitative power doppler ultrasound for early detection of acute kidney injury after perforation peritonitis surgery
100. The outcome of coronal and deep pulpotomy in mature permanent teeth with extremely deep carious lesion and symptomatic irreversible pulpitis- A preliminary randomised clinical trial
101. The role of renal arterio venous coupling in the prediction of acute renal injury in patients with sepsis: A prospective observational study
102. To develop and validate clinical decision support tool (CDST) based on AAPD guidelines for diagnosis and management of deep carious lesion in primary teeth.
103. To evaluate osseous changes on the non-operated temporomandibular joint after unilateral total joint replacement.
104. Trauma induced stress distribution in primary anterior teeth restored with aesthetic crowns: A finite Element Analysis I
105. Velocity- time integral and stroke volume measured in the ascending aorta for prediction of volume responsiveness in spontaneously breathing patients

Completed

1. A comparative study to evaluate the crestal bone level around immediate implant placed using socket shield technique and conventional technique – a pilot study.
2. A pilot study to compare the virtual surgical plan with actual surgical outcome in splintless orthognathic surgery using fixation with pre-adapted conventional plates.

3. A prospective study to evaluate improvement in pharyngeal airway volume and lengthening of mandible in simultaneous release of ankylosis and mandibular distraction.
4. An observational study to evaluate bone healing and recurrence rate within one year after topical application of 5 fluorouracil in the treatment of odontogenic keratocyst
5. An observational cross-sectional analytical study to evaluate the effects of Anti-cancer therapy on developing dentition in long term survivors of childhood cancers
6. Analgesic efficacy of ultrasound guided erector spinae block versus intrathecal morphine in patients undergoing percutaneous nephrolithotomy surgery: A prospective randomised comparative pilot study.
7. Assessment of inferior vena cava collapsibility index (IVCCI) and variation of carotid artery peak velocity (CAPV) as predictor of post-spinal hypotension
8. Association between consumption of sugar-sweetened beverages and periodontal diseases: A systematic review
9. Association between perioperative acid-base abnormalities and kidney dysfunction in patients with peritonitis: A prospective cohort study
10. Association between sugar sweetened beverage consumption and socio-economic status: A systematic review and meta-analysis
11. Carotid artery corrected flow time & respiratory variations of peak blood flow velocity for prediction of hypotension after induction of general anaesthesia in adult patients undergoing elective surgery: A prospective observational study
12. Comparative evaluation of effectiveness of personal intraoral photographs of oral potentially malignant disorders and behavioral counseling on tobacco cessation amongst the current tobacco users
13. Comparative evaluation of color change in restorative materials due to common eatables consumed by Indian children
14. Comparative evaluation of different root surface biomodification methods in teeth with extraoral dry times more than 60 minutes
15. Comparative evaluation of putty index and custom template for direct composite restoration of uncomplicated crown fractures in permanent anterior teeth
16. Comparative evaluation of simvastatin gel and diode laser in pulpotomy of primary molars
17. Comparative evaluation of two rehydration protocols in fragment reattachment
18. Comparison of blind intubation success rates through AirQ and LMA blockbuster in adult patients
19. Comparison of effectiveness of osteosynthesis using 2 mm reconstruction plate versus conventional reconstruction plate in anterior mandibular fractures associated with angle fractures.
20. Comparison of effectiveness of osteosynthesis using high profile plate versus reconstruction plate in anterior mandibular fractures associated with angle fractures.”
21. Comparison of lactate clearance and neutrophil lymphocyte ratio as predictor of mortality in patients with sepsis
22. Comparison of post extubation lung aeration in patients undergoing traditional extubation with those undergoing positive pressure extubation in ICU: Randomised trial
23. Comparison of translucency and roughness of lithium disilicate glass ceramic and two types of zirconia ceramic after finishing, polishing and glazing- an in vitro study
24. Comparison of urinary and salivary metal levels in long-term fixed appliance therapy: A prospective Study
25. Comparison of clinical efficacy of Intrathecal 0.75% isobaric ropivacaine with fentanyl versus clonidine as adjuvant in caesarean section: A prospective randomised controlled trial.
26. Correlation of oxygenation index and oxygen saturation index in patients undergoing emergency laparotomy under general anaesthesia: A prospective observational study
27. Correlation of the depth of occurrence of second mesiobuccal canal with its position and root canal configuration in maxillary first molar teeth - a retrospective cone beam computed tomography study
28. Dental caries status in individuals with hearing difficulties: A systematic review and meta-analysis
29. Design, Development and In-vitro/ Ex-Vivo testing of a flexible self-adhesive stainless steel splint prototype for stabilisation of teeth- A pilot study
30. Development and validation of a smart phone-based application for promotion of oral health among Indian children
31. Development and preliminary validation of a novel pain assessment scale based on pulpal symptoms
32. Development and testing of 3D printed tooth prototype with anatomic complexity for pre-clinical endodontic training
33. Effect of 940nm diode laser irradiation and dentin bonding agent on permeability of furcation area in primary molars
34. Effect of application of SDF and potassium iodide on the micro tensile bond strength of composite resin to carious dentin– An experimental in-vitro study
35. Effect of systemic and local antibiotics therapies on clinical and patient reported outcomes in healthy, partially dentate patients undergoing dental implant placement – A preliminary study.
36. Effectiveness of a training program in school teachers on the role of sugars in oral and general health
37. Effectiveness of an oral health training program for nursing professionals in India: An interventional study
38. Effectiveness of topical fluorides in prevention of radiation caries in adults: A systematic review and meta-analysis
39. Effectiveness of training module on best mercury hygiene practices in improving the knowledge regarding minamata convention among dental professionals
40. Evaluation of immediate skeletal and occlusal pattern changes and their influence on electromyographic activity of jaw muscles in growing patients treated with rapid maxillary expansion for posterior crossbite – A prospective clinical study

41. Evaluation of one versus two step techniques in the outcome of MTA pulpotomy in mature permanent teeth with symptomatic irreversible pulpitis
42. Evaluation of perceptions of tobacco cessation among the individual attending the tertiary health care dental hospital: A mixed method design
43. Evaluation of success rate of one-piece yttrium stabilised root analogue zirconia dental implants- A pilot study.
44. Evaluation of two rehydration protocols for fractured tooth fragments in terms of depth of penetrations of resin tags in dentin using confocal laser scanning microscopy
45. Evaluation the role of serum lactate for predicting early deterioration in COVID-19 patients: A Retrospective Study
46. Exploring the usage of Ultrasonography in assessing mid palatal suture opening in Rapid Palatal Expansion: Pilot Study
47. Feasibility of anterior temporalis muscle ultrasound as a method to assess muscle wasting in ICU
48. Feasibility of the International Caries Classification and Management System (ICCMS) protocol in a hospital-based setting
49. Global status of knowledge, attitude and practice on tobacco cessation interventions among dental professionals: A systematic review
50. Impact of COVID 19 Pandemic on tobacco use and cessation-a telephonic follow-up of patients visiting the dental hospital
51. Longitudinal changes in electromyographic activity of mass enter and temporalis muscles of patients undergoing temporomandibular joint replacement.
52. Longitudinal surveillance of serum metal ion levels in patients with total temporomandibular joint replacements.
53. Low dose aspirin in moderate to severe SARS-CoV-2 infected patients: A pilot randomised controlled trial
54. Prediction of difficult laryngoscopy and orotracheal intubation using lateral neck x-ray: A prospective observational double-blind study.
55. Predictors of intensive care unit admission and mortality in acute febrile illness: A prospective observational study
56. Prevalence of developmental defects of enamel in children with celiac disease. A hospital based observational study
57. Prevalence of early childhood caries in preschool children of Leh District-Ladakh
58. Prevalence of oral premalignant lesion through visual screening among security personnel working at a tertiary health care centre
59. Prevalence of teething problems in infants: A pilot exploratory study
60. Recovery characteristics of patients following two different anesthesia techniques in major maxillofacial Surgery: A randomised controlled trial.
61. Recovery characteristics of patients using two anaesthesia techniques in major maxilla facial surgery: A randomised controlled trial
62. Renal doppler ultrasound to predict acute kidney injury in patients with acute circulatory failure in ICU: A prospective observational study
63. Role of spot urine sodium in furosemide stress test in volume overloaded critically ill patients with acute kidney injury- A prospective study
64. Severity and pattern of ECC among preschool children and its association with various behavioral factors- A hospital-based study
65. Sub-phenotype identification in SARS- COV-2 Infected adult patients with ARDS by latent class analysis: A retrospective study
66. The effect of energy and fat content labeling on food consumption pattern: A systematic review and meta-analysis
67. The effect of inciso-cervical position of wire-composite splint on the mobility of the avulsed permanent tooth: A cadaveric model study
68. The effect of sodium fluoride mouth rinse on surface morphology and elemental composition of orthodontic brackets in three different pH conditions – An in vitro study.
69. To evaluate and compare bite force and chewing efficiency in patients of TMJ ankylosis treated by alloplastic total joint replacement, gap arthroplasty with normal individuals.
70. Ultrasonographic assessment of brachial artery reactivity as predictor of adverse outcome in patients undergoing emergency laparotomy for perforation peritonitis: prospective observational study
71. Universal oral health coverage – Perspectives from a developing country

Collaborative projects

Ongoing

1. A descriptive study to evaluate the extracutaneous and systemic involvement in children with inherited epidermolysis bullosa, Dermatology and Venereology
2. A phase III randomised controlled study comparing xerostomia after tubarial salivary gland sparing IMRT versus standard IMRT in patients with locally advanced oropharyngeal squamous cell carcinoma, Radiation Oncology
3. A pilot study to evaluate fluorescence UV imaging for assessment of malignant and potentially malignant disorders in oral cavity and update and analysis of tongue cancer database, Surgical Oncology
4. A Population based prospective cohort study to unravel the causes of stroke and cognitive decline: A cross cultural perspective, Neurology

5. A prospective, active controlled, randomised, double blind, multicentre, phase III study to compare the safety and efficacy of biosimilar denosumab of enzyme biosciences limited versus innovator denosumab in the treatment of postmenopausal osteoporosis, Orthopedics, Endocrinology, Radiology
6. A study to examine dependence, harm perception and motivation to quit amongst Indian areca nut users and pilot test an intervention module, Psychiatry and NDDTC
7. Assessment of quality of life among adult survivors of head and neck ewing sarcoma family of tumours, Medical Oncology
8. Childhood Cancer Survivorship Program (CCSP) comprised effects of cancer related chemotherapy, radiotherapy and bone marrow transplantation of dentofacial and oral structures, Medical Oncology
9. Comparison of 5 factor modified frailty index and ASA classification to predict morbidity and mortality in patients undergoing arthroplasty—A prospective observational study, Orthopedics
10. Dental conditions and co-morbidities in an elderly population in north India, Geriatric Medicine
11. Effect of timing of biliary drainage (urgent versus early) in patients with severe acute cholangitis on 30 days mortality: A randomised controlled trial (ACT trial), Gastroenterology and Human Nutrition
12. Elucidating the cellular functions and clinical significance of Dipeptidyl Peptidase III (DPP III) in oral cancer, Biochemistry
13. Functionalised Collagen nanoparticle impregnated silk nanoceramic composite 3D matrices for flat bone regeneration, IIT Guwahati
14. Multi-model autofluorescence, fluorescence, Polarization, Micro endoscopy and spectroscopy based detection of common cancers of mouth, breast, Gut, respiratory tract, skin and female genital tract, General Surgery
15. NLRP3 Inflammasome gene polymorphisms and their expression in Periodontitis- a genetic study in North Indian, Biochemistry
16. Randomised controlled trial to assess the efficacy of swallowing exercise on dysphagia among post extubated patients admitted in ICU of AIIMS, College of Nursing
17. Role of human Heterogeneous Nuclear Ribonucleoprotein D (hnRNPD) in oral cancer, Biochemistry
18. Role of negative regulators of EGFR in malignant transformations of oral dysplasia, Biochemistry
19. Role of Parecoxib, a selective cyclooxygenase-2 inhibitor, for reduction of Severity of acute pancreatitis: A randomised controlled trial, Gastroenterology and Human Nutrition
20. Tumors and cysts of jaw: Evaluation by dual energy computed tomography with limited MRI correlation, Radiodiagnosis

Completed

1. A morphological study of the human Temporomandibular joint, Anatomy
2. Cleft Lip and palate anomaly in India: Clinical profile Risk factors and current status of treatment: A hospital based study-main phase, Genetics and CSIR-IGIB
3. Effect of various tooth storage media on viability, proliferative ability and differentiation of human periodontal ligament stem cells- an in-vitro preliminary study, Stem cell facility
4. Estimate the oral cancer conversion risk with long term follow up (10-15 years) of patients with precancerous lesions-leukoplakia, submucous fibrosis, lichen planus among patients included in a ICMR tobacco task force project, General Surgery and NICPR, Noida
5. Interdisciplinary variations in spectrum of oral mucosal lesions, Dermatology
6. To assess the potential ability of Cathepsin L and Cathepsin B as universal biomarkers of cancer, Biochemistry

PUBLICATIONS

Journals: 133

Abstracts: 12

Chapters in Book: 3

Number of publications in last 3 years

Year	Total Published	Journal Articles	Abstracts	Chapters in book	Monograph
2019-2020	54	37	8	9	0
2020-2021	161	143	9	8	1
2021-2022	148	133	12	3	0

PATIENT CARE

1. Interdisciplinary treatment of patients with cleft lip and palate and combined orthognathic surgery patients suffering from facial deformities
2. Exodontia, simple and complicated
3. Temporomandibular Joint Surgery
4. Cranio-facial trauma
5. Orthognathic and Aesthetic Surgery of face
6. Oral and Maxillofacial Pathology
7. Maxillofacial Infections

8. Surgery for Obstructive sleep apnea
9. Trigeminal neuralgia Clinic
10. Oste-odontokeratoplasty
11. Specialty clinic on oral and maxillofacial prosthodontics
12. Implant dentistry clinic
13. Temporomandibular disorders clinic
14. Prostheses- Complete denture, removable partial denture, crown and bridge, laminates, occlusal splints, implant supported prosthesis (removable and fixed), and maxillofacial prosthesis (extra oral/ facial and intra oral)
15. Oral and dental diseases in children up to 14 years of age (19000-20000 procedures in children)- restorations, extractions to complex procedures as deciduous and permanent endodontic treatments, stainless steel crowns, space maintainers, habit breaking appliances, full mouth rehabilitation
16. Oral Medicine and Radiology OPD services
17. Speciality Clinic: Oral Ulcers Clinic
18. Oral cancer Screening
19. Management of Potentially Malignant Oral Disorders
20. Dental Clearance
21. Dental Radiology (IOPA, Occlusal, OPG, Cephalometry)
22. Cone Beam Computed Tomography facility in Oral Medicine & Radiology CDER
23. Development of registry for Oral Potentially Premalignant lesions in CDER
24. Conventional non-surgical and surgical periodontal therapy
25. Periodontal plastic surgery
26. Soft and hard tissue regenerative procedures
27. Diode laser assisted soft tissue excision and adjunctive pocket debridement procedures
28. Tobacco cessation centre
29. Preventive clinic

Patient care data of last 3 years

Year	Outpatients (including casualty)	Admissions	Surgery (Operations/ Procedures (major/minor)
2019-2020	3,29,260	1,932	1,595
2020-2021	59,869	255	1,046
2021-2022	1,39,592	707	1,048

AWARDS, HONOURS AND SIGNIFICANT EVENT

Professor Ritu Duggal was a Chief Guest at the Convocation Ceremony of ITS Dental College, Noida; at the conference Orthorachna 2021 held at Manav Rachna Dental College, Faridabad, Haryana and Distinguished Guest at the Orientation Ceremony at ITS Dental College, Greater Noida. She was an expert for the Selection Committee for faculty at Banaras Hindu University, and for Senior Dental Surgeon at Haryana Public Service Commission. She was also the External Examiner at SGT University, Gurgaon, Maulana Azad Institute of Dental Sciences, and Govt. College of Dentistry, Indore. She was Subject Expert for inspection at Indraprastha Dental College and Hospital, ESIC Dental College and Hospital, AIIMS Bhubaneswar and UCMS and GTB Hospital. She was nominated as member of the Board of Studies at Aligarh Muslim University and Subject Expert by Ch. Charan Singh University, Meerut for the initiation of MDS course. She served as Expert to ICMR to review the research projects in the field of Oral Health and postgraduate research grants. Also, made significant contribution to WHO, National Oral Health Program and as advisor to government of India on National Oral Health Policy. Dr. Duggal was also invited to the 14th Convocation of the Guru Gobind Singh Indraprastha University as a Senate Member.

Professor Ajoy Roychoudhury is the Associate Editor (trauma section) for Journal of Oral Biology and Craniofacial Research and Reviewer for British Journal of Oral and Maxillofacial Surgery, National Medical Journal of India, and National Journal of Oral and Maxillofacial Surgery. He has been Dental Council Inspector to verify the teaching, infrastructure facility of various dental colleges in India providing postgraduate education. He is also in the committee of MOH&FW to review the decisions of Dental Council of India pertaining to recognition to various dental colleges in India. He also served as an expert at selection committee at PGIMER Chandigarh, AIIMS Bhatinda, and AIIMS, Bilaspur.

Professor Veena Jain was appointed as question paper setter for Santosh Deemed to Be University, Ghaziabad and at Veena Jain Subharti University, Meerut for final MDS prosthodontics examination.

Professor Ongkila Bhutia has been chairperson of the Hospital Infection Control Committee at CDER. She was also the Nodal Officer, COVID-19 for CDER, AIIMS.

Professor Ajay Logani was the winner of the Journal of Endodontics Awards in the category of Clinical Research AAE22 - 2022 and also presented the Hari Prakash Oration at ITS Dental College, Ghaziabad.

Professor Vijay Prakash Mathur was elected as President of the Indian Society of Dental Traumatology for a term of 3 years. He has been renominated Vice President for the Indian Society of Dental Research for 2022-2023. He received his Fellowship of the Faculty of Dental Surgery, Royal College of Physicians and Surgeons of Glasgow. He was awarded the Dr ML Soni Oration of the International College of Dentists (India and Sri Lanka Section). He was also nominated for the post of honorary treasurer for the Indian Society of Pedodontics and Preventive Dentistry. He is a councilor for the Global Oral Health Inequalities Research Network (GOHIRN), International Association of Dental Research (IADR)- for a term of 3 years (2021-24). He is also a member of the Council on Continuing Education (for 2021-23) of the American Academy of Pediatric Dentistry. He is also a member of the IADR/AADR Publications Committee as the IADR Representative to the Journal of Dental Research and a member of the IADR Awards Review Committee.

Dr Dalim Kumar Baidya was the chairperson in a webinar hosted by ISA. He is the Editor of the Washington Manual of Critical Care Medicine – South Asian Edition 2021 and an Examiner for MD Anesthesiology at Santosh Deemed University, UP. He has contributed to Barash's textbook of Anesthesiology: South Asian Edition where he has reviewed and edited three chapters.

Dr Prabhat Kumar Chaudhari is a reviewer of Cochrane Oral Health Group. He was also a member of the topic group "Dental Diagnostics and Digital Dentistry" which was part of the International Telecommunication Union and World Health Organization (ITU/WHO) Focus Group on Artificial Intelligence for Health. He was also appointed to the Joint Tellers Committee of AADOCR and IADR Board Operations.

Dr Amrita Chawla was awarded the membership of National Academy of Medical Sciences.

Dr Nitesh Tewari was elected as a Director of IADT, USA in 2021, appointed as the Chair of the membership and recruitment committee, and member of the meeting's committee and the information committee of IADT, USA in 2021. He was also Chair of social media and PR committee of IADT, USA in February 2022. He developed eTDI Questionnaire for the assessment of knowledge of prevention and emergency management of traumatic dental injuries in school teachers in 2021. He received the Jens Andreasen Award for the second best poster in dental traumatology. He was also awarded Fellowship of the Faculty of Dental Surgery, Royal College of Physicians and Surgeons of Glasgow in August, 2021. He received the best original research paper award at the 12th IFEA World Endodontics Congress 2021. He was also granted Membership Award by Craniofacial Research Foundation. He won the overall global first prize in original research competition at the 12th IFEA World Endodontics Congress. He has been appointed as a member of the Standing Committee (Public Relations) of the International Association of Pediatric Dentistry. He was also elected as General Secretary of the Indian Society of Dental Traumatology. He also received Fellowship of the International College of Dentists (Section VI). One of his articles was awarded as the most cited paper in the Dental Traumatology journal for the year 2020-21. He was appointed as the Associate Editor for the Journal of Oral Biology and Craniofacial Research. He was also appointed as the Associate Editor of European Oral. He is also an external expert member of the postgraduate board of studies in dentistry, at the faculty of dentistry Vinayaka Missions Research Foundation (deemed to be a University) in Tamil Nadu.

Dr Vijay Kumar was awarded the membership of National Academy of Medical Sciences.

Dr Sidhartha Sharma was awarded the Diplomate of Indian Board of Endodontics (DIBE) and the best presentation in a session during 12th IFEA World Endodontic Congress 2021.

Dr Kalpana Bansal received Trademark registration and copyright for software development of an application which was launched for the public use in October 2021. She was also awarded Fellowship of International College of Dentists (India and Sri Lanka Section) and Membership of National Academy of Medical Sciences (NAMS).

Dr Dheeraj Koli was awarded Membership National Academy of Medical Sciences. He was also a thesis evaluator for MDS prosthodontics at King George's Medical University, Lucknow.

Dr Kunaal Dhingra was appointed as Associate Editor of BMC Biotechnology, Commentator in Evidence Based Dentistry, Academic Editor in PLOS ONE and reviewer for the Indian Journal of Physiology and Pharmacology, the World Journal of Surgical Oncology, the European Journal of Dentistry, JBI Evidence Synthesis, and Diabetes & Metabolic Syndrome: Clinical Research & Reviews. He was elected as a member of the prestigious IADR KULZER Travel Award Committee (2021-2024). He was awarded membership of the National Academy of Medical Sciences. He is member of the Cochrane Affiliate Centre at AIIMS, New Delhi, and Cochrane India Network. He was also appointed as Associate Editor for Frontiers in Dental Medicine. He is a member of Periodontology Special Interest Working Group and Task and Finish Group of the European Association of

Dental Public Health, and of the Topic group: Dental Diagnostics and Digital Dentistry of the International Telecommunication Union (ITU)/World Health Organization (WHO) Focus Group on “Artificial Intelligence for Health”. He was invited as Guest Editor for Nanomaterials and Nanotechnology, and Composites and Advanced Materials Journal. He was selected as Editorial Board Member of the Month in December 2021 in BMC Oral Health as a token of appreciation for commitment, scientific rigour and integrity. He was awarded Fellowship (FRSPH) of the Royal Society for Public Health. He is a member of grading of recommendations assessment, development and evaluation (GRADE) Working Group. He actively contributed to the development of Consensus Statement on Future Directions for the Behavioral and Social Sciences in Oral Health published in the Journal of Dental Research. He is a member of Cochrane Methods and was selected as a spotlight member of the Royal Society for Public Health, UK in February 2022. He was also a member of the Abstract Review Sub-Committee of the Guidelines International Network Conference 2022.

Dr Vikender Singh chaired a scientific session at the ISP Colloquium held at the Faculty of Dentistry, SGT University. He is a reviewer for the Journal of the Indian Society of Periodontology and Frontiers in Dentistry. He was also an external examiner at the Postgraduate Institute of Dental Sciences, Rohtak.

Dr Morankar Rahul was awarded the Best Scientific Paper at South Asian Association of Pediatric Dentistry and Bangladesh Society of Pediatric Dentistry, and also at 3rd National Conference of Indian Society of Dental Traumatology.

Dr Aditi Nanda is a section editor for the Journal of the Indian Prosthodontic Society. She chaired sessions at 23rd IPS PG Convention, and at 49th Indian Prosthodontic Society Conference. She is a member (young professional) of the Dentistry Sectional Committee, and at the Bureau of Indian Standards.

Dr Deepika Mishra won the best poster award at XXVIII Conference of the Indian Association of Oral and Maxillofacial Pathologists. She was invited as an expert for oral cancer screening at WHO-SEARO PEN Online Course for Accelerating NCD Service Delivery in the Regional Countries organised by WHO. She was also invited as a resource person for virtual oral care training sessions for national and state training of trainers for Community Health Officer (CHO), Staff Nurses (SNs) and Frontline Workers (ASHA and MPW) organised by National Health Systems Resource Centre (NHSRC) Delhi. She was also identified as the subject expert for the Central Drugs Standard Control Organisation (CDSCO). She has been appointed as an expert for multicentric task force projects at ICMR for development of the KAP study on genomics among medical students and professionals; cleft lip and palate anomaly in India, and the ICMR image bank on oral lesions.

Dr Bharathi M Purohit won three best paper awards at 25th IAPHD National Conference.

Dr Harsh Priya was awarded the Fellow of the Royal Society of Public Health, Fellow of the International College of Dentists (Section VI) and the Dental Public Health Award by the National Academy of Medical Sciences.

10.3. Dr B.R. Ambedkar Institute Rotary Cancer Hospital

Professor and Chief

Lalit Kumar
(Medical Oncology)

Professors

Sidhartha Satpathy (Hospital Administration) S.V.S. Deo (Surgical Oncology) Sanjay Thulkar (Radiodiagnosis) Sushma Bhatnagar (Anaesthesiology)

Atul Sharma (Medical Oncology) Sameer Baksh (Medical Oncology) Seema Mishra (Anaesthesiology) DN Sharma (Radiation Oncology)

Suman Bhaskar (Radiation Oncology) Pratik Kumar (Medical Physics) Sushmita Pathy (Radiation Oncology) Ritu Gupta (Laboratory Oncology)

Additional Professor

Haresh K.P. (Radiation Oncology) Subhash Gupta (Radiation Oncology) Sanjeev Kumar Gupta (Laboratory Oncology) Anita Chopra (Laboratory Oncology)

Pranay Tanwar (Laboratory Oncology) Amar Ranjan Singh (Laboratory Oncology) Rakesh Garg (Anaesthesiology) Vinod Kumar (Anaesthesiology)

Sachitanand Jee Bharti (Anaesthesiology) Nishkarsh Gupta (Anaesthesiology) Sunil Kumar (Surgical Oncology) Major M.D. Ray (Surgical Oncology)

Chandershekhara S.H. (Radiodiagnosis) Ajay Kumar Gogia (Medical Oncology) Ranjit Kumar Sahoo (Medical Oncology) Prabhat Singh Malik (Medical Oncology)

Sameer Rastogi (Medical Oncology) Rambha Pandey (Radiation Oncology) Ahitagni Biswas (Radiation Oncology) Mukesh Yadav (Radiodiagnosis)

Ekta Dhamija
(Radiodiagnosis)

Associate Professors

Raja Pramanik (Medical Oncology) Atul Batra (Medical Oncology) Sachin Khurana (Medical Oncology) Chandra Prakash Prasad (Medical Oncology)

Thoudam Debraj Singh (Medical Oncology) Mayank Singh (Medical Oncology)

Assistant Professors

Surender Kumar Saini (Radiation Oncology) Sandeep Kr Bhoirwal (Surgical Oncology) Ashutosh Mishra (Surgical Oncology) Jyoti Sharma (Surgical Oncology)

Naveen Kumar (Surgical Oncology) Jyotishman Sakia (Surgical Oncology) Babul Bansal (Surgical Oncology) Raghuram R. (Surgical Oncology)

Brajesh Kr Ratre (Anaesthesiology) Krithika Rangarajan (Radiodiagnosis) Smeeta G (Laboratory Oncology) Pallavi Shukla (Preventive Oncology)

Aman Sharma (Radiation Oncology)	Supriya Malik (Radiation Oncology)	Pritee Chaudhari (Radiation Oncology)	Anuja Pandit (Anaesthesiology)
Saurabh Vig (Anaesthesiology)	Shweta Bhopale (Anaesthesiology)	Balbir Kumar (Anaesthesiology)	Raghav Gupta (Anaesthesiology)
Prashant Sirohiya (Anaesthesiology)	Jitender Kumar Meena (Preventive Oncology)	HK Raju Sagiraju (Preventive Oncology)	Deepam Pushpam (Medical Oncology)
Akash Jha (Medical Oncology)	Subramani V (Radiation Oncology)	Gopishankar N (Radiation Oncology)	
F and CAO Padam Singh			
Assistant Store Officer Hemant Kumar			
Admn. Officer (Officiating) Vidya Sagar			

Total number of staff

Faculty Member	51		Outsourced House Keeping Staff	176
Resident Doctor	101		Outsourced Security Staff	81
Group 'A' Official	39		Outsourced Fire Staff	09
Group 'B' Official	399		Outsourced Patient Care Manager	01
Group 'C' Official	114		Outsourced Patient Care Coordinator	04
Part Time Social Guide	06		Outsourced Data Entry Operators	41
			Outsourced Sanitation Staff	81

HIGHLIGHTS

Delhi Cancer Registry

The Delhi Cancer Registry is a Population-Based Cancer Registry which collects cancer patient data from more than 172 government or private hospitals/centers and 250 nursing homes and the vital statistics division of MCD and NDMC and reports the incidence of various cancers among Delhi Urban residents and covers 97.5% of Delhi population according to 2011 census. When the registry was established in 1988 it has registered 5854 new cancer cases and over the years the new cancer incidence has been increasing in 2015 the registered incidence was 21538 cases (11435 males and 10103 females). The common sites of cancer among Delhi males are lung, mouth, prostate, tongue and larynx and in females, the common sites of cancer are the breast, cervix, ovary, gallbladder and corpus uteri. The median age of diagnosis of cancer for males is 58.0 and for females 55 years. The top ten cancer-leading sites cover 54.3% and 66.1% of total cancer cases in males and females, respectively. The reports prepared by the registry are being widely used by medical students, researchers, govt. organization etc.

Laboratory Oncology

Laboratory Oncology Unit is an advanced cancer laboratory for leukemia diagnosis using blood and bone marrow morphology and next-generation flow cytometric immunophenotyping and molecular diagnostics. Apart from routine clinical applications, specialized services like minimal residual disease (MRD) detection, therapeutic monitoring for monoclonal antibodies, CSF, body fluid and fine needle aspirate immunophenotyping are being provided. The patients are also offered state-of-the-art molecular diagnostic facilities for all hematological malignancies. In addition, the laboratory also took lead in establishing and maintaining the round-the-clock services at the 'Robotic Core Lab' at NCI, Jhajjar. During the COVID-19 pandemic, our laboratory also arranged and offered voluntary testing for COVID-19 antibodies for all the healthcare workers working at AIIMS, New Delhi. The Laboratory Oncology Unit has been actively involved in many intramural, extramural, inter-institutional and intra-institutional research projects and research collaborations, and has published more than 250 papers in national and international journals in the last 5 years. The various Inter-Institutional collaborations include those with the Indian Institute of Technology (IIT, Delhi), Indraprastha Institute of Information Technology (IIIT, Delhi), National Institute of Immunology (NII), Jamia Hamdard University, Delhi, Institute of Genomics & Integrative Biology (IGIB), New Delhi, NIPCR- Noida, NIOP- Safdarjung. The Laboratory Oncology Unit has an active PhD programme with many PhD students working on ongoing research projects. The laboratory encourages students to apply for short-term research training.

Medical Oncology

Department of Medical Oncology is known for its high-level academic program, busy clinical service, stem cell transplant program, and research activity. Its academic program PhD, DM and BMT Fellowship are very competitive and sought after. Department also attracts students from National science academies and universities for summer training. Publications in high-impact journals, research grants and recognition of faculty members and scientists by various government /Grant agencies are witness to their quality contribution.

During this COVID-19 pandemic, the department continued to provide patient care, lab services and telephonic/e mail consults. Medical Oncology faculty has provided regular patient care (out patients/inpatients and daycare) services at the NCI Jhajjar. Professor Lalit Kumar (HOD) has been appointed as the Chief IRCH and Head of NCI-AIIMS, Jhajjar in October 2021. Professor Lalit Kumar has initiated various activities and educational programs.

Activities and steps taken to improve patient care services, education and research

1. Regular weekly seminar '**Distinguished Speakers' Seminar series**' started at the NCI, Jhajjar where eminent speakers (both from India and abroad) have given invited seminars on a range of topics, these have been liked by young faculty members. They feel motivated and stimulated with new research ideas and better patients care services.
2. 'Emerging Trends in Translational Oncology': 2nd Annual conference on 18-19th Feb 2022 at the NCI Jhajjar.
3. Motivated faculty members which have helped them to bring out **First News Letter** for IRCH-NCI, AIIMS. This has improved connectivity and interpersonal relationship.
4. **Library services** including a digital library has been started at the NCI with a number of books received as a donation. Purchase of books (as suggested by faculty members of different sections/dept) is under process. Similarly, a small library has been set up at the INFOSYS NCI Vishram Sadan for patients and their caretakers.
5. **Regular monthly meetings** of Heads of departments/Units at the IRCH, Regular monthly Coordination Committee meetings at the NCI and regular faculty meeting of the medical oncology department at the IRCH. This has helped to know viewpoints of each member and have helped to sort out day to day problems and interpersonal relationship.
6. **Telemedicine:** We have made efforts to develop telemedicine services in the department, and responded to more than 1300 e-mails and phone calls of patients related to their prescriptions, reviewing reports and guiding them about covid -19 vaccinations etc.
7. Regular teaching activity: Presentation by faculty and Scientists of Preventive oncology at the IRCH every Tuesday.
8. Starting **new clinics** of Preventive Oncology for high-risk individuals and AIIMS (EHS) employees: this is being conducted at the IRCH on every Saturday and at the NCI twice a week on every Tuesday and Friday.
9. We could create some **office space** on the first floor at the IRCH for faculty members (who were earlier sharing their offices), this has eased out their constant demand, also a **dedicated clinical research room** has been created where research staff is able to sit and do their work. Similarly, at the **NCI- research space** has been allocated to medical Oncology Lab (second floor) and Lab Oncology (3rd Floor). This is currently under furnishing with equipments. It is hoped that these faculty members/scientists from Medical Oncology and lab Oncology will shift to NCI and help in developing research facilities there.
10. The process for developing a **National Bone Marrow Donor Registry** at the NCI has been started where funds (50 cr) by ICMR have been promised. This will be the AIIMS-ICMR centre.

The number of patients treated during 2021-2022

● Patients treated as in-patient:	8769
● Patients treated in day care facility:	29761
● Medical Procedures:	4623
● Outpatient chemotherapy:	5237
● Outpatient IV antibiotics:	17060
● Hematopoietic Stem Cell Transplantation:	152

Patient care services in Medical Oncology (Lab)

1. Cytogenetics for Detection of Phildelphia Chromosome: 432
2. Cytogenetics for chimerism: 04
3. RT-PCR for detection of p210 and p190 Translocation in CML (qualitative): 14
4. RQ-PCR for detection of p210 and p190 Translocation in CML (quantitative): 606
5. CD 34 counts by Flow Cytometry: 276
6. CD 3 counts by Flow Cytometry: 46
7. MNC counts: 172
8. Cryopreservation of stem cells -80°C: 99
9. Storage of stem cells at 4°C: 83

10. Infusion of stem cells: 152
11. Viability of stem cell: 152
12. ELISA for aspergillosis detection: 1042
13. Magnesium: 03
14. LDH: 86
15. EBV DNA detection for EBV detection: 45

Aphaeresis Lab (2020-21)

1. PBSC harvests: 170
2. SDP apheresis: 1944
3. Granulocyte apheresis: 80
4. Hemogram: 5162
5. Plasma exchange: 08

Medical Physics

At present Medical Physics Unit (MPU) is catering to more than 140 x-ray and Gamma equipment and laboratories spread over 20 departments/centers / facilities. We are providing periodic radiation safety-related services like quality assurance tests of the imaging equipment, tests of the lead apron, tests to prevent excessive radiation leakage in the radiation installations, in addition to maintaining the licensing requirements of all x-ray equipment and radiation laboratories as per AERB requirements. We are operating and maintaining AIIMS account at e-Licensing of Radiation Application (e-LORA) interactive site of AERB. During 2021-2022 we carried out 4118 measurements, tests, experiments and radiation sterilization of blood bags for blood transfusion.

Onco-Anaesthesia and Palliative Medicine

The Department of Onco-Anaesthesia and Palliative Medicine has seven well-trained faculties at IRCH (Dr Sushma Bhatnagar, Dr Seema Mishra, Dr Rakesh Garg, Dr Nishkarsh Gupta, Dr Vinod Kumar, Dr Sachidanand Jee Bharati, Dr. Brajesh Kumar Ratre) and seven faculties at NCI (Dr Anuja Pandit, Dr Saurabh Vig, Dr Balbir Kumar, Dr Shweta Bhopale, Dr. Raghav Gupta, and Dr. Prashant Sirohiya). They provide services to anesthesiology, intensive care, pain and palliative care. All of them are professionally qualified anesthesiologists and critical care physicians and have gained experience as palliative care personnel for advanced cancer patients referred for pain and other symptom management.

The mission of our department is to provide state-of-art and comprehensive care for patients with cancer with both curative and palliative intent. It includes services for various diagnostic interventions, surgical procedures, pain and palliative procedures. The department provides round-the-clock services for acute and chronic pain management. The department has six bedded intensive care unit which provides care for critically ill patients and six bedded palliative care ward for the palliative care of oncology patients. The department has its regular academic activities and also pursues various research activities in the fields of Cancer Pain, Palliative Care and Perioperative Medicine for proposed benefits for the patient. The department has developed protocols and has structured SOPs for better patient management. The department organises CMEs, conferences and workshops on regular basis.

Action plan for coming year:

- Integration of palliative care across specialties of Pulmonary Medicine, Cardiology, Emergency Medicine, Neurology, Nephrology
- To start fellowship programs in Palliative Care Interventions, Onco-Critical Care
- To start hospice services at NCI, Jhajhar

Preventive Oncology

Major activities of the department

Awareness programmes: “Mission Jagrukta” was planned with NGO, Sarcoma Cancer care, District Administration Faridabad. A comprehensive sustainable awareness generation programme involving the school teachers to empower the community through their students on common cancers, its risk factors and prevention.

Awareness programme on online mode: Various platforms were used to generate awareness about Common cancers for common people, college students, not for profit non-governmental organizations.

Outreach screening programmes: In far-fetched rural areas of Haryana, outreach common cancer screening camps were organized in collaboration with multiple departments from AIIMS. The camps were held to provide supportive supervision to the district health authorities and boost their morale for taking up common cancer screening activities in their district as per NPCDCS programme guidelines.

Training programmes: Training the public sector doctors and nurses in common cancers screening and prevention in districts of Delhi. Being the apex cancer centre in the region it is our prerogative to support National Health Programme pertaining to Cancers (NPCDCS)

Research activities: All the faculties and scientists of Preventive Oncology are engaged in research projects aimed at various preventive aspects of cancers.



Activities and steps taken to improve patient care services, education and research in the past one year

The faculties were engaged in developing guidelines, standard operating procedures, and building networking and collaborations for the recently started Preventive Oncology Clinics at IRCH and NCI.

Preventive Oncology is actively engaged in a lot of research activities in collaboration with other departments as well as with agencies outside AIIMS. The intent is developing risk assessment tools, which may help in the early identification of cancers and to plan preventive strategies for various cancers. This is an emerging branch with immense potential in curbing the rising burden of cancers.

Establishing and improving interdepartmental and inter-centre collaborations for initiating preventive oncology services for patients and EHS beneficiaries. EHS beneficiaries are provided state of art treatment facilities at the Institute, however, preventive services are extremely lacking for them.

Action plan for the coming year

1. Preventive Oncology Clinic: Finalizing and streamlining the services at Preventive Oncology Clinics through better collaborations and well structures of standard operating procedures.
2. Applying for extramural grants in order to overcome the shortage of ground-level staff in the department.
3. Disseminating and publishing results from various research projects going in the department.
4. Working with the administration for initiating some fellowship programmes in line with other contemporary Preventive Oncology Departments of other Institutes/Hospitals. Expanding ways and means to promote cancer awareness.

Radiodiagnosis

The department provided uninterrupted routine patient care services to cancer patients in addition to Radiology services to COVID-19 patients. Departmental faculty also participated in rotation to provide radiology services, x-ray, ultrasound and CT scan to COVID-19 patients cared at NCI-AIIMS, Jhajjar, in addition to the work at Dr BRAIRCH. They also significantly contributed to the research in COVID care in the analysis of radiographs, and development of AI for radiographs and the development of a tele-robotic ultrasound scanning device in collaboration with IIT-Delhi. Our cancer care services also continued unabated with near-normal levels of clinical workload even during COVID times. Department took a keen interest and provided mentorship in the installation and functioning of new radiology equipment and formulating the protocols at NCI-AIIMS, Jhajjar. The department held weekly multidisciplinary discussions/ tumor boards specifically addressing gastrointestinal malignancies, lung cancer and sarcoma. In addition, there was active participation in organizing workshops with other departments of the national and international conferences during this year.

Radiation Oncology

The Department of Radiation Oncology is known for the delivery of evidence-based optimal quality of care and research. The department always strives to offer radiation treatment on time in collaboration with different department in IRCH and AIIMS. Vast experience of senior faculties with the enthusiasm of young faculties in cumulative efforts offer health care at par to the nation. Currently, the department is equipped with the high-end state of art Radiation therapy facilities like Modern Linear Accelerators and Brachytherapy units to deliver the most advanced radiation treatment like IMRT, VMAT and SBRT and brachytherapy. Our department has a great team of faculties that are working to bring this department to new levels in research, academics and patient care. The Department runs postgraduate academic courses like MD and PhD. There are about 21 postgraduate residents and 23 senior residents. Our department has highly motivated faculty members who are actively engaged in clinical care, academics and research activities. Various research trials are being conducted in collaboration with national and international research organisations. Our brachytherapy research work is acclaimed worldwide. The department also aiming to explore the role of artificial intelligence and machine learning to provide improved and personalized patient care. Department pioneered the role of low-dose radiation therapy in the recent pandemic COVID-19.

Surgical Oncology

The year 2021-22 was extremely challenging and rewarding. The Department of Surgical Oncology contributed significantly for patient care, training and research. We contributed for COVID-19 care at AIIMS and NCI by providing infrastructure, equipment and human resources. The department has expanded surgical services at NCI and started comprehensive endoscopy services at NCI despite many challenges. The faculty of the department participated in various cancer registries, cancer awareness and prevention activities in collaboration with Govt. organizations, NGOs through electronic and print media. A total of 1697 complex major cancer surgeries were performed during COVID-19 affected year along with 5843 diagnostic and therapeutic endoscopy procedures and minor cancer surgeries.

Activities and steps taken to improve patient care services, education and research:

1. The department developed guidelines for cancer care and surgery during the COVID-19 pandemic and continued to deliver cancer services and successfully performed more than 5000 major and minor cancer surgeries at IRCH and NCI. Department adopted a telemedicine approach to resolve cancer patient follow-ups during the lockdown period.
2. The Department has initiated a number of collaborative research projects, organised virtual international and national scientific events. The landmark academic event organised by the department “NATCON-21” was a trendsetter and attracted 1800 national and international delegates and faculty. Many residents and faculty from the department won awards and prizes.
3. Year 21-22 was highly productive as far as research is concerned and we managed to publish more than 50 articles in high-impact scientific journals.

Action Plan for Coming Year

The department is committed and determined to expand and strengthen cancer patient care activities further during year 22-23 and we are setting a target of 3000 major and 7000 minor cancer surgeries. Our vision is to introduce emerging surgical technologies like robotic surgery and IORT at NCI and improve patient care services through the introduction of tele-oncology services, computerised clinical databases, patient appointment systems. The faculty of the department is also planning to conduct innovative low-cost research applicable to Indian cancer patients.

EDUCATION

Laboratory Oncology

Laboratory Oncology provides morphology, myeloma and flow cytometry training to MD students of Pathology, Hematology, Laboratory Medicine and DM students of Medical Oncology and Hematology. In addition, short-term training is given to faculty and students from various colleges all over India.

Medical Oncology

Two PhD student (Shilpi Chaudary and Luxmi Devi) have been awarded doctoral degree.

The Department of Medical Oncology is running successfully the following academic programs: (i) DM Program; (ii) PhD in Medical Oncology, (iii) BMT Fellowship; and (iv) Summer internship/training

Regular classes and seminars

Departmental Faculty Seminar	Every Monday at 8.30 -9.30 AM
Journal Club/Case discussion	Every Wednesday at 8.30 -9.30 AM
IRCH Seminar	Every Thursday at 8.30-9.30 AM
Molecular Oncology Class	Every Tuesday at 2.00-3.00 PM

Medical Physics

Medical Physics Unit carried out teaching assignments regarding radiation physics of medical imaging, radiation protection, radiation dose measurement and quality assurance in medical imaging to the students of MD Radiology, MBBS, and B.Sc. (Hons.) in Radiography and Nursing. At present, three Ph.D. students are carrying out their research work in the Department.

Onco-Anaesthesia & Palliative Medicine

The department is successfully running two academic courses: (i) DM (Onco-Anaesthesiology) and (ii) MD (Palliative Medicine). The department also organizes Certificate Course in Palliative Care twice a year in the month of June and November and Foundation Course on Palliative care once in a year in the month of March.

Departmental Seminar	Every Monday and Friday at 8-9 AM (Virtually)
IRCH Seminar	Every Thursday at 8.30-9.30 AM (Virtually)
<u>Tutorials:</u>	Every Tuesday 3-5 PM (Virtually)
Radio Conference	Every Saturday at 9-10 AM (Virtually)
<u>Journal Club/Audit/Case discussion</u>	Every Saturday at 10-12 Noon. (Virtually)

Preventive Oncology

Teaching

1. Intra-departmental seminars: 42 sessions
2. Lecture for DM students:
 - o Nutrigenomics in Cancer Prevention- Dr Sujata Pathak
 - o Health Literacy in Cancer patients- Dr Pallavi Shukla
 - o Tobacco cessation in Oncology- Dr Pallavi Shukla
 - o Topic: Oral Cancer Screening- Dr Jitendra Kumar Meena
3. CMEs/workshops/symposia/National and International conferences organized by the department (only name, place and date of event)
 - Training of New Delhi District Medical Officers & ANM in NPCDCS
 - Training of project staff involved in Goa Breast Cancer Control programme (Not for profit NGO)
 - Teacher-student training project on common female cancers
 - Breast cancer awareness programme—know it to fight it organized virtually for a post graduate college of Lucknow

Radiodiagnosis

Faculty participated in undergraduate, postgraduate and super specialty teaching, radio-conferences, tumor board meeting, Clinical Combined Rounds, Clinical Grand Round. Faculty had also participated in the various symposiums and CMEs held in Dr BRA IRCH and institute. A significant part of these activities were done in online mode as per the prevalent scenario of Covid pandemic.

Radiation Oncology

The department conducted regular teaching programme for the MD Radiation Oncology course. The department also participated in interdepartmental teaching programme.

Surgical Oncology

- Undergraduate teaching: The faculty was involved in undergraduate teaching by giving didactic lectures and by participating/moderating seminars on oncological topics.
- Postgraduate teaching: The faculty was involved in teaching and training of 18 MCh surgical oncology students and 12 surgical oncology senior residents, DM medical oncology residents and MD radiotherapy junior residents by giving didactic lectures, moderating seminars, journal clubs etc. & clinical teaching during ward rounds and in special cancer clinics of IRCH. The faculty acted as guide and co-guide for MCh Surgical oncology, DM medical oncology, MD radio diagnosis, MD radiation oncology thesis projects and PhD projects from various dept. of Dr BRA- IRCH & AIIMS. The faculty was also involved in teaching & training of general surgery & dental surgery residents and MCh Gynecology Oncology trainees on rotation.
- Para clinical teaching/training: The faculty was involved in the teaching of the MSc nursing oncology students.

CME /Workshop/Symposia/National and International Conference Onco-Anaesthesia and Palliative Medicine

- IAPC certificate course in Palliative Care, July and January 2021. Dr. B.R.A IRCH, AIIMS, Virtually
- World Hospice Day, 9 October 2021. Dr BRAIRCH, AIIMS, Virtually

Total Number of Trainees

2021-22	2020-21	2019-20
Acad. JR(MD)- 6,	Acad. JR(MD)- 10,	Acad. JR(MD)- 5
Acad. SR(DM)- 6,	Acad. SR(DM)- 9,	Acad. SR(DM)- 4
Non-Acad. SR-7,	Non-Acad. SR- 3,	Non-Acad. SR-1
Non-Acad SR (PM)- 2,	Non-Acad SR (PM)- 4,	Non-Acad SR (PM)- 1

Surgical Oncology

- The Department along with Oncology forum organized “NATCON 21 Virtual” Annual conference of Indian Association of Surgical Oncology” October 23-24 and 30-31 in Delhi.
- The Department in collaboration with ABSI organized “Breastics 24” - A 24 hr nonstop Global Breast Oncoplasty Video workshop on 25-26 September.
- The Department organised a webinar on “Multimodality Management of Rectal cancer-Pushing the boundaries” in collaboration with Oncology forum on 30 March 2022.

Lectures delivered

Laboratory Oncology

Ritu Gupta: 10	Sanjeev Kumar Gupta: 4	Anita Chopra: 1	Pranay Tanwar: 3
Smeeta G: 1	Deepshi Thakral: 2		

Medical Oncology

Lalit Kumar: 8	Atul Sharma: 6	Sameer Bakhshi: 15	Sameer Rastogi: 4	Prabhat Singh Malik: 1
Raja Pramanik: 9	Deepam Pushpam: 3	Chandra Prakash Prasad: 2	Sachin Kumar: 2	Sampa Ghose: 1

Medical Physics

Pratik Kumar: 2

Onco-Anaesthesia and Palliative Medicine

Sushma Bhatnagar: 10	Seema Mishra: 7	Rakesh Garg: 9	Nishkarsh Gupta: 9
Vinod Kumar: 3	Sachidanand Jee Bharati: 3	Anuja Pandit: 4	Saurabh Vig: 2
Brajesh Kumar Ratre: 3	Raghav Gupta: 2	Prashant Sirohiya: 2	

Preventive Oncology

Pallavi Shukla: 3	Kumar Sandeep: 1	Sujata Pathak: 1
Hari Krishna Raju Sagiraju: 1	Jitendra Kumar Meena: 1	

Radiodiagnosis

Chandrashekhara SH: 18	Ekta Dhamija: 37	Mukesh Kumar: 8	Krithika Rangarajan: 5
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Radiation Oncology

DN Sharma: 10
Ahitagni Biswas: 8
Gopishankar N: 1

Suman Bhasker: 1
Aman Sharma: 2

Haresh KP: 5
SupriyaMallick: 4

Rambha Pandey: 4
D Subramani V: 3

Surgical Oncology

SVS Deo: 28
Sandeep Kumar Bhoariwal: 3
Babul Bansal: 3

Sunil Kumar: 5
Jyoti Sharma: 3

MD Ray: 14
Jyoutishman Sakia: 1

Ashutosh Mishra: 3
Naveen Kumar: 2

Oral papers/posters presented

Delhi Cancer Registry: 2

Laboratory Oncology: 23

Medical Oncology: 16

Medical Physics: 1

Onco-Anaesthesia and Palliative Medicine: 16

Radiodiagnosis: 13

Surgical Oncology: 26

RESEARCH**Funded projects****Ongoing****DCR**

1. Establishment of Hospital based Cancer Registries and patterns of care and survival studies on Cancer Breast, Cancer Cervix and Head & Neck Cancers, SVS Deo, National Cancer Registry Programme, National Centre for Disease Informatics and Research, Indian Council of Medical Research, Bangalore, 9 years, 2014, Rs 40,00,000 per annum (approx.)
2. Patterns of Care and Survival Studies on childhood, lymphoid and hematopoietic malignancies, Dr SVS Deo, National Cancer Registry Programme, National Centre for Disease Informatics and Research, Indian Council of Medical Research, Bangalore, 6 years, 2017, Rs 1,50,000 per annum (approx.)
3. Population Based Survival Studies on Cancer Breast, Cervix and Head & Neck Cancers, Dr SVS Deo, National Cancer Registry Programme, National Centre for Disease Informatics and Research, Indian Council of Medical Research, Bangalore, 6 years, 2017, Rs 6,80,000 per annum (approx.)

Laboratory Oncology

1. Role of T cell activation and Follicular helper T cell in Multiple Myeloma, Dr. Ritu Gupta, ICMR, 3 years, 2022 – 2024, Rs 12,12,598
2. Immunoprofiling (IP) consortium for COVID-19: Integration of Extended Immune Monitoring (ExImm) and clinical parameters for early prediction of disease trajectory/ progression, treatment planning and prophylaxis to improve COVID-19 prognosis, Dr. Ritu Gupta, ICMR, 2 years, 2020-2022, Rs 72,06,370
3. Centre for Advanced Research & Excellence in Leukemic Stem Cells (LSC) for Prognosis and Treatment (CARE-LSCPT) in Acute Myeloid Leukemia., Dr Ritu Gupta, ICMR, 5 years, 2019–2024, Rs 5,63,97,360
4. Unit of Excellence on Cancer Research on Multiple Myeloma., Dr. Ritu Gupta, DBT, 5 years, 2016-2022, Rs 3,14,00,000
5. Identification of network pathways for drug targeting in Multiple Myeloma from NGS data using Deep Learning. Funded by (DST), Dr. Ritu Gupta, DST, 3 years, 2019– 2022, Rs 33,18,640/-
6. Development of risk-stratification algorithm to select BCR-ABL1 negative pediatric B-ALL patients for detailed genetic analysis- a step towards optimum use of next generation sequencing platform, Sanjeev Kumar Gupta, ICMR, 3 years, 2020-2023, Rs 49,50,000
7. Study of prevalence and profile of predictive and prognostic molecular genetic aberrations in BCR-ABL1 negative B-cell acute lymphoblastic leukemia (B-ALL): A step towards personalized medicine, Sanjeev Kumar Gupta, DHR, 3 years, 2021-2024, Rs 30,00,000
8. Elucidation of role of TOX in T-ALL, Dr. Anita Chopra, DHR, 3 years, 2020-2023, Rs 30 lakhs
9. DBT-Welcome trust intermediate career fellowship, Dr. Anita Chopra, DBT Welcome India Alliance, 5 years, 2018-2023, Rs 3.86 crore
10. Cellular functions and clinical significance of NRf2 signaling T-ALL, Dr Anita Chopra, DHR, 3 years, 2021-2023, Rs 52 lakhs

11. Study of expression, function, and clinical significance of DNA damage repair pathway genes in acute lymphoblastic leukemia', Dr. Anita Chopra, ICMR, 3 years, 2022-2025, Rs 56 lakhs
12. Understanding the role of RhoBTB2 in acute myeloid leukemia, Dr Anita Chopra, SERB, 3 years, 2022-2025, Rs 51 lakhs
13. Study of peripheral blood megakaryopoiesis in chronic myeloid leukemia, Dr. Anita Chopra and Prof S. S. Chauhan, AIIMS interdisciplinary project, 2 years, 2021-2023, Rs 20 lakhs
14. ICMR TASK Force Comparative study of Genetic, Clinical and Epidemiological factors of Breast Cancer in Indian population" as ICMR Task Force, Dr Pranay Tanwar, ICMR, 5 years, 2017 - 2022, Rs 1,91,00,000
15. ICMR TASK Force Genomics of gallbladder carcinoma in Indian Patients, Dr Pranay Tanwar, ICMR, 5 years, 2018 - 2023, Rs 1,99,00,000
16. Human Papilloma Virus (HPV): Relevance in etiology of oral squamous cell carcinoma in Indian Population, Dr Pranay Tanwar, DHR, MOHFW, 3 years, 2017-2021, Rs 45,00,000
17. A prospective study to elucidate genetics, clinical and molecular factors in gall bladder carcinoma in Indian patients, Dr Pranay Tanwar, Cancer Foundation, 7 years, 2017-2024, Rs 40,00,000/-
18. Utility of DDPCR as novel method to detect CT-DNA in Head & Neck Cancer, Dr Pranay Tanwar, ICMR, 3 years, 2022-2026, Rs 43,00,000
19. Generation of 3D Breast Tumor Organoids as an in vitro Drug Screening Study Model, Dr Pranay Tanwar, AIIMS New Delhi, 2 years, 2020-2022, Rs 8,91,106
20. Analysis of expression of biomarkers in ovarian cancer, Dr Amar Ranjan, AIIMS, N. Delhi, 2 years, 2019-22, Rs 10 lakhs
21. Evaluation of HE4 level in epithelial ovarian cancer for diagnosis & monitoring of therapy, Dr Amar Ranjan, ICMR, New Delhi, 5 years, 2017-2022, Rs 50 lakhs
22. Identification of neoantigens for T cell therapy for Chronic Lymphocytic Leukemia (CLL), Gurvinder Kaur, ICMR, 3 years, 2022-2025, Rs 10820376
23. Identification and characterisation of plasma-derived cell free nucleic acid-based markers for early detection and monitoring of relapse in AML., Deepshi Thakral, DHR, MOHFW, 3 years, 2022-2025, Rs 55,80,647
24. Designing of peptide nucleic acid-based biosensor for detection of circulating tumor DNA mutations in Acute myeloid leukemia., Deepshi Thakral, AIIMS New Delhi, 2 years, 2021-2023, Rs 10,00,000
25. Development of Electrochemical biosensor for detection of circulating tumor DNA mutations in Acute myeloid leukemia, Deepshi Thakral, ICMR, 1 year, 2022-2023, Rs 41,00,000

Medical Oncology

Ongoing

1. Price regulation and value-based pricing for anticancer drugs: Implications for patients, industry, Insurers and regulators., Lalit Kumar, DHR, ICMR, 2 years, June 2020, June 2022, Rs 367500/-
2. A prospective single arm, multicentric, pragmatic phase IV trial investigating safety and effectiveness of Darzalex (Daratumumab) in Indian subjects with relapsed and refractory multiple myeloma whose prior therapy included a proteasome inhibitor and an immunomodulatory agent, Lalit Kumar, Johnson & Johnson, 3 years, March 2019-March 2022, Rs 11,64800
3. Effect of Non ionizing electromagnetic field on Human Health: Risk of Cancer in Mobile phone users. A prospective study under the ICMR task Force, Lalit Kumar, ICMR, 10 years, March 2012-March 2022, Rs 14219 000
4. Metr Pazopanib based combination oral metronomic therapy in platinum resistant, platinum refractory and advanced ovarian cancer, A randomized phase II study, Lalit Kumar, DHR-ICMR, 3 years, June 2018-2021, Rs 4951004
5. To study effect of fatty meals on nilotinib drug in blood in newly diagnosed patients of chronic myeloid leukemia chronic phase and correlate its in vivo activity with marker as BCR/ABL, STAT 1 and STAT 5 and CRKL, Lalit Kumar, ICMR, 3 years, March 2021-March 2023, Rs 1749500.00/-
6. Aspirin for Dukes C and High Risk Dukes B Colorectal Cancers - An International, Multi-centre, Double Blind, Randomised Placebo Controlled Phase III Trial, Dr. Atul Sharma, Singapore clinical Research Institute, Singapore, 10 years, 2013-ongoing till now, 500 USD per patients
7. A single arm, multicentric, open label, efficacy and safety study of Doceaqualip (Docetaxel Lipid Suspension for Injection of Intas Pharmaceuticals Limited, India) based regimens in metastatic gastric adenocarcinoma patients.
8. Dr. Atul Sharma, Lambda Therapeutics Research Limited, 2 years, 2018- ongoing till now, Rs 4.79 lakhs+ 1.72 lakh per patient
9. A Single arm, multicentric, open label, efficacy and safety study of Docetaxel Lipid Suspension for injection of Intas Pharmaceuticals Limited, India in patients with inoperable locally advanced squamous cell carcinoma of the head and neck (SCCHN), Dr. Atul Sharma, Lambda Therapeutics Research Limited, 2 years, 2018- ongoing till now, Rs 4.79 lakhs+ 1.72 lakh per patient
10. An Open Label, Multicenter, Non-Comparative, Phase IV Study of Panitumumab to Characterize its Safety, Tolerability and Activity in Indian Subjects with Previously Treated Wild-Type RAS (*KRAS* and *NRAS*), Metastatic Colorectal Cancer, Dr. Atul Sharma, Dr. Reddy's Lab and PPD, 2 years, 2019- ongoing till now, Rs 400000
11. A prospective, multicenter, randomized, double blind, Phase III study to compare the efficacy and safety of Biosimilar ENZ137 of Enzene Biosciences Ltd. versus Innovator evacizumab both in Combination with CAPEOX in Patients with Metastatic Colorectal Cancer, Dr. Atul Sharma, Alkem Lab., 1.5 years, 2021-ongoing till now, Rs 787600/-

12. A prospective, multicenter, randomized, double blind, parallel group study to compare the efficacy and safety of biosimilar cetuximab versus innovator cetuximab in combination with platinum-based chemotherapy in patients with recurrent locoregional or metastatic squamous cell carcinoma of the head and neck (SCCHN)., Dr. Atul Sharma, Alkem Lab, 1 year, 2021-2022, Rs 1741200/-
13. Deciphering gene networks associated with altered mitochondrial DNA copy number for identification of novel potential therapeutic targets in pediatric AML, Dr. Sameer Bakhshi, DST SERB, 3 years, 2022-2025, Rs 58 lakhs
14. Establishing a nutritional counseling program and developing a nutritional database in pediatric patients with cancer, Dr. Sameer Bakhshi, Cuddle Foundation, 3 years, 2016-2025, Rs 37.37 lakhs
15. Indian Childhood collaborative leukaemia group multicentre national standardization study for newly diagnosed acute lymphoblastic leukemia (ALL), Dr. Sameer Bakhshi, National Cancer Grid, 5 years, 2016-2021, Rs 35 lakhs
16. SADAL: A Phase 2b Open label Study of Selinexor (KPT-330) in Patients with Relapsed/Refractory Diffuse Large B-Cell Lymphoma (DLBCL), Dr. Sameer Bakhshi, Excel Life Sciences, 5 years, 2018-2023, Rs 11 lakhs
17. A Phase 2, Open-Label Trial Evaluating the Efficacy and Safety of Two Dosages of Once Daily Oral CA-170 in Patients with Selected Relapsed Advanced Tumors (ASIAD), Dr. Sameer Bakhshi, Veeda Clinical Research Pvt. Ltd., 5 years, 2018-2023, 15 lakhs
18. A Phase IV Multi-Centric Post-Marketing Study Evaluating the Safety, Immunogenicity and Efficacy of the Marketed Formulation of Hetero – Rituximab, Dr. Sameer Bakhshi, Hetro Pharma Ltd., 6 years, 2018-2024, 12 lakhs
19. Single-day Intravenous Fosaprepitant vs. 3-day oral Aprepitant anti-emetic regimen in pediatric patients receiving highly-emetogenic chemotherapy: An Investigator-initiated, Randomized, Open-label, Non-inferiority trial, Dr. Sameer Bakhshi, Glenmark Pharmaceuticals Ltd, 3 years, 2020-2023, Rs 5.52 lakhs
20. Childhood Cancer Survivorship Program, Dr. Sameer Bakhshi, CanKidsKidScan, 5 years, 2020-2025, 10 lakhs
21. “A Phase III, Open-Label, Multicenter, Randomized Study Evaluating The Safety And Efficacy of PolatuzumabVedotin In Combination With Rituximab Plus Gemcitabine Plus Oxaliplatin (R-Gemox) Versus R-Gemox Alone In Patients With Relapsed/Refractory Diffuse Large B Cell Lymphoma (Stage 2)”, Dr. Sameer Bakhshi, Roche Products (India) Private Limited, 3 years, 2021-2024, Rs 2.95 lakhs per patient
22. Role of mitochondrial heterogeneity in the progression and prognosis of Acute Myeloid Leukemia (AML), Dr Sameer Bakhshi, Department of Science and Technology, 2017-2021, Rs 50.7 lakhs
23. Developing precision immunotherapy for value-based treatment of lung cancer in India, From AIIMS- Dr. Prabhat Singh Malik, The DBT/Wellcome Trust India Alliance, 5 years, 2021-2025, Rs 18000000.00
24. A phase III, randomized, double-blind, placebo-controlled, multicenter, international study of osimertinib as maintenance therapy in patients with locally advanced, unresectable EGFR mutation-positive non-small cell lung cancer (stage III) whose disease has not progressed following definitive platinum-based chemoradiation therapy (LAURA) Dr. Prabhat Singh Malik, Astrazeneca Pharma India Ltd, 5 years, 2021-2025, Approx. Rs 50 lakhs
25. A Phase III, Randomised, Controlled, Multi-centre, 3-Arm Study of Neoadjuvant Osimertinib as Monotherapy or in Combination with Chemotherapy versus Standard of Care Chemotherapy Alone for the Treatment of Patients with Epidermal Growth Factor Receptor Mutation Positive, Resectable Non-small Cell Lung Cancer (NeoADAURA), Dr. Prabhat Singh Malik, Astrazeneca Pharma India Ltd, 5 years, 2021-2025, Approx Rs 50 lakhs
26. A prospective, multicenter, Phase-IV clinical trial to assess safety of Durvalumab in Indian adult patients with locally advanced, unresectable non-small cell lung cancer (NSCLC) and urothelial cancer, Dr. Prabhat Singh Malik, Tech Observer Pvt. Ltd, 3 years, 2021-2024, Approx Rs 10 lakhs
27. The Prevalence of BRCA mutation in uterine leiomyosarcoma, Sameer Rastogi, AIIMS, New Delhi, 1 year, 2021-2022, 10 lakhs
28. Establishing a registry for breast and ovarian cancer with mutations in hereditary cancer predisposition genes and a germline DNA repository at AIIMS, New Delhi, Dr. Raja Pramanik, Department of Health Research (DHR)-ICMR, GoI, 5 years, Not started yet (COVID 19 pandemic), Not started yet
29. Phase IIb/III, Randomised, Double-blind, Placebo-controlled, Multicentre, Study of CA-170 in Combination with Chemotherapy and Radiation in Patients with Unresectable Stage III or IVa Non-Squamous Non-Small Cell Lung Cancer (ASIAD-2), Dr Deepam Pushpam, Aurigene, 5 years, 2020, Rs 5 lakhs
30. A Phase IIb/III, Randomised, Double-blind, Placebo-controlled, Multi-centre, Study of CA-170 in Combination with Chemotherapy in Patients with Stage IV Non-Squamous Non-Small Cell Lung Cancer (ASIAD-3), Dr Deepam Pushpam, Aurigene, 5 years, 2022, Rs 10 lakhs
31. Phase II RCT in patients with metastatic solid cancers to test the efficacy of Olanzapine in improving Quality of Life, Dr. BabitaKataria, IASCC, 1 year, 2022-2022, Rs 4 lakhs
32. Exploring how Phosphofructokinase-1 (PFK-1) induced metabolic changes can be exploited for Triple Negative Breast cancer (TNBC) prognosis and therapeutics, Dr. Chandra Prakash Prasad, Indian Council of Medical Research (ICMR), 3 years, 2019-2022, Rs 22.5 lakhs
33. Study of HuR mediated metabolic changes in Triple Negative Breast cancer (TNBC), Dr. Chandra Prakash Prasad, Science & Engineering Research Board (SERB), 3 years, 2020-2024, Rs 46.65 lakhs
34. Evaluating the significance of extracellular lactate in cancer progression, Dr. Chandra Prakash Prasad, AIIMS-Intramural 2020-2022, Rs 10.00 lakhs

35. Estrogen Related Receptor Gamma (ERR γ) as a potential biomarker and therapeutic target for thyroid cancer and its correlation with iodine handling genes in thyroid, Dr. Thoudam Debraj Singh, DST-SERB, 3 years, (2020-2023), Rs 50 lakhs
36. Multivalent targeting-based delivery of paclitaxel using elastin like polypeptide containing IL-4 receptor targeting peptide (AP1-ELP) for ovarian cancer therapy, Dr. Thoudam Debraj Singh, ICMR, 3 years, (2019-2022), Rs 36 lakhs
37. Estrogen Related Receptor Gamma (ERR γ) as a potential biomarker and therapeutic target for human colorectal cancer and to investigate the antitumor efficacy of GSK5182 (Estrogen Related Receptor- γ inverse agonist) in combination with MK2206 (a novel Akt inhibitor) in colon cancer in vivo, Dr. Thoudam Debraj Singh, DHR, 3 years, (2021-2024), 50 lakhs
38. Development of Liquid biopsy, cf (cell free) DNA based assay for prognosis of Cervical Cancer., Dr Mayank Singh, AIIMS, 2 years, 2021-2024, Rs 10,00,000
39. To study the role of USP37 in oncogenesis of ovarian cancer by using carbon nanodots embedded 3D cell culture platform, Dr. Mayank Singh, AIIMS IITD, 2 years, 2019-2021, Rs 10,00,000
40. Development of BCMA based Chimeric antigenic receptor T cell (CAR T) cell against Multiple myeloma, Dr Mayank singh, DBT, 3 years, 2021-2024, Rs 100,00,000
41. Evaluation of regulation of programmed death-ligand 1 (PD-L1) expression by microRNA in lung cancer, Sachin Kumar, ICMR, 3 years, 2019, 2022, Rs 47.64 lakhs
42. Global profiling of circular RNAs in small cell lung cancer: a pilot study, Sachin Kumar, AIIMS, 2 years, 2020-2022, 10 lakhs
43. Elucidating the role of circular RNA circLIFR in the pathogenesis of small cell lung cancer, SachinKumar, SERB, 3 years, 2022-2025, ~41 lakhs
44. Elucidation of the role of long non-coding RNA-Ginir as a biomarker in lung tumorigenesis, Sachin Kumar, DBT, 3 years, 2021-2024, ~89 lakhs (In collaboration with NCCS, Pune)
45. Elimination of leukemic and angiogenesis ability with altered macrophages plasticity in Acute Myeloid Leukemia, Self, AIIMS, 3 years, 2019-2022 (Extended 1 year), Rs 10 lakhs
46. APP-DIP: Development of AI based prognostic platform for an early detection of infections in immunocompromised patients, Self (PI from AIIMS), DBT (Indo-Sweden Project), 3 years, 2021-2024, Rs 90 lakhs
47. Role of HOTAIRM1 long non-coding RNA in chemo resistance of acute myeloid Leukemia, Dr Surender K Sharawat, DST-SERB, 3 years, 2019-2022, Rs 48.49 lakhs
48. The significance of UCA1 long non-coding RNA in pediatric acute myeloid leukemia, Dr Surender K Sharawat, AIIMS, 2 years, 2020-2022, Rs 10 lakhs

Completed

1. Bendamustine, Pomalidomide and Dexamethasone in relapsed and/or refractory multiple myeloma: A Phase two study
2. Price regulation and value-based pricing for anticancer drugs: Implications for patients, industry, Insurers and regulators.
3. Analysis of Patterns and Outcomes of Relapsed Multiple Myeloma: an ambispective study”
4. Minimal residual disease in myeloma
5. Pre and post transplant evaluation of natural killer T cells in multiple myeloma
6. Role of PARP 1 and gamma glutamyl cysteine synthetase (GCS) inhibitors on cisplatin sensitivity and DNA methylation in epithelial ovarian cancer.
7. Role of Phosphofructokinase-P (PFKP) in Breast Cancer, Dr. Chandra Prakash Prasad, AIIMS-Intramural, 2 years, 2017-2019, Rs 10 lakhs
8. Exploring how β -catenin induced metabolic changes can be exploited for Triple Negative Breast cancer (TNBC) prognosis and therapeutics, Dr. Chandra Prakash Prasad, Science & Engineering Research Board (SERB), 3 years, 2018-2021, Rs 44.85 lakhs
9. Validation of USP37 as a Diagnostic prognostic marker in Osteosarcoma, Dr. Mayank Singh, AIIMS, 2 years, 2017-2019, Rs 10,00,000

Medical Physics

Ongoing

1. Preparation and study of radiochromic film as radiation dosimeter for medical applications., Dr Pratik Kumar, ICMR, 3 years, 2018-2021, Rs 16,69,920
2. Development of new and novel radiation dosimetric OSL materials by ion implantation technique and chemical methods for improved dosimetry, Dr Pratik Kumar, DRDO, 3 years, 2019-2022, Rs 23,65,828

Onco-Anaesthesia & Palliative Medicine

Ongoing

1. To determine the impact of latent tuberculosis on severity and outcomes in patients with suspected SARS-COV-19 infection, Dr.Shweta Bhopale, Intramural (AIIMS, New Delhi), 2 years, 2020-2022, Rs 4,54,000

2. Development of homeopathic nosode from Covid-19, it's evaluation and efficacy against Covid-19 infections in humans, Dr Sushma Bhatnagar, Central Council for Research in Homeopathy (CCRH), Ministry of AYUSH, Government of India, 6 Months, 4 December 2020-3 June 2021, Rs 10,00,000
3. Phase2, randomized, controlled, open label multi-center study to assess efficacy and safety of DFV890 for the treatment of SARS-CoV-2 infected patients with COVID-19 pneumonia and impaired respiratory function., Dr Sushma Bhatnagar, Novartis Pvt. Ltd., 1 year, 25 August 2020-25 August 2021, Rs 5,00,000

Completed

1. Comparison between C-MAC and King Vision video laryngoscope (channeled blade) for tracheal intubation in aerosol-prevention intubation box for COVID-19 patients, Dr. Balbir kumar, Intramural (AIIMS, New Delhi), 2 years, 2020-2021, Rs 5 lakhs
2. Effect Of Intraoperative Single Dose Ketorolac On Release Of Vegf And Tgf-B In Patients Undergoing Breast Cancer Resection – A Prospective Randomized Trial, Dr Saurabh Vig, Intramural (AIIMS, New Delhi), 2 years, 2021-2023, Rs 4,54,000
3. Clinical Validation of Iontophoretic Delivery of Lidocaine as an Alternative to EMLA Cream, Dr. Sushma Bhatnagar, AIIMS Intramural, 2 years, March 2019-March 2021, Rs 10,00,000
4. Homoeopathy as an adjuvant to standard treatment protocol in management of corona virus infection- a randomised, placebo controlled, open label study., Dr. Sushma Bhatnagar, Central Council for Research in Homeopathy (CCRH), Ministry of AYUSH, Government of India, 2 years, 12 October 2020- 11 January 2021, Rs 14,31,135
5. Development of homeopathic nosode from Covid-19, it's evaluation and efficacy against Covid-19 infections in humans., Dr. Sushma Bhatnagar, CCRH, 6 month, 4 December 2020-3 June 2021, Rs 9,83,220

Total number and amount of funding in last three years

	2021-22	2020-21	2019-20
Funded Projects	3	5	5
Amount	20	45	45

Preventive Oncology

Ongoing

1. A study to quantify the burden of insulin resistance in breast cancer women and its relation with other known prognostic and predictive factors of breast cancer, Dr Pallavi Shukla, AIIMS-intramural, 2 years, 2020-2022, Rs 3.25 lakhs
2. Detection of HPV circulating tumor DNA in cervical cancer patients before and after chemoradiotherapy by droplet digital PCR, Dr Sujata Pathak, AIIMS-Intramural, 2 years, 2019-2021, Rs 9.5 lakhs
3. Sensitization effect of chloroquine and artemisinin on multidrug-resistant small cell lung cancer cell lines, Dr Asrar Alam, AIIMS-Intramural, 3 years, 2019-2022, Rs 10 lakhs
4. Identification of immunogenic regions from SARS-CoV-2 spike protein capable of eliciting robust humoral response, Dr Asrar Alam, AIIMS-Intramural, 2 years, 2020-2022, Rs 10 lakhs
5. Development of a novel cancer immunotherapeutic agent by integrating tumour antigen TRP-2 with *Mycobacterium indicus pranii* and analysis of its antitumour efficacy and immune-mechanisms using a mouse model, Dr. Pawan Kumar, AIIMS Research Section, 2 years, 2019-2021, Rs 10 lakhs
6. Development of SARS-CoV-2 vaccine by incorporating its spike protein into *Mycobacterium indicus pranii* funded by AIIMS, New Delhi., Dr. Pawan Kumar, AIIMS Research Section, 2 years, 2020-22, Rs 10 lakhs
7. Development of novel cancer immunotherapy by incorporating cancer/testis antigen NY-ESO-1 into *Mycobacterium indicus pranii* and evaluation of its antitumor efficacy and immune mechanisms using a mouse tumor model, Dr. Pawan Kumar, SERB, 3 years, 2022-25, Rs 36 lakhs
8. Targeting multiple antigens for cancer immunotherapy with a recombinant *Mycobacterium indicus pranii* (MIP)-based approach and its evaluation using mouse tumor model, Dr. Pawan Kumar, SERB, 3 years, 2022-25, Rs 38 lakhs
9. Cancer Awareness and Referral Engagement (CARE) program for medical- officers/Specialists in selected district hospitals of Haryana., Dr. Hari Krishna Raju Sagiraju, Pfizer-India, 18 months, 2021-2023, Rs 29.5 lakhs
10. Topoisomerase2 β and Anthracycline induced Cardio Toxicity (TACT) among females treated for malignant breast tumors, Dr. Hari Krishna Raju Sagiraju, AIIMS Intramural, 12 months, 2022-2023, Rs 5 lakhs
11. To evaluate the mutation detection performance of various BRCA testing eligibility criteria tools among Indian females with breast cancer and in their immediate family members., Dr. Hari Krishna Raju Sagiraju, AIIMS Interdisciplinary Intramural, 12 months, 2022-2023, Rs 5 lakhs
12. Assessment of Second-hand Tobacco smoke (SHS) exposure and evaluation of m-Health promotion strategy among attendants of cancer patients at a tertiary cancer hospital., Dr Jitendra Kumar Meena, AIIMS Intramural, 2 years, 2020-2022, Rs 1.5 lakhs

Completed

1. Early and Late development of Castration Resistant Prostate Cancer and its correlation with Androgen Receptor Ligand Binding Domain Mutations, Dr. Kumar Sandeep, AIIMS Research Section, 3 years, 2017-20, Rs 7 lakhs

Radiodiagnosis

Ongoing

1. Diagnostic accuracy of Contrast enhanced Ultrasound in detecting early response to Neoadjuvant Chemotherapy in Breast cancer patients, Ekta Dhamija, AIIMS Delhi intramural project, 2 years, March 2019- February 2021, Rs 8,00,000
2. Artificial Intelligence in detection of cancer on mammography in the Indian Scenario, Krithika Rangarajan, DBT, Three years, March 2020- March 2023, Rs 80,00,000

Completed

1. Artificial Intelligence to decode COVID-19, Whom to treat how to treat, when to treat, Krithika Rangarajan, AIIMS Intramural grant, 1 year, April 2020-2021, Rs 2,00,000
2. Metallic tumour marker clip for breast cancer: design, development and clinical implications, Prof Sanjay Thulkar, Science and Engineering research Board (SERB)-DST, 5 years, June 2014- June 2019, Rs 23,27,000
3. “Comparative evaluation of Nasoenteric feeding and Percutaneous Radiologic Gastrostomy for enteric support inpatients with moderate and severe dysphagia due to neoplasms of oropharynx or esophagus: A Pilot Randomized controlled trial, Mukesh Kumar, AIIMS Delhi intramural project, 2 years, March 2018- February 2020, Rs 5,00,000

Radiation Oncology

Ongoing

1. Development of novel film dosimeters for radiation diagnosis and comparison of planned and delivered dose distributions in brachytherapy, Dr. D N Sharma, DHR, 3 years, 2021, 2024, Rs 27,50,000/-.
2. Involved quadrant irradiation (IQI) post breast conservation surgery: A phase 3 randomized control study, Dr. DN Sharma, ICMR, 3 years, 2022-2025, Rs 77,25,000/- ARANOTE study (Protocol BAY 1841788/ 21140): A randomized, double-blind, placebo-controlled Phase 3 study of darolutamide in addition to androgen deprivation therapy (ADT) versus placebo plus ADT in men with metastatic hormone-sensitive prostate cancer (mHSPC), Dr Haresh K P, BAYER Pharmaceuticals, 5 years, 2021-2026, Rs 60 lakhs.
3. NAVIGATE Study (Protocol BAY No. 2757556 / 20289). A Phase 2 Basket Study of the Oral TRK Inhibitor larotrectinib in Subjects with NTRK Fusion-Positive Tumors, Dr Haresh K P, BAYER Pharmaceuticals, 04 Years, 2021, 2025, Rs 6 Lakh per patient if patient is screened. For Pre-Screening Rs 15,345 per patient.
4. Pilot study to compare moderate hypo fractionated radiotherapy versus stereotactic body radiotherapy (SBRT) in intermediate and high risk prostate cancer, A toxicity and quality of life comparison, Dr Haresh K P, ICMR, 03 Years, 2021, 2024, Rs.35,07,462 An institutional phase I/II study to evaluate safety and efficacy of high dose weekly hypofractionated palliative breast radiotherapy in fungating advanced unresectable or metastatic breast cancer., Dr Haresh K P, ICMR, 3 years, 2021-2024, Rs 35,07,462
5. A pilot study to develop and validate an artificial intelligence platform for the management of breast cancer, Dr Haresh K P, ICMR, 3 years, 2022-2025, Rs 66,13,008 Optimum radiation dose for palliation in head and neck Squamous cell carcinoma – A phase 3 randomized controlled trial (OpRaH), Dr Supriya Mallick, ICMR, 3 years, 2021-2024, Rs 16,00,000
6. Phase II study of hypo-fractionated accelerated radiotherapy with concurrent and maintenance temozolomide in newly diagnosed IDHwtAnaplastic Astrocytoma (NCI-R-01-HyRAA), Dr Supriya Mallick, AIIMS, 1 year, 2021-2022, Rs 5,00,000
Cervical cancer tumour micro-environment immune-profiling and effect on early response to standard chemoradiotherapy in Indian patients. Dr Pritee Patil, AIIMS, 2 years, 2020-2022, Rs 5,00,000
7. Prediction of Cervical Cancer Recurrence by Deep Learning Model, Dr Surendra Kumar Saini, ICMR, 2 years, 2022-2024, Rs 25,00,000

Completed

1. A Randomized, Multiple-dose, Multicenter, Comparative, Parallel Study to Evaluate the Efficacy, Safety and Pharmacokinetic Characteristics of Intravenous Infusion of Trastuzumab (Test, Hetero) and Reference Medicinal Product (Reference, Roche) in combination with standard chemotherapy in Patients of HER2-positive Metastatic breast cancer (TRUMAB Study), Dr Haresh K P, Hetero Pharma, 2 years, 2019-2021, Rs 17 lakhs
2. A prospective pilot study to evaluate the effectiveness and toxicity of Stereotactic body radiotherapy (SBRT) for Portal Vein Thrombosis in patients with advanced Hepatocellular carcinoma (HCC) (DHR Grant), Dr Haresh K P, DHR, 2 years, 2019-2021, Rs 31 lakhs
3. Palliative Endobronchial Brachytherapy for malignant airway obstruction., Dr Rambha Pandey, AIIMS, 2 years, 2019-2021, Rs 10 lakhs

Surgical Oncology

Ongoing

1. HBCR & Pattern of care and survival studies in breast, head&neck and cervical cancer., SVS Deo, ICMR, NCDIR, 8 years, 2014-Ongoing, Rs 47,00,000/Year
2. Patterns of care and survival studies on cancer in childhood, lymphoid and hematopoietic malignancies, other gynaecological malignancies, SVS Deo, ICMR, NCDIR, 5 years, 2017-2022, Rs 500,000/Year
3. POCSS for PBCR -Head & Neck, Breast and Cervix cancers, SVS Deo, ICMR, NCDIR, 5 years, 2019-2023, Rs 200,000/year
4. Comparative Sphingolipid profiling of breast cancer cell and tissue types for identification of Potential Metastatic Biomarkers", SVS Deo, DST, 5 years, 2017-2021, Rs 47,15,480
5. Comparison of pulmonary metastasis detected with PET-CT vs NCCT chest with surgical pathology, Dr Sunil Kumar, AIIMS, New Delhi, 2 years, 2020-21, On actual cost basis
6. Assessment of cell free DNAs (cf-DNA) as a biomarker in common gastrointestinal track cancers, Dr Sunil Kumar, AIIMS, New Delhi, 3 years, 2021-23, Rs 10 lakhs
7. Patterns of Care and Survival Studies on Gall Bladder Cancer under ICMR- National Cancer Registry Programme (NCRP), Dr Sunil Kumar, NCDIR (ICMR), Bengaluru, 5 years, 2020-2024, Rs 13.75 lakhs
8. Role of Circulating Tumour DNA (Ct-DNA) As A Surrogate Marker in Ovarian Cancer - A Pilot Study, Ashutosh Mishra, AIIMS Intramural Grant, 2 years, June 2021, Rs 10 lakhs
9. Role of heavy metals as etiology for carcinoma of the gallbladder. Early career intramural research grant, Sandeep Bhoiriwal, AIIMS, 2 years, 2021-2022, Rs 10 lakhs
10. Evaluation of tumor derived exosomes in blood during pre and post treatment of pancreatic cancer patients. Sandeep Bhoiriwal, AIIMS, 2 years, 2021-2022, Rs 20 lakhs
11. Understanding the impact of gut microbiome dysbiosis and metabolic alterations in the pathogenesis of early onset (EOCRC) Colorectal Cancer (CRC)", Jyoti Sharma, AIIMS, New Delhi, 2 years, 2021-2023, Rs 10,00,000

Completed

1. Diversity of Oral micro biome of smokeless tobacco induced oral cancer patients as compared to tobacco chewers and nontobacco chewer healthy individuals- A metagenomic approach", SVS Deo, DST-SERB Govt. of India, 4 years, 2015-2021, Rs 50,00,000
2. Immuno-phenotypic profile of tumour infiltrating cells of the immune system & expression of PDL1 in triple negative/Her-2 neu positive breast cancer patients and their correlation with response to neoadjuvant chemotherapy", SVS Deo, DST, 3 years, 2017-2021, Rs 28,74,440
3. Breast and ovarian cancer awareness drive, Dr M D RAY, Funded by DST, Govt of India, 1½ years, 2020-2022, Rs 28,45,000
4. Development of Standard Operating Procedures (SOP) of Hyperthermic Intraperitoneal Chemotherapy (HIPEC) in Peritoneal Surface Malignancies for Public Set up in India., Dr M D Ray, Funded by DST, Govt of India, 3 years, 2018-2021, Rs 45,92,662
5. Clinical Utility of cell-free DNA in intraoperative pleural lavage fluid and plasma for patients with resectable pulmonary malignancies., Dr. Sunil Kumar Co-PI – Dr Jyotishman Saikia, AIIMS Intramural Grant, 2 years, 2019-2020, Rs 10,00,00.00
6. Predicting the response to neo-adjuvant chemotherapy by analysis of exome and transcriptome in squamous cell carcinoma of esophagus, Dr Sunil Kumar, 4BaseCare, 2020-21, On actual cost

Departmental projects

Laboratory Oncology

Ongoing

1. A study of plasma cell and B-cell compartment in plasma cell proliferative disorders (PCPD).
2. Establishment of Standard and the state of the art molecular procedures for Monitoring Minimal Residual Disease (MRD) and identification of ABL kinase domain mutations in Chronic Myeloid Leukemia (CML)".
3. Transcriptomic profiling of Leukemic Stem Cells to study tumorigenesis and chemoresistance in AML
4. To study the interaction of IKZF1 alterations with cell adhesion molecules in B-cell acute lymphoblastic leukemia
5. Identification of genetic alterations in Indian paediatric Ph-like Acute lymphoblastic Leukemia.
6. Dissecting the molecular pathways in Dux4-rearranged B-ALL.
7. Elucidating the role of NRF2 signaling pathway in acute myeloid leukemia.
8. Elucidation of role of PAX5r in B-ALL
9. Deciphering the landscape of circular RNA in B-ALL
10. NGS based characterization of pathways involved in the development of breast cancer among Indian women
11. Bioinformatics Based Mutational Profiling and Structural Variations Analyses in Gallbladder Carcinoma
12. Identification of differentially expressed protein based biomarkers involved in downstream signaling pathways of Gall Bladder Carcinoma in Indian Patients
13. Relevance of WT gene expression in AML.

14. A pilot study to evaluate FTO gene polymorphism among breast and ovarian cancer cases of north Indian Population
15. A prospective study to evaluate the PIK3CA and AKT1 gene mutation and their correlation in Indian Breast Cancer.
16. DDPCR based characterization of liquid biopsy as a clinical tool for therapeutic monitoring and disease prognosis in breast cancer cases.
17. Minimally invasive evaluation of genomic aberrations in multiple myeloma.

