

## 1. Director's Review

I feel privileged to present the Fifty-seventh Annual Report and audited statement of accounts for the year 2012–2013. The accomplishments and achievements of the All India Institute of Medical Sciences (AIIMS), New Delhi reflect a shared dedication of the members of the AIIMS fraternity, from the researchers who advance our understanding of the causes of ill health, to the educators who train new generations of physician and scientists, the practitioners whose services change people's lives, and the staff that supports a common vision. I am pleased to highlight in this report a few of our remarkable accomplishments.

Established in 1956 by an Act of the Indian Parliament with the objective of developing a strong curricular foundation for undergraduate and postgraduate healthcare education in India, the Institute continually seeks to achieve a high standard of healthcare education, research and service. It is recognized, in India and globally, as a medical institution that best combines excellent medical education with cutting edge research and quality healthcare at affordable cost.

### **Education**

AIIMS has 52 teaching Departments and Centres, and manpower of over 10,000 including over 500 faculty members, who are supported by resident doctors, nurses, paramedics, scientists, non-medical officers and staff. It produces a large number of specialists (MD/MS), super-specialists (DM/MCh), PhD scholars and allied health and basic sciences experts, including nurses and paramedical professionals. New post-graduate courses were started last year in pulmonary medicine, surgical oncology and geriatric medicine.

AIIMS continuously analyses how medicine and science are taught so as to nurture a passion for scholarship and innovation. During the last few years, newer skill acquisition methods through medical simulation systems for medical education including practical skill development in experimental laboratories and surgical situation were put in place for the benefit of the students and resident doctors. The Department of Anatomy has established a state of the art eLearning facility. By establishing a plastination facility, the department was also able to overcome the shortage of bodies that are needed for practical teaching of gross anatomy. The Neurosurgery Department set up a Neurosurgery Education and Training School (NETS) and Neurosurgery Skills Training Facility (NSTF) in collaboration with IIT-Delhi to disseminate information about the surgical management of diseases involving the central nervous system and to conduct cutting edge research. These facilities will focus on development of skills training modules and curriculum, global e-Learning platform, computerized evaluation of neurosurgery skills and virtual reality simulation platforms.

Our scholars are leading institutes of medicine, science and education and biomedical laboratories in India and abroad for the past many decades. They have also served on many national expert groups on healthcare issues. It is due to this single-minded devotion to developing dynamic leaders with creativity, intellectual rigour and professionalism, that AIIMS has retained its position at the top of the India Today's Best Medical Schools survey. Significantly, AIIMS is also in third place behind IISc, Bengaluru and IIT, Mumbai in the list of the Times Higher Education India Reputation Rankings. The ranking is an indicator of global academic prestige in teaching and research, and is based on the results of a survey of over 16,600 academics from across the globe. It is, therefore, not surprising that the central government has recently opened MBBS courses modelled on our curriculum in six new AIIMS in different states. AIIMS conducted the entrance examination for selection of students to the MBBS course for these 6 new AIIMS at Rishikesh, Bhubaneswar, Bhopal, Raipur, Jodhpur and Patna. AIIMS is also playing a significant role in nurturing and mentoring these institutions. For example, consultative workshops were organized for directors of the 6 new AIIMS in emergency and trauma care to help standardise the technological platform in emergency care.

AIIMS offered Continuing Medical Education to thousands of physicians and healthcare professionals. The diverse portfolio provided extraordinary opportunities to maintain and improve skills, increase knowledge and improve performance. The Institute organized/hosted 161 workshops,

symposia, conferences and training programme in collaboration with various national and international agencies. The Jai Prakash Narain Apex Trauma Centre made significant contribution towards capacity building in India in both basic life support and advanced trauma life support in collaboration with the National Disaster Management Authority and the Ministry of Health and Family Welfare. The centre was also engaged in a major initiative to upgrade the knowledge and skill base of nurses and to give them empowered positions through formation of special cadres such as Nursing Informatic Specialists, Trauma Nurse Coordinators, Hospital Infection Control Nurses and Wound Care Nurses. This reorganization led to improvement in effectiveness and efficiency of clinical services, and to improved initiative and innovation in the academic sphere, indicated by the fact that nurses from the centre have won more than 70 awards for research in international and national meetings in the past 4 years. The Department of Surgical Disciplines trained more than 100 surgeons from all over the country in laparoscopic surgery at the Minimally Invasive Surgery Training Centre. The Telemedicine Facility was charged with developing novel ways to expand offerings to a wider and more diverse professional audience.

In an effort to foster a culture that values and promotes diversity inclusion, mentoring and service, AIIMS has initiated an honorary position of Professor-in-charge Students' Welfare to look after the interests of its diverse student community. It also organized various orientation programmes including an integrated self-enrichment orientation programme for fresh MBBS students.

### **Research**

AIIMS researchers contributed to numerous scientific advances in 2012–13. Over 508 research projects were conducted in 2012–13 and the institute attracted extramural research grants of over Rs 69 crores, an increase of over 6% from the previous year. Our faculty obtained significant international research grants in frontier and cutting edge biomedical areas such as structural biology, immunology, biotechnology, virology, neonatology, foetal medicine, epidemiology and cancer. More than 200 research projects were successfully completed this year. Hopefully, these projects would translate to benefit to our patients. During the year the faculty and scientists of the Institute published over 1600 research papers in national and international journals and about 250 monographs, chapters in books and books. Over 500 young scientists at different positions like research fellows, research associates and PhD students are engaged in major research projects.

AIIMS continues to be active in its partnership with the Wellcome Trust, the Department of Biotechnology, Department of Science and Technology and Indian Council of Medical Research, and Government of India, to support research and develop projects that would provide innovative healthcare products at affordable costs. The Stanford-India Biodesign Programme funded by the Department of Biotechnology, Ministry of Science and Technology, and Stanford University is a successful initiative of this type. National bodies like the Indian Council for Medical Research and various ministries of the Government of India regularly request various departments of AIIMS to conduct studies on public health issues of national relevance.

AIIMS took up key initiatives to encourage integration and collaboration across disciplines to accelerate biomedical and scientific breakthroughs. The work on building a Convergence Centre, which will house state-of-the-art technology for research based on modern platforms is nearing completion. It will serve as a knowledge hub that will allow AIIMS to manage and store large volumes of clinical and research data and enhance our research capacity. Hopefully, it will foster broad clinical and translational collaborations towards identifying ways to speed new therapies to patients. The Neurosurgery Department set up a DBT Center of Excellence for Advanced Epilepsy in collaboration with the National Brain Research Center, Manesar.

Essential to the enterprise of advancing science at AIIMS is the constant drive to develop effective new methods for educating the next generation of scientists, so as to help them meet the needs of a rapidly evolving health care profession. To lead this effort, the Research Section has been augmented and reorganized under the Dean and Sub Dean, Research. Intramural grants of Rs 5 crores were disbursed to talented young faculty for undertaking 58 new research projects in diverse areas including cardiology, neurosciences, stem cell studies, drug designing, protein research, genetics and immunology. AIIMS felicitated 8 faculty members for their outstanding work and contribution to

health research. During the year, the Research Section took a number of steps to enhance research capacity by imparting training in research techniques using platform based technology. About 60 young faculty members were trained in cutting edge research areas of molecular medicine.

The German biochemist Robert Huber, who received the Nobel Prize in 1988 for his work on protein and its application in medicine, delivered the first AIIMS foundation day lecture. Professor Huber talked about his pioneering research work on proteins and their structures; and their position and role at the interface of Physics, Chemistry and Biology.

### **Clinical care**

The AIIMS main hospital and its centres - the Cardiothoracic and Neurosciences Centre (CN Centre), the Jai Prakash Narain Apex Trauma Centre (JPNATC), the Dr. B.R. Ambedkar Institute–Rotary Cancer Hospital (Dr. BRAIRCH), the Dr. Rajendra Prasad Centre for Ophthalmic Sciences (RPCOS), the Centre for Dental Education and Research (CDER), the Centre for Behavioural Sciences (National Drug Dependence Treatment Centre, NDDTC) - have a total bed strength of 2428, including day care beds. During the year 2012–2013, the Institute attended to about 28.8 lakh outdoor patients and 2.1 lakh inpatients and provided surgical intervention for close to 1.5 lakh patients, because of its efficient disbursement of services as reflected in various parameters of patient care services, e.g. average bed occupancy of about 85%, average hospital stay of about 5 days, and net death rate of below 2%. While AIIMS advances the delivery of health care in India, it is also taking a leadership role in service throughout the developing world. An increasing number of foreigners are coming for treatment to AIIMS, mostly from South and South-East Asia. This trend was particularly salient in the departments of neurosurgery, orthopaedics, oncology and surgery.

AIIMS is setting up a separate outpatient facility to cater to increased patient inflow at the main hospital. The Institute is also in the process (with the help of National Informatics Centre) of creating detailed on-line data management system for patients, to make services more patient- and environment-friendly. These efforts will improve patient care as doctors would be able to access data from all hospital sources instantly. AIIMS also plans to start an outlet under the Government of India's Jan Aushadhi scheme to provide generic medicines free of cost to patients. This will be in addition to the 24x7 pharmacy which sells medicines and surgical consumables prescribed by AIIMS at 56% discount on the maximum retail price. A night shelter with basic amenities such as a sleeping area, bathrooms and toilets was built to house about 300 patients to facilitate outpatients from other states.

The Outreach OPD of the second campus of the AIIMS was inaugurated at Jhajjar this year. The OPD provides General Medicine, Orthopaedics, Obstetrics and Gynaecology, Paediatrics, Ophthalmology, ENT, Anaesthesia and General Surgery services; supported by diagnostic and laboratory facilities, and a system of providing free generic medicines to outdoor patients. A National Cancer Institute (NCI) and a National Cardio Care Centre (NCCC) will also be set up at this campus.

AIIMS doctors and staff pooled their knowledge and creativity as never before in the service of alleviation of human suffering caused by ill health. The Department of Medicine has set up an Intermediate Reference Laboratory for diagnosis of Multi-drug resistant tuberculosis and a biosafety level-3 laboratory to conduct specialized tests for HIV and TB patients. The Department has also started a Rheumatology Day Care Centre with 6 dedicated beds to facilitate integrated treatment in the form of intravenous infusions of biological agents, pulse therapy and joint injections. The department of Neurology has started new procedures such as autonomic function and quantitative sensory testing. Orthopaedic surgeons have started computer-assisted total hip replacement procedures to ensure better quality of treatment to patients with hip joint damage. A fluid solution developed by RP Centre for Ophthalmic Sciences to preserve corneas promises to increase the window period for eye transplant (replacing a diseased or scarred cornea with a donor graft) from 4 to 14 days. The JPNA Trauma Centre is now equipped with Spine fixation under 'O' ARM control and Mobile CT Scan.

AIIMS policy experts provide critical insights into the design and delivery of the country's healthcare. The Institute's contribution to national programmes including the Integrated Child Development Services, Iodine Deficiency Disease Control Program, National Program for Control of Blindness, Reproductive and Child Health, Diarrheal disease, AIDS control and Non-communicable diseases is noteworthy. The National Drug Dependence Treatment Centre (NDDTC) in collaboration with the World Health Organization launched an E-portal —[www.alcoholwebindia.in](http://www.alcoholwebindia.in). It provides information for alcohol users, family members, policy-makers, professionals and the general public. The portal has a web-based self-help programme for people who wish to reduce or stop drinking. The NDDTC also launched a methadone maintenance treatment (MMT) programme in collaboration with the United Nations Office on Drugs and Crime (UNODC). Also, the NDDTC was requested by WHO to investigate the increasing trend of substance abuse in slum and street children, and to conduct Life Skills Training project at 15 non-governmental organizations (NGOs) in the country.

The Centre for Community Medicine is actively engaged in its mission to train leaders in primary care and health systems innovation, education and policy. Its faculty has many innovations to its credit in areas such as primary care, infectious disease, maternal and newborn health, non-communicable diseases and health systems. The centre is a part of ICMR's national task force project on healthcare access to poor migrants in 13 Indian cities. The inputs of this study will be crucial to the implementation of the forthcoming National Urban Health Mission (NUHM) in the country.

We are fully cognizant of the problem of long waiting lists for various imaging investigations and surgical procedures covering neurosurgery, cardiac surgery, orthopaedics, ENT, surgical oncology, video EEG, etc. The setting up of 7 AIIMS in different states will bring down the demand at AIIMS, New Delhi in times to come. We are also trying to enhance bed capacity and the turnover of patients by using day care procedures and increasing the operating time.

AIIMS has made sincere and ongoing effort to live up to the mandate given to it by the Parliament as it strives to assist the government in its endeavour to provide quality health care to the Indian people. The AIIMS fraternity reaffirms the pledge that it will not rest on its laurels, and that it will harmonize its intellect, fervour and inventiveness to shape the future of medicine.

Professor M. C. Misra  
Director, AIIMS

## 2. The Institute and its Committees

### INSTITUTE BODY

1. **Shri Ghulam Nabi Azad** President  
Union Minister for Health and Family Welfare  
Nirman Bhawan, New Delhi 110011
2. **Smt. Sushma Swaraj, MP (Lok Sabha)** Member  
8, Safdarjung Lane, New Delhi 110011
3. **Shri Motilal Vora, MP (Rajya Sabha)** Member  
33, Lodhi Estate, New Delhi 110011
4. **Dr Jyoti Mirdha, MP (Lok Sabha)** Member  
31, Meena Bagh, New Delhi  
875, Sector-17B, Gurgaon, Haryana 122001
5. **Professor Dinesh Singh** Member (Ex-Officio)  
Vice Chancellor, University of Delhi, Delhi 110007
6. **Shri P.K. Pradhan** Member  
Secretary (Health), Ministry of Health and Family Welfare  
Government of India, Nirman Bhawan, New Delhi 110011  
  
**Shri Keshav N. Desiraju** Member  
Secretary (Health), Ministry of Health and Family Welfare  
Government of India, Nirman Bhawan, New Delhi 110011  
(w.e.f. 20 March 2013)
7. **Dr Jagdish Prasad** Member (Ex-Officio)  
Director General of Health Services  
Government of India, Nirman Bhawan, New Delhi 110011
8. **Dr M.K. Bhan** Member  
Secretary, Department of Biotechnology, 7th Floor, Ministry of Science  
and Technology, CGO Complex, Lodhi Road, Block-II, New Delhi 110003
9. **Dr S.P. Agarwal** Member  
Secretary General, Indian Red Cross Society, Rafi Marg, New Delhi
10. **Professor K.C. Pandey** Member  
Department of Zoology, Lucknow University, Lucknow 226007
11. **Ms Vibha Puri Das** Member  
Secretary, Department of Higher Education, Ministry of  
Human Resource Development, Shastri Bhawan, New Delhi 110001  
(up to 27 May 2012)  
  
**Shri Ashok Thakur** Member  
Secretary, Department of Higher Education, Ministry of  
Human Resource Development, Shastri Bhawan, New Delhi 110001  
(w.e.f 27 July 2012)
12. **Professor K.K. Talwar** Member  
President, National Academy of Medical Sciences,  
Ansari Nagar, New Delhi 110029

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| 13. <b>Dr R.A. Badwe</b><br>Director, Tata Memorial Hospital, Dr E. Borges Road,<br>Lower Parel, Mumbai  | Member   |
| 14. <b>Dr Ramakant Panda</b><br>Vice Chairman, Asian Heart Institute, Bandra East,<br>Mumbai, Maharashtra  | Member   |
| 15. <b>Dr Abdul Hamid Zargar</b><br>Director, Sher-I-Kashmir Institute of Medical Sciences,<br>Soura, Srinagar 190011, Kashmir                       | Member   |
| 16. <b>Shri R.K. Jain</b><br>Additional Secretary and Financial Adviser, Ministry of<br>Health and Family Welfare, Nirman Bhawan, New Delhi 110011   | Member<br>(up to 29 August 2012)                             |
| <b>Shri Rajiv Takru</b><br>Additional Secretary and Financial Adviser, Ministry of<br>Health and Family Welfare, Nirman Bhawan,<br>New Delhi 110011  | Member<br>(8 October 2012 to<br>31 January 2013)             |
| <b>Shri S.K. Srivastava</b><br>Additional Secretary and Financial Adviser, Ministry of<br>Health and Family Welfare, Nirman Bhawan, New Delhi 110011 | Member<br>(w.e.f. 20 March 2013)                             |
| 17. <b>Professor R.C. Deka</b><br>Director, All India Institute of Medical Sciences  | Member Secretary   |
| 18. <b>Shri Debasish Panda</b><br>Joint Secretary, Ministry of Health and Family Welfare,<br>Nirman Bhawan, New Delhi 110011                         | Special Invitee<br>(up to 13 April 2012)                     |
| <b>Dr Vishwas Mehta</b><br>Joint Secretary, Ministry of Health and Family Welfare,<br>Nirman Bhawan, New Delhi 110011                                | Special Invitee<br>(up to 14 April 2012 to<br>19 March 2013) |
| <b>Dr Sundeep Kumar Nayak</b><br>Joint Secretary, Ministry of Health and Family Welfare,<br>Nirman Bhawan, New Delhi 110011                          | Special Invitee<br>(w.e.f. 20 March 2013)                    |
| 19. <b>Dr Rani Kumar</b><br>Dean, All India Institute of Medical Sciences  | Special Invitee<br>(up to 30 April 2012)                     |
| <b>Dr Shashi Wadhwa</b><br>Dean, All India Institute of Medical Sciences   | Special Invitee<br>(w.e.f. 1 May 2012)                       |
| 20. <b>Dr D.K. Sharma</b><br>Medical Superintendent, All India Institute of Medical Sciences   | Special Invitee  |

#### GOVERNING BODY

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|---|----------|
| 1. <b>Shri Ghulam Nabi Azad</b>               | Chairman |
| 2. <b>Smt. Sushma Swaraj, MP (Lok Sabha)</b>  | Member   |
| 3. <b>Shri Motilal Vora, MP (Rajya Sabha)</b> | Member   |

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| 4. <b>Ms Vibha Puri Das</b>     | Member<br>(up to 27 May 2012)                                 |
| <b>Shri Ashok Thakur</b>        | Member<br>(w.e.f. 30 August 2012)                             |
| 5. <b>Shri P.K. Pradhan</b>     | Member<br>(up to 31 January 2013)                             |
| 6. <b>Professor K.K. Talwar</b> | Member  |
| 7. <b>Dr R.A. Badwe</b>         | Member  |
| 8. <b>Dr Jagdish Prasad</b>     | Member  |
| 9. <b>Dr S.P. Agarwal</b>       | Member  |
| 10. <b>Shri R.K. Jain</b>       | Member<br>(up to 29 August 2012)                              |
| <b>Shri Rajiv Takru</b>         | Member<br>(w.e.f. 9 January 2013 to<br>31 January 2013)       |
| 11. <b>Professor R.C. Deka</b>  | Member Secretary  |
| 12. <b>Shri Debasish Panda</b>  | Special Invitee<br>(up to 13 April 2012)                      |
| <b>Dr Vishwas Mehta</b>         | Special Invitee<br>(w.e.f. 14 April 2012 to<br>19 March 2013) |
| <b>Dr Sundeep Kumar Nayak</b>   | Special Invitee<br>(w.e.f. 20 March 2013)                     |
| 13. <b>Dr Rani Kumar</b>        | Special Invitee<br>(up to 30 April 2012)                      |
| <b>Dr Shashi Wadhwa</b>         | Special Invitee<br>(w.e.f. 1 May 2012)                        |
| 14. <b>Dr D.K. Sharma</b>       | Special Invitee   |

#### **STANDING FINANCE COMMITTEE**

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|---|-------------------------------------|
| 1. <b>Shri P.K. Pradhan</b>                   | Chairman<br>(up to 31 January 2013) |
| 2. <b>Shri Motilal Vora, MP (Rajya Sabha)</b> | Member                              |
| 3. <b>Dr Jagdish Prasad</b>                   | Member                              |
| 4. <b>Shri R.K. Jain</b>                      | Member<br>(up to 29 August 2012)    |

<b>Shri Rajiv Takru</b>	Member (w.e.f. 9 January 2013 to 31 January 2013)
5. <b>Ms Vibha Puri Das</b>	Member (up to 27 May 2012)
<b>Shri Ashok Thakur</b>	Member (w.e.f. 30 August 2012)
6. <b>Dr S.P. Agarwal</b>	Member
7. <b>Professor Dinesh Singh</b>	Member
8. <b>Professor R.C. Deka</b>	Member Secretary
9. <b>Dr Rani Kumar</b>	Special Invitee (up to 30 April 2012)
<b>Dr Shashi Wadhwa</b>	Special Invitee (w.e.f. 1 May 2012)
10. <b>Shri Debasish Panda</b>	Special Invitee (up to 13 April 2012)
<b>Dr Vishwas Mehta</b>	Special Invitee (w.e.f. 14 April 2012 to 19 March 2013)
<b>Dr Sundeep Kumar Nayak</b>	Special Invitee (w.e.f. 20 March 2013)

#### **STANDING ACADEMIC COMMITTEE**

1. <b>Dr Jagdish Prasad</b>	Chairman (w.e.f. 25 July 2012)
2. <b>Dr Jyoti Mirdha, MP (Lok Sabha)</b>	Member
3. <b>Professor Dinesh Singh</b>	Member
4. <b>Dr M. K. Bhan</b>	Member
5. <b>Ms Vibha Puri Das</b>	Member (up to 27 May 2012)
<b>Shri Ashok Thakur</b>	Member (w.e.f. 30 August 2012)
6. <b>Dr Ramakant Panda</b>	Member
7. <b>Professor K.C. Pandey</b>	Member
8. <b>Dr Abdul Hamid Zargar</b>	Member

9. **Professor R.C. Deka** Member Secretary

#### **STANDING SELECTION COMMITTEE**

1. **Dr R.A. Badwe** Chairman
2. **Dr Jagdish Prasad** Member
3. **Ms Vibha Puri Das** Member  
(up to 27 May 2012)
- Shri Ashok Thakur** Member  
(w.e.f. 30 August 2012)
4. **Dr M.K. Bhan** Member
5. **Professor K.K. Talwar** Member
6. **Dr Ramakant Panda** Member
7. **Dr Abdul Hamid Zargar** Member
8. **Professor R.C. Deka** Member Secretary

#### **STANDING ESTATE COMMITTEE**

1. **Dr S. P. Agarwal** Chairman
2. **Dr Jyoti Mirdha, MP (Lok Sabha)** Member
3. **Shri R.K. Jain** Member  
(up to 29 August 2012)
- Shri Rajiv Takru** Member  
(w.e.f. 9 January 2012 to  
31 January 2013)
4. **Dr M.K. Bhan** Member
5. **Professor R.A. Badwe** Member
6. **Dr Jagdish Prasad** Member
7. **Professor K.K. Talwar** Member
8. **Professor R.C. Deka** Member Secretary

#### **STANDING HOSPITAL AFFAIRS COMMITTEE**

1. **Shri Motilal Vora, MP (Rajya Sabha)** Chairman
2. **Dr Jyoti Mirdha, MP (Lok Sabha)** Member
3. **Dr R.A. Badwe** Member

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| 4. <b>Professor K. C. Pandey</b> | Member           |
| 5. <b>Dr Ramakant Panda</b>      | Member           |
| 6. <b>Professor K.K. Talwar</b>  | Member           |
| 7. <b>Dr Abdul Hamid Zargar</b>  | Member           |
| 8. <b>Professor R.C. Deka</b>    | Member Secretary |

### 3. Academic Section

**Dean**

Rani Kumar (up to 30 April 2012)

Shashi Wadhwa (w.e.f. 01 May 2012)

**Sub-Dean**

Rakesh Yadav

**Registrar**

Sanjay Kumar Arya

The Academic Section develops policy, plans and executes academic activities. 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.

#### 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 in various courses. The courses include MBBS, BSc (Hons) Medical Technology in Radiography and Ophthalmic Techniques, 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 from July 2004 onwards. The MBBS course is of 5½ years duration which comprises of 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

In the MBBS course, at present, every year 72 Indian students are admitted. There was provision for 5 foreign nationals till 2011. However, this year only 3 foreign nationals were admitted on the recommendations of Ministry of External Affairs, Government of India. For Indian nationals 72 seats were filled from various categories as below:

General	OBC	SC	ST
37	19	11	05

These selections were made based upon an All India entrance test organized by AIIMS, New Delhi. 3% reservation on horizontal basis was provided for Orthopaedic Physically Handicapped (OPH) candidates. For these 72 seats, 76014 applications were received and 58002 candidates appeared in the entrance examination held on 1 June 2012. The total number of MBBS students on rolls as on 31 March 2013 was 390 including 77 interns.

In this year, 6 meritorious MBBS students were awarded scholarships for securing first and second positions in first, second and final phase of examination.

#### Paramedical and Nursing Education

In 2012-13, 74 students (39 general, 10 SC, 6 ST and 19 OBC) were admitted for BSc (Hons) Nursing course. For BSc Nursing (Post-certificate) course, 24 students (16 general, 1 SC, 5 ST and 2 OBC) were admitted. For other undergraduate courses, i.e. BSc (Hons) Ophthalmic Techniques, 19 students (10 general, 3 SC, 1 ST and 5 OBC) and in BSc (Hons) Medical Technology in Radiography, 9 students (5 general, 1 SC, 1 ST and 2 OBC) were admitted. The number of students on rolls in these courses as on 31 March 2013 was:

Course	Number of students
<b>Nursing</b>	
BSc Nursing (Post Certificate)	47
BSc (Hons.) Nursing	255
<b>Paramedical</b>	
BSc (Hons) Ophthalmic Techniques	40
BSc (Hons) Medical Technology in Radiography	25

### 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 PhD, DM, MCh, MD, MS, MDS, MHA, MBiotech and MSc courses in different disciplines.

The admissions to all postgraduate courses for Indian nationals as well as sponsored candidates are made through an All India Entrance Examination which is held twice a year for all postgraduate courses except MSc and MBiotechnology courses, for which the examination is held once in a year. Under sponsored category, foreign nationals are admitted through the same entrance examination test. In 2012–13, 538 students (including 15 Indian sponsored and 16 foreign nationals) were admitted to various courses. The number of postgraduate and doctoral students on roll as on 31 March 2013 was 1349.

#### Details of admissions in various courses in 2012–2013

S. No.	Name of course	July 2012	January 2013	Total
1	MSc/MBiotech/MSc Nursing	58	0*	58
2	MD/MS/MDS/MHA	175	129	304
3	DM/M.Ch	42	42	84
4	PhD	49	43	92
	<b>Total</b>	<b>324</b>	<b>214</b>	<b>538</b>

\*Admissions are done once a year

#### Details of postgraduate student on rolls as on 31 March 2013

S. No.	Name of course	Number of students enrolled
1	PhD	403
2	DM	142
3	MCh	69
4	MD/MHA	556
5	MS	82
6	MDS	39
7	MSc/MBiotech/MSc Nursing	58
	<b>Total</b>	<b>1349</b>

#### Subject wise distribution of PhD students on rolls as on 31 May 2013

S.No.	Subject	Open	Sponsored
1	Anatomy	22	0
2	Biochemistry	42	0
3	Biophysics	39	0
4	Biostatistics	4	0
5	Biotechnology	8	0
6	Cardiac Anesthesiology	Nil	1
7	Cardiac Biochemistry	1	0
8	Cardiac Radiology	1	0
9	Cardiothoracic and Vascular Surgery	3	0
10	Community Medicine	1	0
11	Community Ophthalmology (Dr RP Centre)	3	0
12	Dental Surgery	3	0

13	Dermatology and Venereology	3	0
14	Emergency Medicine	2	0
15	Endocrinology and Metabolism	12	0
16	Forensic Medicine	4	0
17	Gastroenterology and Human Nutrition Unit	5	1
18	Geriatric Medicine	1	0
19	Haematology	10	0
20	Laboratory Medicine	15	0
21	Medical Oncology (Dr BRA IRCH)	3	0
22	Medical Physics (Dr BRA IRCH)	5	0
23	Medicine	9	0
24	Microbiology	27	0
25	Neuro Anaesthesiology	Nil	1
26	Neuro Biochemistry	6	0
27	Neuro Psychology (Neurosciences)	3	0
28	Neurology	13	0
29	Neuro-Surgery	5	1
30	Nuclear Magnetic Resonance	8	0
31	Nuclear Medicine	4	0
32	Obstetrics and Gynaecology	1	2
33	Ocular Biochemistry (Dr RP Centre)	3	0
34	Ocular Microbiology (Dr RP Centre)	2	0
35	Ocular Pathology (Dr RP Centre)	2	0
36	Ocular Pharmacology (Dr RP Centre)	3	0
37	Ophthalmology (Dr RP Centre)	7	2
38	Otorhinolaryngology	1	0
39	Paediatric Surgery	1	0
40	Paediatrics	24	1
41	Pathology	12	0
42	Pharmacology	14	0
43	Physiology	26	1
44	Psychiatry	12	0
45	Radiation Oncology	Nil	3
46	Reproductive Biology	4	0
47	Surgery	Nil	4
48	Transplantation Immunology and Immunogenetics	11	1
	<b>Total</b>	<b>385</b>	<b>18</b>

**Subject wise distribution of DM students on rolls as on 31 March 2013**

S. No.	Subject	Open	Sponsored
1	Cardiac Anaesthesiology	6	3
2	Cardiology	16	3
3	Clinical Haematology	6	2
4	Endocrinology	8	2
5	Gastroenterology	10	3
6	Haemato-Pathology	4	1

7	Medical Oncology	12	0
8	Neonatology	4	2
9	Nephrology	8	5
10	Neuro-Anaesthesiology	8	3
11	Neurology	15	3
12	Neuroradiology	3	0
13	Paediatric Neurology	6	2
14	Clinical Pharmacology	2	1
15	Pulmonary Medicine and Sleep Disorders	4	0
	<b>Total</b>	<b>112</b>	<b>30</b>

#### Subject wise distribution of MCh students on rolls as on 31 March 2013

S. No.	Subject	Open	Sponsored
1	Cardiothoracic and Vascular Surgery	13	2
2	Neurosurgery	17	2
3	Gastrointestinal Surgery and Liver Transplantation	11	3
4	Paediatric Surgery	4	3
5	Urology	8	1
6	Surgical Oncology	4	1
	<b>Total</b>	<b>57</b>	<b>12</b>

#### Subject wise distribution of MD/MS/MDS students on rolls as on 31 March 2013

S. No.	Subject (MD)	Open	Sponsored
1	Anaesthesiology	36	2
2	Anatomy	18	0
3	Biochemistry	14	0
4	Biophysics	12	0
5	Community Medicine	23	0
6	Dermatology and Venereology	14	3
7	Forensic Medicine	9	0
8	Hospital Administration (MHA)	6	2
9	Laboratory Medicine	9	0
10	Medicine	55	3
11	Microbiology	14	0
12	Nuclear Medicine	13	3
13	Obstetrics and Gynaecology	37	3
14	Ophthalmology	110	1
15	Paediatrics	28	3
16	Pathology	22	1
17	Pharmacology	13	0
18	Physical Medicine and Rehabilitation	7	0
19	Physiology	18	0
20	Psychiatry	30	2
21	Radiodiagnosis	24	3
22	Radiotherapy	9	0
23	Geriatric Medicine	5	1

24	Emergency Medicine	3	0
	<b>Total</b>	<b>529</b>	<b>27</b>
	<b>Subject (MS)</b>		
25	Orthopaedics	18	2
26	Otorhinolaryngology (ENT)	14	2
27	Surgery	44	2
	<b>Total</b>	<b>76</b>	<b>6</b>
	<b>Subject (MDS)</b>		
28	Conservative Dentistry and Endodontics	9	1
29	Orthodontics	9	3
30	Prosthodontics	8	0
31	Oral and Maxillofacial Surgery	8	1
	<b>Total</b>	<b>34</b>	<b>5</b>
	<b>Grand Total</b>	<b>639</b>	<b>38</b>

#### Subject wise distribution of MSc students on rolls as on 31 March 2013

S. No.	MSc	Open	Sponsored
1	Anatomy	4	-
2	Biochemistry	3	1 (Foreign National)
3	Biophysics	0	-
4	Pharmacology	1	1 (Foreign National)
5	Physiology	3	-
6	Perfusion Technology	6	-
7	M Biotechnology	14	1 (Foreign National)
8	Nuclear Medicine Technology	0	-
	<b>Total</b>	<b>31</b>	<b>3</b>

#### Subject wise distribution of MSc (Nursing) on rolls as on 31 March 2013

S. No.	MSc (Nursing)	Open	Sponsored
1	Cardiological/CTVS Nursing	6	-
2	Neurosciences Nursing	6	-
3	Paediatric Nursing	7	-
4	Psychiatric Nursing	4	1 (Foreign National)
	<b>TOTAL</b>	<b>23</b>	<b>1</b>

#### TRAINING PROGRAMMES

There is a provision for short term, long term and elective training to students and employees from various organizations in India as well as abroad. During 2012-13, 851 persons underwent training as listed below:

S. No.	Training	No. of trainees
1	Short Term training: Indian nationals	714
2	Short Term training: Foreign nationals	47
3	Long Term training: Indian nationals	12
4	Elective Training: Foreign nationals (UG students)	54
5	WHO Fellows: Indian nationals	12
6	WHO Fellows: Foreign nationals	12
	<b>Total</b>	<b>851</b>

### COMMITTEE MEETINGS

The Academic Section is responsible for organizing meetings of the Academic committee, Staff Council, Dean's Committee, Faculty and Research Presentations. During 2012-13 the number of meetings held was as under:

1	Academic Committee	1
2	Staff Council	1
3	Dean's Committee	1
4	Faculty (General Discussions)	7
5	Research Presentations	6

### ORATIONS

The Academic Section organized the following Oration during 2012-13

S. No.	Name of Oration	Name of Orator	Date Time and Venue
1	23rd Sarveshwari Memorial Oration	Professor Juha Antero Hernesniemi, Chairman, Department of Neurosurgery, University of Helsinki	15 February 2013 at 4.00 PM in J.L. Auditorium, AIIMS

### CONVOCATION

The 40th Annual Convocation of the Institute was held on 16 October 2012 at the Jawaharlal Auditorium, AIIMS, New Delhi. The Hon'ble President of India, Shri Pranab Mukherjee addressed the Convocation. He distributed Institute Medals/Awards to the outstanding meritorious students and delivered convocation address. The President, AIIMS and Hon'ble Minister of Health and Family Welfare, Government of India, Shri Ghulam Nabi Azad distributed the degrees.

## 4. Examination Section

### Professor-Incharge (Exams)

Kaushal K. Verma

### Sub-Dean (Exams)

Nand Kumar

### Assistant Controller of Exams

A.K. Gigoo

### Accounts Officer

S.K. Tikoo

The details of various professional examinations conducted by the section from 1 April 2012 to 31 March 2013 are given below

### Postgraduate and Undergraduate Professional Examinations

S. No.	Month and year	Examination	Number of students			
			Appeared	Absent	Passed	Failed
1	May 2012	Final Postgraduate/Postdoctoral (MD/MS/MDS/DM/M.CH/MHA)	158	-	148	10
2	-do-	MSc (Nursing) Phase I	19	-	19	-
3	-do-	MSc (Nursing) Phase II	19	-	19	-
4	-do-	Second MBBS (Supplementary)	16	02	09	05
5	-do-	Final MBBS (Supplementary)	09	03	06	-
6	-do-	BSc (Hons) Nursing Phase IV	59	-	59	-
7	-do-	BSc (PC) Nursing Phase II	22	-	22	-
8	-do-	BSc (PC) Nursing Phase I	23	-	22	01
9	-do-	BSc (Hons) Nursing Phase I	59	01	55	03
10	-do-	BSc (Hons) Nursing Phase III	56	-	56	-
11	-do-	BSc (Hons) Nursing Phase II	56	-	55	01
12	July 2012	BSc (Hons) Ophthalmic Techniques Phase III	11	-	08	03
13	-do-	BSc (Hons) Medical Technology in Radiography Phase II	08	-	06	02
14	-do-	BSc (Hons) Medical Technology in Radiography Phase III	05	-	05	-
15	-do-	First MBBS Professional	80	02	73	04 1 (NE)
16	-do-	BSc (Hons) Medical Technology in	08	-	06	02

		Radiography Phase I				
17	-do-	BSc (Hons) Ophthalmic Techniques Phase II	14	-	10	04
18	-do-	BSc (Hons) Ophthalmic Techniques Phase I	13	-	08	05
19	August 2012	First MBBS Professional (Supplementary)	07	-	05	02
20	November 2012	BSc (Hons) Medical Technology in Radiography Phase II (Supplementary)	02	-	02	-
21	-do-	BSc (Hons) Ophthalmic Techniques Phase III (Supplementary)	03	-	03	-
22	-do-	BSc (Hons) Medical Technology in Radiography Phase I (Supplementary)	02	-	02	-
23	-do-	BSc (Hons) Medical Technology in Radiography Phase III (Supplementary)	01	-	01	-
24	-do-	BSc (Hons) Phase-I (Supplementary)	08	-	05	03
25	-do-	BSc (Hons) Ophthalmic Techniques Phase II (Supplementary)	05	-	04	01
26	December 2012	Final Postgraduate/Postdoctoral (MD/MS/MDS/DM/M.CH/MHA)	150	0	143	07
27	-do-	BSc (Nursing) Phase II (Supplementary)	08	-	08	-
28	-do-	Final MBBS Professional	73	02	68	03
29	-do-	Second MBBS Professional	80	01	75	04
30	-do-	BSc (PC) Nursing Phase I (Supplementary)	01	-	01	-
31	-do-	BSc (Hons) Nursing Phase I (Supplementary)	02	-	02	-
32	-do-	BSc Nursing (PC) Phase II (Supplementary)	01	-	01	-
33	-do-	BSc (Hons) Nursing Phase III (Supplementary)	04	-	04	-
34	-do-	BSc (Hons) Nursing Phase IV (Supplementary)	03	-	03	-
35	January 2013	Final MBBS (Compartmental examination)	02	-	02	-
Grand Total			987	11	915	60 *1(NE )

\*Not eligible due to short of Attendance.

### Entrance Examinations for Undergraduate and Postgraduate courses

S. No.	Course	Date of Examination	Number of candidates	
			Applied	Appeared
1	MD/MS/MDS (AIIMS) July 2012	06.05.2012	24369	21605
2	DM/MCh/MHA July 2012	20.05.2012	2107	1787
3	MBBS (AIIMS) August 2012	01.06.2013	76014	58002
4	BSc (Hons) Nursing 2012	10.06.2012	1012	770
5	BSc Nursing (Post-Certificate) 2012	16.06.2012	78	58
6	BSc (Hons) Paramedical Courses 2012	03.06.2012	259	182
7	MSc courses 2012	07.07.2012	395	247
8	MSc Nursing 2012	23.06.2012	833	673
9	MBiotechnology 2012	14.07.2012	734	438
10	Senior Residents Recruitment Examination, July 2012	17.06.2012	1287	960
11	PhD July 2012	30.06.2012	564	379
12	Online: Senior Residents Recruitment Examination, January 2013	06.01.2013	779	459
13	MD/MS/MCh (6 years)/MDS January 2013	18.11.2012	30636	25327
14	DM/MCh/MHA January 2013	16.12.2012	2414	2021
15	AIIMS National Eligibility-Cum-Entrance Test MDS/PG Diploma 2013	13.01.13	16554	15172
16	PhD January 2013	20.01.2013	556	337
<b>Grand Total</b>			<b>158591</b>	<b>128413</b>

**Candidates who passed PhD Viva-Voce examination: 57**

### Examinations for Recruitment

S. No	Name	Written Exam	Interview	Applied	Appeared	Result
1	Private Secretary: Skill test	28-04-2012	-	31	31	13-06-2012
2	Personal Assistant: Skill test	29-04-2012	-	67	37	13-06-2012
3	Manager (HRD)	29-04-2012	11-05-2012	40	23	14-05-2012
4	Operation Theatre Assistant	28-07-2012	28-08-2012 to 30-08-2012	483	315	19-02-2012
5	Laboratory Attendant	04-08-2012	-	127	-	Result Awaited
6	Child Psychologist	12-08-2012	05-09-2012	110	63	06-09-2012

7	Common Written test (LDC/DEO/Stenographer)	26-08-2012	-	LDC: 943 DEO: 1611 Steno: 2702	LDC: 470 DEO: 343 Steno: 56 (outside candidate)	Result awaited (Stay on result)
<b>Grand Total</b>				<b>6114</b>	<b>1338</b>	

### Entrance Examinations conducted

- NATIONAL ELIGIBILITY-CUM-ENTRANCE TEST (NEET): Examination for admission to MD/PG Diploma courses against 50% open merit seats quota was held at 33 centres (local 12, outstation 21) in 5 cities on 13 January 2013. Result is pending due to court case.
- AIIMS PG Entrance Examination for admission to MD/MS/MDS courses was conducted on 6 May 2012 for July 2012 at 58 centres (Delhi 22, outstation 36) and 18 November 2012 for January 2013 at 56 centres (Delhi 18, outstation 38). The results were declared on 29 May 2012 and 27 November 2012, respectively.
- Selections for various Post-Doctoral (super-specialty) courses like DM/MCh and MHA for July 2012 and January 2013 were done on the basis of a 2-stage performance evaluation on 20–26 May 2012 and 16–22 December 2012, respectively.
- AIIMS also conducted a written test for the post of Senior Residents/Senior Demonstrators. This was done online in January 2013.
- Selections of candidates for registration to the PhD programme for July 2012 and January 2013 sessions were held and the results were declared on 7 July 2012 and 30 January 2013, respectively.
- The Entrance Examination for admission to MBBS course of AIIMS, including 6 new AIIMS-like Institutes for August 2012 was held in 163 (local 44, outstation 119) centres in 17 cities on 1 June 2012.
- BSc (Hons) Nursing Entrance Examination was held in Delhi and Thiruvananthapuram on 10 June 2012.
- Entrance Examination for admission to MSc and MBIotech courses for August 2012 was held in Delhi on 7 July and 14 July 2012, respectively.
- Entrance Examination for admission to MSc Nursing course was introduced from 2005. This examination was held on 23 June 2012 in Delhi only. Admission was done by merit basis through counseling held on 13 July and 19 July 2012.
- BSc Nursing (Post-Certificate) Entrance Examination was held in Delhi on 16 June 2012 followed by the personal assessment of candidates on 20 June 2012.
- Entrance Examination for admission to Paramedical courses like BSc (Hons) Ophthalmic Techniques and BSc (Hons) Medical Technology in Radiography for August 2012 session was held in Delhi at one centre on 3 June 2012. The admissions to these two courses were made by allotment of seats on merit basis through counseling held on 2 July 2012 and 18 July 2012.
- Examination Section has also conducted Written/Skill Test for recruitment to the following posts at the Institute:
  - Skill test for post of Private Secretary, 28 April 2012.
  - Skill test for post of Personal Assistant, 29 April 2012.
  - Written test for post of Manager (HRD), 29 April 2012. Interview conducted on 11 May 2012.
  - Written test for post of Operation Theater Assistant, 28 July 2012. Interview conducted 28-30 August 2012.
  - Written test for post of Laboratory Attendant, 4 August 2012.
  - Written test for post of Child Psychologist, 12 August 2012. Interview conducted on 5 September 2012.
  - Common written test (LDC/DEO/Stenographer), 26 August 2012.