Medical Oncology

Ongoing

1. 1% topical diclofenac in prevention of hand foot syndrome in patients receiving capecitabine for breast and gastrointestinal cancers
2. A Phase II Study of Gemcitabine Docetaxel Combination in Metastatic Relapsed Synovial Sarcoma
3. A phase II study of Metformin plus Pemetrexed/Carboplatin in patients with non-squamous non-small cell lung cancer.
4. A pilot study to assess safety and efficacy of modified FOLFIRINOX in unresectable Gall Bladder Cancer
5. A Prospective Randomized Control Trial of Goal directed Vs Standard Fluid Therapy in Cytoreductive Surgery with Hyperthermic Intraperitoneal Chemotherapy.
6. A prospective study on germline mutation profiles of consecutive patients with ovarian cancer.
7. A retrospective study of early-stage epithelial ovarian cancer.
8. A retrospective study of outcomes of High dose chemotherapy and stem cell transplant in Hodgkin's lymphoma
9. A single arm feasibility phase II study of EMF regime in platinum refractory recurrent metastatic head and neck squamous cell carcinoma
10. A study of familial aggregation in non-small cell lung cancer.
11. A study on familial aggregation in lung cancer
12. A two arm randomized open label prospective parallel design superiority Phase II multicentric clinical trial to evaluate the efficacy of a doublet second line chemotherapy versus monotherapy in advanced unresectable or metastatic gall bladder cancer progressing on first line chemotherapy
13. Adjuvant chemoradiation and chemotherapy in resected gastric cancer.
14. Adjuvant Chemotherapy or Chemo-radiation in Gall Bladder Cancer: A Phase III Randomized Controlled Study (ACCeLeRate trial)
15. An ambispective cohort study of clinicopathological characteristics in patients of locally advanced breast cancer
16. An ambispective study of survival outcomes in patients with HER2 positive breast cancer.
17. An audit of clinic-pathological characteristics and outcome to therapy in high-risk endometrial cancer treated at tertiary cancer centre: Retrospective analysis.
18. Analysis of clinico-radiologic outcomes of patients with extremity fibromatosis after stoppage of sorafenib post one year of treatment.
19. Analysis of Patterns and Outcomes of Relapsed Multiple Myeloma: an ambispective study"
20. Analysis of predictive ability of baseline laboratory parameters on survival outcome of children with cancer- A retrospective cohort study.
21. Assessing preparedness of pediatric cancer survivorship care among trainee healthcare providers- A prospective observational study.
22. Assessment of Sexual Health and Intimacy in Cancer Patients: Perspective from Patient and Health Care Workers.
23. Assessment of Sexual health and intimacy related problems in cancer patients undergoing chemotherapy.
24. Bendamustine, pomalidomide and dexamethasone in relapsed and/or refractory multiple myeloma.
25. Clinicopathological features and outcome of patients with Hodgkin's lymphoma
26. Comparison of "Multigene hereditary panel testing" profiles in breast cancer patients qualifying and not qualifying the NCCN criteria for genetic testing: a prospective study in North Indian population.
27. Concurrent Chemotherapy and External Radiation Therapy: An Open Label Non-Inferiority Phase III Randomized Controlled Trial of Weekly versus Three Weekly Cisplatin and Radical Radiotherapy in Locally Advanced Head and Neck Squamous Cell Carcinoma.
28. Cost effectiveness of early stoppage of early antibiotic therapy at clinical recovery in pediatric cancer patients with high-risk febrile neutropenia compared to delayed stoppage of early antibiotic therapy
29. Cost-effectiveness study of early stoppage of empirical antibiotic therapy at clinical improvement in pediatric cancer patients with high risk febrile neutropenia nested within an ongoing open label randomized control trial"
30. Deciphering the oncogenic potential of Deubiquitinating enzymes (DUBs) in Gynaecological Cancers.
31. Development of A Tool for Assessment of Patient Reported Outcomes in Pediatric Oncology Patients
32. Diagnosing hereditary cancer predisposition in Indian men with prostate cancer: A pilot study
33. DNA Methylation in Ovarian Cancer
34. Early integrated palliative care versus routine oncological care for advanced adult sarcoma patient in tertiary care centre in India: a randomized phase II trial.
35. Early stoppage of empirical antibiotic therapy at clinical improvement in pediatric cancer patients with high risk febrile neutropenia. A randomized open label clinical trial

36. EMF (Erlotinib/Methotrexate/5-FU) regimen as an efficacious therapy in unresectable or recurrent/metastatic Head Neck Squamous cell carcinoma after platinum failure: Investigator initiated, single arm, phase II trial
37. Evaluation of the potential of AP1-functionalised Elastin Like Polypeptide nanocarriers for multivalent targeting-based delivery of paclitaxel in human ovarian carcinoma.
38. Exploring the role of long non coding RNAs in lung cancer.
39. Feasibility of teleconsultation services in oncology and assessment of its impact and satisfaction level of patients / caregivers.
40. Gender inequity in the Utilisation of Oncology Healthcare services for childhood malignancies in India
41. Gene expression profile & its co-relation with mitochondrial energy metabolism in pediatric Acute myeloid leukemia.
42. Generation and characterization of therapeutic BCMA(B Cell Maturation Antigen) specific antibodies in multiple myeloma.
43. Immunomodulatory properties of mesenchymal stem cells in Graft-Versus-Host-Disease.
44. Incidence and impact of gut colonization by multi-drug resistant organism in patients receiving high intensity chemotherapy for AML or autologous HSCT
45. Incidence of invasive colon cancer and colon polyps in first degree relatives of patients with colorectal cancer
46. Induction Related Mortality Score in Acute Myeloid Leukemia: Prospective Validation Study
47. Liquid biopsy-based risk stratification and intensification of treatment In EGFR mutant advanced NSCLC
48. Modified Gemcitabine + Oxaliplatin (mGemOx) in Management of Unresectable Gallbladder Cancer: A retrospective study
49. Multiple Myeloma: Clinico-laboratory characteristics and outcome: Experience at the AIIMS
50. Olanzapine versus fosaprepitant for prevention of chemotherapy induced nausea and vomiting in patients receiving carboplatin ($AUC \geq 4$) containing chemotherapy regimen: A randomised, double blind, placebo-controlled trial
51. Outcome analysis of triple negative breast cancer.
52. Pazopanib based combination oral Metronomic therapy in Platinum Resistance, Platinum Refractory and advanced Ovarian Cancer: A randomized phase 2 Study
53. Prevalence And Perception Regarding Complementary And Alternative Medicine Use In Childhood Cancer Patients
54. Prognostic and Therapeutic Relevance of Human Antigen R(HuR) in Triple Negative Breast Cancer.
55. Prognostic factors and Outcomes in Patients with Ewing Sarcoma/Primitive Neuroectodermal Tumor Treated at a Tertiary Care Centre
56. Psychosocial, functional, sexual, educational, vocational, outcomes, in survivors of extremity bone sarcomas
57. Randomized double blind placebo-controlled study of topical diclofenac in patients receiving Capecitabine in breast and Gastrointestinal cancers.
58. Real world data on implications of microsatellite instability in patients of gastric cancer receiving peri-operative chemotherapy
59. Retrospective analysis of patterns and outcomes in Relapsed Multiple Myeloma.
60. Role of Beta-Catenin induced metabolic changes in Triple Negative Breast Cancer (TNBC) prognosis and therapeutics.
61. Role of long non coding RNA HOTAIRM1 in Acute Myeloid Leukemia.
62. Role of PARP1 and γ -Glutamyl Cysteine Synthetase (GCS) Inhibitors on cisplatin sensitivity and DNA Methylation in ovarian cancer.
63. Single day intravenous Fosaprepitant versus 3-day oral aprepitant anti-emetic regimen in pediatric patients receiving highly emetogenic chemotherapy: An investigator-initiated, randomized, open label, non-inferiority trial.
64. Spectrum and real-world outcome of viruses associated lymphoproliferative disorder
65. Stoppage of empirical antibiotic therapy in pediatric high-risk febrile neutropenia: A randomized open label Phase III clinical trial.
66. Study of Nilotinib drugs levels with foods and their clinical outcome in patients of chronic myeloid leukemia
67. The effect of germline mutations on survival outcomes in patients with breast cancer-a case control study
68. The feasibility of weekly paclitaxel in improving performance status of advanced NSCLC patients with poor performance status: A single arm phase two trial
69. To investigate the significance of estrogen related receptor gamma ($ERR\gamma$) expression in thyroid cancer and study its potential as a therapeutic target.
70. Translation and Validation of the Hindi version of the Pediatric Nausea Assessment Tool in the Indian Population
71. Transplant versus no transplant in multiple myeloma
72. VRd (Bortezomib, Lenalidomide and Dexamethasone) versus VPd (Bortezomib, pomalidomide and dexamethasone) in newly diagnosed multiple myeloma: A randomized study

Completed

1. Clinicopathological characteristics and outcome to therapy in high risk endometrial cancer
2. A retrospective analysis of early stage epithelial ovarian cancer
3. Predictors of chemotherapy resistance and relapse in gestational trophoblastic neoplasia
4. Multiple myeloma: Stem cell mobilization – a risk adapted algorithm based approach
5. POEMS syndrome: consolidation with autologous stem cell transplantation

6. Minimal residual disease in myeloma
7. Role of PARP 1 and gamma glutamyl cysteine synthetase (GCS) inhibitors on cisplatin sensitivity and DNA methylation in epithelial ovarian cancer.
8. Bendamustine, Pomalidomide and Dexamethasone in relapsed and/or refractory multiple myeloma: A Phase two study
9. Price regulation and value based pricing for anticancer drugs: Implications for patients, industry, Insurers and regulators.
10. Analysis of Patterns And Outcomes of Relapsed Multiple Myeloma: an ambispective study”
11. Pre and posttransplant evaluation of natural killer T cells in multiple myeloma
12. The feasibility of weekly paclitaxel in improving performance status of advanced NSCLC patients with poor performance status: A single arm phase two trial.

Medical Physics

Ongoing

1. Development of new luminescence material for dosimetry purpose
2. Calibration and use of optically stimulated luminescence dosimeter

Completed

1. Development of radiochromic film dosimeter

Onco-Anaesthesia & Palliative Medicine

Ongoing

1. Calculating 95% effective dose (ED 95) of hyperbaric bupivacaine for intracavitary radiotherapy under sub-arachnoid block in patients with carcinoma cervix: A sequential allocation study
2. To assess the impact of advanced airway imaging (3D CT reconstruction and virtual endoscopy of airway) on airway management in adult patients undergoing head and neck cancer surgeries under general anaesthesia: Prospective randomized study
3. To evaluate the effect of implementation of Enhance Recovery After Surgery (ERAS) protocol in adult patients undergoing head and neck cancer surgery under general anesthesia on length of hospital stay: A prospective interventional study.
4. To assess the palliative care needs, symptom burden and quality of life in geriatrics patients attending a tertiary care centre in India- a cross sectional observational study
5. To assess the impact of respiratory physiotherapy on the effectiveness of pleurodesis after ultrasound guided pigtail catheter insertion in adult patients with malignant pleural effusion: a prospective randomized interventional study
6. Effect of Regional Anaesthesia on immune response, recurrence, and metastasis in breast cancer surgery: a prospective randomized control study.
7. Muscle activity during intubation in a difficult airway
8. Effect of early integration of palliative care on QOL in patients with CA breast
9. Effect of COVID-19 on quality of life of patients
10. Implementing Telemedicine in preanesthesia clinic at a tertiary cancer care center: A Prospective randomized comparative study.
11. Smartphone based telemedicine service for symptoms assessment in patients attending palliative care unit: A cross sectional study at a tertiary care cancer hospital
12. Prevalence and risk factors of acute neuropathic pain following oncological surgeries: a prospective study at a tertiary cancer center
13. Prospective Evaluation of Social Support, Depression and Quality of Life in Advanced Cancer Patients Attending The Palliative Care Clinic Of A Tertiary Care Centre
14. Knowledge, attitude and perception regarding morphine use in Indian cancer patients.
15. To evaluate the comparative efficacy and safety of Gabapentin, Duloxetine and Pregabalin in patients with Chemotherapy Induced Painful Neuropathy (CIPN): A Randomized Controlled Pilot trial.
16. Prevalence and predictors of insomnia in cancer patients presented to palliative care unit of a tertiary care center in India
17. Strong opioids and its impact on QOL in chemotherapy induced oral mucositis: A prospective observational study
18. Cardiopulmonary exercise testing as a predictor of morbidity after major gastrointestinal cancer surgeries in patients at nutritional risk: A prospective observational pilot study
19. Prevalence and predictors of postoperative fatigue and its impact on the quality of life patients after gastrointestinal cancer surgeries: A prospective observational study
20. A randomized control trial to evaluate the comparative efficacy of ultrasound guided supraclavicular brachial plexus block with triamcinolone and oral morphine in the management of upper extremity pain due to cancer
21. To evaluate the comparative efficacy and safety of Gabapentin, Duloxetine and Pregabalin in patients with Chemotherapy Induced Painful Neuropathy (CIPN): A Randomized Controlled Pilot trial.
22. Prevalence of chemotherapy induced peripheral neuropathy in a palliative care setup and its impact on the quality of life of cancer patients.

23. Prevalence of postoperative morbidity in patients undergoing elective major thoraco-abdominal oncosurgery and their correlation with anaesthetic technique.
24. Effect of patient controlled epidural analgesia (PCEA) and intravenous patient-controlled analgesia (IVPCA) on postoperative inflammatory response and cancer recurrence in patients undergoing abdominal oncosurgery - a prospective randomized controlled trial.
25. Validation of the Hindi version of the EORTC QLQ-C15-PAL questionnaire for the evaluation of quality of life of advanced cancer patients at tertiary care center, India.”
26. Concerns of health care professionals managing non-COVID patients during the COVID-19 pandemic: A descriptive cross-sectional study.
27. Palliative Care Needs Assessment in Patients Suffering from Advanced Chronic Obstructive Pulmonary Disease (COPD)/ Interstitial Lung Disease (ILD): A Prospective Study
28. A Prospective Observational Study to Assess the Effect of Palliative Care Consultation on the Palliative Care Needs of Patients Suffering from Advanced Lung Cancer, in a Tertiary Care Hospital in India
29. Dexmedetomidine versus Midazolam for Sedation during Medical Thoracoscopy: A Pilot Randomized Controlled Trial (RCT): Journal of Bronchology and Interventional Pulmonology
30. Pain Management Policy formulation at a tertiary care teaching institute in India: A prospective observational study.
31. Feasibility of ERAS (Enhanced Recovery after Surgery) protocol in patients undergoing gastrointestinal cancer surgeries in tertiary care.
32. Role of Perioperative Vitamin C supplementation in reduction of surgical stress and inflammatory markers following head and neck oncosurgeries- A Prospective double blinded randomized trial.
33. To see the effects of implementation of ERAS protocol in adult patients undergoing head and neck cancer surgery under general anaesthesia on length of hospital stays.
34. Effect of anesthetic technique on anti-tumor immunity and clinical outcomes in patients undergoing surgery for oral cancer: A prospective randomized comparative study.
35. A Prospective Randomized Control Trial To Compare Post-Operative Pain And Complications After Colorectal Cancer Surgery Under Different Anaesthetic Techniques; Intraoperative Total Intravenous Anaesthesia (TIVA) With Propofol Versus Sevoflurane Based Anaesthesia
36. Comparison of macintosh laryngoscope with various video laryngoscopes with respect to upper limb muscular activity and perceived workload using surface electromyography (SEMG) during intubation in a manikin with simulated difficult airway: A prospective randomized cross over trial.
37. A comparison of two techniques of postoperative analgesia: multimodal intravenous analgesic technique and epidural infusion of ropivacaine in patients undergoing oncological abdominal surgeries – prospective randomized trial”
38. Impact of advanced airway imaging (3 D CT reconstruction and virtual endoscopy) on airway management in patients undergoing head and neck cancer surgeries :Prospective randomized study.
39. To compare the efficacy of continuous bilateral quadratus lumborum block with continuous epidural block for providing effective analgesia and perioperative outcome in patients undergoing exploratory laparotomy for colorectal cancer surgery: A non-inferiority randomized controlled trial
40. Effect of anesthetic technique on anti-tumor immunity and its markers in patients undergoing surgery for Gall Bladder Cancer: A prospective randomized comparative study.
41. Impact of individualised PEEP in patients undergoing one lung ventilation: a Randomised control trial
42. Comparison of different video laryngoscopes for Nasotracheal intubation in manikin with difficult airway by experienced anesthesiologists: A randomized, self-controlled, crossover trial
43. To compare the efficacy of opioid free general anesthesia with opioid based general anesthesia on post-operative morphine consumption in patients undergoing breast cancer surgery: a prospective randomized control study.
44. Comparison of lung aeration loss in open abdominal oncologic surgeries after ventilation with Electrical Impedance Tomography guided PEEP versus conventional PEEP – a pilot randomized control trial.
45. Effect of dietary modifications and education tool on morphine induced constipation in addition to routine morphine prescriptions in cancer patients: A randomized control trial”.
46. Palliative care needs of patients with life-limiting illnesses presenting to the Emergency Department.
47. Caregiver burden and quality of life of parents of children with cancer in a tertiary care centre in India- A cross sectional study.
48. Needs Assessment of Palliative Care in Geriatrics Symptom Burden and Quality of Life Assessment in Advanced Cervical Cancer Patients Presenting to the Palliative Care Department in a Tertiary Care Centre: A Prospective Observational Study.
49. To Assess the factors Responsible for delayed presentation of cancer patients to tertiary centre: And its implication in patient care. Palliative care needs of patients with life-limiting illnesses presenting to the Emergency Department
50. Psychological distress and quality of life in Lung cancer patients receiving chemotherapy: - A prospective observational study
51. Role of Intravenous iron therapy on fatigue and quality of life in patients of palliative care: a prospective interventional study.

52. Assessment of Symptom Burden and “Quality of Life” in Patients of Primary brain tumors receiving palliative care at a tertiary care centre, India: A Prospective Observational Study.
53. Effect of early integration of best supportive care in addition to standard care in patients with breast cancer: a randomized controlled trial
54. To assess the palliative care needs, symptom burden and quality of life in advanced sarcoma patients presenting to a palliative medicine clinic of tertiary cancer centre- a cross-sectional study
55. Assessment of Symptom Burden and Quality of Life in Paediatric Cancer Patients in A Tertiary Care Centre In India: A prospective study.
56. To study the clinical correlation between chemotherapy induced peripheral neuropathy (CIPN) and deficiency of vitamin b12, vitamin d3, calcium and omega 3 fatty acids.
57. Smartphone-based telemedicine service at palliative care unit during nationwide lockdown: Our initial experience at a tertiary care cancer hospital.
58. Effect of nation-wide lockdown on palliative care services in a tertiary care centre in India: A retrospective observational study.
59. Opioid dispensing patterns from a tertiary care cancer hospital during the nationwide lockdown in COVID-19 pandemic
60. Palliative Care Needs Assessment in Patients Suffering from Advanced Chronic Obstructive Pulmonary Disease (COPD)/ Interstitial Lung Disease (ILD): A Prospective Study.
61. Effect of adding dexamethasone to ropivacaine on ultrasound guided serratus anterior plane block for modified radical mastectomy: A Prospective randomized controlled study.
62. Perioperative anaesthesia management for brachytherapy in cancer patients: A retrospective observational study.
63. To compare the efficacy of opioid free anaesthesia with opioid based anaesthesia on post-operative opioid consumption in patients undergoing open thoracotomy surgeries: a prospective randomized control trial.
64. Correlation of oxygenation, ventilatory parameters and optic nerve sheath diameter (ONSD) to intra-operative mechanical ventilation in abdominal surgeries, comparison of recruitment maneuver with conventional ventilation. A pilot randomized controlled trial.
65. To evaluate the effect of two ventilatory strategies (conventional bag mask ventilation and manual jet ventilation) on peak inspiratory pressures and dynamic compliance using electrical impedance tomography after interventional rigid bronchoscopy for malignant central airway obstruction.
66. Comparison of total intravenous anaesthesia and inhalational anesthesia for development of postoperative pulmonary complications in oral cancer resection surgery with pectoralis major myocutaneous (PMMC) flap reconstruction: a prospective, randomized control trial.
67. A comparison of two techniques of postoperative analgesia: lignocaine-fentanyl intravenous infusion and ropivacaine-fentanyl epidural infusion in patients undergoing cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) – prospective randomized control study.
68. A Prospective Randomized Control Trial of Goal directed Vs Standard Fluid Therapy in Cytoreductive Surgery with Hyperthermic Intraperitoneal Chemotherapy.”
69. Assessment of Symptom Burden and “Quality of Life” in Patients of Primary brain tumours receiving palliative care at a tertiary care centre, India: A Prospective Observational Study.
70. Assessment of Symptom Burden and Quality of Life in Patients of advanced head and neck cancer receiving palliative care at tertiary care centre, India: A Prospective Observational Study.
71. To study the effect of oral morphine prescribed for dyspnoea in cancer patients presenting to the Departments of Onco-Anaesthesia and Palliative Medicine and Pulmonary Medicine and Sleep Disorders in a tertiary care hospital in India: A prospective observational study.
72. Assessment of Symptom Burden and Quality Of Life in Patients Of Lung Cancer Attending The Palliative Care Clinic Of A Tertiary Care Centre: Prospective
73. Comparison of intervention with analgesics versus analgesics alone in patients with Head and Neck malignancy in terms of pain relief and quality of life at 3 months follow up: A Prospective randomized study
74. Assessment of Symptoms Burden and Quality of Life in Patients of Malignant Bowel Obstruction Presenting in Palliative Care Unit at Tertiary Cancer Centre in India.
75. Pattern of Patients Presenting with Malignant Spinal cord Compression in Palliative Care Unit at a Tertiary Care Centre of India-An Observational Study”.
76. Quality of life and symptom burden in patients with hematological malignancies receiving hematopoietic stem cell transplantation- a prospective observational study
77. End of Life care practice at a Tertiary Cancer Centre in India: An Observational study.”
78. Assessment of Symptom Burden and Quality of Life in Patients of Advanced Breast Cancer in Indian Population: A Cross-Sectional study.”
79. Assessment of palliative care outcomes in patients of gastrointestinal malignancies attending the palliative care clinic of a tertiary care centre: a prospective observational study.

Completed

1. Comparison of Mc Grath-MAC and C-MAC video laryngoscopes for intubation in a COVID simulated mannequin by novice users wearing face protective gear: a randomized crossover trial
2. To evaluate the effect of two ventilatory strategies (conventional bag mask ventilation and manual jet ventilation) on peak inspiratory pressures and dynamic compliance using electrical impedance tomography after interventional rigid bronchoscopy for malignant central airway obstruction
3. A comparison of two techniques of postoperative analgesia: lignocaine-fentanyl intravenous infusion and ropivacaine-fentanyl epidural infusion in patients undergoing cytoreductive cancer surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) - prospective randomized control study.
4. Perioperative anaesthetic management in cytoreductive surgery (CRS) with hyperthermic intraperitoneal chemotherapy (HIPEC): a retrospective analysis in a single tertiary care cancer centre
5. Comparison of kind vision Videolaryngoscope channelled and non-channelled blades with direct Laryngoscope for intubation in mannequin by medical students: a randomized mannequin study. Funded AIIMS Undergraduate research project
6. To compare the efficacy of opioid free general anesthesia with opioid based general anesthesia on post-operative morphine consumption in patients undergoing breast cancer surgery: a prospective randomized control study.
7. Nasotracheal intubation in patients with oropharyngeal carcinoma under general anaesthesia: A comparative evaluation between fiberoptic bronchoscope and C-MAC D blade videolaryngoscope
8. Comparison of two different doses of hyperbaric bupivacaine for intracavitary radiotherapy in patients with carcinoma cervix: A Randomized control trial.
9. An assessment of need for palliative care in patients with rheumatoid arthritis using SF36, DAS28, DASS and HAQ-DI questionnaires
10. Comparison of kind vision Videolaryngoscope channelled and non-channelled blades with direct Laryngoscope for intubation in mannequin by medical students: a randomized mannequin study. Funded AIIMS Undergraduate research project
11. Comparison of Mc Grath-MAC and C-MAC video laryngoscopes for intubation in mannequin by donned anesthesiologists using an intubation box during COVID-19: pandemic: a prospective randomized study.
12. Comparison of Mc Grath-MAC and C-MAC video laryngoscopes for intubation in patients with normal airway by donned anesthesiologists using an intubation box during COVID-19: pandemic: a prospective randomized study.
13. A comparison of effect of Desflurane vs Sevoflurane on arterial oxygenation during one lung ventilation for thoracotomies in oncosurgical patients: - a randomized control trial.
14. Comparison of analgesic efficacy of Ultrasound guided thoracic Paravertebral block versus surgeon guided Serratus Anterior Plane block for acute postoperative pain in patients undergoing thoracotomy for lung surgery-A prospective randomized study
15. Comparison of efficacy of Ultrasound guided Paravertebral Block versus Erector Spinae Plane block for Postoperative Analgesia in Modified Radical Mastectomy: A Randomized Controlled Trial.
16. Cardiopulmonary exercise testing as a predictor of postoperative outcome in patients undergoing esophageal cancer surgery following neoadjuvant chemotherapy - A prospective observational study.
17. Cardiopulmonary exercise testing as an early predictor of chemotherapy induced cardiac dysfunction in carcinoma breast patients receiving neo-adjuvant chemotherapy and to compare their early post-operative recovery with the carcinoma breast patients posted for upfront surgery: A Prospective Observational Study
18. Comparison of lung aeration loss in open abdominal oncologic surgeries after ventilation with Electrical Impedance Tomography guided PEEP versus conventional PEEP – a pilot randomized control trial.
19. Comparison of efficacy of ultrasound guided paravertebral block versus complete anterior thoracic block for postoperative analgesia in modified radical mastectomy: a randomized controlled trial

Radiodiagnosis

Ongoing

1. Developing and using robotic arm for performing ultrasound remotely' in collaboration with IIT Delhi.
2. Role of whole-body MRI in the evaluation of lung cancer.
3. Role of Multiparametric MRI in predicting the grade of adult peripheral Soft tissue sarcomas
4. Contrast enhanced ultrasound guided celiac plexus nerve block in upper abdominal cancer pain
5. CT guided lung biopsy with newer technique of saline instillation for reduction of post biopsy pneumothorax- a prospective randomized controlled technique

Completed

1. Assessment of the effectiveness of Transversus abdominis plane (TAP) block for pain relief in percutaneous transhepatic biliary drainage in gall bladder cancer patients- a randomized control trial
2. Role of multiparametric MRI in predicting the grade of adult peripheral soft tissue sarcomas

Radiation Oncology

Ongoing

1. Pilot study to compare moderate hypofractionated radiotherapy versus stereotactic body radiotherapy (SBRT) in intermediate and high risk prostate cancer, a toxicity and quality of life comparison.
2. A pilot study to evaluate the feasibility, toxicity profile and quality of life in patients with newly diagnosed glioblastoma, receiving adjuvant chemoradiation using stereotactic radiotherapy in comparison to conventional radiotherapy
3. A phase III randomized controlled study comparing xerostomia after tubarial salivary gland sparing IMRT versus standard IMRT in patients with locally advanced oropharyngeal squamous cell carcinoma.
4. Development of gel bolus and patient - specific phantom with additive manufacturing for radiation dosimetry.
5. Multiple sessions versus single session image-based intracavitary brachytherapy for locally advanced cervical cancer – A Randomized Controlled Trial
6. Comparison between hypofractionated whole breast irradiation vs accelerated partial breast irradiation in early stage breast carcinoma
7. Randomized Control trial of Neoadjuvant short course radiotherapy followed by chemotherapy vs. preoperative long course chemoradiotherapy followed by surgery in Locally advanced rectal cancer
8. Pattern of care and outcome in locally advanced nonsmall cell lung cancer patients in Northern India- Radiation Oncology perspective from a Tertiary Care Centre
9. Implementing Fractionated Stereotactic Radiotherapy in Oligometastatic brain metastasis in NonSmall Cell Lung Cancer: A Prospective Single arm study
10. A retrospective analysis of patients with solitary plasmacytoma treated at AIIMS, New Delhi from 2011-21
11. Discovering imaging biomarkers for early prediction of therapy response for precision radiotherapy by radiomics, radiogenomics, and machine learning
12. The HYPCON Trial: hypofractionated adjuvant radiation therapy in head and neck malignancies: a randomized phase II study
13. Interstitial Brachytherapy Versus Extreme Hypofractionated External Beam Partial Breast Irradiation After Breast Conserving Surgery in Early Stage Female Breast Carcinoma
14. A randomized multicenter trial of accelerated hypo - vs. normo-fractionated radiotherapy for head and neck squamous cell carcinoma. IAEA, Vienna Austria
15. Comparative evaluation of acute toxicity, cosmesis and quality of life in hypofractionation versus conventional fractionation radiotherapy to whole breast and regional nodes after breast conservation surgery in breast cancer patients.
16. Hypofractionated Palliative Radiotherapy using “Quadshot Regimen” with Concurrent Cisplatin for Patients with Locally advanced Head and Neck Squamous Cell Carcinoma Unsuitable for Curative Treatment.
17. Stereotactic Body Radiation Therapy in Management of Recurrent Head and Neck Carcinoma: An Assessment of Treatment outcome and Toxicity.
18. A prospective pilot study to evaluate the role of stereotactic body radiotherapy in portal vein thrombosis in patients with hepatocellular carcinoma.
19. A phase II study to assess the feasibility of involved site radiotherapy for consolidation after chemo-immunotherapy in newly diagnosed patients of stage I-II nodal diffuse large b-cell lymphoma.
20. A phase II study to evaluate the efficacy of cisplatin and gemcitabine based neo-adjuvant chemotherapy followed by dysphagia optimized intensity modulated radiotherapy with concomitant cisplatin and correlation of clinical outcome with serial plasma Epstein Barr virus DNA titer in patients with locally advanced nasopharyngeal carcinoma.

Completed

1. A phase II study to assess the feasibility of involved site radiotherapy for consolidation after chemo-immunotherapy in newly diagnosed patients of stage I-II nodal diffuse large b-cell lymphoma
2. A pilot study to compare moderate hypofractionated radiotherapy versus stereotactic body radiotherapy (sbrt) in intermediate and high-risk prostate cancer, a toxicity and quality of life comparison
3. A pilot study to evaluate the feasibility, toxicity profile and quality of life in patients with newly diagnosed glioblastoma, receiving adjuvant chemoradiation using stereotactic radiotherapy in comparison to conventional radiotherapy

Surgical Oncology

Ongoing

1. Functional recovery and return to work after Thoracic surgery in patients with Malignant thoracic Diseases: A Prospective study
2. Prospective study on the expression of cancer-testis antigen (CT45) in the patients of advanced epithelial ovarian cancer undergoing Hyperthermic Intraperitoneal Chemotherapy and its correlation with response to platinum based chemotherapy
3. Clinical spectrum, patterns of care and outcomes of Indian cancer patients treated by Multidisciplinary team management
4. Pilot study to evaluate the role of Toluidine Blue Dye and Narrow Band Imaging for assessment of malignant and potentially malignant disorders in oral cavity and update and analysis of Oral Cancer Database

5. A study evaluating MIS for of colorectal cancer patients and learning basic laboratory techniques of molecular biology for miRNA extraction in colon and rectal cancer patients
6. Prospective evaluation of diagnostic imaging methods and its impact on surgical decision-making algorithm in the management of nodal disease in recurrent differentiated thyroid cancer and audit of the thyroid cancer database for evaluation of clinical and surgical spectrum and outcomes
7. A Pilot Randomisation Study Comparing perioperative outcomes between Hyperthermic Intraperitoneal Chemotherapy (HIPEC) and Early Postoperative Intraperitoneal Chemotherapy (EPIC) with Audit and Analysis of Peritoneal Surface Malignancy Database.
8. A study to evaluate time trends of clinical profile and risk factors among breast cancer patients and learning basic laboratory techniques of breast cancer lipidomics
9. Prospective study of in person versus online cancer genetic counseling And Ambispective evaluation of patients undergoing risk reducing surgery.
10. A pilot study to assess role of preoperative chemoradiotherapy in locally advanced / recurrent extremity soft tissue sarcoma & audit of soft tissue sarcoma database.

Completed

1. Role of PET-CT and diagnostic laparoscopy in assessing the staging of gall bladder cancer patients: a single arm prospective study
2. Feasibility study of dual technique- blue dye and fluorescence imaging for detection of sentinel node in oral cavity cancer – a prospective validation study
3. Role of heavy metals as etiology for carcinoma of the gallbladder
4. Validation of the role of pet-ct and diagnostic laparoscopy in the staging of gall bladder cancer patients a prospective study and update and analysis of the hepatobiliary and pancreatic cancer database
5. Functional recovery and return to work after Thoracic surgery in patients with Malignant thoracic Diseases: A Prospective study
6. Hospital Based Cancer Registry at National Cancer Institute (NCI)-AIIMS

Collaborative projects

Laboratory Oncology

Ongoing

1. Role of T cell activation and Follicular helper T cell in Multiple Myeloma Funded by (ICMR), Amity Institute of Virology & Immunology, Noida
2. Elucidation of circulating cell free miRNA in pathogenesis, disease progression and outcome in multiple myeloma using integrated bioinformatics and experimental approach. Funded by (AIIMS), Department of Biophysics, AIIMS, New Delhi
3. Identification of network pathways for drug targeting in Multiple Myeloma from NGS data using Deep Learning. Funded by (DST), IIIT-Delhi
4. Study of the erythroid and megakaryocytic lineages under normal development and pathological myeloproliferation, IIT, Delhi
5. Developing platelet based liquid biopsy assay for cancer detection- A pilot study, IIIT, Delhi
6. Establishing a registry and germline DNA repository of breast and ovarian cancers with hereditary predisposition at AIIMS, New Delhi, Medical Oncology

Medical Oncology

1. Identification and characterization of plasma-derived cell free nucleic acid based markers for early detection and monitoring of relapse in AML, Lab Oncology IRCH AIIMS New Delhi
2. Study of peripheral blood megakaryopoiesis in chronic myeloid leukemia, Lab Oncology, IRCH AIIMS New Delhi
3. Evaluation of cell adhesion molecules as prognostic and predictive markers in B-cell acute lymphoblastic leukemia (B-ALL) with IKZF1 alterations, Lab Oncology IRCH AIIMS New Delhi
4. The Eliminate Trial: A Phase II/III randomised trial evaluating omission of radiotherapy to regional lymphatic's in pN0/N1 neck for Oral Cavity carcinomas, Radiotherapy, IRCH/ NCI, AIIMS New Delhi
5. Understanding the role of RhoBTB2 in Acute Myeloid Leukemia, Lab Oncology IRCH AIIMS New Delhi
6. P 53 mutation and its relevance to treatment in patients with advanced soft tissue sarcoma – A pilot study, Department of pathology / AIIMS, New Delhi
7. PDL1 and PD1 immunoreactivity in undifferentiated pleomorphic sarcoma of soft tissue, Dept of pathology / AIIMS, New Delhi
8. Evaluation of tumor microenvironment and PDL1 and PD1 expression in high grade osteosarcoma and UPS of bone and correlation with disease progression, Dept of pathology / AIIMS, New Delhi
9. A phase ii study to evaluate the efficacy of cisplatin and gemcitabine based neo-adjuvant chemotherapy followed by dysphagia optimized intensity modulated radiotherapy with concomitant cisplatin and corelation of clinical outcome with serial plasma epstein barr virus dna titre in patients with locally advanced nasopharyngeal carcinoma, Radiation oncology, medical oncology, radiology, ent

10. A phase iii randomised controlled study comparing xerostomia after tubarial salivary gland sparing imrt versus standard imrt in patients with locally advanced oropharyngeal squamous cell carcinoma, Radiation oncology, medical oncology, radiology, ent
11. Prospective study of in-person versus online cancer genetic education and counselling in india. Ambispective evaluation of breast cancer patients undergoing risk reducing surgery, Surgical oncology, medical oncology, radiology
12. Comparison of short course radiotherapy followed by neoadjuvant chemotherapy with long course concurrent chemoradiotherapy in locally advanced rectal cancer: a randomized controlled trial, Radiation oncology, medical oncology, surgical oncology, gi surgery, radiology
13. Hypofractionated palliative radiotherapy using “quadshot regimen” with concurrent cisplatin in patients with locally advanced head and neck squamous cell carcinoma unsuitable for
14. Efficacy of Neoadjuvant chemotherapy in carcinoma Esophagus-A pilot study comparing Cisplatin+5-FU with Paclitaxel+ Carboplatin, Surgical Oncology, Medical Oncology, Radiation Oncology, Nuclear medicine.
15. A Prospective study to determine the efficacy of Positron Emission Tomography-Computed Tomography (18F- FDG PET-CT) scan in detecting residual disease in Locally Advanced Head & Neck Squamous Cell Carcinoma managed with primary Chemo-Radiation Therapy and its comparison with CECT, Nuclear Medicine, Radiation Oncology, Medical Oncology, Radiology
16. Cellular and immunological role of dpp3 in esophageal cancer. Biochemistry, pathology, medical oncology, surgical oncology.
17. Rare pediatric tumor prospective study, Multi-institutional collaboration
18. To evaluate the protective role of medicinal plants against breast cancer induced by 7, 12-dimethylbenz(a)anthracene, mobile phone radiations and fructose-drinking in adolescent/young female rodents. Funding Agency: ICMR Extramural Grant; Duration: 2021-2024 - as Co-PI, PI: Dr Rajani Mathur, DIPSAR, New Delhi
19. Pazopanib based combination oral Metronomic therapy in Platinum Resistance, Platinum Refractory and advanced Ovarian Cancer: A randomized phase 2 Study. Department of Health Research (DHR ICMR) (2018-2021) as Co-PI, PI: Prof Lalit Kumar HOD Department of Medical Oncology BRAIRCH AIIMS
20. CRISPR- based editing of regulatory region and expanded triplet repeats as therapeutic approach in India’s most common hereditary Ataxias”
21. Department of Biotechnology (DBT) (2018-2021) as Co PI, PI: Prof Achal Srivastava, Professor Department of Neurology AIIMS
22. Exploring how β -catenin induced metabolic changes can be exploited for Triple Negative Breast cancer (TNBC) prognosis and therapeutics”
23. Indian Council for Medical Research (ICMR) (2019-2022) as Co PI, PI: Dr Chandra Prakash prasad, Assistant Professor Department of Medical Oncology Lab BRAIRCH AIIMS
24. Translational approach for reducing Hepatocellular Carcinoma through modulation of extracellular matrix protein Lysyl Oxidase (LOX) in tumor microenvironment, Co-PI, DST, 3 years, 2019-2022, Rs 87 lakhs
25. Translational approach to inhibit hepatoma cell stemness by altering survival signals to prevent recurrence of carcinogenesis, Co-PI, ICMR, 3 years, 2019-2022, Rs 73 lakhs

Onco-Anaesthesia & Palliative Medicine

Ongoing

1. Novel Video Laryngoscope for Endotracheal Intubation in Patients with Reduced Mouth Opening approved for AIIMS-IIT project funding (ongoing), IIT Delhi

Completed

1. An RCT to compare the effectiveness of mobile app-based prescription vs conventional prescription of analgesics and adjuvant adherence on selected variables in patients receiving palliative care at tertiary care centre., College of Nursing
2. A prospective randomized control trial comparing intracostal with pericostal thoracotomy closure to evaluate post thoracotomy pain syndromes (pain), Surgical Oncology
3. Safety and efficacy of neoadjuvant chemotherapy in stage IIB and IIIA NSCLC: Single arm phase II study, Medical Oncology

Preventive Oncology

Ongoing

1. Clinico-genetic prognostic signatures for development of metastatic Castration Resistant Prostate Cancer, Department of Urology, AIIMS, New Delhi
2. Genomics of Gall Bladder Carcinoma
3. in Indian patients, Laboratory Oncology Unit, Dr BRAIRCH, AIIMS, New Delhi
4. A Study of Gut (oral, fecal and bile) Microbiome in Patients with Gallbladder Cancer, Dept. of Surgical Disciplines, Dept. of Gastroenterology, Translational Health Science and Technology Institute, Faridabad

5. To study the Interplay between Cancer-Testis germline POTE antigen and Notch signaling and its association with global DNA methylation in Ovarian Cancer, Department of Biochemistry, AIIMS, New Delhi
6. Prevalence of BRCA1/2 germline mutations in young Indian women (<40 years) with triple negative breast cancers, Department of Surgical Disciplines, AIIMS, New Delhi

Radiodiagnosis

Ongoing

1. Role of multimodality imaging and liquid biopsy for response assessment in colorectal carcinoma: An Ambispective study, Department of radio-diagnosis
2. Stereotactic body radiation therapy in management of recurrent head and neck carcinoma: an assessment of treatment outcome and toxicity, Department of Radiation Oncology
3. Validation of clinical examination with Doppler studies in the management of patients presenting with vascular disease: A Prospective study, Department of Surgery
4. LOI-Cancer immunotherapy and Epigenetics Research Network (CIEReN): Centralized e-platform for iER-TME (Immunotherapy based Epigenetic Reprogramming of Tumor Immune Micro Environment), Department of Surgical Oncology
5. Development of tissue equivalent optically stimulated luminescent materials for measurement of low doses of medical radiation., Medical physics unit, BRAIRCH, and Department of Health physics inter university accelerator centre, New Delhi
6. A comparison of efficacy of Trans rectal ultrasonography (TRUS) and Magnetic resonance imaging (MRI) in assessing tumor characteristics in women with early stage cervical malignancy., Gyne-Oncology
7. Evaluation of surgical resectability of epithelial ovarian, fallopian tube and primary peritoneal carcinoma using computed tomography based reporting system, Gyne-Oncology
8. A Phase II Study of Gemcitabine/Docetaxel in Patients with Relapsed Metastatic Synovial Sarcoma, Medical Oncology
9. Prospective comparison between 18F-FDG PET/CT and conventional modalities for Ewing's family of tumors, Nuclear medicine
10. Genetic changes of TP53 and its role in treatment management of patients with advanced soft tissue sarcoma, Pathology
11. Childhood cancer survivorship program, Department of Medical Oncology
12. Assessment of cell free DNAS (cf-DNA) as a biomarker in common gastrointestinal track cancers., Department of Medical Oncology
13. Exploring the role of AI in differentiating metastasis from granuloma in patients with pediatric sarcomas, Department of medical oncology, IIT Delhi

Completed

1. Assessment of brain metastases in advanced NSCLC, Department of medical oncology
2. Comparison of CT vs PET CT in Ca ovary for accuracy of staging, disease burden and prediction of resectability and determination of PCI, a prospective study, Surgical Oncology
3. A Prospective study to determine the efficacy of Positron Emission Tomography/Computed Tomography (PET/CT) in detecting residual disease in Locally Advanced Head & Neck Squamous Cell Carcinoma managed with primary Chemo- Radiation Therapy, Nuclear Medicine
4. Role of MR guided biopsy in detecting prostate cancer- DC MEMBER, NMR
5. Role of Ultrasound guided wire localization and surgical removal of clipped pretreatment positive axillary lymph nodes in increasing the diagnostic accuracy of sentinel lymph node biopsy after neoadjuvant chemotherapy in breast cancer patients, Radiology
6. Prevalence of sarcopenia in patients with upper gastrointestinal and lung malignancy undergoing surgical resection and its impact on immediate postoperative outcomes: A prospective observational study, Surgical Oncology
7. Outcome of advanced unresectable synovial cell sarcoma from and Indian tertiary care center: retrospective study, Medical Oncology
8. Comparison of Multigene hereditary panel testing profiles in breast cancer patients qualifying and not qualifying the NCCN 2018 criteria for genetic testing: A prospective study, Medical Oncology
9. Evaluation of Indocyanine Green dye-based navigation surgery in optimizing axillary management of carcinoma breast, Surgical Oncology
10. A cross-sectional observational study to evaluate Health related quality of life (HRQoL) in patients with Desmoid type Fibromatosis, Medical Oncology

Radiation Oncology

Ongoing

1. Non-invasive detection of tumour hypoxia in cervical cancer with FMISO PET and correlation with hypoxic gene signature on directed biopsy and evaluate prognostic difference after chemo-radiotherapy, Nuclear Medicine

2. The role of novel self-assembling peptide matrix (SAPM) in prevention of post radiation caries in head and neck cancer patients: Randomized clinical trial, Division of Conservative Dentistry and Endodontics, Centre for Dental Education and Research (CDER)& Department of Radiation Oncology, AIIMS New Delhi
3. Can pre-session intra-ductal administration of N acetyl-cysteine in each wharton duct decrease xerostomia and improve quality of life in adult patients of oropharyngeal squamous cell carcinoma treated by single modality of radical external beam radiotherapy treatment?, Departments of Otorhinolaryngology & head-neck surgery, Radiation Oncology & Pharmacology, AIIMS New Delhi
4. H19 long non-coding RNA (lncRNA) and its association with the clinical outcomes in Indian pediatric patients of Wilms tumor, Departments of Paediatric Surgery, Pathology, Medical Oncology & Radiation Oncology, AIIMS New Delhi
5. Feasibility of weekly Taxol in improving performance status of advanced NonSmall Cell Carcinoma lung cancer with poor performance status: Phase II trial,
6. Role of Multiparametric MRI and PET-CT in response assessment in Colorectal carcinoma- An Ambispective study
7. Clinical Utility of Serum Survivin Levels in Retinoblastoma,
8. Database creation for computational predictive analysis of treatment response assessment in Esophageal cancer patients in India
9. Adjuvant treatment in resected gastric cancer-An Ambispective review, Nomogram for predicting health related Quality of life in oesophageal cancer patients after oesophagectomy,
10. Symptom burden and Quality Of Life Assessment in advanced cervical cancer patients presenting to the Palliative Care Department in a tertiary care centred,
11. Role of targeted metabolites as diagnostic and prognostic biomarkers in Endometrial cancer,
12. Treatment outcomes of extraocular retinoblastoma following multimodal therapy –A prospective study, Quantitative evaluation of macular and peripapillary retinal circulation based on OCTA after plaque brachytherapy with or without prophylactic intravitreal Bevacizumab in uveal melanoma,
13. A pilot study to assess the effect of intraductal N acetyl cysteine on swallowing and voice outcomes of patients with oropharyngeal cancer undergoing radiotherapy, Department of Otorhinolaryngology
14. Analysis of voice outcomes after radiation or chemo radiation in carcinoma larynx and the effect of n acetyl cysteine on voice parameters, Department of Otorhinolaryngology

Completed

1. EMF (Erlotinib/Methotrexate/5-FU) regimen as an efficacious therapy in unresectable or recurrent/metastatic Head Neck squamous cell carcinoma after platinum failure: Investigator initiated single arm phase II trial, Departments of Medical Oncology and Radiation Oncology, AIIMS New Delhi

Surgical Oncology

Ongoing

1. Determining interactions between two tumor suppressor genes p53 in colorectal cancers., Indian Institute of Immunology, New Delhi
2. Molecular sub types of Breast Cancer –Correlation with Lipidomics, Amity University, New Delhi.
3. Breast Cancer – Genetics study, Jamia Milia University, New Delhi.
4. Establishment of patient specific 3D organoid biobanking in AIIMS, Stem cell facility, AIIMS
5. Study of a Surrogate Panel of Immunohistochemical and Molecular Markers to Classify Human Colorectal Carcinomas as per the Consensus Molecular Subtypes and Clinical Correlation, Department of pathology AIIMS, New Delhi.
6. A comprehensive analysis of mammalian target of rapamycin (mTOR) and mitogen activated protein (MAP) Kinase signaling pathways in non- small cell lung carcinoma, Department of Pathology
7. Differentiating inflammatory and metastatic mediastinal lymphadenopathy on 18-FDG- PET/CT in lung cancer: Role of steroid suppression, Department of Nuclear Medicine
8. Role of nuclear receptors in pathogenesis of carcinoma gall bladder, Dept of Biochemistry, AIIMS, New Delhi
9. A prospective study to elucidate molecular genetic risk factors of gallbladder carcinoma in Indian Population, Dept of Lab Oncology, IRCH, AIIMS, New Delhi
10. Evaluation of Human Epididymis Protein 4 (HE4) level in the diagnosis of ovarian cancer., Dept of Lab Oncology, IRCH, AIIMS, New Delhi
11. The phase 2 study of HIPEC and the proposed phase 3 RCT comparing between HIPEC and IP chemotherapy., TMC, Kolkata
12. Hyperthermia and immune modulation in homologous recombination stratified epithelial ovarian cancer: Development of targeted therapeutic approaches, TMC, Kolkata
13. An economic analysis of alternative treatment methods of ovarian cancer in India: An appraisal of economic burden, quality of life and mortality risk., Dept of Obst& Gynaecology, AIIMS, New Delhi
14. Molecular and Genetic Analysis of TNBC, Department of Pathology
15. Evaluation of Human Epididymis Protein 4 (HE4) level in the diagnosis of ovarian cancer, Department of Lab Oncology

Completed

1. Comparison of analgesic efficacy of Ultrasound guided thoracic Paravertebral block versus surgeon guided Serratus Anterior Plane block for acute postoperative pain in patients undergoing thoracotomy for lung surgery-A prospective randomized study, Department of Onco-Anesthesia
2. Outcomes of Metastatic Colorectal cancers over 15 years- experience from tertiary care centre., Department of Medical Oncology

PUBLICATIONS**Journal: 522****Abstracts: 60****Chapters in Book:25****Books & Monographs:07****Data for the last 3 years****DCR**

	2019-2020	2020-21	2021-22
Total number of oral presentations	4	1	2
Total funded research projects	3	3	3
Amount of extramural/intramural funding	Rs. 7700000/-	Rs. 3,20,00000/-	Rs. 48,30,000/-
Total number of publications	7	14	6
Journal articles	7	9	6
Abstracts	-	5	-
Chapters in book, book/monograph	1	-	--
Editor Books	-	-	-

Laboratory Oncology

	2019-2020	2020-21	2021-22
Total number of oral presentations	30	26	23
Total funded research projects	26	24	25
Amount of extramural/intramural funding	Rs. 1955.35 lakhs	Rs. 22,78,11,436/-	Rs. 24,71,77,097/-
Total number of publications	51	84	41
Journal articles	32	70	20
Abstracts	19	14	16
Chapters in book, book/monograph	6	1	5
Book Editors	2	-	-

Medical Oncology

	2019-2020	2020-21	2021-22
Total number of oral presentations	18	15	13
Total funded research projects	32	50	62
Amount of extramural/intramural funding	Rs. 1299.07 lakhs	Rs. 9,98,01326/-	Rs. 14,55,89,604/-
Total number of publications	129	208	205
Journal articles	104	198	200
Abstracts	25	10	5
Chapters in book, book/monograph	-	8	-
Book Editors	-	1	-

Medical Physics

	2019-2020	2020-21	2021-22
Total number of oral presentations	5	2	1
Total funded research projects	3	3	2
Amount of extramural/intramural funding	Rs. 55.87 lakhs	Rs. 55,89,002/-	Rs. 40,35,748/-
Total number of publications	2	6	3
Journal articles	2	6	3
Abstracts	-	-	-
Chapters in book, book/monograph	1	-	-
Book Editors	-	-	-

Preventive Oncology

	2019-2020	2020-21	2021-22
Total number of oral presentations	0	-	7
Total funded research projects	5	6	13
Amount of extramural/intramural funding	Rs. 46.25 lakhs	Rs. 42.75 lakhs	Rs. 1,74,75,000/-
Total number of publications	4	5	26
Journal articles	4	5	18
Abstracts	-	-	4
Chapters in book, book/monograph	-	-	3
Editor Books	-	-	4

Radiodiagnosis

	2019-2020	2020-21	2021-22
Total number of oral presentations	7	6	13
Total funded research projects	4	4	5
Amount of extramural/intramural funding	Rs. 121.46 lakhs	Rs. 9500000/-	Rs. 1,18,27,000/-
Total number of publications	35	54	101
Journal articles	27	46	83
Abstracts	8	8	12
Chapters in book, book/monograph	3	2	6
Editor Books	-	-	-

Onco-Anaesthesia and Palliative Medicine

	2019-2020	2020-21	2021-22
Total number of oral presentations	9	2	16
Total funded research projects	9	11	8
Amount of extramural/intramural funding	Rs. 87.2 lakhs	Rs. 1,91,55,915/-	Rs. 43,68,355/-
Total number of publications	146	107	129
Journal articles	110	89	116
Abstracts	36	18	6
Chapters in book, book/monograph	6	14	7
Book Editors	1	2	4

Radiation Oncology

	2019-2020	2020-21	2021-22
Total number of oral presentations	27	26	37
Total funded research projects	13	16	18
Amount of extramural/intramural funding	Rs. 546.86 lakhs	Rs. 611.88 lakhs	Rs. 400.02 lakhs
Total number of publications	78	75	67
Journal articles	62	59	47
Abstracts	16	16	17
Chapters in book, book/monograph	2	6	3
Editor Books	0	0	0
Number of patient-care related activities—specialty clinics, procedures, investigations etc.	61937+6197 (IRCH+ NCI)	33069+12299 (IRCH+ NCI)	57389+15808 (IRCH+ NCI)

Surgical Oncology

	2019-2020	2020-21	2021-22
Total number of oral presentations	22	6	26
Total funded research projects	9	15	17
Amount of extramural/intramural funding	Rs. 198.15 lakhs	Rs. 2,66,15480/-	Rs. 3,44,02582/-
Total number of publications	38	59	50
Journal articles	30	53	49
Abstracts	8	6	0
Chapters in book, book/monograph	5/1	5/1	1
Editor Books	0	1	1
Number of patient care related activities specialist clinics procedures investigations	Total number of cancer surgeries performed 6867	Total number of cancer surgeries performed 4321 (COVID year)	Total number of cancer surgeries performed 7540

PATIENT CARE

1. TOTAL BED STRENGTH 182

- a. Medical Oncology 78
- b. Radiation Oncology 37
- c. Surgical Oncology 61
- d. Palliative Care Unit 6

2. TOTAL OPD ATTENDANCE 119669

- a. New Patient's Registered 10019
- b. Revisits 109650

3. DESCRIPTION OF VARIOUS OPD/CLINICS

S. No.	Name of the OPD/Clinic	New patient registered			Revisits		
		Male	Female	Total	Male	Female	Total
1.	Adult Medical Oncology	827	959	1786	12225	22449	34674
2.	Adult Lymphoma Leukemia	-	-	-	-	-	-
3.	AML/HL	80	42	122	2004	1177	3181
4.	ALL/CML	123	62	185	2650	2186	4836
5.	Breast cancer	36	520	556	629	5575	6204
6.	Bone and soft tissue	128	90	218	414	350	764
7.	Cancer Prevention and Screening	-	-	-	-	-	-
8.	Familial Cancer	-	-	-	-	-	-
9.	Gastrointestinal	162	128	290	1005	802	1807

10.	GYNAECOLOGY CLINIC - 'A'	-	75	75	-	363	363
11.	GYNAECOLOGY CLINIC - 'B'	-	143	143	-	644	644
12.	GYNAECOLOGY CLINIC - 'C'	-	142	142	-	696	696
13.	GENITOURINARY & GYNAE	59	144	203	377	1159	1536
14.	GENITOURINARY & PSM	17	62	79	-	-	-
14.	HEAD & NECK (SURGERY) – A	189	58	247	1022	480	1502
15.	HEAD & NECK (ENT) – B	367	57	424	1077	358	1435
16.	HEPATOBIILIARY & PANCREATIC	57	44	101	417	275	692
17.	LUNG CANCER	371	128	499	3031	1942	4973
18.	NHL/MM/CLL	55	68	123	943	1047	1990
19.	Neuro Oncology	165	87	252	668	347	1015
21.	Ophthalmic Tumour	03	12	15	-	-	-
22.	Paediatric Medical Oncology	260	122	382	3952	3617	7569
23.	Paediatric Lymphoma Leukaemia	165	87	252	1717	1398	3115
24.	Paediatric (Surgery)	62	34	96	1330	953	2283
25.	Pain Relief	554	424	978	3905	3713	7618
26.	Pain & Palliative Care (RT-II)	-	-	-	-	-	-
27.	Paediatric Pallative Care	-	-	-	-	-	-
28.	Radiotherapy	765	737	1502	4576	6333	10909
29.	Surgical Oncology	292	228	520	1118	1408	2526
30.	Thoracic Oncology	143	86	229	691	599	1290
31.	Transplant	26	19	45	933	648	1581
32.	Urology Malignancy	362	75	437	3505	1650	5155
33.	Endo Malignancy	76	42	118	658	634	1292
	TOTAL	5344	4675	10019	48847	60803	109650

Total Admissions 38530

Regular Admissions 8769

Short/Day Care Admissions 29761

Total Discharges 37961

Regular Discharges 8592

Short/Day Care Discharges 29369

Total Deaths 259

Total Operations 6827

Major Operations 1111

Minor Operations 5716

ELECTROCARDIOGRAM (ECG) 4159

OPD PROCEDURES (TREATMENT ROOM NO.15) 4623

OPD CHEMOTHERAPY SERVICES (TREATMENT ROOM NO. 15)

Male 3278

Female 1959

Male child 2863

Female child 1216

Total Cases 9316

OPD ATTENDANCE NEW PATIENT'S REGISTERED (MALE & FEMALE)

Month, year	New patients			Revisits		
	Male	Female	Total	Male	Female	Total
April 2021	273	270	543	3061	3841	6902
May 2021	06	08	14	1240	1742	2982
June 2021	324	330	654	3172	4145	7317
July 2021	501	425	926	4287	5523	9810

August 2021	510	463	973	4448	5225	9673
September 2021	586	516	1102	5407	6513	11920
October 2021	552	441	993	4462	5844	10306
November 2021	529	412	941	4511	5882	10393
December 2021	543	455	998	5338	6930	12268
January 2022	396	346	742	3446	3010	6456
February 2022	483	433	916	4259	5213	9472
March 2022	641	576	1217	5216	6935	12151
Total	5344	4675	10019	48847	60803	109650

GEOGRAPHICAL DISTRIBUTION ACCORDING TO THEIR RESIDENCE

State	Total
Andhra Pradesh	04
Andman Nicobar	01
Assam	20
Arunachal Pradesh	03
Bihar	1075
Chandigarh	08
Chhattisgarh	11
Dadar & Nagar Haveli	01
Daman & Diu	03
Delhi	3550
Goa	01
Gujrat	11
Haryana	882
Himachal Pradesh	61
Jammu & Kashmir	95
Jharkhand	89
Kerala	08
Karnataka	10
Ladakh	13
Madhya Pradesh	148
Maharashtra	16
Meghalaya	-
Manipur	30
Mizoram	07
Nagaland	03
Orissa	37
Pondicherry	07
Punjab	34
Rajasthan	156
Sikkim	04
TamilNadu	03
Telangana	01
Tripura	03
Uttar Pradesh	3265
Uttaranchal	343
West Bengal	92
Total	9995

OTHER COUNTRIES

1.	Afghanistan	02
2.	Bangladesh	08
3.	Mauritius	01
4.	Nepal	13
	Total	24

LABORATORY ONCOLOGY SERVICES – (2021-22)

1.	HEMOGRAM (HMG) – (HB, TLC, PLATELETS)	83291
2.	PERIPHERAL BLOOD SMEAR (PBS)	5021
3.	BONE MARROW ASPIRATION (BM)	3446
4.	CYTO-CHEMISTRY	725
5.	SERUM PROTEIN ELECTROPHORESIS (SPE)	4919
6.	IMMUNOFIXATION (IFX)	3484
7.	URINE ELECTROPHORESIS (UE)	1098
8.	TUMOR MARKER	-
9.	FLOWCYTOMETRY	63886
10.	C.S.F.	1961
11.	ESR	-
12.	MOLECULAR BIOLOGY	13749
13.	SERUM FREE LIGHT CHAIN	7547
14.	CYTOPATHOLOGY	-
15.	BETA 2 – MICROGLOBULIN	1020
16.	CYTOLOGY	483
17.	HPB DNA	1838
18.	IMMUNOGLOBULIN	978
	Total	193446

APHERESIS

1.	SINGLE DONOR PLATELETS (SDP)	1944
2.	PERIPHERAL BLOOD STEM CELL – HARVEST (PBSC)	170
3.	HEMOGRAM	5162
4.	PLASMA	-
5.	NO. OF GRANULOCYTES	80
6.	PLASMA EXCHANGE	08
7.	STEM CELL HARVEST	-
	TOTAL	7364

MEDICAL ONCOLOGY LABORATORY SERVICES

1.	CYTOGENETICS FOR DETECTION OF PHILDELPHIA CHROMOSOME	432
2.	CYTOGENETICS FOR CHIMERISM	04
3.	RT-PCR FOR DETECTION OF P210 AND P190 TRANSLOCATION IN CML (QUALITATIVE)	14
4.	RQ-PCR FOR DETECTION OF P210 AND P190 TRANSLOCATION IN CML (QUANTITATIVE)	606
5.	CD 34 COUNTS BY FLOW CYTOMETRY	276
6.	CD 3 COUNTS BY FLOW CYTOMETRY	46
7.	IMMUNO PHENOTYPING FOR LEUKEMIA	-
8.	MNC COUNTS	172
9.	CRYOPRESERVATION OF STEM CELLS – 80	99
10.	STORAGE OF STEM CELLS AT 4	83

11.	BONE MARROW TRANSPLANT	01
12.	INFUSION OF STEM CELLS	152
13.	VIABILITY OF STEM CELL	152
14.	ELISA FOR ASPERGILLOSIS DETECTION	1042
15.	LDH	86
16.	MAGNESIUM	03
17.	EBV - DNA DETECTION FOR EBV INFECTION	45
	TOTAL =	3213

MEDICAL PHYSICS SERVICES

1.	No. of blood bags irradiated	1243
2.	Quality Assurance test done on X-Ray machines	2238
3.	Quality Assurance test done on film processor at DR. BRAIRCH, AIIMS	-
4.	Quality Assurance test on film processor at Radiology (Main)	-
5.	Radiation output measurements in X-Ray units	501
6.	Quality Assurance test done on film processor at AIIMS	-
7.	Radiation protection survey measurements	25
8.	Advise in inadvertent exposure to pregnancy	06
9.	Q.C. test fluoroscopy done at AIIMS	80
10.	Q.A. test done on Lead apron	25
	Total	4118

RADIOTHERAPY SERVICES (Dr BRA IRCH)

S. No.	Item	Dr BRA IRCH	NCI-Jhajjar
1.	Cases on radiotherapy	57389	15808
2.	Total field on radiotherapy	-	
3.	Cases on brachytherapy	528	287
4.	Treatment planning and simulations	2643	1073
5.	Two and three dimensional dose distributions	637	
6.	Compensators	502	
7.	Shielding blocks immobilization devices and orifits	2285	965
8.	Radiation review clinic	3242	
9.	Planning C.T.	1646	1680
	TOTAL	68872	

RADIO DIAGNOSIS SERVICES

1.	C.T. SCAN	5841
2.	ULTRA-SOUND	5720
3.	MAMMOGRAPHY	1730
4.	X-RAYS (ROUTINE)	16179
5.	DOPPLER	309
6.	INTERVENTION	1477
7.	SPECIAL INVESTIGATION (BA,I)	259
8.	INTERVENTION MA	-
	TOTAL	31515

Laboratory Oncology

Patients registered at the Departments of Medical Oncology, Pediatrics and Emergency Medicine are referred to Laboratory Oncology Unit, Dr BRA IRCH for laboratory and molecular diagnostic work up of hematological malignancies. The laboratory

provides morphological assessment and next generational flow cytometric immunophenotyping at the time of diagnosis and serially during the patient management, particularly the minimal residual disease (MRD) assessment in cases of B-ALL, T-ALL, AML, CLL and Multiple myeloma. In addition, therapeutic monitoring is also done by monitoring the CD19, CD20 counts using flow cytometry. At the molecular unit, we routinely perform RT-PCR, qPCR, nested PCR, allele specific PCR, droplet digital PCR, Sanger Sequencing and/or fragment analysis based detection of common chromosomal translocations and mutations in Acute Myeloid Leukemia (AML) as well as Lymphoid Leukemia. We have also included Next Generation Sequencing (NGS) panel for targeted sequencing in routine clinical service that provide actionable information for improved diagnosis, prognosis, and risk stratification for myeloid malignancies including acute myeloid leukemia (AML), myelodysplastic syndrome (MDS), and myeloproliferative neoplasms (MPN) and multiple myeloma.

S. No.	Investigation	Number
1	Hemogram	83291
2	Bone marrow	3446
3	Peripheral blood smear(PBS)	5021
4	Serum Protein Electrophoresis (SPE)	4919
5	Urine Electrophoresis (UE)	1098
6	Immunofixation (IFx)	3484
7	Serum free light chain (SFLC)	7547
8	Immunoglobulin	978
9	Cytochemistry	725
10	Cerebrospinal fluid (CSF)	1961
11	Flowcytometry	63886
12	Molecular Biology	13749
13	Beta 2 Microglobulin	1020
14	HPV	1838
15	Cytology	483

Preventive Oncology

Community services/camps: 2 screening camps, 2 awareness camps, 2 training programmes

Radiodiagnosis

1 April 2021 to 31 March 2022

	2021-2022	2020-21	2019-20
X-Ray	16179	11352	15191
Ultrasound	5720	3739	6598
Doppler	309	233	334
C T Scan	5841	4435	7490
Mammography	1730	676	2266
Fluoroscopy procedures and intervention	259	362	880+43
Intervention (USG, CT, guided)	1477	967	1495
Total	31515	21764	34292

Radiation Oncology

Department of Radiation oncology has following facilities in providing quality of patient care.

1. Linear accelerators (Three in IRCH and 2 in NCI)
2. Telecobalt (One in IRCH and Two in Main RT)
3. Brachytherapy (Two in IRCH and 1 in NCI)
4. CT Simulator (One in IRCH and 1 in NCI)
5. One X ray Simulator

Department runs Head and Neck Cancer Clinic, Neuro-oncology Clinic, Breast Cancer Clinic, GI Malignancy Clinic, GU Malignancy Clinic, Gynecological Malignancy Clinic, Lung Cancer Clinic with different concerned departments.

Surgical Oncology

1) Minor Operation Theater Services: Diagnostic and minor therapeutic procedures including Lymph node biopsy, punch/trucut biopsy, excision of Skin/Oral lesions, feeding jejunostomy, colostomy, insertion of Hickman's catheter / chemo ports for long term chemotherapy are available in the Minor O.T.

2) Endoscopy Services (Diagnostic & Therapeutic): The department offers in house comprehensive endoscopy services for all cancer patients to avoid delays in diagnosis and facilitate timely follow-up.

Diagnostic Endoscopy: Video and Fibre optic upper G.I. endoscopy, side viewing duodenoscopy, Colonoscopy, Sigmoidoscopy, Bronchoscopy, Cystoscopy, Nasopharyngo laryngoscopy and laparoscopy.

Therapeutic Endoscopy: Stricture dilatation, Intraluminal Radiotherapy, Stenting and Percutaneous Endoscopic Gastrostomy.

3) Major Operation Theater Services: Facilities and expertise available at IRCH and NCI to conduct major cancer Surgeries including radical resection and reconstruction of tumors involving Head & Neck, GI tract, Breast, Bone and Soft tissue , Gynaecological malignancies, Hepato-Biliary-Pancreatic malignancies and Thoracic tumors. Advanced reconstructive surgical procedures are undertaken to reconstruct the defects after resection in collaboration with plastic surgery.

4) Special and Advanced Surgical Oncology Programs

In addition advanced state of art surgical oncology services are being offered including Minimally Invasive Surgery for GI cancers, VATS for Thoracic cancers, CRS and HIPEC for peritoneal surface malignancies, complex limb salvage procedures for sarcomas, risk reducing surgery for hereditary cancers, complex skull base and craniofacial program in collaboration with neurosurgery and complex thoracic surgical oncology program in collaboration with cardiothoracic surgery.

Total Number of Surgeries Performed :7540

Total no. of Minor Operations & Endoscopic procedures performed: 5843

Total no. of Major Cancer Operations performed: 1697

Community service

1. Dr Sunil Kumar participated in cancer outreach activities by providing free cancer care services and student awareness for Cancer in Bihar & Jharkhand through an NGO, Chandrakanti Devi Cancer Foundation.
2. Dr MD Ray participated in womens cancer awareness campaigns in different states of India.
3. Dr SVS Deo participated in print and electronic media including TV programs to spread awareness and recent advances regarding cancer.
4. Faculty of the department participated in community level preventive and palliative oncology and cancer survivor activities.

AWARDS, HONOURS AND SIGNIFICANT ACHIEVEMENTS

DCR

Dr Rajeev Kumar Malhotra appointed as statistical advisor to the medical journal “Indian pediatrics” for the year 2022-2023

Laboratory Oncology

Dr Ritu Gupta was admitted as Fellow, National Academy of Sciences, India (NASI) – 2021; appointed as the President, The Cytometry Society (TCS), India-2021.

Dr Sanjeev Kumar Gupta was appointed as the Executive Committee Member, The Cytometry Society (TCS), India; Invited for the panel discussions by the Mumbai Hematology Group in various meetings: Next Generation Sequencing in leukemia” (6 March 2022), Rare disorders in Hematology” (23 January 2022), Annual conference of MHG, 12-13 March, 2022. He is Associate Editor: Indian Journal of Hematology and Blood Transfusion (IJHBT), the official journal of the Indian Society of Hematology and Blood Transfusion and Medical Journal of Dr D.Y. Patil Vidyapeeth

Dr Anita Chopra received best oral presentation award, Korean Society of Hematology International conference & 64th Annual Meeting; 31 March – 2 April 2022, Seoul, Korea

Dr Pranay Tanwar was awarded ICKSH-2022 virtual conference contribution award 63th Annual conference of Korean Society of Hematology at Virtual Hybrid Platform.

Dr Amar Ranjan received Second Prize in Poster Presentation “Serological evaluation of WT1 for diagnosis & prognosis of ovarian cancer” MIDCON IASO 2022, March 25-27, 2022;) Excellent e-poster award: Mucinous adenocarcinoma of unknown primary KDDW2021, 18-21 November 2021; 3rd Prize: Oral Paper Competition: Indian Co-operative Oncology Network Conference, 1-3 October 2021- “HE4 as a diagnostic Biomarker in Ovarian cancer”.

Dr Smeeta G received Poster presentation Awards: CD34negativeHLADR negative non-Acute Promyelocytic Leukemia Acute Myeloid Leukemia. BMT 2021 Virtual International Congress (ICBMT 2021): August 2021 and best oral presentations in 13th Annual Conference cum workshop TCS-2021: Flow Cytometry of Body Fluid Specimens: Diagnostic value in Hematologic Malignancy. October 2021

Dr Deepshi Thakral was apointed as Associate Editor- Newsletter, a publication of Dr BRA IRCH and NCI AIIMS, January 2022.

Medical Oncology

Dr Lalit Kumar was Member, Faculty Selection Committee: in Medical Oncology for- (i) AIIMS, Bhuwaneshwar (4-12-21) (ii) AIIMS, Mangalagiri (19-8-21) (iii) Banaras Hindu University (14.08.2021). (iv) RML Institute of Medical Sciences, Lucknow (iii) ESI-PGIMSR, BasaiDarapur, New Delhi (Super Specialist in Medical Oncology). He was examiner: (i) DM Medical Oncology- Rajeev Gandhi University of Health Sciences, Bangalore, Dr. B. Borooch Cancer Institute (S. S. University of Health Sciences- Guwahati) (ii) Examiner for DNB in Medical Oncology (paper setter, thesis evaluation) (iii) MD & DM Thesis (PGIMER, Chandigarh). He was (i) Chairperson for the project: DHR-ICMR Advanced Oncology Diagnostic

Services (DIAMOnDS), (ii) Member- National Apex Committee for Stem Cell Research and Therapy (ICMR) - New Delhi. (iii) Member, Pan CSIR Cancer Research Program making cancer care affordable- empowering women's health focusing on breast and gynaecological cancers of Indian relevance and Indian breast cancer genome Atlas (iv) Member, Advisory Panel for fellowship of the National Academy of Medical Sciences, New Delhi (v) Member, committee on infrastructure of Institute under Non communicable Diseases (NCD), Ministry Health and Family Welfare, GOI. (vi). Member, Scientific Advisory Committee, Project monitoring committee, Oncology Net work clinical trials Program being conducted under Biotechnology Industry Research Council (BIRAC), (vii). Member, to evaluate special STAG Medical Biotechnology-DBT-DAE-NCG proposal on 30-9-21. (viii) Member, speciality expert in National health Authority of India (to evaluate packages for Ayushman Bharat). He is Associate Editor (Asia): *Current Problems in Cancer* (Elsevier), Member, editorial board – Indian Journal of Medical Research (IJMR) (ICMR, Medknow (iii) CANCER MEDICINE (Wiley Online Library), ONCOLOGY (Karger) and Clinical Hematology International. He is reviewer for Research application for The Wellcome Trust DBT- India Alliance (ii) SS Bhatnagar Prize (CSIR) and Ambassador, Society of Hemato-oncology, USA. He was panelists at 3rd Cancer Summit 2022: Panel discussion on Universal Health Coverage: Funding sources for Cancer Care (3 February 2022): virtual meeting. (Organized by Integrated Health and Wellbeing Council); New Frontiers in the Treatment of Cancer': Panel discussion 4 February 2022 (PHD Chamber of Commerce and Industry, New Delhi) : Virtual meeting; Women Cancer Update in Eastern India -17 July 2021, Panel discussion (Virtual); Panellist: ET Health world India Oncology conclave: 18 June 21(virtual meeting) and Indian Society for Blood and Marrow Transplantation -2nd Annual Meeting: Chairperson during the session on Lymphoma/Myeloma, 10 April 2021.

Dr Atul Sharma organised 2nd Translational Oncology Conference Emerging Trends in Translationla Oncology, 19 February 2022, Online meeting. He was awarded "Excellence Award in the Field of Medical Oncology" by Chancellor of NIMS University Jaipur Rajasthan on 25 March 2022. He is Member Secretary Institute Ethics Committee- March 2019-Till date.

Dr Sameer Bakhshi was awarded Fellowship of Indian National Science Academy (INSA); Jan 2022. He was appointed as Chairperson for The Institutional Ethics Committee at University of Delhi South Campus for a period of three years from 2021; expert member for the committee "Cancer Initiatives in North East Region of India" constituted by Department of Biotechnology, Govt. of India; Chairperson for the subcommittee on "Retinoblastoma National Guidelines" under ICMR, 2021. He was member for Constitution of Technical Evaluation Committee (TEC)-I for 'Human Resource Development (HRD) Scheme for Health Research" for evaluating the research proposals/applications received under 'Young Scientist Fellowship Programme' of HRD scheme of Department of Health Research during 2020-21, constituted by Ministry of Health & Family Welfare, Department of Health Research; Expert member of Ayush Interdisciplinary Task Force on High Impact Research in Yoga; Expert member for standing selection committee meeting for selecting to the post of Assistant Professor of Centre of Biomedical Engineering (CBME) at IIT, Delhi, on 3 March 2022 and Member for Program Advisory Committee (PAC - Biomedical and Health Sciences) under SERB-Power Grant (March 2022). He was Chairperson for session on "Newer drugs in Acute Leukemia-How do they help in improving outcomes" in PHOCON at Hyderabad, 10 December, 2021; Chairperson for INPHOG session on "Acute Lymphoblastic leukemia: ICiCLE and Beyond; Hodgkin Disease-Frontline and Relapse Treatment; and Challenges accessing care-what have we learnt" in PHOCON at Hyderabad, 10 December, 2021; Chairperson for "Challenges of Fertility preservation in Children and adolescent cancers" under the aegis of Fertility preservation Society of India (FPSI) and IVF Research Society organized by Department of Obstetrics & Gynecology at AIIMS on 12 February 2022.

Dr Prabhat Singh Malik have been involved in multidisciplinary lung cancer clinic, adult medical oncology clinic and leukemia lymphoma clinic. Apart from this I have also been involved in the management of admitted patients in medical oncology wards and Stem cell transplantation facility.

Dr Deepam Pushpam was designated as core member of National Medical Council.

Dr Babita Kataria received "Developing Nations travel Award" by ESMO to present my research" Randomized controlled trial comparing Erlotinib v/s Capecitabine v/s best supportive care alone in gallbladder cancer patients with poor performance status". - for poster discussion at ESMO 2022 World Congress on GI cancer, Barcelona, Spain. She was selected for one of the 20 international nominees for Venus International Healthcare Awards 2022 – "outstanding young clinician" category. Her research protocol "Adjuvant Metronomic Capecitabine in carcinoma Oesophagus patients with Residual disease after completion of Curative Treatment (AMCORT trial)–selected among top 4 research protocols at AAZPIRE 2022, ACTREC, Mumbai.

Dr Chandra Prakash Prasad received Best Oral Paper Award- at NATCON 2021 Virtual Conference, AIIMS, New Delhi on 23-24 October 2021. He is reviewer for various scientist journals (Bioengineered, Life sciences, Frontiers in Mol. Med, APJCP, J of Cell. Physio, Nutrition & Cancer, Bioengineered, Cancer Communications etc), Editorial board member for Bioengineered journal (ISSN: 21655979) and Associate Editor for Technology in Cancer Research & Treatment journal (ISSN: 1533-0338)

Dr Thoudam Debraj Singh was the organising Secretary of the Emerging trends in translational Oncology 2022 Virtual Event 18-19 February 2022.NCI-AIIMS. He is in the review committee in National Bodies of Expert project review committee (PRC): Nanotechnology/Nanomedicine (ICMR) and special Expert Committee (PRC): Nanotechnology (DBT). He is Editors in International Journal -Review Editor in Frontier in Oncology, Review Editor in Biomedical and Pharmacology Journal

Dr Mayank Singh was the **organizing Secretary** "Emerging trends in translational Oncology 2022 Virtual Event February 2022 at NCI-AIIMS.

Dr Sachin Kumar was awarded second prize for the oral paper presentation (Title of the paper: Differential expression of miR-197-3p and miR-375-3p and their correlation with survival outcomes and response to therapy in lung cancer) in NALCCON 2021: 12th Annual Conference of Indian Society for Study of Lung Cancer (ISSLC) organized on the virtual platform by JIPMER, Puducherry.

Dr Surender K. Sharawat organized workshop on Conventional Cancer cytogenetic Workshop for Post Graduate DM student, IRCH, AIIMS, New Delhi.

Medical Physics

Dr Pratik Kumar was nominated as Member, Editorial Board, Indian Journal of Radiology and Imaging (IJRI); Member, screening committee for the applications for Scientist D, ICMR; External expert to the selection committee for departmental promotion of faculties of Medical Physics, Dr RML Ins. of Med. Science, Lucknow; Assessor by NABL for M/S Radiological Precision Lab Pvt. Ltd., Mumbai; Member, Project Monitoring Committee constituted by BIRAC, DBT for the project submitted by M/S MediSim, Chennai regarding the development of haptic enabled virtual reality surgical simulator; Expert member of Project Review & Steering Group set up by Min. of Electronics & Information Technology (MeitY) for the development of Self-contained x-ray Blood Irradiator with the help of Society for Applied Microwave Electronics Engineering & Research (SAMEER) and TMH, Mumbai; Expert for the evaluation of the proposals submitted for NRDC-Technology Development, Validation and Commercialization (TDVC) programme conducted by National Research Development Council (NRDC), Min. of Science & Technology; Member, Appeals Committee set up by National Accreditation Board for Testing and Calibration Laboratories (NABL), Deptt. of Science & Technology to decide the appeals of conformity assessment bodies regarding the decisions of NABL; Chaired a session at Global Initiative of Academic Networks course entitled “Radiation biology and its clinical application” conducted by JNU, Delhi; Panelist for the panel discussion on “Extends of the frontiers of Medical Physics in Diagnostic Radiology, Nuclear Medicine and Radiotherapy: Current issues and way forward”, Virtual Conference on Radiation Applications in Medicine, CMC Ludhiana; Member, selection committee for JRF at Deptt. of Physics, Sri Venkateswara College, Delhi; Reviewer for the projects submitted for funding to BIRAC, DBT under Small Business Innovation Research Initiative (SBIRI) and Promoting Academic Research Conversion to Enterprise (PACE) programs; Referee for the manuscripts submitted to Medical Science Monitor (Poland), Journal of Luminescence (Elsevier), Journal of Medical Physics, Indian Journal of Radiology & Imaging and Engineering Reports (Wiley); Continued to be (i) Member, Electromedical and Diagnostic Imaging and Radiotherapy Equipment Sectional Committee, MHD-15, Bureau of Indian Standards (BIS), New Delhi (ii) Member, Editorial Board, Journal of Medical Physics (JMP) (iii) Founder Editor, Medical Physics Gazette, the newsletter of Association of Medical Physicists of India (AMPI).

Onco-Anaesthesia and Palliative Medicine

Professor Sushma Bhatnagar was awarded DMA, Vishisht Chikitsa Ratna award to acknowledge and appreciate contribution to the Medical Fraternity and services towards the cause of Humanity on the occasion of Doctor's Day on 30 June 2019. She was Chairperson of clinical services of COVID task force at NCI, Jhajjar, AIIMS, New Delhi. She is founder of two important policies Pain Policy and End of Life Care Policy at AIIMS, New Delhi and President - Indian Association of Palliative Care.

Dr Rakesh Garg was awarded Fellowship of Indian College of Critical Care Medicine (FICCM) by Indian College of Critical Care Medicine, The Education division of Indian Society of Critical Care Medicine, National e-Governance Awards 2021; Project awarded “SILVER” Under Category IV - Outstanding Research on Citizen Centric Services by an Academic/Research [A randomized controlled trial to compare the efficacy of mobile app vs conventional prescription of analgesics and adjuvants' adherence on selected variables among cancer patients receiving palliative care at a tertiary care center of the award scheme of the National Awards for e-Governance 2020-2021; Received ISA President's Appreciation AWARD 2021, in recognition of your invaluable contribution and outstanding services to ISA. He was appointed as Council member for Asian Council of Science editors, ISCCM National Research Committee member 2022-23, appointed as Sub-Committee Expert member for Telemedicine for SET (Skills E-learning and Telemedicine) Facility AIIMS, New Delhi; Technical committee member for World Bank Project World Bank-funded project to provide recommendations on training needs for the Health Sector in the current scenario and post COVID (to identify short term training programmes for the Allied Health area and provide recommendations). He is Guest Editor of the Journal of American Association of Physicians of Indian Origin (JAAPI), He is Associate Editor of Indian Journal of Anaesthesia, Journal of Anesthesiology and Clinical Pharmacology and Indian Journal of Palliative Care.

Dr Nishkarsh Gupta was appointed editorial board member of IJPC, IJA (northern supplement), Associate editor Medical Journal of Dr DY Patil Vidyapeeth and Indian Journal of Pain, received best reviewer award by India society of anesthesiologists (ISA) and best researcher award by ISA UP.

Dr Balbir received Fellowship in Palliative care in August 2021 (Institute of Palliative Medicine & St Christopher) and Certificate of Excellence in Reviewing. (Journal of Pharmaceutical Research International).

Dr Raghav Gupta received first prize in oral presentation entitled “Prospective randomized control trial of tele-preanaesthetic check-up Vs face-to-face preanaesthetic check-up at a tertiary care cancer center” at SOAPCCON 2022, best oral presentation entitled “Perioperative anaesthetic management in cytoreductive surgery with hyperthermic intraperitoneal chemotherapy: A single institution five-year experience at NATCON 2021 organized by Indian Association of Surgical Oncology; Travel Scholarship under AIIMS Endowment Fund for MASCC 2021; First Prize in Quiz at IAPCON, 2021; First prize PG excel Quiz organized by KS Hegde Medical Academy, Karnataka

6, Third prize in Quiz on World Conference on COVID and Critical Care; Third prize in Dr. GK Sinha Young Researcher Award (SR) organized by RSACP for paper entitled “Association of fluid administration with morbidity in CRS/HIPEC: A retrospective analysis in a single tertiary care cancer center; Slogan competition winner for Can Support's walk for life;

First prize in slogan competition organized by VMMC & Safdarjung Hospital, Delhi on the occasion of World Hospice and Palliative Care Day, 2021. He completed AHA certified BLS and ACLS Provider Course at AIIMS, New Delhi; Certificate course in patient blood management (2nd edition); Acupuncture course at LHMC, New Delhi (03/09/2021- 18/09/2021); ASCO Palliative Course E – Course (APCeC) by ASCO and TMH, Mumbai; Certificate of appreciation for COVID services from Lexicon society; Certificate of appreciation for COVID services from Transport Medicine Society. He received 2nd prize in IAPCON 2022 debate competition; Best abstract award in “Emerging Trends in Translational Oncology- ETTO” by Research and Education Society for Medical Oncology (RESMO) and Third prize in ISA Online quiz.

Preventive Oncology

Dr Pallavi Shukla received best paper awarded in 65th Annual National Conference of Indian Public Health Association – IPHACON 2021 held from 23- 26 September 2021. She chaired a session “Community Screening and Awareness” on 3 December 2021 during 10th National Conference of Asia Oceania Research Organization on Genital Infections and Neoplasia, India. She is member of task force to develop operational guidelines for eye care at Health & Wellness Centre and member of Technical Resource Group under National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke.

Radiodiagnosis

Dr Chandrashekhara SH was awarded Fellowship of Indian College of Radiology (FICR) by Indian College of Radiology and Imaging in 2022 at Bengaluru. He was appointed as joint secretary for Indian Society of Vascular and Interventional Radiology for 2022-23 and also appointed as joint secretary for Society of Image Guided Therapy for 2022-23.

Dr Mukesh Kumar was reappointed as treasurer for society for emergency radiology India for 2021-22

Dr Ekta Dhamija was team member of Onco-Imaging Subspecialty Task force for preparing Oncologic Imaging Protocols and reporting checklist in Carcinoma cervix, ovary, endometrium and sarcomas. She was appointed as governing council member of Breast Imaging society of India for term of two years (2019-2021).

Radiation Oncology

Professor DN Sharma was awarded - Fellowship of Academy - National Academy of Medical Sciences (NAMS) for the year 2021

Professor Sushmita Pathy was invited Faculty and Chairperson in International Conference on Tobacco Control and Smoking Cessation held on Aug 13, 2021, Chairperson in Delhi GI Oncology Meeting held on 30 March 2022 in AIIMS, New Delhi. She is Committee member for Scientific Advisory Committee (SAC) Meeting for Center for advance research Project on 25 March 2022

Dr Subhash Gupta was external Examiner at Dept of Radiation Oncology at Dr SN Medical College, Jodhpur on 7th April 2021 and Expert for the preparation of OSCE model questions in Radiotherapy at National Board of Examinations.

Dr Haresh KP was coordinator and Expert for OSCE workshop for the preparation of questions in Radiotherapy at National Board of Examinations, co-ordinator for the DNB practical examination in radiotherapy at National Board of Examinations, examiner for the evaluation of DNB Radiotherapy answer papers at National board for the theory and practical, examiner for the evaluation of DNB Thesis in Radiotherapy for the year 202. He was faculty for validation/moderation of MCQ Question Bank of Screening Test for Indian Nationals with foreign medical qualifications at NBE, Dwarka, New Delhi, member of Project review committee (PRC) in Oncology of Indian Council of Medical Research (ICMR), New Delhi, member of Project review committee (PRC) of Research Methodology Cell at ICMR, New Delhi. He was International Steering committee member for the ARANOTE Study-Darolutamide in prostate cancer and Lead Principal Investigator for India for the international ARANOTE Study of Darolutamide in prostate cancer

Dr Pritee Patil Participated in virtual NATCON 2021 as a panelist on the topic of GE junction tumors.

Surgical Oncology

Dr SVS Deo Elected as Vice President of Indian Association of Surgical Oncology, elected as President of Association of Breast Surgeons of India, was invited as expert committee member for Lancet commission on global cancer surgery. Dr Deo delivered “Brig. Rasmay Ganguly Oration” during ASICON 22, delivered Keynote lecture on Head & Neck Carcinogenesis organized by carcinogenesis foundation. He was nominated as subject expert by National Board of Examinations, elected as Board member of Indian Cancer Genome Atlas (ICGA) project, nominated by ICMR as Convener for developing “Telemedicine Guidelines for Cancer Care in India, elected as Treasurer “Breast Surgery International”, Switzerland, elected as President “NCR oncology forum”, was invited as Subject expert for faculty selection by various AIIMS.

VISITING SCIENTIST

Medical Oncology

Delivered Invited Alumni Lecture at Department of Biotechnology, MD University, Haryana.

10.4. Dr Rajendra Prasad Centre for Ophthalmic Sciences

Chief and Professor of Ophthalmology

JS Titiyal

Professors

Radhika Tandon	SK Khokhar	DK Sharma (Medical Superintendent)
Dilip R Shende (Ocular Anesthesia)	Mandeep Singh Bajaj	Rajpal Vohra
Seema Sen (Ocular Pathology)	Sanjay Sharma (Radiodiagnosis)	
Seema Kashyap (Ocular Pathology)	Namrata Sharma	Pradeep Venkatesh (Investigative Lab.)
Tanuj Dada	Neelam Pushker	T Velpandian (Ocular Pharmacology)
Praveen Vashist (Community Ophthalmology)	Jasbir Kaur (Ocular Biochemistry)	
Rohit Saxena	Viney Gupta	Renu Sinha (Ocular Anesthesia)
Tushar Agarwal	M Vanathi	Rajesh Sinha
Bhavna Chawla (on leave)	Parijat Chandra	

Additional Professors

Senjam Suraj Singh (Community Ophthalmology)	Alok Kumar Ravi (Ocular Biochemistry)
Nabanita Halder (Ocular Pharmacology)	Noopur Gupta
Vinod Kumar	Swati Phuljhele
Vivek Gupta (Community Ophthalmology)	Rachna Meel
	Nishat Hussain Ahmed (Ocular Microbiology)

Associate Professors

Kanil Ranjith Kumar (Ocular Anesthesia)	Arshad Ayub (Ocular Anesthesia)
Shikha Gupta	Shorya Vardhan Azad
Neiwete Lomi	Dewang Angmo
	Prafulla Maharana

Assistant Professors

Manpreet Kaur	Rebika	Amar Pujari
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Assistant Professors (On contract)

Prachala (Ocular Microbiology)	Sridevi Nair	Saurabh Verma
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HIGHLIGHTS

Dr Rajendra Prasad Centre for Ophthalmic Sciences, AIIMS, the apex centre for ophthalmic care in the country, is recognized as a premier super-specialty institute with state-of-the-art equipment and world-class facilities for patient care, teaching and research. During the entire academic year, junior residents as well as senior residents were trained comprehensively in all the practical and surgical aspects of our specialty despite COVID-19 challenges. Some of the key highlights of Dr RP Centre include:

Unit I Provides state-of-the-art services in the field of Pediatric Cataract, Refractive Surgery, Vitreo-retina, Uvea, Squint and Neuro-ophthalmology. The unit specializes in pediatric cataract surgery and postoperative visual rehabilitation. The unit performs the latest suture-less 27G vitreoretinal surgeries, squint surgeries, and surgeries for neuro-ophthalmological conditions like optic nerve sheath decompression. It is supported by state-of-the-art imaging and investigative tools and LASER delivery systems.

Unit II Provides services for effective diagnosis, treatment and research in Vitreoretinal diseases, VR surgery, Uveal diseases, Ocular Trauma, Stem Cells, Retinopathy of Prematurity (ROP) and Glaucoma. The unit is engaged in cutting-edge modern Vitreoretinal Surgery with the use of wide-angle viewing systems, 23G/25G/27G small gauge sutureless vitrectomy, modern surgical microscopes and other advanced vitreoretinal surgery equipment that have revolutionized surgery techniques and have outcomes comparable to best in the world.

Unit III State-of-the-art services are provided by the unit in the field of Cornea, Cataract and Refractive Surgeries to patients from all over the community. The residents are provided training in eye banking as well as performing keratoplasties. New automated microkeratomes have been procured that help achieve high-quality donor lenticules for use in both anterior lamellar keratoplasties and endothelial keratoplasties. State-of-the-art refractive surgery technology is being used; from bladeless femtosecond laser-assisted LASIK to flapless Small incision lenticule extraction (SMILE). The latest versions of implantable collamer lenses (ICL V4c) that obviate the need for a peripheral iridotomy (PI) are being routinely implanted.

Unit IV The unit is providing the latest technology in Cataract, Cornea and Refractive Surgeries to common people at minimal cost. There is a state of art Glaucoma Facility that features the latest equipment viz., Swept Source OCT, HRT, GDxVcc, UBM and ASOCT for high-end research and clinical purposes.

Unit V Dedicated Oculoplasty, Oncology, Strabismus and Neuro-ophthalmology services, continued to provide compassionate patient care during the year 2021--22. During the COVID-19 pandemic, the Oculoplasty team was at the forefront in the management of cases with rhino-orbital mucormycosis during the epidemic of mucormycosis in second wave of COVID-19 infection. We formed the AIIMS-RPC Guidelines for the early detection and prevention of mucormycosis for the community and doctors.

Unit VI New facilities introduced under the units were Gamma Knife treatment for ocular melanoma, Plaque brachytherapy for treatment of ocular malignancies was introduced with the collaboration of IRCH and the upgradation of Low Vision Services. Dr. Radhika Tandon assisted National Health Authority in formulating guidelines for ABPMJAY packages for Ophthalmology. Community Survey in Sikkim (Gangtok) for eye diseases in the population at high altitude. Dr. Noopur Gupta was appointed as Advisory Board for the Community Eye Health Journal published through International Centre for Eye Health.

RPC under AIIMS guidelines successfully managed 19,072 patients via telemedicine services during the lockdown in India from 11/04/2020 to 31/03/2021 (10,271 patients) and 01/04/2021 to 31/03/2022 (8,801 patients). Senior residents of all 6 units attended the telemedicine consultations via respectively allotted telemedicine devices and provided remote patient care services assisted by NIS staff.

Ocular Microbiology Besides doing routine microscopy, immuno-fluorescence tests, cultures; susceptibility testing for bacteria and fungi and Polymerase chain reaction (PCR) assays for various ocular pathogens; the section in charge is the Nodal Officer for COVID-19 and member secretary of COVID-19 Committee of the centre. Training of around 1000HCWs, making of educational videos for the monitors, contact tracing; evaluation of PPE, surveillance of the use of PPE and infection control measures, making COVID-19 control SOPs, posters and displays; smooth isolation/quarantine and joining of HCWs; and channelizing of testing of patients and.

Pathology The section involved in Gene expression profile of human uveal malignant melanoma, Molecular Characterization of Malignant Lacrimal Gland (Notch Signalling) Tumours, Receptor Tyrosine Kinase in Ocular Malignancies: Novel Prognostic Markers and Therapeutic Targets, Immune checkpoint regulators in Ocular Lymphomas and Transcriptome analysis in Adenoid cystic Carcinoma.

Ocular Pharmacology & Pharmacy Division Provision to enable Corneal Preservation for Transplantation (PECPT) is one of the flagship projects enabled through AIIMS-MHFW collaboration. Currently, it is rendering this service to 89 Govt eye banks across 24 states in India from 2010 to date. High sterile pharmaceutical laboratory helped DRDO-INMAS in Developing Antidotes Formulations for Poisons and Chemical toxins. The innovation of TransReCon a novel reconstitution device is making its way for enabling unstable drugs for emergency ophthalmic practice. Developed a newer injectable/topical water soluble natamycin for ocular mycotic infections Indian Patent-Novel topical natamycin formulation for ocular antifungal therapy. Indian Patent: 1950/DEL/2011 (clinical trials confirmed and currently getting commercialized). A device, method and kit for the reconstitution of a solid or semi-solid pharmaceutical composition (WO2018163201A1 WIPO (PCT) & Chinese patent (granted) Chinese Patent No. ZL 2018900007835 Y/R: FP0171/ca O/R: VU-195029-5955. (Under commercialization)

Ocular Radiology The Radiology Section is involved in the regular weekly Radiology-Ophthalmology Conferences in areas of Oncology, Oculoplasty and Neuro-ophthalmology. The section has completed ten years of doing this activity. The section has conducted nearly 13000 in-house CT scan examinations in the past decade.

Ocular Biochemistry Clinical Biochemistry laboratory and Research laboratory facility have been upgraded with State-of-the-art equipment. We have identified some of the biomarkers, which could be used as prognostic/ therapeutic targets of ocular tumours. The research scholar from ocular biochemistry has been awarded and recognized by the national and international scientific organization.

Community Ophthalmology Involved in the activities like comprehensive primary eye care services through 18 vision centres in underprivileged areas, outreach eye camps in the community as well as in schools for the blind, school vision screening, low vision rehabilitation and epidemiological research and surveys, training and capacity building, community awareness and mobilization apart from academic activities. Community ophthalmology is currently running 09 projects on eye care research & services in partnership with National agencies like NPCB&VI, ICMR and DST. Close collaborations have been developed with international agencies like World Health Organization, London School of Hygiene and Tropical Medicine UK, ORBIS, Sightsavers, VisionSpring, Operation Eyesight Universal, CBM etc. Under this initiative, vision rehabilitation services are being provided to people with visual disabilities by a team rehabilitation of Community Ophthalmology. Orientation & Mobility, Reading and writing rehabilitation services, Low vision evaluation, counselling on vocational training, activities of daily living (ADL), Instrumental ADL, issuance of disability certificates, advice for environmental and lighting modification are various components of services being offered to the needy patients and family members etc.

Community Ophthalmology has been involved in The National Trachoma Trichiasis only surveys being conducted in 200 districts across India with Tropical data and WHO as partner agencies for the survey, WHO rATA Survey for understanding access and barriers to assistive technology in 8 districts of India, spanning 5 states (Delhi, Haryana, Gujarat, Karnataka and Odisha), Improving access to Assistive Technology in Schools for the blind in Delhi with support from WHO SEARO, India Vision Atlas with NPCB&VI that include results of National Blindness and Visual Impairment Survey 2015-19, National Diabetic retinopathy Survey and National Survey on Human Resource and Infrastructure, WHO Eye Care Situational Analysis Tool (ECSAT) was filled for India to assess WHO Universal health care indicators.

EDUCATION

The centre is actively involved in teaching and training of undergraduate MBBS, BSc. (optometry) and postgraduate in Ophthalmology.

Ophthalmologists and other trainees in R P Centre 2021-22	Number
Senior residents	53
Junior Residents	127
Undergraduate Students	83
Interns	26
Training through NPCB & VI	NIL
Optometry Students	63
Short and long term Trainees	3

CMEs/Workshops/Symposia/National and International Conferences

Unit I

- INOS (Indian Neuro-ophthalmological Society Conference), 23-24 October 2021
- Paediatric Ophthalmology Workshop, Dr. R P Centre for Ophthalmic Sciences, AIIMS, 31 October 2021
- Retina Workshop, Dr. R P Centre for Ophthalmic Sciences, AIIMS, 30 January 2022

Unit II

- 55th RP Centre Foundation Day Celebration and CME “Ophthalmic Carnival 2022”, at R P Centre, AIIMS, New Delhi, March 2022.
- World Glaucoma Week at RP Centre, AIIMS, New Delhi. More awareness is needed towards Eye Health, March 2022
- 36th National Eye Donation Fortnight Celebration (Hybrid mode) at RP Centre, AIIMS, New Delhi. September 2021
- World Sight Day Celebration, at RP Centre, AIIMS, New Delhi. More awareness is needed towards Eye Health. October 2021

Unit VI

- Iso Latitudinal Survey in Sikkim (Gangtok) under the project entitled “Multi Centre Study of Impact of exposure of Ultraviolet Radiation (UVR) & aerosol exposure on ocular health in India” (Project Code-I-995) from 22- 25 March 2022.

Community Ophthalmology

- Tropical Data Training of Trainers for National Trachomatous Trichiasis only survey (TT only survey) in 200 districts across India. Tropical Data team and 6 trainees (Dr. Praveen Vashist, Dr. Suraj Senjam Singh, Dr. Vivek Gupta, Dr. Noopur Gupta, Dr. Souvik Manna, Dr. Sumit Grover) from India
- Training programme for three members delegation from Lakshadweep for conducting blindness surveys as part of WHO-SEARO project for assessing the indicators for universal eye health coverage”, 25-27 August 2021, Community Ophthalmology Dr RP Centre, AIIMS, New Delhi
- WHO Rapid Assistive Technology Assessment (rATA) survey, 20-21 October 2021, Community Ophthalmology Dr. RP Centre, AIIMS, New Delhi
- World Disability Day Program, 3 December 2021, Community Ophthalmology, Dr RP Centre, AIIMS

Lectures delivered

JS Titiyal: 38

Swati Phuljhele Aalok: 8

Rebika: 9

Parijat Chandra: 10

Shikha Gupta: 15

Namrata Sharma: 89

Prafulla Maharana: 1

SK Khokhar: 23

Shorya Vardhan Azad: 12

Raj Pal: 17

Rohan Chawla: 13

Tushar Agarwal: 6

Tanuj Dada: 13

Saurabh Verma: 1

Radhika Tandon: 22

Neiwete Lomi: 3

Viney Gupta: 6

Vinod Kumar: 10

Manpreet Kaur: 9

Dewang Angmo: 23

MS Bajaj: 2

Neelam Pushker: 9
M Vanathi: 28
Ocular Pathology: 4
Vivek Gupta: 8

Rohit Saxena: 18
Noopur Gupta: 10
Praveen Vashist: 31
Ocular Radiology: 5

Rachna Meel: 5 Amar Pujari: 7
Nishat Hussain Ahmed: 2
Senjam Suraj Singh: 10
T Velpandian: 5

Oral papers/posters presented

Unit I: 23 Unit III: 12 Unit IV: 10 Unit V: 10 Unit VI: 16
Ocular Microbiology: 7 Ocular Pathology: 6 Ocular Pharmacology: 5

Community Ophthalmology: 3

Last 3 years Data

	Number of oral presentations
2019-20	122
2020-21	56
2021-22	89
Total	267

RESEARCH

Funded projects

Ongoing

Unit I

- 1 A comparative study to evaluate the efficacy of Idebenone in comparison with placebo in Leber's Hereditary Optic Neuropathy patients- A Pilot study, Swati Phuljhele Aalok, Intramural Grant, 3 years, 2019, undergoing, Rs 4,32,000 per year
- 2 "Structural and functional Changes with Occlusion therapy in Anisometropic Amblyopes using FMRI And Diffusion Tensor Imaging", Dr Rebika, AIIMS, Intramural Interdisciplinary Collaborative, 2 years, 2021-2023, Rs 2.5 lakhs
- 3 Automated Detection of Retinopathy of Prematurity and Quantification of Plus Disease, Shorya Vardhan Azad, AIIMS-IIT Grant, 2 years, 2019-2022, Rs 10 lakhs
- 4 A Multicentre, randomized, double masked, active controlled, comparative clinical study to evaluate the efficacy and safety of MYL- 1701P and Eylea in Subject with Diabetic Macular Edema MYL-1701P-3001, Mylan Inc., Shorya Vardhan Azad – Co-PI, Company Sponsored, 2 years, 2019-2022
- 5 Comparative, Double-Blind, Randomised, Multicenter, Phase III study to compare the safety & efficacy of ENZ105 of Enzene Biosciences Ltd. with Innovator Ranibizumab in subjects with Neovascular (Wet) Age related Macular Degeneration (AMD)., Shorya Vardhan Azad –Co-PI, Company Sponsored, 2 years, 2022-2024

Unit II

- 6 A Multicentre, randomized, double masked, active-controlled, comparative clinical study to evaluate the efficacy and safety of MYL-1701P and Eylea in Subject with Diabetic Macular Edema MYL-1701P-3001, Professor Rajpal, Mylan Inc., 3 years, September 2019, Ongoing, Rs 5 lakhs
- 7 A Randomized, Active-Controlled, Double-masked, Parallel-Group, Phase 3 Study to compare Efficacy and Safety of Ct-P42 in comparison with Eylea in Patients with Diabetic macular Edema, Prof. Rajpal, Syneos Health, 2 years, September 2022- Ongoing, Rs 3 lakhs
- 8 A Multicentre, randomized, double masked, active-controlled, comparative clinical study to evaluate the efficacy and safety of MYL-1701P and Eylea in Subject with Diabetic Macular Edema MYL-1701P-3001, Prof. Rajpal, Mylan Inc. 3 years, September 2019, Ongoing, Rs 5 lakhs
- 9 'Establishing the role of Th17/Treg cell axis in pathophysiology of Uveitis', Dr Rohan Chawla, AIIMS – Intramural, 1 year, 2021-2022, Rs 2 lakhs
- 10 Exome sequencing-based detection of known and novel mutations among Axenfeld Rieger Syndrome cases, Dr Shikha Gupta, AIIMS intramural, 2 years, September 2021 ongoing-September 2023, Rs 10 lakhs
- 11 Angiographic Outflow Assessment: Pediatric to Adult-Onset Glaucomas, Dr Shikha Gupta, ARVO Roche Collaborative Research Fellowship, 1 year, March 2022 ongoing- 2023, 10,000 USD

Unit III

- 12 Safety and efficacy of the presbiopic IPCL for correction of Presbyopia with moderate Myopia and Hyperopia., Prof. J.S. Titiyal, Care Group India LTd. 4 years, 2019-2022, Rs 41,95,180
- 13 Prospective Clinical Evaluation of Intraocular Lens - Posterior Capsule Dynamics with Vivinex® iSert® XY1, Professor J.S. Titiyal, Hoya Surgical Ltd, 5 years, 2018-2022, Rs 17,10,698/-

- 14 “Post-Marketing Clinical study of the Clareon® AutonoMe™ with Indian Population”, Prof. J.S. Titiyal, Alcon Laboratories (India) Private Limited, 3 years, 2019-2022, Rs 8,32,651 approx.
- 15 “Long Term outcomes and Tear Inflammatory Mediator Analysis in Cases Undergoing SMILE & LASIK”, Professor J.S. Titiyal, M/s Carl Zeiss Meditec, 3 years, 2021-2024, Rs 33,78,254

Unit IV

- 16 Assessment of visual performance of a new trifocal intraocular lens for visual acuity and safety (Optiflex trio, BioTech Europe Meditech), Prof. Namrata Sharma, BioTech Vision Care Pvt. Ltd, 15 months, 2021-2023, Rs 13,62,000
- 17 Identification of the underlying differential expression and disease specific signature profile in patients with epidermal necrolysis, Prof. Namrata Sharma, ICMR, 3 years, 2019-2022, Rs 48 lakhs approx.
- 18 MicroRNA as a novel biomarker for prediction of corneal graft rejection, Prof. Namrata Sharma, CSIR, 3 years, 2019-2022, Rs 25 lakhs
- 19 Role of Low dose heparin eye drops in chronic ocular cases of Steven Johnson Syndrome (SJS) and its correlation with immune pathway gene expression: A randomised controlled trial, Prof. Namrata Sharma, Indian Council of Medical Research (ICMR), 3 years, 2019-2022, Rs 47 lakhs
- 20 Comparison of high strength topical levofloxacin (1.5%) monotherapy with standard combination therapy for the management of bacterial keratitis: A Randomized controlled trial, Prof. Namrata Sharma, Santen Pharmaceutical Co., Ltd. 1 year 9 months, 2020-2022, Rs 8.19 lakhs
- 21 Comparison of efficacy of Evolve Eye Mask with conventional eyelid warming therapy in patients with conventional eyelid warming therapy in patients with varying grades of meibomian gland dysfunction: A Randomized controlled trial, Professor. Namrata Sharma, Medicom, 1 year 6 months, 2020, 2021, No funding
- 22 A randomised, double blind, parallel group, active controlled, multicentric, non-inferiority, phase III study comparing the efficacy, safety and tolerability of Lifitegrast 5% eye drops in patients with dry eye disease, Prof. Namrata Sharma, Microlabs, 6 months, 2021-2022
- 23 Effect of yoga-based Intervention in Intra Ocular Pressure Quality of Life, Inflammatory Markers and Expression Profile in Glaucoma Patients: A Randomized Controlled Trial, Professor Tanuj Dada, ICMR, 2 years, 2019-2022, Rs 536536-71,260
- 24 Evaluation of Coronavirus in tears and conjunctival secretions of patients with SARS COVID19, Dewang Angmo, AIIMS, Intramural, 2 years, 2020-2022, Rs 10,00,000
- 25 Comparative evaluation of 26-gauge needle versus kimura spatula for corneal scraping in infective: a randomised comparative study, Prafulla Maharana, ICMR, 3 years, 2019-2022, Rs 500000
- 26 Efficacy of long-term inflammation control with 0.05% Cyclosporine eye drops in preventing development of Keratoconus in Vernal Keratoconjunctivitis: A Randomized Controlled Study., Prafulla Maharana, ICMR, 3 years, 2019-2022, Rs 900000

Unit V

- 27 A Pivotal Phase II/III, Randomized, Double-Masked, Sham-Controlled Trial of QPI-1007 Delivered by single or Multi-Dose Intravitreal Injections to Subjects with Acute Non-Arteritic Anterior Ischemic Optic Neuropathy (NAION), Prof. Rohit Saxena, Quark Pharmaceuticals Inc, 5 years, June 2017-June 2022, Rs 32 lakhs
- 28 To evaluate the effect of increased outdoor activity on the incidence and progression of myopia in school children., Prof. Rohit Saxena, Department of Science and Technology, 5 years, June 2016-May 2021, Rs 31,10,462
- 29 To evaluate the effect of low dose atropine eye drops for childhood myopia, Professor Rohit Saxena, Entod Pharmaceuticals, 3 years, September 2019-January 2022, Rs 16,01,000
- 30 Evaluating ocular motion as a tool for characterizing visual field defects, Prof. Rohit Saxena, AIIMS-IIT project, 2 years, January 2019-December 2020, Rs 10 lakhs
- 31 Evaluating Targeted Orbital Intervention in the Management of (RSOM) RhinoSino-Orbital Mucormycosis Cases in the Covid Era, Rachna Meel, IRG, 1 year, 2021-2022, Rs 5,00,000
- 32 A Prospective Collaborative Study for Newly Diagnosed Patients with Retinoblastoma in India, Rachna Meel, Extramural project Funded by CANKIDS, 2 years, 2021-2023, Rs 5,61,000

Unit VI

- 33 Comparative evaluation of efficacy of conjunctival stem cell transplantation with cultivated oral mucosal epithelial transplantation in patients with bilateral cicatrizing ocular surface diseases” i.e Steven Johnson syndrome & chemical burns (Project Code No. BT-1829). Dr. Radhika Tandon, DBT, 3 years, 2017- 2020, Rs 21, 05,368/
- 34 Multi Centric Study of Impact of exposure of Ultraviolet Radiation (UVR) & aerosol exposure on ocular health in India Phase- II (Project Code No. I-995). Dr. Radhika Tandon, ICMR, 5 years, 2018-2023, Rs 90 lakhs
- 35 AIIMS-IIT Delhi Collaborative Research project titled “To generate feasibility data (for human clinical trial) of Bio engineered cornea (for potential clinical application in keratitis patients) - *An In-Vitro Study*” (Project Code No. AI-23)., Dr Radhika Tandon, AIIMS, 2 years, 2019-2020, Rs 5 lakhs
- 36 An Operational Research on Developing Disability Inclusive Eye Health Program in India [Project Code No. N-1714 (RS).], Dr. Radhika Tandon (Chairperson), Christoffel Blind Mission (CBM), 3 years, 2017-2020, Rs 37,61,475.97

- 37 Disability Inclusive eye health program in Strengthening of Low Vision and Rehabilitation Services [Project Code No. N-1714 (RS).], Dr. Radhika Tandon (Chairperson), Christoffel Blind Mission (CBM), 5 years, 2015-2020, Rs 6,12,000 lakhs
- 38 Evaluation of Genetic basis of Congenital Hereditary Endothelial Dystrophy (CHED) by characterization of the effect of homozygous and compound heterozygous SLC4A11 mutations in CHED patients and clinical phenotyping of mutation positive and negative cases”, Dr. Radhika Tandon, AIIMS, 2 years, 2018, Rs 5 lakhs
- 39 18F-FDG Radiomics and Radiogenomics profiling in Retinoblastoma, Neiwete Lomi, Intramural AIIMS Interdisciplinary Collaborative Research Project, 2 years, 2020-2022, Rs 10 lakhs
- 40 Vision Assessment of Retinoblastoma Survivors (VARS) study., Neiwete Lomi, AIIMS undergraduate research project, 1 year, 2021-2022, Rs 185000/-

Ocular Microbiology

- 41 Species identification, antifungal susceptibility profile and virulence factors of *Candida species* isolates from ocular infections, Dr. Nishat Hussain Ahmed, AIIMS, New Delhi. Institutional grant, 12 months, 2021-2022, Rs 5 lakhs

Ocular Pathology

- 42 Differential role of Pigmentation Markers with the Tumor- Associated Macrophages in Uveal Melanoma, Seema Kashyap, ICMR, 3 years, 2019-2022, Rs.35 lakhs
- 43 Role of hypoxia mediated cell metabolism in pediatric ocular malignancy (ICMR Project), Seema Kashyap, ICMR, 3 years, 2020-2023, Rs 37 lakhs
- 44 Identification and Characterization of Molecular Targets in Orbital Tumors: Basis of innovative therapeutic strategies., Seema Sen, UGC, 5 years, 2017-2022, Rs 33 lakhs
- 45 Receptor Tyrosine Kinase in Ocular Malignancies: Novel Prognostic Markers and Therapeutic Targets, Seema Sen, CSIR, 3 years, 2020-2023, Rs 15 lakhs
- 46 Hippo signalling pathway and its biological function in Uveal Melanoma, Seema Kashyap, ICMR, 3 years, 2019-2022
- 47 Clinico-pathological significance of tumor biomarkers in serum, aqueous humor and tumor tissue of intraocular retinoblastoma patients, Seema Kashyap, Intramural Collaborative Research grant, 1 year, 2021-2022, Rs 10 lakhs
- 48 Transcriptome analysis to define Novel Pathways in Adenoid cystic Carcinoma and to correlate with clinical outcome, Seema Sen, IRG Collaborative project, 1 year, 2021-2022, Rs 10 lakhs
- 49 Immune checkpoint regulators and Immunosuppressive Tumor Microenvironment in Lymphomas: Novel prognostic Markers and Therapeutic Targets, Seema Sen, (ICMR, 3 years, 2022-2025, Rs 30 lakhs

Ocular Biochemistry

- 50 Mitochondrial Genome Variants and Maternal Inheritance in the Pathogenesis of Juvenile-onset Primary Open Angle Glaucoma, Professor Jasbir Kaur: SERB, 3 years, 2020-2023, Rs 50 lakhs
- 51 Leber hereditary optic neuropathy associated mitochondrial susceptibility locus in the pathology of juvenile open angle glaucoma, Prof. Jasbir Kaur, CSIR, 2 years, 2020-2022, Rs 10 lakhs
- 52 Elucidating the therapeutic potential of a unani formulation in glaucoma, Prof. Jasbir Kaur, CCRUM/ Ministry of AYUSH, 3 years, 2020-2023, Rs 50 lakhs
- 53 Identification of microRNA signatures in diabetic retinopathy: clinical significance, Prof. Jasbir Kaur, ICMR, 3 years, 2021-2024
- 54 Effect of yoga-based lifestyle intervention on oxidative stress, inflammation, vascular endothelial function and autonomic tone in diabetic retinopathy patients, Prof. Jasbir Kaur, AIIMS-Intramural Collaborative Research Grant, 2 years, 2021-2023, Rs 10 lakhs
- 55 Effect of yoga on dry eye syndrome: antioxidant levels and clinical parameters, Professor Jasbir Kaur, AIIMS- Undergraduate Research Grant, 2022-2023, Rs 5 lakhs
- 56 Evaluation of immunomodulatory and antioxidant potential of a unani formulation, Dr. Alok Kumar Ravi, CCRUM, Ministry of AYUSH, 2 years, 2021-2023

Ocular Pharmacology

- 57 Developing quality control parameters and dispensing M.K. Media for corneal Transplant preservation for Indian Eye banks under ministry of health, Dr. T Velpandian, MHFW, Govt of India, 14 years, 2009-2023, Rs 12.9 lakhs
- 58 Development and validation of TransReCon technique for sterile pharmaceutical preparation, Dr. T Velpandian, BIRAC (BIG GRANT), Venture Centre, 3 years, 2019-2022, Rs 28.3 lakhs
- 59 High throughput technology to monitor environment antibiotic dispersion and their impact on AMR, Dr. T Velpandian, DBT and the Bill & Melinda Gates Foundation, 2 years, 2020-2022, Rs 41.3 lakhs
- 60 Aquatic vulnerability of high-volume chemicals including phthalates and metabolites in Delhi and NCR, T Velpandian, DST, Govt. of India, 3 years, 2020, 2023, Rs 57.13 lakhs
- 61 Understanding the pharmacology of dipyrindamole for its ophthalmic use, Dr. T Velpandian, OD Ocular Discovery Ltd., Israel, 2 years, 2020-2022, Rs 13.31 lakhs

- 62 The Extent of Aquatic Exposure of Certain Endocrine Disruptors (High Volume Chemicals), Dr. T Velpandian, ICMR, 3 years, 2021-2024, Rs 46.50 lakhs
- 63 Evaluation of endothelin and retinal renin angiotensin system (RRAS) in glaucoma, Dr. Nabanita Halder, AIIMS, 1 year, 2021-2022, Rs 4.9 lakhs

Community Ophthalmology

- 64 NPCB “National Trachomatous Trichiasis only survey (TT only survey) in 200 districts across India, Professor Praveen Vashist, NPCB MoH&FW, 2 years, 2021-2023, Rs 5,23,15,425
- 65 A Sustainable Model for Comprehensive Outreach Eye Care Service in NCR”, Prof. Praveen Vashist, Deepalaya, 5 years, 2017-2022, Rs 77,12,242
- 66 A Sustainable Model for Comprehensive Outreach Eye Care Service in NCR”, Prof. Praveen Vashist, Hero Motocorp, 3 years, 2018-2021, Rs 37,04,530
- 67 A Sustainable Model for Comprehensive Outreach Eye Care Service for underserved population in Delhi Slums and resettlement colonies”, Prof. Praveen Vashist, Deepalaya, 5 years, 2018-2022, Rs 1,25,10,800
- 68 Mapping of Human Resource & Infrastructure for Pediatric eye care services in India, Dr. Praveen Vashist, ORBIS, 1 year 6 months, 2020-2021, Rs 25,13,747
- 69 An Operational Research on Developing Disability Inclusive Eye Health Program in India, Dr. Suraj Singh Senjam/Prof. Praveen Vashist, Christoffel Blindenmission(CBM), 3 years, 2015-2022, Rs 98,87,749
- 70 Patterns and pathways of care seeking for cataract and common ocular morbidities and impact of local volunteers on the pathways among urban vulnerable population settings of West Delhi, Dr. Vivek Gupta, Swami Sivananda Memorial, 2 years, 2017-2023, Rs 79,40,000
- 71 Multi Centric study of Impact of exposure of Ultraviolet Radiation (UVR) & aerosol exposure on ocular health in India”, Dr. Radhika Tandon/ Prof. Praveen Vashist, ICMR, 5 years, 2018-2022, Rs 4,50,00,000
- 72 To evaluate the effect of increased outdoor activity on the incidence and progression of myopia in school children” Professor Praveen Vashist, DST, GoI, 4 years, 2016-2020, Rs 48,63,813

Completed

Unit –I

- 1 To study variable gene expression of collagen and associated degradative enzymes present in human vitreous in patients with myopia vs. normal population. Shorya Vardhan Azad, AIIMS Intramural, 2 years, 2020-2022, Rs 7.5 lakhs

Unit II

- 2 Association of Novel genetic variations with Juvenile onset open angle glaucoma, Viney Gupta, ICMR, 3 years, 2018-2021, Rs 38 lakhs
- 3 Ocular chemopr, Dr Rohan Chawla, AIIMS-IIT Intramural, 2 years, 2019-2021, **Rs 10 lakhs**
- 4 Descemet’s membrane and trabecular meshwork properties of Primary Congenital Glaucoma (PCG) with respect to AxenfeldRieger Syndrome (ARS), Shikha Gupta, AIIMS intramural, 2 years, 2019-2021, Rs 10 lakhs

Unit IV

- 5 Evaluate Efficacy of intracameral injection of tropicamide-Phenylephrine-Lidocaine (Pheniocaine Plus) for pre-operative mydriasis in patients undergoing cataract surgery, Professor Namrata Sharma, Entod Pharmaceuticals Ltd., 6 months, 2021-2021, Rs. 2,64,704
- 6 Evaluation of Efficacy of prophylactic use of Intracameral Moxifloxacin 0.5% in prevention of post-cataract surgery endophthalmitis in North India: A randomized Control trial, Prof. Namrata Sharma, Cipla Ltd, 3 years, 2018-2021, Rs 24.5 lakhs
- 7 Exploring the role of endocannabinoids in primary adult glaucoma, Dewang Angmo, AIIMS, Intramural Project, 2 years, 2017- 2019, Rs 9,00,000

Unit V

- 8 Correlation between outdoor activity as measured by UV radiation exposure and myopic refractive error in school going children in New Delhi, **Prof. Rohit Saxena**, Orbis, 1.5 years, 2019-2020, Rs 10,00,000

Unit VI

- 9 Gene expression profiling for grading metastatic potential in uveal melanoma, **Neiwete Lomi**, AIIMS Intramural, 2 years, 2020-2022, Rs 10 lakhs

Ocular Microbiology

- 10 Species identification, antifungal susceptibility profile and biofilm formation of Rhodotorula species isolates from ocular infections, Dr. Nishat Hussain Ahmed, AIIMS, New Delhi. Institutional grant, 12 months, 2019-2020, Rs 5 lakhs

- 11 Establishment of Multiplex PCR for Detection of Herpes Simplex Viruses Type 1 and Type 2, Cytomegalovirus, Varicella-Zoster Virus and Adenovirus in Ocular Viral Infections, Dr. Nishat Hussain Ahmed, AIIMS, New Delhi. Institutional grant, 24 months, 2016-2018, Rs 7.7 lakhs
- 12 “The Asia Cornea Society Infectious Study” (ACSIKS), Dr. Gita Satpathy, Asia Cornea Foundation, Third Hospital Avenue, Singapore, 12 months, 2016, Rs 16 lakhs
- 13 “A prospective comprehensive study o atypical conjunctivitis occurring in Delhi and development of a multiplex PCR assay for rapid diagnosis of viral conjunctivitis”, Prof. Gita Satpathy, AIIMS, 2 years, 2013-2015, Rs 7,50,000
- 14 “Epidemiology pathogenomics and system biology of A.flavus infections in India – an integrative approach”, Professor Gita Satpathy, Department of Biotechnology Govt. of India, 2 years, 2013-2015, Rs 9.6 lakhs

Ocular Pharmacology

- 15 Rationalizing the usage of extemporaneously prepared topical solution of piperacillin and tazobactam combination based on their ocular kinetics, Dr. Nabanita Halder, AIIMS, 2 years, 2019-2021, Rs 9 lakhs
- 16 Assessment of safe plasma levels of chloroquine & hydroxychloroquine using PK simulation based pharmacokinetic estimates, Dr T Velpandian, AIIMS, 1 year, 2020-2021, Rs 5 lakhs

Community Ophthalmology

- 17 Vision Screening and Eyeglasses Dispensing Program for Students in Delhi Schools”, Prof. Praveen Vashist, Vision Spring, 1 year, 2017-2019, Rs 6,40,000
- 18 Regional pilot model to integrate Low Vision and Vision Rehabilitation Services at various levels of Health care delivery system through a Person- Centered Approach involving Assistive Technology, Dr. Praveen Vashist, WHO, 1 Year, 2020-2021, Rs 6,83,014
- 19 Developing and field testing of the survey protocol for assessing effective cataract surgical coverage (eCSC) and effective refractive error coverage (eREC) as indicators for universal eye health coverage”, Dr. Praveen Vashist, WHO, 3 months, 2021- 2021, Rs 9,00,000
- 20 WHO rapid Assistive Technology Assessment (rATA) survey, Dr. Suraj Senjam Singh, WHO, 4 months, July 2021-December 2021, Rs 22,77,135
- 21 Epidemiological Study of avoidable blindness in India”, Professor Praveen Vashist, MoH&FW, 6 Years, 2015-2021, Rs 5,28,08,000
- 22 Improving assistive technology access for students with low vision and blindness at schools for the blind, Dr. Senjam Suraj Singh, WHO-India, 5 months, July 2021-November 2021, Rs 7,50,750

Last 3 Years Data

	Number of funded research projects		total amount of extramural/intramural funding	
	Ongoing	Completed	Ongoing	Completed
2019-20	66	17	18,84,84,603	2,71,05,359
2020-21	66	16	32,12,86,001	3,52,56,227
2021-22	79	22	27,73,51,014	7,62,03,603
Total	211	55	78,71,21,618	13,85,65,189

Departmental projects

Ongoing

Unit I

- 1 ACP=PCP in Pediatric Cataract and the EM & HPE findings
- 2 Anterior and Posterior capsular plaques in pediatric cataracts including their systemic features, ultrastructural features and histopathology features
- 3 Ambispective study to study the factors associated with occurrence of visual axis opacification in paediatric cataract
- 4 To study and compare the safety, efficacy and outcome of 80-micron flap vs 100 micron flap in femtosecond Lasik
- 5 Outcome of refractive surgery in patients with corneal
- 6 Role of dysfunctional lens index in surgical decision making in pediatric cataract surgery
- 7 Role of Ray Tracing Aberrometry in surgical decision making in cases of pediatric cataract
- 8 Assessment of retinal sensitivity and structural integrity in optic neuritis
- 9 Evaluation of active dichoptic therapy in cases of anisometropic amblyopia
- 10 Imaging and Functional Outcomes Post Vitrectomy at Differential Air Infusion Pressure
- 11 Comparison of Serum and Vitreous Biomarkers in Patients of Type -1 and Type -2 Diabetes Mellitus with Diabetic Retinopathy
- 12 Use of Intravitreal Methotrexate as an adjunct in Retinal Detachment with Proliferative Vitreo Retinopathy
- 13 Anatomical and Functional Outcomes of 25g Vitrectomy in Fundal Coloboma with Retinal Detachment

- 14 Comparative Evaluation of Visual and Functional Outcomes after Bilateral Implantation of IOL AMD and Monofocal Intraocular Lenses in Cases with Age Related Macular Degeneration
- 15 Topographical distribution of Retinal Neovascularization in Proliferative Diabetic Retinopathy
- 16 Macular imaging in Glaucoma suspects and early Glaucoma

Unit II

- 17 Pilot Study Comparing Primary Anti-Vegf Therapy Vs Pan-Retinal Photocoagulation in Patients with Proliferative Diabetic Retinopathy
- 18 To Study Anatomical and Functional Results of Choroidal Detachment (Cd) Drainage Vs No Cd Drainage in Retinal Detachment (Rd) With Cd Cases
- 19 Systemic and Optical Coherence Tomography Biomarkers in Patients with DME
- 20 Characterization of hereditary patterns of Axenfeld Riegers syndrome
- 21 Comparative profile of early vs late onset angle closure glaucoma
- 22 Structural and functional changes of macula over time in OHT vs Age matched controls
- 23 Exploring the application of artificial intelligence in diagnosing infantile congenital corneal opacities
- 24 Fellow eyes of unilateral primary congenital glaucoma: incidence and risk factors for rise in IOP over follow up
- 25 Evaluating long term outcomes of Ahmed glaucoma valve (AGV) in refractory glaucoma
- 26 Comparing Efficacy Of 360° vs 180 GATT in The Treatment of Primary Congenital Glaucoma
- 27 Optic disc morphology in congenital glaucoma
- 28 An ambispective study of profile and outcomes in Zone 3 Retinopathy of Prematurity
- 29 An ambispective study of profile, gaps in care and outcomes in stage 5 ROP.
- 30 Post Procedure pain in preterm neonates undergoing retinopathy of prematurity screening: A descriptive study
- 31 Pilot study comparing primary anti-vegf therapy vs pan-retinal photocoagulation in patients with proliferative diabetic retinopathy
- 32 Comparing safety of two drug regimens for pupillary dilatation for retinopathy of prematurity screening in preterm neonates: A double blinded Randomized Cross over Trial
- 33 Intravitreal methotrexates for uveitis
- 34 STL in focal diabetic macular oedema
- 35 Laser vs Intravitreal in PDR
- 36 Optic disc pit maculopathy ambispective review
- 37 An ambispective study of profile and outcomes in Zone 3 Retinopathy of Prematurity
- 38 An ambispective study of profile, gaps in care and outcomes in stage 5 ROP.
- 39 Comparative evaluation of corneal characteristics in eyes of Primary Congenital Glaucoma and Axenfeld-Rieger Syndrome
- 40 Fellow eyes of unilateral primary congenital glaucoma: incidence and risk factors for development of glaucoma over follow up
- 41 Comparative profile of early vs late onset angle closure glaucoma
- 42 Corneal characteristics comparison between keratoconus and primary congenital glaucoma
- 43 Aqueous angiographies of congenital glaucomas, high pressure juvenile glaucomas and adult onset Glaucomas
- 44 Comparing efficacy of 360-degree vs 180-degree incisional angle surgery in the treatment of primary congenital glaucoma

Unit IV

- 45 Comparative evaluation of topographical parameters using Pentacam-Corvis, Sirius, Cassini and MS-39 (if available) in grading the severity of Keratoconus and their co-relation with corneal biomechanics.
- 46 Comparison of Conventional Corneal Collagen Crosslinking and Accelerated Corneal Collagen Crosslinking in Paediatric Keratoconus: A Randomized Controlled Trial.
- 47 Evaluation of Biosynthetic Corneas in Corneal Ectasia
- 48 Collagen Cross-Linking in Microbial Keratitis
- 49 Development of a Detection Kit for the instant diagnosis of Acanthamoeba keratitis
- 50 Optical Performance of Enhanced Monofocal Intraocular Lenses in Presence of Astigmatism.
- 51 Macular imaging in Glaucoma suspects and early glaucoma
- 52 Structural and functional changes of macula overtime in ocular hypertension vs age matched controls
- 53 Evaluation of long-term outcomes of Ahmed Glaucoma Valve (AGV) in Refractory Glaucomas
- 54 Comparative evaluation of Phacoemulsification combined with Endoscopic Cyclophotocoagulation Vs
- 55 Phacoemulsification alone in Primary angle closure glaucoma -A Randomized Controlled Trial
- 56 Evaluating the severity of glaucoma in consanguineous marriage
- 57 Co-relating Selective Laser Trabeculoplasty Outcomes with Anterior Segment OCT features in patients with Juvenile onset Primary Open Angle Glaucoma (JOAG)
- 58 Incidence of Congenital Glaucoma - A multicentric Trial
- 59 Evaluation of visual cortex activity using fNIRS in primary glaucoma

- 60 Effect of 365 breathing technique on intraocular pressure and autonomic functions in glaucoma patients
- 61 Effect of mindfulness meditation on IOP in patients with ocular hypertension
- 62 Endogenous cortisol profile in patients with primary open angle glaucoma and primary angle closure glaucoma and correlation with psychological stress
- 63 Efficacy of Micropulse in Primary Angle Closure Glaucoma
- 64 Evaluating Axenfeld Reiger anomaly
- 65 Therapeutic potentials of plant based formulation in glaucoma
- 66 Role Of Corneal Biopsy In Keratitis Patients On Antimicrobial Agents
- 67 Estimation of Tear Film Concentration of Oral Antibiotics in Bacterial Keratitis Patients

Unit V

- 68 2 Evaluation of topical timolol in the treatment of periocular pyogenic granuloma
- 69 Evaluation of topical oxymetazoline 0.1 % in treatment of acquired ptosis
- 70 To evaluate the role of intralesional bleomycin in periocular capillary hemangiomas unresponsive to oral propranolol
- 71 Evaluation of outcome of oral sildenafil in Orbital lymphangioma
- 72 To evaluate the role of topical timolol for treatment of periocular capillary hemangiomas as compared with oral propranolol
- 73 Clinical severity and distress in periocular and ocular malignancy patients during COVID pandemic.
- 74 Clinicopathological presentations of eyelid malignancies in COVID era vs. PRECOVID era.
- 75 Evaluation of Levator Plication as compared to Frontalis Sling in severe congenital Ptosis
- 76 Evaluation of octreotide as a potential agent for treatment in steroid resistant SSSTR (Somatostatin Receptor) positive Graves's orbitopathy
- 77 Baseline and Post Neoadjuvant Chemotherapy Imaging of Optic Nerve in Extraocular Retinoblastoma. Can MRI Predict Prognosis?
- 78 Clinicopathological presentations of eyelid malignancies in COVID era vs. PRECOVID era
- 79 Infective periorbital and orbital diseases in the COVID-19 era
- 80 Evaluation of collagen matrix implant in ocular surface Reconstruction for moderate to severe symblepharon: - a pilot Study
- 81 ASOCT role in strabismic eyes.
- 82 Y splitting procedure in inferior oblique muscle over action.
- 83 ASOCT role in cataractous eyes.
- 84 True muscle transplants versus hang back recession in large angle exotropia.
- 85 True muscle transplants versus graded recession in large angle esotropia.

Unit VI

- 86 Controlling dry eye after femtosecond laser cataract surgery by the use of topical lubricants: A double blind randomized controlled trial
- 87 Exploring the application of artificial intelligence in differentiating developmental variants of Anterior Segment Dysgenesis presenting with infantile corneal opacities
- 88 Assessment of accelerated corneal collagen cross-linking as an adjuvant therapy in moderate to severe fungal keratitis
- 89 Comparative evaluation of aqueous based and oil based 0.05% cyclosporine eye drops in the treatment of moderate to severe dry eye disease
- 90 Demographics, risk factors, clinical & microbiological characteristics and visual outcomes of bilateral simultaneous active keratitis
- 91 Evaluation of visual outcomes of cataract surgery in patients with armd and diabetic retinopathy, preoperative predictors and patient satisfaction
- 92 Evaluation of Modified Polyε -Caprolactone (pPCL) as a substitute for Human Amniotic Membrane (HAM) Graft in Unilateral Acute Chemical Injury: A Pilot Clinical Trial
- 93 Topical Human immunoglobulin therapy in severe dry eye disease
- 94 Topical posaconazole in fungal keratitis
- 95 Exploring the application of artificial intelligence in differentiating developmental variants of anterior segment dysgenesis presenting with infantile corneal opacities
- 96 Controlling dry eye disease after femtosecond laser cataract surgery by use of topical lubricants: A double blind randomized controlled trial
- 97 Ocular adverse effects of targeted therapy and checkpoint inhibitors
- 98 Meibography in patients with trichiasis: Exploring the role of Machine learning in determining etiology
- 99 Corneal Biomechanics of Intrastromal Keratoplasty in Keratoconus
- 100 Effect of Topical Brinzolamide on Corneal Endothelium in Post Penetrating Keratoplasty Patients
- 101 Assessment of Outdoor Ultraviolet Light Exposure and Serum Melatonin levels in Young Myopes
- 102 Lenticular changes with use of statins - a hospital based prospective cohort study

- 103 A comparative double-arm randomized controlled study to assess the effect of Evolve™ Pure Eyelid wipes in subjects with meibomian gland dysfunction
- 104 Role of conjunctival autofluorescence in ocular surface squamous neoplasia.
- 105 Assessment of quality of vision and vision related quality of life in patients undergoing anterior lamellar keratoplasty: A pilot study.
- 106 Ocular Surface Evaluation in Vernal Keratoconjunctivitis
- 107 Meibography in patients with trichiasis: Exploring the role of Machine learning in determining etiology
- 108 Hospital-based prevalence of meibomian gland dysfunction
- 109 Outcomes of Corneal Transplantation in patients with Trachomatous Keratopathy
- 110 Comparison of Tenon's patch graft and SMILE Lenticule in the management of small corneal perforations
- 111 Ocular manifestations in patients with Mucopolysaccharidoses: Role of evaluation modalities
- 112 Role of neuromodulators in progression of myopia: A case controlled collaborative study
- 113 Multiphasic Micellar Nano Particle (MNP) cyclosporine in mild to moderate limbal stem cell deficiency: a clinico-cytological study

Ocular Microbiology

- 114 Clinical sequelae in COVID-19 recovered healthcare workers from Dr. Rajendra Prasad Centre for Ophthalmic Sciences, A.I.I.M.S, New Delhi
- 115 Molecular mechanisms of melanogenesis pathway in uveal melanoma
- 116 Association of Hippo pathway with pigmentation in the tumor microenvironment of uveal melanoma and its clinical relevance
- 117 Molecular Characterization of Malignant Lacrimal Gland Tumours

Ocular Biochemistry

- 118 Genomic alterations in juvenile open angle glaucoma
- 119 Molecular alterations in glaucoma
- 120 Therapeutic potentials of plant based formulation in glaucoma
- 121 Identification of oxidative phosphorylation complex alterations in juvenile open-angle glaucoma

Ocular Pharmacology

- 122 Development of a Detection Kit for the Instant Diagnosis of *Acanthamoeba keratitis*
- 123 Molecular Mechanisms Involved in the Development of Insulin Resistance due to Environmental Exposure of Phthalates
- 124 Ocular Disposition of Bio-therapeutics and the Role of Peptide Transporters in Blood Ocular Barriers
- 125 3D Printed Pre-corneal Drug Eluting Polymeric Insert with Applicator for Night Dosing in Keratomycosis

Community Ophthalmology

- 126 Community based assessment of disability among adult population of Delhi using WHO-ICF (International Classification of Functioning, Disability and Health)
- 127 Causes of Blindness and Severe Visual Impairment in children in schools for the blind in North India- A Situational Analysis study
- 128 Blood Vessel and Red Lesion Segmentation for Early Diabetic Retinopathy Screening

Ocular Radiology

- 129 Role of Contrast ultrasound in retinoblastoma
- 130 Role of split bolus spectral CT rotocol in the evaluation of biliary malignancies.
- 131 Role of advanced MRI in prognostication of carcinoma urinary bladder

Completed

Unit I

- 1 Prospective Study on the Long-Term Outcome of Optic Capture in Pediatric Traumatic Cataracts due to Open Globe Injuries.
- 2 "Evaluation of Risk Factors Causing Residual Refractive Error in Corneal Refractive Surgery"

Unit II

- 3 Pilot Study Comparing Primary Anti-Vegf Therapy Vs Pan-Retinal Photocoagulation in Patients with Proliferative Diabetic Retinopathy
- 4 Prospective randomized study to evaluate anatomical result of VR surgery in RD with CD with or without ILM peeling
- 5 Surgical outcomes of anti-VEGF with vitrectomy in Stage 4 Retinopathy of Prematurity (ROP)
- 6 Genomic alterations among JOAG patients

- 7 Molecular alterations in Glaucoma
- 8 Severity of Congenital glaucoma among consanguineous births
- 9 To comparatively evaluate corneal characteristics in eyes of Primary Congenital Glaucoma and Axenfeld-Rieger Syndrome
- 10 Assessment of different tonometers for IOP measurement in Post LASIK patients
- 11 Longitudinal Comparison of Tablet based perimetry with Humphrey Analyser among Paediatric glaucomas
- 12 To Compare the Outcomes of Laser vs Combined Laser & Ranibizumab in Threshold Retinopathy of Prematurity
- 13 To compare the outcomes of 0.1mg vs 0.25mg Intravitreal Ranibizumab in Aggressive Posterior Retinopathy of Prematurity.
- 14 Outcomes of primary ranibizumab vs laser for treatment of zone 2 Type 1 ROP
- 15 Surgical outcomes of Anti-VEGF with vitrectomy in stage 4 ROP
- 16 Pneumatic vitreolysis vs pars plana vitrectomy in vitreomacular traction syndrome.
- 17 Topographical distributions of retinal neovascularisation in proliferative diabetic retinopathy
- 18 Clinical and epidemiological profile of PCV in a tertiary centre.
- 19 Early macular reconstruction in Proliferative diabetic retinopathy
- 20 STL for CSR
- 21 STL for diabetic macular oedema
- 22 To Compare the Outcomes of Laser vs Combined Laser & Ranibizumab in Threshold Retinopathy of Prematurity
- 23 To compare the outcomes of 0.1mg vs 0.25mg Intravitreal Ranibizumab in Aggressive Posterior Retinopathy of Prematurity.
- 24 Outcomes of primary ranibizumab vs laser for treatment of zone 2 Type 1 ROP

Unit IV

- 25 Comparison of iCare ic200 and Perkin tonometry in paediatric glaucomas
- 26 Comparative Evaluation of Phacoemulsification Alone versus Phacoemulsification with Goniosynechialysis in Primary Angle-Closure Glaucoma

Unit V

- 27 Evaluation of Mitomycin-c in Anophthalmic contracted socket reconstruction with Mucous membrane grafting.
- 28 To investigate the efficacy of intralesional injection of bleomycin for treatment of orbital and periorbital cavernous hemangioma.
- 29 Evaluation of the effect of Intralesional Bleomycin on Orbital Lymphangioma.
- 30 To evaluate the role of routine systemic antibiotics in uncomplicated Eyelid surgery.
- 31 Mucous Membrane Grafting (Fibrin Glue vs. Suture) for Lid Margin Pathologies in Patients with Stevens - Johnson syndrome.
- 32 Evaluating vitreous seed regression using intravitreal melphalan in combination with standard intravenous chemotherapy for persistent/partially regressing vitreous seeds in group C and D retinoblastoma.
- 33 Autologous fat transfer for orbital volume augmentation in sockets with small non-seeing eyes.
- 34 Psychosocial factors among patients undergoing orbital exenteration.
- 35 Correlation of Levator-Muller's complex thickness on UBM with clinical response to Botulinum toxin an injection in patients with severe thyroid related retraction of upper eyelid.
- 36 Comparison of extrusion rate of silicone vs PMMA (mule's) implant following myoconjunctival technique of enucleation - a randomised control trial.
- 37 Neoadjuvant chemotherapies in sebaceous gland carcinoma of eyelid.
- 38 Autologous fat grafting for the correction of cicatricial ectropion.

Unit VI

- 40 Evaluation of Donor characteristics and Graft Outcomes of corneal transplant from multi organ donors and cadaveric donors under hospital corneal retrieval program
- 41 Study of Congenital Hereditary Endothelial Dystrophy Patients with and without SLC4A11 gene mutation
- 42 Evaluation of the role of 0.1% cutaneous tacrolimus in chronic vernal keratoconjunctivitis
- 43 Topical autologous platelet lysate drops for severe dry eye disease in chronic ocular graft versus host disease
- 44 Topoguided custom ablation treatment in the management of post-keratoplasty astigmatism
- 45 Antifungal susceptibility testing in fungal keratitis
- 46 Evaluation of donor characteristics and graft outcomes of corneal transplants from multi-organ donor and cadaveric donors under hospital corneal retrieval program
- 47 Study of congenital hereditary endothelial dystrophy patients with and without SLC4A11 gene mutation
- 48 Study of the Effect of Red Tinted Filters on Colour Discrimination in Patients with Congenital Colour Vision Deficiency
- 49 Assessment of Outdoor Ultraviolet Light Exposure and Serum Melatonin Levels in Young Myopes
- 50 Long Term Outcome of Optic Capture in Pediatric Traumatic Cataracts due to Open Globe Injuries

Ocular Microbiology

- 51 *Acanthamoeba* keratitis: Experience from a tertiary eye care centre in North India
- 52 Spectrum of Bacterial keratitis in North India- Six Year Retrospective Study from a Tertiary Care Eye Centre
- 53 Bacteriological profiles of Central Line Associated Blood Stream Infections, with specific reference to biofilm formation and resistance pattern, and their correlation with response and outcome.
- 54 Use of advanced genomics in Microbiology of culture negative infections
- 55 Species identification and determination of virulence factors of Coagulase negative *Staphylococci* in ocular infections
- 56 Correlation of Antibiotic Resistance patterns of Ocular bacterial isolates and Antibiotic use in patients admitted to hospital- A step towards Antimicrobial Stewardship

Ocular Pharmacology

- 57 Pharmacokinetics of Hydroxy isoleucine
- 58 Metabolomic and pharmacogenomic evaluation of glaucoma therapy

Community Ophthalmology

- 59 Epidemiological Study on Childhood Visual Impairment in Delhi
- 60 Community based operational research study on involvement of Accredited Social Health Activists (ASHAs) in strengthening Primary Eye Care services for Urban Vulnerable Population of Delhi

Ocular Radiology

- 61 Characterization of renal cell carcinoma with Dual Energy CT and multiparametric MRI and correlation with histopathology
- 62 Role of dual energy computed tomography and magnetic resonance imaging in the evaluation of chronic pancreatitis.
- 63 Role of advanced ultrasound and advanced MRI in evaluation of prostate cancer

Collaborative projects

Ongoing

Unit I

1. Structural and functional Changes with Occlusion therapy in Anisometropic Amblyopes using FMRI And Diffusion Tensor Imaging, Department of NMR, AIIMS

Unit II

2. Development of a portable and non-contact type intraocular (IOP) pressure measurement device, IIT Delhi and IIT Kanpur
3. Aqueous angiographies in congenital, high pressure juvenile glaucoma and adult-onset glaucoma. (ARVO research grant, 10 lakhs), The Viterbi Family Department of Ophthalmology, Shiley Eye Institute, UCSD, USA

Unit V

4. Neurocognitive changes associated with perception, spatial orientation and co-ordination in visually challenged subjects using functional Magnetic Resonance Imaging, Department of NMR, AIIMS.
5. Clinical severity and distress in periocular and ocular malignancy patients during COVID pandemic. Psychiatry
6. Neoadjuvant chemotherapy in sebaceous gland carcinoma of eyelid.

Unit VI

7. AIIMS-IIT Delhi Collaborative Research project titled “To generate feasibility data (for human clinical trial) of Bio engineered cornea (for potential clinical application in keratitis patients) - An In-Vitro Study” (Project Code No. AI-23), AIIMS/IIT Delhi
8. Evaluation of Genetic basis of Congenital Hereditary Endothelial Dystrophy (CHED) by characterization of the effect of homozygous and compound heterozygous SLC4A11 mutations in CHED patients and clinical phenotyping of mutation positive and negative cases, AIIMS

Ocular Microbiology

9. Study of Ocular Microbial flora in contact lens wearers using metagenomics, Ophthalmology
10. Comparative evaluation of 26 gauge needle versus Kimura spatula for corneal scraping in infective keratitis: a randomized controlled trial, Ophthalmology
11. Topical Posaconazole in fungal keratitis, Ophthalmology
12. Tear Film Concentration of Oral Antibiotics in Bacterial Keratitis Patients, Ophthalmology
13. Evaluation of Corneal Concentration of Antifungal Drugs and Its Correlation with Minimum Inhibitory Concentration (MIC) Values in Cases Undergoing Therapeutic Penetrating Keratoplasty, Ophthalmology
14. Clinical Efficacy of Topical Caspofungin and its Comparative Evaluation with Topical Natamycin Monotherapy in Fungal Keratitis, Ophthalmology

15. Assessment of Accelerated Corneal Collagen Cross Linking as an Adjuvant Therapy in Moderate to Severe Fungal Keratitis, Ophthalmology
16. Comparison of Clinical Diagnosis, Culture Results of Corneal Scrapings and Culture and Histopathology Results of Corneal Tissue following Therapeutic Keratoplasty in Cases of Microbial Keratitis, Ophthalmology

Ocular Pathology

17. Micro RNAs as Novel Biomarkers for the prediction of corneal graft rejection, Ophthalmology/CSIR
18. To study variable gene expression of collagen and associated degradative enzymes present in human vitreous in patients with myopia vs. normal population, Ophthalmology
19. Comparison of nucleosomes and tissue inhibitor of metalloproteinase1 in predicting sepsis severity and mortality in adult critically ill patients: a pilot study, DM Anesthesiology
20. Understanding the role of noncoding RNAs in osteogenesis (ICMR project- Co-investigator in collaboration with IGIB)
21. "Incidence of postoperative cognitive decline in elderly undergoing open surgeries under general anaesthesia using isflurane or deflurane: A prospective observational pilot study" (MD Anaesthesia), Anaesthesia
22. "Clinical utility of serum survivin levels in RB", DM Paediatrics
23. Role of Low dose heparin eye drops in acute and chronic ocular cases of Steven Johnson Syndrome (SJS) and its correlation with immune pathway gene expression: A randomised controlled trial, Ophthalmology

Ocular Biochemistry

24. Role of hypoxia mediated cell metabolism in pediatric ocular malignancy, Ocular Pathology, Dr RP Centre, AIIMS (Funded by ICMR)
25. Traditional medicine in India and South Africa: A comparative Study. University of Delhi (Funded by SPARC, MHRD)
26. Determination of anti-aging and antioxidant potential of a unani formulation, Geriatric Medicine, AIIMS (Funded by CCRUM, Ministry of AYUSH)
27. Study of endothelial progenitor cell (EPC) tetrahydrobiopterin (BH4) levels and its association with EPC number and function in coronary artery disease (CAD) patients, Cardiac Biochemistry, AIIMS (Ph.D thesis)
28. Capsular plaques in pediatric cataracts and their ocular & systemic correlation including histopathological and ultrastructural features, Ophthalmology, Dr. R.P. Centre, AIIMS (MD thesis)

Ocular Pharmacology

29. Evaluation of Retinol-palmitate ophthalmic suspension in severe dry eye (Dr. Rajesh Sinha), Ophthalmology/AIIMS
30. Pharmacokinetics & sedative effect of Dexmedetomidin sublingual & intranasal (Dr. Reenu Sinha), Ophthalmology/AIIMS
31. Evaluation of the levels of topical atropine in aqueous humor and vitreous humor – A pilot study (Dr. Rohit Saxena), Ophthalmology/AIIMS
32. Comparison of serum and vitreous biomarkers in patient of type-I and type-II diabetic mellitus with diabetic retinopathy (Dr. Shaurya), Ophthalmology/AIIMS
33. Topical human immunoglobulin as adjunct therapy in dry eye disease (Professor M Vanathi), Ophthalmology/AIIMS
34. Standardization and validation of bioprinting technique for the regeneration of corneal epithelial cells (Dr. Namrata), Ophthalmology/AIIMS
35. Preparation of Quinidine sulphate tablets/capsules/sachets (Dr. Deepti), Cardiology/AIIMS
36. Preparation of sachets for pre-operative drink (Dr. Bhavna), Anaesthesiology/AIIMS
37. Evaluation of cystinosis by estimating leukocyte cystine. (Dr. Arvind Bagga), Pediatrics/AIIMS
38. Exploring the role of hypoxia in modulating ceramide metabolism and insulin sensitivity in adipocytes (Dr. Archana Singh), Biochemistry/AIIMS
39. To estimate the levels of N-Carboxymethyl lysine, arginine and Di-tyrosine in autistic children. (Dr. Shefali Gulati), Pediatrics/AIIMS
40. A double-blind randomized pilot study Topical urea skin cancer (Dr. Pooja Gupta), Pharmacology/AIIMS
41. Antiseptic efficacy and plasma chlorhexidine levels following 2 different methods.... randomised trial (Dr. Ramesh Agarwal), Pediatrics/AIIMS
42. Untargeted metabolomics in osteoporosis model (Dr. RK Srivastava), Biotechnology/AIIMS
43. Hormonal response during oscillatory lower body negative pressure (Dr. Akanksha), Physiology/AIIMS
44. Determination of plasma drug levels of antitubercular drugs in patients with extra pulmonary tuberculosis.... outcomes (Dr. Anant Mohan), Medicine/AIIMS
45. Pharmacodynamic and pharmacokinetic interaction of the ayurvedic formulation (BGR-34) with glibenclamide in experimental rats (Dr. Sudhir), Pharmacology/AIIMS
46. To estimate the 8-Oxo-dg and 8-Oxo-Guo in plasma (Dr. Randeep Guleria), Pulmonary/AIIMS
47. To study Nilotinib Drug interaction with fatty acid meal (Dr. Ranjit Kumar Sahoo), IRCH/AIIMS
48. To study the effect of Vitamin C and Thiamine in patients with sepsis in Indian Population (Dr. Arvind Kumar), Medicine/AIIMS

49. Serum Benzathine Penicillin G levels in Indian Children and adolescence with Rheumatic heart disease (Dr. Dinesh Kumar), Pediatric Cardiology/RML
50. FAPC as potential marker of invasive aspergillosis (Dr Sunita Meena), Lab. Medicine/AIIMS
51. Biomarkers for bacteremia AMR and HAIs by NMR and LCMS/MS (Dr Hitendra Gautam), Microbiology/AIIMS
52. Estimation of Bisphenols in Urine of PCOS patients (Dr. Neeta Singh), Gynaecology/AIIMS
53. Randomized control trial of single dose oral Ivermectin in patients with COVID19 infection (Dr Anant Mohan), Pulmonary Med/AIIMS
54. To determine the concentration of Betel nut alkaloids and Catechins in current and past betel nut users and their association with pro-oncogenic cytokines and oral potentially malignant disorders (Dr. Shalini Gupta), Centre for Dental Education and Research/AIIMS
55. Penicillin detection in plasma of RHD patients (Dr. Kamaldeep), Cardiology, RML Hospital
56. Cancer metabolism, H1299 cells, glucose & glutamate starvation (Prof Daman Saluja), Delhi University
57. Risk factors for failure of caffeine therapy in preterm neonates. Plasma caffeine & albumin level (Dr. Purna Chandra), Neonatology/AIIMS
58. Analysis of anticancer activity of crude hydroalcoholic herbal extracts on prostate cancer cell line (Dr. PK Chaturvedi), Reproductive biology/AIIMS
59. Intestinal permeability in chronic pancreatitis by urine matrix (Dr Deepak Gunjan), Gastro/AIIMS
60. Pharmacokinetics and Biodistribution studies of berberine and berberine loaded nanoparticles in animals (Dr. Pooja Gupta), Pharmacology/AIIMS
61. A pilot study to access the effect of timing of Gefitinib administration on blood levels in non small cell lung cancer patients (Dr. Pooja Gupta), Pharmacology/AIIMS
62. Early bacterial activity and PK/PD study of Rifampicin, Faropenem and Cefdinir with clavulanate versus standard of care in newly diagnostic smear positive Rifampicin susceptible TB (Dr. Urvashi Singh), Microbiology/AIIMS
63. Amino acid estimation in breast cancer patients (Dr. Pramod Gautam), Biochemistry
64. Citrulline estimation (Dr. Govind Makhija), Gastro/AIIMS
65. Pharmacokinetics of first line Antitubercular drugs in TB patients, A Comparative study in patients with and without contaminate diabetic mellitus (Dr. Saurav), MAMC
66. To study the effect of Vit-C and thiamine in patients with sepsis in Indian population, RCT. (Dr. Arvind), Medicine /AIIMS
67. Lipids isolated from biological nanoparticles (Dr. Jayanta Bhattacharya), IIT Delhi
68. Sugar analysis in baby food-products (Dr. Harsh Priya), Centre for Dental Education and Research/AIIMS
69. BM-652 Evaluation of trysccharide BM-652 as a potential biomarker in plasma of ERT naïve patients with MPS-I and MPSII (Dr. Bhawna Aggarwal), --

Radiology

70. Role of MR guided biopsy in detection of prostate cancer, Department of NMR, AIIMS
71. Role of split bolus spectral CT protocol in the evaluation of biliary malignancies, Radiodiagnosis
72. Evaluation of outcome of oral sildenafil in orbital lymphangioma, RPC
73. Neoadjuvant chemotherapy in sebaceous gland carcinoma of eyelid, RPC
74. Evaluation of intralesional bleomycin in periocular and adnexal vascular lesions, RPC
75. In vivo assessment of somatostatin receptor expression with 68Ga DOTANOC PET/CT in patients with autoimmune and immune-related orbitopathy, Nuclear Medicine
76. To compare the outcomes of Banded versus non-banded gastric bypass procedures (Roux-en-Y gastric bypass & one anastomosis gastric bypass) for patients with morbid obesity -A Prospective Randomized controlled trial, Surgical Disciplines
77. Utility of 99Tc Ubiquicidin scintigraphy in diagnosis of sinonasal mucormycosis. Nuclear Medicine
78. Negative predictive value of MRI for significant prostate cancer in Indian men: An ambispective study, Urology
79. To evaluate the role of intralesional bleomycin in periocular capillary hemangiomas unresponsive to oral propranolol, RPC
80. Role of 18F FDG PET/CT in assessment of treatment response to neoadjuvant chemotherapy in primary extra-ocular retinoblastoma, Nuclear Medicine
81. Targeted Orbital Intervention in Management of (RSOM) rhino-sino-orbital mucormycosis cases in the Covid Era, RPC

Completed

Unit I

- 1 Evaluation of Factors Affecting the Outcome of Optic Nerve Sheath Fenestration Surgery (ONSF) In Patients with Idiopathic Intracranial Hypertension (IIH), Department of Neurology

Unit V

- 1 Autologous fat grafting for the correction of cicatricial ectropion, Dermatology
- 2 Baseline and Post Neoadjuvant Chemotherapy Imaging of Optic Nerve in Extraocular Retinoblastoma. Can MRI Predict Prognosis? (Collaborative), IRCH/AIIMS

Unit IV

- 3 Evaluation of Coronavirus in tears and conjunctival secretions of patients with SARS COVID19, Microbiology, Pathology, Medicine
- 4 Analysis of SARS-CoV-2 in corneal tissue of deceased asymptomatic COVID-19 donors, Microbiology, Pathology

Ocular Microbiology

- 5 Comparative evaluation of different formulations namely sonicated gel form, unsonicated drop and sonicated drop of liposomal Amphotericin B for the Treatment of Fungal Keratitis, Ophthalmology
- 6 Evaluation of donor characteristics and graft outcomes of cornea transplant from multi-organ donors and cadaveric donors under hcrp, Ophthalmology
- 7 Antifungal susceptibility testing in fungal keratitis, Ophthalmology
- 8 Study of Tear Film and Ocular Surface Changes after Long Term Use of Rose K Lenses in Patients with Keratoconus, Ophthalmology

Ocular Pharmacology

- 9 Bortezomib plasma with multiple myeloma. (Dr Pooja), Pharmacology/AIIMS
- 10 Topical autologous PRP for severe dry eye disorder (Dr. Vanathi), RPC/AIIMS
- 11 Evaluation of role of cutaneous tacrolimus 0.1% in chronic vernal kerato conjunctivitis (Dr Vanathi), RPC/AIIMS
- 12 A double-blind randomized pilot study evaluating the effect of topical urea as pretreatment for preventing a hand foot skin reaction in cancer patients Sunitinib therapy (Dr Pooja), Pharmacology/AIIMS
- 13 Preparation and evaluation of zinc gluconate oral suspension (Dr. Jagdish), Pediatrics/AIIMS
- 14 Novel minimally invasive chemoport for painless intraocular drug delivery (Dr. Rohan), RPC/AIIMS
- 15 Effect of ACE inhibitor on plasma levels of norepinephrine. (Dr. KK Deepak), Physiology/AIIMS
- 16 Lactulose & Mannitol (Dr Deepak Gunjan), Gastro/AIIMS
- 17 Penicillin G in patients with Rheumatic Heart Disease (Dr Kavaldeep), RML
- 18 Quantitation of ketohexose from blood samples (Dr Rajani Mathur), DIPSAR
- 19 Effect of valproate vs levetiracetam on metabolic status in persons with epilepsy (Dr Sudhir), Pharmacology/AIIMS
- 20 Sunitinib estimation (Dr Pooja Gupta), Pharmacology/AIIMS
- 21 Estimation of corneal concentration of antifungal drugs in fungal keratitis (Dr Vinay), RPC/AIIMS
- 22 Penicillin V (Dr Ramakrishnan), Cardiology/AIIMS
- 23 Evaluation of endogenous cortisol level in patients with PACH and POAG (Dr Tanuj), RPC/AIIMS
- 24 HCQ blood concentration and its concentration in lupus nephritis (Dr Arun Kumar), Nephrology/AIIMS
- 25 Kynurenine & tryptophan ratio (Dr Deepali Jain), Pathology/AIIMS
- 26 A comparative study to evaluate the efficacy of idebenone in comparison with placebo in Leber's Hereditary Optic Neuropathy patients-A pilot study'. (Dr. Swati Phuljhele), RPC/AIIMS
- 27 Tri-compartmental micro-carriers for the official management of Parkinson's disease (Prof. SampaSaha), Applied Mechanics, IIT, Delhi

Radiology

- 28 Effects of use of bolster and its orientation on kidney position in reference to prone percutaneous lithotomy, Urology
- 29 Baseline and Post Neoadjuvant Chemotherapy Imaging of Optic Nerve in Extraocular Retinoblastoma. Can MRI Predict Prognosis? IRCH/AIIMS

Community Ophthalmology

- 30 Tools to Diagnose – Eye- Development and assessment of image analysis tool for identification of glaucoma, IIT Delhi
- 31 Tools to Diagnose- Eye- Development and assessment of image analysis tools for identification of retinal disorders- Diabetic Retinopathy, IIT Delhi
- 32 Establishing a Technical Support Unit (TSU) for Verbal Autopsy based Cause of Death Ascertainment in the Sample Registration System, Registrar General of India - MINerVA - N1715, CCM, AIIMS and Registrar General of India
- 33 SNOMED-CT: NRCeS – Development of National Drug Repository database, MoHFW & C-DAC Pune

PUBLICATIONS

Unit I

Journals:39 Chapters in Book:35 Books & Monographs:01

Unit-II

Journals:53

Unit-III

Journals: 27 Books & Monographs:01

Unit-IV

Journals: 69 Chapters in Book:02

Unit-V

Journals: 40 Books & Monographs:01

Unit-VI

Journals: 43 Books & Monographs:21

Ocular Microbiology

Journals:02

Ocular Pathology

Journals:15 Abstracts:01 Chapters in Book:02

Ocular Biochemistry

Journals: 01

Ocular Pharmacology

Journals: 11

Community Ophthalmology

Journals: 12 Chapters in Book:03 Books & Monographs:09

Ocular Radiology

Journals: 09

Last 3 Years Data

	Number of publications	journal articles	abstracts	chapters in book	book/monograph
2019-20	544	508	7	21	8
2020-21	467	385	3	63	16
2021-22	397	321	1	42	33
Total	1408	1214	11	126	57

PATIENT CARE**Medical record section**

		New Cases	Old Cases	Total
1.	General O.P.D.	98433	115826	214259
2.	Emergency	7984	22335	30319
	Total Cases	106417	138161	244578
Speciality clinics				
1.	Cornea Clinic	2381	1415	3796
2.	Lens Clinic	318	421	739
3.	Uvea Clinic	340	642	982
4.	Contact Lens Clinic	777	471	1248
5.	Glaucoma Clinic	1564	2395	3959
6.	Ophthalmoplasty Clinic	780	405	1185
7.	Paed. Ophthalmology Clinic	0	0	0
8.	Retina Clinic	986	911	1897
9.	Neuro-Ophthalmology Clinic	721	506	1227
10.	Vitreo Retinal Clinic	1260	641	1901
11.	ROP	624	703	1327
12.	Ocular Oncology Clinic	87	35	122
13.	Low Visual Aid	2104	1233	3337
14.	a) Orthoptic Clinic	1670	5507	7177
	b) Squint Clinic	2415	4998	7413
15.	Refraction	0	27262	27262
	Total Cases	16027	47545	63572
	Grand Total of Cases	122444	185706	308150

Admissions		
1.	General Admissions	10226
2.	Casualty Admissions	2368
3.	Private Admissions	857
4.	Short Admissions	10151
5.	Day Care Admissions	9149
	Total	32751
Operations		
1.	Major	12752
2.	Day Care	7925
3.	Total	20677
4.	Minor	11393
	Grand Total	32070
	Deaths	01
Other Figures		
1.	Average Bed occupancy Ratio	47%
2.	Average length of stay	03 days
3.	Average OPD Attendance per working day	1038
4.	Average No. of Indoor Admission per day	90
5.	Average No. of Surgeries per day	88

*It includes minor procedure also

SMILE	FEMTO LASIK	PRK	PTK	TOTAL SURERIES
497	1744	129	20	2390

Casualty services

A total of 30319 cases were seen in RPC Casualty in past 1 year with 7984 cases being new and 22335 cases being old. Of them, in-patient care was provided to 2368 cases and 5616 cases were managed in an out-patient basis. The total cases requiring surgical services in casualty OT were 4599. Of them, 1906 patients were admitted in the casualty ward and rest were short admission cases.

Investigative Laboratories:

S.No	Investigations & Procedures	Total
1.	Tonometry (NCT+AT+Tonopen+Perkins+iCARE)	32393
2.	IOL Work-up	28335
3.	Refraction	74391
4.	AR (Auto Refraction)	76245
5.	PS-OCT	34725
6.	USG A Scan- Axial Length	8139
7.	USG B Scan	18590
8.	UBM	322
9.	Adaptive Optics	54
10.	Flaremetry	678
11.	Perimetry (GVF+HFA+MP)	14774
12.	Electrophysiological Tests (VER+ERG+mfERG+EOG)	4749
13.	Medical Board Investigations	2359
14.	Fundus Auto-Flouresence	717
15.	Dry Eye Work-up	528

16.	Contact Lenswork-up	2624
17.	Anterior Segment CP	3100
18.	Posterior Segment CP	8611
19.	ROP workup	1386
20.	Topography (VKG+Cassini+Sirius+I-Trace)	5164
21.	Post Segment Laser	4377
22.	YAG LASER	2085
23.	Contrast Sensitivity	3108
24.	OCT Angiography	3562
25.	HRT-III	3308
26.	ECG	1213
27.	Low Vision Aids cases (New+Old)	3658
28.	Colour Vision Assessments	3452
29.	Laser Interferometry	3624
30.	FFA + ICG	2364
31.	Specular Microscopy	19979
32.	ASOCT	17337
33.	Pentacam + Corvis	17435
34.	Autolensometry (POG)	3695
35.	CCT / N.CCT (Pachymetry)	18512
36.	Ocular Surface Analyser	576
37.	Orthoptics & Squint (New+old cases)	14590
38.	LIPI (View+Scan+Flow)	206
39.	Impression Cytology	118
	GRAND TOTAL	4,41,083

Community Ophthalmology:

Primary Eye care Services (Apr-2021 to Mar-2022)	
Primary Eye care Clinics	18
Attendees at PEC Counters in Slums Cluster	31317
Refraction carried out in PEC Centres in slums Cluster	16886
Spectacles prescribed in Slums	15887
Patients referred to R.P. Centre	4318
Primary Eye Care Volunteer training events	
Volunteers Training Programme organized	09
Volunteers Trained	94
Eye Health Education Events- Community	
Eye Health Education Event conducted	237
Participants in the Health Education events	4955
Eye Health Education Events- RPCentre	
Eye Health Education Event conducted	145
Participants in the Health Education events	2325

Reach-in-Programme for cataract surgery in Rural and remote areas	
Adult screening camps organized	20
People examined	2700
Patients referred at R.P. Centre	352
Diabetic Retinopathy Screening Camps	
Total number of DR screening camps organized	55
Diabetic patients screened in camps	657
Total DR Patients identified	65
Total DR Patients referred to R.P.Centre	65
Patient Reported for treatment at Dr. R.P. Centre under Community Ophthalmology	
Total Patient Reported under community ophthalmology:	2501
Total Patient Operated for cataract surgeries under community ophthalmology	1100
Follow-up camps organized	41
Patients examined in Follow-up camps	291
Rehabilitation Services in Community Ophthalmology	
Patients are registered for rehabilitation services	1255
Patient's admission done for vocational training.	29
Patients are benefited for ADL training.	181
Patients are benefited for Mobility training.	308
Children's successfully admission done in special school.	26
Patients are make visual disability certificate in AIIMS and counselling for the benefits of visual disability certificate.	267

Ocular Radiology

Table 0-1 Number of X-Rays	3345
Number of CTs	833
Number of MRI	Shared with the main department.

Ocular Biochemistry

Sl.No.	Tests Name	IPD	OPD	Total
1.	Sugar (R,F,PP, GTT)	843	3207	4050
2.	HbA1c	636	1170	1806
3.	TBIL	2385	2367	4752
4.	DBIL	2385	2367	4752
5.	ALT or SGPT	2385	2367	4752
6.	AST or SGOT	2385	2367	4752
7.	ALP	2385	2367	4752
8.	TP	874	2219	3093
9.	ALB	874	2219	3093
10.	Creatinine (CRE)	2439	2489	4928
11.	Urea (UREA)	2439	2489	4928
12.	Uric Acid (UA)	2439	2489	4928
13.	Sodium (Na ⁺)	2439	2489	4928

14.	Potassium (K ⁺)	2439	2489	4928
15.	Chloride (Cl ⁻)	2439	2489	4928
16.	TCHOL	223	1024	1247
17.	LDL-C	223	1024	1247
18.	HDL-C	223	1024	1247
19.	Triglyceride (TRIG)	223	1024	1247
20.	Free T3	174	653	827
21.	Free T4	174	653	827
22.	TSH	175	674	849
23.	Vitamin B12	52	491	543
	TOTAL	31253	42151	73404

Ocular Microbiology

S.No.	Diagnostic procedure	YEAR		
		2021-22	2020-21	2019-20
1.	Bacterial culture & sensitivity	7959	8340	18131
2.	Fungal culture	6695	2890	4892
3.	Specimens processed for cytology	2234	1638	2570
4.	Specimens processed for Chlamydia Ag detection using DFA	14	32	28
5.	Specimens processed for hsv ag detection using dfa	2	Nil	2
6.	Viral PCR for Herpes Simplex virus, Adeno & Coxsackie virus (conjunctivitis / corneal ulcer)	20	59	132
7.	Specimens processed for Microsporidia	09	07	17
8.	Specimens processed for Mycobacteria	04	09	22
9.	Culture for Acanthamoeba	16	18	26
10.	Automated (bactec) culture for endophthalmitis	05	02	14
11.	Broad range PCR for endophthalmitis	05	02	13
TOTAL		16963	12997	25877

Ocular Pathology:

Total number of Investigations	66943
Blood	44512
Urine	337
Cytology + Cytology research	1371
Histopathology + Histopathology Research	18345
IHC + Research	1378

Ocular Pharmacology:

Drugs	Number of Vials
Drugs fortified & compounded at the ocular pharmacy	
1. Acetyl cysteine (10, 20%, 2.5%, 5%)	119
2. Amphotericin b (0.25%, 0.15%, 0.1%)	78
3. Betaxolol (0.25%)	165
4. Capsofungine acetate 0.5%	0
5. Cefazolin (5%)	5
6. Conc. Tobramycin (1.3%)	3142
7. Mitomycin (0.02%, 0.04%)	100

8. Pilocarpine (0.125%- 1%)	35
9. Polymixin B (10k-30k IU)	93
10. Povidone Iodine 5%, 2%	16
11. Vancomycin (5%)	3009
12. Timolol 0.25	24
13. Ceftazidime 5%	52
14. Voriconazole (1%)	591
15. Gentamycin 1.3%	11
16. Proparacaine (0.5%, preservative free)	0
17. Heparin (1300 iu/ml)	0
18. Amikacin (1.3%, 2.5%, 1.4%)	49
19. Levofloxacin 0.5%	4
20. Linzolin 0.2%	2
21. Ceftriaxon 5%	4
22. Colisthemethate 0.19mg/ml	50 ml
23. Clarithromycin 0.25%	1
24. Augmentin 625mg – ¼ sachet	4
25. Acetazolamide 30mg, 10, 25, 40, 50, 60, 80mg	170
26. Piperacillin 10%	24
27.interferon	178
Drugs dispensed to patients directly (free of cost) &also for hospital use	
1. Artificial tears	28,310
2. Ciprofloxacin (0.3%)	7444
3.Cyclosporine2%, 1%	136
4. EDTA (1.1%)	189
5. Homatropine (2%)	12726
6. Hypertonic saline (5%)	3710
7. Methyl cellulose (2%)	743
8. Pilocarpine (2%)	0
9. Sodium ascorbate (10%)	240
10. Sodium citrate (10%)	298
11. Thimerosal solution (0.005%)	60 L
12. Tropicamide (1%)	36506
13.Tropac+ phenylephrine(0.5%+2.5% (ROP)	8523
14. Gancyclovair vials100mg	65
15. Piloclonidine	155
16.Olopatadin	3857
17. Glycerin 50%	4
18. PHMB	77
19. Methylcellulose 2%	L
20. Hypertonic Saline 20%	250 ml

Kit & Other items dispensed (on demand)

DRUGS	Quantity	
1. Ethyl alcohol 20%	547 x 5ml	
2. Gold Chloride	170	vials
3. Hydrazin Hydrate	170	vials
4. Liposomal amphoterecin B (0.15%)	02	vials
5. TPA (Injection, 1mg/ml)	26	ampoules

6. Infliximab Inj 10mg	-	vials
7. Timololmaleate oint. 0.5%	53	ointments
8. Acyclovir 120 Mg	-	sachets
9. Valganciclovir Tablet	163	sachets
10. Sirolimus Powder	-	sachets
11. Livofloxacin 0.5%	4	vials
12. Voriconazole In Parts	-	sachets
13. Propanolol In Parts	-	sachets
14. Valganciclovir	-	sachets
15. Hydrogen Peroxide 3%	-	
16. Sod. Hypochlorite 1%	-	
17. Emepenam 5%	10	vials
18. Ponkreflozt ¼ Sachet	-	sachets
19. Hydrocortisone 5mg	-	sachets
20. Ceftriaxone 5%	0	vial
21. Isoniazid	05	sachets
22. Quinidine 300 Mg	1200	sachets
23. Quinidine 400 Mg	700	sachets
24. Tab. Quinidine 200 Mg	-	sachets
25. Cap. Quinidine 200 Mg	1600	Sachets
26. Idebenone	-	Capsule
27. Hydrocortisone	-	Sachets
28. Propranolol	-	Sachets
29. Sodium Benzoide	58	Sachets
30. Haloparidol	-	Sachets
31. Quinidine Sulphate	-	Sachets
32. Posaconazole Suspension (1%)	167	Eye drops
33. IgG	438	Eye drops
34. Alfamino Power	-	Sachets
35. Quinidine Sulphate 100mg.	-	Capsule
Sterile Drugs Dispensed		
1. Botox	231	Ampoules
2. Bevacizumab (Avastin)	3815	Ampoules
Biologicals Dispensed		
1. Autologous Serum	24	vials
2. Autologous PRP	-	vials
3. Platelet Rich Plasma	2	vials

National Service

Item	No. of vials (10 ml)
Corneal storage media (supplied to 89 govt eye banks in 24 states in India)	1921
Longer corneal storage media	553

National Eye Bank

Total Collection of Cornea	672
Total Utilization for Cornea Transplantation	570
Other Eye Bank (Oeb)	200
Total Collection of Cornea	872
Total Utilization for Cornea Transplantation	765

Total Number of People Pledged for Eye Donation	82
Optical PK	135
Therapeutic PK	482
DSAEK	53
Triple Procedure	13
DMEK	5
LK	77
Total	765
Total number of serological investigations done at National Eye Bank	
HIV-1	338
HIV-2	338
HBV	338
HCV	338
Syphilis	338
Total	1690

Medical Social Service Unit

S. No	Categories	Number of Cases	Total Amount
1.	Free Medicines For Poor and Indigent Outdoor (OPD) Patient Through Poor Patient's Fund	91	Rs.71006/-
2.	Free Spectacles Provided Through Poor Patients Fund	128	Rs.74961/-
3.	Free Surgeries through Consultations	77	Rs.737433/-
4.	Exemptions of Hospital and investigation Charges(IPD&OPD)	636	Rs.492764/-
5.	Beneficiaries under Janani Shishu Surkshaa Karyakaram	1244	Rs.6931629/-
6.	Beneficiaries under Ayushman Bharat-PMJAY	592	Rs.8553506 /-
7.	Patients helped through Direct Donations	18	Rs.136016/-

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Unit I

Dr Swati Phuljhele received Best Paper: E-poster Presentation Titled "5th World Congress of Paediatric Ophthalmology and Strabismus, 26 September 2020.

Unit II

Professor Viney Gupta was Awarded First Prize for the 2021 Global Golden Helix Abstract Competition for work titled "Digenic Inheritance in Juvenile open angle Glaucoma"; Appointed President of the Indian Paediatric Glaucoma Society.

Dr Vinod Kumar was Awarded JM PAHWA award for best free paper at annual conference of Vitreo-retinal Society of India (16-19 December 2021); Was amongst the 6 faculty from RP centre, who were listed in the Worlds's top 2% scientists in 2020.

Dr Shikha Gupta was Awarded AIIMS International Fellowship 2022; Recipient of 2021 Developing Country Eye Researcher Fellow (DCERF) ARVOfoundation, May 2021; Awarded Roche Collaborative Research Fellowship by ARVO, 2022 on angiographic assessment in high pressure glaucomas; Oral paper titled: 'Descemet's membrane in primary congenital glaucoma' awarded as the best eight presentations and invited as an oral talk during APGS May 2021; Awarded complimentary registration. Presented 3 Oral papers in UKPGS 2022 (UK pediatric glaucoma society) as presenting author; In IPGS 2022, presented an invited talk on 'Genotype phenotype mapping in Axenfeld Rieger syndrome patients'; Delivered an All India radio Talk on 30th March 2022 on 'ocular problems in elderly and how to prevent'; Judge: Glaucoma interesting cases: DOS 2021 1.10.21; Convener: Medical management of glaucoma. Annual DOS 3.10.21; Glaucoma Section editor: Indian Journal of Ophthalmology.

Unit III

Professor Titiyal JS, Kaur M. Winner- Film Festival 2021. Intraoperative OCT- Guided Management of Intumescent White Cataract. 33rd Asia Pacific Association of Cataract & Refractive Surgeons (APACRS)-SNEC 30th Anniversary virtual meeting, 30-31 July 2021, Singapore; Kaur M. Runner up. ASCRS “iOCT Guided Phacoemulsification in Posterior Polar Cataract- Elucidating Intraoperative Dynamics & Enhancing Safety?” (Video 74752). 2021 American Society of Cataract & Refractive Surgeons (ASCRS) Annual Meeting. 23-27 July 2021. Las Vegas, Nevada, USA; Dr U V Raman Raju's Lecture & Medal 2021, in Andhra Pradesh Ophthalmic Society Annual Conference (APOS) Annual Conference (Hybrid). November 2021. Vijayawada, Andhra Pradesh; Sushruta Oration. “SYNOPTIC” An Algorithmic Approach to Challenging Clinical Scenarios. Virtual meeting of Chaithanya Eye Hospital & Research Institute, Trivandrum, under aegis of Kerala ophthalmic Society. September 2021; Key Note Address “Phacoemulsification in Complex Situation” NOSCON 2021, Annual Conference of Nepal Ophthalmological Society, December 2021. Kathmandu, Nepal; Invited to give a Keynote address on “ Eye banking and Keratoplasty in Covid Pandemic “ in an International Webinar “Eye Banking & Corneal Transplantation” organised by AIIMS Bhopal on the occasion of the 36th eye donation fortnight. September 2021; Invited to give a Keynote address on “Evolution of corneal transplant “in eye banking and corneal transplant CME organised by AIIMS, Rishikesh on the occasion of the 36th eye donation fortnight. September 2021; Sreyas Rotary Award, in Annual Conference of 3080 rotary district “Aastha”. Haridwar, Uttarakhand, March 2022; FM Rainbow AIR live phone in Program “Radio Doctor”. Safety and Precautions in Holi. All India Radio. New Delhi. March, 2022; Total Health” program DD – News, live phone in National program on “Common eye problem and their Management”, Prashar Bharti, Mandi House. New Delhi. March 2022; Invited as a Special Guest in Dainik Jagran ‘Ayushman India’ Award Ceremony hosted by Dainik Jagran, India, December 2021; Chief Guest in the “ Sankalp for blood donation 2.0” to inaugurate Blood Donation Camp organized by Nurses union of AIIMS, 14 November 2021 AIIMS, New Delhi; Invited guest for 100.1 FM Gold Live phone in program “Radio Doctor” on “Common Eye problems related to Covid Pandemic”. Nov. 2021. All India Radio. New Delhi; Health Show” program DD – News, live phone in National program on “Festival related Ocular problems and management” Nov, 2021, Doordarshan Bhawan, Prashar Bharti, Mandi House. New Delhi; Total Health” program DD – News, live phone in National program on “Common eye problem and their Management”. Oct, 2021, Prashar Bharti, Mandi House. New Delhi; World Sight Day Celebration, News X digital. More awareness is needed towards Eye Health. October. 2021; An awareness session on Common eye problems in elderly their management, for the Members of India International Centre (IIC) October 2021; An awareness session on Eye Care for the Members of Parliament, Members of State Legislatures, officials of Lok Sabha and Rajya Sabha Secretariats by Parliament Research & Training Institute for Democrats (PRIDE), Lok Sabha Secretariat Parliament of India New Delhi 14 September 2021; “Swasth Kissan” DD Kishan live health program on 36th Eye donation fortnight Week. September 2021, DD Kisan, DD Kendra, Khel Gaon, New Delhi; “Aarogya Bharat” program DD – News, live phone in National program on “Covid and its consequences”. June 2021, Prashar Bharti, Mandi House. New Delhi; Live Phone in program with public on All India Radio 100.3 FM. Corona Virus infection to eyes, its prevention and protection. June 2021; India News Live TV; Covid -19 it's Impact in eyes and quality of life. June 2021.

Professor Tushar Agarwal is Chairman – National Surgical Skill Development Centre (17 September 2021 onwards); Chairman – Internal Stores Review Committee (13 September 2021 onwards); Member – Infection Surveillance & Monitoring Committee (17 September 2021 onwards); Member – Operation Theatre Committee (Main OT & Day Care) 17th September, 2021 onwards; Member for planning of layout of RPC OPD in New Masjid Moth Campus under new Master Plan of AIIMS; Member – Souvenir Committee, Celebration of 55th Foundation Day of Dr. R.P. Centre.

Dr Manpreet Kaur received Asia Pacific Academy of Ophthalmology (APAO) Achievement Award 2021; External Examiner- AIOS FAICO Examination – Cataract/ Phaco- 4th January 2022; External Examiner- AIOS FAICO Examination - Comprehensive Ophthalmology- 4th January 2022; Instruction Course selected for Pre-meeting Interview by AAO ONE Network Cataract Committee – IC on ‘Different Management Strategies for a Wide Spectrum of White Cataracts’ -AAO Annual Meeting 2021 (Virtual), 12-15th November 2021, New Orleans, USA; Best Free Paper. Impact of Sealing the Upper Mask Edge on Ocular Surface Stability and Dry Eye Symptomology. 72nd Annual DOS International Hybrid Conference. 26th September-3rd October 2021. Nair S, Kaur M, Titiyal JS; Best Free Paper (Second Prize). Intraoperative posterior polar cortical disc defect: sign of intact posterior capsule. 72nd Annual DOS International Hybrid Conference. 26th September-3rd October 2021. Nair S, Kaur M, Titiyal JS; Winner Film Festival 2021, 33rd APACRS-SNEC Anniversary virtual meeting, 30-31 July 2021 Category 2: Cataract Complications / Challenging Cases. Intraoperative-OCT Guided Management of Intumescent White Cataract” Authors: Titiyal JS, Kaur M; 2021 ASCRS Film Festival Runner-Up award for the category Cataract/Implant Surgery! ‘iOCT Guided Phacoemulsification in Posterior Polar Cataract- Elucidating Intraoperative Dynamics & Enhancing Safety?’, American Society of cataract & Refractive Surgeons (ASCRS) 2021, 23-27 July, Las Vegas, USA [Authors: Titiyal JS, Kaur M]; IJO Honor Award for Peer Review 2020- All India Ophthalmological Society Annual Meeting, 24-27 June 2021 (Virtual); Best Video- Anterior Segment II. VF [VT308]: Elucidating Real-Time Phacoemulsification Dynamics with Intraoperative Optical Coherence Tomography DR. J. S. TITIYAL, T06991, DR. MANPREET KAUR. All India Ophthalmological Society Annual Meeting, 24-27 June 2021 (Virtual) [Selected for C.S. Reshmi Award Session].

Unit IV

Professor Namrata Sharma Honored as one of the 100 most influential female figures in Ophthalmology in the world- the Power List 2021 by the Ophthalmologist; Conferred with two fellowships this year, FRCSEd from the Royal College of Surgeons of Edinburgh and FRCOphth from the Royal College of Ophthalmologist, London respectively; Received the Late Dr. Neelima Pawade Lifetime Achievement Award by Vidarbha Ophthalmic Society- VOS (2021); Received the Dr. Rustam D Ranji Rotary Award Lecture 2021 for Oration “Cornea On Demand: Dream or Reality” by L V Prasad Eye Institute (2021); Received the Prof. R P Sarda Memorial Oration by Rajasthan Ophthalmological Society (2021); Received the 1st Prof. M. Prabhakaran memorial lecture for PGs award by Kozhikode Ophthalmic Society (2021); Honorary General Secretary, All India Ophthalmological Society (AIOS); Vice President, Cornea Society of India (CSI); Vice President, National Society for the Prevention of Blindness (NSPB); Regional Secretary, Asia-Pacific Academy of Ophthalmology (APAO); Honorary General Secretary, Eye Bank Association of India (EBAI); Ex-General Secretary of Delhi Ophthalmological Society (DOS); Chairperson scientific Committee of Indian Society of Cornea and Keratorefractive Surgeons (ISCKRS); General Secretary, Ophthalmic Research Association, R P Centre; Member Executive - Cornea Society of India (CSI).

Professor Tanuj Dada was Appointed to Editorial board American Journal of Ophthalmology and International Glaucoma Review; Appointed as associate editor Journal of Glaucoma; Board of Directors Asia Pacific Glaucoma Society; Chair of Scientific Committee Asia Pacific Glaucoma Congress; Chair of Glaucoma Programme Committee Asia Pacific Academy of Ophthalmology.

Dr Dewang Angmo received 2nd Prize in the Free Paper Session for Free Paper titled “Evaluating the role of endocannabinoids in PACG Vs Controls” in DOS Mid term Conference, 20-21 March 2021; Organized DOS Midterm Conference 2021; Elected as the Youngest Executive member in DOS 2019-2021; Glaucoma section editor for IJO; Glaucoma section editor for RPC Newsletter; Assistant Editor in DOS Times.

Dr Prafulla Maharana Received Delhi Ophthalmology Society (DOS) appreciation award at “Awards Ceremony at Convention Hall, Hotel Ashok, Chanakya Puri, New Delhi”, December 2022, for my service as EDITOR DOS Times over last two years; Received Delhi Ophthalmology Society (DOS) appreciation award at “Awards Ceremony at Convention Hall, Hotel Ashok, Chanakya Puri, New Delhi”, December 2022 for my role in the organizing committee of Annual DOS.

Unit V

Professor Rohit Saxena was Awarded Excellence in Strabismology by Strabismus and Pediatric Ophthalmology Society of India (SPOSI), December 2021; Member Ethics Committee AIIMS; Member Subject Committee Ophthalmology for DCGI; North Zone representative for Academic and Research Committee for the All India Ophthalmological Society; Member of the subspecialty Subcommittee (Neuro Ophthalmology) of the Collegium of the AIOS; Member for FAICO Advisory Board - Uvea & Neuro; Member of the subspecialty subcommittee (Uvea & Neuro) of the Collegium of the AIOS; Member committee constituted by All India Ophthalmological Society to formulate COVID guidelines on Squint, Pediatric Ophthalmology and Neuro Ophthalmology; Member committee constituted by All India Ophthalmological Society to formulate Community eye-health and vision center guidelines during COVID-19 pandemic in India; Member committee constituted for digitization of IEC/Health Education material under the National Programme for Control of Blindness & Visual Impairment.

Dr Amar Pujari attended Asia Pacific Academy of Ophthalmology 60th Anniversary Travel Grant to Present Innovations at Annual Conference 2021; Arjun Narang trophy” by Delhi Ophthalmological Society 2021; DOS international star” for international recognition by Delhi Ophthalmological Society 2021; Professor Hanumantha Reddy award by Strabismus and Paediatric Ophthalmological Society of India 2021 for “Best Strabismus Surgical Video”; Professor A K Khurana award by Strabismus and Paediatric Ophthalmological Society of India 2021 for “Best Publication”; Professor Kamlesh award by Strabismus and Paediatric Ophthalmological Society of India 2021 for “Best Free Paper”.