### Participation in other events

- The Section actively participates in counseling for admission to AIIMS-PG, BSc (Hons) Paramedical, MSc (Nursing) courses and personnel assessment for BSc (Nursing) Post-Certificate course.
- The Section helped in the evaluation of PG students thesis (Approx 71) from B.P. Koirala Institute of Health Sciences, Dharan, Nepal.

3. AIIMS also conducts MBBS Entrance Examination of North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong, Meghalaya since 2010 and this year it was conducted on 22 July 2012.
4. The Section provides technical expertise to various Universities and Institutions in India and abroad for conduct of their Entrance Examinations.

### **SIGNIFICANT EVENTS**

As a step towards introduction of more checks and balances, and to maintain complete confidentiality and integrity of the examination system, question papers for outstation centres are now kept in the safe custody of approved banks. In order to avoid any case of impersonation, thumb impressions are obtained during the entrance examination. In addition physical frisking using metal detectors has been introduced from the year 2006.

The Section has been inviting online applications for all Entrance Examination since January 2010. Candidates can now apply online and also downloaded their Admit Cards. This has been done to overcome the difficulty in obtaining Prospectus and Application Forms, as reported by the candidates, from time to time. After launch of the online method of submission of application forms, the problem of non-availability of Prospectus-cum-Application form has been completely resolved.

The Section introduced integrated mode of payment (Debit Card, Credit Card, online transfer, etc.) for submission of application fee from 2012.

In all Entrance Examinations, each candidate is provided with a pen to write. This was done to prevent cheating using electronic gadgets.

Photography (snapshot) is being done in case of doubt in genuineness of the identity of a candidate during the course of the examination or if the candidate does not bring a photograph for the purpose.

Cash transaction carried by AIIMS representatives to meet examination expenditure has been minimized by sending 90%–95% of the amount through Demand Draft/Bankers Cheque in advance to the designated centres.

The quality of the OMR Sheet has been improved for better marking. The declaration regarding un-attempted (unanswered) questions has been introduced in the OMR sheet (in numeric and words) for more transparency.

## 5. General Administration

### Deputy Director (Administration)

Vineet Chawdhry (up to 29.11.2012)

R.S. Shukla (w.e.f. 30.11.2012)

### Deputy Secretary/Chief Vigilance Officer

Sanjiv Chaturvedi (w.e.f. 29.6.2012)

The General Administration, including Personnel and Establishment, Security, Estate, matters related to Engineering Services Department, Stores, Vigilance and Public Relations activities 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

Attar Singh

### Superintending Engineer

B.S. Anand (up to 30.09.2012)

Manjul Rastogi (w.e.f. 01.10.2012) (Acting)

### Executive Engineers

S. Bhaskar

V.K. Sharma (Acting)

### Chief Procurement Officer

A. K. Kamra

### Deputy Chief Security Officer

Rajeev Lochan

R.S. Rawat

### Sr. Administrative Officer

K.K. Vaid

### Administrative Officers

#### Recruitment, PIC Cell and Hostel Section

Ravi Chauhan

S.K. Gautam (up to 14.07.2012)

Dheeraj (up to 31.07.2012)

#### General, Estate\*, Transport Section & RPC

V.V. Mishra (\*up to 26.06.2012)

### Faculty Cell

Lalit Kumar (up to 31.08.2012)

### JPNA Trauma Centre

A.K. Nim

### C.N. Centre

R.K. Sharma

### Legal/Estate

Razi Jawaid  
(w.e.f. 26.06.2012)

### Hospital

Santosh Kr. Aggarwal  
(w.e.f. 20.06.2012)

### Store Officers

S.S. Bhaduria  
Pradeep Kumar Gupta

K.D. Sharma  
Rakesh Kumar Sharma

### Assistant Administrative Officers

#### Coordination Cell/RTI Cell Academic Section

Mahesh Kr. Sharma

Renu Bhardwaj

#### Research Section

Narender Kumar

<b>Finance Division</b> Ashok Kumar Gupta  <b>SC/ST Cell/EHS Cell/ACR Cell</b> Lalit Oraon  <b>NDDTC, Ghaziabad</b> Sukh Ram (w.e.f. 30.11.2012)  <b>Vigilance Cell</b> B.S.Gill (w.e.f. 30.11.2012)	<b>Estt. Section-II/ CDER/RTI Cell</b> Gopal Datt  <b>Establishment Section (DO)</b> Ashok Kr. Sharma (w.e.f. 30.11.2012)  <b>Faculty Cell</b> Rajendran Pillai (w.e.f. 30.11.2012)  <b>Examination Section</b> Raj Kumar (w.e.f. 01.12.2012)
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All matters related to Establishment section and General administration including appointment, organizing meetings of the statutory committees, management of estate and property, purchase of equipment, materials and consumable, security arrangements, employees welfare, etc., are looked after by these sections.

There is total sanctioned staff of 11,658 in the Institute including all Centres/Main Hospital/D.O. as detailed below.

S. No.	Category/Group	Sanctioned Strength	In-position
1.	Faculty	823	507
2.	A	554	412
3.	B	5530	4407
4.	C	4751	3947
	Total	11,658	9273

#### Scheduled Caste/Scheduled Tribe cell

##### Liaison Officer

Dr K. C. Goswami (Professor, Department of Cardiology)

##### Assistant Administrative Officer

Lalit Oraon

During the year various representations from SC/ST category employees were received in the SC/ST cell. These are as under.

Representations received	9
Cases resolved/disposed off	7
Cases under consideration	2

#### Brief summary of the cases

1. Shri Kuldeep Kumar, General Secretary, SC/ST Medical Association, Atrocities against SC/ST Member at AIIMS. Reply/comment has been sent to the said Association.
2. Representation of Shri Ajay Kumar, PPS, Department of Biotechnology, regarding discrimination. Reply has been sent to the National Commission for Scheduled Castes.
3. Representation of Shri Rahul, Lab Technician, regarding promotion. The matter is under consideration.
4. Joint Representation of Shri M. Rajendran and Shri M. A. Laviraj, Medical Physicist, AIIMS, received through National Commission for Scheduled Tribes, regarding harassment by Dr V. Subramani, Medical Physicist, AIIMS.
5. Joint Representation of Shri M. Rajendran and Shri M. A. Laviraj, Medical Physicist, AIIMS, received through Smt. Sushma Swaraj, Leader of Opposition, Lok Sabha, regarding harassment by Dr V. Subramani, Medical Physicist, AIIMS.

6. Representation of Dr V. Subramani, Sr. Medical Physicist, AIIMS, received through Shri S. N. Sharma, Under Secretary, Ministry of Health and Family Welfare, regarding Grievance of caste based discrimination, harassment and victimization and non action of AIIMS administration.

**Since the aforesaid grievance/matter at S. No. 4, 5, and 6 are intrinsically interlinked, a committee was constituted to look into the behavior of Dr V. Subramani and Shri M. A. Laviraj, on the basis of report, the Competent Authority has taken the decision and the same has been referred to concerned authority for implementation and further action.**

7. Representation of Shri Bhupendra Kumar, Lab Technician, regarding harassment by National Institute of Biologicals, Noida. The AIIMS administration has served several requests in writing to National Institute of Biologicals, Noida, to furnish the detailed report of Shri Bhupendra Kumar. However, the same is still awaited on the part of NIB, Noida. A reply has been sent to National Commission for Scheduled Castes.
8. Representation of Shri Avadh Narayan, Ex-Khalasi (Ad hoc) Engineering Service Department, regarding regularization of ad-hoc appointment to the post of Khalasi at AIIMS. The matter is under consideration.
9. Representation of Smt. Saroj Kumari, regarding justice. Reply sent to the National Commission for Scheduled Castes. The matter does not pertain to AIIMS, a reply has been sent to the National Commission for Scheduled Castes.

## 6.0 Main Hospital

### Medical Superintendent

D.K. Sharma

### Professor

Sidhartha Satpathy

### Additional Professor

I.B. Singh

Sanjay Arya

### Assistant Professor

Nirupam Madaan

Amit Lathwal

Anoop Daga

Mahesh R.

Hospital performance indices	2012–13		2011–12		Inference
	Main Hospital	CNC	Main Hospital	CNC	
Average length of stay (days)	4.9	6.6	5.4	6.7	Effective utilization of beds
Average bed occupancy rate (%)	84.7	84.1	81.6	77.4	Fair occupancy
Net death rate (%)	1.9	3.6	2.2	3.6	Low mortality rate despite a large number of critically ill patients are admitted
Combined crude infection rate (%)	7.8	–	8.3	–	

Please see Tables I and II for details.

## 6.1 Medical Records Services (Hospital)

Chief Medical Record Officer and Sub-Registrar, Births and Deaths  
N.K. SHARMA

### EDUCATION AND TRAINING

1. A group of 19 MSc Nursing 2nd year students of College of Nursing, AIIMS, visited Medical Record Section (Main Hospital) and a brief lecture on Medical Record Management at AIIMS was delivered by Shri N.K. Sharma, Chief Medical Record Officer on 20 April 2012.
2. A group of 7 students of Medical Record Training Course from St. Stephens Hospital, New Delhi, visited Medical Record Section (Main Hospital) and Dr Raj Kumari Amrit Kaur Out Patient Department of AIIMS on 27 April 2012.
3. Dr S. Das along with his officers from S.H.K.M. Govt. Medical College, Nalhar, Mewat, Haryana, visited Medical Record Section (Main Hospital) on 12 September 2012 and a brief lecture was given regarding day-to-day functioning of Medical Record Section to establish the Medical Record Department in Medical College at Nuh, Distt. Mewat, Haryana.

### MEETINGS

1. Dr Nirupam Madaan, Asst. Prof. of Hospital Administration and Officer-in-Charge, Medical Records and Shri Ashok Kumar, Jr. Medical Record Officer attended the meeting regarding the digitalization of medical records of all the Central Government Hospitals in Delhi, organized by the Directorate General of Health Services and Central Bureau of Health Intelligence in Nirman Bhavan, 2 December 2012.
2. Shri N.K. Sharma, Chief Medical Record Officer and Sh. Ashok Kumar, Jr. Medical Record Officer, attended the workshop on registration system of patient conducted by Delhi Cancer Registry, Dr B.R. Ambedkar Institute Rotary Cancer Hospital, AIIMS, 12 January 2013.
3. A Training of Officers/Officials engaged in the work of registration of Births and Deaths organized by the Office of the Chief Registrar, Birth and Deaths, Govt. of NCT of Delhi, was held on 17 January 2013. The following officer/officials were nominated from the Medical Record Section (Hosp.).
  1. Shri N.K. Sharma, Chief Medical Record Officer
  2. Shri Ashok Kumar, Jr. Medical Record Officer
  3. Smt. Sreeja Nair, Data Entry Operator

### COURT ATTENDANCE

A total number of 973 summons/notice (average 3-4 per day) were received in the Medical Record Section (Main Hospital) from various Courts of Delhi and outside Delhi. The concerned doctors or consultants (as per case) and staff from the Medical Record Department were deputed to attend the court on the behalf of AIIMS hospital.

### COMPUTERIZATION OF MEDICAL RECORDS

Central Admission Office and Enquiry of Main Hospital have been computerized by NIC, w.e.f. 4 June 2012. The Medical Record Section (Hospital) will be computerized and connected with the Central Admission Office and Hospital Enquiry.

Various wards of the Main Hospital have also been computerized and inter-connected with the software of NIC while rest of the wards is under process of computerization.

### IN-PATIENT SERVICES

AIIMS has maintained its tradition of services and quality of patient care, inspite of ever increasing number of patients that come to this hospital from all over the country as well as from abroad. A total number of 1,05,728 patients were admitted during the year in various clinical units of the Main Hospital and C.N. Centre. The Department-wise, State-wise and Gender-wise admissions are given in Tables III and IV.

The number of surgical procedures done during the year in various surgical disciplines is given in Table V.

Medical records of indoor patients is systematically classified and categorized for easy retrieval for the purpose of Education, Research and Training. These records are stored in the compactors. All the in-patient records of C.N. Centre are also maintained by the Medical Record Section of the Main Hospital.

In addition to above, the following three departments have commissioned inpatient admissions for provision of healthcare services.

S.No.	Department	No. of Beds	Location	Date of Commissioning
1.	Geriatric	24 (General)	New Private ward	17 July 2012
2.	Pulmonary Medicine and Sleep Disorder	18 (9 General and 9 ICU)	Old Nurses Hostel, 3rd floor	1 August 2012
3.	Rheumatology day care	6 (General)	Old Nurses Hostel, 3rd floor	17 September 2012

#### CENTRAL ADMISSION OFFICE AND HOSPITAL ENQUIRY

The office functions round the clock for 365 days a year without a break. All admissions to the inpatient areas of the Main Hospital and C.N. Centre are made through this office. It performs important functions like patient registration for initiation of Admission Slip (Face-Sheet), issuing of attendant passes and general enquiry office in providing prompt and accurate information regarding patients and AIIMS. The staff working there is on shift duties and the office is manned by receptionists, Jr. Medical Record Officer, Medical Record Technicians and other ministerial and hospital staff.

#### OUT PATIENT DEPARTMENT AND SPECIALTY CLINICS

A total of 16,69,789 patients attended various General Out-Patient Department (OPD) and Specialty clinics of AIIMS (Table VI).

#### COMPUTERIZATION AND MODERNIZATION OF OPD BLOCK

The central registration area of Dr Rajkumari Amrit Kaur OPD including E.H.S. has been modernized with state-of-the-art facility for registration. The OPD of various disciplines has been computerized by NIC. The OPD cards of patients are generated with a unique UHID number for all purposes and future references.

**Table I. Yearly statistical health bulletin**

S. No.	Detail	Main Hospital	CN Centre	Total
1.	Total patients admitted	85892	19836	105728
	a. Adults and children	83434	-	-
	b. Newborn infants	2458	-	-
2.	Total patients discharged	81782	19044	100826
	a. Adults and children	79265	-	-
	b. Newborn infants	2517	-	-
3.	Total days of care	402855	124749	527604
	a. Adults and Children	387139	-	-
	b. Newborn infants	15636	-	-
4.	Average length of stay (ALS)	4.9	6.6	5.2
	a. Adults and Children	4.9	-	-
	b. Newborn infants	6.2	-	-
5.	Total number of patients in hospital (as per daily census)	333384	126120	459504
	a. Adults and Children	331225	-	-
	b. Newborn infants	2159	-	-
6.	Daily average number of patients (as per daily census)	10959	4148	15107
	a. Adults and Children	10888	-	-
	b. Newborn infants	71	-	-
7.	Average bed occupancy (%)	84.7	84.1	84.5
	a. Adults and Children	85.8	-	-
	b. Newborn infants	29.6	-	-

8.	Births in hospital	2458	-	-
	a. Male	1319	-	-
	b. Female	1139	-	-
9.	Total deaths (including newborns)	2552	928	3480
	a. Death within 48 hours	1020	256	1276
	b. Death over 48 hours	1532	672	2204
	c. Gross death rate (%)	3.1	4.9	3.5
	d. Net death rate (%)	1.9	3.6	2.2
10.	Attendance in Casualty	1,31,108	-	-
	Deaths in casualty	1,551	-	-
	Brought dead in casualty	818	-	-

**Table II. Department-wise admissions, discharges and death rates (Main Hospital+CN Centre)**

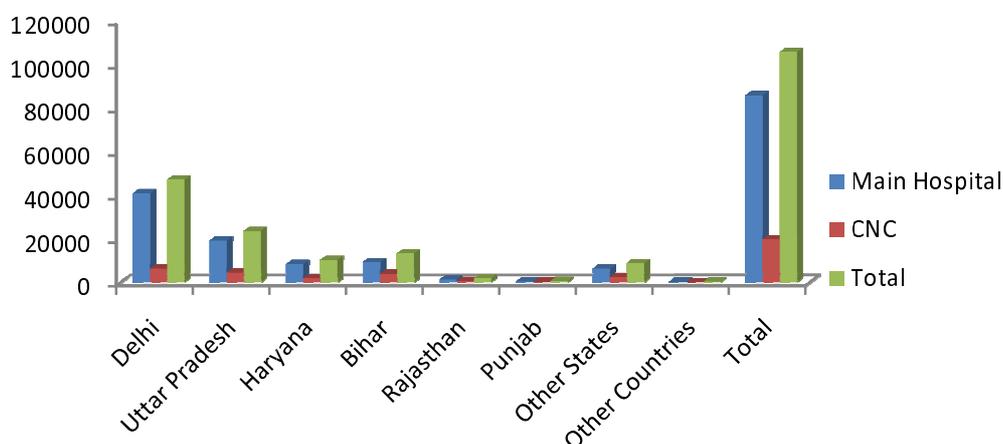
Department	Admission	Discharges	Days of care	Average length of stay	Deaths			Death rate (%)	
					Total	Under 48 hours	Over 48 hours	Gross	Net
Medicine I	1513	1423	13409	9.4	253	107	146	17.8	11.1
Medicine II	1093	1012	8979	8.9	253	124	129	25.0	14.5
Medicine III	1595	1527	11093	7.3	305	150	155	20.0	11.3
Surgery I	1322	1237	9122	7.4	33	10	23	2.7	1.9
Surgery II	1824	1684	11888	7.1	40	14	26	2.4	1.6
Surgery III	1311	1224	8746	7.1	13	4	9	1.1	0.7
Surgery IV	2282	2045	11852	5.8	23	5	18	1.1	0.9
Orthopaedics I	2464	2271	16828	7.4	7	1	6	0.3	0.3
Orthopaedics II	2594	2285	18248	8.0	3	-	3	0.1	0.1
Obstetrics and Gynaecology I	4549	4344	19141	4.4	6	3	3	0.1	0.1
Obstetrics and Gynaecology II	3813	3654	15858	4.3	1	1	-	-	-
Obstetrics and Gynaecology III	3996	3816	18477	4.8	5	1	4	0.1	0.1
Nephrology	6643	6171	21894	3.5	194	67	127	3.1	2.1
Endocrine	567	549	8106	14.8	11	1	10	2.0	1.8
Gastroenterology	2592	2477	19914	8.0	536	236	300	22.0	13.4
Geriatric medicine	483	440	4428	10.1	27	4	23	6.1	5.3
Haematology	10059	9933	29691	3.0	251	82	169	2.5	1.7
Psychiatry	334	305	7642	25.1	-	-	-	-	-
Urology	5818	5479	19264	3.5	14	8	6	0.3	0.1
Otolaryngology I	1786	1668	6592	4.0	8	2	6	0.5	0.4
Otolaryngology II	1389	1328	5521	4.2	5	2	3	0.4	0.2
Otolaryngology III	1413	1312	5711	4.4	1	1	-	0.1	-
Dermatology	5139	5068	15325	3.0	14	1	13	0.3	0.3
Newborns	2376	2393	15007	6.3	-	-	-	-	-
Neonatal ICU	228	124	629	5.1	52	26	26	42.0	26.5
Kangaroo Mother care ward	77	68	420	6.2	-	-	-	-	-
Paediatric I	5437	5236	16162	3.1	69	23	46	1.3	0.9
Paediatric II	1609	1593	7867	4.9	61	20	41	3.8	2.6
Paediatric III	5419	5333	15642	2.9	62	16	46	1.2	0.9
Paediatric Surgery	2730	2565	17943	7.0	55	20	35	2.1	1.4
Pulmonary Medicine and Sleep Disorders	646	592	3827	6.5	62	11	51	10.5	8.8
Radiotherapy	48	43	141	3.3	12	12	-	28.0	-
Dental surgery	181	161	1126	7.0	-	-	-	-	-

Nuclear Medicine	518	512	728	1.4	-	-	-	-	-
Gastrointestinal surgery and liver transplantation	1056	989	11954	12.1	81	10	71	8.2	7.3
Physical Medicine and Rehabilitation	30	26	687	26.4	-	-	-	-	-
Institute Rotary Cancer Hospital	547	522	2615	5.0	95	58	37	18.2	8.0
Anaesthesiology	411	373	378	1.0	-	-	-	-	-
<b>Total (Main)</b>	<b>85892</b>	<b>81782</b>	<b>402855</b>	<b>4.9</b>	<b>2552</b>	<b>1020</b>	<b>1532</b>	<b>3.1</b>	<b>1.9</b>
Cardiology	8268	8095	31739	3.9	237	112	125	3.0	1.6
Cardiothoracic and vascular surgery	3600	3387	30373	9.0	255	31	224	7.5	6.7
Neurology I	2013	1932	14247	7.4	108	41	67	5.6	3.5
Neurology II	1509	1460	10780	7.4	94	20	74	6.4	5.1
Neurology III*	160	126	724	5.7	4	-	4	3.2	3.2
Neurosurgery I	2405	2254	20093	8.9	117	22	95	5.2	4.3
Neurosurgery II	1877	1786	16786	9.4	113	30	83	6.3	4.7
Neuro-anaesthesiology	4	4	7	1.8	-	-	-	-	-
<b>Total (CNC)</b>	<b>19836</b>	<b>19044</b>	<b>124749</b>	<b>6.6</b>	<b>928</b>	<b>256</b>	<b>672</b>	<b>4.9</b>	<b>3.6</b>
<b>Grand Total (Main +CNC)</b>	<b>105728</b>	<b>100826</b>	<b>527604</b>	<b>5.2</b>	<b>3480</b>	<b>1276</b>	<b>2204</b>	<b>3.5</b>	<b>2.2</b>

\*Neurology III commenced from February 2013

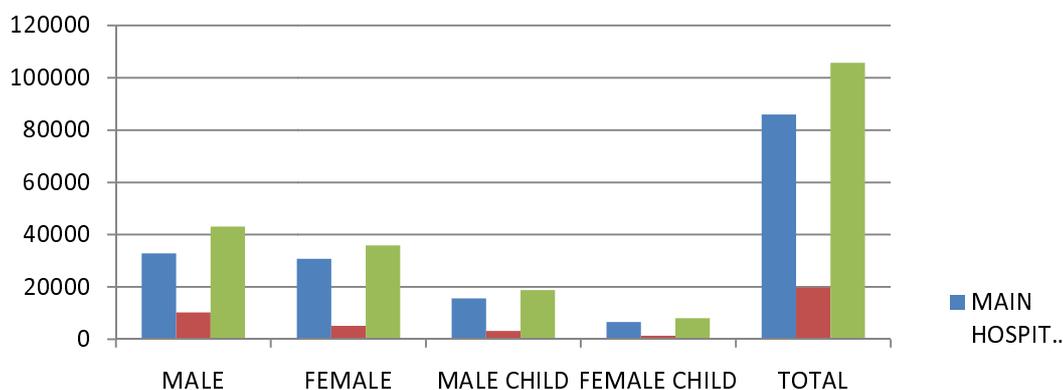
**Table III. State-wise distribution of in-patients**

State	Main Hospital	CNC	Total
Delhi	40880	6228	47108
Uttar Pradesh	19147	4465	23612
Haryana	8371	1918	10289
Bihar	9278	3941	13219
Rajasthan	1258	579	1837
Punjab	387	222	609
Other states	6248	2441	8689
Other countries	323	42	365
<b>Total</b>	<b>85892</b>	<b>19836</b>	<b>105728</b>



**Table IV. Gender-wise distribution of in-patients (Main Hospital and CN Centre)**

Site	Male	Female	Male child	Female child	Total
Main Hospital	32848	30779	15630	6635	85892
C.N.C.	10240	5088	3115	1393	19836
<b>Total</b>	<b>43088</b>	<b>35867</b>	<b>18745</b>	<b>8028</b>	<b>105728</b>



**Table V. Surgical procedures**

Department	Major	Minor		Total
		Indoor	Outdoor	
Surgery I	615	297	2959	3871
Surgery II	971	246	3073	4290
Surgery III	705	230	3088	4023
Surgery IV	974	500	2962	4436
Gastrointestinal surgery and Liver transplantation	644	2	-	646
Urology	1388	453	11407	13248
Obstetrics	945	352	-	1297
Gynaecology	1620	1580	-	3200
Otorhinolaryngology	2526	1887	33930	38343
Orthopaedics I	1487	605	-	2092
Orthopaedics II	1233	793	-	2026
Paediatric Surgery	1891	221	-	2112
Dental Surgery	125	1	-	126
Casualty	-	136	-	136
<b>Total (Main)</b>	<b>15124</b>	<b>7303</b>	<b>57419</b>	<b>79846</b>
Cardiothoracic and vascular Surgery	4098	-	-	<b>4098</b>
Neuro Surgery I	1558	187	-	<b>1745</b>
Neuro Surgery II	1513	118	-	<b>1631</b>
<b>Total (CNC)</b>	<b>7169</b>	<b>305</b>	<b>-</b>	<b>7474</b>
<b>Grand Total (Main + CNC)</b>	<b>22293</b>	<b>7608</b>	<b>57419</b>	<b>87320</b>

**Table VI. Attendance in OPDs and speciality clinics**

Discipline	New cases	Old cases	Total
<b>Medical Specialties</b>			
<b>Medicine</b>			
1. General O.P.D.	69401	67774	<b>137175</b>
2. Speciality Clinics			
a) Chest	621	592	<b>1213</b>
b) Rheumatology	56	6156	<b>6212</b>
c) Geriatric	7763	10929	<b>18692</b>
d) Sleep related breathing disorders	7697	11215	<b>18912</b>
e) Nuclear Medicine	1854	6147	<b>8001</b>
f) Endocrinology	12126	31358	<b>43484</b>
g) Renal	7346	28973	<b>36319</b>
h) Renal transplant	161	5944	<b>6105</b>
i) Renal transplant counseling	460	1673	<b>2133</b>
<b>Haematology</b>	3377	24174	<b>27551</b>
<b>Gastroenterology</b>	18729	47119	<b>65848</b>
<b>Paediatrics</b>			
1. General O.P.D.	39212	41145	<b>80357</b>
2. Speciality Clinics			

a) Well Baby	408	17	<b>425</b>
b) Follow up tuberculosis	306	2142	<b>2448</b>
c) Renal	406	4114	<b>4520</b>
d) Paediatric neurology	970	2058	<b>3028</b>
e) Paediatric chest	473	3558	<b>4031</b>
f) High risk neonatal	285	1886	<b>2171</b>
g) Genetic and birth defects	2873	1317	<b>4190</b>
i) Oncology	247	1677	<b>1924</b>
j) Child development	189	146	<b>335</b>
k) Endocrinology	450	1367	<b>1817</b>
l) Neurocysticercosis	329	1400	<b>1729</b>
m) Paediatric cancer survivor	67	654	<b>721</b>
n) Rheumatology	177	1771	<b>1948</b>
o) Myopathy	507	842	<b>1349</b>
<b>Dermatology</b>			
1. General O.P.D.	36527	44517	<b>81044</b>
2. Specialty Clinics			
a) Sexually transmitted diseases	790	535	<b>1325</b>
b) Allergy	577	1458	<b>2035</b>
c) Leprosy	451	2760	<b>3211</b>
d) Pigmentation	494	2009	<b>2503</b>
e) Derma-Surgery	618	1015	<b>1633</b>
<b>Psychiatry</b>			
1. General O.P.D.	14351	--	<b>14351</b>
2. Specialty Clinics			
a) Walk-in-clinic	2335	33697	<b>36032</b>
b) Child guidance	506	617	<b>1123</b>
<b>Surgical Specialties</b>			
<b>Surgical Discipline</b>	44492	28915	73407
<b>Urology</b>	14704	32344	47048
<b>Gastrointestinal Surgery and Liver Transplantation</b>	2464	6146	8610
<b>Paediatric Surgery</b>			
1. General O.P.D.	5783	13392	19175
2. Speciality Clinics			
a) Hydrocephalus	20	118	138
b) Intersex	-	61	61
c) Paediatric Urology	570	3129	3699
d) Craniosynostosis	-	4	4
<b>Anaesthesia</b>			
a) Pain	1180	2145	3325
b) Pre-anaesthesia	7133	753	7886
<b>Orthopaedics</b>			
1. General O.P.D.	50518	49389	99907
2. Speciality Clinics			
a) Physiotherapy	20567	39154	59721
b) Occupational therapy	1495	6924	8419
c) Hydrotherapy	3386	8473	11859
d) Follow up	-	9814	9814
e) Tuberculosis	259	876	1135
f) Polio	-	-	-
g) Scoliosis	742	1598	2340
h) Hand	1118	1570	2688
i) Congenital talipes equino varus	196	2517	2713
j) Arthritis	-	-	-
k) Sports	235	224	459
<b>Otorhinolaryngology including RUAS</b>			

1. General O.P.D.	43064	44536	87600
<b>2. Speciality Clinics</b>			
a) Audiology	110	51	161
b) Speech	1265	1865	3130
c) Hearing	794	1347	2141
d) Voice	809	966	1775
e) Vertigo	92	53	145
f) Rhinology	61	44	105
<b>Obstetrics and Gynaecology</b>			
1. General O.P.D.	33466	62306	95772
<b>2. Specialty Clinics</b>			
a) Postnatal	-	-	-
b) Infertility	-	-	-
c) IVF	531	2337	2868
d) Family welfare	8776	5673	14449
e) Antenatal	773	4097	4870
f) Endo-gynaecology	46	70	116
g) High risk pregnancy	2303	12261	14564
h) Postoperative (Gynae)	-	-	-
i) Menopause	-	-	-
<b>Radiotherapy</b>	473	31179	31652
<b>Others</b>			
Casualty	127375	3733	131108
Employees Health Scheme	100572	67050	167622
Nutrition	3768	1553	5321
Physical Medicine and Rehabilitation	22361	91651	114012
Sex and Marriage Counselling Clinic	1755	2320	4075
<b>Total</b>	<b>736395</b>	<b>933394</b>	<b>1669789</b>

## 6.2 Hospital Dietetics Services

### Chief Dietician

Dr (Mrs) Alka Mohan Chutani

#### No. of indoor patients served different diets (Main Hospital and Centres)

S. No.	Type of diet	Number	Percentage (%)
1.	Normal	357,015	53
2.	Private ward	94,796	14
3.	Semisolid	43,351	6
4.	Therapeutic	153,003	22
5.	Enteral feeds	34,645	5
6.	Total	682,810	100

#### Outpatient nutrition counselling (excluding Endocrinology, Paediatrics and Centres)

Patients	Total	Male	Female
New	3768	1883	1885
Old	1553	820	733
Total	5321	2703	2618

**Indoor nutrition counselling** 2956

## 6.3 Welfare Unit

**Welfare Officer**  
Mrs Preeti Ahluwalia

Patients and employees welfare services were organized by the Welfare unit.

### **PATIENTS WELFARE**

**Patients care: Rs 48,54,000 (approx.) raised as donation**

<b>Purpose</b>	<b>Donation</b>	<b>Donor</b>
For treatment and surgery of poor and needy patients who are undergoing treatment in the main hospital and centres	Rs. 3,08,000	Jawahar Bhawan Trust
	Rs. 2,26,035	Sahu Jain Trust
	Rs. 40,000	Indo Global Social Service Society
	Rs. 28,386	Baij Nath Bhandari Public Charitable Trust
	Rs. 28,798	Sewa Prakalp Mahila Mandal Trust
	Rs. 21,000	Vijay Gujral Foundation
	Rs. 97,842	Other donors
AIIMS Poor Patients Fund Account	Rs. 1,00,000	Mr. Surjit Kumar Jairath
	Rs. 1,50,000	Mrs. Dwarka Prasad Trust
	Rs. 51,000	Shri Jarnail Singh
	Rs. 31,000	Lt. Col. K.K. Varma
	Rs. 30,000	Col Yash Bhatnagar
	Rs. 30,000	Smt. Maharani Prasad
	Rs. 11,000	Mrs. Diljeet Kaur Varma
	Rs. 12,000	Mrs. Anjana Ahluwalia
	Rs. 5,000	Mrs Shakuntala Bhatia
Anti-cancer drugs provided free to patients	Rs. 34,53,759	Gopal Foundation
	Rs. 2,30,902	Dr. Chetan Memorial Divine Trust

In addition to the above, poor patients are being guided and assisted to avail of financial assistance for their treatments from Rashtriya Arogya Nidhi, P.M. National Relief Fund, Health Minister's Discretionary Grant and other governmental and non-governmental agencies. Assistance to poor patients from Hospital Poor Patient Fund is also extended and they are also guided and helped for admission, exemption of levied charges, investigation charges, etc.

### **Dharamshalas**

As a welfare activity through the aegis of the AIIMS Hospital Social Welfare Society, the Rajgarhia Vishram Sadan, Sureka Vishram Sadan and Shri Sai Vishram Sadan provided shelter to over 11,800 patients undergoing treatment and their attendants at the Institute and its Centres. In special cases, food was arranged through donors for the poor and needy inmates of the Vishram Sadans. A pick and drop facility from the Sadans to the hospital is also being run by the Institute for the benefit of the patients and their attendants.

Sapna (NGO) distributed 60 packets of dry ration once a week to the inmates of Rajgarhia Vishram Sadan. In addition, 60 packets of half a litre milk was also distributed every day to the patients staying at Rajgarhia Vishram Sadan. Yoga classes free of charge have been organized once a week through Cancer Patients Aid Association for the benefit of the inmates of the Vishram Sadans. Cancer Patients Aid Association celebrated Holi & Diwali with the inmates of the Sadans.

### **Free Hearse van facility**

Free Hearse van facility has been organized through Shri Sai Bhakta Samaj (Regd.) to enable easy transportation of the dead body by relatives to their homes/crematorium in Delhi.

## **EMPLOYEES WELFARE**

### ***Appointment on compassionate grounds***

Cases for appointments on compassionate grounds were dealt with. Counselling services and moral support was provided to the family members so as to assist them to accept/overcome the loss they had suffered and thereby enable them to shoulder their responsibilities.

### ***Counselling services***

Counselling services were provided to employees, patients and their relatives so as to enable them to overcome/adjust to their physical, social, emotional, economic, familial and marital problems and thereby enhance their social functioning.

### ***Redressal of grievances***

Services for redressal of grievances to staff and patients are being provided.

### ***Diwali celebration***

Mr Sunil Bhutani celebrated Diwali with the children of our employees studying in the Nursery and Primary School being run by Medical Institute Residents Welfare Association (MIRWA). Sweaters, gifts and sweets were distributed on this occasion.



Celebration of Diwali with School Children. Seen in the picture are Dr D.K. Sharma, Medical Superintendent who distributed sweaters, gifts and sweets to the children studying in the Nursery and Primary School run by Medical Institute Resident Welfare Association (MIRWA) in the Community Hall, AIIMS. Also seen in the picture are donors Mr Sunil Bhutani and Mrs Shakuntala Bhatia.

## 6.4 Hospital Billing Section

The donations received and payments made to the patients during 2012-13 are as follows:

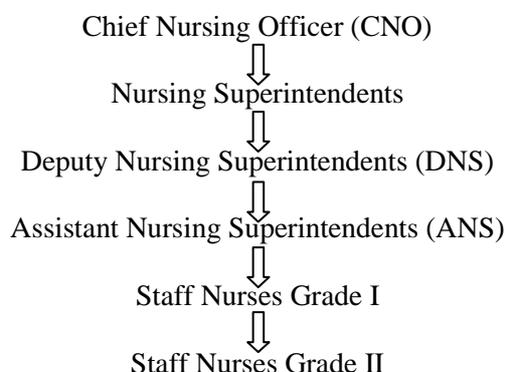
Donations received from donors Rs. 10,10,782  
(Bank interest+donations+poor fund boxes)

Payment made to 188 (137+51) patients Rs. 87,269

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

## 6.5 Nursing Services

### Organization of 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 members of allied disciplines in the hospital.

### Staff strength

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

### Staff strength in main hospital

Chief Nursing officer	1 (Acting CNO)
Nursing superintendent	1
DNS	14
ANS	75
Sister Grade I	416
Sister Grade II	1101
Total	1606

### Orientation/Briefing session

A well planned orientation programme is conducted at the time of recruitment of new Grade II staff nurses by designated nursing personnel to give an overview of the policies and functioning of the hospital in general and of nursing services in particular.

Last year from 297 newly recruited nurses received orientation during 15–22 January and 16–19 April regarding various aspects, viz. hospital layout, various departments, OPD schedules and their professional duties and responsibilities.

Experts from nursing services also conducted orientation/briefing sessions for visitors from various educational institutions across India.

### **Continuing nursing education**

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

#### ***Nursing in-service education programme***

A well structured in-service education programme has been instituted since January 2011. Initially classes were held twice a week with each class of one hour duration, which were later increased to thrice in week classes. Two classes in a week are conducted for bedside nurses (Sister Grade II and Sister Grade I), whereas one class in a week is for senior nurses (Sisters in-charge and above)

Facilitator: Mrs B.D. Prema H Kumar, CNO (acting) AIIMS  
 Mentor : Mrs Anamma Neelakantan, DNS, w.e.f February 2012  
 Educator: Mrs Rebecca J. Herald, Sister Grade I (HR)  
 Mrs Merin Lisa Kuriakose, Sister Grade II

During January–December 2012, a total of 3129 nurses from different departments in the main hospital attended this programme. The following lectures were delivered:

1. Classes for Sister Incharges/ANS/DNS/NS/CNO
  - Human relations in nursing
  - Materiel management
  - Ethical and legal issues in clinical nursing
  - Conflict management
  - Stress management
  - Nursing administration
2. Classes for bedside nurses
  - Patient safety
  - Nursing process
  - Human relations in nursing
  - Ethical and legal issues in clinical nursing
  - Pre and post operative nursing management
  - Stress management
  - Medication Administration Safety

A total of 114 lectures were taken on the above topics in different batches.

The number of nursing personnel who attended the in-service education classes is as follows:

CNO/NS	DNS	ANS	Sister Grade I	Sister Grade II	Total
1	17	268	1023	1820	3129

### **Higher studies in Nursing**

Nursing services at AIIMS focuses on uplifting the quality of 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. Currently 7 nurses are pursuing post basic BSc nursing programme and 5 in MSc nursing programme. Higher degree allowance is provided to the graduates in Nursing.

### **Conferences and workshops attended**

During the year, 279 nurses from different departments in the main hospital attended several national and international conferences/workshops. These include

- 11–18 January, TNAI workshop on ‘Nursing administration and Supervision for effective patient care’, TNAI Headquarters, Green Park, New Delhi. Participants 2
- 21–28 February, Skill Update for nursing personnel in Cardiac Nursing, RAK College of Nursing, New Delhi. Participants 2
- 30 March 2012, Chronic Kidney Disease: A hidden tsunami. Gulmohar Hall, India Habitat Centre, Lodhi Road, New Delhi. Participants 10
- 7–8 April, National Haematology update IX at J.L.N Auditorium, AIIMS, New Delhi. Participants 9
- 24 April, School children education programme at J.L.N Auditorium, AIIMS. Participants 9
- 18 April, Women’s Health–Menopause (Nutrition lecture series) at CMET, AIIMS. Participants 45
- 17–19 April. Psycho-Oncology volunteers training programme at Seminar Room, Surgery Department, AIIMS. Participantd-1
- 26–27 May, Training of staff on the examination of the rape victim reporting to emergency department of the institute. Participants 21
- 11–16 June, GFATM workshop for training of nurses on HIV/AIDS at Nightingale Institute of Nursing, Institutional Area, Sector 62, Noida (UP). Participants 5
- 11–18 June, Skill update on nursing administration at RAK College of Nursing, New Delhi. Participants 1
- 18–23 June, GFATM workshop for training of nurses on HIV/AIDS at Nightingale Institute of Nursing, Institutional Area, Sector 62, Noida (UP). Participants 5
- 25–30 June, GFATM workshop for training of nurses on HIV/AIDS at Nightingale Institute of Nursing, Institutional Area, Sector 62, Noida (UP). Participants 5
- 3–10 July, Skill update on child healthcare at RAK College of Nursing, New Delhi. Participants 3
- 9–20 July, Management for Senior Nursing Administrators at National Institute of Health and Family Welfare, Baba Ganganath Marg, Munirka, New Delhi. Participants 2
- 23–28 July, GFATM workshop for training of nurses on HIV/AIDS at Nightingale Institute of Nursing, Institutional Area, Sector 62, Noida (UP). Participants 5
- 1–8 August, Workshop on human relation and communication skills for effective and efficient patient care at TNAI Headquarters, Green Park, New Delhi. Participants 2
- 20–25 August, GFATM workshop for training of nurses on HIV/AIDS at Nightingale Institute of Nursing, Institutional Area, Sector 62, Noida (UP). Participants 5
- 27 August–1 September, GFATM workshop for training of nurses on HIV/AIDS at Nightingale Institute of Nursing, Institutional Area, Sector 62, Noida (UP). Participants 5
- 4 September, Role of functional food in disease prevention and health promotion at CMET, AIIMS. Participants 30
- 3–8 September, GFATM workshop for training of nurses on HIV/AIDS at Nightingale Institute of Nursing, Institutional Area, Sector 62, Noida (UP). Participants 5
- 17–22 September, GFATM workshop for training of nurses on HIV/AIDS at Nightingale Institute of Nursing, Institutional Area, Sector 62, Noida (UP). Participants 5
- 8–15 October, Quality improvement on MCH care at RAK College of Nursing, New Delhi. Participants 2
- 8–13 October, GFATM workshop for training of nurses on HIV/AIDS at Nightingale Institute of Nursing, Institutional Area, Sector 62, Noida (UP). Participants 5
- 26 October, Symposium on Human rights and ethics at J.L.N. Auditorium, AIIMS. Participants 30
- 2 November, Bedside care to benchside research in Neuro Nursing at J.L.N. Auditorium, AIIMS, New Delhi. Participants 6
- 16–18 November, International Conference on Humanization of Healthcare at J.L.N. Auditorium, AIIMS, New Delhi. Participants 28
- 23–25 November, Integrated approach to trauma care at J.L.N. Auditorium, New Delhi. Participants 24
- 26 November–1 December, GFATM workshop for training of nurses on HIV/AIDS at Nightingale Institute of Nursing, Institutional Area, Sector 62, Noida (UP). Participants 5

### **Consultancy and participation as experts**

Nurses from different departments participated and performed as facilitators for skill stations and hands-on-training sessions in various workshops conducted last year.

### **Visitors from various educational institutions**

Nursing educators in AIIMS conducted orientation for groups from different educational institutions across India as listed below. A total of 477 visitors from various hospitals received orientation about AIIMS.