Unit VI

Professor Radhika Tandon was Awarded - Fellowship of the National Academy of Medical Sciences, India; Featured as Erudite Women’s outstanding Contribution to Indian Medical Education: A Recognition on International Women’s Day 2021 [Bansal, M & Raheja S. Erudite Women’s outstanding Contribution to Indian Medical Education: A Recognition on International Women’s Day. Global J of Medical Research: K Interdisciplinary, Issue 1, Version 1.0, 2021; Member of National Organ and Tissue Transplant Organization (NOTTO) conferred by NOTTO; Chairperson of the Committee for Standard Treatment Workflows (STWs) conferred by ICMR; Technical Expert for the Ayushman Bharat Pradhan Mantri Jan Arogya Yojna (AB PM-JAY) to provide valuable inputs in the areas of expertise on Health Benefit Packages, Standard Treatment Guidelines, Medical audit and Quality of care etc. for the seamless implementation of the scheme, organized by National Health Authority (NHA); Immediate Past President of Eye Bank Association of India; Immediate Past Vice - President of Association of Eye Banks of Asia; Member of Apex Technical Committee of National Organ and Tissue Transplant Organization, Govt. of India; Advisory Member for the Global Alliance of Eye Bank Associations (GAEBA); Invited to participate in the framing of Barcelona principles for Ethical Practices in Usage of donated tissue released in collaboration with Global Alliance of

Eye Bank Associations and WHO; Member of the Advisory Committee for National Programme for Control of Blindness & Visual Impairment (NPCB&VI), MHFW; Member Joint Working Group Indo-US DBT-NEI Vision Research-DBT; Member National Expert Group for Limbal Stem Cell Usage – ICMR; Chairman Vision Disability Sub-committee Ministry of Social Justice and Empowerment; Member Committee for Color Vision and Visual Disability Expert Group – MCI; Ophthalmology Expert for Department of Health Research, Ministry of Health and Family Welfare; Member of core group of the National Board of Examinations, India; Expert for AIIMS (Jodhpur), AIIMS (Rishikesh), AIIMS (Bhopal), AIIMS (Darbhanga), AIIMS (Patna), National Board of Examinations (Dwarka, New Delhi), AIMS Mohali (Punjab), UCMS (University of Delhi), JIPMER Puducherry, AIIMS (**Bhubaneswar**), Byramjee Jeejeebhoy Government Medical College (Pune), Dr. Ram Manohar Lohia Institute of Medical Sciences (Lucknow), College Branch-II, University of Delhi; National Medical Commission; Expert for Corneal Blindness Backlog Free Punjab Initiative of Govt of Punjab and NPCBVI; Expert Reviewer for Welcome Trust, ICMR, DBT, DST, CSIR; Reviewer for American Journal of Ophthalmology, Archives of Ophthalmology, PLoS One, Ophthalmology, British Journal of Ophthalmology, Eye, Cornea, Graefes Archives of Clinical and Experimental Ophthalmology, Indian Journal of Ophthalmology, National Medical Journal of India etc; Chairperson of the Inspection Team of Delhi Organ Transplant Cell; Expert for Project Review Committee (PRC) conferred by ICMR; Member for DBT Bioengineering Task Force, DBT, Ministry of Science & Technology; Member of the Editorial Board of the Indian Journal of Medical Research (IJMR) from July 2018; Chairperson for the e-grants update/e-newsletter Committee at AIIMS, New Delhi; Invited as an Alumni for the Meeting of the Managing Committee of Modern School, Vasant Vihar, New Delhi; Advisor for Magazine for Advisory Council of the AIIMS Student's Association Elections for the year 2022; Member of the Inspection Committee for inspection of VMMC & Safdarjung Hospital, New Delhi; ABVIMS and Dr. Ram Manohar Lohia Hospital, New Delhi; GMC Medical College, Jammu; Narang Eye Institute, Delhi & Dr. Pattnaik's Laser Eye Institute, New Delhi.

Professor M Vanathi received Best of IJO Award 2020 for best published original article – announced in AIOC 2021 (Singh R, Vanathi M, Kishore A, Tandon R, Singh D. An anterior segment optical coherence tomography study of the anterior chamber angle after implantable collamer lens-V4c implantation in Asian Indian Eyes. Indian J Ophthalmol. 2020 Jul; 68(7):1418-1423. doi: 10.4103/ijo.IJO_1540_19.PMID: 32587181); Best Podium Presentation in Refractive Surgery Session in AIOC 2021 - Serum and aqueous melatonin levels in myopes and its relation to sun exposure; Best Photo – Diagnostic Imaging in KERAACON 2021 – Netarsudil induced epithelial honeycomb; Best E-Poster – Keracon 2021 - Tacrolimus levels in Tear following cutaneous application of tacrolimus 0.1% on eyelid skin; Life Member of Cornea Society, USA; Member of Standard Treatment workflow Guidelines of Dept of Health Research, Ministry of Health & Family welfare; Member of Cornea Expert Committee of FAICO – Cornea, AIOS Collegium 2021- 2022; Two MS Thesis Evaluation – Delhi University (January 2022); Member – Academic Research Committee of R P Centre, AIIMS; Chairperson of Journal Ethics Committee of Delhi Journal of Ophthalmology; Evaluator of scientific submissions (free paper, videos & instruction courses) of AIOC 2022; DOS representative to AIOS 2020-2023; Member Managing committee of AIOS 2020-2023; Member of editorial board of IJO, World Ophthalmology, Delhi Journal of Ophthalmology.

Dr Noopur Gupta Received the AIIMS Excellence Research award 2020 for outstanding publication in Clinical Science category titled, Population-based assessment of visual impairment and pattern of corneal disease: Results from the CORE Study; Awarded best poster podium presentation for 'Myopia, melatonin and conjunctival ultraviolet autofluorescence: a case controlled comparative study' at AIOC 2021; Awarded the second prize for best case presentation titled; at ACHOO phenomenon in a case of gelatinous drop-like corneal dystrophy at 72nd Annual DOS International Hybrid Conference – 2021 held during 26th Sep-3rd October 2021; Nominated as Ophthalmology Expert for Project Review Committee Meeting for the field of Ophthalmology for reviewing ICMR fellowships and extramural projects; Invited as Expert for developing Standard Treatment Workflow for Ophthalmology under PMJAY Ayushman Bharat Scheme, Govt. of India; Awarded MNAMS, membership of National Academy of Medical Sciences; Continued as WHO Global Trachoma Expert for developing recommendations for global elimination of trachoma and recently invited by WHO headquarters for corneal transplantation expert group for trachoma; Nominated as Ophthalmology Expert for selection of extramural Project Review Committee Meeting for the field of Ophthalmology for reviewing extramural projects at ICMR headquarters; Invited as global expert in the field of pediatric and ocular surface disease, to participate in an International Delphi Method Consensus Study on Pediatric Blepharokeratoconjunctivitis (BKC) with experts from UISA, UK, Singapore, turkey, Mexico, France and Japan. The study aims to unify a given nomenclature for the disease, define the entity, standardize the diagnostic criteria and give therapeutic guidelines to reduce the misdiagnosis and the variety of existing definitions and improve the therapeutic outcomes; Expert for the Central Task Force at national level for policy planning and strategy for implementation for elimination of Trachoma from the country by the year 2020 by the Ministry of Health and Family Welfare, Directorate General of Health Services, Government of India; Expert for the National Monitoring Committee for monitoring and reporting.

Dr Neiwete Lomi Attended the meeting organized by BARC, Mumbai, among the core ocular oncologist group of India, for facilitating the handing over of 1st version of RU-106 plaque simulator application; Collaborated with BARC Mumbai to design new plaques for pediatric and ocular surface tumors; Oculoplasty & Oncology Session 2 [panelist]. 72nd Annual DOS International Hybrid Conference, New Delhi. 29 September 2021; Ocular Oncology session [co-convenor] 72nd Annual DOS International Hybrid Conference, New Delhi. 29 September 2021; Oculoplasty & Ocular Oncology -2 Free paper [Judge].

72nd Annual DOS International Hybrid Conference, New Delhi. 3 October 2021; Ocular Oncology + Refractive+ Strabismus E-poster [Judge]. 72nd Annual DOS International Hybrid Conference, New Delhi. 3 October 2021.

Ocular Microbiology

Dr Nishat Hussain Ahmed received ECCMID 21 for '21- grant for study titled- 'Species identification, antifungal susceptibility profile and biofilm formation of Rhodotorula species isolates from ocular infections' in 31st ECCMID (European Congress of Clinical Microbiology & Infectious Diseases)- 2021; Three MSc (Medical Microbiology) theses of students from Hamdard Institute of Medical Sciences and Research, Delhi, were evaluated by Dr. Nishat Hussain Ahmed.

Community Ophthalmology

Professor Praveen Vashist was Nodal officer for the RP Centre annual report to AIIMS and MOH&FW; Managing activities related to WHO Collaborating Centre for Prevention of Blindness at RP Centre. Involved in developing action plan for re-designation of Dr. RP Centre, AIIMS New Delhi as WHO CC for the period of four years 2020 – 2024; Expert with WHO HQ and SEARO to discuss the proposal concept note for filling the WHO Eye Care Situational Analysis Tool (ECSAT). Also discussed the plan for filling the WHO ECSAT with NPCB&VI and Andreas Muller from WHO Headquarter; Appointed as expert by WHO Head Office to develop the manual to assess the global indicators both for vision and hearing impairment; Invited as an expert by WHO to discuss eye care initiatives for cataract blindness backlog free status” at block/district/state levels on 23rd December 2021; Principal Investigator by NPCB&VI for conducting “National Survey on Trachomatous Trichiasis (TT only survey) in 200 districts of India. Also organized staff training program for the survey; Member Secretary for the Central Task Force at national level for policy planning and strategy for implementation for elimination of Trachoma from the country by the year 2020 under NPCB&VI; Developed Vision Atlas for representing the Human resource and infrastructure data in maps; Expert for developing “Operational Guidelines for Primary Eye Care” for Health and Wellness Centres by NHSRC, Government of India. Five Modules were developed for the various groups of health care – ASHAs, Community Health Officers, ANM, Medical Officers and Staff Nurse (PHC/UPHC); Member of NPCB&VI committee for provide technical assistance in developing benchmarks for States/UTs wise cataract burden and designing protocol for evaluation process for verification cataract backlog free claims of states/districts for awards and incentivization; Member of Expert Committee on devising the revised strategy on Vitamin-A supplementation in under-five children in India. Also submitted comments on devising the revised strategy for Vitamin-A supplementation in under-five children with regard to NPCBVI; Invited expert for MoH&FW on Cataract blindness backlog elimination initiatives; Vice president of Vision 2020 Right to Sight India for the period 2020- 2023. Also, member of Vision 2020- Governing body to represent R P Centre, AIIMS; Chairman Research and Academic Committee in Association of Community Ophthalmologist in India; Member of editorial board for Indian Journal of Ophthalmology; Expert for Faculty Selection on contractual basis at AIIMS Jammu; Invited as a resource person in the Universal Eye Health-Sikkim Disability Inclusive Eye Health Program at Sikkim and discussed on the planning to upscale Govt. infrastructure to address eye care needs of the state & linkage between the hospital and Health & Family Welfare to create the first avoidable blindness Free State in India; Appointed as member for AIOS Endophthalmitis Guidelines Committee; Organized a rapid Assistive Technology Assessment (rATA) Training Programme at Community Ophthalmology Dr. RP Centre, AIIMS; Member for AIIMS Research Section Selection Committee; Guest of Honour by INGO Mission for Vision to launch of comprehensive primary eye care services via 20 vision centres (VCs) to the challenged communities in Uttar Pradesh and Bihar states; Chief Guest by Manthan Eye Health Foundation, Gurgram for Glaucoma awareness and screening camp.

Dr Senjam Suraj Singh was one of the experts of Biotechnology Industry Research Assistance Council (BIRAC), Department of Biotechnology, Government of India to review the research proposal that held on 26 May 2021; Had a discussion on improving AT access in schools for the blind in Delhi with WHO SEARO. A pilot model is being planned held on 29 May 2021; Attended a ICMR meeting as a chairman of Expert Committee to be discussed as per GIGW Guidelines; compliance matrix for disabled held on 13 September 2021 at ICMR Hqrs, Ansari Nagar; Participated in the WHO methodology inclusive of both vision and hearing indicator (RAAVI) held on 28 October 2021; Had meeting with Prof. Susan Primo Director, Optometry and Vision Rehabilitation Services, Emory Eye Centre, USA on 16 November 2021; Organised a World Disability Day Program at Community Ophthalmology Dr. R.P. Centre, AIIMS on 3 December 2021; Panelist in the South Asia Academy Ophthalmology Conference (SOE 2021) on 17 December 2021; A technical expert member for National Program on climate change and human health (NPCCHH), MoHFW in context of Allergic Health Issues Climate held on 5 January 2022; An expert member of project review committee of ICMR in the area of disability and rehabilitation research project held on 21 January 2022; Had a virtual meeting with Co-topic Editors of Frontier rehabilitation Sciences on 25 January 2022; Invited as a Chairman for the Ph. D. Open Defence Viva-Voce Examination of Dr. Sarika, Sastra University held on 8 March 2022. Attended a ICMR meeting as a chairman of Expert Committee to review a tender document regarding making all websites under ICMR accessible held on 15 March 2022 at ICMR Hqrs, Ansari Nagar.

Dr Vivek Gupta Received Commonwealth Scholarship 2021-22 for MSc Public Health for Eye Care training at London School of Hygiene and Tropical Medicine (LSHTM); Contributed to WHO-SEARO training program on “Strengthening capacities and technical acumen on Integrated People-Centered Eye Care, Diabetic Retinopathy, Low Vision, and Corneal Blindness”. Developed training on “Infrastructure, Workforce Assessment and Needs to Eliminate Corneal Blindness” for Corneal Opacity

Module and “Management and Referral Guidelines of Diabetic Retinopathy” (jointly with Dr Rohan Chawla) for Diabetic Retinopathy Module; Attended virtual meeting with official from Office of Registrar General of India for Mobile Application for capture of Verbal Autopsy data in Sample Registration System (SRS) of India (Minerva) held on 22 June 2021; Received training from WHO Tropical Data team on WHO National NPCB & VI TT only Survey. Conducted staff Training for National NPCB & VI TT only survey and gave talk on “Using the androids & recorder reliability test” held from 22 -24 July 2021;

Ocular Biochemistry

Professor Jasbir Kaur was Honored as FISGBRD (ISGBRD Fellow) by Indian Society of Genetics, Biotechnology Research & Development, July 2021; Examiner, Ph.D: BHU, Varanasi; University of Madras, Chennai; Sher-i-Kashmir Institute of Medical Sciences (SKIMS), Srinagar; Jamia Millia Islamia, New Delhi; Amity University, Noida; Editorial Board Member: Journal of Ophthalmology: Open Access; Journal of Ophthalmology and Vision; Annals of Clinical Oncology; Journal of Ocular Diseases and Therapeutics; International Journal of Hematology and Blood Research; Annals of Stem Cell Research; Reviewer: Frontiers in Cell and Developmental Biology; Clinica Chimica Acta; Gene; Experimental Eye Research; Molecular and Cellular Biochemistry; International Physiology; Current Aging Science; International Journal of Ophthalmology; Indian Journal of Clinical and Experimental Ophthalmology; International Research Journal of Oncology; Continued to be Member: Executive Committee, Biotechnology Society of India; Central Ethics Committee (CEC) of CCRAS (Ministry of AYUSH). CEC is registered (provisional certificate issued) with the National Ethics Committee Registry for Biomedical and Health Research (NECRBHR), Department of Health Research (DHR); Institutional Ethical Committee, CARICD (CCRAS, Ministry of AYUSH), New Delhi.

10.5 Jai Prakash Narayan Apex Trauma Center

Chief

Rajesh Malhotra

Additional Medical Superintendent

Nirupama Madaan

Professors

Anaesthesiology

Babita Gupta
Chhavi Sawhney

Laboratory Medicine

Arulselvi S
Purva Mathur

Radio diagnosis

Shivanand G.
Atin Kumar

Emergency Medicine

Sanjeev K Bhoi

Neurosurgery

Deepak Aggrawal
Deepak K Gupta
GD Satyarthee

Trauma Surgery

Sushma Sagar
Subodh Kumar
Amit Gupta
Biplab Mishra

Forensic Medicine

Sanjeev Lalwani
Adarsh Kumar

Orthopaedics

Kamran Farooque
Vijay Sharma
Buddhadev Chowdhry
Vivek Trikha

Burns and Plastic

Maneesh Singhal

Additional Professors

Obstetrics and Gynaecology

Garima Kachawa

Neuroanaesthesia

Keshav Goyal
Navdeep Sokhal
Ashish Bindra
Gyanendra Pal Singh
Niraj Kumar

Critical Care

Kapil Dev Soni
Richa Aggarwal

Nephrology

Soumita Bagchi

Paediatric Surgery

Shilpa Sharma

Neurosurgery

Pankaj K Singh

Associate Professors

Transfusion Medicine

Rahul Chaurasia

Emergency Medicine

Tej Prakash Sinha

Trauma Surgery

Pratyusha Priyadarshini
Abhinav Kumar
Narendra Choudhary
Dinesh Kumar Bagaria

Orthopedics

Samarth Mittal

Urology

Siddharth Jain

Anaesthesia

Yudhvir Singh

Assistant Professors

Hospital Administration

Anant Gupta

Neurosurgery

Kokkula Praneeth

Radiology

Dr. Richa Yadav

Anaesthesia

Abhishek Singh

Trauma Surgery

Junaid Alam

Orthopedics

Hemant Bansal
Nishank Mehta

Laboratory Medicine

Tapasya Mukhopadhyay
Aparna Ningombam

HIGHLIGHTS

Jai Prakash Narayan Apex Trauma Centre, AIIMS continues to provide holistic care to the victims of trauma. It continues to be the flag bearer in quality patient care services, research, teaching and training.

Trauma centre constitutes a dedicated team of doctors, paramedics and other supporting staff who's prime motto is to achieve excellence and develop novel ideas and techniques in the field of trauma management.

A total no of 43999 patients visited casualty in the year 2021-2022. Among these, 6420 patients were admitted. A total of 5046 surgical operations were performed.

Faculty members and residents are involved in various research projects, with 50 ongoing research projects and over 300 research papers published in national and international journals.

The trauma centre for most of the time of the year catered to COVID – 19 patients and provided state-of-the-art care to the patients. About 2624 patients were admitted and go treated for COVID – 19.

Some of the pictures of the Covid care facility are shown below:







EDUCATION

Training

Adarsh Kumar

Workshop Coordinator DISASTER AND CONFLICT VICTIM IDENTIFICATION during 4th International Conference of Forensic Odontology & Child Abuse Organized by Forensic Odontology Unit (Laboratory), Department of Oral & Maxillofacial Pathology & Oral Microbiology, Faculty of Dental Sciences, King George's Medical University, Lucknow on 28 March 2022.

Gyaninder Pal Singh

Participated in various training programs as instructor/faculty at AIIMS, New Delhi.

- Teaching of AHA Basic and Advanced cardiac life support to medical students
- Teaching of CRTP (Cardiac Resuscitation Training Program) for the Nursing staff
- Teaching of clinical skills to undergraduates and interns through e-learning skill modules at SET facility.
- Teaching of postgraduates (MD Anaesthesiology students)
- Teaching of Postgraduates (DM Neuroanaesthesiology students)

Niraj Kumar

- Teaching Doctors, Nurses, and Paramedical staff about basic emergency life care at AIIMS.
- Involved in teaching postgraduate, DM, and senior residents of the department and also participated in preparation and conduction of seminars, journal clubs, and case presentations.
- Started seminars for OT -Technicians also.

Anant Gupta

- Involved in teaching programme of Postgraduates students (Lecture, journal club, case study).
- Involved in teaching for Nursing in education lecture series.

Lectures delivered

Rajesh Malhotra: 36	Narendra Choudhary: 05	Abhinav Kumar: 04
Adarsh Kumar: 11	Niraj Kumar: 03	Amit Gupta: 19
Pankaj Singh: 01	Ashish Bindra: 08	Purva Mathur: 05
Richa Aggarwal: 11	Biplab Mishra: 05	S Arulselvi: 01
Dinesh K Bagadia: 08	Gyaninder P Singh: 05	Subodh Kumar: 22
Junaid Alam: 01	Sushma Sagar: 13	Keshav Goyal: 10
Yudhvir Singh: 04	Anant Gupta: 02	Pratyusha Priyadarshani: 02
Shivanand Gamanagatti: 10	Atin Kumar: 27	

AIIMS CADAVERIC SURIGICAL SKILLS TRAINING

- **Chair:** Professor R Malhotra
- **Professor In Charge:** Dr Sanjeev Lalwani
- **Members ACSST:** Dr Babita Gupta, Dr Deepak Gupta, Dr Vijay Sharma

Oral papers/posters presented: 91

Year	Total number of oral presentations
2021-2022	91
2020-2021	84
2019-2020	87

RESEARCH

Funded projects

Ongoing

1. Comparative Evaluation of Genetic and Biochemical profile in postmenopausal osteoporotic and age matched healthy women. Prof Rajesh Malhotra, ICMR, 3 years, 2019-2022, Rs 1,39,03,260.
2. A prospective randomized study to compare the systemic emboli in computer assisted navigation Vs conventional surgical technique of knee replacement. Prof Rajesh Malhotra, ICMR, 3 years, 2018-2021, Rs 50 lakhs.
3. Prospective, Multi-centre Outcomes Study of Persona Knee System in Total Knee Arthroplasty. Study Protocol # CSA2014-02K. Prof Rajesh Malhotra, Zimmer, 9 years, 2015-2024, Rs 24 lakhs.
4. Biomechanical Design Evaluation of Knee Implants for Indian Population. Prof Rajesh Malhotra, IIT, 2 years, 2020-2022, Rs 5 lakhs.
5. Computer based surgical planning for patient with fused hip and spino-pelvic deformities. Dr Deepak Gautam, IIT, 2 Years, 31.07.2020-30.07.2022, 5 Lakhs.
6. Development and validation of novel pressure measuring device for measuring the collapsing pressure of internal Jugular vein during an ultrasound examination, Dr Niraj Kumar, AIIMS + IIT Delhi, 3 years, 2019-2022, Rs 20 Lakhs.
7. Non convulsive status epilepticus in severe TBI patients at level-1 trauma center in India, Dr Keshav Goyal, DHR-GIA, 2 years, 2020-2022, Rs 25 Lakhs.
8. Non convulsive status epilepticus (NCSE) in severe TBI patients at level-1 trauma centre in India. (DHR-GIA Proposal), Dr Keshav Goyal, ICMR (Extramural Grant), 3 years, 2021-24, Rs 25 lakhs.
9. Infrared pupillometry as a diagnostic tool in assessment of Non convulsive status epilepticus in severe TBI patients at level-1 trauma centre in India, Dr Keshav Goyal, ICMR (Extramural Grant), 3 years, 2022-2025, Rs 35 lakhs.
10. Micronutrient deficiency in children with moderate to severe traumatic brain injury: burden and association with outcome. ICMR (Extramural Grant), 3 years, 2022-2025, Rs 58,23,072.20.
11. The quality evaluation of COVID-19 Rapid Antigen Test Kits. T-240, Dr. Purva Mathur, ICMR, 1 year, 2021-2022, Rs 3 lakhs.
12. Centre for advanced Research (CAR) in Hospital Acquired Infections-Prevention and Control, Dr. Purva Mathur, ICMR, 5 years, 2020-2025, Rs 7,53,35,152.

13. Infection Prevention and Control (IPC)-Capacity Building-Orientation Training for COVID-19 Preparedness and IPC for Healthcare Facilities, Dr. Purva Mathur, Bill and Melinda Gates Foundation, 3 years, 2020-2023, Rs 2,56,37,106.
14. Expansion of antimicrobial stewardship (AMSP) and infection control program (ICP) of ICMR in secondary care hospitals, Dr. Purva Mathur, ICMR(PFIZER), 2 years, 2020-2022, Rs 31,36,390.
15. Correlation Between Noradrenaline, Serotonin, GABA, and Glycine in Cerebrospinal fluid with labor pain undergoing cesarean section: A preliminary study, Dr Yudhyavir Singh, AIIMS Research Section, 2 years, 2021-2023, Rs 878456.
16. Impact of rTMS versus drug therapy on phantom limb pain in lower limb amputation patients: A Randomized control trial, Dr. SushmaSagar, ICMR, 3 years, 2021-2024, Rs 55 lakhs.
17. Impact of yoga intervention on functional assessment and, quality of life in pelvic injury patients at level I trauma centre- A Randomized Control Trial, Dr. Dinesh Bagaria, DST, 3 years, 2021-2024, 37 lakhs.
18. A Randomized Control Trial to Study the effect of immediate versus Delayed Application of Prosthesis in below knee Amputation patient in relation, Dr.Junaid Alam, Intra Mural grant, AIIMS ND, 1-2 years, 2020-2022, Rs 5 lakhs.
19. An Intervention Study of developing robust trauma care systems in India., Dr. Amit Gupta, ICMR, 3 years, 2019– 2022, Rs 53 lakhs.
20. Role of neutrophils and new immune cells in the outcome of Chest trauma patients, Dr. Subodh Kumar, ICMR, 3 years, 2019-2022, Rs 36 lakhs.
21. Comparison of laparoscopic feeding gastrostomy versus Percutaneous endoscopic gastrostomy for long term assisted central feed in trauma patients – A randomised pilot study, Dr. Narendra Choudhary, Intramural Research Project (AIIMS, New Delhi), 2 years, 2019–2021, Rs 4.75 lakhs.
22. To study efficacy of amniotic membrane as an alternative wound dressing in patients with post traumatic raw area admitted in trauma surgery unit. Dr Abhinav Kumar, Intra Mural grant, AIIMS New Delhi, 3 years, 2018-2021, Rs 5 lakhs.
23. Metabolomic Profiling and Serial Changes in Patients with Isolated Blunt Chest Trauma –
24. A Prospective, cohort, feasible and exploratory study. Dr Abhinav Kumar, Intra Mural grant, AIIMS New Delhi, 2 years, 2019-2021, Rs 5 lakhs.
25. Metabolomic profile and serial changes following trauma- A prospective cohort feasibility and pilot study (Extramural project), Dr Abhinav Kumar, Extra Mural Grant. (SERB), 2 years, 2022-2024, Rs 32.35 lakhs.
26. Translational application of novel clinically accessible biological predictors to improved identification of mild and moderate Traumatic Brain Injury (TBI) induced neuro psychological impairment. Dr S Arulselvi, ICMR, 2 years, 2019-2022, Rs 4223108.4.
27. Evaluation of Cathepsin B in peripheral blood of Isolated Traumatic Brain Injury patients and its correlation, Dr S Arulselvi, ICMR, 3 years, 2020-2023, Rs 50,64,318.
28. Association of GRP78, Zinc, Iron and vitamin C levels in patients with covid 19 and the occurrence of Mucor mycosis, Dr S Arulselvi / Dr Ranveer Singh Jadon, AIIMS, 2 years, 2021-2022, Rs 10,00,000.
29. Prevalence of mucormycosis in patients discharged from covid centre and factors associated with it, Richa Aggarwal, AIIMS, 1 year, 2021-2022, Rs 3.7 lakhs.

Year	Funded projects							
	Ongoing				Completed			
	Intramural	Budget (lakhs)	Extramural	Budget (crores)	Intramural	Budget (lakhs)	Extramural	Budget (crores)
2021-2022	7	121.46	21	20.62	6	31.45	2	1.07
2020-2021	13	113.95	36	25.34	8	54.2	16	4.3
2019-2020	8	37.05	27	21.64	7	28.77	5	4.99
Total	28	272.46	84	67.6	21	114.42	23	10.36

Completed

1. Assessment of bone health in Transgender population of India. Dr Bhavuk Garg, ICMR, 3 years, 6 October 2018-2021, Rs 72 lakhs.
2. Prognostic value of serially estimated serum procalcitonin in multiple trauma victims with and without head injury. Dr Keshav Goyal, Completed, Published.
3. Assessment of Cerebral Autoregulation using NIRS in severe traumatic brain injury patients. Dr Keshav Goyal, AIIMS, 2 years, 2016- completed, Rs 5 lakhs+ 5 lakhs.
4. Comparing safety and efficacy of indigenous goggles with fan versus standard goggles in health care workers in COVID ICU. AIIMS New Delhi, Rs 2,95,000.
5. Infrared pupilometer as a diagnostic tool in assessment of non-convulsive status epilepticus in severe TBI patients at level-I trauma center in India. ICMR, 35 lakhs.
6. To study efficacy of amniotic membrane as an alternative wound dressing in patients with post traumatic raw area admitted in trauma surgery unit. Dr Abhinav Kumar, Intra Mural grant, AIIMS New Delhi, 2018-2021, Rs 5 lakhs.

7. Metabolomic Profiling and Serial Changes in Patients with Isolated Blunt Chest Trauma –A Prospective, cohort, feasible and exploratory study. Dr Abhinav Kumar, Intra Mural grant, AIIMS New Delhi, 2 years, 2019-2021, 5 lakhs.
8. Evaluation of Parathyroid hormone as endpoint of resuscitation in trauma hemorrhagic shock patients. Dr. Dinesh Bagaria, Intra Mural grant, AIIMS New Delhi, 1 years, 2020-2021, Rs 5 lakhs.
9. Evaluation of Urinary Biomarkers TIMP-2 and IGFBP7 for early prediction of acute kidney injury after traumatic crush injuries. Richa Aggarwal, AIIMS, 2 years, 2017-2020, Rs 3.5 lakhs.

Departmental projects

Ongoing

1. Prospective Observational study of Transfusion Practices in Severely injured Trauma Patients in Emergency department at Level 1 Trauma Centre.
2. Delay in Surgery after Hip Fracture: Reasons and Impacts on Outcomes.
3. To compare the Forgotten Joint Score, Clinical, Radiological outcomes and Gait parameters in patients undergoing Total Knee Arthroplasty with Ultracongruent Bearing versus Cruciate Retaining Bearing: A Randomized Control Study
4. Clinico Radiological outcomes of Revision Joint Replacement Surgery in Prosthetic Joint Infections-An Ambispective Study.
5. Randomized Controlled Trial Evaluating the efficacy of Trans-Cather Genicular Arterial Embolization in Patients with Knee Pain in Kellgren Lawrence grade II /III Osteoarthritis Refractory to Optimal Non-Surgical Management.
6. Cost Effective Analysis in Scoliosis Surgeries between Adolescent Idiopathic Scoliosis Vs Congenital Scoliosis.
7. Comparative evaluation of Spinopelvic and lower limb morphological parameters in patients with knee osteoarthritis and age matched normal population using low dose biplane radiography.
8. Effect of topical ropivacaine on extubation response in patients undergoing supratentorial tumour surgeries: a prospective randomised double blinded placebo-controlled trial.
9. Development of postoperative laryngeal edema in patients undergoing craniotomy for elective intracranial tumour excision: a prospective, observational, preliminary study.
10. Analysis of the anaesthetic management and peri procedural complications of neuro endovascular procedures in pediatric patients-A single centre retrospective study.
11. Perioperative complications during posterior fossa surgery in sitting position: A single center retrospective study.
12. Goal directed fluid therapy during endovascular therapeutic procedures following aneurysmal subarachnoid hemorrhage: A prospective randomized controlled study.
13. Estimation of Age by CT scan of pubic symphysis using Suchey Brooke's method in North Indian population: A digital autopsy-based study.
14. Evaluating the effects of Dexmedetomidine loading dose on cerebral hemodynamic of patients with temporal/ parietal glioma via Transcranial Doppler – A Prospective single arm trial.
15. Comparison of C-MAC video-laryngoscope with D-Blade, C-MAC video-laryngoscope with standard blade, and Macintosh Laryngoscopes for intubation with cervical spine immobilization: a randomized study.
16. Role of lung ultrasound in estimating extravascular lung water as an early predictor of sepsis in neurotrauma patients–An observational study
17. A randomised control trial evaluate the effects of Ketofol and Propofol on cerebral oxygenation in patients undergoing trans-sphenoidal pituitary surgery under total intravenous anaesthesia.
18. Detection of saline filled cuff by Ultrasonography for confirmation of correct endotracheal tube position in adult patients: A prospective observational study.
19. Prevalence of Augmented Renal Clearance in Pediatric Traumatic Brain Injury patients.
20. Comparative study of Automated Quantitative Pupillometry and clinical pupillometry in Neurocritical care.
21. Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in Covid ICU: A pilot study.
22. Cardiovascular complications after traumatic spinal cord injury.
23. To study the risk factors and causes of extubation failure in head injury patients.
24. A study on Carbapenem and Colistin resistance in Urine Isolates in a Tertiary Care Centre.
25. Microsporidia and intestinal parasitic infections in renal transplant patients at tertiary care center.
26. Assessment of Splenic Function in patients with Blunt Splenic Injury: A Prospective Observational Study.
27. Biochemical analysis of Wound Exudate in patients requiring Negative Pressure Wound Therapy versus Conventional dressings for Traumatic Wounds.
28. Incidence of vertical transmission of COVID 19 infection in a tertiary hospital in India-A prospective study.
29. Study of Oligodendroglial Linage, Myelination and remyelination in brain tissue in head injury cases.
30. Comparison of the effect of ketofol and ketodex as procedural sedation and analgesia for Oocyte retrieval during in vitro fertilization procedures- a randomized controlled trial.
31. Evaluation of effect of ketofol and ketodex on duration of seizure activity, hemodynamic profile, recovery times and cortical activity (using fNIRS) in patients undergoing electroconvulsive therapy for depression.

32. Predicting increased length of stay and adverse outcome in Indian Geriatric patients coming for surgery: A prospective case control study.
33. Frailty as a predictor of adverse discharge outcomes in geriatric trauma patients undergoing surgery: A prospective Case Control Study.
34. Postural Impact on Gastric Ultrasound assessment in pregnancy: An observational study.
35. Association Between Perioperative Hypertension, Length of Hospital Stay and Perioperative Cardiovascular Complications: A Prospective Observational Study from Tertiary Care Centre.
36. Predicting increased length of stay and adverse outcome in Indian Geriatric patients coming for surgery: A prospective case control study.
37. Frailty as a predictor of adverse discharge outcomes in geriatric trauma patients undergoing surgery: A prospective Case Control Study.
38. To study the effect of combination therapy (NPWT+Topical oxygen) versus Negative pressure wound therapy (NPWT) alone on large post traumatic wounds: A pilot Randomized Control Trial.
39. Prophylactic antibiotic use in abdominal trauma patients undergoing operative intervention- A Randomized Controlled Trial.
40. To study the effect of initial irrigation and suction on outcome of patients with traumatic hemothorax: A Randomized Controlled Trial.
41. A Study to compare and correlate the Thoracic Trauma Severity Score (TTSS) with conventional trauma scores in Chest Trauma patients at a Level -1 Trauma Centre.
42. Impact of Psychosocial Intervention on Quality of Life in patients with Post-traumatic Limb amputation/s: A Randomized Controlled Trial.
43. Correlation of Clinical and Radiological Parameters in outcomes of Morel-Lavallee Lesions at a Level-I Trauma Centre.
44. A Randomised Control Trial to Compare the Impact of Lowpressure negative pleural suction with Under water seal drainage alone in Patients of Thoracic trauma.
45. A Randomized Control Trial to see the effect of post-operative Systemic Anticoagulation in patients Undergoing Post Traumatic Medium Sized Vessel Repair.
46. To evaluate the outcome of patients and anatomical status of pancreas after nonoperative management of grade III and IV pancreatic trauma at a level I trauma centre.
47. Biochemical analysis of wound exudate in Negative pressure wound therapy Vs conventional dressing.
48. To compare outcome of early VATS versus alternative approach for evacuation of traumatic haemothorax – A randomized pilot study at Level I trauma centre.
49. Prospective Randomised control trail to assess the feasibility and safety of trophic feed in patients with haemorrhagic shock admitted in Trauma Care ICU.
50. Prevalence of ionized hypocalcaemia in trauma patients and its role in predicting mortality at a Level I Trauma Center- A prospective observation study.
51. A study of abbreviated discharge protocol in patients with blunt liver and/or splenic injury.
52. Determining the potential of different components of trauma triad of death on outcome.
53. Effects of Severity of injury on the Dynamics of Immune Effector Cells (Th1, Th2, Th9, Th7, Th22) and neutrophils and their Correlation with Outcome in Patients with Blunt Thoracic Trauma.
54. To Study the management, outcome and Quality of life in patients with pelvic trauma at A level 1 Trauma Center.
55. A Study to Grade management related complications in Acutely injured patients and their correlation with the outcomes at a level 1 Trauma Center.
56. To study splenic functions & complications in patients with blunt splenic injury at level -1 trauma.
57. Altered microRNA expression in peripheral blood and brain following severe traumatic brain injury.
58. Analysis and comparison of serum complement levels (c3 and c4) in hospital admitted covid-19 patients on the day of admission and after 72 hours.
59. Analysis and comparison of serum complement levels (c3 and c4) in Lower Limb Fracture patients undergoing implant surgery.
60. Analysis of quality parameters for blood components prepared from whole blood stored overnight at ambient temperature.
61. Evaluation of Myelin loss and Oligodendrocyte Pathology in Severe Traumatic Brain Injury (sTBI) 2. Molecular Expression of micronutrient anti-oxidant and interaction of GDF-15 and Iron trafficking protein in diabetes and metabolic syndrome
62. Epigenetic regulation of pro-inflammatory and anti-inflammatory cytokine gene in posttraumatic sepsis and septic shock-defined by sepsis-3 classification: A exploratory study in major trauma patients.
63. Comparison of positive pressure extubation with traditional extubation in critically ill patients- a randomised control study.
64. Outcome of tracheostomised patients in COVID.
65. Alveolar – arterial gradient and respiratory index in patients with covid admitted to ICU.
66. Prolonged outcome in COVID patients.
67. A Randomised pilot study comparing surgical stabilization of rib fractures with standard non-operative management among mechanically ventilated patient with severe rib fractures.

Completed

1. Retrospective analysis of factor and blood product requirement in patients with bleeding disorders (BDs) who underwent different surgical interventions at AIIMS, New Delhi.
2. Advanced MRI & Radiological Interventions in Patients of Osteoarthritis of Knee.
3. Study of the Serum complement C3 and C4 levels in patients undergoing intramedullary nailing for fracture shaft femur
4. To establish correlation between inferior vena cava collapsibility index and carotid doppler flow time with cardiac output in patients undergoing intracranial tumor surgeries.
5. To establish sexual dimorphism & estimate age from Hyoid bone using anthropological and radiological techniques.
6. Comparing different types of laryngoscopes for endotracheal intubation in various Difficult airway scenarios simulated using a high-fidelity airway mannequin model– an observational study.
7. Intraoperative somatic site near infrared spectroscopy changes in supratentorial craniotomy: A prospective study.
8. Effect of Neuroradiologic interventions on regional cerebral oxygenation in patients with anterior circulation aneurysms: An observational Study.
9. Serum lactate, base deficit and glucose levels as prognostic markers of severe traumatic brain injury.
10. Correlation of NIRS With Intraoperative Transfusion Trigger In Pediatric Patients Posted For Posterior Fossa Tumour Excision.
11. Comparing different types of laryngoscopes for endotracheal intubation in various difficult airway scenarios simulated using a high-fidelity airway mannequin model - an observational study.
12. The Study of Feasibility of Ultrasound Guided Catheterization of Right Brachiocephalic Vein in Adult Patients
13. Effect of Different Dose Regimens of Tranexamic Acid on blood loss in Pelvicacetabular Fracture Surgery: A Randomized Clinical Trial.
14. Evaluation of effect of early use of Cryoprecipitate on blood components usage in trauma patients with haemorrhagic shock.
15. Efficacy of hydroxyethyl-starch with bupivacaine in prolongation of duration of caudal blocks in Paediatric infraumbilical surgeries.
16. A study comparing contrast enhanced computed tomography abdomen versus diagnostic laparoscopy in patients with penetrating abdominal trauma: A randomized controlled trial.
17. Epidemiology and analysis of predictors of mortality in trauma patients at a level I trauma centre.
18. Impact of enhanced recovery after emergency surgery - A study comparing enhanced recovery protocol versus standard care in patients undergoing laparotomy following trauma.
19. A Randomized Pilot study comparing surgical stabilization of Rib Fractures with standard non-operative management among mechanically ventilated patients with severe rib fractures.
20. To study the effect of external pelvic fixation on the outcome of patients with pelvic fractures undergoing damage control surgery.
21. An Ambispective observational study to evaluate the outcomes of management of traumatic pancreatic injuries at a level I trauma center.
22. To Study the Role of Prophylactic Antibiotics in patients with chest trauma at a level 1 Trauma Centre: A Pilot Randomized trial.
23. Study of the parameters, intervention and outcome in cases of Genito-Urinary Injuries at a level 1 Trauma Center.
24. Effect of phrenic nerve stimulation on diaphragm strength and thickness: A Randomized controlled trial.
25. Effect of Virtual Reality Therapy (VRT) in Improving Balance and Quality of Life among the lower limb amputees- A Randomized controlled trial.
26. Documentation and Validation of Patient specific implants for mid face defects using 3D printing technology: An exploratory study.
27. Feasibility and Implementation of Hospital Based Trauma Registry for Road Traffic Injuries at Different Levels of Healthcare Settings and its Effect on Quality of Trauma Care.
28. Study of role of biochemical parameters to determine outcome in elderly hip fracture patients.
29. Analysis of cost-per test during corona pandemic.
30. Evaluation of effect of early use of Cryoprecipitate on blood components usage in trauma patients with haemorrhagic shock.
31. Correlation of sf and pf ratio in patients with COVID.
32. Clinical characteristics and mortality analysis of patients died in covid 19.
33. Clinical characteristics and outcome of COVID 19 obese patients.
34. Clinical characteristics and outcome of COVID 19 patients with TB.
35. Evaluation of transfusion practices and outcome of patients receiving transfusion in patients of COVID 19.
36. Correlation of the gastric residual volume determined by ultrasound and acceptance of enteral tube feed in medical /surgical ICU—an observational study.
37. N/L ratio in COVID 19 patients.
38. Risk factors for poor outcome in covid ICU patients.
39. Clinical characteristics and outcome of COVID 19 patients with malignancy.
40. Incidence of barotrauma in patients who are critically ill in COVID 19.

41. Effect of hyperglycemia in clinical outcome of covid patients.
42. A study comparing enhanced recovery protocol versus standard care in patients undergoing laparotomy following trauma- a randomized controlled trial.
43. Outcome correlation of initial arterial blood gas analysis in isolated thoracic injury.

Collaborative projects

Ongoing

1. Understanding Differences In The Patterns Of Osteoarthritis In Indian And Western Population: Impact on Symptoms, Treatment Options and Their Outcome. UKIERI-DST.
2. Development and validation of novel pressure measuring device for measuring the collapsing pressure of internal Jugular vein during an ultrasound examination, AIIMS+ IIT Delhi.
3. Comparison of C-MAC video-laryngoscope with D-Blade, C-MAC video-laryngoscope with standard blade, and Macintosh Laryngoscopes for intubation with cervical spine immobilization: a randomized study, Neuroanesthesiology and critical care.
4. Detection of the saline-filled cuff by ultrasonography for confirmation of correct endotracheal tube position in adult patients: A prospective observational study, Neuroanesthesiology and critical care.
5. To study the extent of variation in ridge characteristics and determining gender among twins using their fingerprint characteristics, Forensic Medicine & Toxicology, KMC, Manipal.
6. Proficiency evaluation of novice anaesthesiology residents in simulated awake fiberoptic guided oral intubation after a structured training program- a manikin-based study. Anaesthesiology, Pain Medicine and Critical Care, AIIMS, New Delhi.
7. Comparison of different video laryngoscopes for nasotracheal intubation in manikin with difficult airway by experienced anaesthesiologists: A randomised, self-controlled, crossover trial. Onco-Anaesthesia, AIIMS, New Delhi.
8. Estimation of depth of anaesthesia using multichannel EEG and physiological variables. Physiology, AIIMS, New Delhi.
9. Effect of Lidocaine infusion on hemodynamics and recovery in patients undergoing endoscopic pituitary surgery: A multicentre, randomized control trial. Anaesthesiology, Health Sciences Centre, University of Manitoba, Winnipeg, Canada.
10. Prospective study on the effectiveness of chlorhexidine gluconate impregnated patch (BIOPATCH[®]) in reducing the incidence of central line associated blood stream infection (CLABSI). Microbiology, JPNATC, AIIMS.
11. Surveillance of blood stream infections (BSI) at a referral Indian hospital Surveillance of blood stream infections (BSI) at a referral Indian hospital. Microbiology, JPNTC, AIIMS.
12. Assessment of Quality of Death Certification Practices at AIIMS, New Delhi and testing quality Improvement solutions. Community Medicine and Hospital Administration.
13. Comparative study for secondary trauma, burnout, compassion fatigue of healthcare workers of COVID positive COVID suspect and non COVID patients in a tertiary care hospital, New Delhi, India. Hospital Administration and Psychiatry.
14. Comparing safety and efficacy of indigenous with fan versus standard goggles in health care worker in COVID ICU.
15. Evaluation of CD4 T-cell function among pulmonary tuberculosis (PTB) patients with or without Type 2 diabetes mellitus and its correlation with anti-tubercular therapy (ATT) response: a prospective blinded study.
16. Triacetylfusarinine C (TAFC) in urine/serum as a potential biomarker for early diagnosis of invasive pulmonary aspergillosis in patients with hematological malignancies.
17. Maternal and fetal Outcomes after exposure to COVID-19 at various stages in pregnancy pregnancy: A Longitudinal assessment for seroconversion and its correclation to outcomes.
18. SCOPE-Surveillance of Covid in Pregnancy-Standardizing data collection and protocol for improving the Quality of evidence on clinical characteristics and outcomes of COVID-19 and Pregnancy.
19. Saliva as an Alternate Specimen Source for Detection of SARS-CoV-2 in Symptomatic Patients Using Cepheid Xpert Xpress SARS CoV-2 in an outpatient setting.
20. Seroprevalence of Dengue and outcome among COVID-19 patients.
21. Predictive detection of Osteoporotic fractures in Indian population based on Artificial Intelligence Implementation.
22. An international randomized trial of additional treatments for COVID-19 in hospitalized patients who are receiving the local standard of care.
23. Evaluation of novel technologies and biomarkers for diagnosis and prognosis of SARS-CoV-2 (COVID-19) in leftover samples.
24. Capacity building and strengthening of Hospital Infection Control to detect and prevent antimicrobial resistance in India (CDC). CDC
25. Estimating Post-Crash Accessibility to Trauma care Facility in Delhi. Transport Research and Injury Prevention Program (TRIPP), Indian Institute of Technology, Delhi.
26. Examination of myelination and oligodendrocyte pathology following severe post traumatic brain injury (TBI). Forensic and molecular dept, JPNATC, AIIMS.
27. Role of Biomarkers in predicting evolution of cerebral oedema following Traumatic Brain Injury. Neurosurgery, JPNATC.
28. Comparison of Two Protocols of Carbon Tetrachloride-Induced Cirrhosis in Rats – Improving Yield and Reproducibility. Pediatric surgery, AIIMS.

29. Effect of Curcumin and its combination with piperine in experimentally induced Liver fibrosis in rats: A comparative analysis.
30. Evaluation of different therapies for covid 19. Medicine.
31. Troponin in covid patients. Medicine.
32. Calcium levels in covid patients. Lab medicine.
33. Role of melatonin in COVID patients ICU delirium. Anaesthesia.
34. Role of t – helper cells in chest trauma patients. Trauma surgery and critical care.
35. A randomised control trial for evaluation of effects of leukoreduced blood transfusion on infection risk in severely injured trauma patients. (Intra Mural Project).

Completed

1. Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in covid ICU: A pilot study.
2. Development and Validation of an Electronic Surveillance System for Surgical Site Infections Developing During Hospital Stay and After Discharge: A Multi-Centric Study. ICMR.
3. Inflammatory Cytokine profiling and serial changes in Patients with Blunt Torso Trauma –, A Prospective, observational study. Surgery, JPNATC.
4. Biochemical analysis of wound exudate in patients requiring NPWT versus conventional dressing in traumatic wounds. Surgery, JPNATC.
5. Serial Evaluation and follow-up of Biochemical, Hormonal, Inflammatory and Hematological parameters in COVID-19 positive cases for correlation with immediate and long-term outcome. Anesthesia and critical care, Medicine, AIIMS.
6. Next Gen sequencing-based evaluation of the functional implication of angiotensin converting enzyme (ACE2) gene polymorphisms in India population and their role in the outcome of SARS COV2 Infection in Indian COVID 19 Patients: a pilot study. Anesthesia and critical care; Medicine, AIIMS.
7. Effect of Blood Group on the covid 19 related morbidity and mortality. A prospective observational study. Anesthesia and critical care; Medicine, AIIMS.
8. Convalescent Plasma to Limit COVID-19 Associated Complications: A Prospective, Single Center, Randomized Controlled Feasibility Study. Medicine, AIIMS.
9. Assessment of DIC profile, thromboelastography and anti-coagulant proteins as prognostic markers in COVID 19 patients with DIC; a longitudinal observational study. Hematology, AIIMS; Anesthesia and critical care; Medicine, AIIMS.
10. A prospective observational study on the role of blood coagulation and fibrinolysis in the emergence of ARDS in patients with New Coronavirus pneumonia (COVID-19). Hematology, AIIMS; Anesthesia and critical care, Medicine, AIIMS.
11. Post-mortem minimally invasive tissue sampling in patients of COVID-19 with histopathologic examination. Medicine, AIIMS; Pathology, AIIMS.
12. Dissecting the molecular pathogenetic mechanisms of covid-19 by rna-sequencing of lung tissue from deceased patients. Medicine, AIIMS; Pathology, AIIMS.
13. Cardiac manifestation in hospitalized patients with Covid 19. Medicine, AIIMS.
14. Guidelines for post-mortem minimally invasive tissue biopsies in covid-19 patients. Pathology, AIIMS; Medicine, AIIMS.
15. Next Gen sequencing-based evaluation of the functional implication of angiotensin converting enzyme (ACE2) gene polymorphisms in India population and their role in the outcome of SARS COV2 Infection in Indian COVID 19 Patients: a pilot study. Anesthesia and critical care; Medicine, AIIMS.
16. Effect of Blood Group on the covid 19 related morbidity and mortality. A prospective observational study. Anesthesia and critical care; Medicine, AIIMS.
17. Convalescent Plasma to Limit COVID-19 Associated Complications: A Prospective, Single Center, Randomized Controlled Feasibility Study. Medicine, AIIMS.
18. Assessment of DIC profile, thromboelastography and anti-coagulant proteins as prognostic markers in COVID 19 patients with DIC; a longitudinal observational study. Hematology, AIIMS; Anesthesia and critical care; Medicine, AIIMS.
19. A prospective observational study on the role of blood coagulation and fibrinolysis in the emergence of ARDS in patients with New Coronavirus pneumonia (COVID-19). Hematology, AIIMS; Anesthesia and critical care, Medicine, AIIMS.
20. Post-mortem minimally invasive tissue sampling in patients of COVID-19 with histopathologic examination. Medicine, AIIMS; Pathology, AIIMS.
21. Dissecting the molecular pathogenetic mechanisms of covid-19 by rna-sequencing of lung tissue from deceased patients. Medicine, AIIMS; Pathology, AIIMS.
22. Cardiac manifestation in hospitalized patients with Covid 19. Medicine, AIIMS.
23. Guidelines for post-mortem minimally invasive tissue biopsies in covid-19 patients. Pathology, AIIMS; Medicine, AIIMS.
24. Molecular expression of tight junction and disruption of mucosal epithelial cell polarity in progression of gastric cancer. GI medicine, AIIMS.
25. Development of multiple real time PCR (qpcr) assay for simultaneous detection of hepatitis viruses (A-G) in serum. GI medicine.

26. Exploratory study to evaluate surgical outcome and financial burden in patients treated with 3 D printing technology assisted surgery versus conventional surgery for facial fractures at level I trauma centre, AIIMS, New Delhi. Surgery & Plastic Surgery, AIIMS.
27. Proposal for the microstructural analysis of soft tissue (Human heart and lung) after dynamic compression. Characterization of human heart and lung under impact. Forensic and molecular dept, JPNATC, AIIMS; IIT Delhi.
28. Biochemical analysis of wound exudate in patients requiring NPWT versus conventional dressing in traumatic wounds. Surgery, JPNATC.
29. TEG in aspirin resistant cardiac patients. Neurology, AIIMS.
30. Preoperative CSF Melatonin Concentrations and the Occurrence of Delirium in Older Hip Fracture Patients: A Preliminary Study. Orthopaedics, JPNATC.
31. Effects of regional anaesthesia on perioperative inflammatory cytokines alteration and clinical complications in orthopaedic trauma surgery. Anaesthesia, JPNATC.
32. Trauma surgery and critical care. Lab. Medicine.
33. Clinical profile and outcome in patients with cirrhosis. Gastroenterology.
34. Outcome of Covid in neurology patients. Neurology.

PUBLICATIONS

Journals: 171

Abstract: 03

Chapters in Book: 09

Year	Publications				
	Article	Abstract	Chapters	Book/monograph	Total
2021-2022	171	3	9	0	183
2020-2021	377	18	18	0	413
2019-2020	315	28	21	5	369
Total	936	48	50	5	1039

PATIENT CARE

Dr Niraj Kumar

- Actively involved in care of Neurosurgery and Neurology patients in operation theatre and postoperative management in ICU at Neurosciences centre & JPNATC.
- Perioperative management of all kinds of trauma patients.
- Pain and PAC services at Neurosciences center and JPNATC.
- Perioperative (ICU + OT) management of all kinds of COVID-19 patients.

Professor Adarsh Kumar

- Casualty services: Providing round-the-clock medico-legal services like in cases of injury, sexual offences, poisoning etc. to the South and South-east district of Delhi.
- Mortuary Services: Total 63 medico legal autopsies were conducted at mortuary of Trauma centre. In addition 526 bodies were transported to different crematorium during covid times from trauma centre mortuary (the designated Covid Centre of AIIMS).
- Clinical Forensic Medicine: Subsequent opinions in complicated cases were offered in 289 cases.
- Summons: Doctors of the department (including main department) attended court of law in 130 cases from Delhi and other states.

Dr S Arulselvi

- Total tests conducted in biochemistry (LFT, RFT, sugar, electrolytes, enzymes, lipid profile) = 487320
- Total tests conducted in hematology (hemogram, coagulation and clinical pathology) = 459704
- Total tests conducted in immunology (IL 6, ferritin, Troponin, PCT, vit D, PTH, TFT) = 26985
- Total tests conducted in Histopathology (routine and Forensic) = 4353

I. A. Total Bed Strength facility: 145@ (Allocated from Main AIIMS)

Ortho Bed (Main Hospital): 38#

TSCC Bed: 36#

PRS Bed: 05#

NS bed (NSC): 26*

Private Bed: 22#

EM Deptt. (RAK): 18* (Triage)

B. Total Admission beds: 127@ (A)

Ward Beds: 105

Private Beds: 022

II Statistics at a Glance

Total No. of E.D. Attendance:

43999

Average patients per day:

120

	Total No. of Admissions:	6420		
	Average admissions per day:	18		
	Average Length of Stay (ALS):	8 days		
	Total Follow-up OPD Cases:	4949		
III	Total No. of Cases in E.D.:	43999		
	Males:	28705	Females:	10753
	Male Child:	2901	Female Child:	1627
	Other:	13		
	MLC:	18740	NMLC:	25259
	Triage Category			
	Green:	21796	Yellow:	12865
	Red:	3453	Black:	163
	OPD:	5696	Radiology:	2
	Other:	24		
IV	Total No. of Follow-up OPD Cases:	4949		
	New:	3450	Old (Re-visit):	1499
	Male:	3301	Female:	1164
	Male Child:	318	Female Child:	166
	Specialty- wise break-up			
	Ortho A:	1768	Ortho B:	2047
	Surgery:	563	Neurosurgery:	571
	(Facility closed due to Covid-19 many times, during the year)			
V	Total No. of Admissions:	6420		
	Regular:	6413	Short Admn.:	7
	MLC:	3240		2
	NMLC:	3173		5
	Male:	4455		5
	Female:	1408		0
	Male Child:	343		0
	Female Child:	204		0
	Others:	3		2
	Specialty-wise break-up			
	Orthopedics:	2214		3
	TSCC:	1368		2
	NeuroSurgery:	917		0
	PRS:	168		2
	Pul Med.:	1621		0
	ENT:	13		0
	PEAD:	74		0
	OBS & Gynae:	38		0
VI	Total No. of Operations performed:	5046		
	Major:	4823	Minor:	223
	Male:	3829	Female:	857
	Male Child:	234	Female Child:	126
	Specialty-wise break-up			
	Orthopedics:	2853	Surgery:	1353
	Neurosurgery:	655	ENT:	63
	PRS:	50	Gyne:	64
	Oph.:	8		
VII	Total Discharges:	4466		
	MLC:	2751	NMLC:	1715
	Male:	3395	Female:	753
	Male Child:	208	Female Child:	109
	Others:	1		

Department wise Distribution

Ortho:	2153	Surgery:	1276
Neurosurgery:	825	PRS:	165
Pead.:	45	Pul. Med.:	2

VIII Days of Care: 36968

Ortho:	11299	Surgery:	13370
Neurosurgery:	10070	PRS:	1918
Pead.:	300	Pul. Med.:	11

IX Total Deaths Registered: 657 (M- 533 F- 84 M ch- 29 Fch-11)

Brought Dead Cases: 305

Total Deaths at TC (Death Registered–Brought Dead):	352 (657–305)		
Deaths Under 48 Hours:	124	Deaths Over 48 Hours:	228
Gross Death Rate:	8%	Net Death Rate:	5%
Bed Occupancy Rate:	74%	Average length of Stay:	8 days
Bed Turnover rate:	2.7 patients/bed		

Besides, Medical Record Section-TC performs below mentioned services also.

Total Court Summons Received:	436	Attended by Doctors + Staff:	310
Attended by MRS Staff:	126		
Court Summons attended in Delhi:	350	Outside Delhi:	86
Patients Name Correction:	748	Death Reports to NDMC:	657
LIC/Insurance cases disposal:	52	RTI Reply:	77
X-Rays Issued:	911	Disposal of Police Requests:	793
Reply to applicants in (Hindi):	298		
Medical Record files issued for Research Purpose:	780		

DIVISION OF FORENSIC PATHOLOGY AND MOLECULAR DNA LABORATORY

- A. Emergency Services:** Division of Forensic Pathology and Molecular DNA Laboratory at JPNATC is providing round-the-clock medico-legal services like in cases of injury, sexual offences etc reported to Emergency Services of JPNATC.
- B. Autopsy Services:** medico legal autopsies are conducted at mortuary of JPNATC.
- C. Summons:** Doctors of the Division attended court of law in cases from Delhi and other states.
- D. Community Services:** The Division continues to participate in training program for CBI officials, police officers and public prosecutors from all over the country.
- E. Organ Retrieval for Therapeutic Transplantation:** The Division of JPNATC facilitated eye donation, heart valve donation and organ retrieval in brain dead trauma patients for transplantation by National Eye Bank and ORBO.
- F. DNA Laboratory:** The division is in process of Establishing Molecular DNA Laboratory at JPNATC as a part of Disaster Victim Identification.

Tests Conducted in the department of Laboratory medicine, JPNA Trauma Centre**Total Tests Conducted: 9,78,422****1. Hematology**

Hemoglobin:	39,982
TLC:	39,982
Differential Count:	39,982
HCT:	39,982
RBC:	39,982
MCH:	39,982
MCHC :	39,982
MCV:	39,982
RDW:	39,982
Platelet Count:	39,982
ESR:	902
P/s and MP:	5762
Total:	4,06,484

Coagulation

PT:	24,025
APTT:	24,025
D-dimer:	2,720
Total:	50,770

Clinical pathology

Urine Routine:	1170
Urine Microscopy:	947
Urine Myoglobin:	176
Urine Fat:	33
CSF Microscopy:	30
Dengue:	94
Total:	2450

Total tests conducted in Hematology Section = 4, 59,704

2. Biochemistry

Sugar:	4338	CK-MB:	91
Urea:	29814	CSF Sugar:	100
Creatinine:	29814	CSF Protein:	78
Calcium:	29814	Peritoneal fluid sugar:	16
Phosphorous:	29814	Peritoneal fluid Protein:	16
Uric Acid:	29814	Ascetic Fluid Protein:	55
Sodium:	29814	Pleural fluid Amylase:	7
Potassium:	29814	Urinary spot Sodium:	17
TBIL:	29484	Urine Ca:	22
DBIL:	30198	Urinary creatinine:	29
Total protein:	30256	Peritoneal fluid amylase:	5
Albumin:	30315	24hrs.urine protien:	9
SGOT:	30874	24 hrs urine sugar:	7
SGPT:	30432	Urine osmolality:	23
ALP:	30491	S. osmolality:	11
Cholesterol:	3072	Drain fluid amylase:	6
Amylase:	2683	Drain fluid Urea:	2
HDL:	584	Drain Fluid Creatinine:	2
LDL:	588	Lactate :	3
TG:	1009	Serum Cl:	5
VLDL:	1009	LDH:	6369
CK:	101	Ascitic fluid Amylase:	9
CRP:	11538	C3:	72
Mg:	3936	C4:	72
Lipase:	2		
Total:	4,56,620		

ABG

PO2:	3845	PCO2:	3845
PH:	3845	H+:	3845
Potassium (K):	3845	Sodium (Na):	3845
Calcium (Ca):	3845	CL:	3845
Total:	30760		

Total tests conducted in Biochemistry Section = 4,87,380

3. Immunology:

Marker	NO. OF TEST
IL-6	8480
PCT	7398
FERRITIN	10558
TROPONIN-I	364
PTH	41
CORTISOL	53
VITAMIN D	19
T3	24
T4	24
TSH	24
Total	26985

Total tests conducted in Immunology Section= 26985

4. Histopathology:

	Specimen	Blocks	H&E	Total Slides
1.	319	1024	1152	1271
GRAND TOTAL: 3766				

Cytopathological Samples

S.no	Test	Total
1	H&E	61
2	PAP	62
3	PAS	03
4	AFB	7
Total		133

MITS

1	Total no. of cases	16
2	Total no. of blocks	75
3	Total no. of specimens	77
4	Total no. of Slides (H&E)	111
5	Special Stains(pas)	3
Total		282

RAT

1	Total no. of cases	38
2	Total no. of blocks	46
3	Total no. of specimens	38
4	Total no. of Slides (H&E)	50
Total		172

Total Test Conducted in Histopathology Section -4,353

Tests conducted in Microbiology section		
1	Total Microbiology cultures	7,414
2	Total Bacterial Identifications	1,707
3	Antibiotic Sensitivity	1s707

4	Surveillance samples for Hospital Infection Control	2,884
5	Total Bacterial Identifications for Surveillance	117
6	Serology Sample (By Spot test)	1818
7	Serology confirmatory (By Vidas)	1212
8	Procalcitonin Test	1300
9	Rapid Antigen test for covid	3046
10	Biofire test panel	225
11	IgG & IgM test for Covid 19	870
	Total test Conduct	22,300

ANNUAL AUDIT (FISCAL) OF BLOOD BANK, JPNATC, AIIMS

Month	Donor screened	Donor Bled	Replacement donors			Voluntary Donors			Indoor Voluntary donor	Outdoor Voluntary donor camp
			Male donor	Female donor	Total	Male donor	Female donor	Total		
Apr 21	163	130	78	3	81	44	5	49	6	43
May 21	272	210	190	4	194	15	1	16	16	0
June 21	403	327	194	4	198	118	10	128	23	105
July 21	161	121	79	0	79	40	2	42	9	33
Aug 21	195	157	24	1	25	126	6	132	13	119
Sep 21	283	218	130	4	134	75	9	84	20	64
Oct 21	259	214	138	3	141	73	0	73	23	50
Nov 21	285	215	141	1	142	68	5	73	18	55
Dec 21	951	716	539	6	545	166	5	171	52	119
Jan 22	376	313	285	5	290	18	5	23	23	0
Feb 22	359	290	121	3	124	165	1	166	15	151
Mar 22	800	646	584	8	592	51	3	54	20	34
Total	4507	3557	2503	42	2545	959	52	1011	238	773

Number of voluntary blood donation camps 15

STATISTICS OF COMPONENT SEPARATION LABORATORY

Month	Pack RBC Prepared	Fresh Frozen Plasma Prepared	Platelets Prepared	Cryoprecipitate prepared	Quality Control of Blood and Components
Apr 21	130	129	113	0	1% of all units
May 21	210	207	206	0	1% of all units
June 21	327	263	262	0	1% of all units
July 21	121	114	113	0	1% of all units
Aug 21	157	97	69	0	1% of all units
Sep 21	218	128	126	49	1% of all units
Oct 21	214	203	181	0	1% of all units
Nov 21	215	214	187	0	1% of all units
Dec 21	716	611	535	81	1% of all units
Jan 22	313	307	293	0	1% of all units
Feb 22	290	267	160	22	1% of all units
Mar 22	646	638	495	0	1% of all units
Total	3557	3178	2740	152	

STATISTICS OF INFECTIOUS MARKER LABORATORY AND DONOR COUNSELLING

Month	HIV		HBsAg		HCV		VDRL		MP	
	Done	Reactive	Done	reactive	Done	reactive	Done	reactive	Done	reactive
Apr 21	150	2	150	0	151	1	148	1	148	0
May 21	235	0	233	2	236	5	232	1	232	0
June 21	348	0	348	2	352	1	347	1	347	0
July 21	130	0	133	3	133	2	130	1	129	0
Aug 21	157	0	157	1	159	1	157	1	157	0
Sep 21	222	0	222	2	223	1	222	0	223	0
Oct 21	218	1	222	5	219	0	216	0	214	0
Nov 21	222	0	223	3	222	1	219	1	216	0
Dec 21	720	2	721	7	721	4	725	6	717	0
Jan 22	346	2	343	5	347	5	350	6	341	0
Feb 22	465	0	468	2	472	6	469	3	463	0
Mar 22	654	0	657	5	657	6	659	4	653	0
Total	3867	7	3877	37	3892	33	3874	25	3840	0

STATISTICS OF EMERGENCY ISSUE COUNTER: PATIENT SAMPLES RECEIVED, CROSS-MATCH DONE AND BLOOD/COMPONENT ISSUED

Month	No. of PRBC issued	FFP Issued	PRC Issued	Cryo Issued
Apr 21	138	170	209	0
May 21	303	203	197	27
June 21	293	204	290	0
July 21	170	88	109	0
Aug 21	93	23	19	0
Sep 21	166	28	41	0
Oct 21	233	277	148	0
Nov 21	263	91	155	0
Dec 21	666	631	373	18
Jan 22	457	223	290	0
Feb 22	220	487	177	0
Mar 22	561	275	353	34
Total	3563	2700	2361	79

STATISTICS OF EMERGENCY ISSUE COUNTER: BLOOD AND COMPONENTS ISSUED TO OTHER HOSPITAL BLOOD BANKS (MAIN AIIMS, CNC, GB PANT, LNH, ESI, DR. HEDGEWAR)

Packed RBC issued to other blood banks 643

FFP issued to other blood banks 279

PRC issued to other blood banks 117

Cryoprecipitate issued to other blood banks 27

Investigations performed in Radiology, JPNATC

Month	CT Scan (TC)		CT scan (AIIMS)	USG	MRI	X-Ray (TC)	X-Ray (AIIMS)	Portable CT	Portable X-ray	Fluoro	DSA	Ward X-rays
	Covid	Non-covid										
April, 2021		-	860	09	1	2838	2963	35	-	-	-	
	437											-
May, 2021	402	-	650	06	2	3422	2217	86	-	-	3	-
June, 2021	260	-	1092	04	6	1955	3470	57	-	-	3	-
July, 2021	83	-	1146	06	2	833	4176	32	-	-	2	-
Aug, 2021	25	10	1156	07	-	374	4465	07	-	-	-	-

Sept, 2021	7	129	1204	06	-	117	4591	02	06	-	-	232
Oct, 2021	7	110	1396	25	-	129	4379	0	-	-	-	192
Nov, 2021	5	63	1196	360	-	40	3995	2	366	-	5	247
Dec, 2021	7	2028	NIL	2055	79	55	5480	-	1431	-	4	167
Jan, 2022	180	-	1038	312	17	1408	2748	-	-	-	1	18
Feb, 2022	94	-	1278	-	-	944	3972	-	-	-	-	-
March, 2022	NIL	2508	NIL	1419	102	5534	NIL	-	-	11	7	137
Total	1507	4848	11016	4209	209	17649	42456	221	1803	11	29	993
	Total CT (TC+AIIMS) 6355+11016=17371					Total Xrays (TC+AIIMS) 17649+42456=60105						

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Rajesh Malhotra was Enlisted among the top 1% Researchers in the world and 3rd among the Orthopaedics Surgeons of India as per the list published by Stanford University, California in October 2021; Received Best Paper Award - DOACON (Delhi Orthopaedic Association Conference 2021) awarded for publication - "Superior patient satisfaction in medial pivot as compared to posterior stabilized total knee arthroplasty: a prospective randomized study". Knee Surgery Sports Traumatology Arthroscopy (KSSTA) 2021; 29(11), 3633-3640. DOI: 10.1007/s00167-020-06343-4; Clinical Research entitled: "Medial Pivot Design Improves Satisfaction in Total Knee Arthroplasty" selected for an OE Advance Clinical Evidence (ACE) Report in March 2022; Member of SICOT Research Grants Committee 2020; Chairman of Technical Specification & Evaluation Committee for the procurement of Cautery Machine, AIIMS on 22 June 2021; Member of Inspection Committee for Organs and Tissues (Upper Limb, Hand, Digits, Face Skin (including scalp), Bone and Soft Tissues) transplantation facilities JIPMER Puducherry on 13 September 2021; Member, Executive Board of Indian Society of Hip & Knee Surgeons 2021-2022; Founding Member, Asia Pacific Osteoporosis and Fragility Fracture Society (APOFFS), New Section of APOA; President Elect, Asia Pacific Osteoporosis & Fragility Fracture Society (APOFFS) 2021-2022; Co-Chairman, Research Committee of Indian Society of Hip & Knee Surgeons (ISHKS) 2021-2023; Member, Academic Council for the term of two years w.e.f. 01.07.2021 to 30.06.2023, at Baba Farid University of Health Sciences, Faridkot; Member, Screening Committee for assessment of proposals received under "DBT-BUILDER Programme & DBT-SAHAJ Programme" on 14 July 2021; Expert Member; 6 DBT-TEC Meeting- Biomedical Engineering to evaluate the proposals received under DBT-SAHAJ Programme on 12 August, 2021; Expert, Screening Committee Meeting for assessment of proposals received under "DBT-BUILDER Programme & DBT-SAHAJ Programme" on 8-10 September 2021; Member, 3rd Technical/Advisory core committee (TACC) DBT Meeting to evaluate the proposals submitted against the Indo-Aus joint call on 7-8 October 2021; Member, Task Force on "Research Resources Service Facility and Platforms (RRSFP) Programme" constituted on 6 January 2022; Member, First Meeting of Task Force for Research Resource Service Facility Platform (RRSFP) under DBT-BUILDER Programme (2020-21) on 8-10 February 2022; Expert for Expert Committee on Extra-pulmonary (EPTB) and Paediatric Tuberculosis (PPTB) at ICMR, New Delhi on 18 January 2022; Member for National ICMR-CTD Task Force for development of Standard Treatment Workflows for management of EPTB at different levels of health care facilities (virtual) on 28th January 2022.

Coordinator for Groups for STWs and action points for discussion in National ICMR-CTD Task Force on EPTB (Musculoskeletal TB) on 3 February, 2022; Coordinator for Groups for STWs and action points for discussion in National ICMR-CTD Task Force on EPTB (Musculoskeletal TB) on 7 February 2022; Member, Apex Technical Committee, NOTTO (National Organ & Tissue Transplant Organization) 2020; Member of Implementation group for "Tribute to Life" Board, it has formed to promote organ donation and transplantation to coincide with their commonwealth games in UK on 14 March 2022; Conducted "Fellowship Exit Exam NBE (Trauma Care)" on 29 March 2022 at AIIMS, New Delhi; Conducted "Fellowship Exit Exam NBE (Spine Surgery)" on 29-31 March 2022 at AIIMS, New Delhi.

Dr Ashish Bindra received Rajeev Gandhi National Excellence Award 2021-22 by Global Indian Association (Registration 1276/22); Organised "Poshan Maah", as per directives of Government of India: whole month of activities to create awareness towards healthy nutrition, both in patients as well as health care personnel, in month of September 2022 as faculty incharge for dietetics, JPNA Trauma Center, AIIMS, New Delhi; Nodal Officer for Covid 19, JPNATC, AIIMS, New Delhi.

Dr Abhinav Kumar Awarded with a multi-institutional extramural project funded by Science and Engineering Research Board (SERB) in February 2022; Invited as the faculty expert for the recruitment of Senior resident in Trauma and emergency department at AIIMS, Patna; As an External examiner for Oral & Clinical examination of General surgery for final MBBS examination in Veer Kunwar Singh University, Ara, Bihar; Nominates as DBT representative as a Biosafety Officer in the IBSC of Atal Incubation Center-Jawaharlal Nehru University Foundation for Innovation (AICJNUFI) New Delhi; Invited by National board of examination (NBE) as the coordinator for the fellowship exit examination in the speciality of Trauma & Acute care surgery; Successfully completed the Good Clinical Practice training program conducted and organized by the Clinical Development Services Agency (CDSA), Translational Health Science & Technology Institute (THSTI) and AIIMS, ND; Chaired the session at "Annual day & CME in surgery 2021" on 5 September 2021 organized by Department of surgical

discipline, AIIMS, New Delhi; Resource faculty expert for the Pre-Hospital Emergency Life Support Workshop and prepared the Provider Manual and Instructor manual for PHELS course, the training program by ministry of Health & Family Welfare, Govt of India; Faculty expert moderated the session on OSCE (Long & short Cases and ward rounds) at the National conference GURUKKUL SCRUBS January 2022; Member of “Quick Response Team under Disaster management act 2005” at JPNA Trauma center, AIIMS ND.

Professor Shivanand Gamanagatti received Dr Niranjana Khandelwal Oration in the Field of Interventional Radiology (NAMS Oration 2021).

Professor Atin Kumar received Sub-speciality chapter head (Emergency Radiology) of Indian Radiology and Imaging Association (IRIA); Editorial board member of Indian Journal of Radiology and Imaging (IJRI); Distinguished Services Award by Delhi Chapter of Indian Radiological and Imaging Association presented at Delhi Imaging Update 2021.

Professor Amit Gupta was Nominated as Member of Group for revision of the curriculum for MS in Traumatology and Surgery – Preparation of competence-based guidelines and MSR, by the National Medical Commission Academic Cell. November 2021; Nominated as Member of the Expert Group to modulate and implement the Program for Risky behavior and Attitude in Trauma Prevention (PRATAP), by Dte. GHS, MoHFW, Govt. of India. October 2021; Nominated as a Member of the Expert Group to formulate the National Injury Prevention Strategy, Dte. GHS, MoHFW, Govt. of India. October 2021; Member of Specialist Board of Trauma Care by National Board of Examination in Medical Sciences, MoH&FW, Govt. of India. 2020- till date; National Coordinator for webinars for the Fellowship of National Board of Examinations (FNB) in Trauma and Acute Care Surgery. National Board of Examination in Medical Sciences, MoH&FW, Govt. of India. Jan 2021- till date; Education Committee Chair of the Asian Collaboration on Trauma. Dec 2020-Till Date; Chairman Academy of the Asian Collaboration for Trauma (ACT) Dec 2020 – Till date; Member, Committee of Experts to review the existing emergency department (accident emergency department/casualty) in the all Central Government hospitals, by Dte. GHS, MoHFW, Govt. of India. August 2020-till date; Member, Core committee on Roadmap of MSc Trauma Nursing for finalization of MSc Trauma Nursing Proposal including administrative and financial implication, Curriculum and operational guidelines. by Dte. GHS, MoHFW, Govt. of India. December 2020 – Till date, Hon. Secretary Indian Society for Trauma and Acute Care – 2019 – till date; Member, International Relations Committee: American Association for Surgery of Trauma (AAST), American College of Surgeons – Committee on Trauma, USA 2018 – Till date; Member: Experts Group NIHFW, for the Course on Hospital preparedness for Health Emergencies for Senior Hospital Administrators. 2018 – till date; Member: Experts Group NIHFW, for the Training on Hospital preparedness for Health Emergencies for District Health Officers. 2018 – till date; Member, Medical board for Medical/Psychological Examination at AIIMS for Antarctic Expedition Team. 2016 till date.

Professor Sushma Sagar was Nominated as member of Ethics and Medical Registration Board (EMRB) to formulate guidelines for RMP's by National Medical Commission(NMC); Appointed as Principal Secretary's nominee for hospital based authorization committee of Transplantation of organs and tissues, Govt. of NCT of Delhi 2021-2022; Organizing Secretary-Annual conference of Indian society for Trauma & Acute Care (ISTAC) “Trauma 2021 Virtual Conference” on 19 to 21 November 2021 on a virtual platform; Awarded MNAMS (Member National Academy of Medical Sciences) on 28th November at NAMSCON Convocation BHU; External examiner for MCh Trauma & Critical Care AIIMS Rishikesh; Internal examiner for MCh Plastic, Reconstructive & Burns Surgery, AIIMS Delhi; Awarded Extramural Grant from ICMR for a collaborative project on Amputees; Member AIIMS Intramural Research Grant committee; Awarded First prize for Oral paper presentation on thesis topic titled “To Study the Effect of External Pelvic Fixation on the outcome of patients with Pelvic Fractures undergoing Damage Control Surgery” by Jogendra B, Alam J, Priyadarshini P, Bagaria D, Chaudhary N, Kumar A, Mishra B, Kumar S, Gupta A, Sagar S. in TRAUMA 2021 Virtual on 19 November 2021.

Professor Subodh Kumar Awarded Fellowship by the Academy of Asian Collaboration for Trauma (AACT); Nominated as an Expert for the proposed CRPF Trauma Center at Jagdalpur in Chhattisgarh by Central Reserve Police Force, MHA, Govt. of India; Master Trainer for the Training of Medical officers in common surgical emergencies, burns and trauma care by the National Health Systems Resource Centre (NHSRC), an initiative of National Health Mission MoH&FW, Govt. of India; Nominated as an Expert for the operation PRATAP (Programme for Addressing Risky Behavior and Attitude towards Trauma Prevention) by MoH&FW, Govt. of India; Associate Editor of Indian Journal of Surgery a peer reviewed journal of ASI; Nominated as member of panel of experts of Ethics & Medical Registration Board, National Medical Commission, MoHFW, Govt. of India; Nominated as member of panel of experts of Executive committee and Disciplinary committee, Delhi Medical Council, Govt. of NCT of Delhi; First prize for Oral paper presented by Jogendra B, Alam J, Priyadarshini P, Bagaria D, Chaudhary N, Kumar A, Mishra B, Kumar S, Gupta A, Sagar S. To Study the Effect of External Pelvic Fixation on the outcome of patients with Pelvic Fractures undergoing Damage Control Surgery in TRAUMA 2021 Virtual on 19 November 2021, Second prize for Oral paper presented by Teyi T, Priyadarshini P, Bagaria D, Chaudhary N, Kumar A, Mishra B, Gupta A, Sagar S, Kumar S. To Study the Role of Prophylactic Antibiotics in Patients with Chest Trauma at A Level 1 Trauma Centre: A Pilot Randomized Controlled Trial in TRAUMA 2021 on 20 November 2021; Third prize for Oral paper presented by Gupta P, Jain S, Aggarwal R, Soni KD, Priyadarshini P, Bagaria D, Chaudhary N, Kumar A, Joshi M, Mishra B, Sagar S, Kumar S, Gupta A. Upper Genito-Urinary Trauma - Level 1 Trauma Centre Experience in TRAUMA 2021 Virtual on 20 November 2021.

Professor Biplab Mishra was Internal examiner of MCh Trauma Surgery and Critical Care; Member of core committee for development of curriculum for MCh Trauma Surgery and Critical Care at AIIMS, Rishikesh; Visiting Professor at AIIMS, Rishikesh.

Dr Pratyusha Priyadarshini Chaired the session at “Annual day & CME in surgery 2021” on 5 September 2021 organized by Department of surgical discipline, AIIMS, New Delhi; Faculty in charge of Laundry and CSSD.

Dr Dinesh Kumar Bagaria Conference moderator in the 6th ACT-ACTIVE Webinar held on June 19, 2021 (Saturday). The theme for this Webinar was “Improvisations and Innovations: the US Perspectives on Trauma”; Participated as faculty in REBOA/EVTM Hybrid Workshop organized by THE COLLEGE OF SURGEONS OF SRI LANKA on 9 April 2021; Awarded Fellowship of American College of Surgeons (FACS); Awarded Fellowship of Academy of Asian Collaboration on Trauma (FAACT); Awarded appointment to the EAST Guidelines Committee as member; Committee member for drafting proposal of MS (Trauma and acute care Surgery); Elected to the Education Committee of the Association of Academic Global Surgery; Member of the editorial board of Journal of Trauma and Acute Care Surgery; Conducted an in-house Workshop on haemostatics use in Trauma Surgery on 28 October 2021; Received the AIIMS International Fellowship under AIIMS Endowment Fund.

Dr Narendra Choudhary was Implemented “Good Samaritan Scheme” endorsed by Delhi Government, at emergency department of JPN Apex Trauma center as faculty incharge of Emergency department; Worked as faculty Incharge of Medical Records section, JPN Apex Trauma Center. Established Covid-19 patient registration counter with round the clock service in order to provide uninterrupted, time bound and efficient services to Covid-19 patients and their relatives; Chaired the session at “Annual day & CME in surgery 2021” on 5 September 2021 organised by Department of surgical discipline, AIIMS, New Delhi; Operationalize round the clock (24x7) functioning of Medical Record section to ensure timely updates of Covid-19 patient data as required by different government agencies; While working in capacity of faculty Incharge of Dietary services at Trauma Center, AIIMS, New Delhi, I brought major changes in food delivery system and dietary services to match the unique needs of Covid-19 patient; Participated as instructor faculty at BLS & ACLS provider course of AHA from 7- 9 March 2022, organised by ITC, AIIMS New Delhi; Participated as instructor faculty in ATLS Provider Course of ACS from 24 – 26 March 2022, Organised by AIIMS, Rishikesh.

Dr Gyanendra Pal Singh was Appointed “Member-at-Large” of Brain and Heart Interactions Society, Canada; Appointed as ‘Executive member’ of Membership committee of international; Scientific body (Society of Neuroscience in Anaesthesiology and Critical Care), USA; Appointed as the ‘Treasurer’ of the Indian Society of Neuroanaesthesiology and Critical Care, India; Appointed as Review editor for ‘Frontiers in Anaesthesiology’ Scientific Journal; Awarded the “Appreciation Certificate” by SET Facility for contribution in Teaching and Training of e-skill modules; Appointed External/ Internal Examiner for MD Anaesthesiology, Sharda University, Greater NOIDA; DM Neuroanaesthesiology, AIIMS Rishikesh; PDF Neuroanaesthesia, ISNACC; PDF Neurocritical Care, ISNACC; Fellowship Neurocritical Care, AIIMS, New Delhi; Evaluation of thesis for; MD Anesthesiology, PGIMER, Chandigarh; MD Anaesthesiology, GGS Indraprastha University, Dwarka; MD Anaesthesiology, University of Delhi; Chaired the scientific sessions during 3rd Annual Meeting of the NCS Asia Oceanic Chapter 2021 on 26 September 2021, Gurugram.

Dr Keshav Goyal was Thesis evaluator for DM candidates (PGIMER, NIMHANS) and MD Candidates (Army hospital Research and Referral, Safdarjung Hospital, PGIMER, University of Delhi South Campus, Delhi); Appointed as External Examiner of Madhya Pradesh medical Science University, Jabalpur (MP) for MD anesthesiology; Course director cum National Coordinator of 1st Acute Neuro Care (ANC) affiliated by National society (ISNACC) and NCSI 2021 at 2nd NCSI Conference (Virtual); Reviewer of clinical neurology and Neurosurgery and International Journal of Respiratory and Pulmonary Medicine; Emergency Neurological Life Support (ENLS)- Train the trainer Course Instructor Recertification; Elected Executive council member of national societies ISNACC, NCSI and organizing secretary of 3rd NCSI; Member of Trainee Engagement Committee of SNACC, USA; Organised Executive member of organizing Committee of; Acute Neuro care (ANC) at 2nd NCSI; Course Director and Coordinator and also at AIIMS Bhatinda; Virtual ISNACC 2021; 39th and 40th ACCC (Acute Care Course for Surgeons) at Sharda university and AIIMS, New Delhi.

Dr Niraj Kumar completed fellowship Program: (CMETI – Part Time Clinical Research Methodology and Evidence Based Medicine) at AIIMS, New Delhi; Instructor (Faculty) of –ATLS, ANC, ACCC, AIIMS – EM-SONO, AUTLS; Perioperative (ICU + OT) management of all kinds of COVID-19 patients; Successfully completed Good Clinical Practice Training Program – and Got GCP completion certificate.

Dr Adarsh Kumar was Nominated Assistant Ambassador of International Academy of Legal medicine for 2021-2024; Deputy Chair Asia Pacific Medicolegal Association (APMLA) for two years 2021-2023; Elected as Governing Council Member of Indo-Pacific Association of Law Medicine & Science (INPALMS) for 2019-2022 at Dhaka, Bangladesh; Nominated assessor by National Medical Council (NMC); Nominated assessor by National Assessment and Accreditation Council (NAAC); Board

of Studies Member- West Bengal National University of Juridical Sciences (NUJS), Kolkata; Thesis Evaluated- PhD Forensic Science; Punjabi University Patiala; PhD Forensic Anthropology; Lucknow University Lucknow; Member, Editorial Board of various journals-International Editorial Board Member- HSOA Journal of Forensic, Legal & Investigative Sciences (USA), Egyptian Journal of Forensic Sciences- Egypt, Adli Tip Bulletin- Turkey, The Egyptian Journal of Forensic Sciences & Applied Toxicology, Biomedical and Biosocial Anthropology (Ukraine), Web Editor- International Journal of Health Research & Medicolegal Practice, Member Editorial Board- Journal of Karnataka Medicolegal Society, Journal of South India Medicolegal Association, Journal of Forensic Chemistry & Toxicology, Journal of Indian Academy of Forensic Medicine.

10.6. National Drug Dependence Treatment Centre

Professor and Chief

Rakesh Chadda

Additional Medical Superintendent

Maresh R

Professor

Raka Jain Rakesh Lal Anju Dhawan
Sonali Jhanjee Atul Ambekar

Additional Professor

Yatan Pal Singh Balhara Gauri Shanker Kaloiya Ravindra Rao
Ashwani K Mishra Rachna Bhargav Prabhu Dayal
Biswadip Chatterjee Alok Agrawal Rizwana Quraishi
Siddharth Sarkar Piyali Mandal

Associate Professor

Roshan Bhad

Assistant Professor

Shalini Singh

Medical Social Service Officers

Braham Prakash Deepak Yadav
Ratnesh Kumar Dinesh Kumar

Administrative Officer

RK Sharma (from June 2020)

Accounts Officer

Prem Pal

Assistant Nursing Superintendent

Beena Rawat (till 31 October 2021)
BD Rawat (from 1 November 2021)

Assistant Store Officer

Yatendra Kumar Meena

HIGHLIGHTS



NDDTC continued to provide outdoor clinical services throughout the COVID-19 pandemic and also provided clinical services to COVID-19 patients in the dedicated COVID-19 areas of AIIMS, New Delhi. A total of 2,51,782 patients comprising of 5498 new patients and 2,46,284 follow-up cases were seen in NDDTC general OPD and its 5 specialty clinics, 3 community clinics and Mobile Methadone Clinic during the year 2021-22. NDDTC provided inpatient care to 407 patients. A total of 216 referrals from various departments were attended during 2021-22 in the 'Consultation Liaison Addiction Psychiatry' in medically ill patients at the main AIIMS campus. The NDDTC laboratory attended more than 1,01,989 tests during the year in its toxicology, haematology, biochemistry and HIV screening labs.

NDDTC provided inputs to the Department of Revenue, Ministry of Finance towards amendments to the NDPS Act, 1985 in November 2021. Faculty from NDDTC represented India in key international meetings including the UN CND 65th session, the WHO Expert Committee on Drug Dependence (ECDD) and the third WHO Forum on Alcohol, Drugs and Addictive behaviours. Currently, many National and International agencies are funding ongoing research projects in the centre. 107 research articles in peer-reviewed national and international journals of repute and 9 chapters in various books have been published during this period. Many faculty members are technical experts and hold key positions in national and international professional bodies and editorial boards in prestigious peer-reviewed journals.

The centre has organised the following CME/ Conference /symposium during this period:

- Symposium on Dealing with Drug use in adolescent in school setting on the occasion of International Day against Drug abuse and illicit trafficking (26th June, 2021)
- Asia-Pacific Hybrid Congress- World Association of Social Psychiatry (16-18 September 2021)
- 1st National Conference of the Addiction Psychiatry Society of India (Virtual) (10-11 December 2021)

NDDTC is also the winner for the AIIMS Swachhata Award 2021.

Activities/steps taken to improve patient care, education and research in the past year

NDDTC provided uninterrupted outpatient clinical services in the COVID-19 pandemic in the past year. For education & capacity building, under the *Addiction Treatment Facility (ATF)* scheme supported by (MoSJE), NDDTC conducted 13 training workshops wherein 651 medical professionals were trained in the treatment of substance use disorders. NDDTC coordinates the activity of 28 "*Drug Treatment Clinic(DTC)*" with the support of DDAP, MoH& FW at a national level and a total of 1,26,865 patients have taken treatment from these clinics during this period. Seven batches (122 participants) were trained using the Online Automated Training in substance use disorders on the NDDTC Web portal:<https://naat.co.in/in> in 2021-22. In a joint initiative of NDDTC, NACO and PHFI, a 3-day Training of trainer's (TOT) workshop for 30 psychiatrists from various medical institutes in India was organized where they were trained in Opioid Substitution Treatment. In a DST-SERB-funded activity, 150 participants were trained in a 9-day nationwide online workshop on "Analytical techniques for statistical analysis in mental health" by NDDTC.

Action plan

NDDTC plans the expansion of its community outreach programme and Telemedicine services for substance use disorders. NDDTC will expand the reach of addiction treatment services nationally through the expansion of the Addiction Treatment Facility (ATF) and Drug Treatment Clinic (DTC) scheme. More medical professionals will be trained through Online Automated Training in substance use disorders on the NDDTC Web portal. The establishment of a private ward and expansion of services to a special population of women and children will be undertaken. Departmental and collaborative research projects will continue in the coming year

EDUCATION

Undergraduate

MBBS students are posted for a day in the centre during their Psychiatry posting.

Postgraduate

Residents doing MD (Psychiatry) are posted in the centre for 6 months.

NDDTC also offers Ph.D. in Addiction Psychiatry. The centre is also running a Doctorate of Medicine (D.M.) course in Addiction Psychiatry. Currently, six Ph.D students and 13 DM students are enrolled for the degree. The NDDTC continued all its academic activities in online mode throughout the pandemic. The centre also provides training to MSc psychiatric nursing and BSc Nursing students.

PhD and Postgraduate teaching

*Journal club -Weekly joint activity with psychiatry

*CCR and CGR two in every semester at AIIMS

Seminar- Weekly

Case Conference- Weekly

Seminars/ Journal Club

*Joint activities of the Department of Psychiatry and the Centre

Lectures delivered

RK Chadda: 17

Sonali Jhanjee: 6

Gauri Shanker Kalojya: 5

Rachna Bhargava: 8

Rizwana Quraishi: 3

Roshan Bhad: 10

Raka Jain: 3

Atul Ambekar: 27

Ravindra V Rao: 15

Prabhu Dayal: 4

Siddharth Sarkar: 8

Shalini Singh: 9

Anju Dhawan: 6

Yatan Pal Singh Balhara: 66

Ashwani Kumar Mishra: 17

Biswadip Chatterjee: 1

Piyali Mandal: 4

Oral papers/posters presented: 13

Last 3 years Data

Total number of oral presentations	2021-22	2020-21	2019-20
	12	14	26

RESEARCH

Funded Project

Ongoing

1. Detection of New Psychoactive Substances among Substance Abuse Treatment Seekers in India – Multi Centric Study, PI: RK Chadda CO-PI: Raka Jain, Department of Revenue, Govt of India, 5.5 years, 2017-2022, Rs 6.51 Crores
2. NIHR Global Health Research Group on Psychosis Outcomes: the Warwick-India-Canada {WIC} Network, RK Chadda, National Institute of Health Research, UK, 4 years, 2017-2021, 269,146 GBP
3. Assessing the Feasibility and Impact of Physical Health Monitoring in Patients with First Episode Psychosis (AIIMS Centre), RK Chadda, National Institute of Health Research, UK, 1 year, 2021-22, 63604 GBP
4. Screening and Intervention for Drug/Substance Use among Secondary School going Children, Anju Dhawan, UEE Mission, Education Department Delhi, 1 year, 2020-21, Rs 23 lakhs
5. A prospective double blind, randomised clinical study to evaluate the antibody response after Covid-19 vaccine when provided along with Kabasura Kudineer, a siddha medicine, Anju Dhawan, SSIAR, 6 months, 2021-2022, Rs 3.5 lakhs
6. A prospective double blind, randomised clinical study to evaluate the antibody response after Covid-19 vaccine when provided along with NOQ19, an Ayurvedic medicine, Anju Dhawan, SSIAR, 6 months, 2022, Rs 3.5 lakhs
7. Development and evaluation of service delivery models for management of substance use disorders among the homeless population receiving urban shelter services in Delhi, Atul Ambekar, Department of Women and Children (WCD), Ministry of Health and Family Welfare, Government of Delhi, 2 years, 2020-2022, Rs 30.03 lakhs

8. National Survey on Extent and Pattern of Substance Use in India, Atul Ambekar, Ministry of Social Justice and Empowerment, Government of India, 5 years, 2016-2022, Rs 22.41 crores
9. Bone mineral density and chronic alcoholism and changes following disulfiram deaddiction therapy, Yatan Pal Singh Balhara, DBT, 36 months, 2017-2022, Rs 83 lakhs
10. Use of online web-based applications as a platform to strengthen the services for management of addictive disorders in the state of Odisha, Yatan Pal Singh Balhara, Department of Health, Government of Odisha, 12 months, 2019-2020, Rs 12 lakhs
11. Leveraging Digital Technology for Health Care Delivery: A randomised controlled trial to assess effectiveness of an e-Health intervention to manage gaming disorder, Yatan Pal Singh Balhara, Indian Council of Medical Research (ICMR), 24 months, 2019-2021, Rs 7.37 lakhs
12. Information, Education, Communication (IEC) material on screen time and gaming behaviour in context of the COVID-19 for the WHO South-East Asia Region, Yatan Pal Singh Balhara, WHO SEAR, 3 months, 2020, Rs 3.2 lakhs
13. Setting up of a Tele Medicine and online resource hub on mental health and addictive disorders for South-East Asia, Yatan Pal Singh Balhara, WHO SEAR, 12 months, 2020-2021, Rs 11.6 lakhs
14. Development of module on prevention of substance use and addiction among students for the teachers from the state of Chhattisgarh, Yatan Pal Singh Balhara, Govt of Chhattisgarh, 12 months, 2020-2021, Rs 8 lakhs
15. Development and validation of an Indian Instrument to assess severity of Nomophobia, Yatan Pal Singh Balhara, ICMR, 30 months, 2022-2025, Rs 40 lakhs
16. Assessment of rates and causes of mortality among people with opioid dependence, Ravindra Rao, Indian Council of Medical Research, 3 years, 2021–2024, Rs 56.98 lakhs
17. Developing and testing an online training programme for medical officers on treatment of substance use disorders, Ravindra Rao, Ministry of Social Justice and Empowerment, Government of India, 2 years, 2021–2023, Rs 32.6 lakhs
18. Screening and intervention in school students of elementary classes for substance use in Delhi, Rachna Bhargava, Samagra Shiksha, DOE, 1 year, 2019-2022, Rs 24 lakhs
19. Brain Stimulation as a Novel Technique for Cognitive Dysfunction and Craving Management to Enhance Treatment Outcome in Patients with Alcohol Dependence: a Prospective, Randomised Controlled Trial, Prabhoo Dayal, DST, 3 years, 2018-2021, Rs 30.80 lakhs
20. Evaluation of Neurocognitive, Personality, Emotional, and Psychosocial Biomarkers as Candidate Endophenotypes for Opioid Use Disorder & Their Relationship with Polymorphism in Opioid & Dopamine Receptor Genes: Implications for Prevention & Treatment, Prabhoo Dayal, ICMR, 3 years, 2021-2024, Rs 36.62 lakhs
21. Role of genetic polymorphism in determining risk and severity of opioid dependence: A case-control study, Biswadip Chatterjee, AIIMS intramural funding, 2 years, 2019-2021, Rs 10 lakhs
22. Role of specific single-nucleotide gene polymorphisms (SNPs) with treatment adherence and outcome with naltrexone among patients with opioid dependence: A naturalistic follow-up study, Biswadip Chatterjee, ICMR, 3 years, 2021-24, Rs 50 lakhs
23. Development of Training Modules on Substance Use for training of Child Welfare Police Officers, functionaries working in Integrated Rehabilitation Centre for Addicts (IRCA), Out Reach Drop-in Centre (ODICs) and Community Based Peer-Led Intervention (CPLIs), Biswadip Chatterjee, NISD, MoSJE, 5 months, 2021-2022, Rs 5 lakhs
24. An evaluation of mu-opioid receptor gene polymorphism (A118G) and long term naltrexone treatment response in North Indian Alcohol dependent patients, Rizwana Quraishi (PI), Indian Council of Medical Research (ICMR), 3 years, 2019-2022, Rs 28 lakhs
25. Development of an Indian Scale to Assess Substance Related Problems, Siddharth Sarkar, ICMR, 3 years, 2019-2022, Rs 42 lakhs
26. Role of significant other involvement in retention and outcome on naltrexone among opioid dependent individuals: An open label comparative study, Piyali Mandal, AIIMS, Intramural Grant, 2 years, 2020-22, Rs 4.55 lakhs
27. An explorative study of knowledge, perceived attitude and risk of addiction potential among different stakeholders concerning recreational cannabis use among youth in India, Roshan Bhad, AIIMS (Intramural), 4 years, 2019–2022, Rs 8 lakhs
28. A pilot study of assessment of behavioral markers for treatment seeking substance use disorder patients through digital phenotyping: A cross sectional comparative study from Delhi-NCR, India, Roshan Bhad, Mannki Health Care Pvt Ltd, 1 year, 2022-2023, Rs 3 lakhs
29. Infrared signature of surgical wound: thermographic profiles and early stage test-accuracy study to predict the surgical site infection in paediatric surgical patients, Ashwani Kumar Mishra (Co-PI), ICMR, 3 years, 2022-2024, Rs 84.40 lakhs
30. Study to examine psychosocial and behavioral domains among school going adolescents during COVID 19 pandemic -Mixed study design, Ashwani Kumar Mishra (Co-PI), ICMR, 2 years, 2022-2024, Rs 49.74 lakhs
31. Drug Abuse Monitoring System (DAMS), Ashwani Kumar Mishra, MoH&FW, GOI, Continued activity of NDDTC, AIIMS, Rs 3 lakhs
32. Internal Consistency and Divergent Validity of the Hindi Version of the Addiction Severity Index-Lite among Individuals with Alcohol and Opioid Dependence Syndrome, Ashwani Kumar Mishra, AIIMS, 2 years, 2019-2022, Rs 3.25 lakhs
33. Development of Indian Anxiety and Mania Questionnaire, Ashwani Kumar Mishra (Co-PI), ICMR Task Force, 3 years, 2018-2021, Rs 62.29 lakhs

34. HIV, Hepatitis B and C testing in individuals receiving agonist treatment for injecting drug use at a community clinic in Delhi: a cross sectional assessment of risk factors and seroprevalence, Shalini Singh, AIIMS Early Career Intramural Research Project, 2021 – 2022, 18 months, 2022-2023, Rs 4.44 lakhs

Completed

1. Barriers and Facilitators of Addiction Treatment: A qualitative study, Dr Siddharth Sarkar, ICSSR, 2 years, 2019-2021, 4 Lakh
2. A Study to examine dependence, harm perception and motivation to quit amongst Indian areca nut users and pilot test an intervention module, Sonali Jhanjee, WHO-SEARO, 1.5 years, 2020-2021, Rs 11.82 lakhs
3. Rates and pattern of psychoactive substance use among prisoners in India, Ravindra Rao, Ministry of Social Justice and Empowerment, Government of India, 2 years, 2019-2021, Rs 30 lakhs
4. Developing and testing an online training programme for medical officers on treatment of substance use disorders, Ravindra Rao, Ministry of Social Justice and Empowerment, Government of India, 2.5 years, 2019-2021, 14.59 Lakh
5. A functional polymorphism of dopamine beta hydroxylase gene and disulfiram treatment response in patients with alcohol dependence: A pilot exploratory study, Rizwana Quraishi, AIIMS, 2 years, 2018-2020, Rs 4.5 lakhs

Last 3 years Data

	2021-22	2020-21	2019-20
Number of funded projects	34	34	27
Amount of funding	1,081,270,000	992,880,000	1,008,340,000

Departmental projects

Ongoing

1. Psychological Correlates of Caregiving among the caregivers of patients with Schizophrenia
2. Development of Cognitive Behavioral based Intervention Module for Adolescents in Conflict with Law
3. A community-based study of characteristics and pattern of alcohol use during different phases COVID-19 pandemic lockdown among patients receiving opioid substitution therapy (OST) in Delhi, India
4. A Community-based study of characteristics, pattern and effect of cannabis use during COVID-19 (SARS-COV-2) pandemic in Delhi, India
5. A comparative study of Injecting and non-Injecting male opioid-dependent patients
6. A cross sectional study to measure the frequency of the BDNF gene polymorphism (Val66Met) in patients seeking treatment for Alcohol Dependence Syndrome
7. A functional polymorphism of aldehyde dehydrogenase gene (rs671) and disulfiram treatment response in patients with alcohol dependence: A pilot exploratory study.
8. A randomized controlled trial of brief intervention for patients with cannabis use disorder
9. A randomized controlled trial of family intervention for patients with opioid dependence
10. A study of assessment of training needs in addiction medicine: a global ISAM survey
11. A Study to Assess Effectiveness of Advocacy Skill Building Programme on Prevention of Tobacco Use among Adolescents in selected schools of Delhi
12. Assessment of clinical and HPA axis hormones in response to stress challenge in buprenorphine-maintained patients: An exploratory study.
13. Assessment of clinical and neuroendocrine response to induced stress in detoxified opioid dependent subjects.
14. Assessment of impact of COVID-19 and related measures on substance use and associated factors among treatment-seeking adults.
15. Assessment of outcome of opioid dependent patients initiated on agonist maintenance treatment with Buprenorphine vs Methadone: comparative study using retrospective chart review
16. Assessment of reasons, status of and factors associated with drop out in patients on opioid substitution therapy: a cross-sectional, comparative, community-based study.
17. Association Between Screen time & Mental, Behavioural and Social Aspects Among School Going Adolescents
18. Association of Phosphatidylethanol (PEth) levels with Severity of Alcohol dependence in Treatment Seeking Patients of Alcohol Dependence: An Exploratory Study.
19. Association of the galanin and galanin receptor gene polymorphism (rs948854) and opioid dependence: A case control observational study
20. Association of Tobacco Smoking with Psychiatric Co-morbidities among Patients with Chronic Obstructive Pulmonary Disease
21. Comparative Study of Marital Adjustment in Alcohol & Opioid Dependent Men & Their Wives
22. Correlates of Recovery Capital in patients with dual diagnosis – an explorative study
23. COVID-19 experience and literacy among substance use disorder (SUD) patients
24. Covid-19 Vaccine acceptability in patients with opioid dependence – a cross-sectional, community-based study from India

25. Cue Induced Craving and fMRI changes associated with Meditation-based intervention in Smokers
26. Cue Induced craving in Smokeless tobacco: an fMRI study
27. Development of Cognitive Behavioral Based psychological intervention model for adolescents in conflict with law
28. Development of Cognitive Behaviour based intervention module for adolescents in conflict with law
29. Development of Psychological Intervention Module among adolescents with Dissociative Disorder
30. Expenditure and Procurement Practices of Heroin among people with Opioid Dependence in Delhi: An Exploratory Study
31. Experience of Patients on Methadone Maintenance Treatment Receiving Take-Home Methadone Doses During Covid-19 Pandemic In India: A Mixed-Method Study
32. Exploratory study of problematic internet pornography use
33. Feasibility of ecological momentary assessment to measure associations between perceived control over alcohol use, craving, mood and daily alcohol consumption in treatment-seeking patients of alcohol dependence syndrome
34. Hindi Adaptation and Psychometric Validation of Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) among Participants with Alcohol Dependence
35. Impact of Screen Time on Mental, Behavioural and Social aspects among School going Adolescents
36. Indigenously produced psychoactive substances in India: Patterns of use and Profile of users
37. Outcomes in Treatment with Tramadol for Opioid Use Disorder over 12 weeks: A Prospective Observational Study
38. Prevalence and correlates of neurological and neurocognitive disorder in HIV positive patients on ART
39. Problems faced by people who use drugs and responses from the drug users community during the covid-19 and subsequent lockdown in India – a qualitative study
40. Psychosocial correlates of caregiving experience among caregivers of patients with schizophrenia
41. Quality of Life and Associated factors among recipients of Buprenorphine-Naloxone Maintenance Treatment
42. Retrospective study to analyze the profile, the pattern of substance use and outcome of treatment of adolescent patients who sought treatment for opioid use
43. Substance use among homeless women receiving services from shelter homes in Delhi

Completed

1. A community-based study of characteristics and pattern of alcohol use during different phases COVID-19 pandemic lockdown among patients receiving opioid substitution therapy (OST) in Delhi, India
2. A global online survey on assessment for need and scope for the standardized training, research opportunities and mentorship in addiction medicine among early career addiction medicine professionals
3. A Longitudinal Observational Study to Assess Treatment Retention Rate & Predictors of Treatment Retention among Patients with Opioid Use Disorder
4. An efficient screening method for simultaneous detection of pentazocine, pheniramine, and Tramadol in urine of substance users by Gas Chromatography mass -Spectrometry.
5. Assessing client related factors influencing initiation of opioid substitution therapy among Injecting Drug Users: A Community based, Cross Sectional, Comparative Study
6. Assessment of Clinical and Neuroendocrine response to induced stress in detoxified opioid dependent subjects
7. Assessment of Stress Biomarkers in Opioid Dependent Youth and its association with stress and coping: An Exploratory study.
8. Comparison of Delay Discounting Rate among current users of Heroin and abstinent: An Observational Study
9. Detection of Naltrexone in urine by LC-QTOF-Mass Spectrometry and its application to Naltrexone compliance in substance users.
10. Effectiveness of reminders using Phone call versus Short Message Service on treatment retention in patients with Substance Use Disorders: An open label randomised trial
11. Endorsement and Concordance of ICD 11, ICD 10 and DSM 5 Diagnostic Guidelines for Alcohol and Opioid Use Disorders
12. Factors associated with treatment retention in Alcohol dependent patients
13. Family Interventions Addressing Expressed Emotions in Treatment Seeking Men with Opioid Dependence
14. Gambling disorder and its socio- demographic correlates among treatment seeking patients with alcohol use disorders
15. Laboratory Assessment of Codeine Abuse among Substance-abuse patients based on Urinalysis.
16. Nature and course of depressive features in patients with alcohol use disorder: A prospective observational study amongst treatment seeking population
17. Outcomes in Treatment with Tramadol for Opioid Use Disorder over 12 weeks: A Prospective Observational Study
18. Pattern, and trends of serum lithium levels in consecutive samples received at lithium laboratory between Jan 2015-March 2020: a retrospective review (audit) of laboratory records.
19. Profile of substance use based on urine drug analysis for consecutive referrals from psychiatric services: a retrospective review of laboratory records between 2015-2020.
20. Study on the association of polymorphism, methylation and expression status of the genes of monoamine pathways in Alcohol dependence
21. Trazodone for sleep disturbance in opioid dependent patients maintained on buprenorphine: a double blind placebo control trial

22. Urinary Ethyl Glucuronide testing to detect recent alcohol use among opioid-dependent patients maintained on Buprenorphine

Collaborative projects

Ongoing

1. A Cross-Sectional Study to Screen for Psycho-sexual Health Disorders and Measure Neurochemical Correlates in Gynecology Cancer Survivors, Gynecology and Radiology
2. Functional outcome of patients undergoing thoracic surgery for benign Pulmonary and pleural diseases: an ambispective cohort study, Surgery
3. A Study to explore the of Gamma Synuclein as a Potential Biomarker in Breast Cancer, Surgery
4. Comparison of Double “J” and infant feeding tubes as stents in open Cohen’s ureteric reimplantation in terms of hospital stay -a Randomized study, Pediatric Surgery
5. HRV and autonomic parameters for supplementing clinical assessment of opioid withdrawal, Physiology
6. Evaluation of IL6 and IL-1B gene polymorphism in patients with opioid dependence, Anatomy
7. A study to compare the anxiety, depression and quality of life (QOL) among caregivers of children with cerebral palsy and those with typically developing children attending Paediatric Neuro OPD at AIIMS, New Delhi, Nursing
8. A hermeneutic phenomenological study on experiences of living donors post kidney transplant at AIIMS New Delhi, Nursing
9. Psychosocial factors among patients undergoing orbital exenteration, Ophthalmology
10. Clinical severity and distress in periocular and ocular malignancy patients during COVID pandemic, Ophthalmology
11. Development and validation of an assessment tool for traumatic maxillofacial and dental re-injury associated fear and anxiety in 10-16 years old boxers in Delhi NCR region, Dental
12. Enhancing Mental Health and Substance Use Literacy among College Going Students in National Capital Territory of Delhi- An Intervention Study, Centre for Community Medicine

Completed

1. Development and Validation of a questionnaire to assess violence against doctors., Medicine, Surgery, Paediatrics, Biostatistics, Obstetrics and Gynaecology
2. Default Mode Network of addictive disorders: A Quantitative EEG study, Physiology

PUBLICATIONS

Journals:84 Abstracts:03 Chapters in Book:09

Publication	2021-22	2020-21	2019-20
Journal articles	84	88	69
Abstracts	3	1	8
Chapters in book	9	15	2
Book/Monograph	None	4	4

PATIENT CARE

Yearly record of Biochemistry Laboratory

Total Nos of Biochemistry tests done=48685

Total Nos Haematology Tests done = 35379

Total Nos HIV Screening = 171 HIV Nos

Yearly record of Drug Screen Laboratory

Total number of drugs of abuse screened in urine= 21,404

	Drugs Test	Nos.
1.	Morphine	2411
2.	Codeine	1598
3.	Buprenorphine	2362
4.	Avil	1987
5.	Tramadol	1982
6.	Pentazocine	1987
7.	Benzodiazepines	3969

8.	Cannabis	773
9.	Cotinine	389
10.	Barbiturate	773
11.	Amphetamine	773
12.	Cocaine	773
13.	Naltrexone	1623
14.	Inhalants	4
	Total number of drugs tested in urine	21,404

I. OUT-PATIENT SERVICES

Statement showing the data of Hospital Statistics

GENERAL OPD	New cases	Old cases	Total
NDDTC	4765	60898	65663
TRILOK PURI (COMMUNITY CLINIC)	188	40378	40566
SUNDER NAGRI (COMMUNITY CLINIC)	287	128645	128932
KOTLA MUBARAKPUR (COMMUNITY CLINIC)	172	15354	15526
TOTAL CASES	5412	245275	250687

SPECIALITY CLINIC			
ADOLESCENT CLINIC	15	334	349
DUAL DIAGNOSIS	42	317	359
TOBACCO CESSATION	18	236	254
WOMEN CLINIC	11	103	114
FAMILY EMPOWERMENT CLINIC	Nil	19	19
TOTAL CASES	86	1009	1095
GRAND TOTAL OF CASES	5498	246284	251782

II. OTHER PATIENT CARE STATISTICS

Total No. of admission	407
Total No. of patients visited Day care	Nil
Total No. of death	Nil
Average no. of admission per working day	2.60
<i>Average OPD attendance per working day</i>	
at NDDTC (New patients)	20
at NDDTC (Old patients)	208
at Trilokpuri clinic (New patients)	0.80
at Trilokpuri clinic (Old patients)	138
at Sunder Nagri community clinic (new patients)	1.23
at Sunder Nagri community clinic (old patients)	352
at Kotla Mubarakpur Community clinic (new patients)	0.73
at Kotla Mubarakpur Community clinic (old patients)	52
Bed occupancy in a year	59%
Average length of stay	14 days

Last 3 years Data

S. No		2021-22	2020-21	2019-20
1	Out-patient services			
	General OPD (NDDTC)			
	New	4765	4613	11874
	Old	60898	37668	76187
	Total	65663	42281	88061
	Specialty Clinics			
	New	86	24	294
	Old	1009	441	2769
	Total	1095	465	3063
	Community clinics			
	New	647	855	1245
	Old	184377	128657	210047
	Total	185024	129512	211292
	Grand total	251782	172258	302416
2	Bed occupancy in a year	59%	15%	87%
3	Average no. of admission per working day	2.6	1.18	4
4	Total no. of deaths	0	0	0
5	Hematology Tests	35379	8880	48995
	HIV Screening	171	nil	735
	Urine Drug Screen	21,404	4282	29606

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Rakesh Chadda was Secretary General, World Association of Social Psychiatry; Associate Editor, British Journal of Psychiatry; Issue Editor, World Social Psychiatry, September-December 2021; Vice President, Addiction Psychiatry Society of India; Handling Editor, BJ Psych International; Member, Executive Council, National Academy of Medical Sciences (India); Member, Delhi High Court Legal Services Committee; Convenor, Specialist Board in Psychiatry, National Board of Examinations; Nominated Member, Institute of Eminence, University of Delhi; Nominated Member, Governing Body, Ramanujan College, University of Delhi; Chair, Awards Committee, Indian Association for Social Psychiatry; Member, Deans Committee, AIIMS; Member Selection Committee, KGMU, AIIMS, Jodhpur, AIIMS, Kalyani, AIIMS, Bhatinda, Institute of Mental Health and Hospital, Agra.

Professor Raka Jain was Appointed as International Committee Member of College on Problems of Drug Dependence (CPDD), the USA for 3 years; Nominated as a member of the Centre Research and Consultancy Committee(CRC) for the “Centre of Excellence in Pharmaceutical Sciences (CEPS)” dated 17.8.2021 for one year, Guru Gobind Singh Indraprastha University, Govt. of Delhi, Sector 16-C Dwarka Delhi; An External member attended and participated in a Online meeting of Ph.D. Program of CEPS, Guru Gobind Singh Indraprastha University, Sector 16-C Dwarka Delhi dated 12 November 2021; As an Expert Committee member of the WHO Expert Advisory Panel on Drug Dependence (Dependence Liability Evaluation), attended and participated in the online 44th ECDD -Ninth Working Group of the Expert Committee on Drug Dependence (ECDD) held on the 19 May 2021; As an Expert Committee member of the WHO Expert Advisory Panel on Drug Dependence (Dependence Liability Evaluation, attended and participated in the World Health Organization (WHO) Online “44th Expert Committee Meeting on Drug Dependence (44th ECDD, 12-17 October 2021). Presented one peer review of New Psychoactive Substances as an expert; As an Expert Committee member of the WHO Expert Advisory Panel on Drug Dependence (Dependence Liability Evaluation), attended and participated in the online 45th ECDD -10th Working Group of the Expert Committee on Drug Dependence (ECDD) held on 28 March 2022.

Professor Sonali Jhanjee was Core Committee Member for development, validation and implementation of Training Manual for Dental Professionals under National Resource Centre of Oral Health and Tobacco Cessation at Maulana Azad Institute of Dental Sciences (MAIDS); Invited to become a jury member for “Quit tobacco: Be a Hero” campaign by NIMHANS Tobacco Quitline, and WHO-India; Peer reviewed an article for the journal F1000 Research; Chaired a session in WASP ASIA – Pacific Hybrid Congress on 17 September 2021; Chaired a Plenary session and symposium in ADDICON 2021 held online on 10-11 December 2021; Was an external examiner for DM Addiction Psychiatry exam in NIMHANS, Bengaluru in June 2021; Evaluated IDM Addiction Psychiatry and 2 MD Psychiatry thesis for NIMHANS, Bengaluru.

Professor Atul Ambekar was Nominated by the Government of India as a member of the Indian delegation at the 65th session of Commission on Narcotic Drugs (CND), Vienna, [held online], in March 2022. Delivered a statement on behalf of MoH&FW, Government of India; Nominated as member, Indo – USA bilateral Counter Narcotics Working Group (CNWG), by MOH&FW, Government of India; Nominated as Member, expert committee constituted by the Ministry of Home Affairs, Government of India to examine the strategies to control diversion of ‘dual use’ chemicals; Associate editor, special Commemorative Issue on WASP Asia Pacific Hybrid Congress 2021 of the journal – World Social Psychiatry, Issue 3(3), September-December 2021; As the nodal officer, continued the implementation of the Addiction Treatment Facility (ATF) scheme of Ministry of Social Justice and Empowerment (MoSJE), Govt. of India; As the office in charge, continued the implementation of the Drug Treatment Clinic (DTC) scheme of Ministry of Health and Family Welfare, (MOH&FW), Govt. of India; Engaged as subject matter expert by World Psychiatric Association and American College of Cardiology on online course on substance use disorders; Nominated as Member, certification and course committee, Indian Psychiatric Society (2022-2023); External reviewer for thesis for MD Psychiatry at KGMU, Lucknow, SKIMS, Srinagar and Delhi University; Nominated as member Scientific Committee – INEBRIA (International Network on Brief Interventions for Alcohol & Other Drugs) International Conference, September 2021 (Goa).

Dr Yatan Pal Singh Balhara was Member, planning group for formulation of cyber safety guidelines for schools by the National Commission for Protection of Child Rights (NCPCR), 2020-2022; Global Master trainer, UNODC on Drug Demand Reduction, 2019 onward; Global Master trainer, The Colombo Plan on Drug Demand Reduction, 2015 onward; Global Master trainer, ISSUP on Drug Demand Reduction, 2019 onward; General Secretary, World Association of Dual Disorders (WADD), 2021-2025; Member, Expert Working Group for finalising the Advanced Level Universal Treatment Curriculum (UTC) for Substance Use Disorders of the Colombo Plan Drug Advisory Programme (CPDAP), 2017 onwards; Member, Advisory Panel on Cyber Awareness Ambassador Program, South- East District, Delhi Police, India, 2017 onwards; Nominated as Zonal Representative of World Association of Dual Disorders (WADD), 2015 onwards; Elected Member, Education Core Committee of World Psychiatric Association (WPA), 2014- onwards; Member, Education Committee of the International Society for Bipolar Disorders (ISBD), 2011 onwards; Global Mental Health Scholar, WHO and Columbia University, USA, 2014-2020; Collaborative Member, Gulbenkian Global Mental Health Platform- a collaborative effort by Calouste Gulbenkian Foundation, Department of Mental Health of the Faculty of Medical Sciences (NOVA University of Lisbon), and World Health Organization (WHO), 2013- onwards.

Dr Ravindra Rao provided technical expertise to National Drug Agency, Republic of Maldives, to start Methadone Maintenance Treatment (MMT) for individuals with opioid dependence; Organized ADDICON 2021 the first national conference of the ‘Addiction Psychiatry Society of India’ on 10 and 11 December 2021; Roll-out of an online training portal for training of doctors working with agencies supported by the Ministry of Social Justice and Empowerment, Government of India.

Dr Ashwani K Mishra completed International Certification Course from Massachusetts Institute of Technology (MIT) of Data, System and Society (MIT-IDSS)-Data Science and Machine Learning. This paid course was completed after taking permission from the Director and using the Learning Resource Allowance (LRA) for the financial year 2021-2022. This course covered different modules-Foundation of Data Science, Making Sense of Unstructured Data, Regression and Prediction, Classification and Hypothesis Testing, Deep Learning, Recommendation and Systems, Networking and Graphical Models, and Predictive Analysis. In addition to these 9 modules there were three case studies on Foundation in Data Science and Python, Classification and Regression, and Predictive Analysis. For every module there were graded QUIZ, and all of them were completed successfully; Board Member for the Education Subcommittee for the International Society for Clinical Biostatistics (ISCB). Not the only member from India, or Asia but the only member from the Developing world. In total there are 15 [14+1] members in this committee. The other 14 members belong developed/high income countries [1 Member each from Australia (AU), Canada (CA), France (FR), Romania (RO), 3 Members from New Zealand (NZ), 5 Members from United Kingdom (UK), and 2 Members from USA (US). This committee supports and organize educational activities, such as short-courses, webinars, and seminars on contemporary methods in Clinical Biostatistics; Continuing as the Elected Member of International Institute; Continuing as the Elected Member of International Association for Statistical Education; Continuing as Member–International Society for Clinical Biostatistics.

Dr Rachna Bhargav was Associated Editor in Journal of Indian Association of Social Psychiatry; Executive member, IASP; Secretary General, Indian Association of Child & Adolescent Mental Health.

Dr Gauri Shanker Kaloiya was Member of Consultative Committee for compliance of the Transgender Persons (Protection of Rights), Act 2019, Transgender Persons (Protection of Rights), Rules, 2020. BPRD, Ministry of Home Affairs (MHA), GOI; Member of Standing Committee to hear the appeal of appellants under section 17 (I) of Transplantation of Human Organs Act (THOA), MoHFW, GOI; President-Elect of Indian Association of Clinical Psychologists (IACP): 2022; Treasurer of Indian Association for Social Psychiatry (IASP): 2021-2024.

Dr Prabhu Dayal Live Involved Session from the Indo Tibetan Border Police (ITBP) Force HQs themed at “Early Identification and Psychosocial Interventions :Substance Use”; Involved in Online Orientation Programme on Management of Substance

Use Disorders for Resource Persons (Psychiatrists) , organized under Drug De-Addiction Programme, Ministry of Health and Family Welfare, Government of India; Nominated expert member, speciality sub-group TB-Tobacco & Substance abuse, National Technical working group on TB-Co-morbidities for development of framework, guidelines on management and capacity building materials for India, Ministry of Health and Family Welfare, Government of India.

Dr Siddharth Sarkar Paper titled “Common Barriers and Facilitators of Addiction Treatment among Treatment-Seeking Population” Presented by: Dr Ankita Chattopadhyay Won the Dr Anil Malhotra Award of Indian Association for Social Psychiatry for year 2021 Based upon ICSSR funded work at NDDTC conducted by Dr Siddharth Sarkar, Dr Piyali Mandal, Mr Ankush Thakur, Dr Esha Sood and Dr Ankita Chattopadhyay on barriers and facilitators of addiction treatment; Paper titled “A comparative study of sexual behavior, dysfunction, satisfaction, relationship, and sexual quality of life amongst treatment-naïve and abstinent men (buprenorphine-maintained) with Opioid (heroin) dependence” Presented by: Dr Mahadev Singh Sen Won the Bhagwat Award of Indian Psychiatric Society for year 2022 Based upon the work conducted by Dr Nishtha Chawla, Dr Mahadev Singh Sen, Dr Ankita Chattopadhyay, under guidance of Dr Siddharth Sarkar and Dr Prof Atul Ambekar at NDDTC.

10.7. Neurosciences Centre

Chief

MV Padma Srivastava

Neurology

Professor and Head

MV Padma Srivastava

Professors

Manjari Tripathi	Achal Kumar Srivastava
Rohit Bhatia	Mamta Bhushan Singh

Additional Professor

Deepti Vibha

Associate Professors

Vishnu V.Y.	Roopa Rajan
Awadh Kishor Pandit	Rajesh Kumar Singh

Assistant Professors

Anu Gupta	Elavarasi A.	Animesh Das
Divya MR	Ayush Agarwal	

Neurosurgery

Professor and Head

Shashank Sharad Kale

Emeritus Professors

Prakash Narain Tandon	Ajit K. Banerji
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Professors

P Sarat Chandra	Ashish Suri
Rajinder Kumar	Manmohan Singh

Additional Professors

Vivek Tandon	Sachin Borkar	Hitesh Gurjar
Amandeep Kumar	Shashwat Mishra	Rajeev Sharma
Shweta Kedia	Ramesh Doddamani	Dattaraj Sawarkar
Kanwaljeet Garg	Manoj Phalak	

Associate Professors

Amol Raheja	Satish Verma	Rajesh Meena
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Assistant Professors

Santanu Kumar Bora	Kolulla Praneeth
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Neuroimaging and Interventional Neuroradiology

Professor and Head

SB Gaikwad

Professors

Ajay Garg

Additional Professor

S Leve Joseph Devarajan

Neuroanaesthesiology
Professor and Head
Arvind Chaturvedi

Professors
Mihir Prakash Pandia Rajendra Singh Chouhan
Girija Prasad Rath Hemanshu Prabhakar

Additional Professors
Charu Mahajan Indu Kapoor Surya Kumar Dube

Assistant Professors
Vanitha Rajgopalan Suman Sokhal

Pathology – Neuropathology Section
Professor Incharge
MC Sharma

Professor
Vaishali Suri

Clinical Neuropsychology
Professor
Ashima Nehra

Hospital Administration
Amit Lathwal

Chief Medical Officer
Anjali Hazarika

HIGHLIGHTS

In the year 2021-22, the Neurosciences Centre continued to scale newer heights in the domains of patient care, research, and training. The department of Neurology initiated 3 national-level patient care-oriented research programmes in the field of stroke neurology: SMART INDIA, CARE DAT and IMPETUS. They also conducted a weeklong stroke awareness programme and successfully organised the national teaching programme: 'Stroke Summer School' for neurology trainees and young neurologists across the country. The department of Neurosurgery performed 2732 neurosurgical and 343 gamma knife procedures in the past year. They also conducted the 24th Annual Micro-neurosurgery Workshop for young neurosurgeons from India and abroad. The department of Neuroradiology installed a state-of-art 128-slice dual energy CT scanner replacing the older 6-slice one and upgraded the existing 1.5T MR to a 'silent MR' system helping not only reduce patient anxiety but also decrease scan time. The department of Neuroanesthesiology provided anesthetic management for 2886 neurosurgical and 541 neuroradiological procedures. Intensive care management was provided to 2907 patients. The department of Neuropathology added new facilities for molecular diagnosis and cytogenetic work-up in neuro-oncology (e.g., in-situ hybridization, capillary electrophoresis, real-time PCR) and expanded the diagnostic immunohistochemical panel. They also conducted a 5-day neuro-oncology workshop. The department of Neuropsychology was involved in providing a 'standard of care' and was an integral part of various multi-disciplinary research projects.

Neurology

HIGHLIGHTS

In the year 2021-22, the Department of Neurology continued to scale new heights in patient care, research and training. This year was notable for the initiation of three patient care-oriented research programmes in the field of stroke neurology: 'SMART INDIA', an app-based project with the primary purpose of providing low-cost tele stroke services to physicians in district hospitals; 'CARE DAT', a Center for Advanced Research and Excellence in Disability and Assistive Technology to explore the role of assistive technologies in optimising functional recovery after stroke; and 'IMPETUS' to assess the feasibility of implementing a uniform stroke care pathway in medical colleges of India.

In the patient care arena, the department organized a weeklong stroke awareness program including competitions for school children, nursing care symposia and public education lectures.

The 'STROKE Summer School' was organized as a national teaching program for neurology trainees and young neurologists across the country.

The department is successfully running the Stroke fellowship program.

Innovative educational activities

The 'STROKE Summer School' was organised as a teaching program for neurology trainees, fellows and young neurologists across the country. This was the first virtual Stroke summer school organised in the country.

CMEs/Workshops/Symposia/National and International Conferences organized by department

1. The Third Indian Rare Movement Disorder Symposium, 25–26 February 2022, Virtual
2. The ISA STROKE summer school 2021, 6- 8 August 2021, Virtual

Lectures delivered

Achal Kumar Srivastava: 9 Deepti Vibha: 4 Roopa Rajan: 7
Anu Gupta: 3 Divya MR: 5 Awadh K Pandit: 2

Oral posters/papers presented: 14

Total oral presentations (3 years)

Year	Number
2019-2020	32
2020-2021	20
2021-2022	13

RESEARCH

Funded projects

Ongoing

- 1 ICMR CARE – centre for advanced neuroassistive technology for stroke recovery , Prof. MV Padma Srivastava, ICMR, 5 years, 2021-2025, Rs 5 crores
- 2 Smartphone based Telestroke 'Stroke Physician' led Acute Stroke Management (SMART INDIA): A cluster randomised trial, Professor MV Padma Srivastava, DHR, 3 years, 2021-2025, Rs 1.5 crores
- 3 Magnetoencephalography resource facility", Prof. Manjari Tripathi, DBT, 5 years, 2018-2023, Rs 249359792/-
- 4 YOGA project: Elucidating the efficacy of yoga meditation and its associated epigenetic modulation in person with temporal plus and temporal lobe epilepsy., Prof. Manjari Tripathi, DST, 3 years, 2020-2023, Rs 70,26,760
- 5 ICMR project: "Development of Nardistachys Jatamansi and Withania Somnifera formulation for t/t of sleep disorder", Professor Manjari Tripathi, ICMR, 3 years, 2021-2023, Rs 56,37,678/-
- 6 DHR project title : "A case-control study to investigate gut microbiota dysbiosis in drug-refractory epilepsy patients using whole-metagenomic shotgun sequencing"
Prof. Manjari Tripathi, ICMR/DHR, 3 years, 2021-2024, Rs 5901627
- 7 PSA Project title: Development and demonstration of a portable device for rapid detection of epileptiform discharges", Professor Manjari Tripathi, PSA, 4 years, 2018-2022, Rs 11427200
- 8 Dementia Science Programme: Incidence/Prevalence/Risk/Intervention analysis of dementia and basic research thereof., Prof. Manjari Tripathi, DHR, 4 years, 2019-2023, Rs 8878000/-
- 9 Targeting Repressor Sites in fxn Gene and Associated Transcription Factors as Potential Therapeutic Approach in Friedreich's Ataxia, Dr. Achal Kumar Srivastava, ICMR, 3 years, 2019-2021, Rs 62 lakhs
- 10 Long Range, Cis-Acting Functional Variations in Regulatory Elements of Frataxin: New Therapeutic Targets in Friedreich's Ataxia, Dr. Achal Kumar Srivastava, ICMR, 3 years, 2021- 2024, Rs 89 lakhs
- 11 CRISPR-based Editing of Regulatory Region & Expanded Triplet repeats as Therapeutic Approach in India's Most Common Hereditary Ataxias", Achal Kumar Srivastava, DBT, 3 years, 2018-2021 (Awaiting extension), Rs 1.25 crores
- 12 Clinical and genetic characterisation of spectrum of dystonia using deep targeted clinical sequencing, Achal Kumar Srivastava, ICMR, 3 years, 2019- 2022, Rs 84 lakhs
- 13 A population Based Prospective Cohort Study in Unravel the Causes of Stroke and Cognitive Decline: A cross-cultural perspective, Achal Kumar Srivastava, DBT funded collaborative project with Rotterdam University Netherland, 7 years, 2014-2022, Rs 32 crores
- 14 Identification of brain imaging, quantitative traits loci for cerebral, small vessel disease among AIIMS cohort participants using genome wide association study, Achal Kumar Srivastava, DHR, 3 years, 2018-2021, Rs 27 lakhs

- 15 Determination of efficacy of 9 months, 12 months and 18 months of Anti-Tubercular Treatment (ATT) for Tuberculous Meningitis (TBM): A Randomized controlled, non-inferiority trial, Deepti Vibha, DHR, 3 years, 2021-2023, Rs 40,52,121
- 16 A prospective, multicentric, randomized, double-blind, parallel, phase III clinical study to assess efficacy of PMZ-1620 along with standard treatment in patients of acute ischemic stroke, Deepti Vibha, 2 years, 2021-2023, Rs 7,48,000
- 17 The Indian Movement Disorder Registry and Biobank: clinical and genetic evaluation in Indian patients with movement disorders, Dr. Roopa Rajan, DBT, 4 years, 2018- 2022, Rs 28,77,21,70
- 18 Genetic Architecture of Parkinson's Disease in India (GAP-India), Roopa Rajan, Michael J Fox Foundation, 3 years, 2019-2022, Rs 75,00,000
- 19 Unravelling the genetic landscape of Indian dystonia: a chromosomal microarray approach, Roopa Rajan, AIIMS, 2 years, 2021- 2023, Rs 10,00,000
- 20 Spiral Dx: Tremor diagnosis and quantification using artificial intelligence, Dr. Roopa Rajan, DBT, 3 years, 2021-2024, Rs: 1,06,49,600
- 21 Exploring the electrophysiological signatures of Essential Tremor and Essential Tremor Plus, Roopa Rajan, AIIMS-UCL, 18 months, January 2021- September 2022, Rs 5,00,000
- 22 CSF inflammatory markers in the diagnosis of autoimmune encephalitis, Dr. Rajesh Kumar Singh, AIIMS, New Delhi, 2 years, 2021-2022, Rs 4,95,000
- 23 Awareness Of Head Injury While Driving In Patients With Epilepsy: A Preventive And Public Education Study, Dr. Divya MR, ICMR, New Delhi, India, 3 years + 6 months extension, 2019-2023, Rs 26 lakhs
- 24 Evaluation Of Effects Of Repetitive Trans Cranial Magnetic Stimulation At Supplementary Motor Area In Parkinson's Disease Patients With Freezing Of Gait- A Randomized Sham Controlled Study, Dr. Divya MR, ICMR, New Delhi, India, 3 years, 2021-2024, Rs 24 lakhs
- 25 Clinical And Genetic Profile Of Patients With Huntington's Disease And Other Hereditary Chorea, Dr. Divya MR, AIIMS Intramural Research Grant, 2 years, 2021-2023, Rs 8 lakhs
- 26 The Role Of Educational Intervention On Improving Diagnosis And Treatment Of Central Nervous System Tuberculosis-A Cluster Randomized Trial (RED-TB Trial), World Federation of Neurology Grant in Aid 2021, Dr. Divya MR, World Federation of Neurology, 2 years, 2021-2023, Rs 18.5 lakhs
- 27 Fondaparinux compared to low molecular weight heparin for post stroke thromboprophylaxis, Dr. Ayush Agarwal, Indian Stroke Association, 2 years, 2021-2023, Rs 2 lakhs
- 28 Development of an image-based algorithm for classification of subtypes of neurodegeneration with brain iron accumulation (NBIA), Dr. Achal Kumar Srivastava, AIIMS Intramural grant, 2 years, 2021-2023, Rs 5 lakhs
- 29 To evaluate the prevalence and incidence of cognitive deficits, in relation to glycaemic control and other metabolic risk factors, in elderly patients with type 2 diabetes mellitus who are at high risk of dementia, in comparison to age and sex matched control group: prospective observational cohort study., Dr. Anu Gupta, ICMR, 3 years, 2019-2022, Rs 46 lakhs
- 30 Clinical and radiologic profile, risk associations, caregiver burden and clinical outcomes in early and late onset dementia., Dr. Anu Gupta, AIIMS Intramural grant, 2 years, 2021-2023, Rs 8,15,000
- 31 Role of Normobaric Oxygen Therapy, Fluoxetine and Transcranial Direct Current Stimulation (rTDCS) in Hypoxic Ischemic Brain Injury – HIB Initiative., Prof. MV Padma Srivastava, DBT, 5 years, 2018-2023, Rs 1,06,03,000
- 32 Cost-effective analysis of evidence-based interventions underlying Acute Ischemic Stroke: A Retrospective Study of Patients in a Tertiary Care Hospital, Delhi, India (Approved for funding by DHR, Government of India), Dr. Awadh Kishor Pandit, DHR, Government of India, 18 months, 2021-2023, Rs 40,89,10
- 33 Bridging therapy with intravenous Alteplase in imaging eligible Acute Ischemic Stroke patients with onset between 4.5 to 9 hours – A Randomized Controlled, Pilot Study (Funding by Intramural Grant, AIIMS, New Delhi), Dr. Awadh Kishor Pandit, AIIMS, New Delhi, 2 years, 2020-2022, Rs 8 lakhs
- 34 Efficacy and Safety of Injection Tenecteplase in 4.5 To 24 hours imaging Eligible Window patients with Acute Ischemic Stroke (Funding by Science and Engineering Board, DST, Government of India), Dr. Awadh Kishor Pandit, SERB, DST, Government of India, 3 years, 2022-2025, Rs 32,14,400
- 35 Intracranial Mucormycosis in COVID-19 patients – a case control study (Funding by Intramural Grant, AIIMS, New Delhi), Dr. Awadh Kishor Pandit, AIIMS, New Delhi, 1 year, 2021-2022, Rs 48,70,000
- 36 Fever, Hyperglycemia, Swallowing and Hypertension Management in Acute Stroke: A Cluster Randomized: Trial (Indian Quality Improvement in Stroke Care Study (FeSSH) Phase-II (Funding by Indian Council of Medical Research, New Delhi), Dr. Awadh Kishor Pandit, AIIMS, New Delhi, 3 years, 2022-2025, Rs 69,06,600

Total funded ongoing projects (3 years)

Year	Number	Total funds
2019-2020	36	Rs. 50,18,16,677
2020-2021	36	Rs. 52,69,95,680
2021-2022	36	Rs. 79,56,16,918

Completed

1. Automated hand-drawn spiral analysis platform as a tool to differentiate tremor syndromes, Dr. Roopa Rajan, DST-SERB, 3 years, 2017-2020, Rs 42 lakhs
2. Botulinum Toxin injection for treatment of dystonic hand tremor: a randomised, placebo-controlled, parallel group trial, Dr. Roopa Rajan, AIIMS, 2 years, 2018- 2020, Rs 482000
3. Citicoline in acute ischemic stroke- a randomised controlled trial (CAISR), Dr. Venugopalan Y. Vishnu, ICMR AIIMS Intramural grant, 2 years, 2018-2020, Rs 2.5 lakhs
4. Blood based protein biomarkers for the prediction of stroke outcome using high throughput proteomics approach, Dr. Deepti Vibha, Intramural, 3 years, 2019-2021, Rs 10 lakhs
5. An exploratory study to identify candidate CSF biomarkers in Idiopathic Intracranial hypertension with or without vision loss., Dr. Awadh Kishor Pandit, AIIMS, New Delhi, 2 years, 2018-2020, Rs 2.5 lakhs

Departmental projects

Ongoing

- 1 Neural basis of Decision making: lateralization of cognitive function in medical temporal lobe epilepsy patient
- 2 Role microRNAs in pathophysiology of neurodegenerative disorder: spinocerebellar ataxia type 2 (SCA2)
- 3 Characterization of tremor and gait in spinocerebellar ataxia type 12
- 4 To study the molecular correlation of Friedreich's ataxia (FRDA) phenotype through mitochondrial genome and transcriptome analysis
- 5 To identify functional genetic elements in triplet repeats flanked haplotype region and mitochondrial genome in spinocerebellar ataxias
- 6 Identification of novel unstable tandem nucleotide repeat loci by genome-wide screening and their implication in the pathogenesis of genetically uncharacterized progressive cerebellar ataxias.
- 7 Assessment of sleep dysfunction and its correlation with autonomic function test and severity of disease in apparently idiopathic sporadic progressive cerebellar ataxia
- 8 Non ataxic manifestations of spinocerebellar ataxia
- 9 Determinants of sleep disturbances in post-stroke patients – a cross-sectional study
- 10 Utilization of in-hospital resources for stroke care in patients of acute ischemic stroke (AIS): a prospective cohort study
- 11 Quantitative susceptibility mapping to predict deep brain stimulation outcomes in Parkinson's disease
- 12 Institutional registry of patients with hypertrophic pachymeningitis 13 Clinico-radiological spectrum of patient presenting with acute myelitis - A prospective study
- 14 Epidemiological, Clinical and Radiological Spectrum of Connective Tissue Disease Related Neurological Disorders — An Ambispective Observational Study.
- 15 Clinical and Genetic Profile Of Patients With Wilson's Disease—A Prospective Cohort Study
- 16 Retrospective Study of Drug-Induced Movement Disorders from a single center movement disorder clinic
- 17 Exploring the utility of quantitative susceptibility mapping in magnetic resonance imaging of brain in Wilson's disease: a prospective cohort study, Mission Thrombectomy 2020 (MT 2020 App) study.
- 18 Predictors of Neurological and Functional recovery at three months in patients with Acute Ischemic Stroke.
- 19 Early Neurological Deterioration after Acute Ischemic Stroke and Long-Term Functional Outcome: A Prospective Cohort Study
- 20 Clinical Utility of Intravascular Ultrasound (IVUS) in carotid artery interventions – a systematic review and meta-analysis
- 21 A Population Based Prospective Cohort Study to Unravel the Causes of Stroke and Cognitive Decline: A Cross-Cultural Perspective (Funded by DBT, Government of India)
- 22 Fever, hyperglycemia, swallowing and hypertension management in acute stroke: A cluster randomized controlled trial (Indian Quality Improvement in Stroke Care study)" (Funded by ICMR, Government of India)
- 23 Identification of pathobiological and disease activity markers in Primary CNS Vasculitis (Funded by ICMR, Government of India)
- 24 AIIMS Primary CNS Vasculitis Registry. Pattern of autonomic involvement in variant subtypes of GBS and its correlation with electrophysiological parameters.
- 25 To study the utility of high-resolution vessel wall magnetic resonance imaging in patients with acute ischaemic stroke.

Completed

- 1 Study of efficacy of Fluoxetine in post-stroke anxiety-A Randomized Controlled Trial
- 2 To Determine the Diagnostic Performance Characteristics of Blood Based Protein Biomarkers for The Differentiation Of Stroke Using High-Throughput Proteomics Approach
- 3 Micro-embolic signal monitoring in stroke subtypes: A systematic review and meta analysis of 58 studies
- 4 Biomarker to enhance accuracy and precision of prediction of short term and long-term outcome of spontaneous ICH: A prospective cohort study (Co investigator, DBT funded)
- 5 Clinico-radiological profile and treatment outcomes in hypertrophic pachymeningitis: A retrospective study
- 6 Depressions in persons with epilepsy (PWE) correlation with serum biomarker and CYP2C19 polymorphism a pilot study

- 7 Prevalence and determinant of Cerebral Microbleeds among community dwelling people aged 50 years and older: a population based cross-sectional study.
- 8 Repetitive transcranial magnetic stimulation to the inferior parietal lobule in task specific focal hand dystonia: a randomized, cross over, blinded outcome assessment study
- 9 Social cognition in Parkinson's disease, An Exploratory Study to Evaluate Optical Coherence Tomography Angiography in Cases of Ischemic Stroke due to Extracranial Internal Carotid Artery Atherosclerotic Disease and Pre And Post Carotid Artery Re-Vascularization (Carotid Artery Stenting and Carotid End-Arterectomy) –A Prospective Cohort Study
- 11 Early Neurological Deterioration after Acute Ischemic Stroke and Long-Term Functional Outcome: A Prospective Cohort Study

Collaborative projects

Ongoing

- 1 Interventions for stigma for persons with epilepsy in India, Inter-departmental
- 2 Role of genetic variants and non-coding RNA s in drug-resistant epilepsy. Inter-departmental
- 3 A Randomised controlled study to compare antidepressant in mild to moderate depression in person with epilepsy, Inter-departmental,
- 4 An ambispective cohort study of patient with Autoimmune Epilepsy, Inter-departmental
- 5 Intranasal midazolam vs mouth dissolving clobazam in termination of seizures: a randomized controlled trial, Inter-departmental
- 6 A randomized controlled trial comparing the efficacy of brief psychoeducation vs yoga nidra in persons with PNES, Inter-departmental
- 7 A large-scale comprehensive clinical and genomics approach for rare mutations and novel gene discovery in hereditary ataxias in India-(CHANGER) 2021-2024 CSIR-IGIB
- 8 Investigating the role of nicotinic neuromodulation in levodopa induced dyskinesias- a multimodal study, NBRC, Manesar
- 9 Effect Of Intermittent Theta Burst Stimulation On Neurogenic Orthostatic Hypotension In Patients Of Parkinson's Disease, Department of Physiology, AIIMS New Delhi
- 10 Development of an image-based algorithm for classification of subtypes of neurodegeneration with brain iron accumulation (NBIA), Neuroradiology, AIIMS, New Delhi

Completed

- 1 Efficacy, safety and tolerability of modified Atkins diet in adolescence and adults with drug resistant Epilepsy, A randomized controlled trial. Inter-departmental
- 2 Assessment of impact of home confinement resulting from COVID-19 pandemic on motor and non-motor features of patients with idiopathic Parkinson's Disease and factors associated with it, AIIMS- Rishikesh
- 3 Mild Cognitive Impairment and associated, factors among elderly persons in an urban resettlement colony in Delhi, Ravneet Kaur, Center of Community Medicine

PUBLICATIONS

Journals:113 Abstracts:16 Chapters in Book:09 Books & Monographs:01

PATIENT CARE

Special clinics

1. Botulinum Toxin Clinic
2. Neuro-immunology clinic
3. Neuromuscular Disease Clinic
4. Ataxia Clinic
5. Stroke clinic
6. Neuro-infections clinic
7. Intractable epilepsy clinic
8. Movement disorders and DBS clinic
9. Headache clinic

Special lab facility

Neurobiology laboratory has been started as new facility under department of Neurology.

Transcranial doppler (TCD) facility.

Botulinum Toxin Injection services

Initiated the diagnostic Digital Subtraction Angiography (DSA) in Neurovascular cases with Neurosurgery department and planned to initiate endovascular procedure in treating ischemic and hemorrhagic stroke.

Community services/camps

Stroke awareness week was organised in October 2021, with a public awareness lecture on stroke, its risk factors, treatment and prevention.

The faculty participated in various awareness programs on different television channels like DD News, RSTV and DD National.

Delivered talks on the World Alzheimer's day, educating the caregivers about dementia and management of behavioural symptoms in dementia.

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor MV Padma Srivastava was nominated to WOMEN in STROKE for the year 2022 by the WSA and WSO; WINNER of the prestigious METRODORA Awards for women in science; excellence award by the International Alliance of Patients Organizations (IAPO) for the year 2022. Membership to the Indian Academy of Science Communication under the aegis of; CSTC, DST, Govt. of India, 2022; Awarded the V.P. SHARMA ORATION by the National Academy of Sciences Allahabad, 2021.

Professor Achal Kumar Srivastava was Fellow of Indian Academy of Neurology; Fellow of National Academy of Medical Sciences; Fellow of National Academy of Science India; Associate Editor Annals of Indian Academy of Neurology; Associate Editor Annals of Movement Disorders; Executive Committee Member Indian Academy of Neurology; Executive Committee Member Neurological Society of India; Executive Committee Member Movement Disorder Society of India; Executive Committee Member Delhi Neurological Association; Founder Member and Hony. Treasurer Nerve Muscle Society; Founder Member and Hony. Treasurer of Neuromodulation Society of India; Chairperson Movement Disorder Subsection of Indian Academy of Neurology; Nominee of Chancellor of University of Kashmir, Hazratbal, Srinagar, J&K (2021-2022); Member of technical evaluation committee of Department of Health and Research (DHR) for establishing medical research units at various medical colleges; Member of AIIMS Ethics Subcommittee for SAEs in CT; Member of Committee for addressing Grievances of PhD students and faculty; Member of Board of studies of Department of Neurology at SGPGI, Lucknow; Thesis evaluation MD Medicine and DM Neurology -Guru Govind Singh University, Delhi, PGIMER, Chandigarh, KGMU, Lucknow, NIMHANS, Bengaluru.

Dr Deepti Vibha was Core faculty in the stroke fellowship programme; (under Neurology) and research methodology and evidence-based medicine; (under CMETi); Expert reviewer for extramural projects in DST and; DHR. Reviewer in various international indexed journal; Member of AIIMS; annual report committee, technical specification committee for purchase of; equipment, generic pharmacy bill verification committee; Expert panelist for MD(Medicine)thesis dissertations; External examiner for DM(Neurology)in JIPMER, Puducherry.

Dr Roopa Rajan was Speaker in Public Awareness Lecture on World Parkinson's day, 11 April 2021, New Delhi (Virtual); Invited speaker and received the best oral presentation award at the International Congress of the Korean Movement Disorder Society, 10 December 2021; Selected as Co-Chair of the International MDS Young Member Group; Served as Co-Chair of the International Parkinson and Movement Disorder Society Task Force on management of movement disorders: Integrated and Interdisciplinary Care; Served as Member of Education Committee, International Parkinson and Movement Disorder Society; Evaluated thesis - MD Internal Medicine- PGIMER, Chandigarh

Dr Awadh Kishor Pandit Got awarded by SERB, DST, Government of India "Scientific Social Responsibility Award (SSR)" of Rs 60,000. SSR intends to Effectively utilize the R&D infrastructure and expertise of SERB grantee to benefit other S&T stakeholders and the society; Embed a participatory, inclusive and sustainable culture of social responsibility among SERB grantee.

Dr Rajesh Kumar Singh was Nodal person for coordinating Fire Drill and other safety measures at NS center, CN Centre, AIIMS; Content validators for the handbook on Nursing Procedures Book released on 8 September 2021; Part of Expert panel Public awareness and interactive session on stroke, AIIMS, New Delhi; Assistant editor in Journal Neurology India; Worked as Faculty in charge various wards and mucor wards in Covid 19 pandemic at NCI Jhajjar.

Dr Anu Gupta was Nodal person for COVID related infection control services and member of the Neurosciences Infection control committee.

Dr Diya was MDS-AOS Synergies and Leadership Junior Faculty Award 2021; World Federation of Neurology, Educational Grant-in-aid 2021; Assistant Editor Annals of Movement Disorders (AOMD); Coordinator of MDSI (Movement Disorder Society of India) Journal Quest.

Dr Ayush Agarwal received 2nd prize for poster presentation at Indian National Stroke Conference 2022; Reviewer for Journal of Neuroimmunology, BMJ case reports, Journal of Clinical Rheumatology, Annals of Indian Academy of Neurology and Neurological Sciences; Member of MNAMS (Neurology).

OPD DATA OF NEUROLOGY (2021-2022)

	NEW CASE					OLD CASE					
	Male	Female	M child	F child	TOTAL	Male	Female	M child	F child	TOTAL	GRANDTOTAL
2021-2022	10605	7533	274	172	18584	26977	19057	470	290	46794	65378
2020- 2021	4438	3057	147	61	7703	14242	9791	260	134	24427	32130

Neurosurgery**HIGHLIGHTS**

The Department of Neurosurgery has continued to excel in patient care, research & training during the year 2021-2022. COVID has presented some unique challenges during this year also & COVID restrictions continued to hamper clinical work this year also. However, with the gradual lifting of restrictions, the workflow returned to normalcy which was also reflected in the increase in number of patients treated in our department. In the last one year, the department of Neurosurgery performed 2732 neurosurgical procedures. The Gamma-knife services were continued till November 2021 when it was temporarily closed for upgradation and renovation. During this period, 343 cases of GKRS were performed. With easing of restrictions, we gradually shifted from an online mode of teaching to an offline mode. Our department conducted online interview for the INI-Superspecialty course in neurosurgery. We also successfully conducted the 24th Annual Micro-neurosurgery Workshop from 31 March- 2 April 2022 which is a unique hybrid workshop that aims to impart neurosurgical skills to young neurosurgeons from India and abroad. In this workshop, neurosurgery stalwarts including Prof. SK Gupta, Professor Mitchel Berger (USA) and Professor Rokuya Tanikawa (Japan) shared their experience and knowledge with the delegates. This year's Microneurosurgery workshop was a great success with very good participation & was much appreciated for its scientific content. Not lagging behind in research, our department has published 156 research articles in both national & international high impact journals. Our department has contributed 59 book chapters during this period. We have also published two books which includes our departmental book "AIIMS Neurosurgery Case Book on Cervical Spine Trauma".

EDUCATION

Innovative training programs- Department was instrumental in organizing following training programs

Professor Ashish Suri, Convener

Neurosurgery Simulation-based Short Term Skills Training Program: Neurosurgery Skills Training Facility (NSTF) and Neurosurgery Education and Training School (NETS)

- **Simulation-based neurosurgery skills training sessions:** 1284
- **Cadaver-based skull base dissection:** No session due the Covid -19 Pandemic
- **Simulation-based short term neurosurgery skills training=** 8
 - o 4 weeks short term training = 4
 - o 2 weeks short term training = 4
- **NETS WeWeekend Workshops (no of residents)** = nnumber of workshops = 03 ; number of trainees = 48
- **National Workshop :**
 - o 24 Microneurosurgery Workshop 2022, New Delhi = Total Delegates 50
- **E-learning in neurosurgery skills training (1 April 2021 to 31 March 2022)**
 - o Surgical videos = 1,08,682 views (989 Subscribers)
 - o Website views = 8,006 views
 - o Discussion forum = 189 likes (Total likes = 9007)

CMEs/Workshops/Symposia/National and International Conferences:

24th AIIMS Annual Microneurosurgery workshop: 31 March- 2 April 2022

6 AIIMS Annual Neurotrauma Conference 2022: 20-22 March 2022

Lectures delivered

Ashish Suri: 15

Vivek Tandon: 9

Sachin Borkar: 16

Shashwat Mishra: 3

Shweta Kedia: 4

Hitesh Kumar: 2

Kanwaljeet Garg: 2

Dattaraj Sawarkar: 1

Amol Raheja: 4

Rajesh Meena: 1

Shantanu Kumar Bora: 3

Kokkula Praneeth: 4

Oral papers/posters presented: 12

RESEARCH

Funded projects

Ongoing

1. Advanced Epilepsy Research: A multidisciplinary approach. Prof. P Sarat Chandra, Office of Principal Scientific Advisor (PSA), Govt of India., 5 years, 2018-2022, Rs 3,77,47,856
2. Material characterisation of brain tissue and development of tissue-device interaction based neurosurgical simulation tools,
3. Professor Ashish Suri, Department of Health and Research (DHR), Indian Council of Medical Research (ICMR), Ministry of Health & Family Welfare, Govt. of India, AIIMS+ Applied Mechanics- IIT-D, 3 years, 2020-2023, Rs 839 lakhs
4. Collaborative neuro-engineering platform for excellence in innovation and translational research in neurosurgery simulation, Prof. Ashish Suri, Department of Biotechnology (DBT), Ministry of Science and Technology, Govt. of India, AIIMS+ IIT-D, 5 years, 2018-2023, Rs 657 lakhs
5. To study the effect of a locally administered multifunctional cocktail on postoperative pain and blood loss in elective lumbar spinal surgeries: A prospective double blinded randomized control, Dr. Sachin Borkar, ICMR, 2 years, 2022-2024, Rs 40,50,060
6. Designing and testing intra-operatively an inexpensive, small, efficient and portable, table /microscope objective mounted device for visualizing and recording indocyanine green fluorescence during surgeries under the operative microscope, Shashwat Mishra, AIIMS IIT Delhi Collaborative, 2 years, 2020-2022, Rs 8,54,000
7. 3D volumetric analysis to define the extent of resection of giant pituitary adenomas, Dr. Rajeev Sharma, AIIMS, New Delhi, 2 years, 2021-2023, Rs 6 lakhs
8. Serum Vascular endothelial growth factor and Endostatin as an adjunct to clinical decision making in managing symptomatic radiation induced changes post Gamma Knife in cranial Arterio-venous Malformations patients: Observational study, Dr. Shweta Kedia, AIIMS, 1 year, 2020-2021, Rs 5 lakhs
9. Facet tropism and cervical disc herniation – Is there any correlation?, Dr. Kanwaljeet Garg, AIIMS intramural, 2 years, 2020-2021, Rs 5 lakhs
10. Microsurgical comparison of operative exposure of IAC through middle fossa and retrosigmoid hearing preservation skull base approaches - a laboratory investigation, Amol Raheja, AIIMS Intramural grant, Extension granted, 2018-2021, Rs 5 lakhs
11. Recurrent glioblastoma; A diagnostic challenge: A multidisciplinary approach for differentiating tumor recurrence and treatment related changes., Dr. Santanu Kumar Bora, Research Section, AIIMS, New Delhi., 2 years, 2022-2024, Rs 5 lakhs (Fund for one year)
12. All India Institute of medical Sciences-Intramural multi-institutional grant AIIMS+IIT-D, Prof. Ashish Suri, AIIMS +IIT-D, 2 years, 2020-2022, Rs 10 lakhs
13. Role of Biomarkers in Predicting Evolution of Cerebral Edema following, Traumatic Brain Injury, Dr Kokkula Praneeth, AIIMS, 2 years, 2020-2022, Rs 4,51,000 (First year)

Completed

1. Role of kynurenic acid, a glutamate receptor inhibitor, in hyperexcitability associated with mesial temporal lobe epilepsy (MTLE), Professor P Sarat Chandra, DBT – Department of Biotechnology, Govt. of India, 4 years, 2017-2021, Rs 53,75,400/-
2. Deciphering the role of Histone deacetylases (HDACs) in mesial temporal lobe epilepsy., Ramesh S Doddamani, AIIMS, Delhi, 2 years, 2016-2018, Rs 5 lakhs

Departmental projects

Ongoing

1. Transarticular screws in management of CVJ pathologies, is it safe?
2. Role of gamma knife in management of neuralgia
3. Why CV Junction surgeries fail, an evaluation of institutional experience
4. Giant pituitary tumour excision using endonasal skull base endoscopy outcome
5. Morphometric study of craniovertebral junction in Indian population
6. Target accuracy of different imaging techniques in stereotactic functional neurosurgery
7. Use of Virtual reality using immersive touch model of lumbar pedicle screw in Neurosurgical Simulation and training
8. Gamma-Knife for giant intracranial (>20cc) lesions
9. Role of Gamma Knife in Craniopharyngiomas
10. Role of Bevacizumab in NF2 for tumor control
11. Study of cerebral edema, neuroinflammation and blood brain barrier disruption in pediatric traumatic brain injury patients
12. Global sagittal balance in degenerative spine diseases
13. Correlation between clinical examination and MRI findings in Neurosurgical cases : A prospective study
14. Evaluation of Biomarkers (Procalcitonin, IL-6, D- Dimer, TLC, CRP) To Predict Cerebral Vasospasm and Delayed Ischemic Neurological Deficits After Aneurysmal Subarachnoid Hemorrhage

- 15 Role of endoscopic endonasal approach in the management of giant pituitary adenoma
- 16 Functional and neuropsychological outcome in moyamoya disease
- 17 Spinal Alignment After Fixation in Trauma Patients
- 18 Role of Revision CVJ Surgery in Management of CVJ Anomaly
- 19 Impact of Covid-19 on Neurosurgical Procedures for Non-Traumatic Pathologies in Neurosciences Centre
- 20 Intraoperative mMEP and D wave monitoring in CVJ patients undergoing DCER and postoperative motor outcome
- 21 Study of variations in anatomy and pattern of skull base fractures in patients with posttraumatic CSF leak
- 22 Spinal alignment after fixation in trauma patient
- 23 Pseudoprogression of Vestibular schwannoma post gamma knife therapy
- 24 Management of intracranial vascular pathologies – Our experience of last 2 decades.
- 25 Comparison of accuracy of various MRI Sequences in target planning for Subthalamic nucleus deep brain stimulation
- 26 Importance of MEG in epilepsy
- 27 Psychiatric symptoms in traumatic brain injury
- 28 Prospective study to evaluate the role of bevacizumab in treatment of vestibular schwannoma in patients with neurofibromatosis type 2
- 29 Long term effects of draining vein shielding during gamma-knife radiosurgery in intracranial arteriovenous malformations
- 30 Fixation versus Decompression in the management of Chiari malformation: A randomized control trial.
- 31 A retrospective analysis of atlantoaxial fusion with C1-C2 transarticular screws
- 32 Evaluation of biomarkers (procalcitonin, IL-6, D- dimer, TLC, CRP) to predict cerebral vasospasm and delayed ischemic neurological deficits after aneurysmal subarachnoid hemorrhage.
- 33 Gamma Knife Subthalamotomy for Idiopathic Parkinson's Disease - A Pilot Study
- 34 Outcomes following Traumatic Posterior fossa injuries in neurosurgical patients
- 35 Factors affecting non-remission or recurrence after surgical treatment of functional pituitary adenomas
- 36 Role of diffusion and perfusion matrices in Differentiation of various subtypes of Pituitary adenomas.
- 37 Prevalence of Neuropsychiatric Co-morbidities in patients with Traumatic Brain Injury
- 38 Third ventricular volume as a predictor of developing hydrocephalus in aneurysmal subarachnoid hemorrhage

Completed

- 1 Outcome and complications of brain AVMs planned with DSA/MRI vs MRI alone
- 2 Managing Traumatic Brain Injury during the COVID-19 pandemic- A Case Matched Controlled Analysis of Immediate Outcomes
3. "Therapeutic Application of Bone Marrow Derived Stem Cell in Complete Spinal Cord Injury".
4. Study of Traumatic brain injury induced secondary gastrointestinal changes
- 5 Pituitary dysfunction following stereotactic radiosurgery for secretory pituitary adenomas
- 6 Primary Gamma-Knife with concurrent Temozolomide for GBM
- 7 Interplay of Radiological Parameters and Functional Outcomes following Cervical Laminoplasty
- 8 An observational study to assess the changes in vision post gamma knife therapy for sellar and parasellar lesions.
- 9 Spinal Alignment after Fixation in Trauma Patients
- 10 Role of Revision CVJ Surgery In Management of CVJ Anomaly
- 11 Impact of Covid-19 on Neurosurgical Procedures for Non-Traumatic Pathologies in Neurosciences Centre
- 12 Intraoperative mMEP and D wave monitoring in CVJ patients undergoing DCER and postoperative motor outcome
- 13 Gamma Knife Radiosurgery in the Management of Trigeminal Neuralgia – Outcome Assessment and Prediction using Artificial Neural Network Model
- 14 Outcome of Gamma knife radiosurgery in Craniopharyngiomas
- 15 Role of MRI in predicting outcome in cervical spondylotic myelopathy
- 16 Radiosurgical outcome of intracranial AVMs Planned on DSA and MRI for gamma knife Stereotactic radiosurgery versus MRI alone
- 17 Importance of MEG in epilepsy
- 18 A study of neurosurgical treatment strategies for giant and large Intracranial aneurysms: review of a 10-year experience at aiims.
- 19 Analysis of outcomes of current treatment modalities for conditions associated with vascular compression of cranial nerves.
- 20 Factors affecting Persistence and Recurrence in Cushing's disease
- 21 Volumetric and Molecular analysis following ECOG guided resection in FCD: An Ambispective study
- 22 A study on the effect of GABA A receptor alterations in cortical dysplasias.
- 23 Analysis of PDL-1 expression and T-cell infiltration in different molecular subgroups of midline gliomas and the clinical outcome
- 24 Midline gliomas: A study of clinical outcome and associated molecular alterations
- 25 Role of Gamma Knife Stereotactic Radiosurgery in large (>20 cc) intracranial tumours
- 26 A study to assess the effectiveness of Interventional package on prevention of pressure ulcer for caregivers of patients with chronic neurological conditions in AIIMS, Delhi - a Randomised Controlled Trial

- 27 Management of myelopathy due to anterior soft tissue compression in vertebral hemangioma.
- 28 Long-Term Outcome of Surgical Management in Symptomatic Pediatric Vertebral Hemangiomas
- 29 Lateral and Third Ventricle Tumors: Incidence, clinical, radiological and histopathological evaluation- an Ambispective study
- 30 Factors affecting persistence and recurrence in Cushing's Disease
- 31 Challenges and Prospects of Neurosurgical Teleconsultations in a Developing Country: A Reality Check

Collaborative projects

Ongoing

- 1 Collaborative neuro-engineering platform for excellence in innovation and translational research in neurosurgery simulation, AIIMS: Neurosurgery, Anatomy, Forensic Medicine, Neuroradiology, Neuropathology, IIT-D: CSE
- 2 Material characterization of brain tissue and development of tissue-device interaction based neurosurgical simulation tools, AIIMS: Neurosurgery, Anatomy, Forensic Medicine, Neuroradiology, Neuropathology, NMR, IIT-D: Applied Mechanics
- 3 RADIOGENOMICS IN GBM NEURORADIOLOGY DEPARTMENT
- 4 Outcome assessment of Early Integration of Palliative Care in management of patients of primary brain tumors. Onco-anaesthesia and Palliative care, IRCH
- 5 Correlation of neuropsychological deficits and lesions of white matter bundle in the pre-frontal area Physiology, Neuropsychology
- 6 Establish robust and economical blood-based panel of diagnostic biomarkers for early diagnosis, detection of tumor progression and its recurrence in gliomas." Neuropathology, Neuroradiology
- 7 Methylation array-based profiling of gliomas in young adults to improve subclassification and prognosis prediction, Neuropathology, Neuro-radiology
- 8 Fluoride levels in cervical OPLL, Department of Anatomy
- 9 To study the effect of a locally administered multifunctional cocktail on postoperative pain and blood loss in elective lumbar spinal surgeries: A prospective double blinded randomized control trial, Neuroanaesthesia and Critical care
- 10 RELA fusion in Supratentorial Ependymomas, Neurosurgery, Neuropathology
- 11 Assessment of hypoxia inducible factor- 1 alpha pathway activation and its correlation with tumor immune microenvironment and markers of tumor invasiveness in myxopapillary ependymomas, Neurosurgery, Neuropathology

Completed

- 1 Effect of Goal-Directed Intraoperative Fluid Therapy on Duration of Hospital Stay and Postoperative Complications in Patients Undergoing Excision of Large Supratentorial Tumors Neuroanaesthesia and Critical care

PUBLICATIONS

Journals: 121

Chapters in Book: 39

Books and Monographs: 02

PATIENT CARE

Department of Neurosurgery has two units with general neurosurgical ward under each unit (35X2 beds). There are two ICUs with 23 beds. There are now 7 elective operation theatres and two exclusive operation theatre in trauma centre. We offer world class neurosurgical facilities in all neurosurgical sub-specialties, which include- vascular surgery, epilepsy surgery, minimally invasive cranial and spinal neurosurgery, pediatric neurosurgery, functional neurosurgery, neuro-oncosurgery, skull base and complex spinal surgeries. We have advanced imaging modalities (intraoperative MRI and O-arm) and navigational devices (like Stealth Station and ROSA). Department of Neurosurgery has also started an outpatient Spine clinic which deals with all diseases related to spine including degenerative, deformity, tumors, etc. It is held on Saturdays from 9 am to 12 pm. We have also started DBS clinic in collaboration with Deptt. of Neurology for providing comprehensive care of patients who have undergone DBS, which will be held on all Saturdays from 9 am-12 pm. With lifting of COVID restrictions, number of patients seen in OPD and number of surgeries have gone up as compared with previous year.

Following number of patients were treated by us during the year 2021-2022.

S. No.	Treatment facility	Number
1.	Outpatient department	
	a) Total New Cases	11430
	b) Total Old cases	26375
	c) Total cases	37805
2.	Gamma knife performed	343
3.	Total number of surgeries CNC	2715
5.	Number of surgeries (JPNATC)	17
6.	Total number of surgeries	2732

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor P Sarat Chandra received Vasvik award in the Biological Sciences and Technology Category; Awarded Fellowship National Academy of Sciences.

Professor Ashish Suri was Adjunct Professor, School of Information Technology, Indian Institute of Technology- Delhi; Executive Member: World Federation of Neurosurgical Societies, Skull Base Committee; Secretary General: Skull Base Surgery Society of India.

Dr Rajeev Sharma was Co-opted member, COVID Task Force, ASSI; Center Faculty Incharge, CET (online) for admission to PG courses (MD, MS, MCh) held on 20 November 2021 in Dehradun.

Dr Shweta Kedia was Moderator: WFNS –AASNS JOINT VIRTUAL MEETING 25 June 2021; Moderator/ Organiser Women in Neurosurgery CME, NSI 27 November 2021; Moderator: Women in Neurosurgery Day inaugural session; NSI 31 March 2022; Executive board member of WHO-WFNS Alliance; Assistant Editor of Journal—Indian Journal of Neurosurgery; Training in endovascular from GB Pant hospital 1 March 2022 to 30 March 2022.

Dr Kanwaljeet Garg was Awarded ‘Fellow of American College of Surgeons’; Awarded Diplomate in National Board Neurosurgery; Awarded Certificate of Appreciation by AIIMS library in recognition of excellent efforts and achievements in being an outstanding user of BB Dikshit Library; Resources and Services.

Dr Dattaraj Sawarkar, Dr Ramesh Dodooamani, Dr Shweta Kedia & Dr Rajesh Meena Completed Endovascular training fellowship in GB Pant Hospital, Delhi.

Dr Amol Raheja was Team leader and co-authored original work in the field of quality improvement projects in cerebrovascular neurosurgery, entitled “A quality improvement initiative to decrease the number of revisits of patients to neurosurgery facility for getting the digital subtraction angiography performed at a tertiary care referral hospital”; and was awarded 1st prize for best platform presentation at 20th Delhi Neuro-nurses association conference 2022, Indian Habitat Centre, New Delhi. Co-authored original work in the field of Cerebrovascular neurosurgery entitled “Impact of frailty on short-term outcomes following aneurysmal subarachnoid hemorrhage: A novel scoring system”; and was awarded 1st prize for best platform presentation at DNAICON 2021, Indian Habitat Centre, New Delhi, India; Co-first authored NSI award for best paper in cost-effective management, entitled “Telementoring feasibility using a novel low-cost lazy glass microsurgical trainer: A ‘proof of concept’ experimental study” presented by Manbachan S Bedi (Skull Base neurosurgery fellow) at virtual NSICON 2021; Silver medalist in AIIMS-Residents Cricket League tournament 2021; Co-authored original work in the field of Skull Base Neurosurgery entitled “Anterior clinoidectomy for large/giant paraclinoid aneurysms: Expanding the operative corridor via Dolenc’s triangle”; and was awarded 2nd prize for best platform presentation at SBSSI 2021 at AIIMS, Jodhpur, India; Awarded 2nd prize for best platform presentation for presenting original work in the field of vascular neurosurgery, entitled “STA-MCA bypass for symptomatic moyamoya disease – Lessons learnt from 89 revascularizations” at NEUROVASCON 2021, Chandigarh, India; Co-authored original work in the field of Skull Base Neurosurgery entitled “Petroclival meningiomas operated via modified Dolenc Kawase approach: Correlation of surgical outcome with clinico-radiological parameters, molecular profiles and chromosomal alterations”; and was awarded 1st prize for Young Neurosurgeons Award at joint virtual meeting of World Federation of Skull Base Society 2021 and 10th International Neurosurgery Update.

Dr Sachin Borkar Published a book as Editor-in -chief on Cervical Spine Trauma (AIIMS Neurosurgery Case Book: Cervical Spine Trauma, Salubris Medical Publishers; Delhi, 2022). The book was well received and well appreciated; Appointed as Editor for Journal of Spinal Surgery, official publication of Neuro Spinal Surgeons’ Association of India; Appointed as Spine Section editor for Journal of Clinical Orthopedics & Trauma (JCOT), an Elsevier Journal; Selected as a faculty from South Asia for AO foundation towards AO Global Spine Diploma Course; Elected as EC member for Neurotrauma Society of India (NTSI) for the term 2021-2024; Nominated as EC member of Delhi Spine Society; Nominated as a core member of Young Neuroscientist’s Forum (YNF) of Neurological Society of India; Served as International Validation member of AO Spine Upper Cervical Injury classification; Successfully completed the term as Honorary Treasurer of Indian Society of Peripheral Nerve Surgery (ISPNS) (2018-22); Panelist-Landmark papers in Spine surgery NSI Journal Club 26 March 2022; Chairperson-ANTC Distinguished Lecture Series. Annual AIIMS Neurotrauma Conference, 21 March 2022; Moderator – Pituitary session. Delhi Neurological Association Annual Meeting 5-6 February 2022; Panelist - NBE case based discussion on CVJ anomalies. NBE webinar 29 December 2021; Moderator-NBE panel discussion on CVJ anomalies; NBE webinar 5 January 2022; Panelist-Severe Basilar invagination -Case based discussion. ISSICON-2021, 18-20 November 2021; Panelist-Minimally invasive approach to intra dural pathology. MISSAB tutorials 10 November 2021; Chairperson & Judge – Award paper session SKULLBASECON-2021, Annual Conference of SBSSI, 22-24 October 2021, Jodhpur; Panelist-LCS (no listhesis)- decompression vs fusion MISSAB Surgical Symposium, 9-10 April 2022.

Dr Kolulla Praneeth was Associate Editor – Journal of Spinal Surgery; Co-Organizing Secretary – AIIMS Neurotrauma Conference (ANTC) 2022-Organized Marathon for Safe Head, Conducted First “AIIMS Brainstem Death Stimulation Workshop”.

Departmental data over last three years (2019-2022)

Number of students/trainees registered in the department

S. No.	2019-2020	2020-2021	2021-2022
MCh	42	42	42
Fellows	7	9	9
Phd students	4	3	1

Number of lectures, oral presentations and posters

	2019-2020	2020-2021	2021-2022
Lectures	95	73	82
Oral/poster presentations	49	8	12

Number of publications

	2019-2020	2020-2021	2021-2022
Publications	143	186	121
Book chapters	13	34	39
Books/monographs	1	1	2

Total number and amount of funding received for research

	2019-2020	2020-2021	2021-2022
Funded projects	17	22	26
Amount of funding	5.43 cr	7.19 cr	5.03 cr

Number of patient-care related activities- speciality clinics, procedures

	2019-2020	2020-2021	2021-2022
Total OPD Cases	52359	14419	37805
Total surgeries performed	4438	1543	2732
Gamma knife procedures performed	669	204	343

Neuroimaging and Interventional Neuroradiology

HIGHLIGHTS

- A state-of-art 128-slice dual-energy CT scanner was installed replacing the 10-year-old 6-slice CT scanner.
- With the new CT low-dose CT protocols with modelled iterative reconstruction, a dose reduction potential of up to 60% & faster acquisition in clinical routine are now possible with the best image quality ensured. This has enhanced patient compliance, especially in children and where breath hold acquisition is required.
- CT Fluoroscopy to help guided- biopsies and CT perfusion to assess cerebral perfusion especially in acute stroke have been started with the installation of the new CT scanner.
- The existing 1.5T MR was upgraded to a ‘silent MR’ system which has helped perform silent MR protocols which reduce patients’ anxiety during the scan; reduce scan time and incidence of rescans as the patients are relaxed and cooperate to stay still during long examinations. The high gradient coil switching noise of the previous system was a serious bother for many patients, especially during high-end acquisition techniques. With the upgrade, this irritant is largely removed, and the wide bore of the magnet has reduced claustrophobia in patients significantly.
- PACS network operational in wards & OPD rooms of NSC with the upgrade of the PACS server & installation of viewing stations inwards, ICUs & thin clients in OPD rooms with Wi-Fi access. Reporting of all neuro-imaging procedures made online with the improved organisation of the reporting room, making it easier to report, edit, sign out & network all studies online. Auto-requisitioning enabled from NSC wards online for CTs, MRIs, US & DSAs etc. Auto fetching of case records from PACS enabled for neuroradiology conferences. Private imaging films digitised and integrated into PACS on registration of patient UHID.

CMEs/Workshops/Symposia/National and International Conferences

Lectures delivered

SB Gaikwad: 8

Ajay Garg: 11

Leve Joseph: 5

RESEARCH

Funded projects

Ongoing

1. Computer Aided Diagnostic System for the Detection and Evaluation of Intracranial Atherosclerotic Disease using Computed Tomography Angiography (DBT funded), Dr S Leve Joseph Devarajan, DBT, 2 years, extended to 3 years, 2020-2023, Rs 26,08,400
2. Imaging Evaluation of Intracranial Mucor and Other Mold Infections in COVID-19 and non-COVID Clinical Settings: An Ambispective Comparative Study (intramural funded), Dr. S. Leve Joseph Devarajan, Intramural, 10 months, 2021-2022, Rs 2,38,000

Completed

- 1 Correlation of Imaging traits with region-specific gene expression profiles in Glioblastoma Multiforme. Funded by Dr Ajay Garg, Department of Biotechnology, Government of India, 3 years, 2018-2022, Rs 55,97,315

Departmental projects

Ongoing

- 1 Comparative assessment of DCE, DSC and ASL MR perfusion techniques in differentiation of radiation necrosis from tumor recurrence
- 2 Angiographic Outcomes of Stent assisted coiling in intracranial aneurysms.
- 3 An Institutional Experience
- 4 Dural AVF institutional experience
- 5 Radiogenomics in Glioblastoma
- 6 Imaging, angiographic and clinical features of intracranial Dural
- 7 AV fistulae and their implications in management and outcome: A single centre retrospective study
- 8 Stent assisted coiling and it's outcomes-A retrospective study
- 9 Role of MR perfusion in differentiation of radiation necrosis from tumour recurrence in high grade gliomas
- 10 Predictors of Good Outcome After Large Vessels Mechanical Thrombectomy In
- 11 Acute Stroke- Retrospective Study
- 12 Angio-Architecture of AVM In Prediction Of Risk Of Rupture of AVM : Retrospective Study

Collaborative projects

Ongoing

1. LASI DAD project- partnered by University of Southern California with approval of NIH, USA, In collaboration with Geriatric Medicine, AIIMS
2. A Population Based Prospective Cohort Study to Unravel the Causes of Stroke and Cognitive Decline: A cross-cultural perspective, Neurology
3. Centre for Excellence (COE) for Difficult to Treat Epilepsy., Neurology
4. Bridging therapy with intravenous Alteplase in imaging eligible Acute Ischemic Stroke patients with onset between 4.5 to 9 hours. Phase 1 randomised controlled trail funded through Intramural grant, Neurology
5. Efficacy and Safety of Injection Tenecteplase in 4.5 to 24 hour imaging eligible Window patients with Acute Ischemic Stroke” funded through Science & Engineering Board, DST, Govt. of India., Neurology
6. Founding member of Epilepsy surgery team-helped in setting up imaging protocols for patients with intractable epilepsy, Neurology
7. Clinical & Radiological profile, risk associations, caregiver burden and clinical outcomes in early and late onset Dementia. Neurology
8. International Centre for Genomic Medicine in Neuromuscular Diseases (ICGNMD), Neurology
9. A Population Based Prospective Cohort Study to Unravel the Causes of Stroke and Cognitive Decline: A cross-cultural perspective, Neurology
10. Centre for Excellence (COE) for Difficult to Treat Epilepsy, Neurology
11. Prevalence of Symptomatic and asymptomatic coronary artery disease in patients with stroke and transient ischemic attack, Neurology

12. Aspirin or clopidogrel in patients with TB Meningitis, Neurology
13. Pathobiology of Multiple sclerosis: phenotypic, biomarker and genetic signatures, Neurology
14. Clinical and genetic factors for aspirin resistance in Indian patients with ischemic stroke, Neurology
15. Citicoline in Acute Ischemic Stroke undergoing revascularisation therapy- Investigator-initiated academic trial-, Neurology
16. A randomized double blind study of prophylactic levetiracetam for the prevention of post stroke seizures (**PROLEVIS**), Neurology
17. Identification of pathobiological and disease activity markers in Primary CNS Vasculitis, Neurology
18. Prevention of post-stroke seizures with Levetiracetam in Intracranial Cerebral Venous Sinus Thrombosis (**PROLEVIS-CVT**): A Randomized Placebo-Controlled Trial, Neurology
19. AIIMS Primary CNS Vasculitis Registry, Neurology
20. Efficacy and Safety of Injection Tenecteplase in 4.5 To 24 hours imaging Eligible Window patients with Acute Ischemic Stroke, Neurology
21. Bridging therapy with intravenous Alteplase in imaging eligible Acute Ischemic Stroke patients with onset between 4.5 to 9 hours – A Randomized Controlled, Pilot Study, Neurology
22. Identification of pathobiological and disease activity markers in Primary CNS Vasculitis, Neurology
23. Identification of genetic vasculopathies among a cohort of Primary CNS Vasculitis using whole-exome sequencing, Neurology
24. A Population Based Prospective Cohort Study to Unravel the Causes of Stroke and Cognitive Decline: A cross-cultural perspective, Neurology, AIIMS
25. Bridging therapy with intravenous Alteplase in imaging eligible Acute Ischemic Stroke patients with onset between 4.5 to 9 hours – A Randomized Controlled, Pilot Study, Neurology, AIIMS
26. Efficacy and Safety of Injection Tenecteplase in 4.5 To 24 hours imaging Eligible Window patients with Acute Ischemic Stroke, Neurology, AIIMS
27. Analysis of the anaesthetic management and peri procedural complications of neuro endovascular procedures in pediatric patients-A single centre retrospective study, Neuroanesthesia, AIIMS
28. Goal-Directed Fluid Therapy During Endovascular Therapeutic Procedures Following Aneurysmal Subarachnoid Hemorrhage: A Prospective Randomized Controlled Study, Neuroanesthesia, AIIMS
29. Single barrel versus double barrel bypass for moyamoya disease: A study on the clinic radiological and flow parameters, Neurosurgery, AIIMS

PUBLICATIONS

Journals: 55

PATIENT CARE

The department works 24x7, 365 days for patient care work & regularly attend to emergencies like subarachnoid haemorrhage, stroke, acute encephalopathies, myelopathies, traumatic or iatrogenic cerebrovascular injuries etc. All requests for CT scan from outpatients & in-patients are done the same day & often immediately, so that decision can be promptly taken for patient management. There is no waiting for CT scans in this department. DSAs are regularly done for cerebral & spinal vascular studies for patients attending the Neurosciences Centre and also other departments like ENT & Ophthalmology. Similarly Neurointerventional therapeutic management is routinely carried out for patients of the Neurosciences Centre as well as those referred from ENT, Ophthalmology, Paediatrics, Cardiology, Orthopaedics amongst others. Besides, CT scans are done in the ICUs for patients on life support or ventilator using the mobile CT scanner. Bedside x-rays are routinely done using a digital portable x-ray unit or CR unit & images are uploaded to the PACS network. Portable Ultrasound is done whenever required for sick & immobile patients in the wards & ICUs of the Neurosciences Centre. All consultants & residents access PACS images through IP-enabled protocol and hence can view the images from home or anywhere using the internet or even using their smartphones. The departmental conference room has been upgraded for multimodality image viewing using high-resolution Dicom-compatible projection system, so that clinical consultants & residents can easily see their patient's images in chronological sequence & in comparison mode on the large projection screen. Even old images & scanned private images can be viewed efficiently and instantaneously which helps quick decision-making.

Neuroimaging & Interventional procedures performed during 2021-2022

C T Scans	16813	
	Portable CT 361	
Digital Subtraction Angiography	Therapeutic Neuro-Interventional procedures: (Cerebral Aneurysms, Cerebral & Spinal AVM embolization, Carotid revascularization etc.)	230
	Diagnostic DSA	516
Ultrasound Examinations / Doppler studies		2071
MRI	GAMMA KNIFE 2865	
	NMR 2134	
X Rays		5398
Portable x-rays		5858
Vidar		13583
Data Migration		4129

Total for the year 53958**Cases discussed & reviewed in Neuroradiology conferences for patient care decision making**

	No. of cases	Weekly Frequency	Total
Epilepsy Case Conference	10@	2	20/week
Neurosurgery conferences	40@	4	160/ week
Neurology conferences	25@	6	150/ week
Neuropathology conference	4@	biweekly	8/ week
		Total	338/ week

Total = 17,576 cases per year**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

Dr Shailesh B Gaikwad was the orator for the prestigious “Prashant Shetty Memorial Oration”. Delivered a talk on “Carotid Angioplasty& Stenting: A challenging “Voyage” during “23rd Annual Conference of Indian Society of Neuroradiology”, 17-19th December 2021, organised by department of Radiodiagnosis, PGIMER, Chandigarh; was nominated on the speciality expert committee by the National Health Authority, Government of India, National Health Mission for revising the health benefit packages 2022 to provide the AB-PMJAY beneficiaries secondary and tertiary care in the empanelled healthcare providers; is domain expert in National Stroke Registry program to guide the Standard reporting format to record imaging findings of the CT/MRI images of patients with acute stroke at selected hospitals within India under the aegis of NATIONAL CENTRE FOR DISEASE INFORMATICS AND RESEARCH, *Indian Council of Medical Research* HOSPITAL BASED STROKE REGISTRIES; **Significant events:** Moderated session-“Interactive Virtual Conference/Workshop on Non-Traumatic Neurological Emergencies, “World congress of Emergency Radiology” 24 April 2021. SET Facility, AIIMS, New Delhi; Moderated session on “Management of complex aneurysm-FD and intra saccular devices”, “Indian Society of Neuroradiology Fortnightly webinar series”, 24 June 2021.Virtual, Chandigarh; Moderated session on stroke and aneurysm during the meeting, 16 Monsoon meeting (Neuro Intervention Complication Meeting), 22-23 October 2021, Trident, Nariman Point, Mumbai; Moderated session on “Stroke, date: 18 December 2021, time: 11.25 am-14.25 during “23rd Annual Conference of Indian Society of Neuroradiology” held on 17-19 December 2021 Radiodiagnosis, PGIMER, Chandigarh.

Neuroanaesthesiology**HIGHLIGHTS**

Anaesthetic management for 2886 neurosurgical procedures (2478 in Neurosciences Centre and 408 in Trauma centre) was performed. Anaesthetic management for 541 neuroradiological procedures (347 in the Angiography lab and 197 in the MRI suite) was performed. Intensive care management of 2907 ICU patients (2351 in CNC ICU and 556 in Trauma centre ICU) was performed. A total of 3314 patients (2199 new and 1115 old) were seen in Pre-Anaesthesia Check-up (PAC) clinic OPD at NSC. A total of 425 patients (89 new and 336 old) were seen in the pain clinic OPD, NSC and 220 nerve blocks were given in the pain clinic.

Seven candidates were awarded DM (Neuroanaesthesiology and Critical Care) degrees and two candidates were awarded a fellowship in Neurocritical care. Six new candidates joined DM course and four candidates joined the Neurocritical care fellowship courses. Sixty-one senior residents (42 academic and non-academic Neuroanaesthesia senior residents, 9 senior residents from IRCH, 8 senior residents from the general anaesthesia department AIIMS, 2 senior residents from GB Pant hospital) and 22 PG students (10 from AIIMS and 10 from Lady Harding medical college, New Delhi) received training in the department.

Faculty members are working on nine funded research projects. Twenty-six research projects were completed in the department and 12 research projects continuing. Faculty members completed 12 research projects along with other departments and institutes and they are working on 20 collaborative projects. Faculty members delivered 47 lectures at various national and international conferences. The department published 51 papers in various national and international journals and 14 chapters in books. Faculty members in the department got awards and recognition on various national and international platforms.