- Sinhgad College of Nursing, Pune, 18 January 2012 (45, BSc Nursing final year students and lecturers)
- Holy Spirit Institute of Nursing Education, Andheri (East), Mumbai, 2 February 2012 (30, BSc Nursing final year students and lecturers)
- Jaslok Hospital and Research Centre, 15 Dr G. Deshmukh Marg, Mumbai, 2 February 2012 (21, BSc Nursing final year students and lecturers)
- St. John's College of Nursing, Bangalore, 6 February (35, BSc Nursing final year students and lecturers)
- St. John's College of Nursing, Bangalore, 5 8 February (34, BSc Nursing students and lecturers)
- Bel – Air College of Nursing, Panchgani, Maharashtra, 22 February (48, BSc Nursing final year students and lecturers)
- Holy Cross College of Nursing, Ambikapur (C.G), 27 February (53, BSc Nursing final year students and lecturers)
- Terna Nursing College, Nerul (West), Navi Mumbai, 29 February (10, BSc Nursing final year students and supervisors)
- College of Nursing, St. Martha's Hospital, Bangalore, 21 March (52, BSc Nursing final year students and lecturers)
- Yashoda College of Nursing, Saroor Nagar, Hyderabad, 23 March (9, Second year MSc Nursing students and lecturers)
- Govt. College of Nursing, Vandanam Medical College Complex, Allapuzha, 19 April (20, Second year MSc Nursing students and lecturers)
- Govt. College of Nursing, Fort, Bangalore, 25 April (38, BSc Nursing final year students and lecturers)
- Eashwari Bai Memorial CON, West Marredpally, Sikendrabad, 30 July (38, BSc Nursing final year students and lecturers)
- Govt. College of Nursing, Victoria Hospital, Fort, Bangalore, 9 August (40, third year BSc Nursing students and lecturers)
- CON, Christian Medical College, Ida Scudder Road, Vellore, 4 September (28, Second Year MSc Nursing students)
- S.P.D.S. College of Nursing, Khandwa Road, Indore, 11 October (17, BSc Nursing final year students and lecturers)
- Mother Theresa P.G. and Research Institute of Health Sciences, Pondichery, 15 November (37, MSc Nursing students and lecturers)

## 7. College of Nursing

### Principal

Manju Vatsa

### Lecturers

Meena Agarwal  
Ashia Qureshi  
Shashi Mawar

Sandhya Gupta  
Deepika C. Khakha  
Poonam Joshi

Rachel Andrews  
Kamlesh Sharma  
L. Gopichandran

### Senior Nursing Tutor

Geeta Razdan

### Nursing Tutors

Kiran Singh Simak  
Sucheta  
Philomina Thomas  
Ujjwal Dahiya  
Neelima

Gayatri Batra  
Shashi Mawar  
Meena Ara  
Anubha D.  
Nemkholam

Poonam Joshi  
Babita Sahoo  
Seema Sachdeva  
Aditi Sinha  
Hansaram

### HIGHLIGHTS

This year 59 BSc (Hons) Nursing, 22 BSc Nursing (PC) students and 19 MSc nursing students graduated from the college. The college conducted 12 workshops/conferences and trained 750 nurses.

### EDUCATION

#### Undergraduate

- BSc (Hons) Nursing: 59 students graduated from the four years course.
- BSc Nursing (Post-certificate): 22 students graduated from the two years course.

#### Postgraduate

- MSc Nursing: 19 students graduated from the MSc Nursing two year course, while 24 students have joined the programme this year in the following specialties:
  - a) Paediatric Nursing
  - b) Psychiatric Nursing
  - c) Cardiology/ CTVS Nursing
  - d) Neurosciences Nursing
- The College of Nursing conducted orientation/briefing sessions for 5 groups of visitors from various educational institutions from India and 2 groups of visitors from abroad (Ireland and Sweden)
- Faculty members of the college attended over 20 workshops/conferences and delivered lectures for continuing nursing/medical education programs and workshops held during the year.
- Faculty members were appointed examiner for several universities in India

#### Continuing Nursing Education (CNE)

The College of Nursing organized the following CNE programmes: Short term courses/ Symposia/Workshops

1. Workshop on Maternity Nursing, 21–23 February 2013; 28 nurses from AIIMS attended the workshop. Ms Kamlesh Sharma, Lecturer and Ms Poonam Joshi, tutor were the coordinators.
2. Workshop on Nursing update on CTVS Nursing, 6–8 March 2013; 33 nurses from AIIMS attended the workshop. Mrs Rachel Andrews was the coordinator.
3. Workshop on Effective human relations and communication skills in nursing, 25–27 February 2013; 24 nurses from AIIMS attended the workshop. Mrs Ashia Qureshi, Lecturer and Ms Ujjwal Dahiya were the coordinators.
4. Workshop on Management of nursing services: Leading today's workforce, 11–13 February 2013; 26 nurses from AIIMS attended the workshop. Ms Shashi Mawar, Lecturer, was the coordinator.
5. Symposium on Human Rights and Ethics in Health Care, 26 October 2012, Annual day of the college. More than 300 nurses, students and others from AIIMS attended the programme. Ms D. Khakha, Lecturer was the coordinator.

6. Workshop on Nursing update on psychiatric emergencies, 13–15 March 2013; 29 nurses from AIIMS attended the workshop. Ms Deepika Khakha, Lecturer was the coordinator.
7. Neuro science Nursing Update, 20–22 March 2013; 31 nurses from AIIMS attended the workshop. Ms Meena Agarwal, Lecturer was the coordinator.

### **National and International Conferences Organized**

1. 4th Annual Conference of the Indian Association of Neonatal Nurses, Bharati Vidyapeeth University, Pune. More than 200 nurses from all over India attended the conference. Dr Manju Vatsa, Principal, coordinated the conference.
2. Workshop on Evidence Based Nursing Practice, a part of 4th Annual Conference of Indian Association of neonatal nurses, Pune. More than 40 nurses attended the workshop and Dr Manju Vatsa, Principal, coordinated the workshop.
3. Workshop on Neonatal Resuscitation Program for nurses, a part of XXXII Annual Convention of National Neonatology, 15 December 2012, Delhi. More than 60 nurses attended the workshop. Dr Manju Vatsa, Principal was the convener.
4. 33rd Annual Conference of the Society of India Neuroscience Nursing on 'Evidence Based Practices in Neuroscience Nursing', 19–20 December 2012, Gurgaon. Ms M. Aggarwal was the coordinator.
5. Workshop on CPAP, part of 4th Annual Conference of Indian Association of Neonatal Nurses, Pune. More than 40 nurses attended the workshop Ms Poonam Joshi, Lecturer coordinated the workshop.

### **Lectures delivered**

<b>Manju Vatsa: 15</b>	<b>Ashia Qureshi: 1</b>	<b>Deepika C. Khakha: 19</b>	<b>Kamlesh Sharma: 8</b>
<b>Shashi Mawar: 2</b>	<b>Poonam Joshi: 2</b>	<b>L. Gopichandran: 3</b>	<b>Philomina Thomas: 4</b>
<b>Ujjwal Dahiya: 2</b>			

### **RESEARCH**

#### **Funded projects**

1. Identification of barriers and facilitators for education of nurses, care of sick and at risk newborn babies in India. Manju Vatsa. Funded by Indo Shastri grant, Canada and SEARO, WHO

#### **Departmental projects**

##### *Ongoing*

1. A study to identify the periodicity of deliveries on the basis of data on deliveries from selected hospitals in India.
2. Is antenatal breast feeding education useful for improving breast feeding practice? A study conducted on primigravidae.
3. Migration of highly trained health personnel project India Case Study—a Canadian Institutes of Health Research—University of Ottawa project.

### **PUBLICATIONS**

**Journals: 11**                      **Books: 1**

### **PATIENT CARE**

1. The faculty and students participated in outdoor and indoor patient care activities of all clinical departments of the Institute.
2. The faculty and students organized and conducted:
  - a) Participated in 4 rounds of Pulse Polio programme at 6 centres of South Delhi, organized by Govt. of N.C.T. of Delhi. Ms Shashi Mawar coordinated and supervised the programme.
  - b) 85 health education sessions in rural areas and more than 80 in urban slums and OPDS of AIIMS on various health issues, such as B.P., immunization, newborn care, PNC Care, etc.
  - c) Students conducted 9 surveys in various blocks of Ambedkar Nagar community to identify their health and social needs and conducted awareness programmes in the form of role plays and exhibitions. Ms S. Mawar coordinated and supervised.
  - d) Celebrated health days including World Health Day, World Malaria Day, World Kidney Day, World TB day, World Asthma day, Breast feeding week, National Nutritional Week, World Mental Health Day, Obesity Day, World Diabetes Day, World COPD Day, World AIDS day and World patient safety day. Organized 12 exhibitions and role plays on related subjects. Ms S. Mawar coordinated and supervised.

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Dr Manju Vatsa** was nominated member of Board of studies in nursing for PhD, M.M. University, Ambala; nominated UG and PG board of studies in nursing, PGIMS Rohtak, BHU Varanasi, Vir Bahadur Singh Poorvanchal University, Jaunpur, UP; Member, National Editorial Advisory Board, Prism's Nursing Practice – Journal of Clinical Nursing (earlier called The Journal of Nursing) since its inception in 2005; International Journal of Nursing Education; nominated member International advisory board, Journal of Neonatal Nursing; Interviewed by Aakashvani Programme 'Hamari Awaz', 8 March 2013; Chief Guest, Valedictory function of National conference of Nurses League of Christian Medical Association of India; Elected second time President of Indian Association of Neonatal Nurses; Completed Post Graduate Diploma in Bioethics conducted by ICMR in collaboration with NIH-US and IGNOU; General Body, Executive and Nursing Education Committee Member of Indian Nursing Council; Core group member of INC PhD Consortium; Peer team member for Hinduja Hospital, College of Nursing, Mumbai, for NAAC (National Assessment and Accreditation Council of UGC); Member working group on strengthening Health Systems and Services–US–India Health Initiative, MOHFW; Member curriculum committee for BSc (Community Health) of the Medical Council of India; Member selection committees for UPSC New Delhi, NIMHANS Bangalore, IGIMS Patna, Hyderabad Central University, ILBS (Institute of Liver and Biliary Sciences – New Delhi), BMHRC (Bhopal memorial Hospital and Research Center); Examiner for BPKIHS, Dharan, Nepal; Invited for consultation on Gender Issues and its relation with healthcare by ICMR, Delhi; Participated in various committees of AIIMS – prevention of sexual harassment at workplace, ethics sub-committee, Staff Council, Convocation, Institute day, selection committee, etc.; Invited as Judge for Hindi Essay Competition by Hindi section, AIIMS during Hindi Week celebration; Nominated executive member of AIIMSONIANS; Acted as expert for MOHFW, Trained Nurses Association of India, National Medical Library, Public Health Foundation of India, Delhi Nursing Council, and National Neonatology Forum for various committees and meetings.

**Manju Vatsa and Kamlesh Sharma** were awarded first Prize for Paper presentation – Sithara S, Sharma K K, Saksena M, Vatsa Manju “Breastfeeding problems: Epidemiology and its impact on exclusive breastfeeding rate at six months” 4th Annual conference of IANN, Pune, February 2013

**M. Aggarwal** won the Best Paper Award: Manju Dhandapani, Meena Agarwal, A.K. Mahapatra and Alka Chutani for “a study to assess the Nutritional Status in patients of severe head injury” during the National annual leaf of the society of Indian Neuroscience Nurses, Gurgaon, December 2012; 3rd prize for Poster Presentation: Biju S., M. Agarwal and Gurudutta Satyara Comparison of Continues version intermit Nasogastric tube feeding in Head injury patients a randomized controlled trail. In national Conference of the society of Indo Neuroscience nursing, December 2012, Gurgaon.

**A. Qureshi** invited as chief guest during 4th Foundation day of College of Nursing, RIMS, Imphal, December 2012 and delivered lecture on Evidence Based Nursing practice; Invited for selection Committee meeting, 29 May 2012, RIMS, Imphal.

**Deepika Khakha** was Examiner for Jamia Hamdard, PGIMER, Chandigarh, Ch. Charan Singh University, Baba Farid University of Health Sciences, AIIMS; Supervisor for MBBS Entrance Exam, & adjudicator for MSc thesis for BP Koirala Institute of Medical Sciences; Chaired two sessions session on ‘Technologies that enhanced nursing care delivery’ Second International Conference on Cost Effective use of technology in Emergency Healthcare, JPNATC, AIIMS, September 2012; Chaired a free paper presentation at Neuropedicon 2012, November 2012; Chaired two sessions, 61st Annual National Conference of the Neurological Society of India and 33rd Annual Conference of Society of Indian Neuroscience Nurses, December 2012; Reviewer for Baba Farid University Nursing journal; Conducted 3 visits as Counselling supervisor for HIV counselors, GFATM, University of Delhi.

**Kamlesh Sharma** was ad-hoc inspector of Indian nursing council (INC) to inspect schools of nursing in Jammu in October 2012; Contributed for revising Indian Nursing Council ANMs curriculum; Examiner for Gujarat University, NINE PGIMER, Chandigarh, Ruffaida College of Nursing, Jamia Hamdard University, Florence Nightingale College of Nursing, Jiwaji University, Gwalior, and Baba Farid University of Health Sciences; Chaired a session on “Wound management” TRAUMA 2012 – an International Conference, CME cum Live Workshop and Fifth Conference of the Indian Society for Trauma and Acute Care (ISTAC), November 2012, AIIMS; Chaired a session on ‘Human Milk in NICU and Neonatal Morbidities: evidence, mechanism and best practices. Empowering nurses to handle difficult parental situations, Developmental

Supportive Care.’ 4th Annual Conference of Indian Association of Neonatal Nurses (IANN), Pune, February 2013.

**S. Mawar** completed one year certificate course in Hospital management, National Institute of Health and Family Welfare, October 2012; Chaired a sessions in WCCPI, Mount Abu, October 2012 and carcinogenesis 2012, New Delhi; Resource person, Telemedicine for PAN-AFRICA project, 2012.

**Poonam Joshi** was resource person in a national project on Development of neonatal healthcare services delivery model for rural India for training programmes by AIIMS and UNICEF; Examiner at Jamia Hamdard, Hamdard University, AIIMS, and IP University, Delhi; Presented three posters on Neonatal sepsis, bacterial Isolates and antibiotic susceptibility patterns among neonates in a neonatal intensive care of a selected tertiary level care hospital., The prevalence, probable causes of stress, symptoms associated and coping strategies among nurses working in various paaediatric and neonatal care units, an exploratory survey, Complementary feeding practices among children between 6 months to 24 months: a survey, at National Neonatology Forum Conference from Dec, 2012.

**Ujjwal Dahiya** underwent organ donation certificate course for transplant coordinators, 24-26 September 2012, ILBS, New Delhi

## 8. Research Section

As per the mandate given to the All India Institute of Medical Sciences (AIIMS), research forms an important component. AIIMS has been at the forefront of conducting high quality research, both in the fields of basic and applied sciences. During the year under review, the faculty of the AIIMS drew extramural grants for various research projects from national and international agencies of nearly Rs. 69 crores and intramural grants funded by AIIMS of Rs 1.31 crores. At present, 508 extramural and 51 intramural funded projects are being conducted at AIIMS.

This section deals with the administration of all the extramural research conducted at AIIMS. The Research Advisory Councils constituted by the Director are as follows.

### **Research Advisory Council (Basic Medical/Allied Sciences)**

1. Professor R.C. Deka, Director, AIIMS	Chairman
2. Professor Krishna N. Ganesh, Director Indian Institute of Science and Research, Pune	Member
3. Dr Sayed Hasnain, Distinguish Professor of Biological Sciences at the Indian Institute of Technology, Delhi	Member
4. Professor N.R. Jagannathan, Head, NMR Facility, AIIMS	Member
5. Professor S.P. Thiagarajan, PhD, Director and Chief Advisor, Sri Ramachandran University, Porur, Chennai	Member
6. Professor Balram Bhargava, Cardio/Bio-designs, AIIMS	Member
7. Professor Anand Mohan, PhD, Professor of Electronics, Institute of Technology, BHU, Varanasi	Member
8. Professor Madhu Khullar, Department of Experimental Medicine, PGIMER, Chandigarh	Member
9. Professor A.B. Dey, Dean (Research), AIIMS	Member–Secretary

### **Research Advisory Council (Clinical)**

1. Professor R.C. Deka, Director, AIIMS	Chairman
2. Professor T.M. Mohapatra, Ex Directore, IMS-BHU Varanasi	Member
3. Professor P. Satish Chandra, Director NIMHANS, Bangalore	Member
4. Professor N.K. Mehra, Professor and Head Department of TII, AIIMS	Member
5. Professor S.K. Panda, Head of Pathology, AIIMS	Member
6. Professor Narendra K. Arora, Executive Director Inclen Trust India, New Delhi	Member
7. Professor K.M. Shyam Prasad, Chancellor Martin L. Christian University, Shillong, Meghalaya	Member
8. Professor Neeraj K. Seth, Head (Planning and Evaluation) National Institute of Health and Family Welfare (NIHFW), New Delhi	Member
9. Dr R. Goswami, Additional Professor of Endocrinology and Meta, Sub-Dean (Research)	Member
10. Professor A.B. Dey, Dean (Research)	Member–Secretary

## 9.1 Anaesthesiology

### Professor and Head

Chandralekha

### Professors

Mahesh K Arora  
Rajeshwari Subramaniam  
Lokesh Kashyap

Dilip K Pawar  
Anjan Trikha  
Dilip Shende (RP Centre)

Ravinder Kumar Batra  
Maya Dehran  
Ganga Prasad

### Additional Professors

Virender K Mohan

Vimi Rewari

Vanlalnghaka Darlong

### Associate Professors

Renu Sinha (RP Centre)  
Ravinder Pandey

Jyotsna Punj

Rashmi Ramachandran  
Anjolie Chhabra

### Assistant Professors

Amar Pal Bhalla

Dalim Baidya (Dental)

Devlina Goswami (Dental)

### HIGHLIGHTS

The department has established a high fidelity Human Patient Simulation system to provide training to postgraduates. Four workshops using this system were organized and conducted by the department. The department offers short term and long term training in various subspecialty areas such as Paediatric anaesthesia, Intensive care and Pain clinic. An international conference, 5th SAARC Critical Care Congress (SCCC) and 2nd International Conference on Recent Advances in Anesthesiology (INCRAA) was organized by the department. For the first time, the department was awarded the Bakshi Memorial Rolling Trophy donated to ISA Delhi in 1987, for best presentation and best clinical meeting of the year 2012–13.

### EDUCATION

The departmental faculty is actively involved in the teaching and training of undergraduates, postgraduates and nursing students (BSc and MSc). The departmental teaching programme for postgraduates is conducted on four days of the week and includes Seminars, Case presentations, Journal clubs and Tutorials.

The Department has started regular post graduate training on high fidelity patient simulation system and 18–20 sessions per year are being conducted. All first semester postgraduates are trained on manikins for acquiring basic skills, e.g. intravenous cannulation, lumbar puncture, epidural puncture, central venous cannulation and endotracheal intubation.

#### Short and long term training

- Long term trainee: One (Army)
- Short term trainee: Three (Army; JLN Hospital and Research Centre, Bhilai; Hindu Rao Hospital, Delhi)
- Observers: Two (Afghanistan)
- DM trainees: One ( Paediatric Neurology)
- MD trainees: Three (Radiodiagnosis 2, Emergency medicine 1)

#### International conferences

The department organized the 5th SAARC Critical Care Congress (SCCC) and 2nd International Conference on Recent Advances in Anesthesiology (INCRAA), 5–7 October 2012; 500 national and international delegates attended. The scientific programme consisted of 32 lectures delivered by reputed national and international faculty. Fifty-eight international delegates from various countries such as UK, Ireland, Canada, USA, Australia, Germany, Iran, Saudi Arabia, and SAARC countries (Pakistan, Nepal, Maldives, Afghanistan and Bangladesh) participated in the conference.

## Workshops

The department conducted four workshops on 'High Fidelity Human Patient Simulation System', on 29 September 2012, 30 September 2012, 5 October 2012 and 27 November 2012 at AIIMS, New Delhi. Senior faculty members from various medical colleges of Delhi and outside Delhi attended these workshops and were given certificate of training. The workshop on 5 October 2012 was co-conducted by three international faculty from Australia and Germany.

Other workshops conducted by the department/departmental faculty include

1. Workshop for occasional paediatric anaesthetists to make their clinical practice safer, K.K. Women's and Children's Hospital, Singapore, 18 August 2012.
2. Workshop and live demonstration on Paediatric Anaesthesia, Dhaka Medical College, Dhaka, Bangladesh, 22–24 February 2013.
3. Workshop on Training the trainer course in Paediatric Anaesthesia, West China Hospital, Sichuan University, Chengdu, China, 16–19 March 2013.
4. Workshop on Anesthesia Machine and Vaporizers, Ramachandra Continuing medical Education 2013, Chennai, January 2013.
5. Hands on workshop on 'Advanced airway devices', R.M.L. PGIMER Hospital, New Delhi, 2012.
6. Hands on demonstration on 'Airway management' in skill station of Fundamental Critical Care Support (FCCS), Trauma Centre, AIIMS, 2012.

## Lectures delivered

**Chandrulekha: 1**  
**Anjan Trikha: 14**  
**Jyotsna Punj: 2**

**M.K. Arora: 7**  
**Maya Dehran: 1**  
**Rashmi Ramachandran: 2**

**D.K. Pawar: 13**  
**Vimi Rewari: 3**

**Rajeshwari S.: 15**  
**Renu Sinha: 2**

## Papers presented

**Chandrulekha: 1**  
**Jyotsna Punj: 2**

**M.K. Arora: 2**

**Vimi Rewari: 3**

**Renu Sinha: 6**

## RESEARCH

### Funded projects

#### Ongoing

1. Comparison between skin conductance algometer index and VAS based pain therapy: a pilot study. Chandrulekha. CSIR.
2. Comparison of paralysis of laryngeal adductor vs adductor pollicis at time of intubation with NIM EMG endotracheal tube. Jyotsna Punj. AIIMS Intramural grant. Rs 5 lakhs.
3. Neuroendocrine stress response in robotic urological surgery: dexmedetomidine-based versus fentanyl-based total intravenous anaesthesia. Rashmi Ramachandran. AIIMS, 2012–13. Rs 5 lakhs.
4. Entropy monitoring for titrating propofol or propofol-dexmedetomidine requirements in adults undergoing laryngeal surgery under TCI-TIVA. A. Chhabra. AIIMS, 2011–13. Rs 80,000.

#### Completed

1. Requirement of isoflurane and vecuronium in diabetic patients with and without diabetic autonomic neuropathy undergoing elective surgery; as determined by entropy and Neuro Muscular Transmission (NMT) monitor respectively. Dr Jyotsna Punj. ICMR. 2010–13. Rs 15 lakhs.
2. Ultraviolet radiation to decontaminate mobile phones in hospital. Dr Jyotsna Punj. ICMR. 2010–13. Rs 17 lakhs.

## Departmental projects (including thesis/dissertations)

### Ongoing

1. Pain assessment in the critically ill, mechanically ventilated adult patients a comparison between skin conductance algometer index, critical care pain observation tool and physiologic indicators
2. Efficacy and safety of dexmedetomidine in providing analgesia for patients undergoing tubal ligation under local anaesthesia.
3. Safety and efficacy of TAP block for laparoscopic inguinal hernia repair.
4. Safety and efficacy of intrathecal morphine for peri operative analgesia in patients undergoing total laparoscopic hysterectomy.
5. Retrospective analysis of effect of anaesthesia on the outcome of pregnancy after IVF.
6. To study the safety and efficacy of dexmedetomidine in arthroscopic knee surgery.

7. Post operative analgesia in total knee replacement: A comparison of 3 in 1 femoral nerve block versus intra articular infiltration.
8. To evaluate the efficacy of obturator nerve block in controlling the adductor muscle spasm during transurethral resection of bladder tumour involving lateral wall: Nerve stimulator guided Vs Ultrasound guided technique.
9. Continuous thoracic paravertebral infusion in modified radical mastectomy: Randomized, prospective, double blinded study to compare efficacy of ropivacaine with and without fentanyl.
10. Retrospective analysis of anesthetic management of cochlear implant surgery.
11. Evaluation of minimum dose of atracurium in pediatric cataract surgery; a randomized controlled trial.
12. Effect of fentanyl administered at different time intervals on induction dose of propofol.
13. Neuroendocrine stress response in robotic urological surgery: dexmedetomidine-based versus fentanyl-based total intravenous anaesthesia.
14. Haemodynamic profile in the perioperative period in patients undergoing pheochromocytoma surgery with and without dexmedetomidine infusion.
15. Anaesthetic implications and perioperative concerns in pregnant patients with antiphospholipid antibody syndrome – a retrospective audit.
16. A Prospective Randomised Double-Blinded Comparison of Crystalloid versus Colloid Coload with Phenylephrine Infusion During Spinal Anaesthesia for Elective Caesarean Delivery: The Effects on Maternal Haemodynamics and Foetal Acid-Base Status.
17. Effect of addition of magnesium to local anaesthetic for peribulbar block – a prospective randomized double blind study.
18. Perioperative concerns and anaesthetic management of the children with Struge – Weber syndrome for ophthalmic surgery under general anesthesia – a retrospective study.
19. Comparison between skin conductance algometer index and VAS based pain therapy—a pilot study.
20. To assess the analgesic efficacy of TAP block (ropivacaine) in adult patients undergoing open inguinal hernia repair under local anaesthetic infiltration.
21. Sono-anatomical analysis of right internal jugular vein and carotid artery at different levels of positive end expiratory pressure in anaesthetized paralysed patients – A randomized controlled trial.
22. Effect of three different dextrose containing intravenous fluid regimens on carbohydrate and lipid metabolism, acid base status and stress hormones in neonates.

#### **Completed**

1. Comparison of BIS and entropy for assessment of sedation in critically ill patients.
2. Effect of dexmedetomidine as an adjuvant to bupivacaine in femoral nerve block for perioperative analgesia in patients undergoing total knee replacement arthroplasty under subarachnoid block – A dose response study.
3. Effect of addition of various doses of clonidine 15 mcg, 25mcg, 35mcg to hyperbaric bupivacaine 0.5%, 2ml (10 mg) on subarachnoid block characteristics and haemodynamic parameters in patient undergoing transurethral resection of prostate and transurethral resection of bladder tumors.
4. Evaluation of hemodynamic changes and fluid responsiveness in lithotomy and prone position by stroke volume variation and pulse pressure variation during volume controlled ventilation in patients undergoing percutaneous nephrolithotomy.
5. Use of spectral entropy to monitor sedation in patient undergoing surgery in sub-arachnoid block.
6. Air-Q ILA as a conduit for orotracheal intubation in children; An interventional clinical trial.
7. Efficacy of parenteral paracetamol in enhancing caudal analgesia in children undergoing lower abdominal surgery.
8. Comparison of total intravenous Anaesthesia with conventional general anaesthesia in children undergoing cochlear implant surgery.
9. Requirement of isoflurane and vecuronium in diabetic patients with and without diabetic autonomic neuropathy undergoing elective surgery; as determined by entropy and Neuro Muscular Transmission (NMT) monitor respectively.
10. Comparison of Morphine and Nalbuphine for intraoperative and postoperative analgesia in patients undergoing open gynaecological surgery.
11. Comparison of topical lignocaine gel 2% and proparacaine 0.5% eye drops for prevention of oculocardiac reflex and providing perioperative analgesia in children undergoing elective strabismus surgery.
12. Comparison of efficacy of intravenous paracetamol and fentanyl for perioperative analgesia in children undergoing elective strabismus surgery.

13. Evaluation of minimum dose of neuromuscular blocking agent in paediatric cataract surgery—a randomized controlled trial.
14. Variation in LMA cuff pressure and ventilatory parameters in paediatric patients: effect of air and O<sub>2</sub> – air mixture used for LMA cuff inflation.
15. Anesthetic management for ophthalmic surgical procedures in children with congenital heart disease: an audit.
16. Anesthetic management for preterm babies for ROP surgery: a retrospective study.
17. Analgesic efficacy of transverses abdominis plane block for laparoscopic inguinal hernia repair in adult patients: a randomized controlled trial.

### **Collaborative projects**

#### **Ongoing**

1. Quantitative estimation of indices for components of balanced anesthesia using electroencephalographic signals from sub-human primates. (Centre for Biomedical Engineering, Indian Institute of Technology, Delhi and Central Scientific Instruments Organization, Chandigarh).
2. Development of an anesthesia delivery work station. (Centre for Biomedical Engineering, Indian Institute of Technology, Delhi and Central Scientific Instruments Organization, Chandigarh).
3. Comparison of outcomes after laparoscopic incisional hernia repair using absorbable versus non absorbable tackers (Surgical Disciplines).
4. Comparison of outcomes in patients undergoing Single Incision Laparoscopic Surgery (SILS) versus conventional 4-port cholecystectomy. (Surgical Disciplines).
5. Evaluation of focal consolidation and systemic cheoreduction in management of intraocular retinoblastoma (Ophthalmics).
6. Results of medical and surgical treatment in cases with traumatic and iatrogenic facial nerve injury. (ENT).

#### **Completed**

1. Comparison of long term outcomes in laparoscopic hernia repair (Surgical Disciplines).
2. Comparison of testicular pain and chronic groin pain in open vs laparoscopic hernia repair (Surgical Disciplines).
3. Comparison of long term outcomes and quality of life after laparoscopic incisional and ventral hernia repair with or without tackers (Surgical Disciplines).

### **PUBLICATIONS**

Journals: 39    Abstracts: 5    Chapter in Books: 1

### **PATIENT CARE**

#### **Anaesthetics administered**

1. Main operation theatres:
 

Surgical Disciplines:	2523	Gastrointestinal surgery: 421
Urology:	1123	Otorhinolaryngology: 1036
Obstetrics and Gynaecology:	958	Paediatric surgery: 1725
Dental surgery:	105	
  2. Main operation theatres emergency cases
 

Cases done:	3958	Calls attended: 1938
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  3. Peripheral operation theatres
 

Maternity:	2310	IVF: 318
Orthopaedics:	2679	
<i>Dr. R.P. Centre for Ophthalmic Sciences</i>	7417	
Routine cases under GA:	5903	Emergency cases under GA: 1381
Surgery done under MAC:	133	
  4. Procedures under GA in periphery:
 

Modified Electroconvulsive therapy:	1486	
CT scan:	165	
Paediatric USG (RPC):	873	MRI: 291
	101	Others: 56
- Grand Total (anaesthetics administered): 26,059  
 Interventional pain management procedures: 273

**Intensive care Unit AB8**

Admissions: 484      Transfers to ward:      384 Deaths: 100

**Preanaesthesia clinic**

Old cases: 750      New cases: 7459      Total: 8209

**Pain clinic**

Old cases: 2207      New cases: 1090      Total: 3297

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Chandralekha** was awarded a Fellowship of Indian College of Anaesthesiologists (FICA) 2012; nominated Executive Member to Bureau of Indian Standards (BIS) and Chairperson of Anaesthetic, resuscitation and allied equipment sectional committee MHD-11; Chairperson, Academic Committee of Indian College of Anaesthesiologists; nominated Member, Governing Body of Indian College of Anaesthesiologists; nominated Senate member, Mahatma Gandhi Medical University of Health Sciences, Navi Mumbai; nominated President, SAARC Association of Critical Care Medicine for two years; Committee Member, New Drug Division of Drug Controller General of India; President Elect, ISA Delhi Branch, 2014.

**Professor Anjan Trikha** was awarded fellowship of Indian College of Anesthesiologist (FICA); nominated member, Academic committee, Indian College of Anesthesiologist; nominated President, Association of Obstetric Anesthesia; nominated Chief Editor, *Journal of Obstetric Anesthesia and Critical Care* (JOACC); nominated expert, Committee for setting up curriculum for diploma course in Anesthesia to be started by IGNOU, New Delhi; nominated expert, Committee for setting up curriculum for diploma course in Intensive Care to be started by IGNOU, New Delhi.

**Dr Darlong** was awarded second prize in Best research paper awards by *Singapore Medical Journal* for paper titled 'Low- versus high-dose combination of midazolam-ketamine for oral premedication in children for ophthalmologic surgeries'

**Dr Anjolie Chhabra** was awarded Commonwealth Academic Staff Fellowship 2012 at St James' University Hospitals, Leeds, UK; October 2012–31 March 2013 for training in ultrasound guided regional anaesthesia; Granted Fellowship of the International Medical Sciences Academy in August 2012; Continuing as Editorial Board Member, *Trends in Anaesthesia and Critical Care*, an Elsevier publication available online Science Direct.

## 9.2 Anatomy

### Professor and Head

Shashi Wadhwa

### Professors

R.D. Mehra  
Pushpa Dhar

T.S. Roy

A. Shariff  
S.B. Ray

### Additional Professors

T.K. Das (Electron Microscopy)  
Renu Dhingra

Rima Dada  
T.C. Nag (Electron Microscopy)

Arundhati Sharma (Genetics)  
Ritu Sehgal

### Assistant Professor

Saroj Kaler

## HIGHLIGHTS

A state-of-the-art audiovisual system has been installed in the Gross Anatomy Laboratory consisting of a network of workstations with large screen high-definition monitors suspended from the ceiling for all the dissection tables which can be accessed using wireless keyboards with track pads for presenting relevant learning resource materials, from the departmental servers as well from the internet for teaching/learning of gross anatomy. Apart from this, the department has provided training to postgraduates and faculty from various universities and medical colleges. It has helped in conducting several cadaveric workshops which has facilitated the training of personnel from different departments like Neurosurgery, Orthopaedics, Pulmonary medicine and Sleep disorders, Anaesthesia, etc. Several members have served as visiting faculty to different universities and institutes and have delivered guest and invited lectures both in India and abroad.

The faculty and students have presented their research work in various national and international forums and won awards in different aspects of anatomy including neurosciences, embryology and genetics. The faculty is engaged in research work funded by grants from the intra- and extramural agencies and have noteworthy research publications in peer reviewed journals. The faculty has served as members on several committees including developing course curriculum for graduate and postgraduate students. They have also served on the editorial boards of several national and international journals and have acted as reviewers for research projects from various intra- and extramural funding agencies. The department provided hospital service in the form of embalming facilities and patient care through diagnostic and counselling services for various genetic and metabolic disorders.

## EDUCATION

### Innovative educational activity

A state-of-the-art audiovisual system has been installed in the Gross Anatomy Laboratory consisting of a network of 9 workstations. Tutors and students of respective dissection tables can access these workstations using wireless keyboards with track pads. These are used for presenting learning resource materials in the form of video/power point presentations for teaching/learning of gross anatomy. All the workstations can also be controlled from a teacher's console for interactive presentation of gross anatomical demonstrations, etc., to one or more groups of students. Specific learning objectives and quizzes are constantly presented through one of the channels on the workstations to guide and stimulate learning in the dissection hall. These audiovisual systems have been conceptualized and implemented by Dr A Shariff with funds sanctioned by the Oversight (Moily) committee for the augmentation of the departmental facilities for the undergraduates.

### Short and long term training

Six students from different Universities received training in neuroanatomical techniques, cryosectioning, immunohistochemistry, western blotting, animal handling and various cytogenetic and molecular genetic techniques. Faculty from the department took lectures on Neuroanatomy and Human Genetics for MSc Neuroscience and MSc Human Molecular Genetic students, Jiwaji University, Gwalior. The faculty also delivered lectures in the Technology Training Platform held in July and November 2012 and January 2013 for new faculty members who joined AIIMS to familiarise them with the language of Molecular Biology and its

techniques. Three faculty members from AFMC, Pune, Govt Medical Colleges, Srinagar and Thrissur, one faculty member from Nepal and two BTech students from Amity University underwent training in cytogenetics and various techniques of Molecular biology.

### **CMEs/Workshops/Symposia/National and International conferences**

The department helped conduct several cadaveric workshops which facilitated training of personnel from departments such as Anaesthesiology, Neurosurgery, Orthopaedics, Pulmonary medicine and Sleep disorders, etc.

### **Lectures delivered**

<b>S. Wadhwa: 2</b>	<b>R.D. Mehra: 2</b>	<b>T.S. Roy: 4</b>	<b>P. Dhar: 1</b>
<b>S.B. Ray: 2</b>	<b>Rima Dada: 7</b>	<b>A. Sharma: 1</b>	<b>R. Dhingra: 1</b>

### **Papers/posters presented: 37**

### **RESEARCH**

#### **Funded projects**

#### **Ongoing**

1. Estrogen mediated immune regulation and neuroprotection in female rat hippocampus. RD Mehra, ICMR, 2012–15, Rs 8 lakhs.
2. Estrogen induced regulation of complement system in rat brain: An approach to understand neuroprotective and anti-inflammatory role of the hormone. RD Mehra, ICMR, 2012–14, Rs 45 lakhs.
3. Effect of antioxidants on sodium arsenite induced neurotoxicity in the developing rat cerebellum. P Dhar, DST Inspire, 2010–15, Rs 12 lakhs.
4. Cardiovascular effects of selective estrogen receptor modulators administered alone or in combination with paraneurin. A comparative histological study in ovariectomized rats. Ritu Sehgal, AIIMS, 2012–13, Rs 5.0 lakhs
5. Estrogen, menopause and the aging brain: An experimental approach to understand the menopausal effects in non-reproductive areas of brain and to assess the protective effects of estrogen and estrogen-like compounds as therapeutic intervention. RD Mehra, ICMR, 2012–15, Rs 27 lakhs.
6. A stereological study of age related morphological and neurochemical changes in the human cochlear nucleus. TS Roy, ICMR, 2010–14, Rs 29.3 lakhs.
7. Selective neurotransmitter and neuropeptide receptors as targets for relieving postoperative pain in combination with loperamide, a mu-opioid receptor agonist after intrathecal administration in rats. S B Ray, DBT, 2011–14, Rs 80.1 lakhs.
8. Role of sperm factor (oxidative stress, DNA damage) in RSA. R Dada, DBT, 2010–13, Rs 15 lakhs.
9. X chromosomal genes (TEX11 and TAF71) in male infertility. R Dada, ICMR, 2011–13, Rs 14 lakhs.
10. Sperm telomere length and its correlation with oxidative stress and DNA damage in male infertility. R Dada, DBT, 2012–15, Rs 69 lakhs.
11. Sperm molecular factors (8IP and 8 Oxoguanine) estimation in infertility. R Dada, AIIMS, 2012–13, Rs 4 lakhs.
12. Study to identify the genetic basis underlying Stevens–Johnson syndrome (SJS). A Sharma, ICMR, 2011–14, Rs 22 lakhs.
13. A study on the genetic association and correlation of monoaminergic, GABAergic and glutaminergic pathway gene polymorphisms with brain imaging (PET/SPECT) in alcohol dependence. A Sharma, ICMR, 2011–14, Rs 29 lakhs.
14. Molecular genetic analysis of posterior polar cataract families. A Sharma, AIIMS, 2011–13, Rs 10 lakhs.
15. Endoplasmic reticulum stress in pathogenesis of preeclampsia: an in vitro study. R Dhingra, AIIMS, 2013–14, Rs 5.0 lakhs.
16. Morphological and biochemical changes in neonatal chick retina following exposure to variable photoperiods. TC Nag, DST, 2013–16, Rs 33.60 lakhs.

#### **Completed**

1. Influence of prenatal chronic noise exposure on brain stem auditory nuclei, hippocampus and spatial memory in chicks. Shashi Wadhwa, DBT, 2008–12, Rs 65.5 lakhs.

2. Molecular studies of the excitatory and inhibitory synapses of the auditory cortex in developing chick (*Gallus domesticus*) exposed to prenatal chronic noise. Shashi Wadhwa, CSIR, 2011–13, Rs 13.2 lakhs.
3. Studies on ovariectomy induced anatomico-chemical changes in rat cerebellum and their response to estradiol and tamoxifen therapies. RD Mehra, ICMR, 2008–12, Rs 10 lakhs.
4. A study on the molecular analysis of endothelial dystrophies in North Indian patient population. A Sharma, AIIMS, 2010–12, Rs 2 lakhs.
5. Structural and biochemical changes in the vascular network of aging human retina. TC Nag, AIIMS, 2011–13, Rs 5.0 lakhs.

## **Departmental projects**

### ***Ongoing***

1. Estrogen hormone interactions in female rat hippocampus
2. Neuroprotective and anti-inflammatory role of estrogen and tamoxifen via regulation of complement proteins in female rat hippocampus
3. Effect of rat Raloxifene on cardiac morphology in ovariectomized rats
4. Effect of exogenous  $\alpha$ -Lipoic acid on arsenic induced oxidative stress in developing rat kidney
5. Development and aging of the human auditory system
6. Age changes in the human trochlear, abducent and cochlear nerve
7. Morphology of the fetal and adult human pancreatic duct system
8. Effect of antioxidants on sodium arsenite induced neurotoxicity in the developing rat cerebellum
9. Radiographic evaluation of morphological & morphometric features of mental foramen
10. Morphometric evaluation of Mandibular condyle using Cone Beam Computed Tomography
11. Effect of arsenic exposure during early post natal period on rat kidney
12. Role of s-VEGFR in endoplasmic reticulum stress in preeclampsia
13. Effect of hypoxia on the expression of PPARs and angiogenic factors in trophoblast cells
14. Status of Histone acetyl transferase and SIRT 1 expression in a rat model of light-induced retinal damage

### ***Completed***

1. Effect of lipoic acid as an antioxidant supplement on arsenic induced toxicity in developing rat hippocampus

## **Collaborative**

### ***Ongoing***

1. Evaluation of development of neurosurgery skills by hands-on skills training and interactive virtual training. (Neurosurgery)
2. Expansion of DST and DBT Sponsored Neurosurgery Skills Training Facility and Development of 3D Virtual Training Modules for Neurosurgery Skills Training. (Neurosurgery)
3. Oxidative stress assessment in Follicular fluid in Endometrioses and PCOS. (Obstetrics & Gynaecology)
4. Role of Oxidative stress and DNA damage in unexplained fetal malformations. (Obstetrics & Gynaecology)
5. Levels of oxidative stress biomarkers in follicular fluid of women with PCOS undergoing IVF and its relation with ART outcome (Obstetrics & Gynaecology)
6. Assessment of oxidative stress in Amniotic Fluid in congenital malformed fetuses diagnosed by USG (Obstetrics & Gynaecology)
7. Clinical, radiological and genetic study in Blepharophimosis, Molecular analysis in congenital cataract (RP Centre)
8. Investigation of genetic variations in CH13L1 and effect of YKL-40 production in Indian Asthmatic patients; Markers of stress and their contribution with mild cognitive impairment and dementia; Mutation screening of GPR-65 in LGS; Evaluation of Reflexology as an adjunctive therapy in patients with Lennox Gastaut Syndrome. (Biophysics)
9. Randomised controlled trial to compare the efficacy of doxycycline alone and in combination with Diclofenac on oxidative status in infertile men (Obstetrics and Gynaecology, LHMC, N Delhi)
10. A study of chronic exposure to magnetic field on pain status of fibromyalgia patients (Physiology)
11. Molecular and Clinical profile in intractable epilepsy (Neurosurgery)
12. Study on the genotype-phenotype correlation in Asian Indian patients with growth hormone deficiency. (Endocrinology)

13. MEN1 gene mutation in patients of primary hyperparathyroidism, pancreatic tumors and pituitary tumors and its clinical implications. (Department of Endocrinology)
14. Congenital Adrenal hyperplasia – genotype phenotype correlation. (Endocrinology)
15. A study on the molecular etiology underlying skeletal dysplasia. (Endocrinology)
16. A study on the association of Monoaminergic pathway gene polymorphisms and opioid dependence (NDDTC)
17. The spectrum of 11p13 and 11p15 deletions in Wilm’s tumour with histological correlation (Pathology)
18. Assessment of fine needle aspiration cytology for molecular genetic analysis in neuroblastoma (Paediatric Surgery)
19. Clinical and mutational spectrum of Fuch’s endothelial dystrophy in Indian population (RP Centre)
20. Determinants of disc morphometry in juvenile open angle glaucoma (RP Centre)
21. Identification of HLA alleles and correlation with Prakruti types (NMR)
22. Feasibility study of a novel intradoses access device for emergency vascular access (Cardiac Radiology, IIT and Stanford University)
23. Department of Science and Technology DST FIST Program Level 2. Department of Computer Science and Engineering: IIT Delhi as Repository- Centre for Archival transmission and Computing (Neurosurgery)
24. Functional development of the visual cortex following prenatal repetitive auditory stimulation in chicks (*Gallus domesticus*): role of noradrenaline (Physiology)

### Completed

1. Role of TNF- $\alpha$  in the pathogenesis of experimental acute pancreatitis and the effect of anti-TNF- $\alpha$  therapy in attenuating the severity of pancreatitis and in the subsequent regeneration of the pancreas. TS Roy, ICMR, 2009–12, Rs 29.81 lakhs (with Gastroenterology)
2. Comparison of administration of bone marrow mononuclear (BMMNCs) in combination with melatonin versus BMMNCs alone in middle cerebral artery occlusion model of stroke in rats. TS Roy, DBT, 2009–12, Rs 29.7 lakhs (with Neurology)
3. A study on the molecular aetiology underlying skeletal dysplasia. A Sharma, AIIMS, 2010–12, Rs 2.0 lakhs.