Number of students trainee registered in the department:

Students Trainee registered	2019-2020	2020-2021	2021-2022
Senior Residents	60	26	61
PG students	22	4	22

Lectures delivered

Girija Prasad Rath: 11

Charu Mahajan: 2

Indu Kapoor: 1

Surya Kumar Dube: 6

Oral papers/posters presented: 17

Oral Presentations

Year	2019-20	2020-21	2021-22
No of oral presentations	25	14	17

RESEARCH

Funded projects

Ongoing

- 1 Impact of intraoperative jugular venous oximetry-based management on outcome in patients undergoing excision of intracranial meningiomas: a preliminary study. , Charu Mahajan, AIIMS (Intramural project), 1 year, 2021-2022, Rs 4.7 lakhs.
- 2 Study of muscle enzyme elevation in neurosurgery and its relevance in post operative acute kidney injury: A Pilot Study, Dr Surya Kumar Dube, AIIMS, New Delhi (Intramural Grant), 4 years, 2018-Continuing, Rs 3lakhs

Funded Projects

Year	2019-20	2020-21	2021-22
No of Funded Projects	Seven	Two	Six
Amount of Funding	₹2,66,1000	₹45,00,000	₹1,12,7,0000

Departmental projects

Ongoing

- 1 Comparison of change in the Pulsatility index before and after ventriculoperitoneal shunt surgery in adult patients with hydrocephalus.
- 2 Incidence & risk factors for prolonged ICU stay after pituitary surgery: A Prospective Study
- 3 Effect of topical ropivacaine on extubation response in patients undergoing supratentorial tumour surgeries: a prospective randomised double blinded placebo controlled trial
- 4 Effect of stellate ganglion block on cardiac rhythm in patients with acute aneurysmal sub-arachnoid hemorrhage with Cerebral vasospasm: A holter-based preliminary study.
- 5 Comparison of functional neurological outcome with propofol total intravenous anesthesia or sevoflurane balanced anesthesia in adult patients undergoing decompressive craniectomy for supratentorial acute ischemic infarct: A randomized, controlled pilot study.
- 6 A comparison of two non-invasive methods for intraoperative estimation of cardiac output in neurosurgical patients under general anaesthesia.

- 7 Can change in 3rd ventricle width predict post-operative cognitive dysfunction in elderly patients undergoing spine surgeries under general anaesthesia: A prospective, observational pilot study.
- 8 Effect of intra-operative patient positioning on intra-abdominal pressure in Neurosurgical cases: A single center prospective observational study.
- 9 Near infrared spectroscopy as a predictor of evaluation towards brain death following severe brain damage
- 10 Comparison of 0.9% normal saline, stereofundin, and plasmalyte with respect to metabolic parameters and brain relaxation in patients undergoing supratentorial craniotomy
- 11 Evaluating the effects of Dexmedetomidine loading dose on cerebral hemodynamic of patients with temporal/ parietal glioma via Transcranial Doppler – A Prospective single arm trial
- 12 Comparison of C-MAC video-laryngoscope with D-Blade, C-MAC video-laryngoscope with standard blade, and Macintosh Laryngoscopes for intubation with cervical spine immobilization: a randomized study.
- 13 Role of lung ultrasound in estimating extravascular lung water as an early predictor of sepsis in neurotrauma patients– An observational study
- 14 A randomised control trial evaluate the effects of Ketofol and Propofol on cerebral oxygenation in patients undergoing trans-sphenoidal pituitary surgery under total intravenous anaesthesia
- 15 Prevalence of Augmented Renal Clearance in pediatric traumatic brain injury patients
- 16 Effect of topical ropivacaine on extubation response in patients undergoing supratentorial tumour surgeries: a prospective randomised double blinded placebo-controlled trial.
- 17 Development of postoperative laryngeal edema in patients undergoing craniotomy for elective intracranial tumour excision: a prospective, observational, preliminary study. (Co-Guide– DM thesis)
- 18 Detection of saline filled cuff by Ultrasonography for confirmation of correct endotracheal tube position in adult patients: A prospective observational study
- 19 Prevalence of Augmented Renal Clearance in Pediatric Traumatic Brain Injury patients
- 20 Comparative study of Automated Quantitative Pupillometry and clinical pupillometry in Neurocritical care
- 21 Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in Covid ICU: A pilot study
- 22 Cardiovascular complications after traumatic spinal cord injury.
- 23 To study the risk factors and causes of extubation failure in head injury patients.
- 24 Effect of decompressive craniectomy on jugular venous oximetry (SJVO₂) in patients with severe, Traumatic brain injury (TBI)- Funded by AIIMS, Rs 5 Lakhs
- 25 Surgical Position Associated Intra Abdominal Pressure Changes in Neurosurgery. (As Chief Guide).
- 26 A study to assess the effect of simulation-based ventilator alarm management training on nurse's knowledge and practices in a tertiary care hospital. (Co guide for MSc. Nursing Student).

Completed

- 1 Changes in somatic NIRS values during major hemorrhage with craniotomy and tumour excision: an observational study
- 2 Posterior fossa surgery in sitting position: a retrospective analysis from a single centre using sitting position in current practice
- 3 Comparing different types of laryngoscopes for endotracheal intubation in various Difficult airway scenarios simulated using a high-fidelity airway mannequin model– an observational study
- 4 Intraoperative somatic site near infrared spectroscopy changes in supratentorial craniotomy: A prospective study
- 5 To determine the rate of multidrug resistance to antimicrobial drugs in pediatric neurointensive care patients.
- 6 To establish correlation between inferior vena cava collapsibility index and carotid Doppler flow time with cardiac output in patients undergoing intracranial tumor surgeries.
- 7 To establish correlation between inferior vena cava collapsibility index and carotid doppler flow time with cardiac output in patients undergoing intracranial tumor surgeries.
- 8 Effect of Neuroradiologic interventions on regional cerebral oxygenation in patients with anterior circulation aneurysms: An observational Study
- 9 Serum lactate, base deficit and glucose levels as prognostic markers of severe traumatic brain injury
- 10 Correlation of NIRS With Intraoperative Transfusion Trigger In Pediatric Patients Posted For Posterior Fossa Tumour Excision-C
- 11 Comparing different types of laryngoscopes for endotracheal intubation in various difficult airway scenarios simulated using a high-fidelity airway mannequin model - an observational study-
- 12 Goal Directed Intraoperative Fluid Therapy in Aneurysmal SAH patients: A Prospective Randomized Study (Co-Guide).

Collaborative projects

Ongoing

- 1 Effect of stellate ganglion block on cardiac rhythm in patients with acute aneurysmal sub-arachnoid hemorrhage with Cerebral vasospasm: Aholter-based preliminary study. Neuroanaesthesiology&Critical Care/Neurosurgery/Cardiology AIIMS, New Delhi.

- 2 Comparison of functional neurological outcome with propofol total intravenous anesthesia or sevoflurane balanced anesthesia in adult patients undergoing decompressive craniectomy for supratentorial acute ischemic infarct: A randomized, controlled pilot study, Neuroanaesthesiology & Critical Care/Neurosurgery/ Cardiology, AIIMS, New Delhi.
- 3 Timing of surgery following SARS-CoV-2 infection: an international prospective cohort study., Neuroanaesthesiology & Critical Care, AIIMS, New Delhi/COVID SurgC Collaborative and GlobalSurg Collaborative Group
- 4 SARS-CoV-2 vaccination modelling for safe surgery to save lives: data from an international prospective cohort study, Neuroanaesthesiology & Critical Care, AIIMS, New Delhi/ COVIDSurgC Collaborative and Global Surg Collaborative Group
- 5 Effects of pre-operative isolation on postoperative pulmonary complications after elective surgery: an international prospective cohort study, Neuroanaesthesiology & Critical Care, AIIMS, New Delhi/ COVIDSurgC Collaborative and GlobalSurg Collaborative Group
- 6 SARS-CoV-2 infection and venous thromboembolism after surgery: an international prospective cohort study, Neuroanaesthesiology & Critical Care, AIIMS, New Delhi/ COVIDSurgC Collaborative and GlobalSurg Collaborative Group
- 7 Proficiency evaluation of novice anaesthesiology residents in simulated awake fiberoptic guided oral intubation after a structured training program- a manikin-based study., Department of Anaesthesiology, Pain Medicine and Critical Care, AIIMS, New Delhi
- 8 Comparison of different video laryngoscopes for nasotracheal intubation in manikin with difficult airway by experienced anaesthesiologists: A randomised, self-controlled, crossover trial., Department of Onco-Anaesthesia, AIIMS, New Delhi
- 9 Estimation of depth of anaesthesia using multichannel EEG and physiological variables, Department of Physiology, AIIMS, New Delhi
- 10 Development and validation of novel pressure measuring device for measuring the collapsing pressure of internal Jugular vein during an ultrasound examination, AIIMS+ IIT Delhi
- 11 Comparison of C-MAC video-laryngoscope with D-Blade, C-MAC video-laryngoscope with standard blade, and Macintosh Laryngoscopes for intubation with cervical spine immobilization: a randomized study, Neuroanesthesiology and critical care
- 12 Detection of the saline-filled cuff by ultrasonography for confirmation of correct endotracheal tube position in adult patients: A prospective observational study, Neuroanesthesiology and critical care
- 13 Effect of Lidocaine infusion on hemodynamics and recovery in patients undergoing endoscopic pituitary surgery: A multicentre, randomized control trial., Department of Anaesthesiology, Health Sciences Centre, University of Manitoba, Winnipeg, Canada
- 14 Prospective study on the effectiveness of chlorhexidine gluconate impregnated patch (BIOPATCH[®]) in reducing the incidence of central line associated blood stream infection (CLABSI)., Department of Microbiology, JPNATC, AIIMS
- 15 Surveillance of blood stream infections (BSI) at a referral Indian hospital, Surveillance of blood stream infections (BSI) at a referral Indian hospital, Department of Microbiology, JPNTC, AIIMS
- 16 Comparing safety and efficacy of indigenous goggles with fan versus standard goggles in health care worker in COVID ICU., Anesthesiology and Critical Care, Lab Medicine, Hospital Administration
- 17 Effect of decompressive craniectomy on jugular venous oximetry in patients with severe TBI, Neurosurgery
- 18 To study the effect of a locally administered multifunctional cocktail on postoperative pain and blood loss in elective lumbar spinal surgeries: A prospective randomized control trial., Neurosurgery
- 19 Globalsurg-Covidsurg Week: Determining the optimal timing for surgery following SARS-COV-2 infection. A collaborative global study tracking the outcomes of surgical patients, It's a multicentric Study involving 116 countries. Nodal Centre is Birmingham UK.
- 20 Postoperative Neurological Complications after a Cranial Surgery: A Multicentre Prospective Observational Study, AIIMS, New Delhi; NIMHANS Bangalore; PGI, Chandigarh (INDIA), University of Washington, Seattle, Washington, (United States)

Completed

- 1 Effect of stellate ganglion block on cardiac rhythm in patients with acute aneurysmal sub-arachnoid hemorrhage with vasospasm: A holter-based preliminary study, Neuroanaesthesiology & Critical Care/Neurology, AIIMS, New Delhi.
- 2 Comparison of functional neurological outcome with propofol total intravenous anesthesia or sevoflurane balanced anesthesia in adult patients undergoing decompressive craniectomy for supratentorial acute ischemic infarct: A randomized, controlled pilot study. Neuroanaesthesiology & Critical Care/Neurology, AIIMS, New Delhi.
- 3 Timing of surgery following SARS-CoV-2 infection: an international prospective cohort study., Neuroanaesthesiology & Critical Care, AIIMS, New Delhi/COVIDSurg Collaborative and GlobalSurg Collaborative Group
- 4 SARS-CoV-2 vaccination modelling for safe surgery to save lives: data from an international prospective cohort study., Neuroanaesthesiology & Critical Care, AIIMS, New Delhi/COVIDSurg Collaborative and GlobalSurg Collaborative Group
- 5 Effects of pre-operative isolation on postoperative pulmonary complications after elective surgery: an international prospective cohort study., Neuroanaesthesiology & Critical Care, AIIMS, New Delhi/COVIDSurg, Collaborative and GlobalSurg, Collaborative Group

- 6 Comparing efficacy and safety of indigenous goggles with fan versus standard goggles in health care workers in covid ICU: A pilot study, Neuroanesthesiology and critical care
- 7 Electrolyte abnormalities in patients with head injury during ICU stay: a prospective observational study., Lab Medicine, JPNATC, AIIMS

PUBLICATIONS

Journals: 39

Chapters in Book:14 Books & Monographs:03

Year	2019-20	2020-21	2021-22
Journal Articles	74	69	39
Abstracts	11	1	0
Chapters in books (book/monograph)	30	19	17

PATIENT CARE

Anaesthetic management for 2886 neurosurgical procedures (2478 in Neurosciences Centre and 408 in Trauma centre) was performed. Anaesthetic management for 541 neuroradiological procedures (347 in Angiography lab and 197 in MRI suite) was performed. Intensive care management of 2907 ICU patients (2351 in CNC ICU and 556 in Trauma centre ICU) was performed. A total of 3314 patients (2199 new and 1115 old) were seen in Pre-Anaesthesia Check-up (PAC) clinic OPD at NSC. A total of 425 patients (89 new and 336 old) were seen in the pain clinic OPD, NSC and 220 nerve blocks were given in the pain clinic.

Number of patient care related activities

Patient care activities	2019-2020	2020-2021	2021-2022
Anaesthetic management for neurosurgical procedure	4063	1175	2886
Anaesthetic management for neuroradiological procedure	662	302	541
Intensive care management of ICU patients	5711	2513	2907
Patients seen in Pre-Anaesthesia Check-up (PAC) clinic	5683	126	3314
Patients seen in pain clinic OPD	737	82	425
Nerve blocks given in pain clinic	332	96	220

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor Arvind Chaturvedi Chaired prestigious Dr Gode Oration in Annual ISNACC 2022, Virtual jan, 2022. organised by ISNACC national Branch; Appointed examiner of DM neuro anaesthesia Exam in AIIMS Rishikesh; Chaired a session in DNACON Delhi in Feb 2022, organized by Apolo Hospital Delhi; Chaired a session in ISACON Delhi in 15-17 October 2021, organized Virtually; Selected as NBE Inspector for Reaccreditation&Inspection of DrNBNeuroanaesthesiology course Apollo Hospital Hyderabad; Continued as Reviewer of Sultan Quaboos university Medical journal SQUMJ. Oman., JOACP, JNSA, JNRP; Member board of Dr NB Neuroanaesthesiology of national board of examination; Selected as PDF neuroanaesthesia examiner of SGPGI Lucknow in August 2021; Selected as Organising Chairman of Annual Neurocritical care Socety conference for Oct.2022 in AIIMS, New Delhi; Organised Chairman of Annual PDF Neuroanaesthesia Fellowship exam of ISNACC in AIIMS, New Delhi in January 2022.

Professor Mihir Prakash Pandia is Continuing as Chairman of the research committee of ISNACC; Appointed External examiner for a) DM Neuroanaesthesiology, PGI, Chandigarh, b) DM Neuroanaesthesiology, NIMHANS, Bangalore.

Dr Rajendra Singh Chouhan was Co-chaired a scientific session in the 23rd Annual Conference of Indian Society Of Neuroanesthesiology and; Critical Care (VIRTUAL) held from 21–23 January 2022. Talks were on – Perioperative management of; patient with craniopharyngioma, Seizures after Craniotomy & Hemifacial pain; Our research paper “Effect of stellate ganglion block on cardiac rhythm in patients with acute aneurysmal sub-arachnoid hemorrhage with vasospasm: A holter-based preliminary study” was awarded 1st prize in oral; paper presentation category (Late Dr. Ashok Kumar Gupta award for young anaesthesiologists) in the 30th ISACON East Zone & 33rd ISACON Bihar-Jharkhand State Conference held at Patna, Bihar, on 23 October 2021 to 24 October 2021.

Professor Girija Prasad Rath was Elected as the Secretary of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC). Continues contribute to the Society for Neuroscience in Anesthesiology and Critical Care (SNACC, USA). Also, nominated as the and a member of the prestigious of the SNACC. Continues to work as a Director for SNACC Board of Directors, Editor-in-Chief of the SNACC Newsletter, Chair of Global-Outreach Subcommittee, Member of Scientific, Nomination Committee, Membership, Communication and Annual Meeting Planning Committee. Delivered a lecture for World Congress of Anaesthesia 2021, Conducted TCD workshop SNACC Annual Meeting 2021 (Virtual), USA. Continue to contribute as the EXCO member (India) for Asian Society of Neuroanaesthesia and Critical Care (ASNACC) and its Web Editor. Continue to

hold the post of Executive Editor, Journal of Neuroanaesthesiology and Critical Care (JNACC), Editorial Board Member of Indian Journal of Anaesthesia (IJA), Neurology India, The Indian Anesthetists' Forum, and Web Editor, Indian Society of Neuroanaesthesiology and Critical Care (ISNACC). Appointed as the Section Editor (Neuroanaesthesia) for the Journal of Anaesthesiology and Clinical Pharmacology (JOACP). Continue to serve as the International Advisory Board Member of Anesthesia Essays & Researches (AER) and Anesthesiology & Pain Medicine (AAPM), and peer-reviewer of reputed international journals such as Minerva Anestesiologica, Journal of Neurosurgical Anesthesiology, Neurocritical Care, and Journal of Clinical Anesthesia.

Dr Surya Kumar Dube was Reviewer for Indian Journal of Anaesthesia, Journal of Neuroanaesthesiology and Critical Care, Clinics; (Sao Paulo); Instructor ACLS, ATLS, BLS, ACCC; Editorial Board Member of Journal of Anesthesia and Research; Invited faculty to Judge Research paper posters at ISNACC 2022.

Neuropathology Section

HIGHLIGHTS

In the year 2021-2022 unit of Neuropathology has been able to maintain high standard of academics and state of art clinical services. The unit is engaged in routine diagnostic services (total of 2167 cases), the teaching of undergraduate, postgraduate, DM, Mch and PhD students; as well as high-quality research in various subspecialties of Neuropathology. Steps taken to improve patient care services and research in the past year

New facilities have been added for molecular diagnosis and cytogenetic work-up in routine work-up in neurooncology, which includes *in-situ* hybridization, capillary electrophoresis, real-time PCR etc. The diagnostic immunohistochemical panel has been expanded and a total of 13,444 slides have been stained and studied during this period. The unit is regularly integrating molecular markers of clinical significance in the histopathological reports of neurooncology and myopathology. The Neuropathology faculties have received funding for 12 extramural projects. A total of 109 papers have been published in peer reviewed national and international journals. Research work was presented at various national and international platforms in which our students won 3 prizes. A five days Neuro-oncology workshop was organized in Neuropathology Lab, AIIMS, New Delhi from 7th March to 11th March 2022 under the aegis of DBT project.

Action Plan for coming year:

To provide a combination of highest quality of diagnostic neuropathology services, teaching, advanced translational research and develop skilled manpower in the super-specialty.

CMEs/Workshops/Symposia/National and International Conferences

A five days **Neuro-oncology workshop was organized in Neuropathology Lab**, AIIMS, New Delhi from 7th March to 11th March 2022 which was duly attended by Dr. Yookarin Khongloh (NEIGRIHMS), Supriya (J.R.F, NEIGRIHMS) and Dr. Shabnam Ahmed (GNRC) under the aegis of DBT project.

Lectures delivered

Mehar C Sharma: 12

Vaishali Suri: 7

Oral papers/posters presented: 11

RESEARCH

Ongoing

1. Tumor Immune landscape: PDL1 expression and evaluation of tumor immune interplay by investigating the immune cell infiltration in supratentorial ependymoma and its correlation with survival outcomes, Prof M C Sharma, ICMR, 3 years, 2020-2023, Rs 35 lakhs
2. Clinicopathological and serological assessment of adult-onset idiopathic inflammatory myopathies(IIM) aimed at improved characterization of sporadic inclusion body myositis, Prof M C Sharma, ICMR, 3 years, 2020-2023, Rs 50 lakhs
3. "Unraveling RNA landscape in Posterior fossa ependymal tumors using Integrative transcriptome analyses", Prof M C Sharma, ICMR, 3 years, 2022-2025, Rs 45 lakhs
4. Integrative transcriptome analyses of different histological and molecular subgroups of meningiomas to identify prognostic signature and therapeutics, Prof. V. Suri, ICMR, 3 years, 2019-2022, Rs 62 lakhs
5. Evaluation of potential diagnostic value of circRNA in meningiomas for risk stratification and its role in therapeutic intervention, Prof. V. Suri, ICMR, 3 years, 2020-2023, Rs 78 lakhs
6. Establish robust and economical blood-based panel of diagnostic biomarkers for early diagnosis, detection of tumor progression and its recurrence in gliomas., Prof. V. Suri, ICMR, 3 years, 2021-2024, Rs 1 crore
7. To analyse the molecular profile of paediatric gliomas and establish robust and economical methods for molecular subgrouping and risk stratification, Prof. V. Suri, DBT, 3 years, 2021-2024, Rs 1 crore

Departmental projects

Ongoing

1. Asses molecular and immune profile of PXA
2. Molecular profile of IDH wildtype and mutant gliomas
3. Asses molecular profile of meningiomas
4. To analyse immune microenvironment of different grades of gliomas
5. IDH mutation assessment by Sanger sequencing and ddPCR
6. Immunofluorescence for dysferlinopathy
7. Line immuno assay for myositis specific and myositis associated autoantibody detection
8. Immunoblot for dysferlin and calpain

Completed

1. DNA methylation array for molecular subgrouping of medulloblastomas (Dr Chitra Sarkar)
2. Targeted sequencing of IDH negative gliomas (Dr Chitra Sarkar)
3. Clinicopathological study of infant gliomas (Dr Chitra Sarkar)

Collaborative projects

Ongoing

1. Recurrent glioblastoma; A diagnostic challenge; A multidisciplinary approach for differentiating tumor recurrence and treatment related changes, Department of Neurosurgery (2021-2023)
2. Histopathological Immunohistochemistry analysis of Posterior AtlantoOccipital Membrane in Patients with Congenital/ Development Craniovertebral anomalies, Department of Neurosurgery

PUBLICATIONS

Journals: 33

Chapters in Book: 01

PATIENT CARE

NEUROPATHOLOGY LAB

Table 1: Neuropathology patient care workload for the last 3 years			
Year	2019- 2020	2020- 2021 COVID	2021- 2022 COVID
Total No. of specimens	2106	540	2167
Intraoperative frozen section diagnosis	359	32	330
Immunohistochemistry	13,613	6161	13,444
Fluorescence in-situ hybridization	621	472	836
Muscle biopsies (frozen)	291	56	236
Muscle Enzyme histochemistry	658	151	553
Muscle Immunohistochemistry	1699	460	2354
Muscle immunofluorescence	-	-	50
Immunoblot	55	17	65
Electron microscopy	288	56	197
Sanger sequencing qPCR/ RTPCR	-	-	431
Total Units (Each item in column is taken as one unit)	19,690	7,945	20,663

AWARDS TO STUDENTS

Iman Dandapath got 1st Prize for oral presentation entitled “Molecular Characterization of IDH Wild Type Diffuse Astrocytoma’s: Potential of ThecIMPACT-NOW guidelines.” in DNA CON 2021 held on 5 – 6 February at All India Institute of Medical Science New Delhi.

Jyotsna Singh got 2nd Prize for Oral presentation entitled “Gene Expression Based Profiling of Pleomorphic Xanthoastrocytoma Highlights Two Prognostic Subgroups” in DNA CON 2021 held on 5– 6 February at All India Institute of Medical Science New Delhi.

Iman Dandapath got 2nd prize in oral paper presentation entitled “Insights of molecular biology and immune microenvironment of pleomorphic xanthoastrocytoma” at the 5th annual conference of NPSI (AOCN NPSICON 2021) held in virtual mode from 24-26 September 2021.

Dr Vaishali Suri conducted a 5 days Neuro-oncology workshop from 7-11 March 2022 which was duly attended for NEIGRIHMS and GNRC hospitals, north east region, under the aegis of DBT project.

Clinical Neuropsychology

HIGHLIGHTS

Neuropsychology at Neurosciences Center, has been providing services during the Pandemic. The students along with multidisciplinary teams received some National and International recognition. All of this has been possible with the support of esteemed seniors, and colleagues of the Neurosciences Centre and other departments of AIIMS, for giving us this opportunity. The enthusiasm and willingness of the students have played a major part in delivering a 'standard of care'. The faculty was nominated to be a member of the Ethics Committee of the Institute of Home Economics, University of Delhi

To summarize, Neuropsychology services have honestly tried to maintain a good work culture in providing a 'Standard of Care', when seeing patients, including referrals from other centers and departments both outpatient and inpatient. Neuropsychology/ Clinical Neuropsychology (CNP) is active as a part of the research team as a Co PI/ Co-Investigator (in the field of Neuropsychology) in government funded projects and have been actively involved in interdisciplinary/multidisciplinary projects as Co-PI/ Co-I/ Co-Guide. Have been involved in teaching psychology to students Although, the academic program of PhD in Clinical Neuro Psychology, Neurosciences Centre, AIIMS, New Delhi was developed and implemented as an integrated program, designed as per, "THE HOUSTON CONFERENCE ON SPECIALTY EDUCATION AND TRAINING IN CLINICAL NEUROPSYCHOLOGY" (which is awaiting accreditation). In short, enjoyed working amongst hard-working team players.

CMEs/Workshops/Symposia/National and International Conferences

- 1 Cognitive Rehabilitation In Long Term Stroke Care: Return To Work. (Invited Presentation), Asia Oceanian Congress of Neurorehabilitation 2021 (AOCNR 2021), 6-8 August 2021, Virtual, Conference
- 2 Neuropsychological Evaluation II: Disability Certification. (IAN) (Invited Presentation/Talk), WFNR/ IFNR Neuro Rehab Course (3-9 April 2021) & IFNRCON 2021; 8th Annual Conference Of Indian Federation Of Neurorehabilitation (10- 11 April 2021) in Association With Neurorehab Subgroup of Indian Association of Neurology, 3-11 April 2021, Virtual Conference
- 3 The Psychological Percussion of Covid-19 on Indian Frontline Warriors, virtual International Council of Psychologists (ICP 2021), 22-24 October 2021, Virtual Conference

PhD. Student (Presentation by Shivani Sharma PhD student)

RESEARCH

Funded projects

Ongoing

- 1 To study the effectiveness of Repetitive Transcranial Magnetic Stimulation (rTMS) on Activities of Daily Living, Behavioral and Cognitive ability (A-B-C) of Parkinson disease Patients., Dr. Ashima Nehra & Prof. Achal Srivastava, DST, 2017-2021, Rs 5904020
- 2 To study the Mental Health Status and Needs of Front-line Medical, Para-medical healthcare professionals in India to build preventive and curative models for enhancing their holistic well-being in times of Emergency National Crises: A cross-section study, Dr. Ashima Nehra, AIIMS, New Delhi, 1 year (extendable by another 1 year), 2020-2022, Rs 10 lakhs

Departmental projects

Ongoing

- 1 Development and efficacy of Neuropsychological Rehabilitation for Improving Cognition and Quality of life in Patients with Drug Refractory Epilepsy: A Randomised Controlled Trial
- 2 To develop and ascertain efficacy of an Indian Neuropsychological continuum of care (CoC) health care model for stroke survivors: A Randomised Control Clinical Trial (RCT)
- 3 Designing a palliative care program for selected epilepsy patients and their caregivers - descriptive exploratory study
- 4 Neurodevelopmental assessment in Children/adolescents with retinoblastoma exposed to general anaesthesia before the age of 5 years: A Prospective cross sectional study

Completed

- 1 To study the Mental Health Status and Needs of Front-line Medical, Para-medical healthcare professionals in India to build preventive and curative models for enhancing their holistic well-being in times of Emergency National Crises: A cross-section study (First Phase/ Extension Given)

Collaborative projects

Ongoing

- 1 A Population Based Prospective Cohort study to Unravel the Causes of Stroke and Cognitive Decline: A cross-cultural perspective" – AIIMS- ERASMUS COHORT STUDY. (An international collaborative project) , Neurology, Cardiology, Community Medicine, Neuroradiology, Oral Health Sciences, Neuropsychology, Bio-Statistics etc.

- 2 To study the effectiveness of Repetitive Transcranial Magnetic Stimulation (rTMS) on Activities of Daily Living, Behavioral and Cognitive ability (A-B-C) of Parkinson disease Patients., Neuropsychology, Neurology, Bio-Statistics
- 3 To study the Mental Health Status and Needs of Front-line Medical, Para-medical healthcare professionals in India to build preventive and curative models for enhancing their holistic well-being in times of Emergency National Crises: A cross-section study. Pulmonary Medicine and Sleep Disorders, Neuropsychology, Neurology, Neuropsychiatry,
- 4 Cognitive Decline In Patients With Multiple Sclerosis A Multicentric Cross Sectional And Prospective Longitudinal Study, Neuropsychology, Neurology, Bio-Statistics
- 5 Development And Efficacy of Comprehensive Neuropsychological Rehabilitation for Improving Cognition and Quality Of Life in persons with Drug Refractory Epilepsy: A Randomized Controlled Clinical Trial, Neuropsychology, Neurology, Bio-Statistics
- 6 To identify and harmonize the issues of writer's cramps in individual leading to disability, Neurology, Neuropsychology, Bio-Statistics
- 7 To understand, document and standardize current standards/practices of Identifying Learning Disabilities across Centres in India, Neuropsychology, Neurology, Bio-statistics
- 8 To Identify and Harmonize the issues of Epilepsy in Individuals leading to disability, Neuropsychology, Neurology, Bio-statistics
- 9 To Identify and harmonize the writer's cramps concerns in individuals leading to disability, Neuropsychology, Neurology, Bio-statistics

Completed

- 1 A Randomised Controlled Trial Comparing The Efficacy Of Cognitive Behavioral Therapy Vs Yoga Nidra In Persons With Psychogenic Nonepileptic Seizures, Neurology, Neuropsychology, Centre For Integrative Medicine And Research, Psychiatry, Bio-Statistics
- 2 To study the Mental Health Status and Needs of Front-line Medical, Para-medical healthcare professionals in India to build preventive and curative models for enhancing their holistic well-being in times of Emergency National Crises: A cross-section study (First Phase), Pulmonary Medicine, Critical Care and Sleep Disorders; Neurology, Internal Medicine, BioStatistics, Neuropsychiatry, Neuropsychology

PUBLICATIONS

Journals: 13

Chapters in Book: 01

PATIENT CARE

Outpatient service (OPD): There are 4 Neuropsychology/Clinical Neuropsychology (CNP) OPDs/week (**during the Pandemic Times**):

1. **Clinical Neuropsychology (CNP) Clinic :**

a. Monday, Tuesday, Wednesday and Thursday:

2. **Specialised Clinics:**

a. Neuro-Cognitive Rehabilitation/Neuropsychological Rehabilitation (**NCR**) Clinic

Neuropsychological Rehabilitation	Cognitive Retraining/Restructuring
	Basics Skill Training
	Functional Re-training
	Speech and Language Rehabilitation
	Psychosocial Therapy
	Guidance and Counselling
	Individual Therapy
	Family Therapy
	Vocational Guidance
	Holistic/eclectic Approach Therapy (depending on the patient's needs)

b. Wednesday: Cognitive Disorders and Memory (**CDM**) Clinic

Cognitive Disorders and Memory Clinic	Memory Assessment
	Screening for Cognitive Decline
	Cognitive Rehabilitation for Dementia/ Alzheimer's Dementia
	Cognitive Re-training for decline in Memory/Executive Functioning
	Management of Cognitive/ Memory Disorders
	Identify and treat pseudo-dementia
	Education: patients, carers, trainees, colleagues, and the general public.
	Family guidance
	Monitoring of progress and response to therapy

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Nominated to be a member of the Ethics Committee of Institute of Home Economics, University of Delhi. Ethics Committee Member

11.1. B.B. Dikshit Library

Chairman, Library Committee
SS Chauhan

Chief Librarian
Shantanu Ganguly

Background

B.B. Dikshit Library is the central library and knowledge hub, which is providing knowledge-based value-added services on healthcare to different stakeholders, i.e. faculty, undergraduates, postgraduates and researchers of all the departments and centres. The library is open round the clock to access vast amount of resources both in print and online. The library also has a rich collection of Hindi books in healthcare sector for readers (employees; both technical and non-technical). The library is located on two floors. The first floor houses the printed books with a seating capacity of 300 users and the ground floor has a collection of printed journals and newsletters, bound volumes and book banks with a seating capacity of 400 users. On an average, 350 readers visit the library every day. The library is well equipped with modern facilities to support biomedical education and research. The library has predominantly e-resources (80%), which are provided seamlessly through remote access platform with anytime anywhere access for doctors and faculty members for their scholarly research. A brief overview of the resource collection is given below:

Major Resource Collection

Print Resources	Total
Total printed books	92528
Total Hindi books	2965
Total bound journal volumes	84391
Thesis	7942

E-Resources	Description
E-Journals	1427 Scholarly Journals, Dentistry and Oral Sciences Source (DOSS Aggregator),
E-Books	162 Access Medicine, Oxford Medicine Online (83), OVID (103 E-Books)
Point of Care Databases	UpToDate (Anytime anywhere), BMJ Best Practice, BMJ Case Reports, Acland Anatomy, MedOne Surgery
E-Learning Packages	JAMA Evidence, BMJ Research to Publications, BMJ Learning
Abstracting and Indexing Databases	EMBASE, Web of Science (Citation Analysis Database), Journal Citation Report, Scopus (Citation Analysis Database)
Access Facility Software on Services	LibSys Premia (Ver.10) Library automation EBSCO Discovery service (Single Point Search for all subscribed E-Resources). All E-Resources are accessed through IP enabled OpenAthens facility within and outside the campus also.
Plagiarism Verification Service	iThenticate web-enabled Anti-Plagiarism Tool available for checking similarity index.

These online databases, E-Journals and E-Learning Packages can be accessed both from the library as well as the Web-scale Discovery Service (Single Point Search), IP enabled access and Open Athens facility. Few society-based journals are also accessed through username and password. Necessary access to healthcare knowledge services are disseminated through the library webpage: <http://www.aiims.edu/en/library.html>. The library also provides research-based services to its stakeholders such as academic integrity and plagiarism verification facility, etc. The total number of submissions of documents was 4915 during the year. The library has its own search engine called 'Single Point Search' web-scale discovery service to retrieve library subscribed electronic resources and library holdings effectively. It also acts as a tool for a bibliographic management system for users.

The Library Committee is an advisory body for the management of the library. It advises regarding the procurement of books and journals, budgetary allocation, to improve library operations and services and to workout mechanisms in getting institutional membership of all journals for online access and also to develop collaborations with other libraries across the globe for online activities. The committee meets at least once every three months and as and when required.

The library has an in-house information communication and management system comprising of 3 servers and 49 computers. The library has its own Wi-Fi service and approx. 1200 users are benefited during the year. The library uses Libsys Premia automation software system that supports data entry and retrieval of books and other documents. All documentation/ bibliographic services, as well as certain library operations have been computerized, using integrated library management software. The circulation section of the library is computerized through RFID smart card system and online issue/return of books with automatic reminder systems through email. The total RFID Smart Cards issued to the library readers are 463. The library provides Current Awareness Service and Reference Services. The library publishes E-Resources Bulletin, AIIMS Institutional Repository Bulletin and the New Books Bulletin. It also provides services such as web-based Open Access Public Catalogue (Web OPAC), Reprography and printout of academic literatures. Library imparts orientation and information literacy programs to students, research scholars and doctors regularly.

During the year, the library spent Rs 16.75 crores for procurement of E-Journals, Databases, Books and other documents, IT equipment and services, etc. It has added 634 new books, 308 Thesis (both print and CD form). Inter-Library loan service was also provided through DELNET. BB Dikshit Library has established ETD (Electronic Thesis and Dissertation) facility through online platform successfully. Now, the thesis and dissertation are available for library's readers in printed/CD formats/online platform (24*7) through <http://bbdletd.aiims.edu/>.

Lectures delivered

Shantanu Ganguly: 8

Jahangir Khan: 1

Prashant Shrivastava: 9

Deepak Shukla: 2

SIGNIFICANT ACHIEVEMENTS

Shantanu Ganguly

Webinars attended

1. First International Webinar organized under the banner of Digital Health Connect 2021. Keynote Speaker: Dr Nalini Mahajan, Professor and Head, Webmaster, Marianjoy Hospital USA, 15 April 2021.
2. Second International Webinar organized under the banner of Digital Health Connect 2021 on the eve of National Librarian's Day was celebrated in collaboration with MAHLAP, Philippines, 12 August 2021
3. National Conference on Digital Health Connect 2022, 25 February 2022

Orientation programmes

1. 28 April 2021 for NDDTC Ghaziabad
2. 23 July 2021 Meeting with AIIMS Bhopal regarding the Library related issues
3. 3 August 2021, For Obstetrics and Gynecology Department on various resources subscribed by BB Dikshit Library
4. 7 August 2021, For BSc (Nursing) Students
5. 16 September 2021, For all faculty members at NCI, Jhajjar
6. 24 September 2021, For MSc (Nursing) Students
7. 7 October 2021, At College of Nursing for faculty members
8. 17 November 2021, Webinar on Systematic Review of Literature in collaboration with Cochrane Library database (Wiley)
9. 30 December 2021, Open Athens Orientation for Faculty and Resident Doctors.

Setting up new library

1. Setting up New Library at National Cancer Institute, Jhajjar
2. 12 July 2021, Advisory and advocacy role for AIIMS Bhatinda for setting up the library
3. 11 February 2022, Advisory and advocacy role for AIIMS Kalyani for setting up the library

Institute Day Activities

Coordinated from conceptualisation, designing to display and disseminate information through infographic posters on:

1. Research Support Services @ BB Dikshit Library, AIIMS, New Delhi.
2. Digital Health Knowledge Services.
3. Digital Knowledge Services during COVID 19 pandemic.
4. Health Knowledge Discovery Learning & Development Programme

Workshop attended

1. 8-9 April 2022: Two days Knowledge Summit, organized by Confederation of Indian Industries (CII).

Project

Co-PI of project titled 'A bibliometric study to analyze the status of funding pattern of research projects and international collaborations in Nursing Science in India in relation to the global perspective' with Dr Manju Rajora, Associate Professor, College of Nursing, AIIMS, New Delhi

Jahangir Khan

1. Organizing Committee member: online webinar “International Conference on Nursing on 12 May 2021 (Tuesday). Invited talk on Digital Health Connect: A Novel Approach Nursing Informatics”. Organized by B.B. Dikshit Library
2. Organizing committee member: International webinar on “Use of Digital Technologies in Shaping the Future of Medical Libraries, Empowering Patients, and Engaging Communities in Health Care Setting: A Case Study & quot; on 15th May 2021, organized by B.B. Dikshit Library, AIIMS, New Delhi
3. Organizing committee member: International Webinar Series on “Digital Health Connect 2021” The title of webinar is Research4Life: Discovery Lens for Open Knowledge” on 16th June 2021, organized by B.B. Dikshit Library, AIIMS, New Delhi.
4. Organizing committee member: International Webinar Series on Digital Health Connect 2021 Health Knowledge Discovery Services 12 August 2021, organized by B.B. Dikshit Library, AIIMS, New Delhi.
5. Organizing committee member: Attended online webinar on “Webinar on Systematic Review and Meta Analysis” on 17 November 2021, Organized by B. B. Dikshit Library in collaboration with Wiley India.
6. Organizing committee member: National Conference on Digital Knowledge Health Connect 2022 Linking Knowledge Resources and Services with Research and Practice, 25 February, Virtual Mode, organized by B.B. Dikshit Library, AIIMS, New Delhi.

Prashant Shrivastava

1. Awarded PhD in Library and Information Science from VMOU, Kota, Rajasthan.
2. Member of committee, AIIMS research publication on COVID-19.
3. Invited speaker at International webinar on “Use of Digital Technologies in Shaping the Future of Medical Libraries, Empowering Patients, and Engaging Communities in Health Care Setting: A Case Study” on 15th May 2021, organized by BB Dikshit Library, AIIMS, New Delhi.
4. Invited speaker at International Webinar Series on “Digital Health Connect 2021” The title of webinar is Research4Life: Discovery Lens for Open Knowledge” on 16 June 2021, organized by BB Dikshit Library, AIIMS, New Delhi.
5. Invited Speaker at International Webinar Series on Digital Health Connect 2021 Health Knowledge Discovery Services 12 August 2021, organised by BB Dikshit Library, AIIMS, New Delhi.
6. Invited speaker at National Conference on Digital Knowledge Health Connect 2022 Linking Knowledge Resources and Services with Research and Practice Date: 25.02.2022 organized by BB Dikshit Library, AIIMS, New Delhi.
7. Invited speaker at orientation program Date: 28 April 2022 organized by NDDTC, Ghaziabad & Department of Psychiatry, AIIMS Delhi
8. Invited speaker at Faculty Development Program on Digital Knowledge Health Resources Date: 21 October 2021 organized by College of Nursing, AIIMS, New Delhi.
9. Invited speaker at Summer Training Program 2021 for students Date: 16 July 2021 organised by department of Library and Information Science, Central University of Haryana.

Deepak Shukla

1. Served as a technical coordinator at the Indo-US webinar on “Use of Digital Technologies in Shaping the Future of Medical Libraries, Empowering Patients, and Engaging Communities in Health Care Setting: A Case Study” 15 May 2021.
2. Served as a technical coordinator at the Indo-Nepal Webinar on “Research4Life: Discovery Lens for Open Knowledge” on 16 June 2021, Indo-Philippines Webinar on “Digital Health Connect: Health Knowledge Discovery Services” on 12 August 2021 and at the virtual National Conference on “Linking Knowledge Resources and Services with Research and Practice” on 25 February 2022.

11.2. Cafeteria

Chairperson

Vishal Chauhan
Deputy Director (Administration)

Member Secretary

Rakesh Kumar Sharma
Senior Stores Officer

Accounts Officer

Prem Pal

General Manager

KK Sharma

AIIMS Cafeteria has been established under the category of Departmental Canteen with the objective of providing wholesome food prepared under healthy hygienic condition at reasonable prices to the Institute's employees. The cafeteria caters to the needs of over 15,000 employees of the Institute including Faculty Members, Doctors, Nursing Staff, Students & other staff members. A cafeteria service is being provided round the clock at different places/centres under the supervision of cafeteria management committee. The cafeteria also meets the need of hospitality service of all higher offices of AIIMS during important official meeting, workshops, symposia, etc.

Considering massive expansion in the requirement of catering services at the institute as a result of additional AIIMS staff strength at upcoming blocks in AIIMS campus, patients & their relatives the need for highly skilled professional services has been felt. The area of Cafeteria services has been identified in two parts and the services were outsourced to professional agencies through an open QCBS tendering process.

Currently the Main cafeteria is again being run by in-house staff of AIIMS. M/s J S Hospitality Services Pvt Ltd was awarded the contract to provide kitchen and cafeteria services in the other facilities of the Institute. Cafeteria/kitchen services are being provided currently at 11 outlets in different parts of the campus.

Presently the entire Café services are managed at the Institute in the following manner

- | | |
|----------------|--------------------------------------|
| 1 Under Zone-1 | AIIMS Cafeteria |
| 2 Under Zone-2 | M/s J S Hospitality Services Pvt Ltd |

STAFF STRENGTH

21 employees are appointed in the Cafeteria Department on regular basis and 106 employees are on Contractual basis.

ANNUAL TURNOVER

The total turnover of the Cafeteria is about Rs 1.25 crores.

11.3. Central Animal Facility

Professor-In-Charge

SS Chauhan
Chairperson of IAEC

Senior Veterinary Officer

PK Yadav
Member Secretary, IAEC & EAWC

During the year, rats, mice, rabbits and guinea pigs were maintained in the Central Animal Facility (CAF).

Small Animal (Rodents)

The following Average numbers of laboratory animals were maintained:

1. Rats (Wistar):	1492
2. Rats (Sprague Dawley):	599
3. Mice (Swiss):	515
4. Mice Balb/c:	564
5. Mice C57 BL/6:	451
6. Rabbits (New Zealand):	104
7. Guinea Pigs (Dunkin Hartley):	45

A total of 3072 small animals (Wistar Rats 2031, SD Rats 334, Mice Swiss albino 364, Mice Balb/c 66, Mice C57BL/6 231, Rabbit 39 and Guinea pigs 7) were supplied to various departments of the Institute. A total of 2115 animals (Wistar Rats 1158, SD Rats 554, Mice Swiss albino 149, Mice Balb/c 211, Mice C57BL/6 35, Rabbit 8) were sold to other Academic and Research Institutions in Delhi and outside Delhi.

Experimental Surgery

One hundred and seventy-three (173) surgical procedures were performed by faculty, investigators and students from various departments in the CAF. The departments include Anatomy, Biochemistry, Biomedical Engineering Unit in collaboration with IIT New Delhi, Biophysics, Biotechnology, Gastroenterology, Laboratory Medicine, Neurosurgery, Nuclear Magnetic Resonance, Paediatric Surgery, Pharmacology, Reproductive Biology, Stem Cell Facility and Cardiac Biochemistry.

Institutional Animal Ethics Committee

The Institutional Animal Ethics Committee (IAEC) is approved by the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA) under the Ministry of Fisheries, Animal Husbandry and Dairying (Govt. of India). The AIIMS CPCSEA registration No. is 10/GO/ReBiBt/S/99/CPCSEA “Research for Education Purpose, Breeding for in house use and Breeding for the purpose of trade of Rodents animals (Rat, Mice, Rabbit, Guinea Pigs and Hamsters)”. The IAEC cleared 79 new projects and 8 projects were given extension for work on small animals (rodents) of various investigators of Institute during the year.

Services provided

The CAF has been maintaining the animals belonging to the departments of Anatomy, Biochemistry, Biomedical Engineering Unit in collaboration with IIT New Delhi, Biophysics, Biotechnology, Gastroenterology, Laboratory Medicine, Neuro-Surgery, Nuclear Magnetic Resonance, Paediatric Surgery, Pharmacology, Reproductive Biology, Microbiology and Stem Cell Facility, Genetics Medicine and Cardiac Biochemistry. The experimental laboratory animals belonging to the above departments maintained were: Rats 132, Mice 85, Rabbits 8 and Guinea pigs 2.

The upgradation of Nude/Transgenic Mice Facilities is in progress and will be functional at the earliest for research.

The IAEC has given the permission to Physiology, Pharmacology, Ocular Pharmacology and Pharmacy (at RPC AIIMS) to maintain laboratory animals in the department. These departments maintain laboratory animals under the supervision of the CAF.

Educational programmes attended

1. Online Webinar on “Scientific Goat Farming: From the Livelihood to financial Security for the Farmers” held on 18 September 2021 at the ICAR Research Complex for Eastern Region, Patna, Bihar, India.
2. First Zonal Meeting held on 28 and 29 October 2021 in the Faculty of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati, Assam.

3. Foundation Day Ceremony of the College on 30 November 2021 at the Birsa Agricultural University, Ranchi as a Chief Guest in my role is Vice-President, Veterinary Council of India, a statutory body, Govt. of India.
4. Second Zonal meeting of the Expert committee for finalizing the Draft for Minimum Standards of Veterinary practice Regulations (MSVPR) and decided to conduct the meeting at zonal levels associating different States, Veterinary Associations, Milk Federations and Pvt., Practitioners etc. at the College of Veterinary Science and Animal Husbandry, Anand, Gujarat.
5. Third Zonal meeting for the stakeholders of the States/UTs of Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Telengana, Pudduchery, Lakshwadip and Andaman & Nicobar Island held on 11 and 12 February 2022 at the College of Veterinary Science, SVVU, Tirupati, Andhra Pradesh.
6. Fourth Zonal meeting for the stakeholders of the States/UTs of Punjab held on 25 and 26 March 2022 at the College of Veterinary Science, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana 141004.
7. All Technical Staff attended One Day Regional workshop on “Role of Laboratory Animal in Bio-Medical Research” organized by Animal House Facility, Department of Pharmacology, North Eastern Indira Gandhi Regional Institute of health and medical Sciences, Shillong, Meghalaya, in collaboration with Laboratory Animal Scientists’ Association, India on 22 March 2022.

AWARDS, HONOURS AND SIGNIFICANT ACHIEVEMENTS

Dr PK Yadav was nominated as a Chairperson of the committee for framing of regulations on laboratory animals under the purview of Minimum Standards of Veterinary Practice Regulations, Nominated as a member of main CPCSEA committee under the Ministry of Fisheries, Animal Husbandry and Dairying Department of Animal Husbandry and Dairying Government of India, Nominated as a member of the Scientific Advisory Committee of ICMR- National Animal resource Facility for biomedical Research, Hyderabad, nominated as a member of the Expert Committee for finalising the Draft Minimum Standards of Veterinary practice Regulations (MSVPR) and decided to conduct the meeting at zonal levels associating different States, Veterinary Associations, Milk Federations and Pvt, Practitioners, Nominated as a member of the Selection committee for appointing of consultant (Veterinary) on contractual basis.

11.4. Central Workshop

Faculty Coordinator

Dr Ganga Prasad

(Professor, Department of Anaesthesiology, Pain Medicine and Critical Care)

Chief Technical Officer

Kalu Ram

Harinder Pal

Senior Technical Officer

Nitin Srivastava

Manpreet Singh Sudan

Objectives

In a hospital or medical institute it is necessary to have well-functioning equipment for smooth delivery of quality health services. However, many patient-care centres procure expensive and delicate equipment which, because of poor maintenance often breaks down. If there is no system in place to report breakdowns and to plan or carry out repairs, equipment can remain unusable for long periods of time. An effective repair system not only minimizes the time period for which the equipment remains unusable but also significantly decreases the financial burden.

The Central Workshop was established in 1964 at AIIMS, New Delhi to provide repair and maintenance of medical equipment, including surgical instruments and diagnostic devices. The services are not restricted to the AIIMS Main hospital but also caters to the other locations such as NDDTC Ghaziabad, CRHSP Ballabgarh, NCI Jhajjar and Trilok Puri Eye Hospital, Delhi.

The Central Workshop not only carries out the repair and maintenance of equipments but also fabricates items to be used for medical education and scientific research. Thus it plays an important role in aiding smooth and complete patient care at AIIMS. Being the only technical department, it also provides technical guidance to various procurement committees of the Institute.

Services available

There are various sections in the Central Workshop headed by Senior Technical Officer/Technical Officer with supporting staff members to provide its services and operations.

Repair and Maintenance

A total of 6422 jobs/works have been received and completed by the Central Workshop during the year. Some section-wise examples of repaired items are given below:

S. No.	Section	Number of jobs	Item description
1	Electronics	503	Patient monitors, Infusion pumps, Regulated power supplies, Electronic weighing machines, Light sources, ECG machines, Sealing machines, Ultrasonic nebulizer, DVT pumps, CVT/Stabilizers, Induction hot plate, Nebulizers, Public address systems, Operation table (Remote controlled), Microscopes, Microwave ovens, Colour televisions, Studio light, Patient warmer, LED viewbox, Elisa washer & reader, Reaction timer, Air mattress pump, etc.
2	Electrical	722	Autoclave machines, Gynae examination/Goose Neck/Bull eye lamps, Boiler, Centrifuge machines, Suction machines, Fly killer machines, Fumigator, Gauge/Plaster cutters, Grinders, Hot case, Hot air Ovens, Hot display counter, Hot plates, Incubators, Laminar flow, Mayo stand, Mixer grinder, Magnetic stirrer, Needle destroyers, O.T. lights, Spot light, Steam bath, Sterilizers, U.V. lights, Vacuum cleaners, X-ray viewbox, Vortex shaker, Water bath, Wax bath, Electric kettle, etc.
3	Mechanical	1956	Surgical instruments, Tracheostomy tube, Spray pumps, Vapor jet cleaning machines, Scissors (Gauge cutting), Bedside lockers, I.V. stands, Patient trolleys, Patient beds, Wheelchairs, Loading trolleys, Food trolleys, Side screens, Instrument trolleys, Basin stand, Footstep, Surgical drums, Push cart, Patient examination tables, Hydraulic trolleys, Test tube stands, Revolving stools, etc.

4	Fine Instrument	1731	Digital/Dial B.P Instrument, Ophthalmoscope, Micro balances, Stethoscopes, Weighing machines, Compressors, Flowmeters, Oxygen regulators, Hydraulic tables, Laryngoscopes, etc.
5	Refrigeration	171	Visi coolers, Deep freezers, Chilling unit, Ice cream cabinet, Refrigerators, Cold display counters, Refrigerated BOD incubator, etc.
6	Painting	364	All office and hospital furniture items like Beds, I.V. stands, all types of trolleys, wheelchairs, Benches, Footsteps, Patient side lockers, Pigeon lockers, Patient examination tables, Push carts, almirahs, racks, etc.
7	Carpentry & Upholstery Section	975	All types of wooden stools, sofas, settees, chairs etc. & their upholstery work. Splints & any other fabrication work of wooden items as per drawings provided by the departments.
	Total Jobs	6422	

Fabrication and Guidance

Despite the gradually increasing load of repair and maintenance activities, Central workshop has been able to provide help in the activities of design and fabrication of gadgets useful for patient care or scientific research, as per specifications provided by the various departments. A Total 327 items have been fabricated during the year. The details are as below:

S. No.	Item description	Quantity	Department
1	Handle for Surgical Instruments	40	Ortho OT, JPNATC OT
2	Temp Chart Holder	10	Main Hospital
3	Sampling Sheet Covid 19	11	EHS, PRC
4	OT Light Ring	4	SET Facility
5	Electronic setup for “Assessment of transferability of skills from 3D HD to 2D HD endovision system”	1	Surgery
6	Ambuscope Monitor	1	Main OT
7	Mitral Valve Ring Sizer	10	CTVS
8	Teeth Holder	1	NMR
9	Metallic L Piece	3	BPS Block
10	Animal Sacrifice Box	1	Endocrinology
11	Pediatrics Stylet	12	Cardiac Anaesthesia
12	Perspex Plate	2	Biophysics
13	Perspex Mould	2	Biophysics
14	Donation Tag	44	Anatomy
15	Aluminum Piece	156	IRCH
16	Sweat testing Machine	2	Paediatrics
17	Rat Restraint	1	Physiology
18	Prosthesis Ball	6	Paediatric Surgery
19	Stylet	20	New Emergency

Short-term training

The workshop is actively involved in providing short term training (4-6 weeks) to diploma/undergraduate students of various engineering colleges.

Teaching activity

The workshop has been actively involved in teaching activity of BSc OT technology students. The classes and demonstration have been taken as per their curriculum.

Strength of the employees

A skilled team of technicians and officers is available at the department to provide the above stated operations. The team provides skilled support to keep various equipments in the Institute in a good working condition. The strength of group B and C staff in the Central Workshop is as follows:

Technical Officer:	4	Technician (Grade I):	7
Technician (Grade II):	4	Workshop Assistant:	3
Receptionist (JAA):	1	Store Clerk (JAA):	1
Operator (E&M):	4	Khalasi:	1

Achievements

The central workshop has received a Letter of Appreciation from the department of pharmacology, AIIMS, New Delhi for the repair of their Deep Freezer, which was declared unrepairable by the company. It also received a Letter of Appreciation from the Department of Medical Oncology, IRCH, AIIMS, New Delhi for the renovation work of their Biosafety Hood.

11.5 Computer Facility

Professor-in-charge

A Shariff

Deputy Director

SN Ragu Kumar

Systems Analyst

Satish Prasad (till April 2021)

SK Meher

Sanjay Gupta

Senior Programmers

Hari Shanker

Pawan Sharma

Shyamal Barua

Tripta Sharma

Sanjeev Kumar

Amit Bhati

Points of Pride

Software Services and Education	IT Infrastructure and Network
<ul style="list-style-type: none"> Hospital Information System Laboratory Information System RIS/PACS In house Modules: <ul style="list-style-type: none"> Administration and Back Office Clinical Employees Health Services (EHS) Online e-APAR, IT CAMC AIIMS website: www.aiims.edu Own email and SMS services Computer Education classes for Undergraduate and Postgraduate Nursing students and MBIotech 	<ul style="list-style-type: none"> Maintaining 9500+ nodes NKN connectivity for high speed Internet connection Wi-Fi Coverage in buildings State of the art Data Centre State of the art IT Security State of art 3 tier Networking Architecture UTM/Firewall ClearPass (NAC)

SOFTWARE SERVICES AND EDUCATION

Hospital Information System

Hospital Information System (HIS) is implemented using e-Hospital@NIC software through which following modules are managed:

- Online Appointment
- OPD registration (New and follow up)
- Admission, discharge and transfers
- Medical Record Section
- Patient Billing
- Inventory Management Module
- Laboratory Module
- Dietary services
- Blood Bank

HIS is fully compliant with SNOMED CT.

Online Appointments Stats

Particulars	2019-20	2020-21	2021-22
New Patients	-	102050	516210
Follow Up Patients	-	116043	857579

OPD Registrations (New and Follow Up) Stats

Center Name		2019-20	2020-21	2021-22
Main Hospital	New Registrations (Physical)	-	104891	238715
	Follow up Registrations (Physical)	-	177240	422949
	Follow up Registrations (Tele consultation)	-	224	-
	Follow up Registrations (Tele consultation)	-	36906	45614
Cardio Neuro Centre	New Registrations (Physical)	-	13224	50482
	Follow up Registrations (Physical)	-	36494	71659
	Follow up Registrations (Tele consultation)	-	1261	-
	Follow up Registrations (Tele consultation)	-	23428	11310
Dr. R. P. Centre	New Registrations (Physical)	-	36616	131528
	Follow up Registrations (Physical)	-	67020	142745
	Follow up Registrations (Tele consultation)	-	14	-
	Follow up Registrations (Tele consultation)	-	1236	1627
Dental Centre	New Registrations (Physical)	-	21236	58994
	Follow up Registrations (Physical)	-	26749	61879
	Follow up Registrations (Tele consultation)	-	892	-
	Follow up Registrations (Tele consultation)	-	612	244
IRCH	New Registrations (Physical)	-	21185	22990
	Follow up Registrations (Physical)	-	14548	908
NCI	New Registrations (Physical)	-	-	8778
	Follow up Registrations (Physical)	-	-	38448

Admission, Discharge and Transfers Stats

Particulars	2019-20	2020-21	2021-22
Admissions	-	138133	138133
Transfers	-	60763	60763
Discharges	-	138587	138587

Laboratory Information System

Laboratory Information System is implemented through integration of Laboratory Equipment and e-Hospital software following international HL7 standards. Laboratory equipment's connected to LIS are:

S. No.	Laboratory Location	Equipment Name	Number	Machine Type
1	CNC	Beckman 5Plot cell Counter	1	Uni-directional
2	CNC	IRIS iCount3	1	Uni-directional
3	CNC	Immulate1000	1	Uni-directional
4	CNC	Bio-Rad10	1	Uni-directional
5	CNC	Alifax R20 ESR Machine	1	Uni-directional
6	CNC	Beckman 3Plot cell Counter	1	Uni-directional
7	RPC Hematology (7th Floor)	Beckman Coulter 5 Plot Act Diff Cell Counter	1	Uni-directional
8	RPC Hematology (7th Floor)	Sysmex KX21	1	Uni-directional
9	RPC Hematology (6th Floor)	Beckman AU680	1	Bi-directional
10	Endocrinology-1	Bio-rad D10	1	Uni-directional
11	CCF Ground Floor	Cobas 6000	1	Bi-directional
12	CCF Ground Floor	Urin Analyzer	1	Uni-directional
13	Renal	Cobas C3 11	1	Bi-directional
14	Renal	Abott Architect1 000	1	Bi-directional
15	Renal	IONS	2	Uni-directional
16	Emergency Department	AQT 90	1	Uni-directional
17	Emergency Department	ABL 800	1	Uni-directional
18	Emergency Department	Pentra XL	1	Uni-directional
19	New Private Ward 2nd Floor	Mini Cap	1	Uni-directional
20	Pediatric Endocrinology	Cobas e41 1	1	Bi-directional
21	CNC	Beckman Coulter AU680	1	Bi-directional
22	CNC	Beckman Coulter 480	1	Bi-directional
23	Reproductive Biology	Abbott Architect1 000	1	Bi-directional
24	IRCH 1st Floor	MS4 Cell Counter	1	Uni-directional
25	IRCH 1st Floor	MS9 Cell Counter	1	Uni-directional
26	IRCH 2nd Floor	MS4 Cell Counter	2	Uni-directional
27	IRCH 2nd Floor	MS9 Cell Counter	2	Uni-directional
28	Lab Medicine Room No-2	Comiline	2	Uni-directional
29	Lab Medicine Room No-2	Caretium	2	Uni-directional
30	CNC R.No.53 GF	Hitachi Modular	1	Bi-directional
31	CCF Ground Floor	Beckman Coulter Access2	1	Bi-directional
32	Lab Medicine R.No.20	Hitachi Modular	2	Bi-directional
33	Endocrinology-01	Cobas Integra	1	Bi-directional
34	CNC	Sta Compact	2	Bi-directional
35	RPC 6th Floor	Beckman Coulter AU680	1	Bi-directional
36	RPC 6th Floor	Access2	1	Bi-directional
37	New Private Ward 2nd Floor	Sta Compact	1	Bi-directional
38	Reproductive Biology	Architect 1000	1	Bi-directional
39	Reproductive Biology	Architect 2000	2	Bi-directional

40	Endo-02	Cobase41 1	4	Bidirectional
41	Endo-02	Liaison	2	Bidirectional
42	Endo-02	LiasionXL	1	Bidirectional
43	CNC	Advia	1	Bidirectional
44	CNC	Advia Centura XP	1	Bi-directional
45	CNC	Beckman Coulter Act5	1	Bi-directional
46	Biochemistry	Vitros Analyzer	1	Bi-directional
47	Endo-01	Thosh G8	1	Unidirectional
		Uni-directional	25	
		Bi-directional	33	
		Total number	58	

LABORATORY INFORMATION SYSTEM

Particulars	2019-20	2020-21	2021-22
Uni-directional	27	27	25
Bi-directional	33	33	33
Total number	60	60	58

The advanced IOMT has been integrated with Lab machine and LIS (e-Hospital):

Machine	Location
ACL Elite pro	Lab Med room 2
Cobas C311	Renal Lab
IONS	Renal Lab
Sysmex XN-2000	Lab Med room 2
IONS	Renal Lab
Sysmex XN-2000	Renal Lab
AU680	RPC
Cobas_e411	Endo Lab-02
Cobas_e411	Endo Lab-02
Architect_C4000	Reproductive biology
Architect_2000	Reproductive biology

RIS and PACS

RIS

Appointment of various radiological investigations is managed through e-Hospital RIS system. Results after investigations are also pushed back to HIS system using HL7. Various investigations appointment scheduled via RIS are as under:

- Plain X-ray
- CT Scan
- MRI Scans
- Ultrasonography
- PET Scans
- Ophthalmic Radiology
- Mammography
- Angiography
- Dental X-rays

These investigations are offered across multiple locations in various centres of AIIMS.

PACS

AIIMS has implemented a common centralized PACS Server with web-based visualizer: Oviyam. This system integrates with the standalone departmental PACS systems (Siemens / GE Centricity / Philips / Sonosite).

MODALITIES connected to Open source PACS at AIIMS: Total Number of Modalities called AET configured is 87. These have been configured from various departments and locations like Main AIIMS, JPNATC, NCI JHJJAR to store the studies in PACS server, from 2014 onwards. AET stands for application entity title.

PACS integration with HIS e-Hospital: It is integrated with HIS to receive patient demographics details using HL7 standards. This helps to send the requisition for radiological investigations such as X-ray, CT, MRI etc. via online to RIS systems. PACS integration had been done with different modalities.

Up gradation: OPEN PACS dcm4chee PACS version has been upgraded from version 2.17.2 to 2.18.1 due to some bug fixes and performance improvement.

Oviyam viewer: Module added to get studies from GE-PACS directly using DICOM C-Get/C-Move.

Auto forwarding of studies from JPNATC Centre PACS to AIIMS PACS is configured.

Oviyam (viewer) software update due to Chrome Update 70 (Some Browser features are removed in update 70 and an alternative workaround is done)

PDF2DICOM application installed to upload Spirometry reports which convert Pdf, JPG, JPEG images to Dicom images and push into PACS server.

Studies stored/archived in Open PACS during the year

S. No.	Modality	Number of Studies	Location of Modality
1	CR (Computed Radiography)	48641	CNC, IRCH, MAIN AIIMS, RPC, Trauma OPD, Trauma Center
2	CR/SR	16	Main AIIMS, Trauma OPD
3	CT (Computed Tomography)	11342	New Private Ward, Main Radiology, Main AIIMS GE, IRCH, NCI AIIMS, RPC, Trauma Center AIIMS
4	CT/OT/SR	7	CT8 Radiology workstation, Main AIIMS
5	CT/PR/SR	12	Main AIIMS GE, NCI AIIMS
6	CT/REG	49	NCI AIIMS, Main AIIMS, IRCH
7	CT/SR	24563	CT8 Radiology workstation, Main AIIMS, NCI AIIMS, IRCH, Trauma center AIIMS
8	DX (Digital X-ray)	42134	IRCH, CT8 radiology workstation, Main AIIMS, IRCH, New RAK, NCI AIIMS, RPC
9	DX/SR	11	New RAK, Main AIIMS
10	KO/MR	12	Main AIIMS
11	MG (Mammography)	1065	IRCH-MEMO, Main AIIMS
12	MR (Magnetic Resonance)	2160	IRCH, Main AIIMS SIEMENS, Main AIIMS
13	OT (Other)	519	CDER-X-Ray, Main AIIMS SIEMENS, NCI JHAJJAR, Main AIIMS
14	PR	211	IRCH-MEMO
15	PT/CT	54	Main AIIMS
16	REG/MR/SR	12	Main AIIMS
17	RF/CR	553	IRCH-LUMINOUS TF, SEIMENS, Main AIIMS, Trauma OPD
18	SEG/CT/SR	678	CDER-X-Ray, Main AIIMS SIEMENS, NCI AIIMS, Main AIIMS, Main AIIMS GE, Trauma Center, IRCH
19	US (Ultrasound)	4989	IRCH, NCI, Main AIIMS, Main AIIMS SIEMENS
20	XA (X-Ray angiography)	23	Main AIIMS, Main AIIMS SIEMENS

Total Studies received in OPEN PACS: 137,051

Average PACS Access time: Total OPEN PACS access time for 12 Months is 2172.01 hours which was accessed over LAN connections & Wi-Fi. Average one-month PACS data accessed is 2,172/12=181 hours per month. Each day's average access time is 6.03 hours approximately.

DIFFERENT STUDIES HAVE BEEN STORED/ARCHIVED IN OPEN PACS

2019-20	2020-21	2021-22
2,49,077	1,28,227	1,37,051

In House Modules

Computer Facility has a team of programmers who continuously maintain, upgrade and develop various in house modules using Dot Net technology. Of late, Open source technology is encouraged and used for the purpose of software development which involves Python programming language, Tryton framework and PostgreSQL database.

Administration and Back Office Modules

For administrative and back office automation, various in house modules maintained and implemented in the Institute are listed below:

- Payroll System
 - GPF System: Online GPS statement
 - Tax module: Online Form 16
 - Pension System
- Online Pay Slips
- Vigilance System
- Letter of Intent and Award system for Engineering Services Department
- Academics Teaching Schedule and automated mail
- Online Poison Information
- Electronic Annual Performance Assessment and Report (e-APAR)
 - 10,843 forms were generated and completed on Tryton based e-APAR system.
 - More than 500 tickets were solved by various helpdesk personnel working and supporting AIIMS staff from home.
- Cheque and Reconciliation
 - 6503 Cheques were printed from our system.
- Digital management started for all the Vishram Sadans
- Claims - Developed and implemented a system for Children's Education Allowance, Over Time Allowance, Conveyance Allowance, Telephone Bill, Newspaper Bill, Honorarium, etc.
- Developed system for Integration with SBI Corporate Internet Banking for making payments without the use of physical Cheque.
- Security Audit - Started security audit for Tryton based applications with STQC Directorate.
- Transport Booking for Faculty and Group A Officers: 1447 vehicle booking requests received
- Railway Concession Certificates to Patients: 20,434 railway concession certificates were registered
- Organ Donation Registration: 1260 Donors were registered
- Hostel Registration: 787 PG Students were registered for hostel accommodation
- In Undergraduate courses [i.e. MBBS, BSc (Nursing)] 225 rooms were allotted
- Estate Online Allotment system: 61 quarters of different categories were allotted to faculty members; 49 quarters of different categories were vacated online by faculty members
- 684 forms were registered for Email, VPN and Wi-Fi Facility
- In EDS-LOI Software 1757 Letter of Intent were generated
- Involved in integrating various payment mode @e-Hospital

Computer Facility team is also involved in implementation of e-Office@NIC software for online tracking of file movements in the entire Institute.

Clinical Modules

In clinical side automation, various in-house modules maintained and implemented in the Institute are listed below:

- PDS (Patient Display System) in Emergency: 63052 patients' details have been registered for Emergency, New Emergency and Paediatrics Emergency.
- Quality Assurance Module (QAM): 359 entries have been recorded for scheduling conferences, lectures, faculty meetings and also for doctor's grading purpose.
- QAM/HA: 18 entries have been made for grading purpose by HA.
- RPC PDS: 35598 patients' details have been registered in RPC PDS system.
- OT Scheduling: 553640 OT scheduling has been done for different departments.
- Equipment Checklist RPC: 1036 checklists have been created for equipment's in RPC.
- E Birth Certificate: 2081 birth certificates have been generated through this module.
- E blood request: Blood requests are raised for arranging blood for patients.

- Use of SNOMED CT: we have integrated SNOMED CT in this module in fields like Diagnosis etc. The total number of transactions recorded is 3698.
- E Cath list: 1961 scheduling has been done for Cath Laboratory.
- E MLC: 9080 medical records have been maintained for MLC cases.
- Use of SNOMED CT: It is an online module for Doctors to prepare e-MLC. SNOMED CT is integrated in this module in fields like Alleged H/O, Diagnosis. Total number of transactions recorded is 7895.
- E MLC RPC: 487 medical records have been maintained for MLC cases at RPC.
- Penicillin Register: 119 registrations have been done for scheduling and alerting regarding penicillin intakes.
- Gamma Knife Register: 105 registrations have been done for Gamma Knife procedure.
- Online admission slip: A total of 12761 admission slips comprising patients of both OPD and Emergency have been provided in a real platform based upon the availability of beds under different department heads. SNOMED CT is integrated in this module in fields like Diagnosis etc. and the total number of transactions recorded is 3359.
- QR code in medical and fitness certificate: 8465 certificates have been generated for AIIMS and other centers employees.
- E-Death Note: 5724 death certificates have been generated through this application. SNOMED CT is integrated in this module in fields like Immediate cause: (a), Antecedent cause: (b), Diagnosis etc. Total number of SNOMED CT transactions recorded is 2059.
- Integration of SNOMED CT with e-Hospital (NIC): SNOMED CT is integrated through Web API of e-Hospital. It is integrated with two modules i.e. Admission and Discharge. Total number of transactions at the time of admission in e-Hospital is 1,909. Total number of transactions at the time of discharge in e-Hospital is 34,203.
- Anticoagulant Register: It is an online register to enter Lab values of patients like PT/INR for the use of tele consultations. Authenticated patients can enter their Lab values themselves in this application by OTP authentication and fresh prescription will be provided by the doctors.
- Bone Bank: It is an application for entering patients' bone details which will be preserved for later use. It is developed for Neuro and Ortho Departments.
- Gynaecology e-MLC: It is used for registering female MLC cases. In this module all the forms are printed out electronically.
- Heart Transplant: It is used for registering patient details for heart transplantation for matching of heart for transplant.
- Breast Cancer: It is used for registering Breast Cancer details. It is used in Surgery Department.
- Medicine module: Medicine module is for capturing the admission note, consultant note, progress note, discharge summary of the summary. We have integrated SNOMED CT in this module in fields like Diagnosis, Investigations, Vitals, operative notes etc.
- Student wellness: It is used for capturing student mental health details.
- Tele Medicine Dashboard for Tele consultation and online prescriptions
 - More than 10 departments used Tryton based telemedicine dashboard to provide e-Prescriptions.
 - 10,000 e-Prescriptions are generated till now
- Pharmacy Dashboard: Online system for a paperless realization of Prescriptions at HLL Generic Pharmacy.
 - Customized Clinical Modules are developed for various departments and running successfully for currently following Medicine, Surgery, Dermatology and Geriatric Medicine departments

Particulars	2019-20	2020-21	2021-22
PDS (Patient Display System) in Emergency	92,804	55,864	63052
SNOMED CT - like Diagnosis, Symptoms	55336	2597	3698
Quality Assurance Module (QAM)	1051	531	359
QAM/HA	03	26	18
RPC PDS	7905	2697	35598
OT Scheduling	70,050	28,883	553640
Equipment Checklist RPC	2,269	640	1036
E Birth Certificate	2,483	1629	2081
E blood request	98,549	-	-
E Cath list	4,578	388	1961
E MLC	13,194	9557	9080
E MLC RPC	98	16	487
Penicillin Register	2258	119	119
Gamma Knife Register	105	49	105
Online admission slip	21,955	9464	12761
QR code in medical and fitness certificate	10,822	8201	8465

E-grievance module		41	29	-
E-Death Note		5937	4858	5724
SNOMED CT transactions		2891	1691	2059
ECG Lab		4863	-	-
SNOMED CT with eHospital (NIC)	admission in eHospital	1909	1909	1909
	discharge in eHospital	34,203	34203	34203

Employees Health Services Application

Employees Health Services (EHS) Software system is developed by NIC and it is used for recording and maintaining Employees health prescriptions generated in the EHS OPD. This system maintains all the employees' records and their dependents details that are eligible for EHS benefits in the EHS OPD.

The system registers each EHS patients in the OPD and records their medicines prescribed online in the system. Medicines are also dispensed online via EHS Pharmacy counters. Medicines which are not available in the EHS pharmacy are sent for Local Purchase. LP Indents are automatically generated twice by this system and submitted in the online mode to the LP vendor. EHS Registration and Prescription data for FY 2021-22 is:

- Total registrations: 2,07,126
- Total online prescriptions: 1,83,881

Particulars	2019-20	2020-21	2021-22
Total registrations	2,33,897	2,86,190	2,07,126
Total online prescriptions	2,01,665	2,66,883	1,83,881

AIIMS Website

- Computer Facility maintains AIIMS websites hosted at aiims.edu and various other services pertaining to it.
- Assigning of @aiims.edu accounts for Faculties, SRs, JRs, Research work. Till now 3119 email id accounts have been created
- The total number of pages updated, created and uploaded on AIIMS website are approx. 9000.
- COVID related website was created in Wordpress (covid.aiims.edu). This website included all the information related to COVID-19
- A YouTube channel was also created and many videos were uploaded related to COVID for the public.
- The total number of visitors to AIIMS website was approx. 7 Crores till date.

Email and SMS Services

- Migrated aiims.edu email ids to Google workspace (GSuite)
- Maintaining email id on aiims.edu domain and aiims.ac.in domain
- Created approx. 850 new email ids on aiims.edu domain for faculty members, scientists, officers and students of AIIMS.
- Regular E-mails sent to all faculties regarding various conference, seminars etc.
- Mobile Seva CDAC SMS Gateway services are used by the Institute for providing SMSes regarding:
 - Patient's related services such as appointment details, Lab reports OTP etc.
 - Examinations Section
 - Academic Section
 - Blood Bank
 - Organ Donors details

IT Infrastructure and Network

- Computer Facility provides network management facilities including high speed internet connectivity to various users of AIIMS through NKN connectivity from NIC.
- Started State of the art new networking at new blocks: NCI, Jhajjar, New OPD and New Burn and Plastic Surgery Block and it is being provided for MCH, New Surgical, NAC and VVIP Blocks at AIIMS, New Delhi.
- New Network infrastructure (LAN/Wi-Fi) provided for CRHSP Ballabgarh.
- Facilitated COVID 19 National Tele Consultancy Centre (CoNTeC) and call Center at AIIMS.
- Provided fail free round the clock network & services during COVID-19 Pandemic.
- Provided NKN connectivity at various important locations of AIIMS for smooth conducting of online conferences, webinars, meetings, classes, etc.
- Approximate 200 new internet connections have been provided to faculty members, officers and staff of AIIMS.

- Provided high speed NKN internet connectivity for various Seminars/Conferences/Video conference:
 - LAN/Wi-Fi facility provided for National CME/Symposium/Workshop/Conferences held in AIIMS, New Delhi.
 - High speed internet connectivity provided for “Live surgery transmission from OT 5th floor to LT VI, 6th floor, RPC”.
 - High speed internet connectivity provided for Ortho OT to JLN Auditorium for “Live surgery transmission”.
 - Technical support provided for Mission DELHI Project (Delhi Emergency Life Heart Attack Mission), Dept of Cardiology.
 - High speed internet connection provided for LIVE WEBINAR in various departments /Centre at AIIMS, New Delhi.
 - Wi-Fi facility provided for National Conference organised by Dept. Neurology Conference Hall.
 - High speed internet connection provided for various events at SET facility, Convergence Block.
- Continued management of Unified Threat Management (UTM) firewall done for security of computer networks and application for management at gateway level Anti-Virus, Anti-Spam, IPS/IDS and content filtering.
- Continued management of the wireless networking zones at around 18 hostel locations, creating Wi-Fi zones for internet, information and online journals access to students and resident doctors. So far approx. 910300 students have availed this facility. Currently 1550 users are registered for this facility.
- Continued BBDL OPAC Services and enhancement of library online resources subscribed through BB Dixit library through AIIMS website, management of Wi-Fi zone at B.B. Dixit Library for internet and online journal access for students.
- High speed internet facility through NKN lease line for faculty and students is being maintained on 24/7 basis on the AIIMS network at around 9700 nodes.
- Maintenance of Web server, Proxy server and Mail Server 24x7x365 days.
- Facility management and call maintenance for internet and network user’s complaints and resolution 24x7x365 days through help-desk of Computer Facility.
- VPN based access mechanism for e-Hospital Module; CPRS access from outside AIIMS continued management for Ballabgarh, AIIMS centers.
- Continued management of IPsec tunnel for connecting NDDTC, JPNATC and CRHSP Ballabgarh.
- MAC ID based authentication provided to AIIMS faculty, scientists, Assistant/ Deputy Nursing Superintendents for Wi-Fi based access to e-hospital software’s and internet at wards, OPD, ICU and OTs etc.
- Created approx. 400 IDs for VPN/online journal access.
- Configured approx. 300 Wi-Fi MAC addresses for faculty members and scientists.
- OPENVPN/Tunnel client installed and configured for various users at AIIMS.
- Activated and configured IP address for internet connections.
- Provision of external IP address for the GE Centricity RIS-PACS for department of Neurosciences Centre.
- Firewall rules created for allowing YouTube and Facebook for LAN and Wi-Fi users.
- VPN IDs/Wi-Fi MAC addresses have been deleted from firewall /server for NOC purposes.

AWARDS, HONOURS AND SIGNIFICANT EVENTS

SN Ragu Kumar was Member of Various Technical Specification Committee for development of IT Infrastructure for AIIMS and all its Centre’s and Upcoming Centre’s, Conducted Orientation program for newly selected MBBS students, AIIMS, New Delhi, managing of officers on special duty for making the software run 24/7. By 365 days providing the NOC for all Users NOC Certification for all the employees of AIIMS.

SK Meher was involved in teaching undergraduate and postgraduate students of Nursing and Biotechnology. Involved in 2 years training program of Army doctor on medical informatics. Major role in implementation and support of HIS (e-Hospital), in-house developed clinical application and OPD clinical screening and other specialty module in NCI, Jhajjar. Major role for integration of lab equipment, robotic lab in Jhajjar, Smart Lab in Main new OPD Block and Open PACS of NCI, Jhajjar and also part of implementation team for implementation of Siemens PACS and its integration with e-Hospital and open PACS in Jhajjar and new OPD Block, Supporting Data Centre and Design, Deployment and implementation of computer networking and Wi-Fi for NCI, Jhajjar (Haryana) and supporting P2P connectivity from NCI, Jhajjar to AIIMS, New Delhi; **Chairman** technical committee for purchase of IT equipment in ICMR, New Delhi, selection committee for recruitment of IT staffs for in the ICMR projects, committee for cyber security policy and the requirement and also in up gradation and new requirement of networking in ICMR, New Delhi and other branches in India. Working in AI in oncology project funded by MEIT and nodal officer for SNOMED CT project (under MOHFW) implementation in AIIMS, New Delhi; Delivered talk on “Business transformation during Covid time”, organized by VAR India virtual conference; “Setup a good Telehealth application is a key priority” published in VAR magazine; Keynote speaker in 18th INFORECH FORUM on “Accelerating Your Business Transformation Strategy in Healthcare”, Awarded Tekq Legendary Super CIO Award by Tekq India and COVID-19 Super Hero CIO by Enterprise IT World 2021; awarded as top Business Transformation leader award in 2nd Edition of Mint 2021 | TechCircle Business Transformation Awards 2021 for IT & Business Leaders Awarded by The Global World Forum CIO 200 in 2021, Awarded Cloud Champion 2021 by Enterprise world, Awarded Eminent CIO of India 2021, Winner of India future CIOs NEXT 100 in 2021, Awarded CIO 22 by CIOAXIS, TOP CIO OF INDIA AWARD 2022 by Enterprise Channel Summit, Awarded Cybersecurity Leadership award 2022 in GLOBAL Security Summit 2022; Article published in Brand book 2021

of VARINDIA and awarded best Eminent CIO of India, Deputy Editor and Editorial Board Member of BMJ Health & Care Informatics 2020-2023, Board member of International Society for Gerontechnology 2019-2022; Reviewer of conferences in 2021: MIE 2021, AMIA 2021, HEALTHINF 2021; Organized SNOMED CT introductory training program to clinicians of different clinical departments; Nodal person for providing the availability of Ventilators and ICU beds of AIIMS for emergency cases to Central Govt. Hospitals, “Development of the DNA data base and Identification portal for identification of Unidentified bodies in India – UMID” titled article published in Elsevier Journal, As a co-investigator of projects: 1. Artificial intelligence in Oncology: Harnessing big data and advanced computing to provide personalized diagnosis and Treatment for Cancer patients. 2. Identification Portal and DNA Database of Unidentified Bodies Autopsied at AIIMS, New Delhi.

Sanjay Gupta Supervised COVID 19 National Tele Consultancy Centre (CoNTeC) and call Center at AIIMS, Provided NKN connectivity at various important locations of AIIMS for smooth conducting of online conferences, webinars, meetings, classes, etc., Installed IT infrastructure in New OPD, NCI and Burn & Plastic Block, Started State of the art new networking at NCI, Jhajjar, New OPD and New Burn and Plastic Surgery Block and it is being provided for MCH, New Surgical, NAC and VVIP Blocks at AIIMS, Online Grievance portal for employees implemented at AIIMS is running successfully, Online elections of SU, FAIMS and SYS conducted, Diverted network from very old Cisco core switch to new HP Aruba Core switch and some activities of UTM from Sophos to Checkpoint

Hari Shanker was Key person as Network In-charge for AIIMS Network, Took online classes (Internet/email) for M.Sc. /B.Sc. Nursing students, Provided NKN connectivity at various important locations of AIIMS for smooth conducting of online conferences, webinars, meetings, classes etc, Provisioning of e-Office on BSNL network at NCI, Jhajjar, Drafted Technical Specification for “Up-gradation and Augmentation of Network Infrastructure of AIIMS including Wi-Fi Coverage”, Migration of Cyberoam firewall to Sophos firewall, Member of Verification Committee for New OPD Block, Burn & Plastic, Surgical Block and NCI, Jhajjar to facilitate handing over/taking over of the IT infrastructure by the Stores of the respective Projects.

Pawan Kumar Nominated as CAPIO under the RTI Act 2005 for the Computer Facility, Lead of Backoffice, Administration & finance team, E-APAR aiims.gov.in domain, Special Invitee at Departmental TSEC, Web Information Manager of the Institute along with Sh. Ragu Kumar NAIDU, Deputy Director (CF), Nodal Officer for GeM and CPPP Portal.

Shyamal Barua was Maintaining and configuring e-Hospital application modules, Appointment Module, OPD Registration Module, RIS module, Emergency module, Involved in the software development of Clinic modules for Medicine, Surgery, Skin and OPD dashboard, Acting as nodal officer for GeM and e-procurement implementation, Supervising and providing technical support for CCTV procurement and monitoring for AIIMS, New Delhi.

Tripta Sharma was managing day-to-day operations of HIS application modules in AIIMS and various centres

Sanjeev Kumar Arranged Demo of Doctor Dashboard Software for department of Haematology, Paediatrics and Dermatology, Claims – As a pilot project, a system has been developed and implemented for Children’s Education Allowance, Conveyance Allowance, Telephone Bill, Newspaper Bill, A system has been developed and implemented for printing the cheque, Nodal Officer for e-Publishing for CPPP, Created User ID for uploading tender and arranged training for uploading the same on CPPP portal, Imparted suitable training to the store officer/store keeper of different departmental stores of AIIMS for uploading Short Rate enquiry/Proprietary Tender, One of the members of the committee formed for Design, Development & Maintenance of the ORBO website.

Amit Bhati was Nodal Officer for IT/Cyber Security Prevented data breaches, monitored and reacted to attacks and coordinated with CERT-In, Ministry of Electronics and Information Technology of the Government of India to ensure that security practices are compliant, Officer In charge, Stores, Computer Facility – Managing the IT infrastructure (both consumable and non-consumable IT assets) and performing overall oversight mechanism in the procurement/functioning of Stores, CF, Member Secretary, TSEC (Procurement up to Rs. 10 Lakhs): Working as Member Secretary, Technical Specification and Evaluation Committee of Computer Facility (Procurement up to Rs.10 Lakhs), Nodal Officer for prevention and management of fire incidents

Nursing Informatics Specialist (NIS) integrate nursing science with multiple information management and analytical sciences to identify, define, manage, and communicate data, information, knowledge, and wisdom in health practice, thereby helps realign the services to the ever-changing organizational needs of AIIMS, New Delhi. Total of 60 NIS has been posted in all centers of AIIMS and has actively involved in education, patient care, research and computerization activities. NIS has played a significant role in digitization and workflow optimization of AIIMS. They have been actively involved in coordinating for developing testing and implementing, various online modules as a part of hospital digitisation.

11.6 Electron Microscope Facility

Professor
TC Nag

Additional Professor
Subhash C Yadav

Assistant Professor
Prabhakar Singh

Senior Technical Officer
Sandeep Arya

Technical Officer
Chanda Panwar

EDUCATION

1. EM classes (theory as well as practical) for Anatomy postgraduates were conducted from 23 August-8 October 2021 (Fridays only).
2. EM classes (theory and practical) for M. Biotech. Students were conducted on 15 June 201, 17 August 2021 and 19 August 2021 (theory) and from 1-10 September 2021 (2020-2022 batch), 13-22 September 2021 and 13-22 December 2021 (practical), both for 2021-2023 batch.

CME/Workshops/symposium/National and International Conferences

1. The 37th National Training Program in Electron Microscopy for Scientific Investigators was held from 29 November-11 December 2021. Twenty-seven candidates from all over India participated in this training program.

Lectures delivered

TC Nag: 3

SC Yadav: 3

Prabhakar Singh: 2

Total number of oral presentations

Year	Number of oral presentations
2021-2022	8
2020-2021	1
2019-2020	5

RESEARCH

Funded projects

Ongoing

1. An experimental study to understand the mechanisms of choroidal capillary death in aging eye with emphasis on involvement of macrophages and other immunocompetent cells, TC Nag, ICMR, 3 years, 2021-24, Rs 31 lakhs
2. Cryo electron tomography (ET) and correlation microscopy for understanding cellular infectivity and internalization of COVID-19 from human samples, Subhash C Yadav, IUSSTF, 2 years, 2020-2022, Rs 50 lakhs
3. Cryo-Electron Microscope Imaging facility for biological specimens (Cells and Tissue), Subhash C Yadav, DBT, 4 years, 2021-2026, Rs 2000 lakhs
4. Designing of rapid and cost-effective Nano-LAMP based detections of BK virus from serum of post-renal transplant patients, Subhash Chandra Yadav, ICMR, 3 years, 2019-2022, Rs 35.84 lakhs
5. Development of quick and specific detection system of EWS-FLI-1 fusion protein, Subhash C Yadav, DBT, 4 years, 2019-2022, Rs 96.0 lakhs
6. Establishment of Laser Confocal Microscope Facility for biomedical live cell Imaging and for nano-particulate drug delivery, Subhash C Yadav, DST-FIST, 5 years, 2018-23, 165 lakhs
7. External delivery of Cisplatin using Human Papilloma Virus (HPV 16) based nanocarriers for treatment of cervical cancer, Subhash C Yadav, DHR, 3 years, 2021-2024, Rs 30 lakhs

8. Mitochondrial dynamics and status of autophagy in retinal photoreceptor cells after experimental iron overload in rats, TC Nag, ICMR, 3 years, 2019-2022, Rs 30 lakhs
9. Study of structural reorganization of cholinergic neurites in a rat model of focal cerebral ischemia, Prabhakar Singh, AIIMS, 2 years, 2020-2022, Rs 10 lakhs
10. To study the role of cholinergic transmission on the amyloid beta induced neurodegeneration and therapeutic interventions for Alzheimer's disease, Prabhakar Singh, ICMR, 3 years, 2022-2025, Rs 30 lakhs
11. Ultrastructural localization of glucose regulated protein (GRP78) in sino-nasal mucosa and its relationship to mucormycosis in COVID19 patients, Prabhakar Singh, AIIMS, 1 year, 2021-2022, Rs 5 lakhs

Total funded research projects and total amount of extramural/intramural funding

Year	Total funded research projects	Total amount of extramural/intramural funding (lakhs)
2021-2022	10	155.74173
2020-2021	9	72.02774
2019-2020	5	74.58748

Departmental projects

Ongoing

1. Expression pattern of ghrelin in the retina and its link with light insult in rats
2. Identification of HPV-16 induced cervical cancer cells from cytology samples
3. Mitochondrial dynamics and status of autophagy in retinal photoreceptor cells in a rat model of experimental iron overload
4. Pattern of mTORC1 expression in rat retina in experimental iron overload

Collaborative projects

Ongoing

1. Fluorosis mitigation in community of Bihar through intervention and counseling, Anatomy
2. Pharmacological and molecular approaches to investigate the effect of Adhatoda vasica in experimental models of bleomycin induced pulmonary fibrosis, Pharmacology
3. Prevalence and genetic mutations profile of Primary Ciliary Dyskinesia in Indian children, Pediatrics

PUBLICATIONS

Journals: 19

Chapters in Book: 1

Publications over 3 years

Year	Publication subtypes	Total number of publications
2021-2022	Journal articles: 19 Chapter in book: 1	20
2020-2021	Journal articles: 13 Chapter in book: 2	15
2019-2020	Journal articles: 16	16

Patent Filed

1. Raman S, Tanwar P, Bhatla N, Yadav SC. An Immuno-Nano-Fluorescence Assay, Antibodies and a Kit Thereof for Detection of Human Papillomavirus (HPV) Infection Associated Cervical Cancer. Indian Patent 2021, 202111035011

PATIENT CARE

Special laboratory facilities

During the year, special laboratory facilities provided for research and patient care are as follows:

S. No.	Facility	User number analyzed		Specimens	
		Internal	External	Internal	External
	Transmission Electron Microscope	142	302	875	1524
	Scanning electron microscope	23	99	135	459

AWARDS, HONOURS AND SIGNIFICANT EVENTS

Professor TC Nag examined one PhD thesis (JNU) and one application for faculty promotion from Univ of Madras (Department of Anatomy) during this period. He was nominated member to the Research Advisory Committee, Cooch Behar Panchanan Barma University, Cooch Behar (WB), and appointed an editorial board member, Journal of Biochemical and Molecular Toxicology (Wiley) for 3 years (until 2024). He reviewed 72 manuscripts for journals like: J Cell Mol Med, Front Pharmacol, Arch Physiol Biochem, J Neurosci Res, Oxid Med Cell Long, Int J Immunopharmacol, J Drug Target, BioFactors, Pharmaceut Biol, Biomed Res Int, Biochem Cell Biol, Microsc Microanal, J Pharm Pharmacol, Microscopy Res Tech, J Biochem Mol Toxicol, J Invest Res.