### PUBLICATIONS

**Journals: 34                      Abstracts: 5                      Chapters in books: 3**

### PATIENT CARE

#### Genetic Diagnostic and Counselling Services

Cytogenetic analysis	341	Yq microdeletion analysis by PCR	59
Seminal ROS estimation	325	Karyotyping	490
Molecular diagnosis of genetic disorders, prenatal diagnosis and counselling			61

#### Embalming of dead bodies

For transportation	785	For teaching/research	19
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#### Fluorosis Diagnostic Laboratory: Fluoride estimation

Urine Blood/serum	180	Drinking water	70
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### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Shashi Wadhwa** was nominated for the Prof. BK Bacchawat Memorial Lifetime Achievement Award of IAN- 2013; nominated member, Standing Academic Committee, Sher-i-Kashmir Institute of Medical Sciences, Srinagar; Chief Guest and inaugurated DST sponsored Inspire Internship programme, 8 January 2013, Amity University Campus, Haryana; delivered inaugural talk on ‘Environment and the developing brain’ to students of 12th class from various schools; invited by Department of Health Research, Govt. of India, to participate in meeting of expert group on ‘Human Resource Development for Institutions’, New Delhi, 14 Mar 2013; chairperson, review committee to finalize the Twelfth Five-year Plan programme on ‘Improving combat efficiency at High and Extreme altitude’, DIPAS, New Delhi, 21 March 2013; member, National Apex Committee for Stem Cell Research and Therapy; member, CSIR travel grant committee;

selection committee member for promotion of scientists at the NBRC, Manesar, Haryana; external examiner for MD examination of Lucknow University; external examiner, PhD thesis, SGPGI, Lucknow; external expert, selection of Senior Technical Officer in Electron microscopy at CCMB, Hyderabad; Officer in Charge, Electron Microscope Facility (till December 2012); Central Public Information Officer (CPIO) for disclosure under RTI for Anatomy Department; Chairperson, Deans' committee; Member, Patent cell committee, Institutional committee for stem cell research and therapy; member, editorial board, Journal Anatomical Society of India; reviewed neuroscience research projects and annual project reports for ICMR and DBT; chaired session at XXX Annual Conference of Indian Academy of Neurosciences (IAN) and the International Symposium on 'Translational Neurosciences: Unravelling Mysteries of Brain in Health and Disease' Guru Nanak Dev University, Amritsar, 27–30 October 2012.

**Professor R.D. Mehra** was member, Selection Committee, selection of Assistant Professors in Anatomy; invited Expert, Senior Research Fellow selections, Vardhaman Mahavir Medical College, IP University; member, Panel for selection of Jyotsna Raghunath Bhattacharya prize of IAN in October 2012; Member, Board of Selectors of six AIIMS like Institutions of Govt. of India for appointment of faculty in Anatomy; Expert, selection of Sr. Tutors in Anatomy at AIIMS; member, Exhibition Committee for Institute Day celebrations and Co-ordinator for 15 August and Institute Day Cultural Programme; reviewed neuroscience research projects for ICMR, DBT, DST, CSIR and manuscripts for publication in Brain Research, Neurosciences letters, International journal of Sciences and Life Science; nominated Chairperson of Window AC Committee; member, Chronic Disease Biology (Neuroscience, biomarkers and neuroengineering), Task Force of DBT; chairperson, reception committee for Convocation; Election Commissioner, Students Union Election 2013; Convenor and Chairperson, Symposium on 'Brain Aging and Plasticity', XXX Annual Conference of Indian Academy of Neurosciences and International Symposium on Transitional Neurosciences: Unravelling Mysteries of Brain in Health and Disease', 27–30 October 2012, Amritsar; member, national committee and chairperson, scientific committee of the 27th conference of Society for Neurochemistry (SNCI) International Conference on Recent Advances in Molecular Mechanisms in Neurological Disorder, 21–23 February 2013, New Delhi.

**Professor T.S. Roy** was nominated executive and life member of the Association of Gerontology, India; member, editorial board, Pancreas; coordinator and member, Medical Council of India expert committee for evaluation of medical colleges in India; examiner and expert for postgraduate examination and faculty selection committee for various Indian Universities; member, Board of Studies, Department of Anatomy, Aligarh Muslim University, Aligarh; worked as expert in establishment of new medical college in Delhi (MCD); reviewed projects on neurosciences for various research organizations and manuscripts for the journal, Clinical Anatomy, Pancreas, National Medical Journal of India, Indian Journal of Medical Research, PLoS One, Brain Research and Neuroscience Letters; member, Review committee of intramural projects funded by AIIMS, chaired a session on 'Medical Gerontology' in the International Symposium on aging (ISOA 2012) and 16th Biennial Conference of Association of Gerontology, 1–3 October 2012, Shillong, India.

**Professor P. Dhar** was Inspector for Medical Council of India; set paper and examiner for MBBS, MD (Anatomy) at various institutes and universities; reviewer for manuscripts submitted to BJMMR; member, Teaching Schedule and Anti-ragging Committee of AIIMS; Attended training Course, 'Enhancement of training skills for faculty members of training institutes and health professionals', National Institute of Health and Family Welfare (NIHFW), 11–15 Mar 2013, New Delhi.

**Professor S.B. Ray** served as an external examiner for first professional MBBS examination, University of Delhi; Visiting Faculty, Jiwaji University, Gwalior; reviewed manuscripts for Molecular Medicine and Indian Journal of Experimental Biology.

**Dr Rima Dada** was awarded the Lalor foundation award and NIH travel grant by American society of Andrology in its annual meeting at Arizona, USA; jury member for Medical Research Council fellowships, Edinburgh and for Royan International research awards in Reproductive Biomedicine and Stem cells, Iran; reviewed articles submitted to Journal of Reproduction and Contraception, PLoS One, American J of Human genetics, RBM on line, Indian Journal of Medical Research, Andrologia, Fertility and Sterility, Mitochondrian, BMJ case report, Andrologia, J of Paediatric Neurology and J of Paediatric Biochemistry, Indian Journal of Urology Genetics and Molecular Research, Current Paediatric Research, Human

Reproduction, Expert Reviews in Gynaecology and Obstetrics, Asian J of Andrology, Indian Journal of Medical Research, Indian J of Urology, Indian J of Biochemistry and Biophysics, Breast cancer Research and Treatment, reviewed projects submitted to DBT, ICMR, Indo US technology Forum and Wellcome Trust; editorial board member, J of Paediatric Neurology and J of Paediatric Biochemistry, The open Andrology Journal, International J of Medicine; nominated as member of American Society of Andrology and the Indian Society of Fertility; member of ICMR task force on male Infertility; member, Core committee of AIIMS convocation, AIIMS institute day exhibition and cultural evening; anti ragging committee and member of Institute Biosafety committee on Recombinant DNA research; Attended 9th International Congress of Andrology, 23–26 February 2013, Melbourne, Australia, and presented 2 posters; also attended the postgraduate course.

**Dr Arundhati Sharma** nominated expert of the Metabolism and Molecular Research Society for mapping various genetic diseases prevalent in the northern part of the country and to create a database of the common and rare mutations in this region; nominated Quality Manager of the Department for the NABL accreditation of AIIMS laboratories; External examiner, practical and viva voce examinations of the MSc Molecular Human Genetics students of Jiwaji University, Gwalior; external examiner for PhD, ICMR-SRF fellowships and MD thesis from various Institutes and Universities; reviewed several projects for the Department of Biotechnology (DBT), Council for Scientific and Industrial Research (CSIR), and several papers from national and international journals; participated in Institute day poster exhibition and workshop on health and medical research to popularize the importance of genetic testing; imparted training to senior faculty and MBBS students from various universities in the field of genetics; team's work on genetic basis of growth hormone deficiency and standardization of prenatal diagnosis won an award at the ESICON Kolkata; External Faculty for Genetics at the Department of Molecular Human Genetics, Jiwaji University, Gwalior; facilitated dissemination of information on C-Camp, a teaching and training platform of DBT, India; Nominated to undergo training conducted by Bureau of Indian Standards and National Institute for Training for standardization on 'Medical laboratory quality management system and internal audit as per IS/ISO 15189, 8–11 August 2012, AIIMS, New Delhi; Attended 'Technology Training Platform for Research – Advanced Module: Genome wide analysis of expression arrays', Research section AIIMS, 16–18 February 2013, AIIMS, New Delhi.

**Dr Renu Dhingra** was appointed member of the international scientific committee for ICP2012 held in Beijing, China; reviewed abstract proceedings of the ICP2012 and was chairperson for a scientific session; reviewed a paper for the journal of International Society of Plastination; on the editorial board of Journal of International Society of Plastination; member, International Society of Plastination; member, DBT task force on premature placentas and executive member of DASMOS; reviewed annual reports and research projects for ICMR; member, teaching schedule committee, academic advisory panel for virtual teaching in AIIMS and the committee for rules for student conduct.

**Dr T.C. Nag** reviewed manuscripts for Indian Journal of Ophthalmology, Experimental Eye Research; member, International Society for Eye Research (USA).

**Dr S. Kaler** participated in workshops 'Effective Teaching through Microteaching', and 'MCQ and Item Analysis', November 2012 and February 2013 respectively organised by KL Wig CMET, AIIMS, New Delhi; attended the 'XXX Annual Conference of Indian Academy of Neuroscience (IAN) and International Symposium on Translational Neurosciences', 27–30 October 2012, Guru Nanak Dev University, Amritsar.

## 9.3 Biochemistry

### Professor and Head

Neeta Singh

### Professors

Subrata Sinha (on deputation)  
S.S. Chauhan

D.N. Rao

Nibhriti Das  
M.R. Rajeswari

### Additional Professors

P.P. Chattopadhyay  
Alpana Sharma

Kalpana Luthra  
Kunzang Chosdol

### Assistant Professors

Sudip Sen

Archana Singh

### HIGHLIGHTS

- 30 research projects are ongoing in the department funded by various national and international agencies such as DBT, DST, ICMR, CSIR, DRDO, Indo-Canadian and UKIERI, amounting to Rs. 15.8 crores and 15 research projects were completed this year.
- 48 publications and 13 abstracts published in indexed National and International journals.
- 2 books and 2 chapters in different books were also published by the faculty.
- Three faculty members received AIIMS Excellence award 2012 for best publications.
- Department faculty members have presented their research work at various national and international scientific forums.
- Six guest lecturers were delivered in the department by eminent scientists from abroad.
- The department organized the International Conference on 'Recent advances in Molecular mechanisms of Neurological disorders' and the symposium on 'Emerging Trends and Molecular Targets in Cancer Diagnostics and Therapeutics (IACR)'.
- Patient care services are being provided free of cost for a number of tumour markers.

### EDUCATION

#### Undergraduate

The department continues with its UG teaching programmes which includes MBBS (two semesters), Nursing (one semester) and BSc (Hons) Nursing (one semester). New problem-based modules have been incorporated for small group discussions to facilitate self-directed and contextual learning of biochemical concepts. Two UG students received short term training.

#### Postgraduate

These include 8 MSc and 12 MD students. The department also has 31 PhD students.

#### Conference Organized

- International Conference ([www.snci2013.com](http://www.snci2013.com)): Organizing Secretary, Dr MR Rajeswari, 27th Annual Meeting of "Society for Neurochemistry, India" and International Conference on 'Recent advances in Molecular mechanisms of Neurological disorders', AIIMS, 21–24 February 2013, which had more than 300 participants from India and abroad.
- Symposium on 'Emerging Trends and Molecular Targets in Cancer Diagnostics and Therapeutics', (Dr Neeta Singh, Chairperson), AIIMS on 8 December 2012 under Delhi Chapter of Indian Association for Cancer Research (IACR).

#### Continuing Medical Education, National and International Conferences

##### Lectures delivered

Neeta Singh: 4

D.N. Rao: 6

Nibhriti Das: 4

M.R. Rajeshwari: 5

Alpana Sharma: 3

Kunzang Chosdol: 3

## RESEARCH

### Funded projects

#### Completed

1. Evaluation of curcumin in the management of advanced cancer cervix, Neeta Singh, DBT, 2006–12, Rs. 59 lakhs.
2. Development of vaccine for plague using YscF antigen, D.N. Rao, ICMR, 2010–12, Rs. 8.00 lakhs.
3. Role of immuno, clinical and cytokine gene polymorphism and their correlation with recovery in patients with post-traumatic shock, D.N. Rao, ICMR, 201013, Rs. 24 lakhs.
4. A study to assess the effects of long term obstruction of epididymis on the morphology, functional and chromatin status of epididymal spermatozoa in men: Comparison with ejaculated sperm from men of proven fertility, D.N. Rao ICMR, 2008–12, Rs. 20 lakhs.
5. Studies on the effect of DNA-Binding ligands on the expression of C-Met, a receptor tyrosine kinase in hepatoma using Rat Model System. M.R. Rajeswari, DST, 2010–13, Rs. 37.60 lakhs.
6. Characterization of circulating cell-free mRNA species of differentially expressed proteins in plasma and to correlate with molecular pathogenesis of Freidreich's Atazia, M.R. Rajeswari, ICMR, 2010–13, Rs. 28.80 lakhs.
7. Identification and characterization of the prevalent *B-lactamase* in carbapenem-resistant strains of *Acinetobacter baumannii*, M.R. Rajeswari, ICMR, 2010–13, Rs. 27.14 lakhs.
8. Hypoxia and p54-HIC1 axis in stemness of glial tumors and cell lines, P. Chattopadhyay, DBT, 2009–12, Rs. 51.50 lakhs.
9. Therapy of infectious and chronic diseases: Targeted gene delivery and long-term specific modulation of gene expression, P. Chattopadhyay, DBT, 2009–12, Rs. 189.82 lakhs.
10. Characterization of HIV-1 envelope in natural infection: immune-focussing vaccine development, Kalpana Luthra, ICMR, 2010–12, Rs 32 lakhs.
11. Production and characterization of site-selected human monoclonal antibodies against the envelope glycoprotein of HIV-1 (Clade-C), Kalpana Luthra, DBT, 2010–12, Rs. 55 lakhs.
12. Telomerase activity and telomere length in T-cells in patients of Parthenium induced contact dermatitis and its correlation with disease severity. Alpana Sharma, DBT, 2008–12, Rs. 38 lakhs.
13. Role of angiogenic factors and cyclooxygenase in multiple myeloma. Alpana Sharma, ICMR, 2009–12, Rs. 30 lakhs.
14. An in-vitro study of the role of FAT, a *Drosophila* tumor suppressor gene homologue, in human glial tumorigenesis. Kunzang Chosdol, DRDO, 2008–12, Rs. 46.41 lakhs.
15. A comparison of gene expression in glioblastoma cell lines under short and long term exposure to hypoxia with reference to the key cellular regulatory and adaptive pathways. Kunzang Chosdol, ICMR, 2009 –12, Rs 30.50 lakhs.

#### Ongoing

1. Effect of non-ionizing electromagnetic fields (EMF) on human health, Neeta Singh, ICMR, 2010–15, Rs. 91.73 lakhs.
2. Development of HPV18 chimaeric vaccine candidate. Neeta Singh, DBT, 2011–13, Rs. 23.85 lakhs.
3. Development of cancer prognostic test for prediction of aggressive disease in breast cancer patients. Neeta Singh, Indo–Canada, 2013–015, Rs. 40 lakhs.
4. Nano particle based vaccine for chikungunya. D.N. Rao, DST, 2013–16, Rs. 50 lakhs.
5. Effect of non-ionizing electromagnetic fields (EMF) on hematological and biochemical parameters of normal male and female volunteers. D.N. Rao, ICMR, 2012–15, Rs. 25 lakhs.
6. Effect of non-ionizing Electro Magnetic Fields (EMF) on human health. D.N. Rao, ICMR, 2010–15, Rs. 26.92 lakhs.
7. To evaluate the FoxP3 mediated immune suppression mechanism via chromatin remodeling during the leprosy disease progression. D.N. Rao, ICMR, 2011–13, Rs. 20 lakhs.
8. Development of IgM based diagnosis for Chikungunia virus infection. D.N. Rao, CSIR, 2010–12, Rs. 16 lakhs.
9. To clone and express E1, E2 and E3 proteins of Chikungunya virus and synthesize peptide spanning these sequences to identify B & T cell epitopes to develop subunit vaccine for Chikungunya virus. D.N. Rao, DRDO, 2011–14, Rs. 36 lakhs.
10. A new research partnership between the University of Liverpool and AIIMS, India, Nibhriti Das, British Council (International collaborative UKIERI project), 2012–14, Rs. 20.34 lakhs.

11. Translating head and neck cancer markers into diagnostic assays. S.S. Chauhan, DBT (Indo-Canada), 2010-13, Rs. 78.51 lakhs.
12. Anti-gene strategy of gene regulation: Formation and stability of DNA triplexes and their anticancer activity on HMGAI expression in cell lines. M.R. Rajeswari, DST, 2010-13, Rs. 53 lakhs.
13. Plasma circulating mitochondrial DNA in the assessment of Friedreich's ataxia (FA). M.R. Rajeswari, ICMR, 2010-13, Rs. 46.27 lakhs.
14. Promoter mediated tumor cell targeting by siRNA mediated gene silencing. P. Chattopadhyay, DBT, 2011-13, Rs. 33.54 lakhs.
15. Immune network in the pathogenesis of pediatric HIV-1 infection. Kalpana Luthra, DBT, 2012-15, Rs. 79.83 lakhs.
16. Functional characterization of dendritic cells in HIV-1 Infection. Kalpana Luthra, DST, 2012-15, Rs. 37 lakhs.
17. Identification of neutralizing antibody epitopes on Indian and South African HIV-1 subtype C viruses for HIV vaccine design. Kalpana Luthra, DST, 2011-14, Rs. 68.4 lakhs.
18. Characterization of genetic diversity and neutralizing antibody response in HIV-1 infected Indian children. Kalpana Luthra, ICMR, 2011-14, Rs. 29 lakhs.
19. Evolution of the HIV-1 clade C envelope in chronically infected Indian paediatric patients. Kalpana Luthra, DBT, 2012-15, Rs. 91.89 lakhs.
20. Generation and characterization of pseudoviruses from Indian HIV-1 infected patients. Kalpana Luthra, AIIMS, 2012-13, Rs. 6 lakhs.
21. Study of  $\gamma\delta$  T cells and its scavenger receptor (SCART) in the pathogenesis of autoimmune skin disorder: Pemphigus vulgaris. Alpana Sharma, DBT, 2011-14, Rs. 47.51 lakhs.
22. Study of Th-1 and Th-2 type cytokine gene polymorphism and their association with Parthenium induced contact dermatitis. Alpana Sharma, ICMR, 2010-13, Rs. 25.33 lakhs.
23. Role of Th17 and Treg lymphocytes in the pathogenesis of Pemphigus vulgaris. Alpana Sharma, CSIR, 2012-15, Rs. 28 lakhs.
24. Molecular and proteomic profiling of HAS in transitional cell carcinoma. Alpana Sharma, ICMR, 2012-15, Rs. 29.59 lakhs.
25. Study of circulatory levels of Fibulin-1 and Nidogen (Extracellular matrix proteins) in multiple myeloma. Alpana Sharma, AIIMS, 2011-13, Rs. 3.3 lakhs.
26. To analyse the link between cancer and inflammation by studying the interaction between *FAT1* and Cyclooxygenase 2 (*COX2*) at the level of signal transduction, cell growth properties and expression of inflammatory modulators. Kunzang Chosdol, DST, 2011-14, Rs. 20.24 lakhs.
27. Hypoxia and Notch signaling in Glioblastoma: Implications for an adverse phenotype. Kunzang Chosdol, DBT, 2011-14, Rs. 47.81 lakhs.
28. Integrative investigation on critical transcriptional modules involved in proliferation of malignant cells. Sudip Sen, DBT, 2012-15, Rs. 27 lakhs.
29. Isolation and molecular characterization of colorectal cancer stem cells. Sudip Sen, AIIMS, 2012-14, Rs. 5 lakhs.
30. Effect of heating on the trans-fatty acid content of commonly consumed Indian edible oils and fried snacks in South Delhi. Archana Singh, DST, 2011-14, Rs. 17.8 lakhs.

## **Departmental projects**

### ***Completed***

1. Generation of potentially neutralizing recombinant antibodies against Hepatitis B virus.
2. To study and correlate the expression of Notch signaling molecules, Epithelial-mesenchymal transition (EMT) markers and HIF1alpha in glioblastoma multiforme.
3. Characterization of FAT (Tumor suppressor) pathway in Human glial tumors.
4. Notch and related pathways: Their interaction in glial tumorigenesis and hypoxia.
5. Modulation of curcumin responsive pathways by hypoxia: a study in glial cells.
6. Insights into molecular mechanism of action of *Morinda citrifolia* in cervical cancer cells.
7. Insights into the role of one carbon metabolism in the progression of cervical carcinogenesis.
8. Role of mitochondria in epithelial ovarian cancer – an in vivo and in vitro study.

### ***Ongoing***

1. Development of HPV18 candidate vaccine prototype.

2. Evaluation of genetic alterations in DNA repair genes and mitochondrial DNA in HPV associated cervical cancer progression.
3. Effect of non-ionizing Electro Magnetic fields (EMFs) on human health.
4. Evaluation of effects of metformin on epithelial ovarian cancer.
5. Levels of complement receptor 1 & 2 (CR1 and CR2) in the blood cells in relation to Rheumatoid Arthritis.
6. Expression and modulation of leukocyte Complement Receptor 1 and CD59 (Protectin) in relation to rheumatoid arthritis.
7. Expression and modulation of complement regulatory proteins DAF (CD55) and MCP (CD46) in relation to the pathophysiology and clinical disease activity of rheumatoid arthritis.
8. Elucidation of the role of calcium signaling in pathophysiology of systemic lupus erythematosus and its correlation with the expression of complement regulatory proteins, MCP and CD59.
9. Thermodynamic stability of binding of triplex forming oligonucleotides with different regions of *hmgal* gene and their effect on *hmgal* expression.
10. Structural studies on DNA containing (GAA) or (CAG) trinucleotide repeats and proteomic analysis in Friedreich's ataxia (FRDA) and spinocerebellar ataxia (SCA) associated with these repeats.
11. In vitro stability and thermodynamics of DNA triple helices, targeted to *hmgbl* and their effect on HMGB1 expression in cancer.
12. Effect of iron availability on the survival of  $\beta$ -lactam-resistant *Acinetobacter baumannii*: A proteomic approach.
13. Production and characterization of human antibodies against the envelope glycoprotein of HIV-1, Clade-C.
14. Genetic polymorphisms of *IRS-1*, *TNF- $\alpha$*  and *PPAR $\gamma$*  in insulin-resistance and their association with metabolic profile.
15. Generation and characterization of single chain variable region (scFv) antibody fragments against envelope gp120 of HIV-1, Clade C.
16. Molecular and immunological characterization of Indian HIV-1 subtype C primary isolates Purification and characterization of clones from HIV-1 anti-V3 human scFv phage library.
17. Th1 and Th2 Cytokine gene polymorphism in parthenium induced contact dermatitis.
18. Study of hyaluronic acid signaling cascade in urothelial carcinoma.
19. Study of cytokines, transcription factors, chemokine receptors and their ligands of Th17 and Treg cells in pemphigus vulgaris.
20. Expression of cytokines and transcription factor of Th17 cells in patients of transitional cell carcinoma of the bladder.
21. Expression of Versican, and its associated molecules in Indian patients of multiple myeloma.
22. Study of small-leucine rich proteoglycans in transitional carcinoma of urinary bladder.
23. Study of telomerase activity and shelterin complex and its associated factors in multiple myeloma.
24. Generation and characterization of recombinant immune antibody libraries for hepatitis B virus.
25. FAT1 and inflammation related pathways in glioma.
26. FAT1 and YAP1: Functional interaction and role in glioma cell survival and proliferation.
27. Regulation of FAT1 gene expression in glioma.
28. To study the gene expression in GBM cell lines under different degrees of hypoxia and the role of p53 in HIF1 regulation under severe hypoxic condition.
29. Analysis of gene expression in colorectal cancer stem cells.
30. Analysis of the expression of mucins and angiogenesis markers in human oral mucosal epithelial cells (OMEC) on using mycophenolate mofetil (MMF) and Bevacizumab (BVCZ) *in vitro*.

## **Collaborative projects**

### ***Completed***

1. Role of cobalt chloride induced hypoxia on MA10 cells (Reproductive Biology).
2. Isolation and analysis of the outer membrane proteins, beta lactamases of *Acinetobacter baumannii* (Microbiology).
3. A comparative evaluation of levels of interleukin-1- $\beta$  in GCF during canine distraction and canine refraction, (Dental Surgery).
4. An evaluation of the effect of shortened dental arches on the bite force and mastication efficacy- A pilot study, (Dental Surgery).

### **Ongoing**

1. To study the safety and efficacy of iv estrogen as a therapeutic agent for the treatment of hemorrhagic shock patients at the level 1 (Trauma Centre).
2. To study the role coenzyme on oxidative stress mediated dysfunction and idiopathic recurrent miscarriage, (Obstetrics and Gynaecology).
3. Mitochondrial CNA, CNA and other biochemical parameters of Neurological disorders Freidreich's ataxia and spinocerebellar ataxia, 2, 3, 12 (Neurology).
4. Development of diagnostic panel of blood biomarkers for acute ischemic stroke (Neurology).
5. Proteomic analysis of host parasite interactive proteins of Cryptosporidium (Microbiology).
6. Characterization of Salmonella enterica serotype typhi strains from North India (Microbiology).
7. A comparative evaluation of levels of interleukin-1- $\beta$  in GCF during canine distraction and canine refraction, (Dental Surgery).
8. Structural characterization of *plasmodium vivax* tryptophan rich antigens (Biotechnology).
9. HMGB1 proteins in peri-implantitis around temporary anchorage device (TAD) (Dental Surgery).
10. Studies on N-22 region of Torque Teno virus: cloning, expression and use of peptides in immunologic and proteomic analysis (Laboratory Medicine).
11. Role of soluble vascular endothelial growth factor receptor -1 on endoplasmic reticulum stress in pre-eclampsia: An in vitro study (Anatomy).
12. Effect of progressive resistance exercise training (PRT) on hepatic fat in Asian Indians with non-alcoholic fatty liver disease (NAFLD) (Medicine).
13. Effect of hypoxia on the expression of PPARs and angiogenic factors in trophoblast cells: An in vitro study (Anatomy).
14. Role of T helper cytokines in skin autoimmune disorder Pemphigus vulgaris (Dermatology and Venereology).
15. Study of catecholamines in melanocyte transplanted patients of vitiligo (Dermatology and Venereology)
16. Study of T regulatory cells in Vitiligo (Dermatology and Venereology)
17. Epithelial-Mesenchymal transition (EMT) in carcinoma of the eyelid: An immunohistochemical and molecular study (Dr RP Centre).
18. To study the effect of climate, air pollution, and socio economic factors on health (immunological) and disease state (Rheumatoid arthritis) (Medicine).
19. Determination of catecholamines and their metabolites in vitiligo patients undergoing melanocyte transplantation (Dermatology and Venereology).
20. Elucidating Foxp3 expression and Foxp3 promoter methylation level in active non-segmental vitiligo (Dermatology and Venereology).

### **PUBLICATIONS**

**Journals: 48      Abstracts: 13      Chapters in books: 2      Books: 2**

### **PATIENT CARE**

Tumor marker tests: 955 samples

PSA: 28 samples

CA 19.9: 393 samples

CEA: 534 samples

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Mr Zahid Akhter**, PhD student was awarded the best poster at the Indian Association for Cancer Research, 13–16 February 2013.

**Dr Amarpreet Kaur**, MD student was awarded the ACBR Young Scientist Award for best oral presentation at Indian Association for Cancer Research, 13-16 February 2013.

**Professor Neeta Singh** was Member, Selection Committee for faculty selection for six AIIMS like Institutes; Employees' State Insurance Corporation (ESIC); Ram Manohar Lohia Inst. of Med. Sciences, Lucknow; Inst. of Liver and Biliary Sciences, New Delhi; Pandit B D Sharma Univ. of Health Sciences, Rohtak; Member, Organizing Committee, 32nd Annual Convention of IACR 2013, Emerging trends in cancer research road to prevention and cure–International Symposium on infection and cancer, New Delhi, 1–16 February 2013; Member, Dean's Committee, B. B. Dixit Library Committee, Hospital Management Committee and Anti ragging Committee, AIIMS; Chairperson, Teaching Schedule Committee; Elected Vice President of Indian Association for Cancer Research; Secretary (Delhi Chapter), Indian Association for Cancer Research;

Editorial Board member, Indian Journal of Clinical Biochemistry; Member, International Union Against Cancer (UICC); American Association for Cancer Research (AACR); Indian Society of Cell Biologists; Indian Women Scientists Association; Indian Society of Lung Cancer and Indian Society for Free Radical Research in India; Asia-Oceania Research Organization in Genital Infection and Neoplasia (AOGIN); Association for Clinical Biochemists of India (ACBI); Fellow, National Academy of Medical Sciences, India; Subject expert/Committee member, Life Sciences Committee of Women Scientists Scheme of DST; for R&D programme for North-Eastern Region 2012—Medical Biotechnology Committee of DBT; Expert, Staff assessment, Rajiv Gandhi Centre for Biotechnology, Trivandrum; MCI Inspector, moderator and onsite assessor for DNB of NBE, New Delhi; Member, Technical/Specifications committee for procurement of equipment for six AIIMS like Institutes by HLL and various other committees at AIIMS; Chairperson, Symposium on Emerging Trends and Molecular Targets in Cancer Diagnostics and Therapeutics, AIIMS, 8 December 2012 under Delhi Chapter of Indian Association for Cancer Research (IACR); Project Reviewer for Ganga Ram Hospital, DBT, DST, ICMR, CSIR, Council for Science and Technology, UP; Indo-French, Indo-US research proposals; Reviewer for J. of Interferon and Cytokine Research, Intl. J. of Cancer, Indian Journal of Clinical Biochemistry, Current Science. External examiner for PhD thesis of Mumbai University, Banaras Hindu University, Jamia Hamdard University, Panjab University, Kerala University.

**Professor D.N. Rao** was Recipient of first prize—AIIMS Excellence award 2012; Vice president of FIMSA; Secretary of Indian Immunology Society; Officer In-charge, CAF and Ethics Committee member of various institutions in Delhi; SAC member, project review member of various extramural funding agencies; Selection committee member, Various medical colleges and universities; Ethics committee member of small animals, human and stem cell of AIIMS and other institutions in Delhi.

**Professor Nibhriti Das** delivered the Dr GP Talwar Oration of the Association of Clinical Biochemist of India. 11–14 December 2012; ACBICON 2012 – Ranchi; Guest of honor for the inaugural session of CME, Immunology, KGMU, Lucknow, February 2013; Treasurer, Indian Immunology Society; professional member, American Heart Association; member, executive committee, IARS; Member, Selection Committee ESIC, Delhi; Six new AIIMS-like Institutes, and University of Health Sciences, Rohtak; Conducted MCI inspections; Project reviewer for DST, ICMR, etc.; Reviewer of publication for National and International Journal like NMJI, Lupus, human genetics, etc. Member, PG education committee, Jamia Hamdard.

**Professor S.S. Chauhan** was Member, Central Recruitment Committee of Research Staff; Apex Condemnation Committee; Institute day celebration Committee; Biotechnology Teaching Advisory Committee; Bio-safety Committee of Institute of Genomics and Integrative Biology, Delhi.

**Professor M.R. Rajeswari** was elected Fellow, Royal Society of Chemistry, 2012; awarded P.B. Rama Rao Memorial Award, Society of Biological Chemists, India, for her contribution in the field of biomedical Sciences 2012; Research Excellence Award –Certificate in recognition of research work (2011–12), AIIMS; received the Best oral presentation award (PG student S Charasia) at the Int. Conference at Sydney, Australia, 2012; Associate Editor, International Journal of Integrated Omics; reviewer Board Member of 'International Journal of Paed. Biochem'; active member of Executive Council of Society of Neurochemistry of India (2012–15); Executive Committee Member, DNA Society of India; Expert Member, Standing Committee on NMEICT of MHRD; Project Review Committee (Neurochemistry) ICMR; member of a number of committees of UGC; Reviewed research articles submitted to: Plos One, J. Mol. Bio Reports, J. Phys. Chem, Molecular Biosystems, Am Chem. Soc., DNA & Cell Biology, etc. Reviewer for research proposals of ICMR; Examiner of PhD and MSc thesis.

**Dr P. Chattopadhyay** was awarded the Second prize, AIIMS Excellence award 2012.

**Dr Kalpana Luthra** won the Best Poster Award for Anti-V3 human monoclonal antibodies and scFvs produced from Indian clade C human immunodeficiency virus Type-1 (HIV-1) infected patients' show cross clade binding and neutralization; Andrabi R, Kalra R, Bala M, Nair A, Khan L, Makdhoomi M, Ashutosh Tiwari, Biswas A, Wig N, Kumar P, Subrata Sinha, Luthra K. World conference on HIV & AIDS (WCHA-2012), Kottayam, Kerala, 9–11 November 2012.

**Dr Alpana Sharma** was Project review committee member R & D Twinning programme for NE region (DBT); Executive member, Indian Immunology Society; Reviewer for projects from DBT, DST and ICMR;

External examiner for PhD, MD and MBBS for various universities; member, American Association for Cancer Research and Int Gyne Cancer Society.

**Dr Sudip Sen** is Member, European Association for Cancer Research (EACR); course co-ordinator for course in advanced research techniques for faculty members of AIIMS; member, American Association for Cancer Research (AACR), Indian Association for Cancer Research (IACR), Association for Clinical Biochemists of India (ACBI); Completed training programme on 'Medical Laboratory Quality Management Systems and Internal Audit (ISO 15189)' held in August 2012 and declared competent to act as internal auditor for NABL Lab accreditation; Organizing Secretary for symposium on 'Emerging Trends and Molecular Targets in Cancer Diagnostics and Therapeutics', AIIMS, 8 December 2012, under Delhi Chapter of IACR.

#### **VISITING SCIENTISTS**

1. Professor David Hume, Director, Roslin Institute, University of Edinburgh, U.K. on 'Macrophage functional Genomics', 2 August 2012.
2. Dr Neelu Puri, Assistant Professor, Biomedical Sciences, University of Illinois, Chicago, USA on ' Role of C-Met and EGFR synergism and identification of targets causing resistance to their inhibitors', 30 October, 2012.
3. Professor Madhav Bhatia, University of Otago, Christchurch, New Zealand on 'Hydrogen Sulphide and substance P in inflammation: What is going on?', 13 December 2012.
4. Dr Vijayalaxmi, Department of Radiology, University of Texas Health Sciences Centre on 'Radiofrequency fields ( mobile phones), Genetic damage and Cancer: Evaluation of the International agency for research on Cancer', 4 February 2013.
5. Dr Rashmi Gopal Srivastava, Director, Extramural Research Programme, Office of Rare Diseases Research, NIH at National Center for Advancing Translational Sciences (NCATS), NIH, USA on 'Collaborations and Activities related to Rare Disease Research', 8 March 2013.
6. Professor Abhay Pandit, Director, Science Foundation Ireland Strategic Research Cluster (NFB), National University of Ireland, Galway on 'Developing Tissue Constructs with Inductive Signals', 28 March 2013.

## 9.4 Biomedical Engineering

### Professor and Head

Sneh Anand

### Professors

Alok R. Ray

Harpal Singh

Veena Koul

### Associate Professors

Nivendita K. Gohil

### Senior Design Engineer

S.M.K. Rahman

### Scientist

J.C. Bhardwaj

### Emeritus Fellow

D. Mohan

## EDUCATION

### National and International Conferences

Lectures delivered: 3

## RESEARCH

### Funded projects

1. Evaluation of Indigenous Noninvasive Blood Glucose Monitoring Technologies. Sneh Anand, ICMR, 2012–14, Rs. 71.39 lakhs.
2. Development of Low-Cost Versatile endoscopic Equipment System for Neurosurgery (Ventricular, Intra-Cranial and Skull-base surgery). Sneh Anand, DST, 2012–15, Rs. 86.03 lakhs.
3. Stanford–India Bidesign Programme. A.R. Ray, DBT, 2007–13, Rs. 1.64 crore.
4. 3D-expansion and differentiation of mesenchymal stem cell into osteoblast for bone tissue engineering on biocomposite scaffold. A.R. Ray, ICMR, 2010–13, Rs. 20.12 lakhs.
5. Multidisciplinary approach to combat cancer by targeted drug delivery using intelligent nano-particles. Veena Koul, DBT, 2010–13, Rs. 59 lakhs.
6. Development of functional polymeric materials for the rapid detection of food borne pathogens. Harpal Singh, DST, 2011–14, Rs. 26.20 lakhs.
7. Development of multifunctional biodegradable nanoparticles (NPs) nano crystals for cancer diagnosis and treatment. Harpal Singh, DST, 2011–14, Rs. 48.14 lakhs.
8. Long term effects of RISUG as an implant in fallopian tube of rabbits. J.C. Bhardwaj, ICMR, 2012–15, Rs. 39.21 lakhs.
9. Effects of Non-ionizing Electro Magnetic Field (EMF) on haematological and biochemical parameters of normal male and female human volunteers (Part of ICMR cell phone Task Force Study). J.C. Bhardwaj, ICMR, 2012–15, Rs. 49.98 lakhs.

### Collaborative project

1. Monitoring cognition of healthcare workers in emergency and intensive care setting and its relation to medical errors. Sneh Anand, DST, 2011–14, Rs. 29.42 lakhs (IIT, Delhi).
2. Develop an indigenous bite force measuring sensor to measure the bite force absorbed by the soft liner in complete denture patients. (Centre for Dental Education and Research).

### Technology transfer and Patents

1. Anand S, Singh U, Ribeiro R, Srivastava S, Mishra A, Joshi D, Singh R. Contralateral limb controlled prosthetic knee joint. (398/DEL/2012).
2. Anand A, Srivastava A. A surgical stapler. Application No. 242111 (5 January 2012).

3. Anand S, Bhargava B, Juneja R, Sareen M, Abhinav. Wireless ECG patch and system for obtaining high definition mobile ECG (228/DEL/2012).
4. Anand S, Koul V. Electronics assembly for iontophoresis transdermal drug delivery and device (filed for US patent). Application NO. 13/907, 768 (30 May 2013).

**Major facilities/equipment commissioned**

Ultracentrifuge, mammalian tissue laboratory and Gel permeation chromatography.

**PUBLICATIONS**

**Journals: 5   Abstracts: 1   Books: 1**

## 9.5 Biophysics

### Distinguished Biotechnology Research Professor

T.P. Singh

### Additional Professor and Head

Punit Kaur

### Additional Professors

A. Srinivasan

Savita Yadav

Sujata Sharma

### Associate Professor

Krishna Dalal

### Assistant Professors

Sharmishtha Dey

G. Hariprasad Rao

### Scientists

S. Baskar Singh

Asha Bhushan

### HIGHLIGHTS

The Department had 12 ongoing research projects and 4 completed research projects. It received a Fund for Improvement of Science and Technology Infrastructure in Higher Educational Institutions (FIST) grant from the Department of Science and Technology (DST), Government of India. In the past one year, faculty and scientists had 38 research publications in various peer reviewed journals. The Department continued to provide postgraduate education and short and long term training to MSc, PhD and MD students. The faculty members and scientists were invited to deliver lectures and seminars all over the country.

### 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.

#### National and International Conferences

##### Lectures delivered

T.P. Singh: 13

Punit Kaur: 6

Savita Yadav: 4

G. Hariprasad Rao: 6

### RESEARCH

#### Funded Projects

##### Ongoing

1. Protein structure determination and drug design, T.P. Singh, DBT, 2009–14, Rs. 55 lakhs.
2. Protein interactions of Alzheimer's peptide: picking the relevant to disease pathogenesis, A. Srinivasan, ICMR, 2011–14, Rs. 28 lakhs.
3. Screening of *Citrullus lanatus* proteome to isolate and purify anti-fungal proteins: A step towards formulation of Bio-fungicides to aid reduction of environment pollution, Savita Yadav, Ministry of Environment and Forestry, 2012–15, Rs. 20 lakhs.
4. HE4: A potential multifaceted role in human reproduction, Savita Yadav, DST, 2012–15, Rs. 29 lakhs.
5. Human Serum Albumin- Prolactin Inducible Protein (HSA-PIP) complex in seminal plasma: Role in fertility/Infertility. Savita Yadav, ICMR, 2012–15, Rs. 44 lakhs.

6. Infertility in crossbred bulls: Search for spermatogenic cell markers for early prediction of fertility, Savita Yadav, ICAR, 2012–16, Rs. 96 lakhs.
7. Structure and function of C-terminal half (C-lobe) of lactoferrin and its application as an agent to reduce NSAID-induced gastropathy, Sujata Sharma. DBT, 2011–14, Rs. 41 lakhs.
8. In search of anti-allergenic drugs: Determination of molecular structure-function interrelationships of plant allergens and structure-based design of anti-allergenic ligands, Sujata Sharma, ICMR, 2011–14, Rs. 30 lakhs.
9. Design and evaluation of novel peptide inhibitor as an anti-breast cancer agent against COX-2/LOX, Sharmistha Dey, CSIR, 2010–13, Rs. 15 lakhs.
10. Development of p38a mitogen activated protein kinase as a biomarker in oral cancer, Sharmistha Dey, ICMR, 2010–13, Rs. 20 lakhs.
11. Extraction, purification and characterization of medicinal proteins from plant source having antimicrobial, anti-inflammatory and anti-cancer properties, Sharmistha Dey, ICMR, 2012–14, Rs. 5 lakhs.
12. Comparative proteomic analysis of ovarian cancer tissue to understand the protein profile of responders and non-responders to first line chemotherapy. Hariprasad G, AIIMS, 2013–16, Rs. 10 lakhs.

### **Completed**

1. Expression of sperm proteins, lipids and sperm functional parameters in human treated with RISUG injected v/s NSV subjects: a comparative study, A. Srinivasan, ICMR, 2009-2012, Rs. 17 lakhs.
2. Isolation, purification and structural and functional characterization of new proteins from seminal plasma, Savita Yadav, DST, 2008–11, Rs. 22 lakhs.
3. Purification, biochemical and functional characterization of heparin binding proteins in human seminal plasma, Savita Yadav, DBT, 2008–11, Rs. 27 lakhs,
4. Proteomics of ascitic fluid for the differentiation of advanced ovarian cancer, Hariprasad G, DST, 2009–12, Rs. 15 lakhs.

### **Departmental projects**

1. Structural studies of Lactoferrin and its fragments and ligand design
2. Structural and functional studies of drug targets from *Acinetobacter baumannii*
3. Structural and functional studies of lactoperoxidase and peptidoglycan recognition proteins
4. Structure based drug design against Inflammatory disorders
5. Structural and functional studies of plant allergens
6. Biochemical and structural studies of ZAG-PIP complex, PSA and other heparin binding proteins from human body fluids
7. Structure-function relationships of Alzheimer related proteins
8. Proteomic studies of human salivary proteins and amniotic fluid
9. Molecular modelling and ligand design

### **Collaborative projects**

1. Structure determination of chitinase D from *Serratia proteamaculans*, Department of Plant Sciences, School of Life Sciences, University of Hyderabad.
2. Evaluation of antimicrobial properties of Peptidoglycan Recognition Protein from different sources. Department of Microbiology, University of Delhi.
3. Structure determination of the complexes of fungal lipase from *Thermomyces lanuginose*. Department of Chemistry, Indian Institute of Technology, New Delhi.

## **PUBLICATIONS**

**Journals: 34**

## **PATIENT CARE**

The following services are provided by the department:

1. Protein N-terminal sequencing
2. Receptor-ligand binding studies-Biacore
5. Peptide synthesis
6. X-ray intensity data collection for small molecules
7. X-ray intensity data collection for macromolecules

## **Central facilities**

Bioinformatics Centre for Drug Designing (ICMR supported)

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor T.P. Singh** was elected President, Indian Biophysical Society, 2013–15; received Bhramara's Y.T. Thathachari Award for Life Sciences, Mysore–2012; Delivered 52nd Agharkar Memorial Lecture at the DST-Agharkar Research Institute, Pune, 2012.

**Dr Punit Kaur** co-chaired a session at the Biophysical Society, 57th Annual Meeting, USA, 2–6 February 2013.

**Dr Savita Yadav** chaired a session in “Repromics-omics in reproduction and development”, 23rd Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (REPROMICS/ISSRF-2013), RGIB, Trivandrum, Kerala, 7–9 February 2013.

**Dr Sujata Sharma** organized a one-day conference titled ‘Current Trends in Structural Biology 2013’, 20 February 2013; awarded the AIIMS Excellence award–2012; Member, National Academy Medical Sciences, Indian Biophysical Society, European Peptide Society and Indian Peptide Society.

**Dr Hariprasad G.** became Member, National Academy of Sciences, India

## VISITING SCIENTISTS

Following eminent scientists and academicians visited the department to increase scientific cooperation and delivered lectures.

Professor Ch. Betzel, Germany

Professor Faizan Ahmad, New Delhi

Dr Ajay K. Saxena, New Delhi

Professor N.K Gupta, New Delhi.

Professor R.N. Kini, Singapore

Dr Pushkar Sharma, New Delhi

Professor M.N. Gupta, New Delhi

## 9.6 Biostatistics

### Professor and Head

R.M. Pandey

### Professor

S.N. Dwivedi

### Additional Professor

V. Sreenivas

### Assistant Professor

Maroof Ahmad Khan

### Scientists

Guresh Kumar

M. Kalaivani

### HIGHLIGHTS

The Department had more than 100 ongoing research projects, generally collaborative in nature; and 26 completed collaborative research projects with various centres/departments in the Institute. Faculty members and scientists served on various administrative and scientific committees in the Institute; Invited members of various scientific committees of the ICMR, DBT, DST, AYUSH; Served on Data Safety Monitoring Boards (DSMB) of several National and International Clinical Trials; Delivered over 30 invited lectures all over the country during various workshops on Research Methodology and Biostatistics; and, Examiners to various universities in the country. In the last one year, faculty and scientists had 98 research publications in various peer reviewed journals. Faculty members and scientists continued to be reviewer for almost all the major medical journals in the country and for a number of international medical journals from various medical specialties.

### EDUCATION

The department continued teaching 'Biostatistics and Essentials of Research Methods' for undergraduate, paramedical and postgraduate courses, viz. MBBS, BSc (Hons) in Medical Technology in Radiology, MBiotech, BSc, MSc (Nursing), and MD Community Medicine. As in past years, a series of 14 evening classes on 'Essentials of Biostatistical Methods and Research Methodology' was organized for residents, PhD students and other research staff at AIIMS. On request, faculty members delivered series of lectures for the residents, PhD students and participated in departmental scientific presentations in several departments in the Institute. Besides guiding PhD students in the department, faculty members and scientists contributed to the academic activities of other departments as Co-Guides, Doctoral committee members of PhD, DM, MCH and MD/MS students. To build capacity of data management and statistical analysis, three workshops on 'Hands on Training in using STATA' of 3–6 days duration were organised for new faculty members and PhD students.

### CMEs/Workshops/Symposia/National and International Conferences

#### Lectures delivered

R.M. Pandey: 7

S. N. Dwivedi: 10

V. Sreenivas: 7

Guresh Kumar: 2

M. Kalaivani: 2

#### Papers presented: 1

### RESEARCH

#### Funded projects

##### Ongoing

1. A study to quantify the research output of the faculty of AIIMS. V. Sreenivas. AIIMS, 2012–13. Rs. 5 lakhs.

### **Completed**

1. Hepatitis C – The Indian Face (National coordination of 11 centres). V. Sreenivas. Bristol Myers Squibb Foundation, 2010–13. Rs. 16 lakhs.

### **Departmental projects**

#### **Ongoing**

1. Trends, differentials and determinants of neonatal, infant and under-five mortality in Empowered Action Group States.
2. A study on appropriate statistical models to determine quality of life and mortality in head injured trauma patients.
3. Multilevel modelling to identify the factors associated with neonatal and post neonatal mortality in India.

#### **Completed**

1. Newborn screening for congenital hypothyroidism and congenital adrenal hyperplasia: A multicentric study.

### **Collaborative projects**

#### **Ongoing**

1. Evaluation of facial nerve morbidity in patients undergoing TMJ surgeries via pre auricular extended temporal incision (Oral and Maxillofacial Surgery, CDER).
2. Clinical, investigative and therapeutic profile of patients presenting with haemoptysis (Medicine).
3. 3D CD Scan evaluation of the anterior cruciate ligament footprint on femur and the position of femoral tunnel of single bundle, Anatomical ACL graft (Orthopaedics).
4. Randomized controlled trial of 1.5 MM 3D plate versus 2 MM single mini plate in the treatment of mandibular angle fracture (Centre for Dental Education and Research).
5. Comparison of incidence of infection in placebo V/s Amoxicillin+Clavulanic acid among mandibular third molar extraction: A non-inferiority randomized controlled trial (Oral and Maxillofacial Surgery, CDER).
6. Outcome implications of implementing sepsis resuscitation bundle in severe sepsis and septic shock (Medicine).
7. Evaluation of biosensor technology in the laboratory diagnosis of Gonorrhoea (Microbiology).
8. Prevalence of sleep abnormalities in autistic children: A cross sectional study (Pediatrics).
9. Effects of implementing a ventilator associated pneumonia (VAP) prevention bundle on outcome in patients on mechanical ventilation (Medicine).
10. Association of non alcoholic fatty liver disease with obstructive sleep apnoea in Asian Indians (Medicine).
11. Assessment of Quality of life (QoL) in Indian patients with genital herpes (Dermatology and Venereology).
12. Efficacy of low glycaemic index diet therapy in children with refractory epilepsy – a randomized controlled trial (Paediatrics).
13. Assessment of magnitude and progression of myopia in school going children in Delhi (Dr Rajendra Prasad Center for Ophthalmic Sciences).
14. Study of non alcoholic fatty liver disease and coronary artery disease in Asian Indians (Medicine).
15. Stochastic Models for Graft Rejection in Renal Transplant (Department Health Informatics, SGPGIMS, Lucknow).
16. Effect of Hypoxia on the expression of peroxisome proliferator activated receptors (PPARs) and angiogenic factors in trophoblast cells- an in vitro study (Anatomy).
17. Role of soluble vascular endothelial growth factor receptor-1 (sVEGFR-1/sfLT-1) on endoplasmic reticulum stress in preeclampsia- an in vitro study (Anatomy).
18. Role of Fluoride Toxicity on Renal Pathogenesis in Childhood Nephrotic Syndrome: an Ultra structural, Biochemical and Proteomic Study (Anatomy).
19. A retrospective analysis of effect of anaesthesia on outcome of in-vitro fertilization (Anaesthesiology).
20. To study the changes in predictors of difficult intubation during pregnancy (Anaesthesiology).
21. Insights into the Role of One-Carbon Metabolism in Progression of Cervical Carcinogenesis (Biochemistry).
22. Studies on Plasmodium falciparum dihydrofolate reductase and dihydropteroate synthase mutations associated with sulfadoxine and pyrimethamine resistance (Biotechnology).

23. Study on awareness and health-seeking practices about common eye conditions in urban slums of Delhi (Community Ophthalmology).
24. Risk Factors for Childhood Obesity (Endocrinology and Metabolism).
25. Cancer in older Indians: Development of an instrument for comprehensive functional assessment and a novel protein marker (Geriatric Medicine).
26. Functional status and co-morbidities of older patients with cancer (Geriatric Medicine).
27. Efficacy of daily iron folic acid supplementation in correction of iron deficiency anemia amongst children aged 3–5 years of age (Human Nutrition).
28. Assessment of Zinc Deficiency amongst Children in 6 months to 60 months of age in different regions of India (Human Nutrition Unit, AIIMS).
29. Assessment of Status of Iodine Deficiency Disorders in National Capital Territory of Delhi (Human Nutrition Unit, AIIMS).
30. Biomarkers in severe dengue fever (Medicine).
31. Evaluation of sirtuins as bio-markers parkinson's disease (Medicine).
32. Molecular characterization of isolates of invasive and commensal streptococcus pneumonia (Microbiology)
33. Intestinal Parasitic Co-Infections in Patients with HIV/AIDS and its effect on CD4 count, Viral Load, and Antiretroviral Drug Resistance (Microbiology).
34. Assessment of therapeutic response of radiolabeled anti CD20 antibodies 131 Iodine Rituximab /90 in Delhi and adjoining area (Microbiology).
35. Molecular characterization of Neisseria meningitides isolated from cases of acute bacterial meningitides in Delhi and adjoining area (Microbiology).
36. A Randomized Controlled Trial (RCT) of Early versus Late Surgery in Childhood Intractable Epilepsy (Neurology).
37. Study of Cognition and Quality of Life in Chronic Intractable Epilepsy using Functional Magnetic Resonance Imaging (fMRI) (Neurology).
38. Study of the prevalence and pattern of periodic limb movements of sleep in patients with spinal cord lesions (Neurosurgery).
39. Neuro-psychological and neurobiological basis of bilingual developmental dyslexia, studies pre and post therapy by cognitive behavior and functional magnetic resonance imaging (fMRI) (NMR).
40. Magnetic resonance (MR) multi-parametric approach to the study of breast cancer and its correlation with biological markers (NMR).
41. Sequential study of the pathophysiology of demyelinating lesion in a experimental model of multiple sclerosis by Magnetic Resonance (NMR).
42. Study of Human Breast Cancer by Magnetic Resonance Techniques (NMR).
43. Magnetic Resonance Spectroscopic Imaging (MRSI) and Diffusion Weighted MRI in the non-invasive detection, assessment of treatment response and tumor metabolism in breast cancer (NMR).
44. Role of various Magnetic Resonance Imaging and Spectroscopic methods in the evaluation of prostate cancer (NMR).
45. Study on cytogenetic toxicity of low dose 131I therapy in hyperthyroid patients by using micronuclei assay (Nuclear Medicine).
46. Dosimetric Studies in Radionuclide Therapy of Neuroendocrine Tumors with 177Lu DOTA- TATE (Nuclear Medicine).
47. Detection of Minimal Residual Disease (MRD) in B-cell Lineage Acute Lymphoblastic Leukemia by Flow Cytometry at end of Induction (Paediatrics).
48. Genomic and Proteomic Analysis of SCF/C-Kit gene in a paediatric neoplasm, Neuroblastoma (Paediatric Surgery).
49. Intensive adverse drug reaction (ADR) monitoring and analysis of pattern of observed ADRs in Medicine and Nephrology Wards at All India Institute of Medical Sciences (Pharmacology).
50. A Pilot Study on the Effect of Alprazolam in Spasticity (PMR).
51. Effect of Exercise on C reactive Protein Level in Obese Patients (PMR).
52. Biomarkers in peripheral arterial disease (Surgical Disciplines).
53. A study to evaluate the efficacy of survived exercise training program in patients of peripheral artery disease of lower limbs and evaluate their quality of life (Surgical Disciplines).
54. Analysis of putative virulence factors and molecular typing of clinical isolates of Vancomycin and high level Gentamycin resistant Enterococcus faecium and Enterococcus faecalis (Microbiology).

55. Prevalence of Chlamydia trachomatis in patients with infertility and urogenital infections and genotyping by PCR-Restriction Fragment Length Polymorphism and OMPA sequencing (Microbiology).
56. Diagnosis of Legionella pneumophila infection by molecular methods and analysis of clinical and environmental isolates of Legionella pneumophila using molecular markers (Microbiology).
57. Rapid Diagnosis of neonatal sepsis with special reference to molecular typing of Klebsiella pneumonia (Microbiology).
58. Molecular Characterization of Neisseria gonorrhoea strains with decreased susceptibility to Extended Spectrum cephalosporins (Microbiology).
59. Role of CD56CD16+CD3- Natural Killer Cells in HIV infected Indian Individuals (Microbiology).
60. Development of a molecular diagnostic probe for detection of Cryptosporidium spp. and further characterization of the parasite in patients (Microbiology).
61. A study on alternate antimicrobial agents against Typhoidal Salmonellae (Microbiology).
62. Quantitative real time PCR and genotyping for Cytomegalovirus in ulcerative colitis (Microbiology).
63. Clinical and Microbiological Characteristics of Bacteremia caused by Coagulase Negative Staphylococci in a tertiary care hospital (Microbiology).
64. Toll like receptors in TB (Medicine).
65. Expression analysis of potential micro RNAs in tuberculosis (Medicine).
66. Comparative drug susceptibility test in M.Tb by solid culture method and line probe assay in MDR Tb patients (Medicine).
67. Comparison of solid, liquid and molecular tests in Multidrug-resistant tuberculosis (MDR-TB) at tertiary care centre (Medicine).
68. Immuno-pathogenesis of IRIS in HIV-TB co-infection (Medicine).
69. Evaluation of Risk Factors for severity of Dengue Fever and Dengue Hemorrhagic Fever (Medicine).
70. Study of Predictors of Mortality in Severe Malaria (Medicine).
71. Influence of complete spinal cord injury on ventro medial hypothalamic functions: Role of magnetic field (Physiology).
72. Effect of magnetic field on behavioural, electrophysiological and neurochemical correlates of pain in rats exposed to 3G frequency band (Physiology).
73. Quantitative EEG correlates of Cognitive Deficits and Stress Reactivity in Mild Cognitive Impairment and Alzheimer's disease (Physiology).
74. Quantitative EEG correlates of emotion induced changes in cognitive performance in healthy volunteers (Physiology).
75. Dynamics of differential T-regulatory cell expression in patients with inflammatory bowel disease and intestinal tuberculosis (Gastroenterology).
76. Effect of nalbuphine on opiate withdrawal in rats: Behavioral, Biochemical and molecular study (Psychiatry).
77. Impact of total sleep time on neurocognitive performance and behavioral patterns among school going adolescents (Psychiatry).
78. Parathyroid autoimmunity in patients with sporadic idiopathic hyperparathyroidism and its comparison to other metabolic and autoimmune endocrine disorders (Endocrinology).
79. Role of oral vitamin D as an adjunct therapy in category I pulmonary tuberculosis along with assessment of immunological parameters (double blind, randomized, placebo controlled clinical trial). (Endocrinology).
80. Multilevel modelling to identify the factors associated with neonatal mortality in India (Biostatistics).
81. Comparative appraisal of data collection methods and related epidemiological models for smoking, drinking and tobacco chewing among adolescent children in India (Biostatistics).
82. Gene deletions and mutations in Wilm's tumour: correlation with histopathology and outcome (Pathology).
83. Economic Evaluation of Influenza Immunization of under five children in India (CCM).
84. Cloning and expression of Chikungunya Virus Genes and Evaluation of their Role in Chikungunya Pathogenesis in Children and Adults (Pediatrics/Neonatology).
85. Evaluation of Chikungunya and Dengue fever infection in pediatric and adult population of India (Pediatrics/Neonatology).
86. To study the biological and clinical significance of Wnt/B- Catenin Signaling pathway in AML patients (Medical Oncology).
87. Clinical and Biological significance of mutations in mitochondrial DNA (Medical Oncology).

88. Assessment of T cell kinetics in patients of Neuroblastoma and PNET—A prospective study (Medical Oncology).
89. A comparative study of the effect of loperamide and morphine on nociception and expression of  $\mu$ -opioid receptor and calcium channels in the signal cord of rat following surgery (Anatomy).
90. Age related morphological and neurochemical changes in the human spiral ganglion (Anatomy).
91. Optimization of sentinel lymph node biopsy and evaluation techniques in breast cancer in Indian settings (Surgery).
92. Genomic diversity of HLA in Indian population (Transplant Immunology).
93. Epidemiological study of Diabetic Retinopathy in North India (Community Ophthalmology).
94. Development of a diagnostic panel of blood markers in the diagnosis and prognostication of acute ischemic stroke (Neurology).
95. Mucocutaneous manifestations in HIV as a marker of immunosuppression (Dermatology).
96. Validation and Comparative Evaluation of Vitiligo Impact Scale in Assessing Psychosocial Burden in Vitiligo (Dermatology).
97. Functional disability among elderly persons in rural Ballabgarh, Haryana (Centre for Community Medicine).
98. Anthropometric characteristics and under nutrition among elderly persons in rural Ballabgarh, Haryana (Centre for Community Medicine).
99. Community based study of childhood injuries in an urban resettlement colony in New Delhi (Centre for Community Medicine).
100. Clinical and biochemical characterization of short stature in 4–16 years old children with special attention to idiopathic short stature (Paediatrics).

### ***Completed***

1. Role of Circulating Angiogenetic Factors in the Pathogenesis of Pre Eclampsia (Anatomy).
2. A Comparative study of effectiveness of Immunotherapy with Intralesional injection of killed Mycobacterium w vaccine and imiquimod cream in clinical resolution of external genital warts and reduction of viral load: A Randomized Trial (Dermatology and Venereology).
3. Assessment of Beta Cell Function in Children of Families with Type-2 Diabetes Mellitus. (Endocrinology and Metabolism).
4. Assessment of Status of Iodine Deficiency Disorders in National Capital Territory of Delhi (Human Nutrition Unit).
5. Evaluation of risk factors associated with hospital mortality: A case control study (Medicine).
6. Multiparametric approach to the study of breast cancer and its correlation with molecular markers (NMR).
7. An exploratory study on psychological & drug-use correlates of adult ADHD with heroin dependence (Psychiatry).
8. Neuropsychological and Psychosocial Aspects of Chronic Pain Syndromes (Psychiatry).
9. Psychosocial Aspects of Chronic Pain Syndromes (Psychiatry).
10. High risk behaviours in in-patients with alcohol-dependence and opioid-dependence (IDUs): Relationship with Personality (Psychiatry).
11. The Correlation of VEGF and TGF Betal Expression to Clinico-Pathological Response, ER, PR and HER2/neu Status in Locally Advanced Breast Cancer: A Pilot Study (Radiotherapy).
12. Optimization of Course Evaluation Survey (CES) Questionnaire and Its Online Implimentation – A Pilot Study (College of Medicine, and & Deanship of Quality and Academic Accreditation, University of Dammam)
13. Genetic polymorphism and expression of toll-like receptors (TLRs) in HIV-TB co-infection (Medicine).
14. Study of efficacy and safety of concomitant use of Nevirapine and Rifampicin in patients co-infected with HIV and Tuberculosis (Medicine).
15. Role of Vitamin D receptor variants in susceptibility to development and severity of pulmonary Tuberculosis (Medicine).
16. Utility of Brochoalveolar Lavage Fluid Analysis in Assessment of Disease Activity of Interstitial Lung Disease in Systemic Sclerosis (Medicine).
17. A study of chronic exposure to magnetic field on pain status of fibromyalgia patients (Physiology).
18. Use of draw a person test as a tool for assessing psychopathology in children (Psychiatry).
19. A study on clinical, biochemical and radiological markers to describe the outcomes in preterm infants less than 35 weeks gestation born with abnormal antenatal umbilical artery Doppler flow (AREDF) (Paediatrics/Neonatology).

20. Diagnostic performance of same day repeat screen of two stage newborn hearing screening using automated auditory brainstem responses (AABR) in healthy newborns (Paediatrics/Neonatology).
21. Efficacy of different regimens of Vitamin D supplementation in Preterm infants: a randomized double blind Trial (Paediatrics/Neonatology).
22. Evaluation of Paladai feeding in preterm infants with and without bronchopulmonary dysplasia: Retrospective and prospective cohort studies (Paediatrics/Neonatology).
23. To determine the incidence of Tumor Lysis Syndrome and to assess the predictors in newly diagnosed Indian children with acute Lymphoblastic Leukemia admitted for induction chemotherapy. (Paediatrics/Neonatology).
24. Clinical and prognostic significance of proliferation and apoptic markers in acute myeloid leukemia (AML) (Medical Oncology).
25. Neoadjuvant chemotherapy with weekly paclitaxel and carboplatin followed by chemoradiation in locally advanced cervical carcinoma: a pilot study (Medical Oncology).
26. Evaluation of serum VEGF and Diffusion Weighted MRI in locally advanced carcinoma of cervix treated with neoadjuvant chemotherapy followed by chemoradiation (Medical Oncology).
27. Serum Alpha Feto Protein and Albumin level in Fanconi Anemia (Hematology).

## **PUBLICATIONS**

**Journals: 76                      Abstract :1**

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**S.N. Dwivedi** chaired a session on Meta-Analyses/Combined Data Sources, Conference of International Society for Clinical Biostatistics, Department of Biostatistics, University of Oslo, Norway, 19–23 August 2012; co-chair, Organizing Committee, Pre-Conference Workshops on Topics related to Evidence Based Medicine, and First International Congress on Evidence-Based Healthcare, Clinical Epidemiology Unit, All India Institute of Medical Sciences, New Delhi, 6–8 October 2012 India International Centre, New Delhi.

**V. Sreenivas** was Guest of Honour at the CME on Research Methodology and Biostatistics, LLRM Medical College, Meerut, 8–10 February 2013; Chaired a session on ‘Best Sources for Evidence at the point of care for Healthcare Practitioners’, First International Conference on Evidence-Based Healthcare’, Clinical Epidemiology Unit, All India Institute of Medical Sciences, New Delhi, 7–8 October 2012; Chaired a session on ‘Centre of Excellence: Convergence of Thoughts, Actions and Lessons’, Conference on Centre of Excellence, Liver Foundation, West Bengal and Bristol Myers Squibb Foundation, Kolkata, 6 November 2012.

**Maroof Ahmed Khan** participated in VIIth International Symposium on Optimization and Statistics, Department of Statistics Operations Research, Aligarh Muslim University, Aligarh, 21–23 December 2012; participated in Indian Clinical Epidemiology Network Conference, KGMU, Lucknow, 2–3 March 2013.

## 9.7 Biotechnology

### Professor and Head

Y.D. Sharma

### Professors

H.K. Prasad

S.N. Das

J.S. Tyagi

### Associate Professor

Anushree Gupta

### HIGHLIGHTS

Department of Biotechnology runs a successful Masters in Biotechnology course with specialization in Medical Biotechnology admitting 12–14 students per batch as well as a PhD programme. The total strength of MSc and PhD students is about 45. The department also provides support to the Fellowship programme of National Science Academies. A large numbers of extramural research grants are attracted by the faculty from government funding agencies. Faculty have provided expert advice to the Government of India and various universities/institutions on various aspects of teaching and research, delivered invited lectures, and published papers in high impact journals.

### EDUCATION

#### Postgraduate teaching

The department continues with its 2 years postgraduate programme in Medical Biotechnology leading to MBiotech degree. The teaching programme includes theory and practical classes, seminar presentations and research project (dissertation) in a frontier area of medical research. Students are given individual attention and hands on experience in practical classes. Experts are invited from JNU, IGIB, ICGEB, NII and NIIT besides AIIMS faculty from various specialties to provide insight to the students in their respective areas of research and developments related to biotechnology, bioinformatics, molecular medicine, genomics, proteomics, etc. The department continues conducting PhD programme in the area of Medical Biotechnology.

#### Short Term Training

Three students were provided short term training in the Department.

#### CMEs/Workshops/Symposia/National and International Conferences

##### Organized

National Conference titled 'Zoonotic mycobacterial infections and their impact on public health', AIIMS, New Delhi, 25-27 February 2013.

#### National and International Conferences

##### Lectures delivered

Y.D. Sharma: 5

J.S. Tyagi: 6

H.K. Prasad: 1

S.N. Das: 1

#### Poster presentations: 10

### RESEARCH

#### Funded Projects

##### Ongoing

1. Molecular studies on *Plasmodium vivax* tryptophan-rich proteins. Y.D. Sharma. DBT, 3 years (2010–14), Rs.20.40 lakhs.
2. Post Graduate Training Program in Biotechnology with special application to Biomedicine. Y.D. Sharma. DBT, 5 years (2009–14), Rs. 22.58 lakhs per year.
3. Biotechnology Informatics System. Y.D. Sharma. DBT, 5 years (2008–13), Rs. 3-5 lakhs per year.
4. Exploiting temporal transcription profiles, computational analysis and post-transcriptional gene silencing to identify and intercept interactions between host and dormant and actively replicating *Mycobacterium tuberculosis*. J.S. Tyagi, DBT, 2011–2013. Rs. 89.94 lakhs.

5. SysTB: A Network Programme for Resolving the Intracellular Dynamics of Host-pathogen Interactions in TB infection. J.S. Tyagi. DBT, 2011–16, Rs. 145.57 lakhs.
6. National Alliance Program for Biodesign and in-vitro diagnostics between Translations Health Science and Technology Institute and All India Institute of Medical Sciences. THSTI (DBT), 2010–15, Rs. 100 lakhs.
7. J.C. Bose Fellowship research grant, J.S. Tyagi. DST, 2009–12, Rs. 68 lakhs.
8. Deciphering the transcriptional profile of dormant and replicating tubercle bacilli within THP-1 human macrophages. J.S. Tyagi. Tata Innovation Fellowship research grant, DBT, 2009–12, Rs. 22.20 lakhs.
9. Analysis of genomic variants of *Mycobacterial tuberculosis* complex isolates using large scale parallel sequencing: preliminary studies. H.K. Prasad. DBT, 2010–13, Rs. 33.36 lakhs.
10. Functional characterization of selected host gene mutations and host pathogen interaction that potentially influence onset of disease or resistance to tuberculosis. H.K. Prasad. BRNS, 2011–14, Rs. 34.17 lakhs.
11. Development and characterization of autologous NKT cell-based dendritic cell vaccine for oral squamous cell carcinoma. Satya N. Das. DBT, 3 years, Rs. 23.0 lakhs.
12. Phenotypic and functional characterization of T helper 17 (Th 17) cells in patients with oral squamous cell carcinoma and evaluation of their anti-tumour activity. Satya N. Das. DBT, 3 years, Rs. 51.15 lakhs.

### **Completed**

1. Reconstructing Cellular Networks: Two component Regulatory Systems. J.S. Tyagi. DBT, 2007–11, Rs. 141.096 lakhs.
2. Computational design and development of inhibitors for the treatment of tuberculosis. J.S. Tyagi. DBT, 2008–11, Rs. 4.18 lakhs.
3. Comprehensive proteomics profiling of CSF proteins from patients of different meningitis infections for biomarker discovery. J.S. Tyagi. DBT, 2008–11, Rs. 64.31 lakhs.
4. Development and clinical validation of methods for the diagnosis of tuberculosis and bacterial drug resistance by smear microscopy, culture and polymerase chain reaction using processed clinical samples and kit thereof (Phase I). J.S. Tyagi. DBT (SBIRI), 2009–11, Rs. 7.06 lakhs.

### **Departmental projects**

#### **Ongoing**

1. Innate immunity to *Mycobacterium tuberculosis*.
2. Human immune response to *Mycobacterium tuberculosis*
3. Diagnosis of tuberculosis in humans and cattle
4. Studies on Phosphoinositide 3-kinase signaling and antitumour activities of its natural inhibitors in oral cancer.
5. Phenotypic and functional characterization of T<sub>H</sub> 17 cells in patients with oral squamous cell carcinoma.
6. Phenotypic and functional characterization of CD4<sup>+</sup>CD25<sup>+</sup>Foxp3<sup>+</sup> regulatory T cells (T<sub>Reg</sub>) in patients with oral squamous cell carcinoma.
7. Studies on prognostic biomarkers in oral and oropharyngeal carcinoma.
8. Investigations of anticancer activities of some select medicinal plants and their molecular targets on human oral cancer cell lines.

#### **Completed**

1. Generation and in vitro characterization of DevR mutant proteins of *Mycobacterium tuberculosis*.
2. Role of conserved residues in phosphatase activity of DevS and DosT proteins of *Mycobacterium tuberculosis*.
3. Generation of protein and antibody reagents for TB diagnosis.
4. Studies on Beclin1, mTOR signaling and autophagy in oral cancer.
5. Functional and Phenotypic characterization of Natural Killer T cells and Dendritic cells in Oral cancer.
6. Study of anti-cancer activity of Capsaicin in oral cancer.
7. Study of the anti-cancer activities of Plumbagin on oral cancer cell lines.

### **Collaborative projects**

#### **Ongoing**

1. Evaluation of nano level expression of p38 $\alpha$  MAP kinase, a cell signaling protein in oral cancer and design of structure based peptide inhibitors against the same (Biophysics).

2. Clinical correlation of ER, PR, HER2, neu expression and BRCA1 gene mutations in Indian Breast cancer patients (BRA-IRCH).

### **Completed**

1. Role of Mycobacterium tuberculosis GlcB or HspX Antigens or devR DNA detection in the Diagnosis of Tuberculous Meningitis in Children (Microbiology, Paediatrics AIIMS; Dr RML Hospital, and LNJP Hospital).

### **PUBLICATIONS**

**Journals: 11**

**Abstracts: 3**

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Y.D. Sharma** is a Fellow of all the three National Science Academies; Member, Sectional Committee of Medical Sciences, Indian Academy of Sciences, Bangalore; Member, DBT Task Force Subcommittee on Human Resources Development; Member, DBT-JRF examination committee; DBT Special Committee for malaria vaccine projects; Chairman, DSIR Project monitoring committee on Malaria; Member, Board of Studies of Biotechnology, Biosafety Board Screening Committee for faculty positions and Selection Committee of Technical Officers and Technicians at South Asian University, Delhi; Member, Board of Studies of Biotechnology at Jawaharlal Nehru University, New Delhi; UGC-Science Advisory Panel for Centre for Molecular Medicine at JNU, New Delhi; Expert Member; Board of PG Studies in Biotechnology of Vanasthali Vidyapeeth; Expert Member, Teaching Advisory Committee of Banaras Hindu University, Varanasi; Member, Himachal University, Shimla; Member, Board of Studies, University of Delhi at South Campus, Delhi; Member, Board of Studies, Manipal Sikkim Institute of Medical Sciences, Gangtok; Member, Board of Studies in Neurosciences at Jiwaji University, Gwalior; Expert in the Doctoral Committee of Faculty of Engineering and Interdisciplinary Sciences, Jamia Hamdard University, New Delhi; Member, Store Purchase Committee of AIIMS; Chairman, Negotiation Committee, AIIMS; Member Secretary, Committee of faculty position at AIIMS; Member, Committee for Continuing Medical Education and Technology, AIIMS; Chairman, Patent Cell, AIIMS; Chairman, Central Recruitment Committee of Research staff in projects in AIIMS; Member, Facility for Nanotechnology at AIIMS; Member, Computerization of AIIMS Committee; Member, Committee for RFD for Research at AIIMS; Member, Organizing Committee, Institute Day celebration, AIIMS; Member, Selection Committee for faculty positions at several universities and Research institutions; Expert member of Biosafety Committee of Univ. College of Medical Sciences (UCMS), Delhi; Member, Selection Committee of UGC Faculty Recharge Programme.

**Professor J. S. Tyagi** is J.C. Bose National Fellow, Fellow of all three National Science Academies (National Academy of Sciences, Allahabad; Indian Academy of Sciences, Bangalore; Indian National Science Academy, New Delhi); Member, Guha Research Conference; Member, Governing Body, National Institute of Immunology; Member, Scientific Advisory Committee, National Institute for Research in Tuberculosis, Chennai; JALMA Institute for Leprosy and other mycobacterial diseases, Agra; Member, Scientific Advisory Committee, Bose Institute, Kolkata, and Centre for DNA fingerprinting and Diagnostics, Hyderabad; Member, Selection Committee DST-INSPIRE; Faculty Fellowship, Expert to evaluate projects in Health Indo-Australia Grand Challenge Programme; Member, Indian expert panel in Health; Member, Faculty selection committee at THSTI; Member, Screening Selection and Evaluation Committee for Innovation Awardees, THSTI; Member, Faculty selection committee ILS, Bhubaneswar; Member CSIR Animal Science and Biotechnology Research Committee and Project monitoring committee; Expert, TB Review Meeting to evaluate DBT Indo-Swedish research projects; Reviewer of projects submitted to DBT, CSIR, DST, MRC UK, Fondazione Cariplo Italy; Mentor, TB diagnostics programme, CBD THSTI; Member, AIIMS Patent Committee; Member, AIIMS Review Committee of intramural projects (para and preclinical); Member, Committee for proposed Inter-Institutional Bio-Design, Centre (AIIMS, IIT Delhi and THSTI Faridabad); Central Public Information Officer (CPIO) of the Department; Chairperson, Department Equipment Purchase Committee, Negotiation Committee; Doctoral Committee member for students of AIIMS, NII and IIT Delhi; Reviewing manuscripts for International and National journals; Examiner of PhD thesis from various National Institutions, Universities, and Laboratories; Member NIH Alumni Association; Life member, Society of Biological Chemists (India), Indian Society of Cell Biology, Association of Microbiologists of India.

**Professor H.K. Prasad** was Expert Member, Technical Committee of NRDC, ICMR, National JALMA Institute for Leprosy and Other Mycobacterial Diseases, Agra; Purchase Committee, School of Environmental Sciences, JNU and Department of Anatomy, AIIMS; Scientific Advisory Committee, Leprosy Mission's Stanley Browne Laboratories; Member, Medical Biotechnology Sectional Committee (MHD-20), Bureau of Indian Standards; Institutional Biosafety Committee, National JALMA Institute for Leprosy and Other Mycobacterial Diseases, Agra and DBT Representative IBSC of Shriram Institute for Industrial Research (SIIR), Delhi; Institutional Animal Ethics Committee, University of Delhi, South Campus; Selection Committee, ICMR; LRS Institute of Tuberculosis and Respiratory Diseases and Jawaharlal Nehru Fellowship, JNU; Project Monitoring Committee (PMC), SBIRI-BCIL, Department of Biotechnology, Ministry of Science and Technology; Board of Studies in Biotechnology, Jiwaji University, Gwalior; ICMR Immunology Task Force Committee; Project Review Committee of ICMR, DBT, and DST; Examiner: various Universities and Institutions; and Vice Chief Librarian, B.B. Dikshit Library, AIIMS.

**Professor S.N. Das** was elected Fellow, National Academy of Medical Sciences, International Academy of Biological Therapy; Life Member, Indian Immunology Society; Member, American Association for Cancer Research, USA; Member, DKFZ Alumni Association, Heidelberg, Germany; Member, Alexander von Humboldt Foundation Alumni Association, Germany; Member, The Cytometry Society, India; Member, Task Force group on Cancer Biology, DBT, Ministry of Science and Technology, Govt of India; Member, Technical Committee, Institute of Pathology (ICMR) New Delhi; Member, Bioethics Committee for Recombinant DNA Research, AIIMS; Member, Negotiation Committee, AIIMS; Member, Selection Committee for posts under sponsored projects, AIIMS; Nominated Member of the Doctoral Committee for the Department of Medical Elementology and Toxicology, Jamia Hamdard University, New Delhi; PhD Examiner, Jamia Hamdard University, New Delhi, Pondicherry University, Birla Institute of Pilani, Rajasthan; Editorial Board: Open Journal of Toxicology, International Journal of Osteoporosis and Metabolic Disorders; Referee, Reviewer for National and International Journals: Oral Oncology, Cancer Investigations, DNA and Cell Biology, Life Sciences, International Journal of Immunogenetics, European Journal of Oral Sciences, International Journal of Human Genetics, International Journal of Cancer, Oral Pathology Oral Medicine, Plos ONE, Cancer Letters, Indian Journal of Medical Research, Indian Journal of Cancer.

## **OTHER ACTIVITIES**

### **Bioinformatics Centre**

The bioinformatics resource centre of the department provides database and bibliographical search facility, DNA and protein sequence, search and retrieval, e-mail, Internet services, training and assistance to students in graphics, statistics and data presentation. This facility is being widely used by students and faculty of this Institute as well as other neighbouring institutes.



## **CMEs/Workshops/Symposia/National and International conferences Organized by the department**

### **Guest Lectures**

1. Role of Economic Evaluation in Public Health. Dr Samuel Peasah, Health Economist, CDC, Atlanta, 16 August 2012.
2. The burden of paediatric neurological disease in the community – Canadian Perspectives. A Narayan Prasad, 4 September 2012.
3. Alcoholic Anonymous. Alcoholic Anonymous Team, 11 October 2012.
4. Physician leadership styles and leadership effectiveness Sudha Xirasagar, Associate Professor, School of Public Health, University of Southern California, USA, 7 January 2013.

### **Workshops**

1. Regional STEPS NCD surveillance training workshop for participants from SEAR countries, 11–14 June 2012, Claridges Surajkund,

### **Poster presentation**

1. Evaluation of the impact of topical medical therapy on quality of life in newly-diagnosed glaucoma patients using the Indian Vision Function Questionnaire (VFQ33), Annual Meeting of The Association for Research in Vision and Ophthalmology (ARVO), Florida, USA, on 6 to 9 May 2012.

## **RESEARCH**

### **Funded projects**

#### *Ongoing*

1. Direct and indirect protection by influenza vaccine given to children in India. Shashi Kant, Centre for Disease Control, USA. Rs 1.5 crores.
2. Epidemiological study of respiratory pathogens in acute respiratory tract infection among children and elderly in India. Anand Krishnan, CDC Atlanta, 2011–16 (Rs 6 crores for 2011–12), Rs 22.5 crores.
3. Development of neonatal health care service delivery model for rural India. Anand Krishnan, Unicef, 2011–14, Rs 1.6 crores.
4. Innovative culturally appropriate intervention package to reduce low birth weight. DST, Puneet Misra, Rs 23 lakhs.
5. Prevention of type 2 diabetes in women with prediabetes using vitamin D supplementation and lifestyle intervention in North India. Puneet Misra, DST, 3 years. 2012–15, Rs. 56 lakhs.
6. Addressing emerging infectious disease in India: Influenza disease burden in rural communities in India. Sanjay Rai, Centre for Disease Control, USA, 2009–13, Rs 2.07 lakhs.
7. Health insurance for the poor: A study to assess willingness to pay for health insurance among socioeconomically disadvantaged migrants in Delhi, India. Y. S. Kusuma, ICMR, 2010–13, Rs 22 lakhs.
8. Migration, poverty and access to healthcare: A study on people's access and health system's responsiveness in Delhi. ICMR Task Force Project, Y. S. Kusuma, ICMR, 2010–13, Rs 42 lakhs.

#### *Completed*

1. Development of a model for strengthening of existing health system to address non communicable diseases in India—Phase II. Anand Krishnan, ICMR, 2010–12, Rs 60.54 lakhs.
2. Prevalence of coronary heart disease and its risk factors in residents of urban and rural areas of NCR—A repeat survey. Anand Krishnan, ICMR, 2009–11, Rs 98 lakhs.

### **Departmental projects**

#### *Ongoing*

1. Assessment of under-nutrition in under-five children in rural Ballabgarh, Haryana.
2. Functional disability among elderly persons in rural Ballabgarh, Haryana.
3. A study of prevalence of work-related neck pain in desk-job workers at All India Institute of Medical Sciences.
4. Study on depression among elderly persons in rural area of Ballabgarh, Haryana.
5. Community-based study of childhood injuries in an urban resettlement colony in New Delhi.
6. Dietary calcium intake and serum calcium level among pregnant women residing in a rural community of Ballabgarh, Haryana.

7. Prevalence of urinary carriage of extended spectrum beta lactamase producing enterobacteriaceae in a rural community of Ballabgarh, Haryana.
8. Determinants of breast feeding practices amongst women delivering at government health facilities in district Faridabad.
9. Implementing and monitoring healthy settings approach for prevention of non-communicable diseases in middle schools of rural Ballabgarh (block), District Faridabad, Haryana, India.
10. Adherence to the treatment amongst patients with hypertension and diabetes mellitus in rural Haryana: Community based study.
11. An assessment of sexual high risk behavior among female factory workers in Faridabad.

#### *Completed*

1. Anthropometric characteristics and under-nutrition among elderly in rural Ballabgarh, Haryana.
2. Epidemiological study of patients of road traffic injuries (RTI) attending Emergency Department of Jai Prakash Narayan Apex Trauma Centre (JPNATC), AIIMS, New Delhi.