Dr Subhash C Yadav examined three PhD theses i.e., Institute of Advance Research, Gandhi Nagar, IIT Hyderabad, and IIT Roorkee and one MSR thesis from IIT Delhi. He is guest editor of a special Issue of IJBB journal entitled “Electron Microscopy in Biomedical Sciences” published in August 2021. He has reviewed journal papers and was the Organising secretary of 37th National Training program for Scientific investigators, organised by SAIF-New Delhi, AIIMS.

Dr Prabhakar Singh worked as an expert for review of projects under DST-National Initiative for Developing and Harnessing Innovations (NIDHI)-PRAYAS program.

11.7 Hostel Section

Superintendent of Hostels

Sandeep Agarwala

Deputy Superintendents of Hostels

Neerja Bhatla	Raj Kumar Yadav	KH Reeta
Vijay Sharma	Rakesh Kumar	Tanuj Dada
Partha Halder	Kapil Yadav	Kamlesh Kumari Sharma
	Bhupinder Kaur	

Stores Officer (Hostels)

PS Rana

Administrative Officer (Hostels)

Latha Paulose

F & C.A.O. (Hostels)

Rakesh Kumari Sharma

Senior Warden (Hostels)

Shashi Prakash Pandey (upto 13 May 2021) Mohan Kumar Sharma (from 13 May 2021)

Warden

Seema Pruthi

Deputy Wardens

Satprakash Kalia	Suchita Kumari	Sukhpal Mallick
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Assistant Wardens

Tripta Sharma	Rani Varghese	Ankit Dogra
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Junior Wardens

Babu Lal Meena	Dinesh Desai	Nirmala
Rajesh Rawat	Sunil Devi	

Ministerial and Contractual Staff

There are 6 ministerial and 10 contractual staff

Subordinate Staff

There are 12 male office attendants and 27 female office attendants posted in different Hostels under Hostel Section. AIIMS has several halls of residence with a capacity of 1977 (approximate) single/double rooms, 262 married accommodations, 424 accommodations for nursing students/staff nurses and 24 guest rooms. These are spread over different hostels and residences in the AIIMS Main Campus, Masjid Moth, JPNATC Hostel (Raj Nagar).

The total Hostel Strength is 2663 which includes accommodation for undergraduate and postgraduate students of various courses of AIIMS ranging from single to 6-seater capacity.

Shops and Establishments

Various Mess/Cafes and shops are provided in hostels located at Ansari Nagar, Trauma Centre Masjid Moth Shops.

Mess/Café

There are 9 contractor run messes and 6 cooperative run messes located in the premises of hostels.

Student's Wellness Centre

1. Main Campus

- a. Student wellness Centre services are available at room no. 11, (Opposite Hostel No. 7 Ashwini Hostel).
- b. Common Room I, Hostel No. 9, Parvati Hostel.

2. Masjid Moth Campus

Common Room (2/II), Second Floor, Hostel No. 19 (Patanjali Hostel) Masjid Moth.

3. Trauma Center Campus – In the Trauma Center

SIGNIFICANT EVENTS

1. Civil Work

Renovation

1. Hostel No. 1 to 5 (Male UG Hostel) 75 rooms were renovated and allotted to MBBS students
2. Hostel No. 7 (Ashwini Hostel) - 58 rooms were converted into double seater and allotted to MBBS Students 2021 batch
3. Hostel No 2 (Jivak Hostel) and Hostel No 3 (Sushruta Hostel) – Guest Rooms got renovated.
4. Hostel No. 2 (Jivak Hostel) – Hostel store got renovated
5. Hostel No.9 (Parvati Hostel), room no. 63 double seater room & room no. 64 common room got renovated
6. Hostel No. 10 (Saraswati Hostel) – room no. 7 (Warden Office) and room no.8 (allotment division room), T.V. Room, Indoor Gym and 39 rooms got renovated. Open Gym installed in the garden. As well as dressing Mirror also installed in the rooms
7. Hostel No. 14 (Atreya Hostel) – Recreation Room, Dhobi Shop, 20 Married Rooms, Mess Toilet and Common Toilet got renovated
8. Hostel No. 14 (Atreya Hostel) - in single rooms, looking mirror has been installed till 3rd Floor and G. floor garage has been converted into J.E. civil office. Entire open area from 4th Floor to 7th Floor has been covered with grill
9. Hostel No. 15 (Medha Hostel) – All the windows were replaced. Pantries have been renovated and made functional in each floor
10. Hostel No. 16 (Agnivesa Hostel) – Common reading room was made functional. Two wheeler parking is constructed
11. Hostel No 18 (Kashyap Hostel) entire open areas has been covered with grill
12. Hostel No 19 (Patanjali Hostel) Ground floor to 10th floor corridors and windows has been covered with grill
13. JPNATC Hostel - Corridors and rooms windows has been replaced and covered with grill
14. Hostel No.14 (Atreya Hostel) – Renovation work is going on in Married Rooms
15. Hostel No 19 (Patanjali Hostel) - Looking mirror installation work is going on

2. Electrical work

1. Hostel No.14 (Atreya Hostel): Transformer has been installed
2. JPNATC Hostel: Fire panel and rewiring work done and fire alarm system has been installed

3. Air Conditioning

1. Hostel No. 3 (Sushruta Hostel) – 1st floor water cooler was replaced
2. Hostel No.9 (Parvati Hostel) – 2nd floor water cooler has been installed
3. Hostel No.14 (Atreya Hostel)- A/C has been installed in extended office & recreation room
4. Hostel No.14 (Atreya Hostel) – mess desert coolers has been replaced
5. Hostel No 16 (Agnivesa Hostel) - A/C has been installed in the Reading Room
6. Hostel No 19 (Patanjali Hostel) - A/C has been installed in the Student's Wellness Centre 2/II (common room) & Reading Room 2/I (common room)

Miscellaneous

1. Hostel No. 1 to 8, 10, 11, 13, 14 (only married rooms), 15 and JPNATC Hostel–Old furniture has been replaced.

11.8. Ethics Committee

The total number of Project proposal and Thesis Protocol submitted and discussed in the Ethics committee for the academic year 2021-22 are mentioned below:

Meetings:

The number of meetings were:

- Institute Ethics Committee: **12**
- Institute Ethics Committee for post graduate Research for Basic & Clinical Science: **12**

The number of projects reviewed:

- New project proposals: **1300**
- Review projects: **1000**
- Old projects: **500**

The number of projects reviewed by the Institute Ethics Committee for post graduate Research for Basic and Clinical Science:

- New Thesis: **900**
- Review Thesis: **500**
- Old Thesis: **150**

Year of Assessment	Institute Ethics Committee Meetings	Institute Ethics Committee for PG Research meetings	Project Proposals reviewed	Thesis protocols reviewed
2019-20	11	11	<ul style="list-style-type: none"> • New Project Proposal: 975 • Review Project: 600 • Old Projects: 275 	<ul style="list-style-type: none"> • New Thesis: 684 • Review Thesis: 300 • Old Thesis: 150
2020-21	16	12	<ul style="list-style-type: none"> • New Project Proposal: 1610 • Review Project: 757 • Old Projects : 383 	<ul style="list-style-type: none"> • New Thesis: 1048 • Review Thesis: 494 • Old Thesis: 204
2021-22	12	12	<ul style="list-style-type: none"> • New Project Proposal: 1300 • Review Project: 1000 • Old Projects : 500 	<ul style="list-style-type: none"> • New Thesis : 900 • Review Thesis: 500 • Old Thesis: 150

In addition, the Institute Ethics Committee continues to receive notifications of serious adverse reactions, serious adverse events, annual progress reports and completion reports. The Institute Ethics Committee's Standard Operating Procedures (SOPs) were modified as per the need and are available on the AIIMS website.

SIGNIFICANT EVENTS

The Institute Ethics Committee and Institute Ethics Committee for Post Graduate research for Basic and Clinical Science were registered with DCGI and FWA.

11.9. K.L. Wig Centre for Medical Education, Technology and Innovation (CMETi)

Chief

Peush Sahni

Professor-In-Charge

(For Faculty Development of Basic Sciences)

KK Deepak

Professor-In-Charge

(For Faculty Development of Clinical Faculty of Medicine & Allied discipline)

AK Deorari (till 28 Feb 2022)

Education Media Generalist

Yogesh Kumar

Administrative officer

Bhoop Singh

Faculty Members for

Fellowship in Clinical Research Methodology & Evidence Based Medicine

Dr. Peush Sahni

Dr. Shashi Kant

Dr. K. Anand

Dr. Govind Makaria

Dr. Deepti Vibha

Dr. Tulika Seth

Dr. Rajeev Kumar

Dr. Rakesh Lodha

Dr. Neerja Bhatla

Dr. Naveet Wig

Dr. A K Misra

Dr. Kapil Dev Soni

Dr Partho Halder

Highlights

In the 2nd year of the Covid-19 pandemic due to hybrid mode CMETi also started full media support to faculty and residents, may it be print, photography, or video. CMETi entertained 355 videos related, 96 Photographs/ Scan related, and 554 Graphics, including large format/ e-Posters, related requests.

66th Institute Day Celebration:

- The theme of the exhibition was: Digital Health and Medical Education
- 75
- physical posters of 36x56 inches and 31 e-Posters were prepared by various departments, and six video stations were placed on display. The exhibition was inaugurated by Dr Mansukh Mandaviya, Honourable Minister of Health and Family Welfare, in the presence of the Honourable Minister of State for Health and Family Welfare, Dr. Bharati Pravin Pawar, and the Director AIIMS, Dr. Randeep Guleria.
- Live telecast of the 66th Institute Day covering institute day prize distribution and silver jubilee oration, presented by Prof. Rakesh Aggarwal, Director, JIPMER, Pondicherry.

Ummeedotsav-2021: Live telecast of the Cultural Evening program on Institute Day was arranged on YouTube by CMETi Team including skits, songs, and dances presented by AIIMS faculty, residents, nurses, and staff.

Vasantotsav 2022: Live telecast of the event from the Jawaharlal Auditorium, AIIMS on YouTube was arranged by CMETi Team using a multi-camera setup. Skits, songs, and dances were presented by AIIMS faculty, residents, nurses, and staff.

75th Independence Day Celebration at AIIMS: Live telecast of the event from the central quadrangle of AIIMS on Youtube was arranged by CMETi Team using a multi-camera setup.

Public Lectures: Live telecast of the following public lectures held at AIIMS

1. Dengue 27 September 2021
2. Prevention of Sexual Harassment at Workplace, 6 October 2021
3. Mental Health in Post Covid-19 World 9 October 2021
4. World Stroke Day 29 October 2021
5. Kidney Health for All 10 March 2022
6. Head Injury Prevention and Road Safety 21 March 2022

Other live events: From design to final production were arranged by CMETi Team. All the videos are available on YouTube and the Saral platform of AIIMS.

1. Covid-19 in Children–Case-based Interactive Session, 6 July 2021
2. Symposium on Stroke Nursing Care, 27 October 2021
3. Inauguration of National Stroke Program, 28 October 2021
4. National Oxygen Stewardship Program, 22 December 2021, launch by Dr. Bharati Pravin Pawar, Hon’ble MOS, H&FW

Orations: CMETi team arranged the transmission of the following 4 virtual orations

1. **Dr Kesho Ram Laumas Memorial Oration** by Prof Vasantha Padmanabhan, Professor, Pediatric and Communicable Diseases, University of Michigan, USA, 9 April 2021
2. **Dr. Sujoy B Roy Memorial Oration** by Dr. Vasan S Ramachandran, Professor, Chief Section of Prevention Medicine and Cardiovascular Epidemiology, Boston University School of Medicine, Boston, USA, 22 July 2021
3. **Dr. Hari Parkash Oration** by Prof. Mahesh Verma, VC, GGSIP University, 14 September 2021
4. **Dr Kesho Ram Laumas Memorial Oration** by Dr. Mohd. A. Akbarsha, Biomedical Scientist and Research Coordinator, National Collage, Tiruchirappalli, Tamil Nadu, India, 21 January 2022

CDAC-NER Project: A series of 7 video lectures (30 to 40minutes each) was produced by CMETi for the psychiatric department for their CDAC-NER project: “Technology-Mediated Delivery of Courses in Medical Science Education- Mental Health and Wellbeing”.

19 CTVS Lectures: 19 Lectures on the basics of cardiac surgery by Prof. Shiv Chaudhary, Chief, CTVS, for Junior Residents were recorded.

RPC Day Exhibition on March 10, 2022: CMETi designed and printed 27 posters highlighting the research and other achievements of RP Centre, AIIMS, New Delhi.

CMETi technical team also supported video production for **16 poster presentations** by faculty/residents and provided technical support to **6 webinars** and **11 teleconference** meetings organized by various departments.

Provided technical and production-related support to the faculty to produce the following videos on Covid-19:

1. Managing dental trauma with confidence, for CDER
2. Oral health care in children, for CDER
3. “IV Cannula Process”, “Vitiligo Patch” and “Replacing mechanical onychotomy with electrosurgical onychostomy for minimally invasive resection of nail tumor” for Dermatology department.
4. Child Health Care: A Nukkad Natak for CCM
5. Knee straightening for osteoarthritis in Hindi and English for the department of orthopaedics
6. “Side effects of Tobacco” and “Child-care after cardiac surgery” for College of Nursing
7. Administration of Oxygen, in Hindi & English
8. Awareness about compression-only life support
9. Derma Surgery Instruments
10. Donning & Doffing of Sterile Gloves Dermatology
11. Imaging techniques oncology patient college of nursing
12. Initial assessment and management of multiple injured patient
13. Insulin technique in Hindi & English
14. Neonatal Hearing Screening for the department of ENT.
15. Pressure injury prevention, in Hindi & English
16. Rapid antigen test at home for Covid-19, in Hindi & English
17. Renal Care, bundle video
18. Soft Skill Training video for college of nursing
19. Exercise for Stroke Patients

Media Production: Details of Media Production for the year 2021-22

	2019-20	2020-21	2021-22
Designing/printing of large format Academic Posters (including e-posters)	451(80)	367(100)	488 (66)
Exhibition Posters (including e-posters)	200	120(50)	133(31)
Video recording and editing, No. of requisitions	437	432	355
Clinical/ Event /X-ray/CT/MRI/Slide Photography and No. of requisitions	393	208	96
Number of on-screen presentations	66	112	126 (8410 Slides)
Flyers Prints A4/A3 Size	-	-	19 (86 Printouts)
Colour Printing (A3 Size)	1446	710	643
Colour Printing (A4 Size)	1206	1409	499
Publicity Posters Print	1020	570	126
Certificates Prints A4 Size (CMET workshops +Other Department)	539	295	-

Lecture series under Fellowship in Clinical Research Methodology and Evidence-Based Medicine: 12 Sessions of 90+ minutes were organised this year.

S.No	Topic	Faculty I/C	Date
1.	Study designs: Introduction to cohort studies and measures of effect	Dr Deepti Vibha	11.08.21
2.	Cohort Study: Definition of Cohort, types of cohort study and retrospective versus prospective Study	Dr Deepti Vibha Dr Kapil Dev Soni	18.08.21
3.	Cohort studies: methodology, strengths, and limitations	Dr Deepti Vibha	25.08.21
4.	Introduction to R	Dr Kapil Dev Soni	01.09.21
5.	Case Control Study: Definition of cases, developing eligibility criteria for cases and controls, Deciding the number of controls per case and its impact on power of the study	Dr Partha Halder	08.09.21
6.	Case Control Study: Types of controls, Advantages, and limitations of various types of controls	Dr Partha Halder	15.09.21
7.	Simple and multiple linear regression, and regression diagnostics	Dr AK Mishra	21.09.21
8.	Logistic regression	Dr AK Mishra	23.09.21
9.	Case Control Study: Operational definition of variables, matched case control design, Overmatching Analysis methods for matched and unmatched case control study	Dr Partha Halder	29.09.21
10.	Critical Appraisal of Cohort study	Dr Kapil Soni	06.10.21
11.	Critical Appraisal of Case-control study	Dr Tulika Seth	13.10.21
12.	Clinical vs statistical significance, bias, confounding and hypothesis testing	Dr Deepti Vibha Dr Kapil Soni	20.10.21

Logistic support: CMETi continued to provide logistic support to the Department of Surgical Disciplines and Psychiatry, after the fire incident in the AIIMS Teaching block in August 2019, the staff of Surgery and Psychiatry department shifted to CMETi along with their respective Heads and store offices. All the logistic supports like space, furniture, computers, printers, internet facility, etc were extended to both the departments to run the departments smoothly.

Lectures delivered

Yogesh Kumar (Workshop/Sessions): 8

11.10 Media Cell and Protocol Division

Chairperson

Aarti Vij

Additional Spokesperson

Karan Madan

1.	Date	Title	Newspaper
2.	2 April 2021	AIIMS Director warns of another full-blown crisis	The Times of India
3.	2 April 2021	India's situation like UK due to virus mutation: AIIMS Director	The Pioneer
4.	2 April 2021	एम्स में ९६६ वक्सीनशन, बाकि जगह भी बड़ी रफ्तार	नवभारत टाइम्स
5.	3 April 2021	Can gradually open up vaccination, says AIIMS Chief	The Indian Express
6.	5 April 2021	वायरस में म्यूटेशन के बाद भी अभी खास नहीं देखे जा रहे दोबारा संक्रमण के मामले	दैनिक जागरण
7.	5 April 2021	डर खत्म होने से दोबारा बड़ा संक्रमण: डॉ गुलेरिया	दैनिक जागरण
8.	5 April 2021	कोविड -१९ नियमों का पालन नहीं करने से बिगड़ी स्थिति: एम्स निदेशक	हिंदुस्तान
9.	9 April 2021	PM Narendra Modi takes the second dose of the covid-19 vaccine at AIIMS	Hindustan Times
10.	9 April 2021	AIIMS issues covid treatment plan for mild to severe cases	The Indian Express
11.	10 April 2021	एम्स झज्जर का कैंसर इंस्टिट्यूट भी कोरोना सेंटर में हुआ कन्वर्ट	नवभारत टाइम्स
12.	10 April 2021	मैजिक बुलेट नहीं है कोरोना वैक्सीन, देरी से दीखता है, असर	अमर उजाला
13.	12 April 2021	Mutated virus far more infections than original strain, says Guleria	The Times of India
14.	12 April 2021	हर मरीज़ को रेमेडेसिविर देना बंद करे डॉक्टर: एम्स निदेशक	अमर उजाला
15.	13 April 2021	Non-adherence to covid norms could be behind surge: AIIMS Chief	The Asian Age
16.	13 April 2021	विषाणु के नए स्वरूप से बड़े मामले: गुलेरिया	जनसत्ता
17.	13 April 2021	कोविड नियमों के प्रति बेपरवाही से बड़ा संक्रमण: गुलेरिया	हिंदुस्तान
18.	18 April 2021	Lack of Covid-suitable behavior, virus mutation cause covid spurt: AIIMS Head	The Pioneer
19.	18 April 2021	वायरस के बदले रूप और लापरवाही ने केस बढ़ाये	नवभारत टाइम्स
20.	19 April 2021	कोरोना में रामबाण नहीं है रेमेडेसिविर	दैनिक जागरण
21.	21 April 2021	कोरोना काल में एम्स से बहुत उम्मीद: हर्षवर्धन	जनसत्ता
22.	22 April 2021	Covid task force chief in AIIMS urges for more doctors	The Asian Age
23.	22 April 2021	सही से इस्तेमाल करे तो ऑक्सीजन की कमी नहीं: डॉ गुलेरिया	दैनिक जागरण
24.	22 April 2021	दूसरी लहर के 85% संक्रमितों में गंभीर लक्षण नहीं: गुलेरिया	हिंदुस्तान
25.	24 April 2021	एम्स सहित सभी अस्पतालों में लगेंगे ऑक्सीजन प्लांट	नवभारत टाइम्स
26.	26 April 2021	Patient whose oxygen saturation is over 92% should avoid Remdesivir as it could harm them: Dr Randeep Guleria	The Times of India
27.	26 April 2021	Just about 5% cases turn critical and require stronger medicines	Hindustan Times
28.	26 April 2021	Don't panic as virus tends to change colour after certain time: Experts	The Pioneer
29.	27 April 2021	बुखार और जुकाम है तो कोरोना की तरह ही शुरू करे इलाज: गुलेरिया	जनसत्ता
30.	27 April 2021	अगर किसी में लक्षण है तो बिना रिपोर्ट के भी कोविड पॉजिटिव मान लेना चाहिए: गुलेरिया	नवभारत टाइम्स
31.	30 April 2021	खुद महसूस किया की वक्सीनशन के बाद कोविड होने पर नहीं आते गंभीर लक्षण: डॉ देवांशु अग्रवाल, एम्स	नवभारत टाइम्स
32.	01 May 2021	Severe strain, stressed health system may explain covid death surge: Guleria	The Indian Express

33.	01 May 2021	AIIMS Chief: Overuse of steroids could be counter-productive	The Times of India
34.	02 May 2021	संक्रमण रोकना है तो सख्त लॉकडाउन जरूरी: डॉ गुलेरिया	दैनिक जागरण
35.	03 May 2021	संक्रमण को रोकने के लिए सख्त पूर्णबंदी जरूरी: गुलेरिया	जनसत्ता
36.	04 May 2021	Steroid use too early may be causing drop in oxygen: Guleria	The Indian Express
37.	04 May 2021	Mild Covid patients need not rush for CT-Scan, it can lead to cancer: AIIMS	The Pioneer
38.	05 May 2021	Strict lockdown should be clamped in areas with over 10% positivity rate: AIIMS	The Pioneer
39.	05 May 2021	एम्स और आरएमएल हॉस्पिटल में भी लगा ऑक्सीजन प्लांट	नवभारत टाइम्स
40.	06 May 2021	AIIMS adds 150 more beds for covid patients	Hindustan Times
41.	06 May 2021	देश में तीसरी लहर आ सकती है: गुलेरिया	हिंदुस्तान
42.	08 May 2021	एम्स ट्रामा सेंटर में नया ऑक्सीजन प्लांट शुरू	दैनिक जागरण
43.	10 May 2021	बच्चों पर भी हो रहा है कोरोना के टीके का ट्रायल: गुलेरिया	दैनिक जागरण
44.	11 May 2021	एम्स में लगगे प्लाज्मा डोनेशन कैंप	नवभारत टाइम्स
45.	13 May 2021	Covaxin receives nod for trials on children	Hindustan Times
46.	16 May 2021	Deaths from secondary infection, fungus across states: AIIMS Chief	The Times of India
47.	16 May 2021	Guleria flags rise in fungal cases: Steroid misuse	The Indian Express
48.	16 May 2021	Prevention of fungal infections key in Covid treatment	The Statesman
49.	16 May 2021	Patient should not take remdesivir at home: AIIMS docs	The Asian Age
50.	16 May 2021	अगले दो महीने में देश में कुछ और कंपनियों की वैक्सीन उपलब्ध होगी: एम्स निदेशक	दैनिक भास्कर
51.	20 May 2021	Black fungus Guidelines from AIIMS	The Indian Express
52.	22 May 2021	गंदे पानी के इस्तेमाल से भी बढ़ रहे हैं फंगस के मामले: डॉ गुलेरिया	अमर उजाला
53.	25 May 2021	Post-Covid issues need to be addressed: AIIMS Chief	The Times of India
54.	25 May 2021	The Virus is the same and there is no indication that in the third covid-19 children will be more impacted, says AIIMS Director	Hindustan Times
55.	25 May 2021	संपर्क से नहीं होता ब्लैक फंगस: रणदीप गुलेरिया	हिंदुस्तान
56.	25 May 2021	कोवैक्सीन की बूस्टर दोज का ट्रायल में शुरू	नवभारत टाइम्स
57.	25 May 2021	फंगस इन्फेक्शन संक्रमित के संपर्क में आने से नहीं फैलता: डॉ गुलेरिया	दैनिक भास्कर
58.	25 May 2021	तीसरी लहर बच्चों को गंभीर रूप से संक्रमित नहीं करेगी: गुलेरिया	दैनिक भास्कर
59.	26 May 2021	Trials for 3 rd booster dose of covaxin at AIIMS	The Times of India
60.	26 May 2021	मौत के १२ से २४ जानते बाद नाक और मुँह में कोरोना सक्रिय नहीं रहता: एम्स	दैनिक भास्कर
61.	29 May 2021	देश के किसी भी कोने में बैठकर ले दिल्ली एम्स के डॉक्टरों से परामर्श	हिंदुस्तान
62.	05 June 2021	No death in those infected after full vax: AIIMS Study	The Times of India
63.	05 June 2021	Jabs cheat death on reinfection: AIIMS	The Pioneer
64.	06 June 2021	Covid-diabetes link needs study: Dr. Nikhil Tandon	The Hindu
65.	06 June 2021	कुछ ही माह में टीके का सबसे बड़ा निर्माता बनेगा भारत: डॉ गुलेरिया	दैनिक जागरण
66.	07 June 2021	AIIMS to Screen kids for covaxin trails	The Times of India
67.	08 June 2021	AIIMS Screening of 2-18 age group for covaxin trail begins at AIIMS	The Asian Age
68.	09 June 2021	No evidence that next wave will hit children: Guleria	The Times of India
69.	09 June 2021	एंटीबायोटिक के साथ शरीर को सुरक्षा देता है टीका: डॉ गुलेरिया	हिंदुस्तान
70.	10 June 2021	एम्स की स्टडी: टीका लगवाने पर भी डेल्टा वैरिएंट का संक्रमण संभव	दैनिक भास्कर
71.	11 June 2021	ट्रायल: एम्स में साथ बच्चों को दी वैक्सीन की खुराक	नवभारत टाइम्स
72.	12 June 2021	एम्स में पकड़ी रफ्तार, 58 हजार से ज्यादा वक्सीनशन	नवभारत टाइम्स
73.	15 June 2021	AIIMS starts screening of kids in 6-12 age group from covaxin trials	The Times of India
74.	15 June 2021	विश्व रक्तदाता दिवस पर एम्स में 75 लोगो ने किया रक्तदान	दैनिक जागरण
75.	17 June 2021	Vax projects against infection in 95% of cases: Study	The Times of India
76.	18 June 2021	Third Wave unlikely to hit kids disproportionately: Sero Survey	The Times of India

77.	18 June 2021	Kids, adults have same antibodies, says study	Hindustan Times
78.	18 June 2021	शोध: सिरों सर्वे में 55% बच्चों में एंटीबाडी मिली	हिंदुस्तान
79.	18 June 2021	एम्स में सर्वे का नतीजा, तीसरी लहर से बचने में होगी मददगार	नवभारत टाइम्स
80.	18 June 2021	एम्स में इलेक्टिव सर्जरी शुरू	अमर उजाला
81.	19 June 2021	Likely to have stronger resistance if third wave strikes: Experts	The Times of India
82.	19 June 2021	व्यापक परिणाम के लिए बड़े स्तर में सर्वे की जरूरत: डॉ गुलेरिया	अमर उजाला
83.	20 June 2021	As crowds swell, Guleria warns of early 3rd Wave	The Times of India
84.	20 June 2021	If covid- appropriate behavior is not followed, the third wave can happen in six to eight weeks, we need to work aggressively till vaccination kicks in	Hindustan Times
85.	20 June 2021	Surveillance can check covid surge: AIIMS Chief	The Asian Age
86.	21 June 2021	New Delta Plus variant could become a variant of concern: AIIMS Chief	The Pioneer
87.	21 June 2021	फेफड़ों की कार्यक्षमता बढ़ाने में योग कारगर	दैनिक जागरण
88.	21 June 2021	एम्स की स्टडी में खुलासा, आँखों की बीमारी ग्लूकोमा में भी योग असरदार	नवभारत टाइम्स
89.	21 June 2021	कोविड ने हर चार में से तीन युवाओं के दिमाग को प्रभावित किया: एम्स स्टडी	हिंदुस्तान
90.	23 June 2021	विटामिन डी कोरोना का असर काम करने में कारगर	नवभारत टाइम्स
91.	24 June 2021	Severe Covid Rare in Children: Study	The Times of India
92.	24 June 2021	सितम्बर - अक्टूबर तक देश में आ सकती है २ वर्ष से ऊपर के बच्चों के लिए कोविड वैक्सीन: एम्स निदेशक	दैनिक भास्कर
93.	27 June 2021	Don't generalise to say Delhi sought 4x O2 needed: Guleria	The Times of India
94.	27 June 2021	एम्स में देश में पहली बार एचआईवी मरीजों में किया सिरों सर्वे, आशंका से अलग मिले परिणाम	अमर उजाला
95.	28 June 2021	Jabs for kids will help reopen schools: Guleria	The Times of India
96.	28 June 2021	AIIMS: Vaccination of kids must before schools open	The Asian Age
97.	02 July 2021	समाज के मार्गदर्शन बने डॉक्टर: डॉ गुलेरिया	दैनिक जागरण
98.	02 July 2021	टीकाकरण से तीसरी लहर पर काबू संभव: गुलेरिया	हिंदुस्तान
99.	02 July 2021	तीसरी लहर से बचने के लिए कोविड सम्मत व्यवहार जरूरी: गुलेरिया	अमर उजाला
100.	02 July 2021	प्रोटोकॉल का पालन हर वैरिएंट पर पड़ेगा भारी: डॉ गुलेरिया	अमर उजाला
101.	02 July 2021	एम्स के डॉक्टरों ने ब्लड डोनेट कर दिया संदेश	दैनिक भास्कर
102.	02 July 2021	डेल्टा + कितना घातक, रिसर्च के बाद ही पता चलेगा: डॉ गुलेरिया	दैनिक भास्कर
103.	05 July 2021	एम्स शोध के मुताबिक 40 % से अधिक लोगों में कोरोना से ठीक होने के बाद कई तरह के लक्षण देखे गए हैं	हिंदुस्तान
104.	06 July 2021	एम्स ने भारत समेत 10 देशों में 22,996 बच्चों पर हुए 15 शोध का विश्लेषण किया, 42 फीसदी बच्चों को अवसाद ने घेरा	हिंदुस्तान
105.	07 July 2021	स्टेरॉयड के अधिक इस्तेमाल से गाल रही है हड्डियां	दैनिक जागरण
106.	07 July 2021	कोरोना से ठीक हुए लोगों में लम्बी समय तक लक्षण	अमर उजाला
107.	08 July 2021	Lungs, Liver, Kidneys: Covid hurts them most	The Times of India
108.	11 July 2021	एम्स में 12 से 18 उम्र वाले बच्चों को लगी दूसरी डोज़	हिंदुस्तान
109.	15 July 2021	तीसरी लहर के लिए एम्स ने बनाई योजना	अमर उजाला
110.	16 July 2021	घटती इम्युनिटी बन सकती है तीसरी लहर का कारण: गुलेरिया	दैनिक जागरण
111.	16 July 2021	अधिक संक्रामक वैरिएंट के चलते आ सकती है तीसरी लहर: गुलेरिया	अमर उजाला
112.	16 July 2021	सावधानी बरते और टीका लगाए: गुलेरिया	जनसत्ता

113.	17 July 2021	बच्चों की देखभाल के लिए नर्सों को प्रशिक्षण दे रहा एम्स	हिंदुस्तान
114.	18 July 2021	AIIMS Trauma Centre to get Two more ICU Floors Soon	The Times of India
115.	19 July 2021	एम्स में बढ़ रही बच्चों के लिए सुविधाएं	दैनिक जागरण
116.	20 July 2021	काम संक्रमण वाले एरिया में खोले जा सकते हैं स्कूल: गुलेरिया	नवभारत टाइम्स
117.	20 July 2021	AIIMS open mother & child block partially	The Times of India
118.	20 July 2021	Be Careful of covid for next 2 years: AIIMS	The Pioneer
119.	20 July 2021	कोरोना से स्वस्थ होने वाले बुजुर्ग दोबारा अस्पताल में भर्ती हो रहे: एम्स	हिंदुस्तान
120.	22 July 2021	मानव से मानव में बर्ड फ्लू संक्रमण दुर्लभ, नहीं घबराये: डॉ गुलेरिया	दैनिक भास्कर
121.	22 July 2021	Human to Human transmission of H5N1 virus very rare: AIIMS	The Asian Age
122.	24 July 2021	अब जल्दी जल्दी रूप नहीं बदलेगा कोरोना वायरस: डॉ गुलेरिया	दैनिक जागरण
123.	24 July 2021	नए स्वरूपों के खिलाफ बूस्टर डोज़ की जरूरत: गुलेरिया	अमर उजाला
124.	25 July 2021	May need Vax booster to beat variants: Guleria	The Times of India
125.	25 July 2021	Vaccination of children should begin by Sept, Says Guleria	Hindustan Times
126.	25 July 2021	Covid can be transmitted from infected mother to baby during perinatal period	The Indian Express
127.	25 July 2021	Booster shot with 2nd gen vax needed: AIIMS	The Pioneer
128.	27 July 2021	एम्स में संगीतमय सर्जरी, पहले भी हुए हैं प्रयोग	जनसत्ता
129.	28 July 2021	Surge in demand for weight-loss surgeries at AIIMS	The Times of India
130.	2 August 2021	Clinical trials of 'Ashwagandha' Soon	The Hindu
131.	2 August 2021	अस्पतालों से ही मिलेगी एक तिहाई ऑक्सीजन	Dainik Jagran
132.	2 August 2021	एम्स में चार महीने बाद किडनी प्रत्यारोपण शुरू	Hindustan
133.	5 August 2021	आयुर्विज्ञान नगर में 20 मंजिला हॉउसिंग टावर बनाने का प्लान	Navbharat Times
134.	6 August 2021	सितम्बर में लॉन्च हो सकती हैं बच्चों के लिए कोरोना वैक्सीन	Navbharat Times
135.	7 August 2021	राजधानी के हालत काफी बेहतर: गुलेरिया	Amar Ujjala
136.	8 August 2021	विदेश जाने वाले एम्स में लगवा लकेंगे टिके की दूसरी डोज	Dainik Jagran
137.	8 August 2021	एम्स में 15 को होगा रक्तदान	Hindustan
138.	8 August 2021	हर्षवर्धन समेत 30 चिकित्सकों को सम्मानित किया गया	Jasatta
139.	9 August 2021	उमा कुमार मेडिकल साइंस एकेडमी की फेलो बनी	Hindustan
140.	9 August 2021	एम्स में 1500 जवान करेंगे रक्तदान	Amar Ujjala
141.	9 August 2021	Close to 60% of city 's healthcare, frontline staff fully vaccinated	The Indian Express
142.	10 August 2021	दो पालियों में सर्जरी कर वेंटिंग कम करेंगे एम्स	Dainik Jagran
143.	10 August 2021	स्वतंत्रता दिवस के उपलक्ष में एम्स में ब्लड डोनेशन कैंप	Navbharat Times
144.	11 August 2021	सैकड़ों किमी दूर से भी हो सकेगा अल्ट्रासाउंड	Dainik Jagran
145.	11 August 2021	रोबोटिक आर्म से होगा अल्ट्रासाउंड	Hindustan
146.	13 August 2021	Organ Transplant Recipients May Need 3rd Covid Vaccine Sort As Extra Shield	The Times of India
147.	14 August 2021	New robotic tech for ultrasound with doc at arm's length	The Times of India
148.	16 August 2021	AIIMS among eight Delhi hospital to have fire stns on campus from Sept 1	The Times of India
149.	16 August 2021	एम्स में दमकल केंद्र स्थापित होगा	Hindustan
150.	16 August 2021	एम्स में बनेगा दमकल केंद्र	Jansatta
151.	20 August 2021	AIIMS Trauma Centre may resume non-Covid services	The Times of India
152.	21 August 2021	एम्स ट्राuma सेंटर में शुरू होगा हादसा पीड़ितों का उपचार	Hindustan

153.	22 August 2021	Pharma charity for kids with rare spinal disorder	The Times of India
154.	25 August 2021	पहला स्वदेशी mRNA टिका सेफ पाया, ट्रायल आगे बढ़ेगा	Navbharat Times
155.	27 August 2021	A 'Bikini' Masks Hip Surgery Scar At AIIMS	The Times of India
156.	27 August 2021	AIIMS conducts 'scarless' bikini hip surgeries	The Times of India
157.	28 August 2021	एक दिन में सर्वाधिक एक करोड़ से ज्यादा टिके लगे	Jansatta
158.	28 August 2021	ट्रामा सेंटर में नॉन कोविड मरीजों का इलाज 28 से	Navbharat Times
159.	30 August 2021	एम्स ट्रामा सेंटर में 17 माह बाद घायलों का इलाज शुरू	Dainik Jagran
160.	31 August 2021	कोरोना के लंडा वैरिएंट को कवर करेगी नेजल कोवैक्सीन	Dainik Jagran
161.	06 September 2021	महिमा को आँखें ने दो को दी रोशनी: एम्स	Hindustan
162.	06 September 2021	डॉक्टरों ने नेत्र दान के लिए किया जागरूक: एम्स	Amar Ujjala
163.	08 September 2021	आँखों पर कोरोना के असर का पता लगा रहा एम्स	Hindustan
164.	10 September 2021	दिल्ली का AIIMS फिर से बना टॉप मेडिकल कॉलेज	Navbharat Times
165.	10 September 2021	एम्स से सफ़दरजंग कोर्निया पहुंचायेगा ड्रोन	Amar Ujjala
166.	13 September 2021	एम्स में एडमिट हुए मरीजों में 98% से ज्यादा की बची जान	Navbharat Times
167.	15 September 2021	एप रखेगा मरीजों का ध्यान, बताएगा कब खानी हैं दवा	Dainik Bhaskar
168.	15 September 2021	मानसिक रोगियों पर नजर के लिए एम्स ने शुरू किये गए 2 एप	Amar Ujjala
169.	17 September 2021	Helping in our genes, collective effort can boost organ donation, say health minister	The Times of India
170.	19 September 2021	Apps Just A Click Away For Daily Help In Mental Illness	The Times of India
171.	21 September 2021	एम्स में 12 घंटे संचालित रहेगी लैब	Dainik Jagran
172.	21 September 2021	कोरोना बना रहा मरीजों को भुलाकड़	Hindustan
173.	21 September 2021	एम्स: स्मार्ट लैब में एक सैंपल से दर्जनो जांच, 24 घंटे के अंदर मिल रही रिपोर्ट	Navbharat Times
174.	21 September 2021	एम्स की स्मार्ट लैब में रोजाना 50 हजार जांच	Amar Ujjala
175.	22 September 2021	AIIMS smart lab to collect samples for 3 hours extra	The Times of India
176.	22 September 2021	एम्स में जांच का समय पांच घंटे बढ़ा	Dainik Jagran
177.	22 September 2021	एम्स की ओपीडी में दिखाकर उसी दिन करा सकेंगे जांच	Hindustan
178.	22 September 2021	एम्स में अब 3.30 बजे तक ब्लड सैंपल दे सकेंगे मरीज	Navbharat Times
179.	23 September 2021	जिस दिन ओपीडी में दिखाए मरीज, उसी दिन हो अल्ट्रासाउंड - एक्सरे	Navbharat Times
180.	23 September 2021	स्मार्ट लैब में एक सैंपल से 85 तरह की जांच	Dainik Jagran
181.	26 September 2021	एम्स प्रकाश बनकर उभरा: मनसुख मंडविया	Hindustan
182.	26 September	इलाज के साथ रिसर्च के क्षेत्र में भी दुनिया में एम्स एक प्रतिष्ठित स्थान हैं:	Dainik Bhaskar

	2021	मनसुख मंडविया	
183.	26 September 2021	Special drive at AIIMS complex to check dengue	The Times of India
184.	27 September 2021	Few drugs used initially stand the test of time	The Times of India
185.	27 September 2021	एम्स में एक लाख से ज्यादा लोगो को लगाए गए टीके	Navbharat Times
186.	27 September 2021	कोरोना की सेकंड वेव में पोस्ट कोविड के अधिकतर मरीजों में बीपी के साथ डायबिटिज व पेनक्रियाज की पाई समस्या	Dainik Bhaskar
187.	27 September 2021	New AIIMS master plan: 3K more beds, 50 OTs in 7 Years	Hindustan Times
188.	28 September 2021	Malaria cases cross 100 mark for season	The Times of India
189.	28 September 2021	डॉक्टरों की सलाह, फीवर हो तो पानी दे, जूस नहीं	Navbharat Times
190.	29 September 2021	सावधान: जिम में ज्यादा कसरत से दिल के दौरे का खतरा	Hindustan
191.	29 September 2021	एप जारी करेगा दवा की पर्ची, आसान होगा दिल की देखभाल	Dainik Jagran
192.	29 September 2021	दिल की सेहत पर आपके सवालों के जवाब लाया	Navbharat Times
193.	30 September 2021	गंभीर संक्रमण अभी भी कर रहा दिल को बीमार	Dainik Jagran
194.	30 September 2021	20 साल पुरे, हार्ट ट्रांसप्लांट की कामयाबी बन गई प्रीति	Navbharat Times
195.	01 October 2021	एम्स में एक्सरे जांच की वेटिंग खत्म	Dainik Jagran
196.	01 October 2021	एम्स में रिपोर्ट के लिए इन्तजार खत्म	Hindustan
197.	01 October 2021	एम्स में जिस दिन होगी जांच, उसी दिन मरीज को मिल जाएगी एक्सरे रिपोर्ट	Navbharat Times
198.	01 October 2021	एम्स में एक्सरे की वेटिंग खत्म, तत्काल मिल रही जांच रिपोर्ट	Amar Ujjala
199.	03 October 2021	अंगदान जागरूकता के लिए एम्स के डॉक्टरों ने लगाई दौड़	Dainik Jagran
200.	03 October 2021	अंगदान की जागरूकता के लिए दौड़े एम्सकर्मी	Hindustan
201.	04 October 2021	ब्लड डोनेशन करने वालों को सम्मानित किया	Navbharat Times
202.	04 October 2021	एम्स समेत 8 बड़े अस्पतालों में बनाए जायेंगे मिनी दमकल केंद्र	Amar Ujjala
203.	07 October 2021	अत्याधुनिक रोबोट तकनीक से की गई रीढ़ की सर्जरी	Dainik Jagran
204.	08 October 2021	Mauritius ex-PM gets life at AIIMS, says don't self-medicate in Covid	The Times of India
205.	10 October 2021	Discussion held to mark world mental health day	The Pioneer
206.	12 October 2021	उपराष्ट्रपति ने एम्स के निर्देशक डॉ रणदीप गुलेरिया को किया सम्मानित	Amar Ujjala
207.	13 October 2021	Dr Randeep Guleria for Lal Bahadur Shastri National Award	The Pioneer
208.	13 October 2021	एम्स में रविवार को देखे जायेंगे दिल के पुराने मरीज	Dainik Jagran
209.	13 October 2021	दिल के मरीजों के लिए एम्स में संडे को भी लगेगी OPD	Navbharat Times
210.	14 October 2021	बच्चों को ब्रश करना सिखाएगा एम्स एप	Hindustan
211.	14 October 2021	Manmohan in AIIMS after fever; stable now, says Cong	The Times of India

212.	15 October 2021	एम्स में भर्ती मनमोहन सिंह की हालत स्थिर	Dainik Jagran
213.	15 October 2021	पूर्व प्रधानमंत्री मनमोहन सिंह का स्वास्थ्य स्थिर	Hindustan
214.	15 October 2021	Wishes Pour In For Manmohan's Speedy Recovery	Hindustan Times
215.	15 October 2021	Health Minister Mandaviya visits Manmohan Singh at AIIMS	The Pioneer
216.	15 October 2021	मोदी ने की मनमोहन के स्वस्थ होने की कामना, स्वास्थ्य मंत्री पहुंचे एम्स	Jansatta
217.	16 October 2021	Manmohan's health condition improving	Hindustan Times
218.	17 October 2021	एम्स में जिस दिन दिखाएंगे, उसी दिन मिल जाएगी अल्ट्रासाउंड, MRI रिपोर्ट	Navbharat Times
219.	21 October 2021	सभी अस्पतालों में जश्न का माहौल	Dainik Jagran
220.	22 October 2021	PM hails Infy, Sudha Murthy for service to humanity	The Times of India
221.	22 October 2021	केंद्र सरकारके अस्पतालों में जश्न	Dainik Jagran
222.	24 October 2021	AIIMS app to maintain oral hygiene of children	The Times of India
223.	25 October 2021	वायरस के हर स्वरूप पर टीका कारगर: गुलेरिया	Hindustan
224.	25 October 2021	महिलाओं को मां दुर्गा से प्रेरणा लेकर खुद अपनी रक्षा करने में समर्थ बनना चाहिए: डॉ गुलेरिया	Hindustan
225.	26 October 2021	Study: Weight loss op help diabetes patients	The Times of India
226.	27 October 2021	एम्स और आईआईटी दिल्ली मिलकर करेंगे शोध	Dainik Jagran
227.	30 October 2021	ब्रेन स्ट्रोक का इलाज देने के लिए एम्स ने बनाया स्ट्रोक ऐप	Dainik Jagran
228.	30 October 2021	अब एम्स के एपसे बचेगी ब्रेन स्ट्रोक मरीजों की जान	Navbharat Times
229.	30 October 2021	कोविशीएल्ड से 95.60, कोवाक्सिन से 93% में एंटीबाडी	Amar Ujjala
230.	30 October 2021	आयुर्वेद एम्स में बनाया पहला इन्क्रयुबेशन सेंटर	Amar Ujjala
231.	01 November 2021	CoE by IIT Delhi and AIIMS to research disability and assistive technology	The Times of India
232.	01 November 2021	पूर्व प्रधानमंत्री मनमोहन सिंह को एम्स से मिली छुट्टी	Dainik Jagran

233.	01 November 2021	पूर्व पीएम मनमोहन सिंह को एम्स से छुट्टी मिली	Dainik Bhaskar
234.	01 November 2021	एम्स में 24 घंटे के अंदर हो सकेगा अल्ट्रासाउंड	Hindustan
235.	01 November 2021	मनमोहन सिंह को एम्स से मिली छुट्टी	Jansatta
236.	02 November 2021	जुड़वाँ भाई की गर्दन से जुड़ी थी नवजात की आंत	Hindustan
237.	04 November 2021	Vitamin C offers no major aid to Covid hit	The Times of India
238.	04 November 2021	दिल्ली के हॉस्पिटल तैयार	Navbharat Times
239.	07 November 2021	In rare surgery, AIIMS could save baby, not parasitic twin	The Times of India
240.	08 November 2021	रेयर तिवन बेबी की सर्जरी कर एम्स के डॉक्टरों ने बचा ली बच्चे की जान	Navbharat Times
241.	11 November 2021	Study: People inhale up to 7,000 micro plastics daily	The pioneer
242.	13 November 2021	Diabetics likely to get more fatigue if Covid infected	The pioneer
243.	13 November 2021	बैरिएट्रिक्स सर्जरी को लेकर एम्स में दो दिवस का कार्यक्रम	Dainik Jagran
244.	13 November 2021	ग्रीन कॉरिडोर बना 20 मिनट में एम्स पहुंचाया हृदय	Dainik Jagran
245.	13 November 2021	20 मिनट में एम्स पहुंचाया दिल	Hindustan
246.	13 November 2021	20 मिनट में एयरपोर्ट से एम्स पहुंचाया हार्ट	Navbharat Times
247.	16 November 2021	इस साल एम्स में दूसरा हार्ट ट्रांसप्लांट, BSF के जवान को मिली नई जिंदगी	Navbharat Times
248.	16 November 2021	चंडीगढ़ से आया दिल बीएसएफ जवान के सीने में धकेगा	Amar Ujjala
249.	16 November 2021	अंग्रेजी की व्यवस्था खत्म, रात को भी होगा पोस्टमार्टम	Dainik Jagran
250.	16 November 2021	अब रात को भी हो सकेगा पोस्टमार्टम	Amar Ujjala
251.	17 November 2021	AIIMS to open its surgery block from November-end	The Times of India
252.	17 November 2021	घाना में सिर से जुड़े बच्चों की सर्जरी करेंगे एम्स के सर्जन	Dainik Jagran
253.	17 November 2021	सिर से जुड़े बच्चों की सर्जरी के लिए घाना ने एम्स से न्यूरो सर्जन बुलाया	Hindustan
254.	17 November 2021	एम्स में इसी महीने से सर्जरी को ओपीडी	Hindustan
255.	17 November 2021	अब घाना के जग्गा - बलिया को भी अलग करेंगे एम्स के डॉ. दीपक गुप्ता	Navbharat Times

256.	17 November 2021	Health Min suggest house stickers be given to notify fully vaccinated status of families	The Pioneer
257.	17 November 2021	पूर्ण टीकाकरण करा चुके परिवारों को स्टिकर बाँटें	Amar Ujjala
258.	17 November 2021	पहली बार बनेगी नेशनल हेल्थ रिसर्च पालिसी	Dainik Bhaskar
259.	18 November 2021	एम्स में हर महीने रात के वक़्त किये जाते हैं पांच पोस्टमार्टम	Dainik Jagran
260.	20 November 2021	Ayurveda now combines beauty with health	The Pioneer
261.	22 November 2021	डॉक्टरों ने बच्चियों को आत्मरक्षा के गुर सिखाये	Hindustan
262.	22 November 2021	जग्गा - बलिया के बाद असम में भी जन्मे सिर से जुड़े शिशु	Amar Ujjala
263.	22 November 2021	अल्ट्रासाउंड में नहीं होगी देरी, रिपोर्ट भी साथ मिलेगी	Amar Ujjala
264.	22 November 2021	टीकाकरण: सुस्त रफ़्तार को गति देने को अब लकी ड्रा की योजना	Amar Ujjala
265.	24 November 2021	20 महीने बाद कल से शुरू होगी इमरजेंसी सुविधा	Dainik Jagran
266.	24 November 2021	अमृत महोत्सव में सड़क सुरक्षा का संदेश	Hindustan
267.	24 November 2021	नोट पर छपे पर्यटन स्थलों पर पहुंच कर दे रहे सड़क सुरक्षा का संदेश	Amar Ujjala
268.	25 November 2021	एम्स में ऑपरेशन हुआ तब बची युवक की जान	Hindustan
269.	25 November 2021	Cost effective meditation can help reverse grey matter loss	The Pioneer
270.	26 November 2021	AIIMS trauma Centre opens to non-Covid patients again	The Times of India
271.	26 November 2021	एम्स ट्राuma सेंटर में 20 महीने के बाद शुरू हुई इमरजेंसी सुविधा	Dainik Jagran
272.	26 November 2021	एम्स में 20 माह बाद ट्राuma सेंटर पहले की तरह शुरू	Amar Ujjala
273.	26 November 2021	चिकित्सा में रोबोट के प्रयोग पर दो बड़े संस्थान साथ आए	Hindustan
274.	27 November 2021	एम्स के डॉक्टर बोले - बूस्टर डोज़ की जरूरत	Amar Ujjala
275.	28 November 2021	Appointment system gone: 653 X-rays done daily at AIIMS	The Asian Age
276.	28 November 2021	जीते जी रक्दान, मरने के बाद अंगदान: मांडविया	Dainik Jagran
277.	28 November 2021	अमेरिका - चीन के बाद देश में सर्वाधिक अंग प्रत्यारोपण	Dainik Jagran
278.	29 November 2021	दिल्ली ने वैक्सीनेशन ने फिर पकड़ी रफ़्तार	Nav Bharat Times
279.	29 November 2021	इंजीनियरिंग के कमाल से लकवा के मरीजों को मिलेगा वरदान	Dainik Jagran
280.	30 November 2021	पुरानी वयवस्था खत्म होने के बाद एम्स में रोजाना औसतन 653 एक्स - रे, दो महीने में कोई प्रतीक्षा सूची नहीं	Danik Bhaskar

281.	02 December 2021	एचआईवी पॉजिटिव को एम्स के डॉक्टर करेंगे इलाज	Navbharat Times
282.	02 December 2021	नर्सिंग स्टूडेंट्स ने सेक्स वर्क्स को बताया, कैसे एडस से बचाव	Dainik Bhaskar
283.	05 December 2021	डॉ रजन गुप्ता को यंग रुमेटोलोजिस्ट ओरेशन अवार्ड	Dainik Jagran
284.	06 December 2021	एम्स में दिव्यांग महिला को दी गई आटोमेटिक व्हीलचेयर	Dainik Jagran
285.	07 December 2021	एम्स के डॉ रजन गुप्ता को यंग रुमेटोलोजिस्ट ओरेशन	Navbharat Times
286.	07 December 2021	डॉ रजन गुप्ता को यंग रुमेटोलोजिस्ट अवार्ड	Hindustan
287.	07 December 2021	ब्रिटेन के प्रधानमंत्री कोरोना संक्रमित हुए थे तो वे एम्स के चिकित्सा सलाह ले रहे थे	Dainik Jagran
288.	07 December 2021	वैज्ञानिकों ने खोज निकाला कैंसर की वृद्धि रोकने का तरीका	Dainik Jagran
289.	09 December 2021	Both India Jabs lower mortality rate	The Times of India
290.	10 December 2021	कोरोना को आरटी- पीसीआर जांच को ज्यादा असरदार बनाएगी एम्स को खोज	Dainik Jagran
291.	10 December 2021	घाना के जग्गा - बलिया की फली सर्जरी रही कामयाब	Navbharat Times
292.	14 December 2021	एम्स तीन गुना होंगे किडनी प्रत्यारोपण	Dainik Jagran
293.	22 December 2021	Road safety experts against reconverting apex trauma centre JNPAT in the National capital to Covid Centre	The statement
294.	22 December 2021	आयुष्मान इंडिया सिटी कॉन्क्लेव में आज से जुटेंगे दिल्ली के डॉक्टर	Dainik Jagran
295.	23 December 2021	HC ask AIIMS to set up medical board as women seeks termination of 27- week pregnancy	The Pioneer
296.	23 December 2021	HC asks AIIMS to set up medical board as women seeks to terminate 27 wk pregnancy	The Asian Age
297.	23 December 2021	अहमदाबाद से आये फेफड़े दिल्ली में प्रत्यारोपण किये	Dainik Jagran
298.	26 December 2021	बुजुगो की मानसिक सेहत का ख्याल रखें	Hindustan
299.	26 December 2021	राहत: एम्स में 500 रुपये तक की जांच मुफ्त होगी	Hindustan
300.	27 December 2021	Gap between 2nd Covid dose vaccine short and booster likely to be 9-12 months	The Pioneer
301.	27 December 2021	निशुल्क होगी 500 तक की जाँच	Amar Ujjala
302.	27 December 2021	एम्स: 500 रु तक चिकित्सीय जांच निशुल्क, रिपोर्ट ऑनलाइन मिलेगी	Dainik Bhaskar
303.	28 December 2021	भ्रूण गिराने के मामले में कोर्ट ने मांगी एम्स की विशेषज्ञ की राय	Dainik Jagran

304.	29 December 2021	Subunit vax better choice for boosters: WHO Expert	The Times of India
305.	29 December 2021	AIIMS, Arun Jaitley Foundation ink pack for diabetes care	The Times of India
306.	31 December 2021	ट्रामा सेंटर को कोरोना मरीजों के लिए अधिकृत करने की तैयारी शुरू	Dainik Jagran
307.	01 January 2022	तैयारियों को लेकर एम्स निर्देशक ने समीक्षा की	Hindustan
308.	03 January 2022	Vax for teen starts today, 6.8L register	The Times of India
309.	03 January 2022	HC allows women to terminate 28-week pregnancy	The Hindu
310.	07 January 2022	एम्स के डॉ- स्टाफ का हालचाल जानने पहुंचे स्वास्थ्य मंत्री	Navbharat Times
311.	07 January 2022	संक्रमित कर्मचारी से मिले स्वास्थ्य मंत्री	Amar Ujjala
312.	07 January 2022	दिल्ली में बना ग्रीन कॉरिडोर, 11 मिनट एयरपोर्ट पहुंचा दिल	Dainik Bhaskar
313.	10 January 2022	Health Staff, elderly to get 3rd vaccine jab from today	Hindustan Times
314.	10 January 2022	डॉक्टरों से फ़ोन और वाहट्सएप्प पर ले सकते हैं ऑनलाइन परामर्श	Hindustan
315.	10 January 2022	11 मिनट में एयरपोर्ट से एम्स पहुंचाया दिल	Dainik Jagran
316.	10 January 2022	नए साल में एम्स में हुआ हार्ट ट्रांसप्लांट	Dainik Jagran
317.	11 January 2022	पहले दिन लगाई 10 लाख सतर्कता डोज़	Dainik Jagran
318.	11 January 2022	सतर्कता डोज़ लेने में दिल्लीवासियों ने दिखाया दम	Dainik Jagran
319.	15 January 2022	One month old baby fights off Covid, discharge from hospital in five days	The Times of India
320.	16 January 2022	एक साल में 80 प्रतिशत वयस्कों का हुआ टीकाकरण	Dainik Jagran
321.	16 January 2022	इन बातों का ध्यान रखकर घर में ही रिकवर हो रहे हैं लोग	Navbharat Times
322.	16 January 2022	तन मन मजबूत तो कोरोना दूर	Navbharat Times
323.	17 January 2022	IIT researchers develop tech to reduce chemo side- effects	The Times of India

324.	17 January 2022	पोस्ट कोविड से जुड़ी हर समस्या का हल, एम्स के डॉक्टरों की लिखी किताबें में	Navbharat Times
325.	18 January 2022	Molnupiravir kept out of norms for treatment of adult patients	The Hindu
326.	19 January 2022	IRF writes Mandaviya to resume normal trauma centre AIIMS JPNAT	The Statesman
327.	20 January 2022	जो दवाई डॉक्टर लिखे सिर्फ वही खाये: एक्सपर्ट	Navbharat Times
328.	21 January 2022	Xenotransplantation and the future of medicine	Hindustan Times
329.	21 January 2022	दुर्लभ बीमारी से जूझ रही बच्ची को मिली इलाज का अधिकार	Hindustan
330.	22 January 2022	महामारी में भी एम्स में हुई 72 हजार से ज्यादा मरीजों की सर्जरी	Dainik Jagran
331.	24 January 2022	घाना में बीमार थी बच्ची, सर्जन ने ब्लड देकर बचाई जिंदगी	Navbharat Times
332.	26 January 2022	Curbs or Not, Masking Up will be way of life	The Times of India
333.	26 January 2022	दोनों डोज़ ले चुके बुजुर्ग अब घर में न रहे कैद	Navbharat Times
334.	28 January 2022	Steroid use, blood clots: AIIMS seeks nod to study Covid impact on bones	The Indian Express
335.	29 January 2022	कोरोना की नेजल वैक्सीन के परिक्षण को मंजूरी मिली	Hindustan
336.	29 January 2022	सकारात्मक सोच से मिली मरीज को नई जिंदगी	Hindustan
337.	01 February 2022	NE district 1st in green as weekly positive below 5%	Hindustan Times
338.	02 February 2022	Mental Health Gets Tele Lifeline	The Times of India
339.	02 February 2022	एम्स व केंद्रीय अस्पतालों में बढ़ेगी सुविधा	Dainik Jagran
340.	02 February 2022	एम्स में मरीजों के लिए सुविधा बढ़ेगी	Hindustan
341.	03 February 2022	Heart transported to AIIMS from IGIA in 18 Minutes	The Times of India
342.	03 February 2022	ग्रीन कॉरिडोर बना एयरपोर्ट से 18 मिनट में एम्स पहुंचेगा हार्ट	Dainik Jagran
343.	03 February 2022	हृदय को एयरपोर्ट से 18 मिनट में एम्स पहुंचाया	Hindustan

344.	03 February 2022	18 मिनट में एयरपोर्ट से AIIMS पहुंचा हार्ट	Navbharat Times
345.	04 February 2022	कोरोना से ठीक होने पर ऑपरेशन में खतरा नहीं	Hindustan
346.	04 February 2022	एम्स में इस वर्ष दूसरी बार हृदय प्रत्यारोपण	Hindustan
347.	05 February 2022	कैंसर से बचाव के लिए जागरूकता जरूरी	Dainik Jagran
348.	05 February 2022	कैंसर जांच के लिए कैंप लगेंगे	Dainik Jagran
349.	05 February 2022	कैंसर जांच के लिए कैंप लगेंगे	Dainik Jagran
350.	05 February 2022	एशिया में स्तन कैंसर के मामले भारत में अधिक	Amar Ujjala
351.	07 February 2022	रोबोटिक मशीन से होगी जयदा सर्जरी	Dainik Jagran
352.	10 February 2022	18 Year old girl's organ life to four patients	The Times of India
353.	10 February 2022	Organ donated by 19 years old girl give four new lease of life	Hindustan Times
354.	10 February 2022	ब्रेन डेड युवती के अंगदान से मिली चार को ज़िंदगी	Hindustan
355.	10 February 2022	19 फरवरी में एम्स में मनाया जायेगा एक सप्ताह का रक्तदान महोत्सव	Dainik Bhaskar
356.	11 February 2022	एम्स में टेली मेडिसीन सुविधा शुरू होगी	Hindustan
357.	12 February 2022	First Plasma bank shuts as demand wanes	The Times of India
358.	13 February 2022	AIIMS to hand over report of ultrasound on same day	The Times of India
359.	13 February 2022	In bid to cut waiting time, AIIMS to offer same day ultrasound facility to some patients	The Indian Express
360.	13 February 2022	AIIMS starts same day ultrasound facilities for OPD patients	The statesman
361.	13 February 2022	अब एम्स की ओपीडी में उसी दिन हो सकेगा अल्ट्रासाउंड	Dainik Jagran
362.	13 February 2022	उपचार वाले दिन ही अल्ट्रासाउंड	Hindustan
363.	13 February 2022	पोर्टल के माध्यम से कोई भी कर सकेगा शव की पहचान	Dainik Bhaskar
364.	13 February 2022	एम्स: अब अल्ट्रासाउंड के लिए भी वेटिंग नहीं	Amar Ujjala

365.	13 February 2022	एक्सरे के बाद अब अल्ट्रासाउंड के लिए नहीं मिलेगी वेटिंग	Amar Ujjala
366.	14 February 2022	एम्स में शाम 6.30 बजे तक लिया जा सकता है ब्लड सैंपल	Navbharat Times
367.	14 February 2022	एम्स में शाम छह बजे तक दिए जा सकेंगे ब्लड सैंपल	Dainik Jagran
368.	14 February 2022	संवदेशी उपकरण की शर्त से मुक्त होना चाहता है एम्स	Amar Ujjala
369.	16 February 2022	कैंसर मरीजों की मुस्कान के लिए दान किये बाल	Hindustan
370.	16 February 2022	कैंसर मरीजों के लिए बाल कटवाए	Navbharat Times
371.	16 February 2022	120 लोगो ने कैंसर मरीजों के लिए दान किये बाल	Amar Ujjala
372.	19 February 2022	अब कोरोना की खतरनाक लहर आने की खास सम्भावना नहीं: डॉ गुलेरिया	Dainik Jagran
373.	19 February 2022	दूसरी लहर जैसी हालात की सम्भावना नहीं: डॉ गुलेरिया	Hindustan
374.	19 February 2022	डेल्टा जैसी खतरनाक लहर आने का खतरनाक अब है कम	Navbharat Times
375.	19 February 2022	संक्रमण की दूसरी लहर जैसे प्रभाव के संकेत कम	Amar Ujjala
376.	19 February 2022	AIIMS trauma centre to get boost with 2 more ICUs, new OT & emergency depts.	The Times of India
377.	20 February 2022	नए तकनीक से मुँह के कैंसर का पहले पता लग सकेगा	Hindustan
378.	21 February 2022	रक्तदान के लिए जागरूक किया	Hindustan
379.	21 February 2022	एम्स आरडीए ने किया मैराथन, डॉ गुलेरिया भी हुए शामिल	Dainik Bhaskar
380.	22 February 2022	एम्स में आरएफए से पहले बार गर्भस्थ शिशु के फेफड़े के ट्यूमर की सर्जरी	Dainik Jagran
381.	22 February 2022	In a first in India, AIIMS uses rare op to treat fetal lung mass	The Times of India
382.	24 February 2022	एम्स में डॉक्टरों - नर्स ने वॉकिंग में हिस्सा लिया	Hindustan
383.	24 February 2022	एम्स के रेजिडेंट डॉक्टरों ने पैदल मार्च निकाला, रक्तदान के लिए जागरूक किया	Dainik Jagran
384.	24 February 2022	रक्तदान को बढ़ावा देने के लिए डॉक्टर और नर्स ने लगाई दौड़	Amar Ujjala
385.	25 February 2022	एम्स में आज मेगा ब्लड डोनेशन कैप	Navbharat Times
386.	26 February 2022	एम्स में शिविर लगाकर एकत्रित किया गया 2500 यूनिट रक्त	Dainik Jagran
387.	26 February 2022	एम्स में एक दिन में 2500 यूनिट खून एकत्र हुआ	Hindustan

388.	26 February 2022	एम्स में 2500 यूनिट डोनेशन	Navbharat Times
389.	02 March 2022	ट्रामा में नॉन कोविड मरीजों का इलाज	Navbharat Times
390.	02 March 2022	एम्स के ट्रामा सेंटर में गैर कोविड मरीजों का इलाज शुरू	Amar Ujjala
391.	03 March 2022	New Tech for Psychiatric Disorders Gain Ground Amid Call For Caution	The Times of India
392.	03 March 2022	CAPFs participate at voluntary blood camp at AIIMS	The Pioneer
393.	04 March 2022	ज़िंदगी के 10 साल पर कैची चला देती हैं मोटापा ...	Navbharat Times
394.	07 March 2022	एम्स: अब 'स्क्रीनिंग ओपीडी' से मरीजों को जल्द मिलेगा परामर्श	Amar Ujjala
395.	08 March 2022	एम्स को विश्वस्तरीय विश्वविधालय बनने के लिए एक माह में दो बैठक	Hindustan
396.	08 March 2022	एम्स को वर्ल्ड क्लास यूनिवर्सिटी बनाने के लिए जल्द NOC लेने का निर्देश	Navbharat Times
397.	08 March 2022	AIIMS revamp plan for better patient care gets a fresh push	The Times of India
398.	09 March 2022	सर्वाइकल कैंसर का दो घंटे में चलेगा पता, उसी दिन शुरू होगा इलाज	Dainik Jagran
399.	09 March 2022	महिला कर्मियों को सुरक्षित बनाएगा एम्स का मोबाइल ऐप	Dainik Jagran
400.	09 March 2022	अब कोरोना में इस्तेमाल होने वाली मशीन करेगी गर्भाशय कैंसर की जांच	Amar Ujjala
401.	09 March 2022	गर्भाशय कैंसर जांच का परिणाम घंटे भर में मिलेगा	Hindustan
402.	10 March 2022	AIIMS launches app for women employees	The Indian Express
403.	10 March 2022	एम्स की महिला स्टाफ की सुरक्षा के लिए ऐप लॉन्च	Navbharat Times
404.	11 March 2022	नेजल वैक्सीन के बूस्टर डोज का ट्रायल आज से	Navbharat Times
405.	12 March 2022	एम्स में अब आँख के कैंसर से पीड़ित बच्चों को आसान इलाज होगा, सवदेशी प्लाक ब्रेकीथेरेपी शुरू हुई	Dainik Jagran
406.	12 March 2022	एम्स बनेगा विश्वस्तरीया, डीडीए ने दी पुनर्विकास योजना को मंजूरी	Dainik Jagran
407.	12 March 2022	एम्स में तीन हजार बेड का रास्ता साफ़	Hindustan

408.	12 March 2022	कोरोना नेजल टिके की बूस्टर डोज का शुरू हो गया ट्रायल	Dainik Jagran
409.	12 March 2022	ऑन द स्पॉट बनेगी आँखों की दवा	Navbharat Times
410.	12 March 2022	इमरजेंसी किट से बचाई जा सकती हैं आँखों की रोशनी	Amar Ujjala
411.	12 March 2022	एम्स में बनेगा तीन हजार बेड का नया अस्पताल	Navbharat Times
412.	15 March 2022	AIIMS head call for equitable distribution of Covid vaccines globally	The Statesman
413.	15 March 2022	एम्स में अब आँख के कैंसर से पीड़ित बच्चों को आसान इलाज होगा, सवदेशी प्लाक ब्रेकीथेरेपी शुरू हुई	Dainik Bhaskar
414.	18 March 2022	6 fold rise in antibodies if Covishield is booster after doses of Covaxin: Study	The Indian Express
415.	20 March 2022	देश म हुआ सबसे बड़ा सफल टिकाकरण अभियान	Hindustan
416.	21 March 2022	कोई भी लहर आये भारत पर नहीं पड़ेगा असर	Dainik Jagran
417.	21 March 2022	दावा. नए लहर आने पर भी नहीं होगा गंभीर असर	Amar Ujjala
418.	25 March 2022	एम्स में अब शाम साढ़े छह बजे तक दे सकेंगे जांच के लिए रक्त के नमूने	Dainik Jagran
419.	25 March 2022	एम्स में साढ़े छह बजे तक दे सकेंगे रक्त के नमूने	Amar Ujjala
420.	25 March 2022	देश में सिर्फ गंभीर मरीज वालों को बूस्टर डोज की तैयारी	Amar Ujjala

Media Interactions

1	01 April 2021	TV9	Current situation on Corona	Professor Ashutosh Biswas, Medicine	Mr Sudeshna, TV9
2	01 April 2021	ET Now	Corona Virus Spread update	Professor Randeep Guleria, Director	Ms Ruche Bhatia, ET NOW
3	02 April 2021	Republic TV	Corona Virus update	Professor Randeep Guleria, Director	Mr Piyush Mishra, Republic Tv
4	03 April 2021	Zee Health	Corona Virus Second wave	Professor Randeep Guleria, Director	Ms Puja Makkar, Zee Health
5	08 April 2021	ABP News	Second wave of Corona	Professor Randeep Guleria, Director	Mr Praful Kumar Shrivastav, ABP News
6	News Nation	News Nation	Update on Corona	Professor Randeep Guleria, Director	Mr Rahul Dabas, News Nation
7	20 April 2021	Republic TV	Update on double mutant	Professor Randeep Guleria, Director	Mr Abhishek Kapoor, Republic Tv
8	20 April 2021	Zee News	Update on Second wave	Professor Randeep Guleria, Director	Ms Puja Makkar, Zee Health

9	29 April 2021	Indian Express	COVID-19 Update	Professor Randeep Guleria, Director	Ms Astha Saxena, Indian Express
10	29 April 2021	Dainik Bhaskar	COVID-19 Update	Professor Randeep Guleria, Director	Mr Pawan Kumar, Senior Correspondent, Dainik Bhaskar.
11	08 May 2021	Dainik Jagran	कोरोना पर अपडेट	Professor Randeep Guleria, Director	Mr Ranvijay, Dainik Jagran
12	09 May 2021	India TV Conclave	Conclave on Second wave of Corona	Professor Randeep Guleria, Director	Mr Saurav Sharma, India Tv
13	16 May 2021	ANI	Which are the areas one should be alert during post covid recovery in children	Professor Sheffali Gulati, Paed Neurology	Ms Joymala Bagchi, Correspondent, ANI
14	21 May 2021	The Times of India	Current scenario of COVID	Professor Uma Kumar, Deptt of Rheumatology	Ms Sakshi Chand, Sr. Correspondent, TOI
15	21 May 2021	The Pioneer	Current scenario of COVID	Professor Anant Mohan, Deptt of Pul Medicine	Mr Chandra, Prakash, Correspondent, The Pioneer
16	21 May 2021	Hindustan Hindi	Current scenario of COVID	Dr Neeraj Nischal, Associate Professor, Deptt. of Medicine	Mr Gaurav Tyagi, Correspondent, Hindustan Hindi
17	30 May 2021	News24	Psychological and Behavioral impact of Lockdown and quarantine Measures for COVID 19 Pandemic on Children	Professor Sheffali Gulati, Deptt. of Pediatrics	Ms Pallavi Jha, News24
18	02 June 2021	The Indian Express	COVID 19 and Children	Professor Sheffali Gulati, Deptt. of Pediatrics	Mr Kaunain Sheriff, The Indian Express
19	12 June 2021	ANI	Preparing for COVID 19 Wave-3	Professor SK Kabra, Deptt. of Pediatrics	Ms Joymala Bagchi, ANI
20	12 June 2021	PTI	Preparing for COVID 19 Wave-3	Professor SK Kabra, Deptt. of Pediatrics	Ms Payal Banerjee, PTI
21	23 June 2021	DD News	Preparing for COVID 19 Wave-3	Professor SK Kabra, Deptt. of Pediatrics	Mr Nitender Singh, DD News
22	23 June 2021	TV9 Bhatavarsh	Preparing for COVID 19 Wave-3	Professor SK Kabra, Deptt. of Pediatrics	Ms Shalini Bajpai, TV9
23	23 June 2021	DD News	Preparing for COVID 19 Wave-3	Dr Neeraj Nischal, Associate Professor, Deptt. of Medicine	Mr Nitender Singh, DD News
24	23 June 2021	Zee News	Preparing for COVID 19 Wave-3	Professor Randeep Guleria, Director	Ms Pooja Makkar, Zee News
25	23 June 2021	ANI	Preparing for COVID 19 Wave-3	Professor Randeep Guleria, Director	Ms Shalini Bhardwaj, ANI
26	24 June 2020	India Today / Aaj Tak	Preparing for COVID 19 Wave-3	Professor Randeep Guleria, Director	Ms Sneha Mordani, India Today
27	23 July 2021	ANI	third wave can be avoided	Professor Randeep Guleria, Director	Ms Shalini Bhardwaj, ANI

28	02 September 2021	Aaj Tak	Cardiac arrest related deaths in younger people	Professor Ambuj Roy, Cardiology	Ms Milan Sharma, Aaj Tak
29	03 September 2021	Aaj Tak	Ageing Research	Dr Sharmistha Dey, Biophysics	Mr NK Singh, Aaj Tak
30	09 September 2021	Aaj Tak / GNT Network	AIIMS Management	Professor Randeep Guleria, Director	Ms Shivangi Thakur, Aaj Tak / GNT Network
31	15 September 2021	TV9 Bharatvarsh	Pollution effect on Lungs	Dr Neeraj Nischal, Associate Professor, Deptt. of Medicine	Mr Kundan Kumar, Tv9 Bharatvarsh
32	21 September 2021	Zee News	COVID Wave-3	Professor Randeep Guleria, Director	Ms Pooja Makkar, Zee News
33	07 December 2021	DD Kishan	Medical Properties of Turmeric	Professor Randeep Guleria, Director	Ms Anju, DD Kishan
34	21 January 2022	Webex Platform with BSES Ltd	New Variant of Covid-19 Omicron	Dr Neeraj Nischal, Associate Professor, Deptt. of Medicine	Ms Ashti Khan, Webex
35	02 February 2022	All India Radio	RADIO DOCTOR	Professor Uma Kumar, Head, Rheumatology	Ms Shalini Mittal, Programme Executive Director, All India Radio
36	07 March 2022	India TV	Depression	Dr (Professor) Nand Kumar, Psychiatrics	Mr Jatin Sharma, India TV

Public Lectures 2021-2022

S. No.	Date	Topic's	Department
1	09 October 2021	Mental Health in an unequal world	Psychiatry
2	27 September 2021	Dengue fever	Medicine
3	29 October 2021	Stroke	Neurology
4	10 March 2021	World Kidney Day	Nephrology
5	21 March 2021	Head Injury Prevention and Road Safety	Neurosurgery

Press Conferences 2021-2022

S. No.	Date	Topic's	Department
1	07 September 2021	36th National Eye Donation Fortnight	Dr RP Centre
2	14 September 2021	WASP PACIFIC HYBRID CONGRESS, 2021	Psychiatric and NDDTC
3	22 September 2021	Vaccination Site 8th Floor New RAK OPD	General
4	25 September 2021	66th AIIMS Foundation Day Celebration	AIIMS Foundation Day
5	29 November 2021	Stroke Package	Neurology
6	28 December 2021	Foundation of Diabetes Care Improvement Team Project	AIIMS
7	18 February 2022	Instagram Live session- MoHFW, Regarding high- speed communication network connection	Computer Facility
8	23 February 2022	Importance of Vaccination and COVID-19 Management	Neurology
9	08 March 2022	Freedom from Cervical Cancer	Obstetrics and Gynecology

S. No.	Date	Topic's	Department
10	08 March 2022	World Glaucoma Week-2022	Dr RP Centre
11	21 March 2022	Head Injury and Road Safety	Neurosurgery

Press Releases 2021-2022

S. No.	Date	Topic's	Department
1	07 September 2021	36th National Eye Donation Fortnight	Dr RP Centre
2	14 September 2021	WASP PACIFIC HYBRID CONGRESS, 2021	Psychiatric and NDDTC
3	13 October 2021	Healthy Smile- an adroid based on bi-lingual app	CDER
4	25 September 2021	66th AIIMS Foundation Day Celebration	AIIMS Foundation Day
5	13 November 2021	BARIME- National Post Graduation CME	Bariatric Surgery
6	29 November 2021	Stroke Package	Neurology
7	28 December 2021	Foundation of Diabetes Care Improvement Team Project	AIIMS
8	08 March 2022	Freedom from Cervical Cancer	Obstetrics and Gyanecology
9	10 March 2022	55th Foundation Day	Dr RP Centre
10	21 March 2022	Head Injury and Road Safety	Neuro-Surgery

Last 3 year's Data

S.No.	Content	2019-2020	2020-21	2021-22
1	AIIMS NEWS	577	693	436
2	Press Releases	36	24	10
3	Press Conference	39	1	11
4	Media Interaction	32	127	36
5	Public Lectures	9	0	5

12. Publications

Journals

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13. Finance Division

Senior Financial Advisor

Shri Neeraj Kumar Sharma, ICAS

Financial Advisor

Shri Narinder Bhatia, IAAS

Finance and Chief Accounts Officer

Vijay Pal Padam Singh

Accounts Officer

Trilok Chand	Prem Pal	Meenakshi Dabral
Anil Kumar	Upender Singh	Prakash Giri
Yogesh Kumar	Joginder Singh	Satish Yadav
Rajesh Bairwa	Shivanand Thakur	Snehlata Sharma

The Institute, an Autonomous Body under the control of Ministry of Health & Family Welfare (MoHFW), GoI, receives gross budgetary support from the Government of India in the form of Grant in Aid under heads of Creation of Capital Assets, General and Salary. Grants are also received for National Drug Dependence Treatment Centre, Ghaziabad & various national-level Centres, programmes, schemes, separately from MoHFW. Besides, extramural grants are also received from various external funding agencies such as ICMR, DST, CSIR, WHO, UNICEF, DBT, etc. for various research projects.

Grants-in-Aid so received from the Government of India and other agencies are further allocated to superspecialty centres/ Departments/Research section as per their projections, priorities and requirements.

Grant in Aid (Budget) for FY 2021-22

(Amount in Rs. Crore)

Head of Accounts: Grants-in-Aid	Budget Estimate	Revised Estimate	Actual Expenditure
Creation of Capital Assets	700.00	600.00	607.24
General	1003.00	1091.00	1242.71
Salary	1921.50	2031.50	2009.7
Total	3624.50	3722.50	3859.65
Receipts			52.74

Functions of Finance Division (FD)

Budget-related: FD's Budget wing is responsible for calling for annual requirements from various centres/departments/divisions to formulate projections for next year. Once approved by Parliament in Annual Budget, the same is intimated by MoHFW to AIIMS.

Project Formulation & Appraisal: Institute is growing in terms of load of patient-care, medical education & research. There are several ongoing health care projects of very high value and critical to carry out the mandate of AIIMS. The FD assists in ensuring compliance, prioritization of activities & allocation of funds, and concurrence of projects, as per government rules & guidelines.

Financial Concurrence: Each year numerous proposals on account of procurement of Machinery & Equipment, Rate Contract for chemicals, medicines, consumables, contract for works & services etc. are responded to by FD with financial concurrence / advice. The scrutiny from procedural and financial point of view is critical to ensure best *Value For Money* and assurance to public exchequer.

Scrutiny of bills for payment: Thousands of bills on account of personal claims of employees, fellows, researchers & resident doctors; procurement of good, services & works through GeM, tendering etc. are processed in FD. All prescribed checks, TDS & GST compliances are ensured by the FD while making payments through Public Financial Management System (PFMS)'s Treasury Single Account (TSA) module.

AIIMS Receipts & Adjustments: AIIMS collects receipts on accounts of patient care services, conduct of examination for courses & recruitment, academics, donations, including CSR, interest on savings and deductions/contributions. This is ploughed back for institutional expenditure to supplement Grants-in-Aid-General towards patient care, etc. or as prescribed by government. Any savings or surplus is invested as per prescribed procedure.

Internal Audit: With increased activities and expansion of AIIMS, the number of units required to be audited annually has gone up substantially.

Accounts & Audit: AIIMS, being central autonomous body, is required to compile the Annual Accounts for preceding year by 30th June each year for audit by C&AG's team. The audited Annual Accounts, Separate Audit Report & Utilization Certificates (UCs) are required to be submitted to MoHFW for continued budgetary support. The Institute's Annual Report, comprising above, is tabled by MoHFW in the Parliament.

The external audit team of C&AG office also conducts Transaction/Compliance Audit, and as on 31.03.2022, 62 nos. of paras in past years' Inspection Report are outstanding.

The above functions/activities are executed by Finance Division under overall control of Senior Financial Advisor.

13.1. Budget

All India Institute of Medical Sciences
अखिल भारतीय आयुर्विज्ञान संस्थान
Ansari Nagar, New Delhi-29
अंसारी नगर, नई दिल्ली-29
Statement of Financial Position
वित्तीय स्थिति
as on 31st March, 2022

CORPUS/CAPITAL FUND AND LIABILITIES	Schedule	2021-22	2020-21
Corpus/Capital fund and Liabilities	1	77,395,139,659	71,469,036,139
Reserves and Surplus	2	3,726,056,505	4,650,661,309
Earmarked / Endowment Fund	3	1,604,772,114	1,468,948,758
Secured Loans & Borrowings	4	2,696,400,000	3,221,400,000
Current Liabilities and Provisions	7	5,994,012,751	12,293,392,075
TOTAL		91,416,381,030	93,103,438,282
ASSETS			
Fixed Assets	8	70,703,655,256	60,131,176,626
Investments-others	10	611,600,000	7,846,727,422
Current Assets, Loan & Advances etc. (to the extent not written off or adjusted)	11	20,101,125,775	25,125,534,234
TOTAL		91,416,381,030	93,103,438,282
Accounting policies and notes forming part of accounts	24		

Accounts Officer

Financial Advisor

Sr.Financial Advisor

Director

ALL INDIA INSTITUTE OF MEDICAL SCIENCES

**अखिल भारतीय आयुर्विज्ञान संस्थान
INCOME AND EXPENDITURE ACCOUNT**

**आय और व्यय खाता
FOR THE PERIOD ENDED 31-03-2022**

31 मार्च, 2022 को समाप्त वर्ष के लिए

INCOME	Schedule	2021-22	2020-21
Income from Sales/Services	12	259,967,615	93,805,049
Grants/Subsidies	13	30,199,183,691	26,901,300,000
Fees/Subscriptions	14	225,916,639	170,096,016
Income for Royalty, Publication etc.	16	-	6,173,912
Interest Earned	17	14,985,438	528,853,092
Other Income	18	484,852,818	559,173,040
TOTAL (A)		31,184,906,201	28,259,401,109
EXPENDITURE			-
Establishment Expenses	20	20,097,015,363	17,601,377,485
Other Administrative Expenses etc.	21	6,970,814,766	5,605,838,070
Material and supply	21B	4,638,340,233	4,073,244,309
Expenditure on Grants, Subsidies etc.	22	-	45,477,809
Interest / Bank Charges	23	32,422,486	117,631,444
Depreciation (Net Total at the year-end - corresponding to Schedule 8)		383,858,598	256,194,578
TOTAL (B)		32,122,451,447	27,699,763,695
Balance being excess of Income over Expenditure (A-B)		(937,545,246)	559,637,415

Accounts Officer

Financial Advisor

Sr.Financial Advisor

Director

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31.03.2022**

SCHEDULE 1- CORPUS/CAPITAL FUND:	2021-22	2020-21
Balances as at the begining of the year	71,469,036,139	67,077,830,259
Add : Contributions towards Corpus/Capital Fun	5,975,500,000	4,586,300,000
Less Condemnation during the year	49,396,480	195,094,120
BALANCE AS AT THE YEAR-END	77,395,139,659	71,469,036,139

Accounts Officer

Financial Advisor

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31.03.2022

SCHEDULE 2- RESERVES AND SURPLUS:	2021-22	2020-21
1. Capital Reserve:		-
As per last Account	3,598,085	3,598,085
Addition during the year	614,270	-
Less: Deductions during the year		-
2. General Reserve		-
As per last Account	4,647,063,225	4,598,654,403
Addition during the year	(927,513,129)	288,403,870
Add/(Less): Adjustment	2,294,054	(985,969)
Cancelled Cheque Credit B.A		17,185,498
Less:- Consolidated impact of Depreciation		256,194,578
TOTAL	3,726,056,505	4,650,661,309

Accounts Officer

Financial Advisor

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31.03.2022

SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS	2021-22	2020-21
a) Opening balance of the funds	1,468,948,758	1,443,309,256
b) Additions to the Funds:	2,397,844	94,271,407
i. Donations/grants	731,917,938	568,406,745
ii. Income from investments made on account of fund	26,309,301	34,739,377
iii. Research Section	-	2,500,000
iv Others	192,115,828	
TOTAL (a)	2,421,689,668	2,143,226,785
c) Utilisation/Expenditure towards objectives of funds		-
i. Capital Expenditure	-	
- Fixed Assets	276,007,286	-
- Others	3,734,304	63,500,000
ii. Revenue Expenditure	-	-
- Salaries, Wages and allowances etc.	24,575,126	3,487,812
- Rent	-	-
- Other Expenses	512,600,838	607,290,215
Total Expenditure(b)	816,917,554	674,278,027
NET BALANCE AS AT THE YEAR-END (a-b)	1,604,772,114	1,468,948,758

Accounts Officer

Financial Advisor

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31.03.2022

SCHEDULE 4-SECURED LOANS AND BORROWINGS:	2021-22	2020-21
Other Institutions and Agencies #	3,221,400,000	3,366,900,000
Add- Loan Received		379,500,000
Less- Loan Repayment	525,000,000	525,000,000
TOTAL	2,696,400,000	3,221,400,000

Accounts Officer

Financial Advisor

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31.03.2022

SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS	2021-22	2020-21
A. CURRENT LIABILITIES AND PROVISIONS		
1. Imprest	-	20,000
2. Sundry Creditors:	-	-
i) For Goods (Custom Duty to be paid)	-	571,929
4. Interest accrued but not due on:	-	-
a) Refunded to the MoH&FW	21,049,065	45,966,697
a) Unsecured Loans/borrowings	-	-
6. Other current Liabilities	5,972,963,686	12,229,121,105
7. Main AIIMS	-	17,712,344
TOTAL	5,994,012,751	12,293,392,075

Accounts Officer

Financial Advisor

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31.03.2022

SCHEDULED -8	2021-22	2021-22			2020-21
Classification of Assets	Opening Balance	Addition During the Year	Deletion/ Condemnation	Closing Value of Assets at the year end	Closing Value of Assets at the year end
FIXED ASSETS:					
LAND:					
a) Freehold / Leasehold	895,504,881	-	-	895,504,881	895,504,881
BUILDINGS:	-	-	-	-	-
a) On Freehold Land	23,242,493,178	7,535,753,244	-	125,595,887	23,242,493,178
b) On Leasehold Land	-	-	-	-	-
c) Capital Work in Progress	460,303,700	-	-	-	460,303,700
	-	-	-	-	-
PLANT MACHINERY & EQUIPMENT	33,692,094,978	3,352,658,956	49,396,480	254,019,329	33,692,144,379
Vehicles	82,397,838	11,897,990	-	1,189,799	81,441,883
Furniture & Fixure	58,501,351	1,319,262	-	10,285	58,821,865
Computer/Peripherals	255,788,940	15,216,488	-	3,043,298	256,374,980
Library Books	1,444,091,761	88,887,768	-	-	1,444,091,761
TOTAL	60,131,176,626	11,054,693,261	49,396,480	383,858,598	70,703,655,256

Financial Advisor

Accounts Officer

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31.03.2022

SCHEDULE 10 - INVESTMENTS - OTHERS	2021-22	2020-21
1. Others	611,600,000	7,829,588,998
2. Investment of Donations		17,138,424
TOTAL	611,600,000	7,846,727,422

Accounts Officer

Financial Advisor

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31.03.2022

SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC.	2021-22	2020-21
CURRENT ASSETS:		
1. Inventories/Advances for Procurement		9,782,099
a) M&E Foreign Purchase	341,891,888	
b) M&S	9,782,099	
2. Sundry Debtors:	-	-
a) Debts Outstanding	28,495,004	42,881,904
b) Others (outside recoveries)	3,245,441	3,245,441
c) Misc. recoveries receivable from Centres (Engg. Work)	76,000	76,000
3. Cash balances in hand (including cheques/ drafts and	1,223,056	1,135,285
4. Bank Balances:	-	-
a) With Scheduled Banks:	-	-
On Current Accounts	1,399,418,422	1,309,866,568
On Deposit Accounts / Saving Account	3,544,311,595	3,688,822,819
b) With non-Scheduled Banks:	-	-
On FDRs	-	-
on FDRs Research Section	868,300,000	608,831,336
On Savings Accounts	-	-
5. Investment - (TDR-NOHP)	63,526,217	-
TOTAL (A)	6,260,269,722	5,664,641,452

LOANS, ADVANCES AND OTHER ASSETS		-
1. Loans:		-
a) Staff	8,732,629	18,110,648
b) Other Entities engaged in activities/objectives similar	-	-
c) Other (Adv for purchase)	2,409,595	2,340,588
2. Advances and other amounts:-	-	-
a) On Capital Account	-	-
b) Letter of Credit	246,317,656	555,033,526
c) Custom Duty	75,486,449	185,145,315
d) PDA	5,171,625	10,633,748
3. Income Accrued:	-	-
a) On Loans and Advances	-	2,626,000
b) Others	13,502,738,099	18,687,002,957
	-	-
TOTAL (B)	13,840,856,053	19,460,892,782
Total (A+B)	20,101,125,775	25,125,534,234

Accounts Officer

Financial Advisor

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF INCOME & EXPENDITURE AS ON 31.03.2022

SCHECULE 12 - INCOME FROM SALES / SERVICES	2021-22	2020-21
1) Income from Sales		
Sale of Scraps	927,696	540,870
2) Income from Services	-	-
a) Hospital receipts	257,546,246	90,979,418
e) Others	1,493,673	2,284,761
TOTAL	259,967,615	93,805,049

Accounts Officer

Financial Advisor

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF INCOME & EXPENDITURE AS ON 31.03.2022

SCHECULE 13 - GRANTS /SUBSIDIES	2021-22	2020-21
(Irrevocable Grants & Subsidies Received)		
1. Central Government	30,199,183,691	26,901,300,000
TOTAL	30,199,183,691	26,901,300,000

Accounts Officer

Financial Advisor

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF INCOME & EXPENDITURE AS ON 31.03.2022

SCHEDULE 14 - FEES/SUBSCRIPTION	2021-22	2020-21
1. Tuition Fee	74,716,755	47,190,377
2. Licence Fee	50,920,993	26,172,932
3. Seminar/Program Fees	-	-
4. Exam. Receipt	100,278,891	96,732,708
5. Others		
Total	225,916,639	170,096,016

Accounts Officer

Financial Advisor

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF INCOME & EXPENDITURE AS ON 31.03.2022

SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC.	2021-22	2020-21
1. Others Income		6,173,912
TOTAL		6,173,912

Accounts Officer

Financial Advisor

SCHEDULES FORMING PART OF INCOME & EXPENDITURE AS ON 31.03.2022

SCHEDULE 17 - INTEREST EARNED	2021-22	2020-21
1. On Term Deposits:		-
a) With Scheduled Banks	12,838,862	-
2. On Savings Accounts:	-	-
a) With Scheduled Banks	942,084	-
3. On Loans:	-	-
a) Employees/Staff	1,204,492	1,424,969
b) Others	-	527,428,123
TOTAL	14,985,438	528,853,092

Accounts Officer

Financial Advisor

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF INCOME & EXPENDITURE AS ON 31.03.2022

SCHEDULE 18 - OTHER INCOME	2021-22	2020-21
1. Misc. Receipt	29,192,186	29,253,586
2. Exam Section Receipt	442,407,699	528,612,750
3. Other Income	13,252,933	1,306,704
TOTAL	484,852,818	559,173,040

Accounts Officer

Financial Advisor

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF INCOME & EXPENDITURE AS ON 31.03.2022

SCHEDULE 20 - ESTABLISHMENT EXPENSES	2021-22	2020-21
Salaries, Wages and Allowances	17,039,098,817	15,239,415,107
Travelling Allowance	132,372,530	32,220,929
Learning Resource Allowance	8,984,828	13,753,926
Staff Welfare Expenses (DLIS)	-	180,000
Expenses on Employees ":Retirement and Termina	2,096,459,784	1,962,209,414
Others (NPS)	817,740,997	352,266,266
Leave Salary Pension Contribution	2,358,407	1,331,843
Total	20,097,015,363	17,601,377,485

Accounts Officer

Financial Advisor

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF INCOME & EXPENDITURE AS ON 31.03.2022

SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES ETC.	2021-22	2020-21
a) Purchases of hospital stores others specify	883,566,963	1,262,215,871
b) Manpower Outsourcing Charges	409,768,504	855,167,282
c) Office Expenses	34,162,756	30,078,368
d) Electrictiy and power	1,055,966,946	923,309,837
e) Water charges	62,791,128	55,243,102
f) Repairs and maintenance (AMC/CAMC)	346,120,601	280,404,077
g) Repairs and mainteance of Buildings	748,442,083	828,547,170
h) Travelling and Conveyance Expenses	6,256,661	5,050,381
i) Other Expenses	246,139,738	144,633,002
j) Bank Charges	258,693	572,403
k) Others (specify)(Contingency charge)	3,177,340,693	1,220,616,577
Total	6,970,814,766	5,605,838,070

Accounts Officer

Financial Advisor

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF INCOME & EXPENDITURE AS ON 31.03.2022

SCHEDULE 21B - Material and Supplies	2021-22	2020-21
Hospital stores M&S	4,574,515,245	4,049,344,959
Others M&S	63,824,988	23,899,350
Total	4,638,340,233	4,073,244,309

Accounts Officer

Financial Advisor

SCHEDULES FORMING PART OF INCOME & EXPENDITURE AS ON 31.03.2022

SCHEDULE 22- EXPENDITURE ON GRANTS, SUBSIDIES ETC.	2021-22	2020-21
a). Grants given to Institutions/Organizations	-	45,477,809
b). Subsidies given to Institutions/organisations		
Total		45,477,809

Accounts Officer

Financial Advisor

SCHEDULE 23- INTEREST / BANK CHARGES	2021-22	2020-21
a) Bank Charges	2,486	32,444
b) Transfer to the Ministry of Health and Family Welfare	32,420,000	117,597,000
Total	32,422,486	117,629,444

Accounts Officer

Financial Advisor

SCHEDULED 24

Accounting Policies and Notes forming part of Accounts

1. The Activities of the Institute is mainly funded from the grants from Government of India and Accounts of the Institute are prepared in accordance with Generally accepted Accounting principles.
2. The accounts have been prepared on cash basis i.e. on actual Receipt and Payments basis. However, depreciation has been charged on the assets acquired in FY 2021-22. Computation of depreciation has been made on straight line method after taking into account the actual life of assets subtracting the salvage value of assets.
3. Consolidated final accounts of AIIMS New Delhi have been prepared for FY 2021-22. However, accounts of Research Section, NDDTC, UNDCP and GPF have been kept separately as these Centres receive funds separately from the Ministries/various funding agencies as regard to GPF A/c no grant are received against the same .
4. Interest figures also include interest earned on revenue receipts of the Institute. After calculation interest portion earned on unspent balance of GIA will be remitted to the Ministry.
5. No provisions for liability of Gratuity, pension and leave encashment etc have been made in the accounts as the grants from the Government of India are received for actual expenditure. The payment of Gratuity, pension and leave encashment etc are accounted in the accounts only at the time of actual payments.
6. No closing stock of Store and supplies at the end of accounting period is incorporated in the accounts as all expenditure on stores and supplies are treated as final expenditure at the time of payments in the accounts.
7. Income of the Institute is exempted from Income-Tax under Section 11 of the Income Tax Act, 1961.
8. All Assets (Machinery & Equipments, vehicles etc) funded from the grants for the Research projects are used for the activities of the Research projects and are not included in the assets of the Institute . Such Assets (Machinery & Equipments, vehicles etc,) are either returned to the funding agencies or used in the Departments after the completions of the projects as per sanction of the funding agencies.
9. A statement showing the expenditure made by various Project Investigators for Research Projects during 2021-22 and balance amount lying with the Institute as on 31-03-2022 is attached with the Accounts.
10. Advances for treatment under the packages were treated as revenue and expenditure incurred against those treatments was shown in expenditure. During the current year advances received against the packages for treatment are shown under the revolving fund and expenditure incurred against the revolving fund. Balances in the revolving fund shown as liability. The impact of these changes of accounting policy is not assessable and not significant.
11. Accounts for the year ended 31-03-2022 are prepared in the new format and grouping and regrouping and classification, wherever necessary have been changed /adopted for better presentation.
12. Assets of the Institute in every Departments/Centre's are physically verified once in year by the faculty/officer nominated for the purpose and no significant /major deviations have been reported.
13. Stores and supplies of the Institute in every Departments/Centre's are physically verified once in year by the faculty/ officer nominated for the purpose and no significant /major deviations have been reported.
14. Institute is maintaining various Revolving funds for test/procedures required for patients care and same are included in the consolidated Accounts of the Institute.
15. Donations /receipts from various sources without any attached conditions are treated as income of the concerned centre or of Institute as the case may be.
16. All Accounting policies and Notes Forming Part of Accounts listed above are also applied in the preparation of the Accounts of the Centers also.