#### **Collaborative projects**

##### *Ongoing*

1. Community-based epidemiological study on corneal disorders. (Community Ophthalmology, Dr R. P. Centre for Ophthalmic Sciences).
2. Study on awareness and health-seeking practices about common eye conditions in urban slums of Delhi. (Community Ophthalmology, Dr R. P. Centre for Ophthalmic Sciences).
3. A study to assess the cardiovascular risk factors among Delhi school children. (College of Nursing).
4. A study to assess knowledge, attitude and practices of parents of children regarding child rights. (College of Nursing).
5. Multisite influenza surveillance in India Ph-II. Co-PI. (Centre for Disease Control, USA; Microbiology).
6. Congenital cytomegalovirus infection and hearing loss in rural Indian population. (Microbiology).

#### **PUBLICATIONS**

**Journals: 49**

**Chapters in books: 1**

#### **PATIENT CARE**

##### **Outpatient Care**

Site	New cases	Old cases	Total
Civil Hospital Ballabgarh	94,032	66,846	160,878
PHC Chhainsa	10,234	12,354	22,588
PHC Dayalpur	8,735	7,235	15,970
Mobile Health Clinic	–	–	26,159
Antenatal Clinic, Civil Hospital Ballabgarh	5,870	–	–
Sex and Marriage Counseling Centre	1,755	2,320	4,075
Total	120,626	88,755	229,670

##### **Inpatient Services**

Site	Number
Civil Hospital Ballabgarh	8419
PHC Chhainsa (deliveries)	407
PHC Dayalpur (deliveries)	270

#### **Referral Hospital Ballabgarh**

##### ***Outpatient***

The following outpatient departments are run:

- a) General OPD for adults – daily
- b) Child Welfare Centre (Paediatric OPD) for children – daily
- c) Ophthalmology OPD – daily
- d) ENT – twice a week
- e) Dental outpatients – daily
- f) Obstetrics & Gynecology OPD – daily

- g) Physical Medical Rehabilitation (PMR) OPD – once a week
- h) Psychiatric OPD – daily (except Monday and Thursday)
- i) ANC Clinic – thrice a week
- j) Pediatric Surgery OPD cum surgery – once a week
- k) NCD clinic – once a week
- l) Homeopathy (AYUSH) OPD – daily

### OPD load

New patients: 94,032                      Old and new patients: 160,878  
 ANC registration: 5,870 Immunization : 7,026

### Inpatient

The number of beds has remained unchanged at 50+1 (Nursery)

- a) Total number of admissions including hospital births: 8,419
- b) Number of hospital births: 2,277
- c) Bed Occupancy rate: 70.1% (including newborns); 51.1% (excluding newborns)
- d) Average duration of stay: 1.6 days
- e) (v) Admissions via Casualty: 4,847 via OPD: 1,328 newborns: 2,277

### Distribution of Inpatients by specialty

#### Specialty Number of patients

Medicine: 1,676	Surgery: 352	Obstetrics and Gynaecology: 3,166
Paediatrics: 3,035	Ophthalmology: 160	New born: 2,277
Total: 8,419		

### Casualty

Number of patients registered: 2,788                      Number of medico-legal cases: 4,363

### Diagnostic tests performed

- a) Laboratory investigations (including malaria slides) 104,263
- b) X-ray (Total) 9,108                      c) Ultrasonography (USG)                      1,513
- d) Malaria slides 4,440    Malaria cases 15                      *P. vivax* 15                      *P. falciparum* Nil

### Total number of surgical procedures done

Male: 467                      Female: 1,105                      Total: 1,572

### Revised National Tuberculosis Control Programme (RNTCP)

Ballabgarh hospital is a treatment unit under the RNTCP and has 4 (four) microscopy centres under it. Total cases treated at Ballabgarh Hospital in 2012 were 547.

#### Break-up of cases treated at Ballabgarh Microscopy Centre

Category I: 420    Category II: 127                      Total: 547

### Community Health Services

#### Intensive field practice area (IFPA)

This comprises of the two PHCs, i.e. Dayalpur and Chhainsa. Outpatient, domiciliary, and referral services are being provided.

### Indices

- a) Population: 91,362
- b) Birth rate per 1000 population: 22.48
- c) Death rate per 1000 population: 6.24
- d) Neonatal mortality rate per 1000 live births: 28.7
- e) Infant mortality rate per 1000 live births: 40.4
- f) Maternal mortality rate per 100,000 live births: 146

## OPD load at various centres in IFPA

<u>Name of PHC</u>	<u>New cases</u>	<u>Repeat visits</u>	<u>Total</u>
Dayalpur	8,735	7,235	15,970
Chhainsa	10,234	12,354	22,588

## Family Welfare and Maternal Child Health

The project area is dependent on the District Family Welfare and Immunization Offices for the supply of vaccines and other items.

- Total ante natal cases (new registration): 2,259
- Pregnant women receiving ante natal care: 100%
- Complete TT coverage of registered cases: 100%
- Institutional deliveries: 88.6%
- Total deliveries in delivery hut: 677      PHC Chhainsa: 407      PHC Dayalpur: 270
- Eligible couple protection rate: 47.3%
- Total number of persons who accepted family planning methods: 2,508  
Tubectomy: 381      Vasectomy: 19      Intrauterine device: 441  
CC users: 1,257      Oral pills: 410

## Expanded Programme on Immunization

*Coverage of 12 to 23 month of age*

BCG	97.2%	OPV (3 doses)	98.5%
DPT (3 doses)	98.0%	Measles	95.5%

## National programmes

### *Malaria*

Collection of blood slides is done by active and passive surveillance in the IFPA.

Total number of slides collected: 12,255 Total number of positive cases: 222

### Indices

- Annual blood examination rate 13.41%
- Annual parasite incidence rate 2.42/1000 population
- Slide positivity rate 1.81%

### *Tuberculosis*

The RNTCP is carried out in the IFPA on the national pattern. Dayalpur PHC has been designated as a Microscopy Centre and caters to all villages under the IFPA. The break-up of patients treated in the total Field Practice Area is as follows:

Category I: 102      Category II: 29      Total 131

## Special services

### *Animal bite management clinic (PHC Chhainsa)*

Number of patients provided Anti Rabies Vaccine (ARV): 660

### *Family welfare camp (PHC Chhainsa)*

Number of tubectomy: 230      Number of vasectomy: 16

## IEC Activities under CRHSP Ballabgarh

### *World Health Day Celebration*

- World T.B. Day      22 March 2012      Exhibition and Health talk
- World Health Day      07 April 2012      Exhibition and Health talk
- World No Tobacco Day      31 May 2012      Exhibition and Health talk
- World Population Day weekend      11–24 July 2012      Health talk
- World Breast Feeding week      1–7 August 2012

## Activities

- August 2012      Health talk, Short Film Show and Poster displayed – 10
- August 2012      Group Discussion & Individual Counseling
- August 2012      Short Film Show on Breast Feeding & Health Talk
- August 2012      Health talk & Posture Displayed
- August 2012      Health Talk & Pamphlet Distribution

6. August 2012 Health Talk
7. Nutrition Week: Health talk & Posture Displayed
8. 17 September 2012 *Nukhad Natak* on HIV/AIDS, NACO and DGHS, Haryana
9. 1 December 2012 World AIDS Day: Exhibition, Health Talk, Distribution of Booklets, Pamphlets.

### Group Health Talks: 82

*Topics covered:* Neonatal care and Kangaroo mother care, Breast-feeding and weaning, Antenatal Care, High risk pregnancy, Anaemia in pregnancy, Importance of institutional delivery, Immunization, Female discrimination, Diarrhoea, Pneumonia, Scabies, Tobacco-de-addiction, Malaria & Dengue, Tuberculosis, Anaemia in children, Malnutrition in Children, Vit-A Deficiency, Diabetes, Hypertension, HIV/ AIDS, Accidents in children, Personal Hygiene, Family planning methods, Post-natal Care and Diet, Care of Newborn, Swine Flu, Geriatric Care, Mental health problem. etc.

**Short Film Shows: Child Welfare Centre:** (Timing 9.30 to 10.30, Daily) On Important Topics: Breast Feeding, Antenatal, and Child Care, Female feticide, Eye Care, Vit A Deficiency, Malnutrition, and Diarrhoea.

### Counseling in Ward

**Time:** 2 PM–4 PM

12 Noon–1 PM Saturday

### Exclusive Breastfeeding Feeling

Daily (Monday–Friday) and

### Counseling provided to

Post Natal Mothers: 1,917

Antenatal Mothers: 852

**Urban Health Programme:** The Urban Field Practice Area for training of undergraduate and postgraduate students in Community Medicine is located at Dakshinpuri Extension, Dr Ambedkar Nagar, Delhi. Health care services are provided to a population of about 35,000 in this area. The services include clinic-based services and domiciliary health services.

I. Clinic-based services – these were provided by the Mobile Health Clinic till 7 January 2013. Since 15 March 2013, these services are being provided from the Urban Health Centre which has been established at the Basti Vikas Kendra, Mini Subhash Camp, Opp. Block 14, Dakshinpuri Extension, Dr Ambedkar Nagar, New Delhi.

II. Domiciliary health services – these are provided through home visits by Public Health Nurse Supervisor, Medical Social Service Officer and Health Assistants.

a. Total patients seen at Dakshinpuri Extension, Dr Ambedkar Nagar: 26159

b. Total number of referrals: 1141

c. Health talks given on different health topics at Dr Ambedkar Nagar: 110

d. *Immunization*

0 dose OPV	54	BCG	154
DPT I	484	DPT II	479
DPT III	485	DPT B	463
OPV I	484	OPV II	479
OPV III	486	OPV B	463
DT (Booster)+OPV	383	Measles	428
MMR	471	TT I (ANC)	211
TT II (ANC) & TT (Booster)			246
TT Others + above 6 years			182

*Hepatitis B*

0 dose	5	I dose	494
II dose	490	III dose	527
Typhoid	541	Vitamin A I dose	894
Folifer (Adult)	61035	Folifer (Paedatric)	4975

*Family Planning Acceptors*

Condoms 3860 Oral contraceptive pills 112 cycles

Laboratory services

Rapid test for malaria. 154 Haemoglobin 450  
 Urine albumin and sugar 44 Blood sugar estimation 977  
*Sex and Marriage Counselling Clinic*  
 New patients 1755 Old Patients 2320

### Health Promotion and Health Communication (HPHC) unit

#### Organizing event /exhibitions

Date	Name of activity	Number of participants
16 April 2012	Project interventions on 'Hypertension' at six places in Block No. 2 Dakshinpuri Extension, Dr Ambedkar Nagar	160
19 July 2012	Project interventions on 'Oral Health' at six places in Block No. 3 Dakshinpuri Extension, Dr Ambedkar Nagar	180
9 August 2012	Exhibition on 'Breast feeding and weaning' on the eve of breast feeding week at Dakshinpuri Extension, Dr Ambedkar Nagar	90
3 September 2012	Family Health Advisory Service (FHAS) intervention programme (Role Plays) organized on 'Large Size Family, Diarrhoea, PEM, Immunization, Obesity, Alcohol and Heart Attack' Block No. 5 Park, Dakshinpuri Extension, Dr Ambedkar Nagar	160
7 September 2012	Project interventions on 'Malaria and Dengue' at six places in Block No 06 Dakshinpuri Extension, Dr Ambedkar Nagar	210
10 September 2012	Family Health Advisory Service (FHAS) Intervention Programme (Role Plays) organized on 'Child Marriage, TB., PEM, ANC, Breast Feeding and Weaning and Immunization', Block No. 5, Dakshinpuri Extension, Dr Ambedkar Nagar	200
25-27 September 2012	4 Posters were displayed and 12 films were screened on public health issues on the eve of 'Institute Day Health Exhibition' at AIIMS	–
1 December 2012	Exhibition on 'World AIDS Day' at Dakshinpuri Extension, Dr Ambedkar Nagar	140
14 February 2013	Project interventions on 'Hypertension' at six places in Block No. 1 Dakshinpuri Extension, Dr Ambedkar Nagar	260

S. No.	Posters Developed/Modified and Designed on	No.
1.	Urban Health Programme-Contribution to healthcare Rural Health Centre	1 1
2.	Posters on Swine Flu	2
3.	Posters on Hypertension	2
4.	Meningitis Poster	2
5.	Poster on details of published articles	1

Information on vector borne diseases was disseminated by the distribution of 2,000 booklets on dengue in all residential areas of AIIMS. Posters on various topics like 'Dengue, Swine flu and Hypertension; were displayed at prominent places at AIIMS for health promotion. A telephonic 'Dengue helpline' was made operational during the 2012-13. Adequate informations were provided and doubts cleared of the people.

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

Centre for Community Medicine is designated as WHO Collaborating Centre for Capacity Building and Research in Community Based Non-communicable Disease, prevention and control.

**Professor C.S. Pandav** was conferred Dr B.C. Dasgupta Memorial Oration during South-East Asian Regional Public Health Conference and 57th All India Annual Conference of Indian Public Health Association, 1-3 February 2013, Science City, Kolkata; appointed Member, Working Group on Disease Burden (Communicable and Non-communicable Diseases) for formulation of Twelfth Five-Year Plan (2012-17); Attended symposium on Non-Communicable Diseases—Lifestyle Modification, Bangalore, 9-10 April, 2012, Indian Public Health

Association; Member, Selection Committee, National AIDS Research Institute (NARI), ICMR, Pune, 9–10 August 2012; Attended Workshop on Improving Quality Assurance for Salt Iodization in India, 24–25 August 2012, Gandhidham, Gujarat; Attended 57th Foundation Day Celebration of Indian Public Health Association, 28–29 September 2012, Kolkata; Attended Joint State Conference of IPHA and IAPSM Maharashtra Chapter, 22–24 January 2013, Nagpur, Maharashtra; Attended South-East Asian Regional Public Health Conference and 57th All India Annual Conference of Indian Public Health Association, 1–3 February 2013, Science City, Kolkata; Conducted 6th Annual National Rural Health Mela (Late Shri Digvijay Singh Memorial Health Mela), Banka, Bihar; 22–24 February 2013; Visited Kumbh Mela, Allahabad, 18–20 February 2013, to assess public health implications of a large gathering and submit guidelines for the same, Indian Public Health Association; Attended symposium on Non-Communicable Diseases, Bangalore, 9–12 March 2013, Indian Public Health Association; Visited Nepal as an Expert, 16–19 January 2013, to ‘Examining and Assessing the Goitre Control Programme in Nepal’, Ministry of External Affairs, Government of India; Conducted MD (Community Medicine)/Community Dentistry Parts I and II Examinations, 11–13 February 2013, Colombo, Sri Lanka; Attended 13th World Congress of Public Health, 23–27 April 2012, Addis Ababa, Ethiopia, as National President of Indian Public Health Association; Attended the Annual International Council for Control of Iodine Deficiency Disorders (ICCIDD), Board Meeting, Pisa, Italy, 6–8 September 2012; Participated in the Symposium cum Workshop on Sustainable Elimination of Iodine Deficiency Disorders in Thailand at Bangkok, 18–23 March 2013.

**Professor Shashi Kant** was awarded Fellow of Indian Association of Preventive and Social Medicine; Member, Governing Council of IAPSM, 2013–20; Faculty Co-ordinator, Central Workshop, AIIMS; In-charge, Telemedicine Facility, AIIMS; Member, Ethics sub-committee, AIIMS; Member, Dean’s Committee and Staff Council, AIIMS; Member, Housing Advisory Committee, AIIMS; Member, Doctoral Committee for Ph.D students enrolled in department of Physiology and Biostatistics, AIIMS; Member, Ethics Committee/Institutional Review Board of National Institute of Medical Statistics (New Delhi), and Institute of Health Management and research (Jaipur); Member, Scientific Advisory Committee of NIMS (New Delhi); Member, Expert Committee, Indian Council of Medical Research (New Delhi) for review of various project proposals; Expert for recruitment of Faculty members for six AIIMS set up under PMSSY; Member, Steering Committee, Establishment of National Health Portal (New Delhi); Reviewed research articles submitted to Indian Journal of Community Medicine, Indian Journal of Public Health, and National Medical Journal of India; member of many Technical Resource Groups (e.g. on STI/RTI, HIV Sentinel Surveillance, HIV research and development, etc.) set up by Department of AIDS Control, Ministry of Health, Government of India; participated as member of Technical Coordination committee and Apex Committee for collaborative work with BMGF and its grantee institutions on HIV/AIDS epidemic analysis; attended International Conference on Global Public Health 2012, Colombo, Sri Lanka; the INDEPTH mortality data analysis workshop, 2–6 July 2012, Accra, Ghana; 40th Annual Conference of Indian Association of Preventive and Social Medicine, 22–24 January 2013, Nagpur.

**Professor Sanjeev Kumar Gupta** was an Expert Member of the Task Force Project ‘Development of Indian Anxiety and Panic Questionnaire’, Indian Council of Medical Research, New Delhi; Special invitee, Project Review Group Meeting, Fertility Regulation and Expanding Contraceptive Choices, Indian Council of Medical Research, New Delhi; Member, Review Committee, Intramural Projects funded by the AIIMS (2012–2013); Member, Stores Purchase Committee, Centre for Dental Education and Research; Member, Disease Prevention and Outbreak Response Cell (DPORC) Committee, AIIMS; Member, Core Committee of the AIIMS, under the Revised National Tuberculosis Control Programme; Reviewer for Indian Journal of Community Medicine, The National Medical Journal of India, Indian Journal of Medical Research, BMC Public Health; Member, Doctoral Committee, Ph.D. theses in Department of Community Ophthalmology, Dr R. P. Centre, AIIMS; Member, Staff Council AIIMS; Examiner for theses of MD (Community Medicine), for the University of Delhi South Campus; November 2012; Member, Board of Examiners for MD (Community Health Administration) Examination, National Institute of Health and Family Welfare, Munirka, New Delhi, 25–25 April 2012, and 18–19 October 2012.

**Professor Kiran Goswami** participated in Hindi fortnight and won first prize in Essay Writing Competition (Hindi speaking category); Central Team member in INCLIN, conducted projects of Determinants of Under nutrition in Children and Assessment of Management at Different level of Healthcare and in-depth Analysis of Cold Chain, Vaccine Supply and Logistics Management for Routine Immunization in Three Indian States; Conducted training workshop and supervision for Gujarat State Supervision of FGDs for data collection in

Srinagar (J & K) under 'Childhood Obesity in India: A Multicenter Study on its Measurements and Determinants with Reference to Cardio-Metabolic Risk Factors': ICMR Taskforce Study; Member, National Steering Group for Research Priority Setting Exercise in Maternal Newborn, Child Health and Nutrition (MNCHN).

**Dr Anand Krishnan** worked with WHO/SEARO as a temporary International Professional in the area of NCDs for five months; Head, WHO Collaborating Centre for Capacity Development and Research in Community based NCDPC; Organized WHO Regional STEPs surveillance training workshop, 11–14 June 2012, with participation from five South-East Asian Countries; Attended WHO Consultation to develop the regional strategic action plan with indicators and targets for prevention control of NCDs, 25–27 February 2013; Attended WHO Regional meeting on NCD including mental health and neurological disorders, 24–26 April 2012; attended and facilitated WHO Regional workshop on prioritized research agenda for prevention and control of NCDs through a PHC approach 8 to 10 Aug 2012; attended meetings in National Health System Resource Centre (NHSRC) related to curriculum development for BSc (Community Health) and Role of ASHAs in NCD Prevention and Control, attended Project Review Committee meetings at Indian Council of Medical Research of NCD Division; attended Project Review Committee Meetings of Department of Electronics and Information Technology; Peer Reviewed manuscripts for Lancet, Bulletin of WHO, Global Health Action, Indian Paediatrics, National Medical Journal of India, Indian J Med Research.

**Dr Baridalyne Nongkynrih** was Resource person, Annual Conference cum workshop on Research Methodology and Biostatistics organized, Indian Journal of Medical Specialties, 26 August 2012, Lady Hardinge Medical College, New Delhi; Member, project committee in ENT projects, ICMR External examiner to RIMS Manipur, MD Exam on 18–19 April 2012; External examiner for MBBS final exams in NEIGRIHMS, Shillong. 13–14 December 2012; Thesis evaluation for B.P. Koirala Institute of Health Sciences Dharan Nepal: thesis evaluation for Community Medicine School of Public health PGIMER Chandigarh. Reviewer for Indian Journal of Community Medicine, Global Health Action, Indian Journal of Maternal and Child Health.

**Dr Puneet Misra**, elected President of Indian Association of Preventive and Social Medicine (IAPSM); awarded Fellowship of IAPSM; participated in workshop organised by International Journal of Epidemiology and INDEPTH, Accra, Ghana; participated in live telecast on Dengue during dengue season and HIV on World AIDS day on Lok Sabha TV and All India Radio; participated in National conference of IPHA and IAPSM at Nagpur; participated in Programme advisory committee meeting and reviewed many research projects under DST, Govt of India.

**Dr Sanjay Rai**, Nodal person for Central Zone for HIV /AIDs sentinel surveillance in India; responsible for supporting HIV sentinel surveillance activity of five central zone states of India (Bihar, Delhi, Jharkhand, Uttarakhand and Uttar Pradesh), supported by NACO; Delivered 'JE Park Memorial Oration; at 56th All India Annual Conference of IPHA at Kochi, 13 February 2012; Member of the Sub-committee on 'Developing PG curriculum in community medicine' and 'Immunization' of Academy of Indian Public Health Association; Reviewed manuscript for publication in various journals, like Health and Population Perspective and Issues, Indian Journal of Public Health, Indian Journal of Community Medicine, etc.; Organized Health Mela under NRHM in Banka District of Bihar, 2–4 March 2012; Conducted several supervisory field visits of Bihar, Jharkhand, Delhi and UP to monitor HIV Sentinel Surveillance of India.

**Dr Y. S. Kusuma** participated in Principal Investigators' meeting of the ICMR Taskforce project 'Healthcare access to migrants in metros/major cities, ICMR, New Delhi, 26–27 February 2013; Editorial Board Member for Studies on Ethno-Medicine and Afro-Asian Journal of Anthropology and Social Policy; Reviewer to international and national professional journals such as, Asia-Pacific Journal of Public Health, Annals of Human Biology, Asian Pacific Journal of Tropical Medicine, BMC Public Health, BMC Family Health, BMJ Open, Journal of Human Hypertension, Journal of Urban Health, Journal of Public Health, Maternal and Child Health Journal, Studies on Ethno-Medicine, Journal of Human Ecology, etc.; served as examiner to MPhil dissertations/MD/ PhD theses; and reviewer for research proposals of ICMR.

**Dr Kapil Yadav** participated in POSHAN (Partnerships and Opportunities to Strengthen and Harmonize Actions for Nutrition in India) IFPRI, June 19, 2012; Member of technical committee for procurement of equipments of new AIIMS; Delivered lecture 'Iodine deficiency disorders – reaching the goals in the Twelfth

Plan period', NAMS–NFI Symposium on micronutrient deficiencies, Nutrition Foundation of India, 22 March 2013.

**Dr Anil Goswami** attended 'Disease Prevention and Outbreak Response Cell (DPORC), Horticulture and Sanitation Advisory Committee' AIIMS, 11 October 2012; attended 'Faculty Development Workshops', 1 November 2012, 3 December 2013, and 7 February 2013, AIIMS, KL Wig CMET; attended Ninth Joint Annual Conference of 'The Indian Society for Malaria and other Communicable Diseases (ISMOCD)' and 'The Indian Association of Epidemiology (IAE)', 2–4 November 2012, India Habitat Centre, New Delhi; participated as member in the meeting of 'Family Welfare Programme – Advisory Committee of All India Radio', New Delhi, 16 January 2013; Nodal Officer for 'Disease Prevention Outbreak Control Cell (DPORC)', AIIMS; attended 40th Annual National Conference of Indian Association of Preventive and Social Medicine', 22–24 January 2013, Department of Preventive and Social Medicine, Govt. Medical College, Nagpur, Maharashtra; Attended 'South-East Regional Public Health Conference' and 57th All India Annual Conference of 'Indian Public Health Association', 1–3 February 2013, Science City, Kolkata; participated in the Workshop on 'Prevention and Control of Vector Borne Diseases', India Habitat Centre, 20 February 2013, South Delhi Municipal Corporation; participated as a resource person in a Public Lecture on 'Awareness about Vector Borne Diseases' AIIMS, 28 February 2013; Continued to be the 'Treasurer of Indian Association of Preventive Medicine (IAPSM) (A National Body)', 2012–13, for a second consecutive term; delivered a lecture on 'Role of Medical Social Work in Community Medicine' for Bachelor of Social Work students, Dept. of Social Work, Dr Bhimrao Ambedkar Collge, University of Delhi, Yamuna Vihar, 27 July 2012; conducted sensitization session on 'Vector Borne Disease Control Programme', AIIMS Sulabh Staff, sanitation inspectors and sanitation officers under the banner of 'Disease Prevention Outbreak Control Cell (DPORC)', AIIMS, 18 May 2012, 17 August 2012, and 31 August 2012; delivered a lecture 'Teaching, Training and Research activities in Community Medicine' to students of Social Work from 'Shri Saraswati College of Social Work, Washim (Maharashtra)' 11 December 2012; a judge for Street Play Competition, 'PULSE 2012', a cultural event of AIIMS students, 19 September 2012, where 21 street plays were judged; attended AIIMS Rajbhasha Karyanvayan Samittee meeting, 26 March 2013 to review the past functioning and future plans.

## 9.9 Dermatology and Venereology

**Professor and Head**  
Vinod Kumar Sharma

Neena Khanna

**Professors**  
Kaushal K. Verma

M. Ramam

Binod K Khaitan  
G. Sethuraman

**Additional Professors**

Sujay Khandpur  
Somesh Gupta

### EDUCATION

Three candidates completed MD Dermatology and Venereology training, 5 candidates took short term training from 2–4 weeks.

### CONFERENCES, CMEs

#### Lectures delivered

**VK Sharma: 10**

**M Ramam: 10**

**Sujay Khandpur: 10**

**G. Sethuraman: 2**

**Somesh Gupta: 4**

### RESEARCH

#### Funded projects

##### Ongoing

1. Genetic analysis of psoriasis and psoriatic arthritis in India., VK Sharma, 2010–13, NIH, USA, Rs.68 lakhs.
2. Elucidating role Fox<sub>3</sub> promoter DNA methylationLevel in active non-segmental Generalized vitiligo, VK Sharma, 2011–14, DBT, Rs. 60 lakhs.
3. Programme support for skin pigmentation, VK Sharma, 2008–12, DBT, Rs. 28 lakhs.
4. Randomized clinical trial of azathioprine versus methotrexate weekly pulse for the treatment of chronic plaque psoriasis, KK Verma. ICMR for 3 years, 2010–13, Rs. 16.80 lakhs.
5. Urologic evaluation of dermatologic patients on chronic cyclophosphamide therapy, Sujay Khandpur, AIIMS, Rs. 1 lakh.
6. Comparison of clinical efficacy and safety of methotrexate versus etanercept in moderate to extensive chronic plaque psoriasis, Sujay Khandpur, AIIMS, Rs 3.30 lakhs.
7. Prevalence of Vitamin D deficiency Rickets in children with congenital ichthyosis and keratinizing disorders, G. Sethuraman, November 2010–October 2013, ICMR, Rs. 18 lakhs.
8. Randomized trial of systemic steroids and propranolol in the treatment of infantile hemangioma, G. Sethuraman. ICMR, September 2012–September 2014, Rs.16 lakhs.
9. Molecular analysis of epidermolysis, G. Sethuraman, November 2012–October 2015, ICMR, Rs. 30 lakhs.
10. Comparison of immunohistochemistry and immunofluorescence antigen mapping in the diagnosis of epidermolysis bullosa and correlation of these tests with DNA based diagnostic tests, G. Sethuraman, 2012–15, DST, Rs. 36 lakhs.
11. Determination of plasma and urinary levels of catecholamines in patients with vitiligo and their correlation with stability and outcome of melanocyte transplantation, Somesh Gupta, ICMR, 2011–13, Rs.10 lakhs plus staff
12. The role of immunological factors in determining stability of pigmentation by comparing the levels of immunohistochemical markers in successful and unsuccessful re-pigmentation at 0–2 weeks, Somesh Gupta. 2012–13, AIIMS, Rs. 5 lakhs

### **Completed**

1. A comparative study of effectiveness of immunotherapy with intralesional injection of killed mycobacterium w Vaccine and imiquimod cream in clinical resolution of external anogenital warts and reduction of viral load: A randomized trial. 3 years+1 year extension, DBT, July 2008–July 2012, Rs 49.3 lakhs.

### **Departmental projects**

1. Clinical profile of photodermatoses at AIIMS
2. ND Yag laser in the treatment of N. Ota lentiginos, Melasma, etc.
3. Pulse Dye laser for PWS
4. Occupational dermatoses
5. Evaluation of effectiveness and safety of oral acyclovir 1gm twice a day for 3 days versus oral acyclovir 1gm once a day for 5 days in genital herpes
6. Assessment of Quality of Life (QoL) In Indian patients with genital herpes
7. Weekly azathioprine pulse (WAP) therapy versus betamethasone oral mini pulse therapy in the treatment of moderate to severe alopecia areata
8. Further validation and responsiveness of a rating scale to measure the psycho-social impact of vitiligo
9. Clinico-pathological study of granulomatous cheilites and lupus miliaris disseminatus faciei
10. Clinico-pathological study of inflammatory leg nodules
11. Histological evaluation of palmoplantar psoriasis
12. Combination regimen of topical PUVAsol and mometasone furoate in treatment of segmental vitiligo.
13. Efficacy of pulsed dye laser 595 nm in facial portwine stains.
14. Comparison of three treatment regimes in palmoplantar psoriasis
15. Utility of horizontal sections of scalp biopsies in alopecias.
16. Clinico-pathological study of granulomatous cheilites and lupus miliaris disseminatus faciei
17. Dermoscopic study of alopecia.
18. Weekly azathioprine pulse therapy versus betamethasone oral mini pulse therapy in the treatment of moderate to severe alopecia areata.
19. Study of cytokines, transcription factors, chemokine receptors and their ligands of Th17 and Treg cells in pemphigus vulgaris.

### **Collaborative projects**

1. Real time polymerase chain reaction for Herpes Simplex viruses (Microbiology).
2. Radioactive skin patches for treatment of basal cell carcinoma and keloids (Nuclear Medicine).
3. Genetic polymorphism in Th-1 and Th-2 cytokines and their association with parthenium induced contact dermatitis (Biochemistry).

### **PUBLICATIONS**

**Journals: 21**

**Chapters in books: 3**

### **AWARDS, HONOURS, AND SIGNIFICANT EVENTS**

**Professor V.K. Sharma** conducted interviews for post of Assistant Professor, Dermatology, 2 February 2013, for Shillong, Meghalaya; Expert, Ministry of Health and Family Welfare, Government of India, National AIDS Control Organization, the 'Sub-Committee for updated National Guidelines for STI/RTI management', 18 September 2012; Expert, meeting with DGHS to 'review the classifications and treatment of Leprosy cases and possibilities of introducing chemoprophylaxis of contacts with Rifampicin', 14 February 2013, New Delhi; Awarded Prof. L.K. Bhutani Memorial Award for teaching and research, at 41st National Conference of Indian Association of Dermatologists and Venereologists, Dermacon 2013; Elected Congress President for International Congress of Dermatology, New Delhi; Editorial Board member, Journal of American Society of Contact Dermatitis named 'Dermatitis' and attended Editorial Board meeting, 1 March 2013; Chaired session on 'SIG' and invited talk on 'Antimetabolites', 41 National Conference of Indian Association of Dermatologists, Venereologist and Leprologists (IADV) Dermacon 2013, Ahmedabad, 24–27 January 2013; Chaired Session in Golden Jubilee CME 'Dermatology Update', 23–24 March 2013, PGIMER, Chandigarh; Chaired session 'Pathogenesis and Clinical features of vitiligo', 5th Asian Society for Pigment Cell Research Congress', New Delhi, November 3–4, 2013.

**Professor K.K. Verma** awarded Fellowship of International Medical Sciences Academy (FIMSA), Professor in-charge (Examinations), AIIMS; Hon. Secretary, International Union against Sexually Transmitted Infections – Asia Pacific (IUSTI-AP), 2008–12; Vice Chair, International Union against Sexually Transmitted Infections – Asia Pacific (IUSTI-AP), South Asia Region, 2012–14; Chair Elect, International Union against Sexually Transmitted Infections – Asia Pacific (IUSTI-AP) 2014–16; President, Indian Association of Dermatologists, Venereologists and Leprologists, Delhi State (IADVL- DSB) – 2012; President, Pemphigus ad Pulse Therapy Foundation 2011–13; Organized Annual and Mid-year Conferences of Indian Association of Dermatologists, Venereologists and Leprologists, Delhi State (IADVL- DSB), as President of the Organization; Organized and coordinated monthly academic meetings of the Indian Association of Dermatologists, Venereologists and Leprologists, Delhi State (IADVL- DSB), at various Institutions, as its President in 2012; Delivered Key note Lecture as a Special Invitee on ‘Occupational Dermatoses in Indian Subcontinent’, 11th Congress of European Society of Contact Dermatitis from June 13-16, 2012 at Malmo, Sweden; Delivered a guest lecture on ‘Tropical Skin Infections in India’ 21 June 2012, University Hospital Zurich, Switzerland. Delivered a guest lecture, ‘India’s response to STI/HIV epidemic: Success Story’, 15–17 October 2012, 13th International Union against Sexually Transmitted Infections (IUSTI), World Congress, Melbourne, Australia; Organized a CME cum workshop on ‘Pemphigus and other Autoimmune diseases in Dermatology’ as President of Pemphigus and Pulse Therapy Foundation, in association with office bearers and local organizing committee, 16–18 February 2013, Udaipur, Rajasthan; Participated in Central Council Meeting of Indian Association of Dermatologists, Venereologists and Leprologists (IADVL), 14–15 July 2012, Hyderabad, President of IADVL, Delhi State.

**Professor M. Ramam** First Dr B N Banerjee Oration Award 2012 of IADVL, West Bengal Branch; UCSF Community Faculty Award of the Year 2012; Dr Bishnupriya Debi Award 2012 for best original article in the IJDVL; Visiting Professorship at University of California, San Francisco; Member, Editorial Board, Journal of Cutaneous Pathology; Member, Editorial board, International Journal of Dermatology; Secretary, Dermatopathology Society of India; Member, Executive Council, International Society of Dermatopathology; Editor Elect, Indian Journal of Dermatology Venereology and Leprology.

**Dr Sujay Khandpur** Hony. Secretary, Indian Association of Dermatologists, Venereologists and Leprologists (Delhi Branch) 2012; Joint Secretary, Dermatopathology Society of India 2012–13; Vice President, Indian Association of Dermatologists, Venereologists and Leprologists (Delhi Branch) 2013; Member Advisory Committee, Indian Association of Dermatologists, Venereologists and Leprologists (IADVL); Textbook of Dermatology 2013; Member, Special Interest Group on Clinical Trials, Indian Association of Dermatologists, Venereologists and Leprologists 2013; Joint Organizing Secretary, International Congress of Dermatology 2013; Reviewer of Indian Paediatrics, Dermatology, IJDVL, Indian Journal of Dermatology, ACSI, British Journal of Dermatology.

**Dr G. Sethuraman** Indian Journal of Dermatology – Indian Society for Paediatric Dermatology award 2012, for the best original article in Paediatric Dermatology (Sethuraman G, Sharma VK, Pahwa P, Khetan P. Study of Stevens Johnson Syndrome (SJS), Toxic Epidermal Necrolysis (TEN) and SJS-TEN Overlap in children: Ind J Dermatol 2012; 57: 199–200.) Dr Premalatha award for the best research project and the best original research paper in 2012 (Chouhan K, Sethuraman G, Gupta N, Sharma VK, et al. Vitamin D deficiency and rickets in children and adolescents with ichthyosiform erythroderma in type IV and V skin. Br J Dermatol 2012; 166: 608–615; Fellowship of the IADVL Indian Academy of Dermatology (FIAD) 2012; Reviewer for BJD, Arch Dermatol, IJD, IJDVL, Ind J Pediatrics, J Cut Aes Surg.

**Dr Somesh Gupta** nominated Editor-in-chief, Journal of Cutaneous and Aesthetic Surgery. Continuing as Joint Editor of Journal, Sexual Health (Australia); Recipient of Silver Medal by International Union against Sexually Transmitted Infections for efforts in controlling STI at global level; Received Award of Excellence 2012 by Indian Association of STD and AIDS; Congress President: 4th Spring Meeting of International Society for Dermatologic Surgery (ISDS) combined with 11th National Conference of Association of Cutaneous Surgeons of India, Hotel Leela Kampinsky, Gurgaon, 12–15 April 2012.

## 9.10 Emergency Medicine

### **Professor and Head**

Praveen Aggarwal

### **Professor**

L. R. Murmu

### **Assistant Professor**

Mohammed Tahir Ansari

### **HIGHLIGHTS**

The Department of Emergency Medicine started postgraduate course in Emergency Medicine in July 2012. Three residents joined the Department, one in July 2012, and two in January 2013. This is one of very few such departments across India. The departmental faculty has actively participated in providing training to future faculty of the discipline of Emergency Medicine. The Department has been actively collaborating with international universities from the USA to organize conferences on Emergency Medicine with the aim to train doctors, nurses and paramedics in this field.

### **EDUCATION**

The Faculty organized life support courses for undergraduates and postgraduates posted to the Department. The Department runs a schedule of academic activities for residents of Emergency Medicine (seminars, journal clubs, case discussions) thrice a week. In addition, the department faculty was involved in didactic teaching of undergraduates, postgraduates and nursing students through lectures and seminars.

The Department imparted short term training to 11 undergraduate students from USA, England, Ireland, Germany, Australia and Austria.

### **CONTINUING MEDICAL EDUCATION**

#### **Conferences/seminars/workshops organized**

1. Emergency Medicine Practices and Advanced Clinical Therapeutics, 24–28 July 2012.
2. 8th Indo–US Emergency Medicine Summit – 2012 (INDUS-EM 2012), Nashik, in collaboration Maharashtra University of Health Sciences, 24–28 October 2012. The international collaborating partners were University of South Florida, USA and State University of New York, Downstate Medical Center, USA.
3. Advanced Toxicological Life Support Workshop, 8th Indo–US Emergency Medicine Summit – 2012.

#### **Papers presented**

1. Reconstruction with fibular autograft and silicone implant arthroplasty for giant cell tumour of metacarpal, Asia Pacific Orthopaedic Association Conference on 3–6 October 2012.
2. Pesticide Poisoning, 8th Indo–US Emergency Medicine Summit 2012, Nashik, 24–28 October 2012.
3. Plant poisoning, 8th Indo–US Emergency Medicine Summit 2012, Nashik, 24–28 October 2012.
4. Snake bites, 8th Indo–US Emergency Medicine Summit 2012, Nashik, 24–28 October 2012.
5. Common poisoning scenario in Delhi, XXIII Annual CME of Delhi State Chapter, Association of Physicians of India, Delhi, 17–18 November 2012.

#### **Lectures delivered**

**Praveen Aggarwal: 4**

**Mohammed Tahir Ansari: 1**

### **PUBLICATIONS**

**Journals: 8**

### **PATIENT CARE**

#### **The details of various activities of Department of Emergency Medicine (2011–12)**

Average number of patients: 11,281/month

Total number of patients 1,35,375 (from January 2012 to December 2012)

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Praveen Aggarwal** is Chief co-Editor, Journal of Emergencies, Trauma and Shock, an international journal, indexed in PubMed; nominated Member, Postgraduate Broad-Specialty Committee appointed by the Board of Governors, Medical Council of India; nominated a member of the Committee under Directorate General of Health Services, Ministry of Health and Family Welfare to prepare format of medical certification of pilgrims visiting Shri Amarnath Shrine; nominated a member of the Expert Committee for developing Curriculum and Training Module on High Altitude Mountain Medicine under Directorate General of Health Services, Ministry of Health and Family Welfare; Member of Scientific Body, Indian Pharmacopoeia Commission, Ministry of Health and Family Welfare, Government of India; Member of Institute's Ethics Committee.

**Professor L.R. Murmu** is Chief co-Editor of Journal of Emergencies, Trauma and Shock, an international journal, indexed in PubMed.

## 9.11 Endocrinology and Metabolism

### Professor and Head

A. C. Ammini

### Professors

Nikhil Tandon

Nandita Gupta

Ravinder Goswami

### Additional Professor

Rajesh Khadgawat

### Associate Professor

Viveka P. Jyotsna

### Assistant Professor

Mohd Ashraf Ganie

### Scientist IV

M. L. Khurana

### HIGHLIGHTS

The Department runs daily outpatient facilities, laboratory services for hormone assays, metabolic studies and bone density measurement.

### 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 to the department.

#### Long and Short Term Training

- Four candidates completed their DM and three new candidates joined the DM course.
- Two students joined PhD (Endocrinology).
- Four students completed short term training.

#### National and International Conferences

##### Lectures delivered

A. C. Ammini: 8

N. Tandon: 12

R. Goswami: 1

R. Khadgawat: 6

V.P. Jyotsna: 3

Mohd Ashraf Ganie: 3

### RESEARCH

#### Funded projects

##### Ongoing

1. A phase III randomized, placebo-controlled clinical trial to assess the safety and efficacy of Odanoacatib (MK-0822) to reduce the risk of fracture in osteoporotic postmenopausal women treated with vitamin D and calcium. AC Ammini, MSD, 2009–14, Rs 40 lakhs.
2. National reference center for molecular diagnosis of CYP21A2 gene in Congenital Adrenal Hyperplasia (CAH) affected families to establish the appropriate disease management. AC Ammini, DBT, 2013–15, Rs 4.35 lakhs.
3. Genetic determinants of birth weight and growth trajectory and influence of parental genotype on these anthropometric indicators. N. Tandon, DBT, 2012–15, 3 years, Rs 126.63 lakhs
4. Childhood obesity: Inflammatory markers, gene variation and epigenetics, an association study in urban and rural areas of north India. N. Tandon, DBT, 2011–14, Rs 60.91 lakhs.
5. CARRS Translation trial: Developing and testing integrated, multifactorial cardiovascular risk reduction strategies in South Asia. Tandon, NIH, 2011–15, Rs 33.14 lakhs.
6. Prevention of type 2 diabetes in women with gestational diabetes in urban India – a feasibility study. N. Tandon, Bridges, USA, 2010–13, Rs 32.44 lakhs.

7. Th1 and Th2 expression pattern and HLA predisposition in patients with sporadic idiopathic hypoparathyroidism. R Goswami, DBT, 2011–14, Rs 48 lakhs.
8. Skeletal muscle strength including its energy metabolism and bone mineral homeostasis in Asian Indians with chronic hypovitaminosis D before and after oral cholecalciferol supplementation. R Goswami, ICMR, 2010–13, Rs 37 lakhs.
9. Pattern of Th1 and Th2 cytokines expression in Asian Indians with chronic hypovitaminosis D and its change after oral cholecalciferol supplementation. R Goswami, ICMR, 2011–14, Rs 32 lakhs.
10. A randomized 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. Rajesh Khadgawat, ICMR, 2011–14, Rs 47 lakhs.
11. A phase III, multicentre, randomized, parallel group study of safety and efficacy of the LB03002, a New Sustained Release Formulation of Human Recombinant Growth Hormone as Compared to Sustained Daily Therapy with Genotropin in Treatment Naïve Children with Growth Failure due to Insufficient Secretion of Endogenous Growth Hormone. Rajesh Khadgawat, LG Pharma, Euro 50,000.
12. A study on the molecular etiology underlying skeletal dysplasias. Rajesh Khadgawat, Intramural funding, AIIMS, Rs 1 lakh.
13. A prospective phase III, multicentric, randomized, open label study to evaluate the comparative safety and efficacy of recombinant growth hormone (hGH) of USV with Eutropin in treatment of pre-pubertal of children (4–12) years with growth hormone deficiency. Rajesh Khadgawat, USV, Rs 10 lakhs.
14. A study of clinical, epidemiological and environmental risk factors associated with fragility hip fractures in elderly Asian Indians, aged  $\geq 60$  years. Rajesh Khadgawat, ICMR, 2013–16, Rs 33.5 lakhs.
15. Genotype phenotype correlation in patients of growth hormone deficiency. VP Jyotsna, DBT, Rs 21 lakhs.
16. MEN 1 gene mutations in patients of primary hyperparathyroidism, pituitary tumor and pancreatic tumor. VP Jyotsna, AIIMS, Intramural project, Rs 5 lakhs.
17. Role of inflammation in Indian women with polycystic ovary syndrome (PCOS) and its modulation by dietary factors. Ashraf Ganie, DBT, 2013–15, Rs 57 lakhs.
18. Metabolic consequences of childhood obesity in Kashmiri schools. Ashraf Ganie, DST, SKIMS Srinagar, 2011–14, Rs 18 lakhs.
19. Proinflammatory and procoagulant effects of OCP's in Indian PCOS women. Ashraf Ganie, DST, 2013–15, Rs 32 lakhs.
20. Efficacy and safety of FIAsp in a basal-bolus regimen versus basal insulin therapy, both in combination with metformin in adult subjects with type 2 diabetes. Ashraf Ganie, 2013–15, Rs 16 lakhs.
21. Improvement on levothyroxine replacement of clinical, biochemical, hormonal and insulin sensitivity parameters in women with polycystic ovary syndrome (PCOS) presenting with subclinical hypothyroidism (SCH). Ashraf Ganie, 2013–14, Rs 5 lakhs.

### **Completed**

1. International follow-up study, after the investigational drug exposure in diabetic patients previously included in the REGULATE trial (CL3-00780-148: benfluorex versus pioglitazone). AC Ammini, Serdia.
2. Registry of people with diabetes in India with young age at onset. N. Tandon, ICMR, 2006–12.
3. A non-interventional, multi-centric study to compare hepatic fat and relevant metabolic parameters in overweight/obese, prediabetic/diabetic subjects, with healthy subjects in different geographical regions in India. N. Tandon, Torrent Pharma, 2011–12.
4. A randomized, double-blind, placebo-controlled, parallel-group study to determine whether, in patients with type 2 diabetes at high risk for cardiovascular and renal events, aliskiren, on top of conventional treatment, reduces cardiovascular and renal morbidity and mortality. N. Tandon, Novartis India, 2007–12.
5. Role of oral vitamin D as an adjunct therapy in category I pulmonary tuberculosis long with assessment of immunological parameters: Randomized double blind trial. R. Goswami, DBT, 2006–12.
6. A phase III, Multicentre, Randomized, Parallel Group study of Safety and Efficacy of the LB03002, a New Sustained Release Formulation of Human Recombinant Growth Hormone as Compared to Sustained Daily Therapy with Genotropin in Treatment Naïve Children with Growth Failure due to Insufficient Secretion of Endogenous Growth Hormone. R. Khadgawat, LG Life Sciences, 2007–12.
7. Effect on glycemic control, depression and quality of life, in patients of diabetes mellitus with rhythmic breathing (Sudarshan kriya yoga and pranayam) in addition to standard treatment of diabetes. VP Jyotsna, ICMR, 2009–12.
8. Bone health in patients of juvenile myoclonic epilepsy on antiepileptic drugs. VP Jyotsna, AIIMS, 2011–12.
9. Development of N-BNP assay for the screening of cardiovascular disease in the patients with type 2 diabetes mellitus. ML Khurana, ICMR, 2009–12.

## Collaborative projects

### Ongoing

1. Genetics and Systems Biology of Childhood Obesity in India and Denmark (BIOCHILD). N. Tandon, DBT, 2012–15.
2. Childhood obesity in India: a multicenter study on its measurements and determinants with reference to cardio-metabolic risk factors. N. Tandon, ICMR.
3. ADVANCE-ON – Action in Diabetes and Vascular Disease Preterax and Diamicron MR Controlled Evaluation Post Trial Observational Study. N. Tandon, George Institute for International Health, Australia.

## PUBLICATIONS

**Journals: 75 Chapter in Book:1**

## PATIENT CARE

Endocrinology and Metabolism department runs OPD on all six working days with two specialty clinics, Pediatric and Adolescent Endocrinology clinic, PAEC (Every Monday, 2–5 pm) and Diabetes of Young Clinic, DOY (Every Saturday 9–1 pm). Hormonal and biochemical investigation and bone density measurements are also done when indicated for patients attending Endocrine Clinics.

About 72,600 hormone tests were done in the year under consideration with the breakup as follows:

### Service Laboratory for immunoassay Of Hormones for Patient Care

**(TOTAL SAMPLES FOR HORMONE ASSAY = 72, 600)**

No	Hormone	Tube assays done
1	T4	<b>11,363</b>
2	TSH	<b>15,610</b>
3	TPO	<b>1760</b>
4	LH	<b>2625</b>
5	FSH	<b>2636</b>
6	PRL	<b>2241</b>
7	CORTISOL	<b>5040</b>
8	TESTOTERONE	<b>2736</b>
9	DHEA	<b>866</b>
10	17 OHP	<b>381</b>
11	ACTH	<b>2281</b>
12	PTH	<b>5798</b>
13	VITAMIN D	<b>8463</b>
14	INSULIN	<b>5437</b>
15	C PEPTIDE	<b>2423</b>
16	GH	<b>799</b>
17	GAD	<b>245</b>
18	F T4	<b>1113</b>
19	IGF 1	<b>292</b>
20	E2	<b>491</b>
	TOTAL	<b>72, 600</b>

The biochemical investigations done in the Metabolic Laboratory for Patient Care during the year in consideration (i.e. April 2012–March 2013) are tabulated as follows:

No	INVESTIGATION	NUMBER OF SAMPLES
1	Blood sugar	14, 198
2	Glycated haemoglobin	12, 016
3	Urine pH	699
4	Osmolality	609
5	Cholesterol	2114
6	Triglyceride	2114
7	HDL	2114

**Total No. of DEXA scan done : 3450**

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor A.C. Ammini** is Member, NDAC (Expert Committee to advise DCGI in matters related to approval of new drugs and clinical trials); Member of working group for Internal Medicine – Endocrinology for ICD – 11; Member, Life Sciences Research Board, DRDO.

**Professor N. Tandon** was Appointed on the Technical Resource Group for the National Programme for the Prevention and Control of Diabetes, CVD, Stroke and Cancer; Appointed on Technical Committee for supervising and monitoring clinical trials; Appointed Co-Chairman of the Chronic Disease Biology Taskforce, DBT; Member Technical Screening Committee of the SBIRI, Programme of DBT; Co-chairman of the Taskforce for Chronic Disease Biology – DBT; Vice-President of National Academy of Sciences.

**Professor R. Goswami** was Member of the committee for selection for the Senior Research Fellow and Research Associates by the ICMR from 2007 to date; Member of the selection committee for awarding MD, DM and MCh thesis financial grant by The Indian Council of Medical Research 2009 to date; Member of the Task for Chronic disease biology of the DBT 2007 to date; Member of the Steering Committee for 'Drug from Sea' from Ministry of Earth Sciences.

**Dr R. Khadgawat** attended Society of India (ESICON), 13-15 December, 2012, Kolkata; Khadgawat R, Marwaha RK, Garg MK, Ramot R, Oberoi AK, Gupta N. Effect of vitamin D fortified milk on vitamin D status of apparently healthy school going children aged 10–14 years; Best paper (poster) award' in Annual Conference of Endocrine Society of India (ESICON), 13–15 December 2012, Kolkata. Birla S, Kachhawa G, Sharma A, Jora R Khadgawat R. Gene analysis of POU1F1 and PROP1 and prenatal diagnosis in combined pituitary hormone deficiency'; IJEM Annual Awards 2012 for Excellence in Endocrine Writing, Endocrine Society of India (ESI). Khandelwal D, Bhattacharya S, Khadgawat R, Kaur S, Tandon N, Ammini AC. Hypokalemic paralysis as a presenting manifestation of primary Sjögren's syndrome: A report of two cases. Indian J Endocrinol Metab. 2012 Sep;16(5):853-5; The AIIMS Excellence Award – 2012 – These awards are started by the institute for good original research work published from the institute; received third prize (certificate and Rs 10,000) in this category. The award was given by Nobel laureate for outstanding research; received this award, certificate and cheque of Rs. 10,000 from Prof Robert Huber, Nobel laureate (Won Nobel Prize in Chemistry 1988) on the occasion of Institute Day, 25 September 2012. This prize was given for publication 'Gahlot M, Khadgawat R, Ramot R, Eunice M, Ammini AC, Gupta N, Kalaivani M. The effect of growth hormone deficiency on size-corrected bone mineral measures in pre-pubertal children. Osteoporos Int. 2012 Aug;23(8):2211-7; Dr Paritosh Bansal Memorial oration on 'Short Stature – How to Proceed?' in Annual Conference of Indian Academy of Pediatrics (IAP), Rajasthan state chapter, Jodhpur, Rajasthan; Best paper (Oral) Award and won prestigious AR Seth Award in Annual Conference of Endocrine

**Dr Mohd Ashraf Ganie** won Second PRIZE for Best Paper presented in IJEM Annual awards at 42nd Annual ESICON 2012 at Kolkata; Member of reviewer committee for the 'Food and Inflammation' by the DBT 2012 to date; Designated as Convener of Indian Research group for PCOS by AE-PCOS Society; Coordinator for Research funding (ICMR,DST,DBT) at SKIMS Srinagar; Elected executive member of Indian Thyroid Association during the annual meeting of the Association held at Bangalore ITSCON 2013; Member of 2nd Industry Validation meeting for Occupational Standards in Allied Health and Paramedics; Member of Editorial team for AE-PCOS News letter from year 2012 onwards.

### Visiting Scientists

1. Dr Merlin Thomas, Professor Department of Epidemiology and Preventive Medicine at Monash University, Australia, delivered a talk on 'Early detection of vascular complications in type 2 Diabetes and management with emerging therapies.
2. Dr K. N. Pandey, Professor, Department of Physiology, Tulane University, New Orleans, USA, delivered a talk on 'Physiological genomics and molecular signaling of natriuretic peptides receptor in hypertension and cardiovascular disease states'.

## 9.12 Forensic Medicine and Toxicology

### Professor and Head

Sudhir K. Gupta

### Professor

D.N Bhardwaj

### Additional Professors

O.P. Murty  
Sanjeev Lalwani (JPNATC)

Millo Tabin  
Adarsh Kumar (JPNATC)

### Assistant Professor

Chittaranjan Behera

### Scientist II

Anupama Raina

### Chemist

A.K. Jaiswal

### HIGHLIGHTS

The department is engaged in multiple activities. It is involved in teaching, research, training, medico-legal postmortems, embalming services, casualty work, clinical forensic medicine services, and work related courts. The department is referred cases from courts, NHRC, CBI, Crime Branch, Delhi Police and investigating agencies from other states. The department runs three laboratory services—Toxicology laboratory, DNA finger printing laboratory and Histopathology laboratory.

### EDUCATION

The department is actively engaged in undergraduate and postgraduate teaching. Currently, 9 postgraduate (MD) students and 3 PhD students are enrolled in the department. The department is also imparting training in DNA-Fingerprinting and Medical Toxicology to BSc/MSc students of other Indian Universities.

### CMEs/Workshops/Symposia/Conferences

1. Workshop on Quality Forensic Services, 4 May 2012.
2. Workshop on Quality Forensic Services and Teaching, 7 November 2012.

### Lectures delivered

Adarsh Kumar: 14

C. Behera: 1

A.K. Jaiswal: 1

### Papers presented (Oral/poster): 7

### RESEARCH

#### Completed

1. Histological study of conduction system of heart in sudden natural death cases.
2. Prevalence of Coronary atherosclerosis in young Indian population – An autopsy study at AIIMS.
3. A comparative study for determination of postmortem interval by analysis of CSF and Vitreous humor in South Delhi region.
4. A study of factors affecting tissue and organ donation in medico-legal cases at a tertiary care hospital.

#### Ongoing

1. Effect of acute and chronic exposure of combination of Triazophos and Butylated hydroxyanisole on oxidative stress related parameter in Wistar rats.
2. Influence of exposure to combination of pesticide Cypermethrin and Endosulfan on sub cellular changes in viscera's of Wistar rats.
3. Pilot study to identify reliable source among forensic exhibits for individualization with STR markers in uncertain novel forensic situations.

4. Estimation of lead level in blood among south Delhi population – A Cross Sectional Autopsy Based Study.
5. Estimation of Post Mortem Interval by naked eye examination of rigor mortis.
6. Study of various injuries in neck due to ligature pressure in cases of hanging.
7. Comparative study of human and non human long bones by radiological and anatomical methods.

#### **Collaborative project**

1. An evaluation of the different endoscopic approaches to inner ear.

#### **PUBLICATIONS**

**Journals: 30**

#### **PATIENT CARE**

1. **Casualty services:** The department provides round the clock coverage to the casualty in medico-legal cases in injury, sexual offences, poisoning and other complicated medico-legal cases. The department is attending all the calls pertaining to medical examination in police and judicial custody. 277 medico-legal cases were examined in 2012–13.
2. **Medico-legal Post-mortem services:** The department provides medico-legal postmortem services on all the days of the week, which includes magistrate inquest cases, board cases and exhumation cases. Totally 1712 postmortems were conducted.
3. **Clinical Forensic Medicine:** The department examines cases of age estimation, medical examination, marriage disputes, potency, DNA fingerprinting etc referred by honorable court, CBI and other investigating agencies. Total 41 cases were dealt in 2012–13.
4. **DNA Fingerprinting:** The department provides training to candidates of various universities and provides DNA fingerprinting services in referred cases from court and investigating agencies. It also provides short term training. Total 46 samples were analysed.
5. **Medical Toxicology:** Tests for various poisons, e.g. Heavy metals, opiates, benzodiazepines, and alcohol are done in toxicology laboratory. It provides clinical laboratory services to the hospital patients. It also provides short term training to candidates from various universities. Total 151 samples were analysed during 2012–13. Six candidates were given short-term training in the laboratory.
6. **Forensic Pathology:** The department is providing the histopathology service for samples of medico-legal autopsy cases in AIIMS and also for research purpose. Total 134 samples were analysed during 2012–13.
7. **Court summons:** The department received 874 summons during 2012–13 and were attended in courts of law.
8. **Community service:** The department participates in training programme for CBI officials, police officers, medical officers, judges, public prosecutors and forensic experts from all over the country. It provides short term trainings to the candidates from various universities in Toxicology and DNA laboratory.

#### **AWARDS AND HONOURS**

Karthik Krishna won first prize for the paper – Medical, Research and Ethico-legal aspects of Museum Designing in Forensic Medicine: Challenges and Possibilities in India, and received the ‘Scottish Travel Grant’ by University of Dundee, Scotland, UK, at 34th Annual National Conference of Indian Academy of Forensic Medicine, 1–3 February 2013, Department of Forensic Medicine and Toxicology, Kasturba Medical College, Mangalore.

**Dr Adarsh Kumar** was nominated member, International Board of Editors, Romanian Journal of legal Medicine for 2012; nominated Board Member representing Asia in ‘International Association of Personal Injury’ 2012–14; Conferred Fellowship of Indian Association of Medicolegal Experts, 26 January 2013, Thiruvanthapuram, Kerala.

**Dr C. Behera** was awarded best paper presentation in faculty category of poster ‘Forensic approach to a case of aluminum phosphide poisoning involving humans and dogs’, XXXIV (34th) Annual National Conference of Indian Academy of Forensic Medicine (Forensic Medicon-2013), 1–3 February 2013, Department of Forensic Medicine and Toxicology, Kasturaba Medical College, Mangalore; awarded fellowship by International Medical Science Academy; nominated member, Technical committee, National Consultation to develop guidelines for Tissue Retrieval and Tissue Tracking, ORBO, AIIMS, New Delhi for the purpose of The Transplantation of Human Organs Act (Amendment) Act, 2011 (THOA Amendment 2011) and draft Rules.

## 9.13 Gastroenterology And Human Nutrition

### Professor and Head

S.K. Acharya

### Professors

Umesh Kapil

Anoop Saraya

### Additional Professors

Pramod Garg

Vineet Ahuja

Govind K Makharia

### Assistant Professors

Shalimar

Baibaswata Nayak

### Scientist Gd. IV

Shyam Prakash

### HIGHLIGHTS

The department received Excellence of Centre by US-INDO Foundation for Research and Training in the field of Inflammatory Bowel Disease. Dr SK Acharya was awarded the JC Bose National Professorship by the Department of Science and Technology. The department organized World Hepatitis Day on 28 July 2012. On this occasion, public lectures were organized to increase awareness of Viral Hepatitis in India. The department organized another CME namely GI Immunology and hands on training workshop on Endosonography. The faculties of the department continued to be on national and international boards related with education, research and programmes.

### EDUCATION

The department continued the training programme 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 enrolled in

**Long term training:** 13 DM candidates                      6 PhD candidates

**Short term training:** 10 trainees were trained during 2012-13 for 3-6 months.

**Molecular Gastroenterology:** This included didactic lectures and hands on training.

1. Advanced and conventional ELISA for understanding serological markers
2. Molecular assay/NAT assays for the viruses
3. Genetic and epigenetic markers of GI diseases
4. Biochemical biomarker

### CME/Workshops/Symposia organised by the department

1. Public lectures to increase the awareness of Viral Hepatitis in India, The event was attended by more than 500 patients and general public and it was a successful programme. The major message was given on Hepatitis B and C which are major causes of cirrhosis and liver cancer in India and they are preventable and treatable. 28 July 2012, AIIMS, New Delhi.
2. CME, GI Immunology, 12-13 January 2013, The Oberoi, Gurgaon.
3. Endoscopic Ultrasonography (EUS) Training Course, AIIMS, 11-15 March 2013, New Delhi.

### CMEs, National and International Conferences

**Lectures delivered: 58**

**Oral papers/posters presented: 2**

### RESEARCH

#### Funded projects

#### Ongoing

1. Probiotics for spontaneous Bacterial Peritonitis. S.K. Acharya, CD Pharma, 4 years.

2. Natural Course of Immunotolerant Patients with chronic HBV infection. S.K. Acharya, MSD (Fulford India), 3 years, Rs. 18,79,750.
3. Randomized control trial (RCT) of Transarterial Chemoembolization (TACE) versus TACE and Oral Drug Therapy in the Treatment of Unresectable Hepatocellular Carcinoma. S.K. Acharya, ICMR (HCC sanctioned project), 3 years, Rs. 42,27,933.
4. Randomized Control Trial (RCT) of Oral Thalidomide and Capecitabine versus supportive therapy in the treatment of Advanced Hepatocellular Carcinoma (BCLC stage D). S.K. Acharya, ICMR (HCC sanctioned project) for 3 years, Rs. 14,05,895.
5. Randomized control trial (RCT) of Radiofrequency Ablation (RFA) and Percutaneous acetic acid (PAI) for the treatment of Hepatocellular Carcinoma in patients of cirrhosis. S.K. Acharya, ICMR (HCC sanctioned project), for 3 years, Rs. 22,98,821.
6. Randomized controlled trial of transarterial chemotherapy (TAC) versus oral thalidomide and Capecitabine in the treatment of Unresectable Hepatocellular carcinoma (BCLC C). S.K. Acharya, ICMR (HCC sanctioned project), for 3 years, Rs. 31,51,663.
7. To study the pathogenesis of Non Alcoholic Fatty liver disease in Indian Population. SK Acharya, DST, 3 years (2013–15), Rs 45 lakhs.
8. Identification of biomarker(s) for differentiation of Crohn's disease from intestinal tuberculosis using proteomic. S.K.Acharya, DBT, 3 years, Rs 43 lakhs.
9. Validation of Mid Upper Arm Circumference (MUAC) for Detecting Severe Acute Malnutrition against Weight for Height Below -3 SD Using as Gold Standard in Children 6–59 Months. Umesh Kapil, ICMR, 15 Months, Rs. 54 Lakhs
10. Iodine Status in Three Regions of Uttarakhand State, India, Umesh Kapil, ICMR, for 2 years [period], Rs. 60 lakhs.
11. Iodine Status of Pregnant Mothers, School Age Children and Neonatal Thyroid Stimulating hormone concentration in three regions of Himachal Pradesh, India. Umesh Kapil, DBT, 2 years, Rs. 71 lakhs.
12. Status of procurement, distribution and management system of zinc dispersible tablets, IFA tablet/liquid and VA supplements in Uttar Pradesh, Maharashtra, Himachal Pradesh, Kerala and Rajasthan states of India. Umesh Kapil, ICMR, 2 years, Rs. 29 lakhs.
13. Genome Wide Association Study of Chronic Pancreatitis'. Pramod Garg, DBT, 3 years, Rs. 1.63 crores.
14. A Study of SPINK-1, Cathepsin B and CFTR gene mutations as risk factors for gallstone induced acute pancreatitis. Pramod Garg, ICMR, 3 years, Rs. 27 lakhs.
15. Phase III Multicenter trial for evaluating integrin inhibitor in Ulcerative colitis and Crohn's Disease. Millenium Pharmaceuticals, Boston, Vineet Ahuja, 7 years (2008–14) Rs. 15 lakhs.
16. Zoonotic potential of Mycobacterium avium paratuberculosis (MAP) in Human Ulcer-constrictive Ileocaecal Disease'. Vineet Ahuja, ICMR , 2011–14, Rs 57 lakhs.
17. Vitamin A is the 'microenvironmental cue' for triggering disease activity in patients with Inflammatory Bowel Disease (Ulcerative colitis, Crohn's Disease). Vineet Ahuja, DBT, 4 years (2013–16), Rs. 82 lakhs.
18. Indo US Joint R&D network centre of excellence on Inflammatory Bowel Diseases.
19. Harvard Medical School and Gastroenterology. AIIMS Indo US Science and Technology Forum, 2 years (2012–14), Rs. 60 lakhs
20. A multi-centric study on treatment of abdominal tuberculosis (intestinal or peritoneal): A randomized controlled trial to compare the 6 months of Cat I treatment with 9 months of Cat I treatment (extension for 3 months) in abdominal tuberculosis under the Revised National Tuberculosis Control programme. Govind Makharia, Central TB Division, Ministry of Health and Family Welfare, Government of India, for 4 years (2008–12), Rs 57 lakhs.
21. Protocol for Correlating Enteropathic Severity and Small Intestinal CYP3A4 Activity in Patients with Celiac Disease. Govind K Makharia. Funded by AG (Switzerland) for 2 years (2010–2011), Rs. 13 lakhs.
22. Pathophysiology of paracellular permeability and tight junctions in the first degree relatives of patients with celiac disease. Govind K. Makharia, Department of Biotechnology, 4 years, Rs. 43.82 lakhs.
23. Small intestinal and whole gut metagenome in patients with celiac disease, their first degree relatives and controls. Govind K. Makharia, DBT, 3 years, Rs. 39.47 lakhs.
24. Prevalence of celiac disease in indigenous populations of southern, northern, and north-eastern parts of India and identification of reasons for difference in its prevalence. Govind K. Makharia, ICMR, 3 years, Rs.75.42 lakhs.
25. Detection of markers of villous atrophy. Govind K Makharia, AIIMS (intramural grant), (2012–13). Rs. 7.5 lakhs.
26. Effect of IL 28B gene polymorphism on outcomes of Hepatitis C virus therapy in Indian patients. B. Nayak. 2012 –13, Rs. 5 lakhs (AIIMS intramural)

### **Completed**

1. An open level responses adaptative study of Telbivudine in adults with HBeAg compensated chronic hepatitis B. S.K. Acharya, Novartis, 1 January 2008–10 January 2011, Rs. 11.11 lakhs.
2. An open level responses adaptative study of Telbivudine in adults with HBeAg negative compensated chronic hepatitis B. S.K. Acharya, Novartis, 1 January 2008–10 January 2013), Rs. Nil.
3. Multicentric randomized controlled clinical trial of adefovir, adefovir + Lamivudine and combination of Adefovir and Glycyrrhizin in HBV related decompensated cirrhosis. S.K. Acharya, ICMR, 15 January 2007–14 March 2012, Rs. 18.47 lakhs.
4. Resolution of Bitot's Sports after Administration of Mega-dose of Vitamin A in a cohort of children in 1–5 years of age with Bitot's sport. Umesh Kapil, ICMR, 2008–10, Rs. 16.58 lakhs.
5. Role of TNF- $\alpha$  in the pathogenesis of experimental acute pancreatitis and the effect of anti-TNF- $\alpha$  therapy in attenuating the severity of pancreatitis and in the subsequent regeneration of the pancreas. ICMR, 2009–13, Rs. 29 lakhs,
6. Characterization of tight junction proteins in patients with Crohn's disease and celiac disease. Govind Makharia, DST, 3 years (2009–11), Rs 24.5 lakhs.

### **Departmental projects**

#### **Ongoing**

1. HBeAg –ve chronic hepatitis B Magnitude, Viral and host characteristics.
2. Immunotolerant chronic HBV infection: Natural course.
3. Role of HVPG in Portal hypertension.
4. Comparison of Phenotype and Genotype of Young Patients with Chronic Pancreatitis from Different Geographical and Ethnic Background of the World: Implications for etiopathogenesis.
5. To evaluate the pancreatic tissue perfusion and vascular changes and their inflammatory mediators in the pathogenesis of acute necrotizing pancreatitis in humans.
6. Frequency, natural course, and predictors of resolution of acute fluid collections in acute pancreatitis.
7. Familial prevalence amongst first and second-degree relatives of patients with celiac disease.
8. Assessment of compliance to gluten free diet in patients with celiac disease
9. To study the neutrophil function in Acute Liver Failure.
10. Correlation of severity Hepatitis E virus infection in pregnant females with immunological profile.
11. Use of Indocyanine green in assessment of patients with Hepatocellular carcinoma undergoing transarterial chemoembolisation as a predictor of development of liver failure.
12. Immunological changes in pregnancy and their effect on the outcome of HEV induced ALF.
13. Detection, identification and molecular characterization of Intestinal coccidia and Microsporidia in patients with chronic diarrhea and malabsorption syndrome (With Department of Microbiology, PhD thesis).
14. Development of molecular diagnostic probe for the detection of *Cryptosporidium* species and further characterization of the parasite in patients. (Microbiology, PhD thesis).
15. Detection of blastocystis hominis in the patients of irritable bowel syndrome and their subtyping (Microbiology, MD thesis).
16. Metabonomics study of celiac disease by NMR spectroscopy (NMR, PhD thesis).

#### **Completed**

1. Role of fibroscan in patients with chronic hepatitis B.
2. Correlation of arterial ammonia with sepsis in acute liver failure.
3. Endoscopic biliary drainage versus conservative treatment for patients with inoperable cancer of the gallbladder with obstructive jaundice: A randomized controlled trial.
4. Cytokine profile in acute pancreatitis

### **Collaborative projects**

#### **Ongoing**

1. Cellular and humoral immunity studies among patients with acute hepatitis E virus infection.
2. A randomized trial of endoscopic versus laparoscopic drainage of pancreatic pseudocysts. Collaborative department (Surgery).
3. Are there any differences in the genetic mutation profile of patients with pancreatic cancer with or without chronic pancreatitis? (Institute of Cytology and Preventive Oncology, ICMR, Noida).
4. A randomized trial of surgery versus endoscopic therapy for chronic pancreatitis. Collaborative department (GI Surgery).
5. Minimally invasive surgery (VARD) for infected pancreatic necrosis. (GI Surgery).
6. Role of perfusion CT scan in acute pancreatitis and pancreatic cancer. (Radiology).

7. Feasibility and short-term efficacy study of a novel device designed to manage fecal incontinence in hospitalized bed-ridden patients. (Stanford Bio design).
8. A study for the search of biomarker for celiac disease using proteomics. (Biophysics).
9. Basic constitution (Prakriti) analysis of patients with various stages of Non alcoholic fatty liver disease (NAFLD), chronic hepatitis B (CHB) and Celiac disease. Collaboration with Institute of Genomics and Integrative Biology , Delhi
10. Prevalence of celiac disease in IgA nephropathy (Nephrology and Pathology).
11. Recovery of intestinal histology changes after gluten free diet in patients with celiac disease (Pathology).
12. Prevalence of celiac disease in patients with short stature (Endocrinology).
13. A correlation between anti tissue transglutaminase titre and severity of villous abnormalities (Pathology).

#### **Completed**

1. Role of surface promoter mutations in hepatitis B surface antigen production and secretion in occult hepatitis B virus infection. (Pathology).
2. A randomized trial of endoscopic versus laparoscopic removal of common bile duct stones in patients with gallstones and CBD stones. (Surgery).
3. Role of EUS in assessing resectability of periampullary tumors: comparison with diagnostic laparoscopy. (Surgery).

#### **PUBLICATIONS**

**Journals: 45**

**Chapters in books: 1**

**Book :1**

#### **PATIENT CARE**

##### **Special clinics**

<b>Name of the clinic</b>	<b>New cases</b>	<b>Old cases</b>
Liver	1241	12189
Pancreas	486	2020
IBD and Ulcer	696	3570
Interventional	315	270

##### **Routine clinic**

New cases: 18,826

Old cases: 29,070

##### **List of procedures**

Diagnostic and therapeutic endoscopies:	17100
Diagnostic and therapeutic colonoscopies:	2050
Diagnostic sigmoidoscopies:	2550
EST and EVL:	4120
Side viewing endoscopies:	600
Endoscopic retrograde cholangiopancreatography:	2245
Endoscopic ultrasound (Diagnostic and therapeutic):	600
Fibroscan:	1850

##### **List of tests done in the department**

HBV (Real Time PCR):	5000	HBV Genotyping (PCR):	10
HBV (PCR):	187 (50 +ve)	HCV RNA Real time PCR:	1288
HCV RNA (PCR):	117	HCV Genotyping:	25
HEV RNA (PCR):	89	Lipid peroxidation:	450
Free radical Antioxidant potential (FRAP):	450		
Vitamin C:	450	Superoxide dismutase:	450
Total cholesterol:	450	Triglyceride:	450
HDL:	450	Myeloperoxidase activity:	200
Endotoxin assay:	45	Serum ceruloplasmin:	782
Serum copper:	768	24 hour urinary copper:	765
HCV (ELISA):	192	TtG-IGA (ELISA):	5568
TNF- $\alpha$ (ELISA):	150	IL-6 (ELISA):	150
IL 1 $\beta$ (ELISA):	150	SGOT:	4100
SGPT:	4100	Glucose (RBS):	4100
Hemoglobin:	4100	Plasma Amino acid (HPLC):	150
HBsAg (ELISA):	192	HBeAg (ELISA):	192

HEV (ELISA):	192	Clustrin:	200
D-Xylose:	540	Faecal Chymotrypsin:	150
Faecal Fat:	216	Hydrogen Breath Test:	184
Faecal elastase:	280	TGF-Beta:	80
PDGF-AA:	80	CRP:	80
Serum Trefoil factor:	160	Urinary isoprostase:	80
Serum Calprotectin:	80	Blood ammonia:	325
Prothrombin time:	8600	IL28b-rs12979860 genotyping:	21
IL28b-rs8099917 genotyping:	21		

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor S.K. Acharya** awarded J.C.Bose Fellowship by Department of Science and Technology, Govt. of India in 2012.

**Professor Umesh Kapil** was nominated Member, WHO of the Expert Advisory Panel on Nutrition to give Technical Information and Advice in the Field of Nutrition; Invited to act as a Temporary Advisor, WHO to Provide Technical Assistance to Government of Bhutan. Nominated as Member of the ICMR Taskforce Meeting on Working Group on 'Operational and Translation Research to Improve the Contents and Delivery of Existing Micronutrient supplementation or Other Programmes based on Existing Knowledge'; Nominated as Member of Committee constituted by Ministry of Women and Child Development, Government of India to Design a Curriculum on Nutrition for School Children; Nominated as Members of the Advisory Panel of National Academy of Medical Sciences (NAM) in the discipline of Nutrition for advising the Credential Committee in the Selection of candidates for Fellowship of the Academy for the year 2012; Nominated as Member of the Advisory Panel of National Academy of Medical Sciences (NAM) in the discipline of Community Medicine/Social and Preventive Medicine for assessing the suitability of candidates for election for Membership of the NAMS for the year 2012.

**Dr Pramod Garg** is Associate Editor of an international journal 'Pancreatology' (5-year impact factor 2.39); Elected Council Member, International Association of Pancreatology 2012; Nominated Editorial Board Member, 'Pancreapedia', an online resource website for Pancreas Research.

**Dr Vineet Ahuja** nominated Member, Asia Pacific Consensus Group on Inflammatory Bowel Disease, Asia Pacific Consensus Group on Celiac Disease, ISG Task Force on IBD, Ethics Committee, THSTI, Ethics committee, RCB, Editorial Board, Journal of Crohn's and Colitis, Editorial Board, Journal of Gastroenterology and Hepatology, Secretary, Indian Society of Clinical Nutrition, Editor, 'Tropical Gastroenterology' since 2007, Contributing Associate Editors-in-Chief of the World Journal of Gastroenterology (WJG), Corresponding author for Young Investigator Award Paper at Asian IBD meet , Seoul 2012, Young Investigator Award Paper at Asian Pacific Digestive week , Bangkok 2012, two Young Investigator Award Papers at Annual conference of Indian Society of Gastroenterology, Jaipur 2012

**Dr Govind Makharia** nominated the Chairman of World Gastroenterology, Organization and Asia Pacific Association of Gastroenterology; Working Party on Celiac Disease; Nominated as Steering Committee Member of the World Digestive Health Day-2012 by World Gastroenterology Organization; Continue to be member of Asia Pacific Working Party on Colorectal cancer and Polyps; Continue to be Core Member of Asia Pacific Working party on Inflammatory Bowel Disease; Invited to be the Chief Editor of a special issue on Celiac Disease by Gastroenterology and Research Practice; Nominated as treasurer of Indian Society of Gastroenterology; Nominated as treasurer of Indian Society of Evidence Based Medicine; Governing Council member of Functional Disease and Motility Disorders of India; Continue to be an Editorial board member of Indian Society of Gastroenterology; Coordinator, Indian Society of Gastroenterology: Young Clinician Program; Coordinator Indian Society of Gastroenterology: Taskforce on Inflammatory Bowel Disease; Invited to participate in the Brain Storming session on Celiac Disease by DBT; Invited for participation in the Brain storming Meeting on Inflammation and Nutrition by DBT, held in Hyderabad; Continue to be member of the ICMR Taskforce on celiac disease; Nominated by DBT to be a Member of DSMB of Cholera vaccine trial; Nominated as member of Drug Selection Committee, AIIMS.

**Dr Baibaswata Nayak** is nominated the reviewer of journals: Indian Journal of Virology, Tropical Gastroenterology, Conference Papers in Microbiology, PLoS One, Virus Research, Virology Journal, Viral Immunology.

## 9.14 Gastrointestinal Surgery and Liver Transplantation

### Professor and Head

Peush Sahni

### Additional Professors

Sujoy Pal

Nihar Ranjan Dash

### EDUCATION

The faculty of the department is involved in didactic teaching program for undergraduates, postgraduates and postdoctoral trainees. The department offers 3 year super specialty training leading to an award of MCh in Gastrointestinal Surgery. It also offers short term observership for a period of one to three months (one year in exceptional circumstances). There are 13 MCh students in the department.

### Lectures delivered: 26

Peush Sahni: 12

Sujoy Pal: 8

Nihar Ranjan Dash: 6

### RESEARCH

#### Funded projects

##### *Ongoing*

1. Development of low cost device for non-invasive management of incontinence (faecal/urinary), Peush Sahni, DST, 2012-14, Rs 21.6 lakhs.
2. Comparison of resection versus bypass procedure in the management of corrosive stricture of esophagus: A randomized controlled study, Nihar Ranjan Dash, AIIMS, 2012-13.
3. Assessment of tumour response to neoadjuvant chemoradiotherapy for adenocarcinoma of gastro-oesophageal junction: A prospective study, Nihar Ranjan Dash, AIIMS, 2012-13.
4. Effect of preoperative skin preparation with with chlorhexidine-alcohol versus chlorhexidine-cetrimide followed by povidone-iodine on the postoperative surgical wound infection rates. A randomized controlled trial, Peush Sahni, 2011-13, AIIMS, Rs 1.5 lakhs.
5. Survey of awareness and beliefs regarding brain death and the role of educational intervention on its acceptance and deceased donation rates, Sujoy Pal, 2012-13, AIIMS, Rs 1.5 lakhs

##### *Completed*

1. Design, development and commercialization of an indigenous syringe pump, Peush Sahni, Ministry of Information and Technology, 2009-12 Funds: Rs 28 lakhs.

#### Departmental projects

##### *Ongoing*

1. Concurrent versus sequential neoadjuvant chemo-radiotherapy followed by surgery in operable carcinoma gall bladder (up to stage IVA) patients: A pilot study.
2. Preoperative biliary drainage and surgery versus early surgery in obstructive jaundice due to periampullary and pancreatic head tumour: a randomized controlled trial.
3. Preoperative chemo-radiation and surgery versus surgery alone in gastroesophageal junction adenocarcinoma of esophagus-A randomized controlled trial.
4. Outcome following pyloric ring resecting pancreatico-duodenectomy versus classical Whipple's pancreatico-duodenectomy: A randomized controlled trial.
5. Prediction of pancreatic fistula in patients undergoing pancreatic resections using pre operative EUS elastography: a prospective study.
6. Prediction of pancreatic fistula and pancreatic fibrosis in patients undergoing pancreatic resections using differential pancreatic enhancement pattern on multiphasic computed tomography scan: a prospective study.
7. A prospective study comparing Bilioth-II and Roux-en-Y Gastrojejunostomy in patients with carcinoma stomach.
8. Long term follow up of lieno-renal shunt procedure in patients with extra hepatic portal vein obstruction.
9. Prospective evaluation of choledochoscopy for various biliary tract disorders.

10. Prospective evaluation of the role of intra-operative enteroscopy in the management of obscure gastrointestinal bleeding.
11. Neoadjuvant chemo-radiotherapy followed by surgery versus surgery alone in patients with squamous cell carcinoma of the oesophagus: A randomized controlled trial.
12. 'Duct-to-mucosa' and 'dunking' methods of pancreatico-jejunostomy after pancreatico-duodenectomy: A randomized clinical trial
13. Long term results of surgery in non-cirrhotic portal fibrosis.
14. Minimally invasive oesophagectomy: A feasibility assessment.
15. Palliative stenting with radiotherapy versus stenting with chemo-radiotherapy for inoperable oesophageal carcinoma: a randomized controlled trial.

### **Completed**

1. Posterior (SMA first) approach vs standard pancreatico-duodenectomy in patients with periampullary carcinoma: a prospective comparison
2. Video assisted retroperitoneal drainage as a therapeutic option in infected pancreatic necrosis: A feasibility study

### **Collaborative projects**

#### **Ongoing**

1. Role of PET/CT in response evaluation following neoadjuvant therapy and assessment of distant metastasis in patients with carcinoma gallbladder (Medical oncology, Radiotherapy and Nuclear Medicine)
2. Role of PET/CT in assessment of metabolic response of neoadjuvant chemo-radiotherapy in patients with carcinoma esophagus (Medical oncology, Radiotherapy and Nuclear medicine).
3. A randomized controlled trial of proximal lieno-renal shunt versus sequential endoscopic variceal ligation and endoscopic sclerotherapy for patients with extra-hepatic portal venous obstruction (Gastroenterology).
4. Development of a device for faecal incontinence (Stanford-India Biodesign)
5. Prospective study on the effect of lienorenal shunt on pericholedochal collaterals causing portal hypertensive biliopathy (Gastroenterology).
6. A randomized controlled clinical trial of preoperative cholecysto-jejunostomy versus endoscopic stenting in surgical obstructive jaundice due to periampullary carcinoma (Gastroenterology).
7. A randomized controlled trial comparing surgery versus endoscopic treatment for chronic pancreatitis (Gastroenterology).
8. Functional outcome following necrotizing pancreatitis (Gastroenterology).
9. Minimally invasive pancreatic necrosectomy: A prospective study (Gastroenterology).

### **PUBLICATIONS**

**Journals: 6**

**Books: 1**

### **PATIENT CARE**

#### **OPD and specialty clinics**

Total number of new patients seen: 2464

Total number of old patients seen: 6146

Department has started a daily clinic for stoma patients.

#### **Special laboratory facilities**

Anal manometry, oesophageal manometry, 24-hour ambulatory oesophageal pH monitoring, Endotraining lab.

#### **Inpatients**

*Number of procedures (Special interest areas)*

<b>Total:</b>	<b>614</b>		
<b>Surgical procedures</b>			
<b>Elective:</b>	<b>431</b>	<b>Emergencies:</b>	<b>183</b>
Biliary obstruction	106	Portal hypertension	50
Oesophageal cancer	39	Carcinoma gall bladder	77
Ulcerative colitis	34	Upper GI haemorrhage	10

Lower GI haemorrhage	17	Acute pancreatitis	24
Chronic pancreatitis	16	Biliary strictures	10
Pancreato-duodenectomy	35	Liver resections	34

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Peush Sahni** is representative of the World Association of Medical Editors (WAME) at the International Committee of Medical Journal Editors (ICMJE). He is Editor of *The National Medical Journal of India* and Associate Editor of *G. I. Surgery Annual*. Member of Specialty Board (Surgical Gastroenterology), National Board of Examination. Member of the Executive Committee of the Indian Association of Surgical Gastroenterology as the Past Secretary.

**Dr Nihar Ranjan Dash** was re elected for the fourth time as President, The Ostomy Society, a registered society for welfare of the stoma patients.

## 9.15 Haematology

### Professor and Head

R. Saxena

### Professor

H.P. Pati

### Additional Professors

S. Tyagi

M. Mahapatra

### Associate Professors

Tulika Seth

Pravas Mishra

### Scientist – II

S. Sazawal

### HIGHLIGHTS

The Department was involved in utilizing cutting edge technology like real time PCR/PCR/ flowcytometry for the diagnosis and management of hematological disorders. It was also involved in routine diagnosis and management of patients with hematological disorders. Till date the department has completed 140 allogenic blood and marrow transplants for aplastic anemia, thalassemia, leukemias and myelodysplastic syndrome patients. Autologous transplants for myelomas, acute myeloid leukemias, lymphomas and one case of multiple sclerosis were also performed. The outcome of the transplant from the unit has been comparable to the best in the world.