Accounts Officer

Financial Advisor

Sr. Financial Advisor

Director

National Drug Dependence Treatment Centre
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31.3.2022

INCOME	Schedule	2021-22	2020-21
Income from Sales/Services (Hospital Receipts)	12	227,766.00	73,125.00
Grants/Subsidies	13	325,481,634.00	319,989,297.00
Fees/Subscriptions	14	-	-
Income from Investments (Income on Invest. From earmeked/endow.Funds transferred to funds)	15	-	-
Income for Royalty, Publication etc.	16	-	-
Interest Earned	17	468,368.00	32.00
Other Income	18	5,946,140.00	220.00
Increase/(decrease) in stock of Finished goods and works-in-progress	19		
TOTAL (A)		332,123,908.00	320,062,674.00
EXPENDITURE			
Establishment Expenses	20	176,744,143.00	156,512,311.00
Administrative Expenses etc.	21	140,397,453.00	163,194,295.50
Material and supply	21B	-	-
Expenditure on Grants, Subsidies etc.	22	-	-
Interest	23	-	-
Depreciation (Net Total at the year-end - corresponding to Schedule 8)		1,375,684.87	
TOTAL (B)		318,517,280.87	319,706,606.50
Balance being income over expenditure (A-B)			
Transfer to Special Reserve (Specify each)		13,606,627.13	356,067.50
Transfer to /from General Reserve		-	-
BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND		332,123,908.00	320,062,674.00

A.O.,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

**NATIONAL DURG DEPENDENCE TREATMENT CENTRE
BALANCE SHEET AS ON 31.3.2022**

		(Amount in Rupees)	
CORPUS/CAPITAL FUND AND LIABILITIES	Schedule	2021-22	2020-21
CORPUS/CAPITAL FUND AND LIABILITIES	1	297,756,791.00	280,797,870.00
RESERVES AND SURPLUS	2	14,963,212.63	1,356,585.50
EARMARKED/ ENDOWMENT FUNDS	3	-	-
SECURED LOANS AND BORROWINGS	4	-	-
UNSECURED LOANS AND BORROWINGS	5	-	-
DEFERRED CREDIT LIABILITIES	6	-	-
CURRENT LIABILITIES AND PROVISIONS	7	50,749,562.00	65,486,370.00
TOTAL		363,469,565.63	347,640,825.50
ASSETS			
FIXED ASSETS	8	324,225,422.13	308,604,415.00
INVESTMENTS-FROM EARMARKED/ENDOWMENT FUNDS	9	-	-
INVESTMENTS-OTHERS	10	-	-
CURRENT ASSETS, LOANS , ADVANCES ETC.	11	39,244,143.50	39,036,410.50
MISCELLANEOUS EXPENDITURE		-	-
(to the extent not written off or adjusted)		-	-
TOTAL		363,469,565.63	347,640,825.50

AO.,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

SCHEDULE 1- CORPUS/CAPITAL FUND:		(Amount-Rs.)	
		2021-22	2020-21
Balances as at the beginning of the year		280,797,870.00	275,463,393.00
Add : Contributions towards Corpus/Capital Fund		16,958,921.00	5,334,477.00
Less : Fixed Assets Condemned during the year		-	-
		297,756,791.00	280,797,870.00
BALANCE AS AT THE YEAR-END		297,756,791.00	280,797,870.00

SCHEDULE 2- RESERVES AND SURPLUS:		2021-22	2020-21
1. Capital Reserve:			
As per last Account		-	-
Addition during the year		-	-
Less: Deductions during the year		-	-
2. Revaluation Reserve			
As per last Account		-	-
Addition during the year		-	-
Less: Deductions during the year		-	-
3. Special Reserves			
As per last Account		-	-
Addition during the year		-	-
Less: Deductions during the year (AIIMS LOAN REVERSE)		-	-
4. General Reserve			
As per last Account		1,356,585.50	1,000,518.00
Adjusted during the year		13,606,627.13	356,067.50
Less: Deduction during the year		-	-
TOTAL		14,963,212.63	1,356,585.50

AO., NDDTC, AIIMS

National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

(Amount-Rs.)

SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS	TOTALS	
	2021-22	2020-21
a) Opening balance of the funds	-	-
b) Additions to the Funds:	-	-
i. Donations/grants	-	-
ii. Income from investments made on account of funds	-	-
iii. Other additions (specify nature)	-	-
iv. Less Expenditure during the year	-	-
TOTAL (a+b)	0	0
c) Utilisation/Expenditure towards objectives of funds	-	-
i. <u>Capital Expenditure</u>	-	-
- Fixed Assets	-	-
- Others	-	-
ii. <u>Revenue Expenditure</u>	-	-
- Salaries, Wages and allowances etc.	-	-
- Rent	-	-
- Other Administrative expenses	-	-
Total	-	-
TOTAL (c)	-	-
NET BALANCE AS AT THE YEAR-END (a+b-c)		0

AO.,NDDTC,AIIMS

National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

(Amount-Rs.)			
SCHEDULE 4-SECURED LOANS AND BORROWINGS:	2021-22		2020-21
1. Central Government	-	-	-
2. State Government	-	-	-
3. Financial Institutions	-	-	-
a) Term Loans	-	-	-
b) Interest accrued and due	-	-	-
4. Banks:			
a) Term Loans	-	-	-
- Interest accrued and due	-	-	-
b) Other Loans (specify)	-	-	-
- Interest accrued and due	-	-	-
5. Other Institutions and Agencies	-	-	-
6. Debentures and Bonds	-	-	-
7. Others (Specify)	-	-	-
TOTAL	0	0	0
Note : Amounts due within one year			

AO.,NDDTC,AIIMS

National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

(Amount-Rs.)		
SCHEDULE 5 - UNSECURED LOANS AND BORROWING	2021-22	2020-21
1. Central Government	-	-
2. State Government	-	-
3. Financial Institutions	-	-
4. Banks:	-	-
a) Term Loans	-	-
b) Other Loans (specify)	-	-
5. Other Institutions and Agencies	-	-
6. Debentures and Bonds	-	-
7. Fixed Deposits	-	-
8. Others (Specify)	-	-
TOTAL	0	0
Note: Amounts due within one year		

SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:	2021-22	2020-21
a) Acceptances secured by hypothecation of capital equipment and other assets	-	-
b) Others	-	-
TOTAL	0	0
Note: Amount due within one year		

AO.,NDDTC,AIIMS

National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

(Amount -Rs.)

SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS	2021-22		2020-21	
A. CURRENT LIABILITIES AND PROVISIONS				
1. Acceptances	-	-	-	-
2. Sundry Creditors:	-	-	-	-
i) For Goods (Customs Duty to be paid	-	-	-	-
ii) Others Outside recoveries to be paid to AIIMS (O.B.)	13,155.00	13,155.00	13,155.00	13,155.00
3. Advances Received (DTC's Scheme Salary)	263,192.00	263,192.00	-	-
4. Interest accrued but not due on:	-	-	-	-
i) Secured Loans/borrowings	-	-	-	-
ii) Unsecured Loans/borrowings	-	-	-	-
5. Interest accrued but not due on:	-	-	-	-
a) Secured Loans/borrowings	-	-	-	-
a) Unsecured Loans/borrowings	-	-	-	-
6. Statutory Liabilities:	-	-	-	-
a) Overdue	-	-	-	-
a) Others	-	-	-	-
7. Security Deposits (EMD)	-	-	-	-
Opening Balance	360,000.00	-	360,000.00	-
Received during the year	-	-	-	-
Refund during the year	-	360,000.00	-	360,000.00
8. Other current Liabilities	113,215.00	113,215.00	113,215.00	113,215.00
9. Loan from UNDCP A/C (opening Balance)	30,000,000.00	-	5,000,000.00	-
Loan from UNDCP A/c during the year	-	30,000,000.00	25,000,000.00	30,000,000.00
Less : Loan refund to UNDCP A/c	-	-	-	-
10. Loan from AIIMS (Main) (OB)	35,000,000.00	-	37,500,000.00	-
Loan from AIIMS (Main)	40,000,000.00	-	35,000,000.00	-
Loan refund to AIIMS (Main)	55,000,000.00	20,000,000.00	37,500,000.00	35,000,000.00
TOTAL (A)		50,749,562.00		65,486,370.00
B. PROVISIONS				
1. For Taxation	-	-	-	-
2. Gratuity	-	-	-	-
3. Superannuation/Pension	-	-	-	-
6. Accumulated Leave Encashment	-	-	-	-
6. Trade Warranties/Claims	-	-	-	-
6. Others (specify)	-	-	-	-
TOTAL (B)				
TOTAL (A+B)		50,749,562.00		65,486,370.00

AO.,NDDTC,AIIMS

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National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

(Amount in Rs.)

SCHEDULE 8 – FIXED ASSETS										
DESCRIPTION	GROSS BLOCK			DEPRECIATION			NET BLOCK		As at the previous year-end 20-21	
	Cost/ valuation at beginning of the year	Additions during the year	Deductions during the year	Cost/ valuation at the year-end	As at the beginning of the year	On Additions during the year	On Deductions during the year	Total up to the year-end	As at the Current year-end 21-22	
A. FIXED ASSETS:										
1. LAND:										
a) Freehold	-	-	-	-	-	-	-	-	-	-
b) Leasehold	-	-	-	-	-	-	-	-	-	-
2. BUILDINGS:										
a) On Leasehold Land	-	-	-	-	-	-	-	-	-	-
b) Ownership Flats/Premises	-	-	-	-	-	-	-	-	-	-
3. Engineering capital work	129,162,024.00	4,954,111.00	-	134,116,135.00	-	82,568.52	-	-	134,033,566.48	129,162,024.00
4. PLANT MACHINERY & EQUIPMENT	83,847,403.00	5,308,906.00	-	89,156,309.00	-	350,811.16	-	-	88,805,497.84	83,847,403.00
5. VEHICLES	14,699,297.00	2,278,828.00	-	16,978,125.00	-	216,488.66	-	-	16,761,636.34	14,699,297.00
6. FURNITURE, FIXTURES	16,724,469.00	1,648,955.00	-	18,373,424.00	-	154,457.18	-	-	18,218,966.82	16,724,469.00
7. Office Equipment	893,576.00	58,728.00	-	952,304.00	-	9,974.61	-	-	942,329.39	893,576.00
8. COMPUTER/PERIPHERALS	485,747.00	2,729,963.00	-	3,215,710.00	-	541,990.20	-	-	2,673,719.80	485,747.00
9. ELECTRIC INSTALLATIONS	-	-	-	-	-	-	-	-	-	-
10. LIBRARY BOOKS	60,658,339.00	17,201.00	-	60,675,540.00	-	-	-	-	60,675,540.00	60,658,339.00
11. OTHER FIXED ASSETS (SAP)	2,133,560.00	-	-	2,133,560.00	-	19,394.54	-	-	2,114,165.46	2,133,560.00
TOTAL OF CAURRENT YEAR	308,604,415.00	16,996,692.00	-	325,601,107.00	-	1,375,684.87	-	-	324,225,422.13	308,604,415.00

AO., NDDTC, AIMS

National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

(Amount - Rs.)

<u>SCHEDULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</u>	<u>2021-22</u>	<u>2020-21</u>
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debenutres and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others (to be specified)	-	-
7. Seed money for opening of Bank Account (Donation)	-	-
<u>TOTAL</u>	0	0

<u>SCHEDULE 10 - INVESTMENTS - OTHERS</u>	<u>2021-22</u>	<u>2020-21</u>
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debenutres and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others (NPS Fixed Deposit)	-	-
7. Investment of Donations	-	-
<u>TOTAL</u>	-	-

AO.,NDDTC,AIIMS

National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

		(Amount - Rs.)	
		2021-22	2020-21
SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC.			
A			
CURRENT ASSETS:			
1. <u>Advances for Procurement</u>			
a) <u>Material and Supply</u>	Opening Balance	255,000.00	255,000.00
	Addition during the year	100,000.00	79,508.00
	Adjusted during the year	100,000.00	255,000.00
b) <u>Nurses Training programme:</u>	Opening Balance	125,000.00	125,000.00
	Addition during the year	-	-
	Adjusted during the year	-	-
c) <u>Advance Salary for DTC's Scheme</u>		263,192.00	263,192.00
2. <u>Advance for training Programme</u>	Opening Balance	1,904,072.00	3,137,988.00
	Addition during the year	-	-
	Adjusted during the year	1,235,903.00	1,233,916.00
3. <u>Sundry Debtors:</u>			
a) <u>Debts Outstanding</u>		-	-
b) <u>Others (outside recoveries)</u>		-	-
c) <u>Misc. recoveries from Centres (Engg. Work)</u>		-	-
4. <u>Cash balances in hand (including cheques/ drafts and imprest)</u>		-	-
5. <u>Bank Balances:</u>			
a) <u>With Scheduled Banks:</u>			
On Current Accounts		-	-
On Deposit Accounts (includes margin money)		2,712,738.00	36,250,382.00
On Savings Accounts		-	-
b) <u>With non-Scheduled Banks:</u>			
On Current Accounts		-	-
On Deposit Accounts		-	-
On Savings Accounts		34,779,336.50	61,248.50
6. <u>Customs Duty Advance</u>		-	-
7. <u>Outside Recovery</u>		400,000.00	400,000.00
		40,708.00	40,708.00
TOTAL (A)		39,244,143.50	39,036,410.50

AO., NDDTC, AIIMS

National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

(Amount - Rs.)

SCHEDULE 11B - CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)		2021-22		2020-21	
B LOANS, ADVANCES AND OTHER ASSETS					
1. <u>Loans:</u>					
	a) Staff	-	-	-	-
	i) Motor car	-	-	-	-
	ii) House Building Advance	-	-	-	-
	iii) Computer Advance	-	-	-	-
	iv) Festival Advance	-	-	-	-
2. <u>Advances and other amounts recoverable in cash or in kind or for value to be received:</u>					
	a) On Capital Account	-	-	-	-
	b) Prepayments	-	-	-	-
	c) Others	-	-	-	-
3. <u>Income Accrued:</u>					
	a) On Investments from Earmarked / Endowment Funds	-	-	-	-
	b) On Investments - Others	-	-	-	-
	c) On Loans and Advances	-	-	-	-
	d) Others	-	-	-	-
	(includes income due unrealised - Rs.....)				
4. <u>Claims Receivable:</u>		-	-	-	-
TOTAL (B)			-		-
TOTAL (A + B)			39,244,143.50		39,036,410.50

AO.,NDDTC,AIIMS

National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED ON 31.3.2022

	(Amount - Rs.)	
	2021-22	2020-21
<u>SCHEDULE 12 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</u>		
<u>1) Income from Sales</u>		
1. Sale of Finished Goods	-	-
2. Sale of Raw Materials	-	-
3. Sales of scraps	-	-
<u>2) Income from Services</u>		
a). Hospital receipts	227,766.00	73,125.00
b) Professional / Consultancy Services	-	-
c) Agency Commission and Brokerage	-	-
d) Maintenance Services (Equipment/Property)	-	-
e) Others (Specify) Hospital Receipt	-	-
<u>TOTAL</u>	227,766.00	73,125.00
<u>SCHEDULE 13 - GRANTS / SUBSIDIES</u>		
<u>1) Income from Sales</u>		
(Irrevocable Grants & Subsidies Received)		
1. Central Government	325,481,634.00	319,989,297.00
2. State Government(s)	-	-
3. Government Agencies	-	-
4. Institutions/ Welfare Bodies (SAP)	-	-
5. International Organisations	-	-
6. Others (Specify) LOAN FROM AIIMS	-	-
<u>TOTAL</u>	325,481,634.00	319,989,297.00

AO, NDDTC, AIIMS

National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2022

<u>SCHEDULE 14 - FEES/SUBSCRIPTIONS</u>		(Amount-Rs.)	
		2021-22	2020-21
1. Tuition & Examination Fee			
2. Licence Fee			
3. Seminar/Program Fees			
4. Consultancy Fees			
5. Others (Specify) EHS			
TOTAL		0	0
Note- Accounting Policies towards each item are to be disclosed			

<u>SCHEDULE 15 - INCOME FROM INVESTMENTS</u>		Investment from Earmarked Fund		Investment-Others	
(Income on Invest. From Earmarked/Endowment Funds transferred to Funds)		2021-22	2020-21	2021-22	2020-21
1. Interest					
a) On Govt. Securities		-	-	-	-
a) Other Bonds/Debentures		-	-	-	-
2. Dividends:					
a) On Shares		-	-	-	-
a) On Mutual Fund Securities		-	-	-	-
3. Rents		-	-	-	-
4. Others (Specify)		-	-	-	-
TOTAL		0	0	0	0
TRANSFERRED TO EARMARKED/EDNOWMENT FUNDS					

AO.,NDDTC,AIIMS

National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2022

(Amount-Rs.)

SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC.	2021-22	2020-21
1. Income from Royalty		
2. Income from Publications		
3. Others (specify)		
TOTAL	0	0

SCHEDULE 17 - INTEREST EARNED	2021-22	2020-21
1. On Term Deposits:		
a) With Scheduled Banks	-	-
b) With Non-Scheduled Banks	-	-
c) With Institutions	-	-
d) Others	-	-
2. On Savings Accounts:		
a) With Scheduled Banks	468,368.00	32.00
b) With Non-Scheduled Banks	-	-
c) Post Office Savings Accounts	-	-
d) Others	-	-
3. On Loans:		
a) Employees/Staff	-	-
b) Others	-	-
4. Interest on Debtors and other Receivables	-	-
TOTAL	468368	32.00

AO.,NDDTC,AIIMS

National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2022

		(Amount-Rs.)	
SCHEDULE 18 - OTHERS INCOME		2021-22	2020-21
1. Miscellaneous Receipts		10.00	220.00
2. Receipts 5% Admn. Cost form UNDCAP A/c		5,946,130.00	-
3. Others (specify)			
TOTAL		5,946,140.00	220.00
SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS & WORK IN PROGRESS		2021-22	2020-21
a) Closing stock		-	-
- Finished Goods		-	-
- Work-in-progress		-	-
b) Less: Opening Stock		-	-
- Finished Goods		-	-
- Work-in-progress		-	-
NET INCREASE/(DECREASE) [a+b]		-	-
SCHEDULE 20 - ESTABLISHMENT EXPENSES		2021-22	2020-21
Salaries		164,574,158.00	150,619,136.00
Salaries expenditure		-	-
Contribution to NPS		12,169,985.00	5,893,175.00
Contribution to Other Fund (Scheme Cell)		-	-
Staff Welfare Expenses		-	-
Expenses on Employees "Retirement and Terminal Benefits"		-	-
Others (NPS & LSPC)		-	-
TOTAL		176,744,143.00	156,512,311.00

AO., NDDTC, AIIMS

National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2022

(Amount-Rs.)

SCHEDULE 21 - ADMINISTRATIVE EXPENSES ETC.	2021-22	2020-21
a) Purchases of hospital store (Material & Supply)	33,257,934.00	34,358,667.00
b) HOUSEKEEPING SERVICES (SAP)	-	4,306,937.00
c) Misc expenditure (Adj. of advances)	100,000.00	79,508.00
d) Wages for security and contractual staff	34,349,597.00	52,748,615.00
e) Electricity and power	5,799,193.00	6,467,490.00
f) Imrest adjusted (21-22)	35,000.00	39,897.00
g) Repairs and maintenance (AMC/CAMC)	659,240.00	356,646.00
h) Repairs and maintenance of Buildings	10,086,184.00	12,128,432.00
i) Rent, Rates and Taxes	-	-
j) Vehicles, Running and Maintenance	2,660,641.00	503,530.00
k) Postage, Telephone and Communication Charges	85,010.00	29,031.00
l) Printing and Stationary	1,058,233.00	1,631,665.00
m) Travelling and Conveyance Expenses	-	-
n) Expenses under Nurses Training programme		2,286.00
o) Expenses under DTCs Scheme	47,161,364.00	45,003,669.00
p) TDS	598,034.00	-
q) GST	1,868,450.00	-
r) Insurance of Vehicle	119,630.00	233,900.00
s) Bank Charges (Current and Saving Account)	8,000.00	2,920.50
t) Provision for DTC's Advance Salary	-	-
u) Irrecoverable Balances Written-off	-	-
v) Patient Diet	686,259.00	2,638,681.00
w) Freight and Forwarding Expenses	-	-
x) Vehicle Hiring	628,781.00	1,428,505.00
y) Advertisement and Publicity	-	-
z) Others (specify)(Adj. of advances)	1,235,903.00	1,233,916.00
TOTAL	140,397,453.00	163,194,295.50

AO.,NDDTC,AIIMS

National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF RECEIPTS AND PAYMENT FOR THE YEAR ENDED 31.3.2022

(Amount-Rs.)

SCHEDULE 21A - OTHER ADMINISTRATIVE EXPENSES ETC.	2021-22	2020-21
a) Purchases of hospital store (Material & Supply)	33,257,934.00	34,358,667.00
b) HOUSEKEEPING SERVICES (SAP)	-	4,306,937.00
c) Misc expenditure (Adj. of advances)	-	-
d) Wages for security and contractual staff	34,349,597.00	52,748,615.00
e) Electricity and power	5,799,193.00	6,467,490.00
f) Interest adjusted (20-21)	35,000.00	39,897.00
g) Repairs and maintenance (AMC/CAMC)	659,240.00	356,646.00
h) Repairs and maintenance of Buildings	10,086,184.00	12,128,432.00
i) Rent, Rates and Taxes	-	-
j) Vehicles, Running and Maintenance	2,660,641.00	503,530.00
k) Postage, Telephone and Communication Charges	85,010.00	29,031.00
l) Printing and Stationary	1,058,233.00	1,631,665.00
m) Travelling and Conveyance Expenses	-	-
n) Expenses under Nurses Training programme	-	2,286.00
o) Expenses under DTCs Scheme	47,161,364.00	45,003,669.00
p) TDS	598,034.00	-
q) GST	1,868,450.00	-
r) Insurance of Vehicle	119,630.00	233,900.00
s) Bank Charges (Current and Saving Account)	8,000.00	2,920.50
t) Provision for DTC's Advance Salary	-	-
u) Irrecoverable Balances Written-off	-	-
v) Patient Diet	686,259.00	2,638,681.00
w) Freight and Forwarding Expenses	-	-
x) Vehicle Hiring	628,781.00	1,428,505.00
y) Advertisement and Publicity	-	-
z) Others (specify)(Contingency charge)(Adj. of advances)	-	-
TOTAL	139,061,550.00	161,880,871.50

AO.,NDDTC,AIIMS

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-
(Amount-Rs.)

SCHEDULE 21B - Material and Supplies	2021-22	2020-21
Hospital stores	-	-
Total	-	-

Accounts Officer

National Drug Dependence Treatment Centre
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2022

(Amount-Rs.)

SCHEDULE 22- EXPENDITURE ON GRANTS, SUBSIDIES ETC.	2021-22	2020-21
a). Grants given to Institutions/Organizations	-	-
b). Subsidies given to Institutions/organisations	-	-
Total	-	-
Note - name of the Entities, their activities along with the amount of grants/subsidies are to be disclosed.		

SCHEDULE 23- INTEREST	2021-22	2020-21
a) On fixed Loans	-	-
b) On other Loans (including Bank charges)	-	-
c) Others(Specify)	-	-
Total	-	-

AO.,NDDTC,AIIMS

UNDCP ACCOUNT
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31.3.2022

INCOME	Schedule	2021-22	2020-21
Income from Sales/Services (Hospital Receipts)	12	-	-
Grants/Subsidies	13	1,672,805.00	-
Fees/Subscriptions	14	-	-
Income from Investments (Income on Invest. From earmeked/endow.Funds transfered to funds)	15	-	-
Income for Royalty, Publication etc.	16	-	-
Interest Earned	17	682.00	32.00
Other Income	18	-	-
Increase/(decrease) in stock of Finished goods and works-in-progress	19		
TOTAL (A)		1,673,487.00	32.00
EXPENDITURE			
Establishment Expenses	20	5,529,439.00	4,514,597.00
Administrative Expenses etc.	21	69,289,762.00	17,583,911.50
Material and supply	21B	-	-
Expenditure on Grants, Subsidies etc.	22	-	-
Interest	23	-	-
Depreciation (Net Total at the year-end - corresponding to Schedule 8)			
TOTAL (B)		74,819,201.00	22,098,508.50
Balance being excess of expenditure over income (A-B)		(73,145,714.00)	(22,098,476.50)
Transfer to Special Reserve (Specify each)		-	-
Transfer to /from General Reserve		-	-
BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND		1,673,487.00	32.00

A.O.,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

UNDCP ACCOUNT
BALANCE SHEET AS ON 31.3.2022

		(Amount in Rupees)	
	Schedule	2021-22	2020-21
<u>CORPUS/CAPITAL FUND AND LIABILITIES</u>			
CORPUS/CAPITAL FUND AND LIABILITIES	1	-	-
RESERVES AND SURPLUS	2	155,756,896.50	228,902,610.50
EARMARKED/ ENDOWMENT FUNDS	3	-	-
SECURED LOANS AND BORROWINGS	4	-	-
UNSECURED LOANS AND BORROWINGS	5	-	-
DEFERRED CREDIT LIABILITIES	6	-	-
CURRENT LIABILITIES AND PROVISIONS	7	-	-
TOTAL		155,756,896.50	228,902,610.50
<u>ASSETS</u>			
FIXED ASSETS	8	38,278,050.00	38,000,820.00
INVESTMENTS-FROM EARMARKED/ENDOWMENT FUNDS	9	-	-
INVESTMENTS-OTHERS	10	-	-
CURRENT ASSETS, LOANS , ADVANCES ETC.	11	117,478,846.50	190,901,790.50
MISCELLANEOUS EXPENDITURE		-	-
(to the extent not written off or adjusted)		-	-
TOTAL		155,756,896.50	228,902,610.50

AO.,NDDTC,AIIMS

CHIEF,NDDTC,AIIMS

UNDCP ACCOUNT
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

		(Amount-Rs.)	
		2021-22	2020-21
SCHEDULE 1- CORPUS/CAPITAL FUND:			
Balances as at the beginning of the year	-	-	-
Add : Contributions towards Corpus/Capital Fund	-	-	-
Less : Fixed Assets Condemned during the year	-	-	-
BALANCE AS AT THE YEAR-END	-	-	-
SCHEDULE 2- RESERVES AND SURPLUS:		2021-22	2020-21
1. Capital Reserve:			
As per last Account	-	-	-
Addition during the year	-	-	-
Less: Deductions during the year	-	-	-
2. Revaluation Reserve			
As per last Account	-	-	-
Addition during the year	-	-	-
Less: Deductions during the year	-	-	-
3. Special Reserves			
As per last Account	-	-	-
Addition during the year	-	-	-
Less: Deductions during the year (AIIMS LOAN REVERSE)	-	-	-
4. General Reserve			
As per last Account	228,902,610.50	251,001,087.00	228,902,610.50
Adjusted during the year	(73,145,714.00)	(22,098,476.50)	
Less: Deduction during the year	-	-	-
TOTAL	-	155,756,896.50	228,902,610.50

AO.,NDDTC,AIIMS

UNDCP ACCOUNT
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

(Amount-Rs.)

SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS	TOTALS	
	2021-22	2020-21
a) Opening balance of the funds	-	-
b) Additions to the Funds:	-	-
i. Donations/grants	-	-
ii. Income from investments made on account of funds	-	-
iii. Other additions (specify nature)	-	-
iv. Less Expenditure during the year	-	-
TOTAL (a+b)	0	0
c) Utilisation/Expenditure towards objectives of funds	-	-
i. <u>Capital Expenditure</u>	-	-
- Fixed Assets	-	-
- Others	-	-
ii. <u>Revenue Expenditure</u>	-	-
- Salaries, Wages and allowances etc.	-	-
- Rent	-	-
- Other Administrative expenses	-	-
<u>Total</u>	-	-
TOTAL (c)	-	-
<u>NET BALANCE AS AT THE YEAR-END</u> (a+b-c)		0

AO.,NDDTC,AIIMS

UNDCP ACCOUNT
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

(Amount-Rs.)

SCHEDULE 4-SECURED LOANS AND BORROWINGS:	2021-22		2020-21	
1. Central Government	-	-	-	-
2. State Government	-	-	-	-
3. Financial Institutions	-	-	-	-
a) Term Loans	-	-	-	-
b) Interest accrued and due	-	-	-	-
4. Banks:				
a) Term Loans	-	-	-	-
- Interest accrued and due	-	-	-	-
b) Other Loans (specify)	-	-	-	-
- Interest accrued and due	-	-	-	-
5. Other Institutions and Agencies	-	-	-	-
6. Debentures and Bonds	-	-	-	-
7. Others (Specify)	-	-	-	-
TOTAL	0	0	0	0
Note : Amounts due within one year				

AO.,NDDTC,AIIMS

UNDCP ACCOUNT
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

(Amount-Rs.)

SCHEDULE 5 - UNSECURED LOANS AND BORROWING	2021-22	2020-21
1. Central Government	-	-
2. State Government	-	-
3. Financial Institutions	-	-
4. Banks:	-	-
a) Term Loans	-	-
b) Other Loans (specify)	-	-
5. Other Institutions and Agencies	-	-
6. Debentures and Bonds	-	-
7. Fixed Deposits	-	-
8. Others (Specify)	-	-
TOTAL	0	0
Note: Amounts due within one year		

SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:	2021-22	2020-21
a) Acceptances secured by hypothecation of capital equipment and other assets	-	-
b) Others	-	-
TOTAL	0	0
Note: Amount due within one year		

AO.,NDDTC,AIIMS

UNDCP ACCOUNT
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

(Amount -Rs.)

SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS	2021-22		2020-21	
A. CURRENT LIABILITIES AND PROVISIONS				
1. Acceptances	-	-	-	-
2. Sundry Creditors:	-	-	-	-
i) For Goods (Customs Duty to be paid	-	-	-	-
ii) Others Outside recoveries to be paid to AIIMS (O.B.)	-	-	-	-
3. Advances Received	-	-	-	-
4. Interest accrued but not due on:	-	-	-	-
i) Secured Loans/borrowings	-	-	-	-
ii) Unsecured Loans/borrowings	-	-	-	-
5. Interest accrued but not due on:	-	-	-	-
a) Secured Loans/borrowings	-	-	-	-
a) Unsecured Loans/borrowings	-	-	-	-
6. Statutory Liabilities:	-	-	-	-
a) Overdue	-	-	-	-
a) Others	-	-	-	-
7. Security Deposits (EMD)	-	-	-	-
Opening Balance	-	-	-	-
Received during the year	-	-	-	-
Refund during the year	-	-	-	-
8. Other current Liabilities	-	-	-	-
9. Loan from UNDCPA/C O.B.	-	-	-	-
Loan from UNDCP A/c	-	-	-	-
Less : Loan refund to UNDCP A/c	-	-	-	-
10. Loan from AIIMS (Main) (OB)	-	-	-	-
Loan from AIIMS (Main)	-	-	-	-
Loan refund to AIIMS (Main)	-	-	-	-
TOTAL (A)		-		-
B. PROVISIONS				
1. For Taxation	-	-	-	-
2. Gratuity	-	-	-	-
3. Superannuation/Pension	-	-	-	-
6. Accumulated Leave Encashment	-	-	-	-
6. Trade Warranties/Claims	-	-	-	-
6. Others (specify)	-	-	-	-
TOTAL (B)	-	-	-	-
TOTAL (A+B)		-		-

AO.,NDDTC,AIIMS

UNDCP ACCOUNT
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

(Amount in Rs.)

SCHEDULE 8 – FIXED ASSETS									
DESCRIPTION	GROSS BLOCK			DEPRECIATION			NET BLOCK		
	Cost/ valuation as at beginning of the year	Additions during the year	Deductions during the year	Cost/ valuation at the year-end	As at the beginning of the year	On Additions during the year	On Deductions during the year	Total up to the year-end	
A. FIXED ASSETS:									
1. LAND:									
a) Freehold	-	-	-	-	-	-	-	-	-
b) Leasehold	-	-	-	-	-	-	-	-	-
2. BUILDINGS:									
a) Engineering related capital work	-	-	-	-	-	-	-	-	-
b) On Leasehold Land	-	-	-	-	-	-	-	-	-
c) Ownership Flats/Premises	-	-	-	-	-	-	-	-	-
3. PLANT MACHINERY & EQUIPMENT	38,000,820.00	277,230.00	-	38,278,050.00	-	-	-	-	38,000,820.00
4. VEHICLES	-	-	-	-	-	-	-	-	-
5. FURNITURE, FIXTURES	-	-	-	-	-	-	-	-	-
6. Office Equipment	-	-	-	-	-	-	-	-	-
7. COMPUTER/PERIPHERALS	-	-	-	-	-	-	-	-	-
8. ELECTRIC INSTALLATIONS	-	-	-	-	-	-	-	-	-
9. LIBRARY BOOKS	-	-	-	-	-	-	-	-	-
10. OTHER FIXED ASSETS (SAP)	-	-	-	-	-	-	-	-	-
TOTAL OF CAURENT YEAR	38,000,820.00	277,230.00	-	38,278,050.00	-	-	-	-	38,000,820.00

AO.,NDDTC,AIIMS

UNDCP ACCOUNT
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

(Amount - Rs.)

<u>SCHEDULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</u>	<u>2021-22</u>	<u>2020-21</u>
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debenutres and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others (to be specified)	-	-
7. Seed money for opening of Bank Account (Donation)	-	-
<u>TOTAL</u>	0	0

<u>SCHEDULE 10 - INVESTMENTS - OTHERS</u>	<u>2021-22</u>	<u>2020-21</u>
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Loan to NDDTC	-	-
4. Debenutres and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others (NPS Fixed Deposit)	-	-
7. Investment of Donations	-	-
<u>TOTAL</u>	-	-

AO.,NDDTC,AIIMS

UNDCP ACCOUNT
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

		(Amount - Rs.)	
		2021-22	2020-21
SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC.			
A	CURRENT ASSETS:		
1. <u>Advances for Procurement</u>			
a) Material and Supply	Opening Balance	45,000.00	45,000.00
	Addition during the year	4,000.00	-
	Adjusted during the year	4,000.00	-
		45,000.00	45,000.00
b) Nurses Training programme:	Opening Balance	-	-
	Addition during the year	-	-
	Adjusted during the year	-	-
2. Loan to NDDTC	Opening Balance	30,000,000.00	5,000,000.00
	Addition during the year	-	25,000,000.00
	Adjusted during the year	-	-
		30,000,000.00	30,000,000.00
3. <u>Sundry Debtors:</u>			
a) Debts Outstanding		-	-
b) Others (outside recoveries)		-	-
c) Misc. recoveries from Centres (Engg. Work)		-	-
4. <u>Cash balances in hand (including cheques/ drafts and imprest)</u>		-	-
5. <u>Bank Balances:</u>			
a) <u>With Scheduled Banks:</u>			
	On Current Accounts	-	-
	On Deposit Accounts (includes margin money)	87,424,814.00	160,848,440.00
	On Savings Accounts	-	-
b) <u>With non-Scheduled Banks:</u>			
	On Current Accounts	9,032.50	8,350.50
	On Deposit Accounts	-	-
	On Savings Accounts	-	-
6. <u>Customs Duty Advance</u>		-	-
7. <u>Outside Recovery</u>		-	-
TOTAL (A)		117,478,846.50	190,901,790.50

AO, NDDTC, AIIMS

UNDCP ACCOUNT
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2022

(Amount - Rs.)

SCHEDULE 11B - CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)		2021-22		2020-21	
B <u>LOANS, ADVANCES AND OTHER ASSETS</u>					
1. <u>Loans:</u>					
a) Staff	-	-	-	-	-
i) Motor car	-	-	-	-	-
ii) House Building Advance	-	-	-	-	-
iii) Computer Advance	-	-	-	-	-
iv) Festival Advance	-	-	-	-	-
2. <u>Advances and other amounts recoverable in cash or in kind or for value to be received:</u>					
a) On Capital Account	-	-	-	-	-
b) Prepayments	-	-	-	-	-
c) Others	-	-	-	-	-
3. <u>Income Accrued:</u>					
a) On Investments from Earmarked / Endowment Funds	-	-	-	-	-
b) On Investments - Others	-	-	-	-	-
c) On Loans and Advances	-	-	-	-	-
d) Others	-	-	-	-	-
(includes income due unrealised - Rs.....)					
4. <u>Claims Receivable:</u>		-	-	-	-
<u>TOTAL (B)</u>			0		0
<u>TOTAL (A + B)</u>			117,478,846.50		190,901,790.50

AO.,NDDTC,AIIMS

UNDCP ACCOUNT
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED ON 31.3.2022
(Amount - Rs.)

SCHEDULE 12 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS	2021-22	2020-21
1) Income from Sales		
1. Sale of Finished Goods	-	-
2. Sale of Raw Materials	-	-
3. Sales of scraps	-	-
2) Income from Services		
a). Hospital receipts	-	-
b) Professional / Consultancy Services	-	-
c) Agency Commission and Brokerage	-	-
d) Maintenance Services (Equipment/Property)	-	-
e) Others (Specify) Hospital Receipt	-	-
TOTAL	-	-

SCHEDULE 13 - GRANTS /SUBSIDIES	2021-22	2020-21
1) Income from Sales		
(Irrevocable Grants & Subsidies Received)		
1. From WHO	150,000.00	-
2. From DST	1,522,805.00	-
3. From MOSJE		-
TOTAL	1,672,805.00	-

AO., NDDTC, AIIMS

UNDCP ACCOUNT
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2022

SCHEDULE 14 - FEES/SUBSCRIPTIONS		(Amount-Rs.)	
		2021-22	2020-21
1. Tuition & Examination Fee			
2. Licence Fee			
3. Seminar/Program Fees			
4. Consultancy Fees			
5. Others (Specify) EHS			
TOTAL		0	0
Note- Accounting Policies towards each item are to be disclosed			

SCHEDULE 15 - INCOME FROM INVESTMENTS		Investment from Earmarked Fund		Investment-Others	
(Income on Invest. From Earmarked/Endowment Funds transferred to Funds)		2021-22	2020-21	2021-22	2020-21
1. Interest					
a) On Govt. Securities		-	-	-	-
a) Other Bonds/Debentures		-	-	-	-
2. Dividends:					
a) On Shares		-	-	-	-
a) On Mutal Fund Securities		-	-	-	-
3. Rents		-	-	-	-
4. Others (Specify)		-	-	-	-
TOTAL		0	0	0	0
TRANSFERRED TO EARMARKED/EDNOWMENT FUNDS					

AO.,NDDTC,AIIMS

UNDCP ACCOUNT
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2022

(Amount-Rs.)

SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC.	2021-22	2020-21
1. Income from Royalty	-	-
2. Income from Publications	-	-
3. Others (specify)	-	-
<u>TOTAL</u>	0	0

SCHEDULE 17 - INTEREST EARNED	2021-22	2020-21
1. On Term Deposits:		
a) With Scheduled Banks	-	-
b) With Non-Scheduled Banks	-	-
c) With Institutions	-	-
d) Others	-	-
2. On Savings Accounts:	-	-
a) With Scheduled Banks	682.00	32.00
b) With Non-Scheduled Banks	-	-
c) Post Office Savings Accounts	-	-
d) Others	-	-
3. On Loans:		
a) Employees/Staff	-	-
b) Others	-	-
4. Interest on Debtors and other Receivables	-	-
<u>TOTAL</u>	682	32

AO.,NDDTC,AIIMS

UNDCP ACCOUNT
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2022

(Amount-Rs.)

SCHEDULE 18 - OTHERS INCOME	2021-22	2020-21
1. Mise Receipts	-	-
2. Receipts 5% Admn. Cost form UNDCAP A/c	-	-
3. Others (specify)	-	-
TOTAL	-	-

SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS & WORK IN PROGR	2021-22	2020-21
a) Closing stock	-	-
- Finished Goods	-	-
- Work-in-progress	-	-
b) Less: Opening Stock	-	-
- Finished Goods	-	-
- Work-in-progress	-	-
NET INCREASE/(DECREASE) [a+b]	-	-

SCHEDULE 20 - ESTABLISHMENT EXPENSES	2021-22	2020-21
Salaries	5,529,439.00	4,514,597.00
Salaries expenditure under 5% Admn. Cost received from UNDCAP A/C		
Contribution to NPS		
Contribution to Other Fund (Scheme Cell)	-	-
Staff Welfare Expenses	-	-
Expenses on Employees "Retirement and Terminal Benefits"	-	-
Others (NPS & LSPC)	-	-
TOTAL	5,529,439.00	4,514,597.00

AO.,NDDTC,AIIMS

UNDCP ACCOUNT
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2022

(Amount-Rs.)

SCHEDULE 21 - ADMINISTRATIVE EXPENSES ETC.	2021-22	2020-21
a) Purchases of hospital store (Material & Supply)	15,800,643.00	-
b) HOUSEKEEPING SERVICES (SAP)	-	-
c) Misc expenditure (Adj. of advances)	4,000.00	-
d) Wages for security and contractual staff	-	-
e) Electricity and power	-	-
f) Imrest adjusted (20-21)	-	-
g) Repairs and maintenance (AMC/CAMC)	-	-
h) Repairs and maintenance of Buildings	-	-
i) Rent, Rates and Taxes	-	-
j) Vehicles, Running and Maintenance	-	-
k) Postage, Telephone and Communication Charges	-	-
l) Printing and Stationary	-	-
m) Travelling and Conveyance Expenses	-	-
n) Transfer of funds to various centers	42,104,550.00	17,534,000.00
o) 5% of grant transferred to NDDTC	5,946,130.00	-
p) Expenditure under DST on line programme	150,000.00	-
q) Maintenance of Buildings (Minor Work RG)	-	-
r) Miscellaneous expenditure	52,033.00	47,581.00
s) Bank Charges (Current and Saving Account)	-	2,330.50
t) Provision for Bad and Doubtful Debts/Advances	-	-
u) Irrecoverable Balances Written-off	-	-
v) Balance amount Refund to Ministry of Finance	5,232,406.00	-
w) Freight and Forwarding Expenses	-	-
x) Vehicle Hiring	-	-
y) Advertisement and Publicity	-	-
z) Others (specify)(Contingency charge)(Adj. of advances)	-	-
TOTAL	69,289,762.00	17,583,911.50

UNDCP ACCOUNT
SCHEDULES FORMING PART OF RECEIPTS AND PAYMENT FOR THE YEAR ENDED 31.3.2022

(Amount-Rs.)

SCHEDULE 21A - OTHER ADMINISTRATIVE EXPENSES ETC.	2021-22	2020-21
a) Purchases of hospital store (Material & Supply)	15,800,643.00	-
b) HOUSEKEEPING SERVICES (SAP)	-	-
c) Misc expenditure (Adj. of advances)	-	-
d) Wages for security and contractual staff	-	-
e) Electricity and power	-	-
f) Interest adjusted (20-21)	-	-
g) Repairs and maintenance (AMC/CAMC)	-	-
h) Repairs and maintenance of Buildings	-	-
i) Rent, Rates and Taxes	-	-
j) Vehicles, Running and Maintenance	-	-
k) Postage, Telephone and Communication Charges	-	-
l) Printing and Stationary	-	-
m) Travelling and Conveyance Expenses	-	-
n) Transfer of funds to various centers	42,104,550.00	17,534,000.00
o) 5% of grant transferred to NDDTC	5,946,130.00	-
p) Expenditure under DST on line programme	150,000.00	-
q) Maintenance of Buildings (Minor Work RG)	-	-
r) Miscellaneous expenditure	52,033.00	47,581.00
s) Bank Charges (Current and Saving Account)	-	2,330.50
t) Provision for Bad and Doubtful Debts/Advances	-	-
u) Irrecoverable Balances Written-off	-	-
v) Balance amount Refund to Ministry of Finance	5,232,406.00	-
w) Freight and Forwarding Expenses	-	-
x) Vehicle Hiring	-	-
y) Advertisement and Publicity	-	-
z) Others (specify)(Contingency charge)(Adj. of advances)	-	-
TOTAL	69,285,762.00	17,583,911.50

UNDCP ACCOUNT
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31.3.2022

(Amount-Rs.)

SCHEDULE 22- EXPENDITURE ON GRANTS, SUBSIDIES ETC.	2021-22	2020-21
a). Grants given to Institutions/Organizations	-	-
b). Subsidies given to Institutions/organisations	-	-
Total	0	0
Note - name of the Entities, their activities along with the amount of grants/subsidies are to be disclosed.		

SCHEDULE 23- INTEREST	2021-22	2020-21
a) On fixed Loans	-	-
b) On other Loans (including Bank charges)	-	-
c) Others(Specify)	-	-
Total	0	0

AO.,NDDTC,AIIMS

RESEARCH SECTION, AIIMS
BALANCE SHEET AS ON 31-03-2022

(Amount-Rs.)			
CORPUS/CAPITAL FUND AND LIABILITIES	Schedule	2021-22	2020-21
Corpus/Capital fund and Liabilities	1		-
Reserves and Surplus	2	(58,830,103)	13,737,592
Earmarked / Endowment Fund	3	1,229,205,621	1,606,574,887
Secured Loans & Borrowings	4		-
Unsecured Loans & Borrowings	5		-
Deferred Credit Liabilities	6		-
Current Liabilities and Provisions	7	177,090,888	56,524,440
TOTAL		1,347,466,406	1,676,836,919
ASSETS			
Fixed Assets	8	-	-
Investments from Earmarked / Endowment funds	9	-	-
Investments-others	10	-	-
Current Assets, Loan & Advances etc.	11	1,347,466,406	1,676,836,919
Misc. Expenditure (to the extent not written off or adjusted)		-	-
TOTAL		1,347,466,406	1,676,836,919
Accounting policies and notes forming part of accounts	24		

Asstt. Accounts Officer Accounts Officer Assoc. Dean Dean

RESEARCH SECTION, AIIMS
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31-03-2022

		(Amount-Rs.)	
INCOME	Schedule	2021-22	2020-21
Income from Sales/Services	12	-	-
Grants/Subsidies	13	1,627,502,325	1,303,515,976
Fees/Subscriptions	14	-	-
Income from Investments (Income on Invest. From earned/endow. Funds transfered to funds)	15	-	-
Income for Royalty, Publication etc.	16	-	-
Interest Earned	17	-	30,568,996
Other Income	18	-	-
Increase/(decrease) in stock of Finished goods and works-in-progress	19	-	-
TOTAL (A)		1,627,502,325	1,334,084,972
EXPENDITURE			
Establishment Expenses	20	740,331,996	576,844,580
Other Administrative Expenses etc.	21	416,098,102	290,228,671
Material and supply	21B	543,639,921	453,274,129
Expenditure on Grants, Subsidies etc.	22	-	-
Interest	23	-	-
Depreciation (Net Total at the year-end - corresponding to Schedule 8)			
TOTAL (B)		1,700,070,019	1,320,347,380
Transfer to Special Reserve (Specify each)			
Transfer to /from General Reserve		(72,567,694)	13,737,592
BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/ CAPITAL FUND		(72,567,694)	13,737,592

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RESEARCH SECTION, AIIMS
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2022

(Amount in Rs.)

SCHEDULE 1- CORPUS/CAPITAL FUND:		2021-22	2020-21
Balances as at the beginning of the year		-	-
Add : Contributions towards Corpus/Capital Fund		-	-
Less: Condemnation during the year		-	-
BALANCE AS AT THE YEAR-END		-	-

SCHEDULE 2- RESERVES AND SURPLUS:		2021-22	2020-21
1. Capital Reserve:			
As per last Account	-	-	-
Addition during the year	-	-	-
Less: Deductions during the year	-	-	-
2. Revaluation Reserve			
As per last Account	-	-	-
Addition during the year	-	-	-
Less: Deductions during the year	-	-	-
3. Special Reserves			
As per last Account	-	-	-
Addition during the year	-	-	-
4. General Reserve			
As per last Account	13,737,591.96	-	-
Addition during the year	-	-	-
Adjustment for Last Year	(72,567,694.25)	-	-
Less: Deductions during the year	(58,830,102.29)	-	-
TOTAL		13,737,591.96	13,737,591.96

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RESEARCH SECTION, AIIMS
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2022

SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS		(Amount-Rs.)	
		2021-22	2020-21
a) Opening balance of the funds		1,606,574,887	1,520,466,405
b) Additions to the Funds:		368,393,013	137,243,616
Less: Amount returned to Funding Agency		91,296,558	51,135,134
ii. Income from investments made on account of funds		-	-
iii. CSR Hospital Billing AIIMS		-	-
iv. Other additions (Unadjusted Balances)		(624,735,322)	-
iv. Other Undajastment for Opening Bank Balance		(29,730,398)	-
iv. Other Undajastment for Difference In Opening Balance			
TOTAL (a+b)		1,229,205,622	1,606,574,887
c) Utilisation/Expenditure towards objectives of funds			
i. <u>Capital Expenditure</u>		-	-
- Fixed Assets		-	-
- Others		-	-
ii. <u>Revenue Expenditure</u>		-	-
- Salaries, Wages and allowances etc.		-	-
- Rent		-	-
- Other Administrative expenses		-	-
NET BALANCE AS AT THE YEAR-END (a+b-c)		-	-

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RESEARCH SECTION, AIIMS
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2022
(Amount-Rs.)

<u>SCHEDULE 4-SECURED LOANS AND BORROWINGS:</u>	2021-22		2020-21	
1. Central Government	-	-	-	-
2. State Government	-	-	-	-
3. Financial Institutions	-	-	-	-
a) Term Loans	-	-	-	-
b) Interest accrued and due	-	-	-	-
4. Banks:				
a) Term Loans	-	-	-	-
- Interest accrued and due	-	-	-	-
b) Other Loans (specify)				
- Interest accrued and due	-	-	-	-
5. Other Institutions and Agencies	-	-	-	-
6. Debentures and Bonds	-	-	-	-
7. Others (Specify)	-	-	-	-
<u>TOTAL</u>	-	-	-	-

Asstt Accounts Officer

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RESEARCH SECTION, AIIMS
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2022

(Amount-Rs.)

SCHEDULE 5 - UNSECURED LOANS AND BORROWING	2021-22	2020-21
1. Central Government	-	-
2. State Government	-	-
3. Financial Institutions	-	-
4. Banks:	-	-
a) Term Loans	-	-
b) Other Loans (specify)	-	-
5. Other Institutions and Agencies	-	-
6. Debentures and Bonds	-	-
7. Fixed Deposits	-	-
8. Others (Specify)	-	-
TOTAL	-	-

Note: Amounts due within one year

SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:	2021-22	2020-21
a) Acceptances secured by hypothecation of capital equipment and other assets	-	-
b) Others	-	-
TOTAL	-	-

Note: Amount due within one year

Asstt. Accounts Officer

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RESEARCH SECTION, AIIMS
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2022

(Amount -Rs.)

SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS	2021-22		2020-21	
<u>A. CURRENT LIABILITIES AND PROVISIONS</u>				
1. Acceptances	-	-	-	-
2. Sundry Creditors:	-	-	-	-
i) For Goods	-	-	-	-
ii) Others	-	159,621,648.26	-	55,455,516.26
3. Advances Received	-	-	-	-
4. Interest accrued but not due on:	-	-	-	-
a) Secured Loans/borrowings	-	-	-	-
a) Unsecured Loans/borrowings	-	-	-	-
5. Statutory Liabilities:				
a) Overdue	-	-	-	-
a) Others	-	12,394,947.00	-	-
6. Other current Liabilities	-	5,074,293.00	-	1,068,924.00
TOTAL (A)	-	177,090,888.26	-	56,524,440.26
<u>B. PROVISIONS</u>				
2. Gratuity	-	-	-	-
3. Superannuation/Pension	-	-	-	-
6. Accumulated Leave Encashment	-	-	-	-
6. Trade Warranties/Claims	-	-	-	-
6. Others (specify)	-	-	-	-
TOTAL (B)	-	-	-	-
TOTAL (A+B)	-	177,090,888.26	-	56,524,440.26

Asstt Accounts Officer

Accounts Officer

Assoc. Dean

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RESEARCH SECTION, AIIMS
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2022

SCHEDULE-8 (Fixed Assets)		GROSS BLOCK				DEPRICIATION			NET BLOCK	
		Cost/valuation As at beginning of the year	Additions during the year	Deductions during the year	Cost/Valuation at the year end	As at the beginning of the year	On additions during the year	On Deductions during the year	2021-22	2020-21
A FIXED ASSETS:										
1 LAND:										
a) Freehold / Leasehold										
2 BUILDINGS:										
a) On Freehold Land										
b) On Leasehold Land										
c) Ownership Flats/ Premises										
3 PLANT MACHINERY & EQUIPMENT										
4 Vehicles										
5 Furniture & Fixture										
6 Office Equipment										
7 Computer/Peripherals										
8 Library Books										
TOTAL OF CURRENT YEAR										

(Amount - Rs.)

Asstt. Accounts Officer

Accounts Officer

Assoc. Dean

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RESEARCH SECTION, AIIMS
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2022

(Amount-Rs.)		
SCHEDULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS	2021-22	2020-21
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debenutres and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others Fixed Deposits (Endowment fund)	-	-
7. Seed money for opening of Bank Account (Donatior	-	-
<u>TOTAL</u>	-	-

SCHEDULE 10 - INVESTMENTS - OTHERS		
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debenutres and Bonds	-	-
5. Subsidiaries and Joint Venutres	-	-
6. Others (NPS Fixed Deposit)	-	-
7. Investment of Donations	-	-
<u>TOTAL</u>	-	-

Asstt. Accounts Officer Accounts Officer

Assoc. Dean

Dean

RESEARCH SECTION, AIIMS
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2022

(Amount in Rs.)

SCHEDULE II - CURRENT ASSETS, LOANS, ADVANCES ETC.		2021-22	2020-21
A	<u>CURRENT ASSETS:</u>		
	1. <u>Inventories:</u>		
	a) Stores and Spares	-	-
	b) Loose Tools	-	-
	c) Stock-in-trade	-	-
	Finished Goods	-	-
	Work-in-progress	-	-
	Raw Material	-	-
	2. <u>Sundry Debtors:</u>		
	a) Debts Outstanding	-	-
	b) Others (outside recoveries)	-	-
	c) Misc. recoveries receivable from Centre	-	-
	3. <u>Cash balances in hand (including cheques/ drafts and imprest)</u>	-	-
	4. <u>Bank Balances:</u>		
	a) <u>With Scheduled Banks:</u>		
	On Current Accounts	96,456,315	-
	On Deposit Accounts (FD)		433,763,239
	On Savings Accounts & FDR	1,245,029,198	1,236,548,441
	b) <u>With non-Scheduled Banks:</u>		
	On FDRs		-
	on FDRs Research Section		-
	On Savings Accounts		-
	5. <u>Post Office - Savings Accounts</u>		-
	TOTAL (A)	1,341,485,513	1,670,311,680

Asst. Accounts Officer

Accounts Officer

Assoc. Dean

Dean

RESEARCH SECTION, AIIMS
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31-03-2022

(Amount in Rs.)		2021-22	2020-21
SCHEDULE 11- CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)			
B	LOANS, ADVANCES AND OTHER ASSETS		
1. <u>Loans:</u>			
	a) Staff		
	b) Other Entities engaged in activities/objectives similar to that of Entity		
	c) Other (Adv for purchase of iron and steel		
2. <u>Advances and other amounts recoverable in cash or in kind or for value to be received:</u>			
	a) On Capital Account		
	b) Prepayments		
	c) Others (Advance Payments)	5,980,893.00	587,825.00
3. <u>Income Accrued:</u>			
	a) On Investments from Earmarked / Endowment Funds		
	b) On Investments - Others		
	c) On Loans and Advances		
	d) Others		
	(includes income due unrealised - Rs.....)		
4. <u>Other Current Assets</u>			5,937,414.00
TOTAL (B)		5,980,893.00	6,525,239.00
TOTAL (A + B)		1,347,466,406.44	1,676,836,919.07

Asstt. Accounts Officer Accounts Officer Assoc. Dean Dean

RESEARCH SECTION, AIIMS

**SCHEDULES FORMING PART OF INCOME AND EXPENDITURE FOR THE YEAR ENDED ON
31-03-2022**

(Amount - Rs.)

SCHECULE 12 - INCOME FROM SALES / SERVICES	2021-22	2020-21
1) Income from Sales		
1. Sale of Finished Goods		
2. Sale of Raw Material		
3. Sale of Scraps		
2) Income from Services		
a) Hospital receipts		
b) Professional / Consultancy Services		
c) Agency Commission and Brokerage		
d) Maintenance Services (Equipment/Property)		
e) Others (Specify) Hospital Receipt		
<u>TOTAL</u>		

SCHECULE 13 - GRANTS /SUBSIDIES	2021-22	2020-21
(Irrevocable Grants & Subsidies Received)		
1. Central Government		
2. State Government(s)		
3. Government Agencies	1,627,502,324.67	1,303,515,975.88
4. Institutions/ Welfare Bodies		
5. International Organisations		
6. Others (Specify) PMJAY Transf. from Hospital		
<u>TOTAL</u>	1,627,502,324.67	1,303,515,975.88

Asstt. Accounts Officer

Accounts Officer

Assoc. Dean

Dean

RESEARCH SECTION, AIIMS
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE
PERIOD/YEAR ENDED 31-03-2022

(Amount-Rs.)

SCHEDULE 14 - FEES/SUBSCRIPTIONS			2021-22	2020-21	
1. Tuition Fee 2. Licence Fee 3. Seminar/Program Fees 4. Exam. Receipt 5. Others (Specify) EHS					
TOTAL					
SCHEDULE 15 - INCOME FROM INVESTMENTS		Investment from Earmarked Fund		Investment-Others	
(Income on Invest. From Earmarked/Endowment Funds transferred to Funds)		2021-22	2020-21	2021-22	2020-21
1. Interest a) On Govt. Securities a) Other Bonds/Debentures 2. Dividends: a) On Shares a) On Mutal Fund Securities 3. Rents 4. Others (Specify)					
TOTAL		0	0	-	-
TRANSFERRED TO EARMARKED/EDNOWMENT FUNDS					

Asst. Accounts Officer

Accounts Officer

Assoc. Dean

Dean

RESEARCH SECTION, AIIMS
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE
PERIOD/YEAR ENDED 31-03-2022

(Amount-Rs.)

SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC.	2021-22	2020-21
1. Income from Royalty 2. Income from Publications 3. Others (specify)		
<u>TOTAL</u>		
SCHEDULE 17 - INTEREST EARNED	2021-22	2020-21
1. On Term Deposits: a) With Scheduled Banks b) With Non-Scheduled Banks c) With Institutions d) Others		7,249,123.00
2. On Savings Accounts: a) With Scheduled Banks b) With Non-Scheduled Banks c) Post Office Savings Accounts d) Others		23,319,873.00
3. On Loans: a) Employees/Staff b) Others		
4. Interest on Debtors and other Receivables		
<u>TOTAL</u>	-	30,568,996.00

Asstt. Accounts Officer

Accounts Officer

Assoc. Dean

Dean

RESEARCH SECTION, AIIMS
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31-03-2020

(Amount-Rs.)

SCHEDULE 18 - OTHER INCOME	2021-22	2020-21
1. Misc. Receipt		
2. Estb. Receipt (Scheme)		
3. Exam Section Receipt		
4. General Donations		
5. Research Other Income		
TOTAL		
SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS & WORK IN PROGRESS	2021-22	2020-21
a) Closing stock		
- Finished Goods		
- Work-in-progress		
b) Less: Opening Stock		
- Finished Goods		
- Work-in-progress		
NET INCREASE/(DECREASE) [a+b]		-
SCHEDULE 20 - ESTABLISHMENT EXPENSES	2021-22	2020-21
Salaries and Wages	715,873,381.00	567,522,901.00
Travelling Allowance	24,458,615.00	9,321,679.00
Contribution to Provident Fund		
Contribution to Other Fund (Scheme Cell)		
Staff Welfare Expenses (DLIS)		
Expenses on Employees "Retirement and Terminal Benefits"		
Others (NPS)		
Leave Salary Pension Contribution		
TOTAL	740,331,996.00	576,844,580.00

Asstt.Accounts Officer

Accounts Officer

Assoc. Dean

Dean

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RESEARCH SECTION, AIIMS
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED
31-03-2022

	(Amount-Rs.)	
SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES ETC	2021-22	2020-21
a) Purchases of hospital stores		
b) Labour and processing expenses/Overheads	32,601,880.00	30,804,561.00
c) Cartage and Carriage Inwards		
d) Electricity and power		
e) Water charges		
f) Insurance		
g) Repairs and maintenance (AMC/CAMC)		
h) Repairs and maintenance of Buildings		
i) Rent, Rates and Taxes		
j) Vehicles, Running and Maintenance		
k) Postage, Telephone and Communication Charges		
l) Printing and Stationary		
m) Travelling and Conveyance Expenses		
n) Expenses on Seminar/Workshops		
o) Subscription Expenses		
p) Expenses on Fees		
q) bAuditors Remuneration		
r) Hospitality Expenses		
s) Professional Charges		
t) Provision for Bad and Doubtful Debts/Advances		
u) Irrecoverable Balances Written-off		
v) Packing Charges		
w) Hostel		
x) Bank Charges	1,234,228.42	
y) Misc. Expenses	4,025,796.50	
z) Others (specify)(Contingency charge)	378,236,197.00	259,424,110.08
TOTAL	416,098,101.92	290,228,671.08

Asst. Accounts Officer

Accounts Officer

Assoc. Dean

Dean

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED
31-03-2022

	(Amount-Rs.)	
SCHEDULE 21B - Material and Supplies	2021-22	2020-21
Material and Supplies	512,394,650.00	408,479,842.26
Machinery and Equipments	31,245,271.00	44,794,286.58
Total	543,639,921.00	453,274,128.84

Asstt. Accounts Officer

Accounts Officer

Assoc. Dean

Dean

RESEARCH SECTION, AIIMS

SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31-03-2022

(Amount-Rs.)		
SCHEDULE 22- EXPENDITURE ON GRANTS, SUBSIDIES ETC.	2021-22	2020-21
a). Grants given to Institutions/Organizations		
b). Subsidies given to Institutions/organisations		
Total	-	0
Note - name of the Entities, their activities along with the amount of grants/subsidies are to be disclosed		

SCHEDULE 23- INTEREST	2021-22	2020-21
a) On fixed Loans		
b) On other Loans (including Bank charges)		
c) Others(Specify) Endowment interest transfer to Research Section	-	0
Total	-	0

Asstt. Accounts Officer Accounts Officer Assoc. Dean Dean

RESEARCH SECTION
ALL INDIA INSTITUTE OF MEDICAL SCIENCES
ANSARI NAGAR, DELHI-110029

Schedule to the Accounts as at 31st March, 2022

SCHEDULE 24 - . NOTES TO ACCOUNTS

- (i) Grants are accounted on realization basis.
- (ii) The financial statements are prepared in the light of the provisions of Indian Accounting Standard 12 "Accounting for Government Grants".
- (iii) The Income/Revenue approach defined under the AS 12 has been followed in the preparation of these financial statements.
- (iv) The equipments purchased for the project are treated as revenue expenditure.

Asstt. Accounts Officer

Accounts Officer

Assoc. Dean

Dean

RESEARCH DONATION
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES
ANSARI NAGAR, DELHI-110029

Balance Sheet as at 31st March, 2022

Particulars	Note No.	31-Mar-2022 (Rupees)	31-Mar-2021 (Rupees)
CAPITAL AND LIABILITIES			
Corpus Fund	2	13,920,792	11,503,504
		13,920,792	11,503,504
Current Liabilities			
Duties and Taxes		-	-
Sundry Creditors		-	-
Other Current Liabilities		-	-
		-	-
TOTAL		13,920,792	11,503,504
ASSETS			
Non-Current Assets			
Fixed Assets		-	-
Fixed Deposits		10,000,000	10,000,000
		10,000,000	10,000,000
Current Assets			
Cash and Bank Balances	3	3,920,792	1,503,504
		3,920,792	1,503,504
TOTAL		13,920,792	11,503,504
Notes to Accounts & Significant Accounting Policies	1		
The notes referred to above are an Integral Part of the Financial Statements			
Asstt Accounts Officer		Accounts Officer	
Associate Dean		Dean	

RESEARCH DONATION RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES ANSARI NAGAR, DELHI-110029 Statement of Income and Expenditure account for the year ended 31st March, 2022		
Particulars	31-Mar-2022 (Rupees)	31-Mar-2021 (Rupees)
I Income		
Interest Income	2,417,288	40,206
TOTAL	2,417,288	40,206
II Expenses	-	-
TOTAL	-	-
III Surplus/ Excess of Income over Expenditure (I-II)	2,417,288	40,206
Notes to Accounts & Significant Accounting Policies 1 The notes referred to above are an Integral Part of the Financial Statements		
Asstt Accounts Officer	Accounts Officer	
Associate Dean	Dean	

RESEARCH DONATION RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES ANSARI NAGAR, DELHI-110029 Schedules to account for the year ended 31st March, 2022		
Particulars	31-Mar-2022 (Rupees)	31-Mar-2021 (Rupees)
2 Corpus Fund		
Opening Balance	11,503,504	11,463,298
Add: Surplus/Deficit for the year	2,417,288	40,206
TOTAL	13,920,792	11,503,504
3 Cash and Bank Balances		
Cash in Hand	-	-
State Bank Of India	3,920,792	1,483,602
TOTAL	3,920,792	1,483,602
Asstt Accounts Officer	Accounts Officer	
Associate Dean	Dean	

RESEARCH DONATION
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES
ANSARI NAGAR, DELHI-110029

Schedule to the Accounts as at 31st March, 2022

1. NOTES TO ACCOUNTS

- (i) Donations are accounted on realization basis.
- (ii) The financial statements are prepared in the light of the provisions of Indian Accounting Standard 12 "Accounting for Government Grants".
- (iii) The Income/Revenue approach defined under the AS 12 has been followed in the preparation of these financial statements.
- (iv) The equipments purchased for the project are treated as revenue expenditure.

ENDOWMENT FUND
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES
ANSARI NAGAR, DELHI-110029

Balance Sheet as at 31st March, 2022

Particulars	Note No.	31-Mar-2022 (Rupees)	31-Mar-2021 (Rupees)
CAPITAL AND LIABILITIES			
Corpus Funds	2	93,148,478	89,113,929
		93,148,478	89,113,929
Current Liabilities			
Duties and Taxes		-	-
Sundry Creditors		21,188,799	-
Other Current Liabilities		-	-
		21,188,799	-
TOTAL		114,337,277	89,113,929
ASSETS			
Non-Current Assets			
Fixed Assets		-	-
Investments	3	94,566,812	75,000,000
		94,566,812	75,000,000
Current Assets			
Cash and Bank Balances	4	19,770,465	14,113,929
		19,770,465	14,113,929
TOTAL		114,337,277	89,113,929
Notes to Accounts & Significant Accounting Policies 1			
The notes referred to above are an Integral Part of the Financial Statements			
Asstt Accounts Officer		Accounts Officer	
Associate Dean		Dean	

ENDOWMENT FUND
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES
ANSARI NAGAR, DELHI-110029

Statement of Income and Expenditure account for the year ended 31st March, 2022

Particulars	31-Mar-2022 (Rupees)	31-Mar-2021 (Rupees)
I Income		
Grant	-	-
Interest Income	3,223,349	2,312,669
TOTAL	3,223,349	2,312,669
II Expenses		
Expenditure from Endowment	188,800	3,043,112
TOTAL	188,800	3,043,112
III Surplus/ Excess of Income over Expenditure (I-II)	3,034,549	(730,443)
<p>Notes to Accounts & Significant Accounting Policies 1</p> <p>The notes referred to above are an Integral Part of the Financial Statements</p>		
Asstt Accounts Officer	Accounts Officer	
Associate Dean	Dean	

<p style="text-align: center;"> ENDOWMENT FUND RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES ANSARI NAGAR, DELHI-110029 Schedules to account for the year ended 31st March, 2022 </p>		
Particulars	31-Mar-2022 (Rupees)	31-Mar-2021 (Rupees)
2 Corpus Funds		
Opening Balance (General)	89,113,929	72,344,372
Add: Additions During the Year	1,000,000	17,500,000
Add: Surplus/Deficit for the year	3,034,549	(730,443)
TOTAL	93,148,478	89,113,929
3 Investments		
FD (Union Bank)	17,500,000	15,000,000
FD (Meera Seth)	25,000,000	25,000,000
FD (Others)	31,066,813	35,000,000
FD (Corporation Bank)	20,999,999	-
TOTAL	94,566,812	75,000,000
4 Cash and Bank Balances		
Cash in Hand	-	-
State Bank Of India	19,770,465	14,113,929
TOTAL	19,770,465	14,113,929
Asstt Accounts Officer	Accounts Officer	
Associate Dean	Dean	

ENDOWMENT FUND
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES
ANSARI NAGAR, DELHI-110029

Schedule to the Accounts as at 31st March, 2022

1. NOTES TO ACCOUNTS

- (i) Grants are accounted on realization basis.
- (ii) The financial statements are prepared in the light of the provisions of Indian Accounting Standard 12 "Accounting for Government Grants".
- (iii) The Income/Revenue approach defined under the AS 12 has been followed in the preparation of these financial statements.
- (iv) The equipments purchased for the project are treated as revenue expenditure.

AIIMS- DEPARTMENT OF GERIATRIC MEDICINE
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES
ANSARI NAGAR, DELHI-110029

Balance Sheet as at 31st March, 2022

Particulars	Note No.	31-Mar-2022 (Rupees)	31-Mar-2021 (Rupees)
CAPITAL AND LIABILITIES			
Corpus Fund	2	2,513,451	4,542,301
		2,513,451	4,542,301
Current Liabilities			
Duties and Taxes	3	430	-
Sundry Creditors		23,369	306,941
Other Current Liabilities	4	(305,250)	(61,627)
		(281,451)	245,314
TOTAL		2,232,000	4,787,615
ASSETS			
Non-Current Assets			
Fixed Assets	5	1,329,487	1,329,487
		1,329,487	1,329,487
Current Assets			
Cash and Bank Balances	6	902,513	3,458,128
		902,513	3,458,128
TOTAL		2,232,000	4,787,615
Notes to Accounts & Significant Accounting Policies 1			
The notes referred to above are an Integral Part of the Financial Statements			
Asstt Accounts Officer		Accounts Officer	
Chief (Geriatric Medicine)			

AIIMS- DEPARTMENT OF GERIATRIC MEDICINE
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES
ANSARI NAGAR, DELHI-110029

Statement of Income and Expenditure account for the year ended 31st March, 2022

Statement of Income and Expenditure Accounts for the year ended 31st March, 2022		
Particulars	31-Mar-2022 (Rupees)	31-Mar-2021 (Rupees)
I Income		
Grant	-	-
Interest Income	56,546	154,822
TOTAL	56,546	154,822
II Expenses		
Salaries	1,772,389	3,488,313
Contingencies	35,827	873,169
Supplies & Materials	277,180	
TOTAL	2,085,396	4,361,482
III Surplus/ Excess of Income over Expenditure (I-II)	(2,028,850)	(4,206,660)
 Notes to Accounts & Significant Accounting Policies		

AIIMS- DEPARTMENT OF GERIATRIC MEDICINE
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES
ANSARI NAGAR, DELHI-110029

Schedules to account for the year ended 31st March, 2022

Particulars	31-Mar-2022 (Rupees)	31-Mar-2021 (Rupees)
2 Earmarked Funds		
Opening Balance	4,542,301	8,748,961
Add: Surplus/Deficit for the year	(2,028,850)	(4,206,660)
TOTAL	2,513,451	4,542,301
3 Duties & Taxes		
TDS Payable	430	-
TOTAL	430	-
4 Other Current Liabilities		
EHS Payable	(2,900)	(1,100)
RDA Payable	(755)	(680)
Salaries Payable	(302,160)	(60,432)
SYS POT Fund Payable	565	585
TOTAL	(305,250)	(61,627)
5 Fixed Assets		
Computer	190,780	190,780
Furniture	817,833	817,833
Machinery and Equipments	194,513	194,513
Media Projector	105,361	105,361
Printer	21,000	21,000
TOTAL	1,329,487	1,329,487
6 Cash and Bank Balances		
Cash in Hand	-	-
State Bank Of India	902,513	3,458,128
TOTAL	902,513	3,458,128
Asstt Accounts Officer	Accounts Officer	
Chief (Geriatric Medicine)		

AIIMS- DEPARTMENT OF GERIATRIC MEDICINE
RESEARCH SECTION, ALL INDIA INSTITUTE OF MEDICAL SCIENCES
ANSARI NAGAR, DELHI-110029

Schedule to the Accounts as at 31st March, 2022

1. NOTES TO ACCOUNTS

- (i) Grants are accounted on realization basis.
- (ii) The financial statements are prepared in the light of the provisions of Indian Accounting Standard 12 "Accounting for Government Grants".
- (iii) The Income/Revenue approach defined under the AS 12 has been followed in the preparation of these financial statements.
- (iv) The equipments purchased for the project are treated as revenue expenditure.

Asstt Accounts Officer

Accounts Officer

Chief (Geriatric Medicine)

ALL INDIA INSTITUTE OF MEDICAL SCIENCES , NEW DELHI					
Receipts and Payment accounts of General Provident Funds for the Financial year 2021-22					
Receipts	21-22	2020-21	Payments	2021-22	2020-21
Opening Balance	98095140	117139269	GPF Withdrawal	1366490698	1451782716
Subscription/Receipts	1189912065	1466914831	Investment during the year	646730244	1481091851
Interest	530120818	496918026	Bank Charges	2419	2419
Investment Maturity	340198143	950000000	Closing Balance	145102805	98095140
Total	2158326166	3030972126	Total	2158326166	3030972126

INCOME AND EXPENDITURE STATEMENT OF GENERAL PROVIDENT FUNDS OF AIIMS FOR THE Financial year 2021-22					
Expenditure	2021-22	2020-21	Income	2021-22	2020-21
Interest paid on Subscription	542403363	512232359	Interest received	530120818	496918026
Bank Charges	2419	2419	Add. adj. of subscription		30510097
Excess of income over expenditure		15193345	Excess of Exp. Over Income with	12284964	
Total	542405782	527428123	Total	542405782	527428123

Accounts officer

F&CAO

ALL INDIA INSTITUTE OF MEDICAL SCIENCES , NEW DELHI
BALANCE SHEET OF GENERAL PROVIDENT FUNDS FOR THE AIIMS AS ON 31st MARCH 2022

Liabilities	2021-22	2020-21	Assets	2021-22	2020-21
Opening Balance(GPF)	7552212622	7055358245	Investment Opening Balance	7097988998	6566897147
GPF Sub. Recd. During the year	1189912065	1466914831	Add: investment made	646730244	1481091851
Adj; less adj.of subscription	0	30510097	Less: investment Maturity	340198143	950000000
Add: Interest Credited to GPF Account	542403363	512232359			
Less: Withdrawal /Payment	1366490698	1451782716	Total	7404521098	7097988998
			Cash Book closing balance	145102805	98095140
			Add: excess of expenditure over income during the year 20-21	356128485	371321830
			Add: excess of expenditure over income during the year	12284964	15193345
Total	7918037352	7552212622	Total	7918037352	7552212622

Accounts officer

F&CAO

13.2. Audit Report

The point wise replies to Separate Audit Report of All India Institute of Medical Sciences, New Delhi for the year ending 31.03.2022

A. Income & Expenditure Account

A.1 Overstatement of expenditure

An amount of ₹1.28 crore was paid to M/s HITES by National Cancer Institute, Jhajjar as advance for procurement of emergency equipment, however, the amount of advance was booked as expenditure during the year instead of as advance under Schedule-11 (Current Assets, Loans & Advances). This has resulted in overstatement of Expenditure and understatement of Current Assets by Rs 1.28 crore.

That an advance of Rs 1.28 crore was paid to M/s HITES as advance for procurement of emergency equipment on 07.09.2021. While preparing the annual statement of accounts, this amount was inadvertently shown as expenditure instead of advance under the head of creation of capital assets. However, the said advance was adjusted and capitalized in the same financial year.

A.2 Incorrect/less charging of depreciation

In Schedule-8 (Fixed Assets), an amount of Rs 38.39 crore has been depicted as depreciation on the fixed assets charged during the year. As AIIMS started charging of depreciation from the year 2020-21 and no depreciation on the fixed assets acquired prior to 2020-21 had been charged. As AIIMS was charging depreciation on Straight Line Method (SLM), the depreciation for the year 2021-22 cannot be less than the figure of depreciation charged during the year 2020-21. However, it has been noticed that the depreciation charged by the two centres namely, Dr B.R. Ambedkar IRCH and Dr RP Centre is less than the amount of depreciation charged during the year 2020-21 as detailed below:

(Amount in Rs)

Name of the Centre	Amount of depreciation charged in 2020-21	Amount of depreciation charged during 2021-22	Remarks
Dr BRAIRCH	43820578	3269105	Depreciation has been charged on the assets acquired during current year only.
Dr RPC	28000150	11833136	Details of the calculation sheet of depreciation has not been made available to audit

This has resulted in to the overstatement of fixed assets and understatement of expenditure to the same extent.

Necessary rectification will be carried out in the Annual Accounts of Financial Year i.e 2022-23.

B. General

B.1 Difference between the figures in Annual Accounts and the figure as per records/files

There are the differences in the figures included in the Annual accounts and the figure actually as per records/files as detailed below:

Name of the account	Head	As per accounts	As per records
Revolving fund	Opening balance	104.97 lakh	95.74 lakh
	Receipts during the year	851.36 lakh	887.49 lakh
	Expenditure during the year	635.31 lakh	635.20 lakh
	Closing balance 31-03-22	321.02 lakh	348.03 lakh
Post-partum Program	Opening balance 01-04-2021	1.72 lakh	1.93 lakh
	Receipts during the year	7.00 lakh	7.00 lakh
	Expenditure during the year	0.45 lakh	2.27 lakh
	Closing balance	8.27 lakh	6.66 lakh
HEFA Loan Outstanding (sch-04)	Closing balance as on 31-03-22	269.64 crore	269.54 crore

The difference in figures needs to be reconciled.

That efforts are being made to reconcile the figure and necessary rectifications will be carried out in the Annual Accounts of the Financial Year i.e 2022-23

B.2 Previous year figures not brought forward correctly - Figures in following heads of Schedule-8 (Fixed Assets) of the annual accounts for the year 2020-21 have not been taken correctly in the annual accounts for the current year :

(Amount in Rs)

Head of account	Opening balance shown in annual accounts for the year 2021-22	Actual closing balance shown in annual accounts for the year 2020-21
Plant Machinery and Equipment	33692094978	33692144379
Vehicles	82397838	81441883
Furniture and Fixture	58501351	58821865
Computer/Peripherals	255788940	256374980

This needs to be reconciled and accuracy of the figures should be ensure while preparation of annual accounts.

Necessary rectification will be carried out in the Annual Accounts of Financial Year i.e 2022-23.

B.3 Non-accounting of the gifted assets - As per Fixed Assets register, National Cancer Institute had received a huge number of fixed assets/items as donation during the year 2021-22. The same has not been depicted as addition of fixed asset under Schedule-8. The value of these items was not provided to the audit.

Necessary rectification will be carried out in the Annual Accounts of Financial Year i.e 2022-23.

B.4 Non-maintenance of asset register - Schedule 8-‘Fixed Assets’, of the annual accounts of the AIIMS (Main) and other centres of the AIIMS disclosed assets valued at Rs.7070.37 crore as on 31 March 2022. However, an Assets Register required to be maintained in Form GFR-22 under General Financial Rules 2017 has been maintained by the AIIMS only for the assets acquired during 2020-21 and 2021-22. In the absence of Assets Register for all the assets, the value of assets acquired prior to 2020-21, could not be verified in audit.

That in compliance to audit observation for the year 2019-2020, efforts are being made to prepare the Assets Register against the procurement of assets prior to 2020-21.

B.5 Old advances: An amount of Rs.1350.27 crore has been depicted under the head ‘Income Accrued - Others’ in the Schedule-11B (Loans, Advances and other Assets). However, the amount pertains to various advances capital or revenue against which either supply of goods/services are pending. Thus, the booking of the amount under the head income accrued is not correct. Further, out of the total amount as depicted above, Rs. 1327.00 crore pertains to AIIMS (Main) and most of these advances are very old and figuring in the annual accounts without any addition/adjustments during the year 2021-22 as details below:

- 41 numbers of Advances amounting to Rs. 38.27 crore are being reflecting continuously in the current assets without any change in the figure, i.e there is no addition/adjustment in the advances for more than six years
- 31 numbers of advances amounting to Rs. 19.60 crore are being reflecting continuously in the current assets without any change in the figure, i.e there is no addition or adjustment in the advances for five years
- 18 numbers of advances amounting to Rs 160.77 crore are being reflecting continuously in the current assets without any change in the figure i.e there is no addition or adjustment in the advances for four years
- 13 numbers of advances amounting to Rs. 22.22 crore are being reflecting continuously in the current assets without any change in the figure i.e there is no addition or adjustment in the advances for three years
- 15 numbers of advances amounting to Rs. 70.68 crore are being reflecting continuously in the current assets without any change in the figure i.e there is no addition or adjustment in the advances for two years.

The detailed records of these advances was called for but awaited till the completion of audit. Further, similar observation (Comment No. C.3) was issued to AIIMS on accounts of AIIMS for the year 2020-21. However, no remedial action has been taken by the AIIMS.

That an amount of Rs 796.66 crore was adjusted during the FY 2021-22. Efforts are being made to adjust remaining amount during current FY 2022-23. Compliance will be shown to next audit.

B.6 An amount of Rs. 455.06 crore has been depicted under Current Liabilities and Provision (Schedule-7) of the AIIMS (Main) accounts. Examination of these liabilities revealed that in 18 numbers of items of liabilities, the amount is unchanged from the period from two year to six or more years as detailed below:

- Eight numbers of liabilities having amounts of Rs.56 lakh is showing without any addition or adjustments from more than seven years
- Three numbers of liabilities having amount of ₹ 43 lakh is showing in the account without any addition/adjustment from four years.

- c) Two number of liabilities having amount ₹ 5.87 crore is showing in the account without any addition/adjustment from five years.
- d) One liability having unadjusted amount of Rs.5.62 crore are showing in the account without any addition/adjustment from four years.
- e) Three numbers of liabilities having unadjusted amount of Rs.1.89 crore are showing in the account without any addition/adjustment from three years.
- f) One liability having unadjusted amount of Rs.113.24 crore is showing in the account without any addition/adjustment from two years

That major portion of outstanding liabilities is funds received from various funding agencies for research purpose. Fund is transferred to respective research projects on demand of funds by Projects incharge which is continuous process. However, efforts are being to liquidate the liabilities.

B.7 Non-maintenance of consolidated receipts and payments accounts - The AIIMS has not prepared the consolidated Receipts and Payments accounts for the year 2021-22.

That in term of Para 6 of AS-21, Consolidated financial statements normally include consolidated balance sheet, consolidated statement of profit and loss, and notes, other statements and explanatory material that form an integral part thereof. Consolidated cash flow statement is presented in case a parent presents its own cash flow statement. The consolidated financial statements are presented, to the extent possible, in the same format as that adopted by the parent for its separate financial statements. Accordingly, to consolidate of the Receipt and Payment Accounts is not a mandatory required.

B.8 An amount of Rs.597.30 crore has been depicted as other current liabilities in the Schedule-7, it included Rs. 580.60 crore pertains to the AIIMS (Mains). Out of the total amount of Rs,580.60 crore, details of liabilities amounting to Rs.235.20crore (Research – Rs.121.95crore;Scheme Cell – Rs.1 lakh and Non-Institute Schemes – Rs.113.24 crore) have not been provided to audit.

That efforts are again being made to reconcile the figure and necessary rectifications will be carried out in the Annual Accounts of the financial year 2022-23.

B.9 Adverse Balances - An adverse balance of Rs(-)3.46 crore has been depicted as opening balance under Patient Treatment Account (Main). An amount of ₹ 32.07 crore has been depicted as the amount received during the year 2021-22. The balances in this head needs to be reconciled.
An amount of ₹ (-)14.74 lakh has been depicted as Staff - Loans under Schedule - 11 B (Loan and Advances and other assets). The balances in this head may be reconciled.

Necessary rectification will be carried out in the Annual Accounts of 2022-23 after reconciliation

B.10 Double entry of a single payment

An amount of Rs.1327.00 crore has been depicted as other advances in the Schedule-11B (Loans, Advances and other Assets). Audit observed that the advance of Rs.2.45 crore released for Centre of Excellence and Advance Research for Childhood has been included twice in the annexure, therefore resulted into the overstatement of Current Assets by Rs. 2.45 crore.

Necessary rectification will be carried out in the Annual Accounts of 2022-23.

B.11 The provision of retirement benefit was not made on actuarial basis as per AS 15.

Necessary provision of retirement benefit will be made in the annual accounts of financial year 2022-2023.

B.12 AIIMS as per its accounting policy are not accounting for closing stock of stores and supplies in the accounts and treated it as final expenditure at the time of payment. This has the impact of substantial value of store and supplies remaining out of accounts. Thus, the non-inclusion of consumables in the Current Assets has resulted in understatement of Current Assets and overstatement of Expenditure to the same extent.

That the institute does not prepare the Trading Accounts as there is no commercial activity involved in the institute.

C. Grant-in-aid

AIIMS had received grants-in-aid from the Ministry of Health & Family Welfare during 2021-22. The details of funds received and expenditure thereof are given below:

(Rs. in crore)

Particulars	Opening balance	Receipt during the year	Total available funds	Expenditure	Unspent Balance
Salary	1.86	2010	2011.86	1999.70	12.16
General	-	963.14	963.14	1116.91	(153.77)
Capital	-	600	600	607.24	(7.24)
ECRP General	-	43	43	43	00
ECRP Salary	-	10	10	10	00
HEFA Loan Principal and Interest	-	79.26	79.26	78.30	0.96 (lapsed in the TSA)
Total	1.86	3705.40	3707.26	3855.15	(148.85)

The excess expenditure was met out from the internal receipts/resources of the AIIMS.

In addition of above, during the year, AIIMS had internal receipts of Rs.98.57 crore and also had unspent balance of ₹ 28.20 crore pertaining to the previous year.

D. Management Letter

Deficiencies included in the Management Letter are being reviewed for taking suitable recommended/correction action.

Annexure

1. Adequacy of internal audit system

During 2021-22, out of 144 units, only 16 units were planned and only 10 audited by the internal wing of the AIIMS. There was no internal audit manual.

Target of Internal Audit was to conduct 16 audit units, however due to sudden outbreak of corona pandemic only 10 auditee units could be audited. It is also mentioned that out of 10 units, special audit of 9 units were conducted during the period. The target has been achieved by Internal Audit of the Institute despite shortage of manpower. Simultaneously, efforts are being made to strengthen the internal audit by putting more internal control system and enhancing the manpower in the Internal Audit.

2. Adequacy of Internal Control System

- 62 paras of external audit for the period from 1996-98 to 2018-19 were outstanding as on 31 March 2022
- The AIIMS was not maintaining fixed assets register as per the prescribed format for the assets acquired up to year 2019-20.

2 (i). Efforts are being made to settle the remaining old paras.

(ii) Reply has already been furnished in the Para B-4.

3. System of physical verification of Assets

The physical verification of fixed assets has been conducted up to 2021-22.

Physical Verification of the fixed assets for the period i.e 2021-22 has been carried out. Physical verification report of all the centres and most of the department have received. These physical verification reports also do not have any major deviation/shortages.

4. System of physical verification of inventory

The physical verification of inventory like books and publications, stationery and other consumable has been conducted up to 2021-22.

The physical verification of library, stationery store and consumable has been carried out upto 2021-22. Physical verification report of all the centers and most of the departments have received. These physical reports also do not have any major deviation/shortages.

5. Regularity in payment of dues

As per accounts, no payments for over six months in respect of statutory dues were outstanding as on 31.03.2022.

Factual status. No comments.



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