The department along with ICMR organized the first National meet on Langerhans histiocytosis along with the International Histiocyte Society, with a consensus to start a multi-centre collaborative trial on this disease and for the group to participate as a partner country on the new LCH IV international trial under the leadership of Dr Tulika Seth. Faculty members and students have represented AIIMS at various prestigious National and International conferences including the ISHTM, annual API meeting, PEDICON, BTG Singapore.

### EDUCATION

The Department has DM courses in Clinical Hematology and Hemato-pathology. This year, 4 candidates passed DM Clinical Hematology and 2 passed the DM Hemato-pathology examination. 6 residents are undergoing training for DM Clinical Hematology and 7 for DM Hemato-pathology during the current academic year. Five students are registered for PhD in Hematology, which is ongoing.

The faculty continues to take undergraduate classes for Hematology and Medicine, and Clinical case studies for Department of Paediatrics students. It also continues to train the MD Pathology students in Hematology.

### Short and Long Term Training

The department provided training in the field of clinical and laboratory hematology to 9 doctors from other institutions for periods varying from 1 to 6 months. 59 MSc students also underwent short-term training in molecular hematology for periods varying from 1 to 6 months during this year.

### Conferences/Seminars/Workshops

#### Organized by department

1. The department along with support from ICMR organized the first National meeting on Langerhans histiocytosis along with the International Histiocyte Society, with a consensus to start a multi-center collaborative trial on this disease and for the group to participate as a partner country on the new LCH IV international trial.
2. National Hematology Update: IX NHU 2012 Organized by Hematological Education and Research Society and Department of Hematology, April 2012, AIIMS, New Delhi.

## Lectures delivered

R. Saxena: 10

H.P. Pati: 9

Seema Tyagi: 3

M. Mahapatra: 5

Tulika Seth: 13

Pravas Mishra: 7

## RESEARCH

### Funded projects

1. Evaluation of molecular parameters affecting biology of chronic lymphocytic leukemia in India. R. Saxena, ICMR, 2009–13, ICMR, Rs 6 lakhs per year.
2. Quality assessment in Hemogram. R. Saxena, ISHTM, 2003–13, Rs 1.5 lakhs per year.
3. Molecular characterization of FV in Indian Patients with APCR and FV deficiency. R. Saxena, ICMR, 2010–13, Rs 27.62 lakhs.
4. Modulation of genes to understand the biology of stage progression in chronic myeloid leukemia patients. R. Saxena, ICMR, 2008–12, Rs 8.90 lakhs per year.
5. Phase II clinical study to evaluate the efficacy and safety of NRC-AN-019 in patients with Chronic Myeloid Leukemia who have failed prior standard therapy and are not eligible for alternative therapy. Pravas Mishra, NATCO, Rs 6 lakhs.
6. Detection of molecular changes in the disease progression in chronic myeloid leukemia patients by Microarray. Sudha Sazawal, AIIMS, Rs 10 lakhs.
7. Elucidation of cytokine gene polymorphisms and its correlation with various disease phenotypes in patients of aplastic anemia, TulikaSeth, AIIMS.
8. Community based planned intervention for the change in perception and health seeking behavior of cancers in Delhi. A pilot study. Tulika Seth, ICMR, 2009–2012, Rs 11.18 lakhs.
9. Inhibitor Development in Previously Untreated Patients (PUPs) Or Minimally Blood Component –Treated Patients (MBCTPs) When Exposed to Plasma –Derived Von Willerbrand Factor – Concentrates and to Recombinant Factor VIII (rFVIII) Concentrates: An Independent International, Multicentre, Prospective, Controlled, Randomised, Open Label, Clinical Trial. Multi centric study (60 centres in 25 countries). Tulika Seth, Fondazione Angelo Bianchi Bonomi, 2010–13, Rs 6 lakhs.

### Departmental projects

#### Ongoing

1. Role of Molecular studies in pathogenesis of (MDS) in Indian patients, 2005–2012.
2. Molecular and flow cyto-metric characterization of B lineage acute lymphoblastic leukemia for the evaluation of minimal residual disease.
3. Elucidation of Gleevac resistance in Indian CML patients and evaluation of underlying molecular mechanism.
4. Role of CD66 and CD15 in diagnosis of PNH.
5. Role of invaginations in blasts and their correlation with NPM mutation in AML.

#### Completed

1. Role of nitric oxide and the enzymes controlling its level, in the development of ischemic stroke in young Indians 2007–12.
2. Molecular abnormalities and their effect on the prognosis of Myelodysplastic syndromes in Indian patients.
3. Phase I clinical study to evaluate the efficacy and safety of NRC-AN-019 in patients with Chronic Myeloid Leukemia who have failed prior standard therapy and are not eligible for alternative therapy.
4. Thrombotic complications in Hematological malignancies. Retrospective study.

### Collaborative projects

#### Ongoing

1. Prevalence of thrombotic thrombocytopenic purpura in systemic lupus erythromatosus (Medicine).
2. Role of nitric oxide in peripheral arterial disease (Surgery).
3. Directly observed iron supplementation during pregnancy in a rural population in Haryana: A randomized control trial (Community Medicine).

#### Completed

1. Evaluation of Platelet Receptor Polymorphism and Thrombogenic Mutation in Patients with coronary Artery Disease (Cardiology).

- Prevalence of haemostatic abnormality in epileptic children on valproate monotherapy: a cross sectional study (Paediatrics).

## PUBLICATIONS

**Journals: 29**

**Abstracts: 3**

**Chapters in books: 9**

**Books: 1**

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

The following papers were awarded.

- Rekha Chaubey, Sudha Sazawal, Manoranjan Mahapatra, Renu Saxena. 'Do molecular abnormalities alter its biology-AIIMS Experience?' Awarded JC Patel prize in ISHTM Annual Conference, Puri 2012.
- Sunil Kr Gupta, Tulika Seth, Manoranjan Mahapatra, R. Saxena, D.K Mitra, Ankit Saxena, Uma Kanga. To Enumerate the in-vitro Frequency and Effector Function of Allospecific helper T cells in Patients Undergoing Sibling matched Allogeneic PBSCT and its Correlation with Graft Vs. Host Disease. Best Poster award. Stem cell transplantation: new frontiers. RR Hospital, New Delhi, 16-17 February 2013.

**Professor Renu Saxena** continued to be member of PAC committees of ICMR, DBT and DST. Coordinator of ISHTM – AIIMS EQAP and medical advisor Hemophilic Federation of India.

**Professor H.P. Pati** became Vice President of ISHTM.

**Dr M. Mahapatra** became General Secretary of ISHTM.

## LABORATORY SERVICES

The department has a full-fledged laboratory and conducted the following tests.

### Tests for anemia

Test	No.
HPLC	1788
Sickling	58
G6PD	877
S Iron	2244
Coombs	397
PNH Gel card CD55/CD59	108
PNH (Ham's test)	31
Plasma Hemoglobin	116
Urine hemosiderin	102
Osmotic Fragility/Incubated osmotic fragility	156
Heinz bodies	07
Hb electrophoresis	14
H inclusion	03
Iron stain	438
Serum ferritin	1977
Mathaemoglobin	02

### Hemogram and Biopsy

Hemogram	45245	Reticulocyte count	14890
Bone marrow aspirate	2586	Biopsy	2411
Reticulin special stain	255		

### Tests for Haemostasis

Short screening coagulogram	3970	Factor assay	400
Inhibitors screening	250	Factor inhibitors assay	10
INR	2950	Lupus anticoagulant	1670
Platelet Function Test	1200	D. Dimer	1200
Fibrinogen	600	Proglob C	818

Protein C	800	Protein S	800
APCR	850	AT-III	600
β2GP	1400	S. Homocysteine	300
VWD	200	DNA Parental detection	12
DNA : Carrier detection	44	FV Leiden	217
MTHFR	28	Clot solubility test	250
P2010	24	Thalassemia molecular test	52
Hemophilia B	45	δβ thalassemia	06
β thalassemia	02	IV Leiden	217
Prothrombin	24		

### Tests for Leukemia

RT PCR			
CML	657	JAK-2	163
APML	65	ALL	62
FLT3	44	Cytochemistry	574
LAP	291		

### Flow cytometry

Acute leukemia	CLPD	CD34	PNH	Platelet function disorders	Total
325	85	23	288	17	738

### In Patient Treatment

The hematology department has treated an increasing number of patients of leukemias, aplastic anemia, idiopathic thrombocytopenic purpura, lymphomas, myelodysplastic syndrome, hemophilia, multiple myeloma and various other hematological disorders as indoor patients. In the past year, 33 allogeneic transplants were performed successfully. The department also has a Day Care Centre for chemotherapy, procedures and blood product transfusions for hematological patients.

The total number of inpatients admitted under Hematology were 696. (C2/C6/D6 and new emergency ward, new and old private).

### Hematology Day Care Centre

Month 2012/2013	Admission	Blood Transfusion	Chemo Therapy	IT	Phlebotomy	PRP	FFP	SDP	Cryo	BMBy	Discharge	Total
April	641	260	170	42	04	83	18	07	06	117	641	708
May	756	367	175	54	15	120	16	03	02	133	756	850
June	758	300	180	63	29	119	15	04	02	133	758	840
July	766	305	226	62	20	119	16		05	99	766	874
August	748	269	235	60	08	125	12		04	112	748	835
September	840	298	278	53	11	147	16		03	138	840	945
October	731	163	199	58	10	157	16		04	119	731	834
November	666	285	177	36	05	122	15	02	05	107	666	778
December	754	294	215	44	09	147	13	03	07	115	754	837
January	519	284	173	58	13	110	16	01	04	109	519	778
February	720	284	204	56	15	115	17	02	04	107	720	804
March	768	288	263	56	12	112	10	01	03	97	768	868
TOTAL	7986	3397	2495	652	151	1476	180	26	49	1386	7986	9951

### Out Patient Department

The department runs its out patient department on the third floor of the main Amrit Kaur OPD block. Regular Hematology OPD is on Monday/Wednesday/Friday from 9:30 am to 6.00 pm. Oncology patients are seen on

Mondays in the Hemato-oncology clinic (HO). The department conducts specialty care clinics, e.g. Hematopoietic Stem Cell Transplant clinic on Tuesday morning, Hemostasis Clinic (HC) on Thursday morning and a Long Term Leukemia survivor Clinic on Saturday mornings.

### Census of Hematology OPD

	General Hematology			Special clinics						
	Male	Female	Total	HT	HS	HL	HA	HC	HO	H
<b>Old cases</b>	14183	6392	<b>20575</b>	2000	4000	1000	2326	3473	7420	7356
	Male	Female	Total	HT	HS	HL	HA	HC		
<b>New Cases</b>	10,599	6400	<b>17099</b>	45	306	85	205	235		

### External Hematology Proficiency Testing Programme

The external Quality Assurance Programme is being conducted in the Haematology Department in the basic parameters namely Hb., HCT, WBC, RBC, Retic, MCV, MCH, MCHC and Plt. Along with P.S. Assessment. The number of participating lab stood at about 1100 in April 2012 which has risen to 1250 in the corresponding period in 2013. The said programme has got prominence due to its contribution for maintenance of accuracy and credibility for the participating labs throughout India.

### Community Services

The department of hematology provided consultative services to patients of thalassemia, in coordination with National Thalassemia Welfare Society. Care to hemophilia patients was provided in coordination with Hemophilia Federation of India. Active programme including public lectures for prevention of cancer and early warning signs of cancer. All India NCC Cancer Awareness Competition – 2013, 20 January 2013, at NCC Camp, Safdarjung Enclave, New Delhi.

### VISITING SCIENTISTS

1. Dr Tariq Muzzafar, MD, Assistant Professor, Department of Hematopathology Hematopathologist, University of Texas, MD Anderson Cancer Center, Houston, USA delivered a guest lecture on 'Diagnosing Myelodysplastic Syndormes: A systematic approach' in September 2012.
2. Dr Rajat Kumar, Dr Gibson and Dr Johnston from University of Manitoba, Canada visited the department, delivered talks and interacted with DM students.

## 9.16 Hospital Administration

**Professor and Head**  
Shakti Kumar Gupta

**Medical Superintendent, Main Hospital**  
D.K. Sharma

**Professor**  
Sidhartha Satpathy

I.B. Singh

**Additional Professors**  
Sanjay Arya  
**Assistant Professors**

Aarti Vij

Nirupam Madaan  
Amit Lathwal

Anoop Daga  
Mahesh R.

### EDUCATION

The Department is running a postgraduate degree programme for medical graduates, viz. MHA (Masters in Hospital Administration) which entered its 47th year after inception. This course was started in February 1966, for the first time in India and has since been recognized as a distinct postgraduate discipline. The Residency Programme in Hospital Administration focuses on 'hands on' training, where Resident Administrators man the 'Administrative Control Room' of hospital, round the clock as 'Duty Officers', and coordinate all the hospital activities after duty hours. It is also the nerve centre of the Hospital.

The Department introduced a paradigm shift in the academic programme by launching Integrated Learning Modules for the residents from 1 January 2008. This includes lectures, discussions, problem based learning, case studies, journal club, leaders forum, seminars, etc. Various guest lectures are organized in the Department so as to increase the horizon of teaching.

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 private sector management institutes.

### Short and Long term training

1. Nine students from Indian Institute of Health Management and Research, Jaipur, 9–31 May 2012.
2. Four students from Sikkim Manipal University, Sikkim, 1 March–31 May 2012.
3. Two MHA students from Department of Hospital Administration, Sher-I-Kashmir Institute of Medical Sciences, Srinagar, 11–20 February 2013.

### Continuing Medical Education

#### Conferences, Seminars and Workshops organized by Department

1. HxMDP on Best Practices in Hospital Logistics, Inventory and Stores Management, New Delhi, 14–15 September 2012.
2. Healthcare Executive Management Development Programmes, for senior Healthcare Professionals, Goa, 21–27 October 2012.
3. Special Programme on 'Hospital Management and Administration' for Medical Superintendents, GDMOs of Coal India Ltd., Indian Institute of Coal Management (IICM), Ranchi, 4 February 2013, 9 March 2013.
4. National Consultation to develop guidelines for tissue donor screening, tissue retrieval and tissue tracking, 18 August 2012, New Delhi (Aarti Vij).
5. Nurses Training Programme on Cadaver Organ Donation Process, 11–15 March 2013, CMET, AIIMS (Aarti Vij).
6. One day Training on Hemovigilance Programme of India, 7 May 2013, AIIMS, New Delhi (Mahesh R).

### Lectures delivered

**Shakti Kumar Gupta: 7**  
**Anoop Daga: 1**

**D.K. Sharma: 1**  
**Nirupam Madaan: 6**

**S. Satpathy: 12**  
**Amit Lathwal: 3**

**Aarti Vij: 4**  
**Mahesh R.: 4**

## Oral/Poster presentations: 1

### RESEARCH

#### Departmental projects

##### *Completed*

1. To study the disinfection and sterilization practices of medical equipment and instruments at AIIMS, New Delhi and suggest measures for improving the system as per standards.
2. To Study the Knowledge, Attitude and Practice regarding Adverse Events related to Medical Devices among healthcare personnel in patient care areas in All India Institute of Medical Sciences Main Hospital.
3. To evaluate the existing Medicine and Paediatric Intensive Care Units at Main Hospital, AIIMS in terms of Structure, Process and Outcome against established standards.
4. To study composition role and functioning of various committees in AIIMS with reference to NABH standards and to propose evaluation model vis-à-vis its functioning.
5. Costing of Healthcare Associated Infections in the Paediatric Intensive Care Units of AIIMS.
6. To study the system of budgetary Allocation and its utilization at AIIMS.

##### *Ongoing*

1. Study to determine the prevalence and circumstances of needle stick injury (NSI) among health care workers at AIIMS, New Delhi.
2. Study of medico-legal documentation at JPNATC, AIIMS and to develop a standard template for electronic medico legal documentation.
3. Study on the training needs of nursing personnel at AIIMS and identification of preferred approaches to performance improvement.
4. Study and evaluate the Disaster Management Plan of AIIMS in view of the prevailing risks and vulnerabilities and to suggest a draft comprehensive Disaster Management Plan to include both internal and external Disaster.
5. Assessment of the training needs and developing the template for leadership development programme for health care executives.
6. To critically analyse functioning of Employees Health Scheme in AIIMS, compare it with other similar schemes for employees, identify the gaps and propose a model scheme for AIIMS.
7. To study the Patient Grievance Redressal System in AIIMS and compare it with best national and international practices, identify gaps and propose a model for Grievance Redressal System at AIIMS.
8. Application of Operation Research Techniques in improving patient processes at Dr R.P. Centre, AIIMS

### PUBLICATIONS

**Journals: 1**

**Abstracts: 7**

**Chapters in Books: 1**

**Books: 1**

### PATIENT CARE

The Department is closely associated with the provision of administrative support to various departments for delivery of patient care and control of costs in the hospital services. The department has been responsible for bringing quality care standards in patient care services at AIIMS.

The Department has been actively involved in improving patient care services by revamping the support services to aid in provision of a quality clinical service. Extensive renovations and upgradation of support services has also been done.

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Shakti Kumar Gupta** was awarded International Partner of the year 2012 by Institute of Rescue Engineering and Civil Protection, Cologne University of Applied Sciences, Germany; Appointed as Chairman of the Committee for formulation of National Ambulance Code for the country under Ministry of Road Transport and Highways. Draft has been approved and code notified by Ministry of Road Transport and Highways, Govt. of India; Appointed a Member of Board of Advisors of Centre for Health Systems Innovation at Oklahamo, Students University Spears School of Business, Oklahoma, USA; Member of the Expert Advisory Committee on Ophthalmology for six new AIIMS being set up at Bhopal, Bhubaneswar, Jodhpur, Patna, Raipur, and Rishikesh under PMSSY; Honorary Consultant to Govt. of Goa to study Health System in Goa and suggest measures for improvement; Member of the Working Group for development of the National Action Plan for Hospital Safety constituted by National Disaster Management Authority, Govt. of India; Appointed a WHO Consultant for the preparation of Module for implementation of electronic

medical records in specialty hospitals in India; Nominated Member of the Governing Council of NABH, Quality Council of India; Member of Committee for Preparation of Results Framework Documents (RFDs) for AIIMS. The Draft has been finalized and submitted to AIIMS; Invited as an Expert for selection of Dy. Head of Operations, Institute of Livery and Biliary Sciences, Govt. of NCT of Delhi; Chaired the session of the Consultation for Ensuing Services for Safe Motherhood on 11–12 April 2012, Jaipur, Rajasthan; Attended 1st meeting of the sub-group on Hospital Disaster Management planning, 25 April 2012, NDMA Bhawan, New Delhi; Attended 7th National Quality Conclave, 27–28 April 2012, New Delhi; Participated as a Team Leader in high-level conference in Paths of Convergence of Agriculture, Health and Wealth, 22–24 June 2012, New Delhi; Attended and Chaired the Plenary Session on ‘Healthcare Availability Accessibility and Affordability’, 24th AIMS Annual Management Education Convention 2012, 25–27 August 2012, Hyderabad, AP; Attended Pre-Conference Workshop and International Conference on ‘Evidence Based Healthcare’, 5–8 October 2012, New Delhi; Attended 4th PAN American Regional Conference of World Association of Disaster and Emergency Medicine, 15–17 October 2012, Virginia, USA; Attended Joint International Conference on ‘Quality Assurance and Patient Safety’, 28–30 November 2012, Pondicherry; Attended ‘1st International Fellowship on Health Technology Assessment (HTA)’, 13–14 December 2012., Kochi, Kerala; Attended 10th Knowledge Millenium Summit-2013 ‘Curing the Incurables: Sharing of Innovations’, 16 January 2013, New Delhi; Attended International Conference on Current Trends in Hospital Administration and Public Health Medallion – 2013, 15–16 February 2013, Kottayam, Kerala; Attended meeting of the task force on Health Sector Reforms in Jammu & Kashmir, 4 February 2013, Jammu, Jammu & Kashmir; Attended 4th Advisory Board Meeting of Welingkar Institute of Management Development and Research, 22 February 2013, Mumbai; Attended 1st National Conference on Hospital Administration, Manthan–2013, 16–17 March 2013, Bareilly, UP.

**Dr D.K. Sharma** attended selection committee meeting as an Expert for the post of Assistant Professor, Hospital Administration, Indira Gandhi Institute of Medical Sciences, Sheikhpura, Patna, 9 May 2012; Attended selection committee meeting as an Subject Expert for selection of Medical Supdt. for BPS Govt. Medical College for Women, Khanpur Kalan and Kalpana Chawla Govt. Medical College, Karnal, Pt. B. D. Sharma, Univesity of Health Sciences, Rohtak, Haryana; Attended Academic Advisory Council meet at Institute of Health Management Research (IHMR), Jaipur; Attended selection committee meeting at Pt. B.D. Sharma, University of Health Sciences, Rohtak, Haryana; Served as Chairman/Member of various intra- as well as extra mural policy making & decision making committees of AIIMS as well as other organizations including Ministry of Health and Family Welfare, Central Pollution Control Board, Govt. of NCT of Delhi, etc.; Served as subject expert and member of selection committees of various organizations including State Public Service Commissions, Public sector undertakings, Medical Institutions, I.I.T. etc., for the interview/selections of various positions like Medical Supdt., Dy. Director (Admn.), Faculty of Hospital Admn., Medical Officers, Nursing and other categories of Group ‘A’ & ‘B’ staff; Nominated as Chairman/Principal Member of various Committees of Bureau of Indian Standards (BIS), India on hospital planning, medical equipments, surgical instruments, disposables and dressings; Permanent special invitee member of the Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) of Ministry of Health and Family Welfare to establish six AIIMS like institutions. Attended interview panel to select students for admission to the Programmes offered by Institute of Health Management Research, Jaipur; Attended ‘HORIZON-2012’ National Conference, A Tale of Successful Marketing at Managlore; Attended Conference of HxMDP as Resource Faculty invited by Department of Hospital Administration, AIIMS, Goa; Attended Joint International Conference on Quality Assurance and Patient Safety, Pondicherry; Attended Special Programme on ‘Hospital Management and Administration’ for Medical Supdt., GDMOs of Coal India Ltd., Ranchi, Jharkhand; Attended International Conference on Marketing-Challenging Management (ICOM-2013), Colombo, Sri Lanka.

**Professor Sidhartha Satpathy** was Editor Journal of Academy of Hospital Administration, published by Academy of Hospital Administration (AHA); Member of Building Committee of National Brain Research Centre-an autonomous institute of Department of Bio-Technology, Ministry of Science and Technology, Government of India; Member of Sectional Committee on BMW (MHD-22) at Bureau of Indian Standards (BIS), New Delhi; Member of Technical Committee of EdCIL for finalization of DPR for establishment of Medical College and Hospital at Indira Gandhi National Tribal University, Amarkantak, Madhya Pradesh, in May–June 2012; External Examiner for Quality Management and Accreditation of Healthcare organization (QMAHO) course at AHA in April, 2012; Visited NTPC project hospitals as Expert member of Committee for selection of hospitals for Swarn Shakti Award (Best Healthcare service awards) at National Thermal

Power Corporation (NTPC) during 2012; Expert member of Selection Committee for post of Medical Superintendent and Faculty of Department of Hospital Administration at various medical colleges in Haryana; Member of Healthcare Sector Skills Council (HSSC) National Curriculum Approval Committee for Development of National Occupational Standards for allied healthcare providers; Chaired plenary session – III on ‘Emergency Medical Services – a system approach’, 25 November 2012, International Congress, CME and Workshop Trauma 2012, New Delhi.

**Dr I.B Singh** was Member Expert Committee, constituted vide Ministry of Health and Family Welfare for Revision of Formulary (proprietary drugs included in Drug formulary for CGHS and MSO, and attended the meetings of the committee, 19 June 2012 and 6 November 2012, under the Chairmanship of Additional Secretary and DG (CGHS), Ministry of Health and Family Welfare and actively involved in developing formulary; Member of the Expert Technical Committee, for granting approval of the Plans for NIPS, Najafgarh, RIPS, Chandigarh and Coimbatore and attended the meeting held on 6 November 2012, Ministry of Health and Family Welfare, Department of Health and Family Welfare; Member of Sectional Committee, MHD 14, Bureau of Indian Standards, for the draft document on ‘Basic Requirements for Hospital Planning Part-1 up to 30 bedded Hospital; As nodal officer in ‘workshop to Scale up Provision of Free Medical Care to Economically Weaker Section in Private Hospitals, 5 January 2013’, Department of Health and Family Welfare, Government of Delhi in Delhi Secretariat.

**Dr Aarti Vij** was Independent (Non-Official Part Time) Director on the Board of HLL Lifecare Ltd., Govt. of India Enterprise; Member Advisory Group in National Organ Transplant Programme under the Dt. General of Health Services, Ministry of Health and Family Welfare, Govt. of India; Expert in the Committee for Development of Website for National Organ and Tissue Transplantation Organization, Directorate General of Health Services, Ministry of Health and Family Welfare, Govt. of India; Re-Elected as an Executive Member of Indian Society of Organ Transplantation (ISOT) from 2012–14; Member of Committee for Preparation of Results Framework Documents(RFDs)for AIIMS; Chairperson of the session on ‘Continuous Quality Improvement in Stores’ in the Best Practice in Hospital Logistics, Inventory and Store Management, organized by Department of Hospital Administration in collaboration with Research Foundation of Hospital and Healthcare Administration (RFHHA), 14–15 September 2012, AIIMS.

**Dr Anoop Daga** was PMSSY Project: Member of the Team for up gradation of B.R.D. Medical College, Gorakhpur, (U.P.) under PMSSY, during June 2012; Health Systems Assessment: Member of the Team for assessment of Health Systems at Goa, October 2012.

**Dr Nirupam Madaan** attended CME on ‘HXMDP in Hospital Inventory, Stores and Logistics Management’, organized by the Department of Hospital Administration, AIIMS, IHC, New Delhi; International Conference on Marketing ICOM 2013, Colombo, Sri Lanka, 19–20 February 2013; 4th International Conference on Legal Medicine, Medical Negligence and Litigation in Medical Practice IAMLE 2013, Kovalam, Kerala, 25–27 January 2013 and with Zargar AH authored a document ‘Optimizing Rural Urban Health Care Delivery systems by Efficient Networking and Knowledge Management’ - Technology Vision 2035, Medical Sciences & Healthcare- Sectoral Roadmap by TIFAC, Deptt. of Science & Technology, Govt. of India.

**Dr Amit Lathwal** attended 4th International Conference on Legal Medicine, Medical Negligence and Litigation in Medical Practice, 25–27 January 2013, Kovalam, Thiruvananthapuram; International Conference on Marketing – Challenging Environment, 19–20 February 2013, Colombo, Sri Lanka.

**Dr Mahesh R.** attended 4 International Conference on Legal Medicine, Medical Negligence and Litigation in Medical Practice, 25–27 January 2013, Kovalam, Thiruvananthapuram. India.

## 9.17 Laboratory Medicine

### Professor and Head

A.K. Mukhopadhyay

### Professors

M. Irshad

Sarman Singh

### Additional Professor

Subhadra Sharma

### Biochemists

A.K. Srivastava

Vandita Vasudev

### HIGHLIGHTS

The Department of Laboratory Medicine remained vibrant as before for its faculty, students and staff regarding service, education and research. The individual achievement can be observed in the respective section of publication, Awards and Honours.

Clinical Biochemistry Division is a complete working set-up engaged in several activities including patient-care, academic and research. This involves a hospital service with routine and specialized patients' investigations (34–35 lakhs per annum), teaching at UG/PG level, conducting research projects and running PhD programme. It also provides training to students coming from outside institutions both in research and analytical procedure. This division has attained a grade in quality work in all areas and is under process of doing several other advances in patient-care, academic and research.

### EDUCATION

#### Short-term training

Ms Sama Mugloo from Jammu and Kashmir University, completed 6 months training and submitted dissertation.

#### CMEs/Workshops/Symposia/National/International Conferences

#### Lectures delivered

**A.K. Mukhopadhyay: 2**

### RESEARCH

#### Funded projects

#### Ongoing

1. The role of neurotrophins, cytokines and genetic polymorphisms in clinical manifestation of depression in adolescents. A.K. Mukhopadhyay, DBT, 2010–13, Rs 36.03 lakhs.
2. The study of mitochondrial mutations, mitochondrial function and oxidative stress in Parkinson's Disease. A.K. Mukhopadhyay, DBT, 2011–14, Rs 37 lakhs.
3. To develop a single step multiplex real time PCR (RT-PCR) for the detection of A–G hepatitis viral infections in patients' blood. M. Irshad, ICMR, 2012–13, Rs 16.30 lakhs.
4. Cloning and expression of N-22 region of Torque Teno Virus (TTV) and develop EIA system for anti-TTV antibodies and Role of TTV in renal failure patients. M. Irshad, CSIR, 2011–14, Rs 19.92 lakhs.

#### Completed

1. Effect of Yoga on Serum Interleukin Levels in Adolescents with Depression. A.K. Mukhopadhyay, CCRYN, 2008–11, Rs 21.24 lakhs.
2. Study of oxidative stress risk factors in Alzheimer's disease and vascular dementia in Geriatric patients. A.K. Mukhopadhyay, ICMR, 2008–11, Rs 18.51 lakhs.
3. To develop assays for HCV genotyping and establish a relation between genotypes and HCV-core expression. M. Irshad, UGC, 2008–13, Rs 14 lakhs.

## Departmental projects

### Ongoing

1. Insulin resistance in liver diseases.
2. Epidemiological studies on CRF in Indian Communities.
3. Cloning, sequencing and expression of TTV related polypeptides.
4. Genotyping of TTV in Indian population.
5. Real time PCR for sero detection of HCV genotypes.
6. Significance of HCV-genotypes in Cirrhosis / HCC.
7. Multiplexing assays for hepatitis viruses.

### Collaborative projects

1. Association of cytokines TNF- $\alpha$ , IL-6, IL-10 and IL-18 in acute coronary syndrome (JPNTAC, Cardiology).
2. Correlation between first trimester glucose screening and serum insulin levels with development of gestational diabetes mellitus in pregnancy (Endocrinology and Metabolism).
3. A multicentric study on chronic renal failure (CRF) in Indian population (Nephrology).

## PUBLICATIONS

**Journals: 10**

**Abstracts: 5**

**Chapters in Books: 3**

**Books: 1**

## PATIENT CARE

Centralised Blood Collection Facility: 80,76,888

### I. Phlebotomy

Total number of phlebotomy and sample: 81,416  
(Primary and post-prandial)

### II. Distribution of blood samples

#### To Department of Laboratory Medicine

Clinical Chemistry:	80,734	Clinical Haematology:	57,225
Clinical Microbiology:	710	Others:	404

#### To Laboratories outside of Department of Laboratory Medicine

Cardiothoracic and neurosciences centre:	8,018
Microbiology:	9,891
Transfusion Medicine:	2,433
Other Laboratories (Psychiatry, HNU, IRCH):	179

### III. Investigations performed

Bleeding time, clotting time:	639
Prothrombin time:	3,250
Total:	3,889

## Emergency Laboratory Service (Round the clock)

### Clinical Biochemistry

Test	Number
Glucose:	43,932
Urea:	1,12,118
Creatinine:	1,11,627
Bilirubin (Total):	75,920
Amylase:	43,932
CSF protein:	5,757

#### Electrolytes

Sodium:	1,11,913
Potassium:	1,11,913
Ionized calcium:	62,805
Chloride:	54,039

ABG with Electrolytes: 20,103

### Haemogram and Body fluid

Test	Number
Haemoglobin:	1,17,865
TLC:	1,17,865
Platelets:	1,17,865
Prothrombin time:	39,757
Malarial parasite:	18,313
CSF cells:	10,693
Urine:	3,344
Micro. Blood Culture:	11,566
Micro. CSF:	10,693
Gram stain:	
Slide stain, Giemsa:	12,282
Stool hanging drop:	1,099
MCV:	1,17,865
MCH:	1,17,865
MCHC :	1,17,865

<b>Total :</b>	<b>7,54,059</b>	PCV:	1,17,865
		RBC:	1,17,865
		Other:	32,500
		<b>Total:</b>	<b>11,09,622</b>
<b>GRAND TOTAL:</b>	<b>18,63,681</b>		

Note: Hb, TLC, MCV, MCHC, PCV AND RBC are measured by single reagent, within the same time frame

#### Clinical Biochemistry Division

<b>Test</b>	<b>Blood</b>	<b>Urine</b>	<b>Fluid</b>
Sugar:	1,37,214	401	1,050
Urea:	2,57,925	320	—
T. Protein:	2,46,107	—	1,050
Albumin:	2,49,591	—	1,050
24h Albumin:	—	42,115	—
Bilirubin			
Total:	2,46,304	—	—
Conjugated:	1,39,215	—	—
Alk. Phosphatase:	2,45,960	—	—
Cholesterol:	82,115	—	—
Na:	2,44,235	4,100	—
K:	2,44,235	4,100	—
Calcium:	2,06,439	4,800	—
Phosphate:	1,72,401	4,800	—
Uric acid:	2,03,502	4,800	—
Amylase:	Nil	—	—
Creatinine:	2,32,119	9,302	—
SGOT:	2,48,212	—	—
SGPT:	2,48,212	—	—
ABG:	302		
pCO <sub>2</sub> :	302	—	—
pH:	302	—	—
pO <sub>2</sub> :	302	—	—
HCO <sub>3</sub> :	302	—	—
CO <sub>2</sub> :	302	—	—
AsDO <sub>2</sub>	: 302	—	—
O <sub>2</sub> sat.:	302	—	—
BE:	302	—	—
<b>Total:</b>	<b>34, 06, 806</b>	<b>74, 738</b>	<b>3,150</b>

#### Other investigations

<b>Test</b>	<b>Number</b>	<b>Test</b>	<b>Number</b>
HBsAg:	600	IgM anti HBc:	600
HBeAg:	600	Anti HCV:	2000
IgM Anti HEV:	1000	IgM Anti HDV:	100
IgM Anti HAV:	300	HCV- RNA:	1000
TTV-DNA:	2000	Superoxide dismutase:	100
T.Antioxidant:	100	ApoproteinA:	100
ApoproteinB:	100	Lp(a):	100
CK:	100		
LDH:	100	GGT:	100
TG:	100	LDLC:	200
HDLC:	200		
TOTAL:	9,500		
<b>GRAND TOTAL:</b>	<b>34, 94, 194</b>		

#### Service from Room No. 18

Adenosine deaminase assay (ADA):	1930	Neurocysticercosis (NCC):	47
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**TOTAL: 1977**

**MISCELLANEOUS**

**New investigations**

Vitamin B12	781	Folate	759
Ferritin	427		

**Tumour marker**

iPTH	362	CEA	354
CA 19-9	296	CA 15-3	300
<b>Total</b>	<b>3279</b>		

**DIC study**

PT	20485	APTT	3916
TT	1218	D. Dimer	760

**Total 26379**

**GRAND TOTAL 31635**

**Haematology section**

Test	OPD	Ward			
Hb	93684	84117	TLC	93684	84117
PCV	93684	84117	DLC	93684	84117
ESR	61051	23585	D/M	93684	84117
PLT	93684	84117	Retic Count	10831	4072
Abs Eosinophil Count	93684	84117	MP examination	33028	329
RDW	93684	84117	MCV	93684	84117
MCH	93684	84117	MCHC	93684	84117
RBC	93684	84117	ANC	93684	84117
MPV	93684	84117	Others*	35000	26379
<b>Total</b>	<b>1451486</b>	<b>1232003</b>			

**Grand Total : 26,83,489**

\* Repeat test, trial test, Quality Control Sample, Internal Q.C., etc.

**Note: Hb, TLC, PCV, DLC, Platelet, MCV, MCHC, RBC are measured by single reagent, within the same time frame**

**AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor A.K. Mukhopadhyay** chosen member, Nominating Council for 2012 BBVA Foundation Frontiers of Knowledge Awards, Spain; chosen member, Nominating Council for Infosys Science Foundation Award, 2012. The Paper titled, 'From God Particle to Consciousness: Life-science, Neuroscience and Nonlocal Science hold the Key' presented in the Science Spiritual Quest, in National Institute of Science, Bangalore drew widespread attention all over the Globe; From 24 September 2012, till today it occupies the topmost position on the first page in Google search; Apollo-14 Astronaut, the 6th man who walked on the moon, Edgar Mitchell personally responded to the event through an e-mail and desired to collaborate for extension of science; Eminent scientists of Edgar Mitchell's quantrek team, also responded with profuse praise for the new ideas the paper has brought out; Nobel laureates like, Brian Josephson from Cambridge, Werner Arber from Switzerland, responded with positive comments for the paper. The *Millennium Bridge*, the work of Prof. Mukhopadhyay has been compared with Thomas Campbell's work *My Big TOE* by a student of IIT, Kanpur. It is available on the internet. Chaired a session on Diagnostic Dilemma in interpretation of Common Laboratory Tests: Diagnostic riddles in TB, Malaria and Typhoid, in the meeting of Infectious Diseases, Chapter of Indian Academy of Pediatrics (Delhi and NCR), New Delhi, 23 September 2012.

**Professor M. Irshad** nominated Member, Editorial Board, World Journal of Hepatology (WJH) since March 2013; A compliment of 'EXCELLENT PAPER' submitted to Journal of Gastroenterology and Hepatology, by its Editor-in-chief. Grading of review article published in International Reviews of Immunology to be one among 1% best paper of the world.

## 9.18 Medicine

### Professor and Head

S.K. Sharma

### Professors

Rita Sood

A. B. Dey

### Additional Professors

Naveet Wig  
Uma Kumar

Ashutosh Biswas  
Sanjeev Sinha

### Associate Professors

Naval K. Vikram

### Assistant Professors

Manish Soneja

Piyush Ranjan

### EDUCATION

The department runs a comprehensive undergraduate and post graduate teaching programme, which includes integrated lectures, seminars, bedside clinical case discussions and journal club. The undergraduate students are assessed regularly at the end of each clinical posting.

### Continuing Medical Education

#### Organized by the department

1. Organized Medicine Update 2013 in association with Association of Physicians of India (API) Delhi State Chapter, 9–10 February 2013.
2. Dr Rita Sood was Organizing Co-Chairperson for South East Asian International and National health professional education conference, SEARAME NCHPE 2012 on the theme, 'Social Accountability: Responding to Societal Needs through Quality Assurance and Accreditation in Health Professions Education' at PSG IMSR, Coimbatore, 5–8 September 2012. Organized a series by 14 Pre-conference workshops related to the theme of the Conference.

### Short-long-term training

56 postgraduate and undergraduate students from USA, U.K., Singapore, Australia and Germany received training in the Department of Medicine during the current year.

### CME/Workshops/Symposia/National and International Conferences

The faculty of the department delivered 35 lectures in the national and international conferences.

### RESEARCH

#### Funded projects

##### Completed

1. Role of oral vitamin D as an adjunct therapy in Category I Pulmonary Tuberculosis along with assessment of immunological parameters (Double-blind, Randomized, Placebo-Controlled, Clinical Trial). SK Sharma, DBT, 5 years, 2006–12, Rs 90.90 lakhs.
2. Efficacy of oral zinc administration as an adjunct therapy in Category I Pulmonary Tuberculosis along with assessment of immunological parameters (Double-blind, Randomized, Placebo-Controlled, Multicenter Clinical Trial). SK Sharma, DBT, 5 years, 2006–12, Rs 63.38 lakhs.
3. Sustaining research momentum over the coming decades: mentoring the next generation of researchers for tuberculosis. SK Sharma, European Union Frame Programme 7 Work, 3 years, 2008–12, Rs 67.84 lakhs.

##### Ongoing

1. Effect of continuous positive airways pressure CPAP on biomarkers in patients with obstructive sleep apnea. SK Sharma, DBT, 2012–15, Rs 64.50 lakhs.
2. Immune reconstitution inflammatory syndrome (IRIS) in HIV/AIDS patients with and without tuberculosis co-infection (TB) receiving HAART. SK Sharma, ICMR, 2011–14, Rs 45.48 lakhs.

2. Immune reconstitution inflammatory syndrome (IRIS) in HIV/AIDS patients with and without tuberculosis co-infection (TB) receiving HAART. SK Sharma, ICMR, 2011–14, Rs 45.48 lakhs.
3. Proteomic study of tuberculosis pleural fluid to identify potential biomarker(s) for early and definitive diagnosis of tuberculosis. SK Sharma, ICMR, 2011–12, Rs 35 lakhs.
4. Proficiency testing and accreditation of Intermediate reference laboratory in the Department of Medicine by Central TB Division, Ministry of Health and Family Welfare, Govt of India. Consumable, chemicals and other disposables available. No funds.
5. Association of OSA with metabolic syndrome, insulin resistance and TNF- $\alpha$ , IL6 and ACE polymorphism. SK Sharma, ICMR, 2010–13, Rs 46.67 lakhs.
6. Antiretroviral Treatment (ART) Centre for free treatment of HIV/AIDS patients [National AIDS Control Organization (NACO); Ministry of Health and Family Welfare; Govt. of India]. SK Sharma, Delhi State AIDS Control Society, 2005 till date, Rs 4.50 lakhs.
7. Nodal Centre for free treatment of TB. SK Sharma, Revised National TB Control Programme of NCT of Delhi through the area District TB Centre, 2005–till date, Rs 4.32 lakhs.
8. Biomarkers predicting severity and outcome in malaria. Intramural, 2013, Rs 5 lakhs.
9. Bristol Myers Squibb IM101174 Study – A Phase IIIB Multicentre, Randomized Double-Dummy Study to Compare the Efficacy and Safety of Abatacept Administered Subcutaneously and Intravenously in Subjects with Rheumatoid Arthritis Receiving background Methotrexate and Experiencing an Inadequate Response to Methotrexate, Uma Kumar, Bristol Myers Squibb India, 2008–13, Rs 25 lakhs.
10. Genome sciences and predictive medicine. Uma Kumar, DBT, 2009–13, Rs 32.75 lakhs.
11. Representation Trafficking and functional interaction of effector and regulatory T cells. Uma Kumar, DST, 2012–15, Rs 18.70 lakhs.
12. To study effect of climate and social factors on health (Immunological) and disease state (Rheumatoid arthritis). Uma Kumar, 2013–16, Rs 54 lakhs.

### **Departmental projects**

#### ***Completed***

1. Diagnostic Utility of F-18 FDG PET/CT in Pyrexia of Unknown Origin (Nuclear Medicine, Radiodiagnosis).
2. Evaluation of various parameters for early detection of ethambutol toxicity to retina and optic nerve (Ophthalmology).
3. Evaluation of An Automated High throughput Flowcytometry based Technique for Diagnosis of Malaria (Microbiology).
4. Study of association of adipocyte size with anthropometric and biochemical parameters.
5. Study of prevalence of metabolic syndrome in patients with COPD.
6. Study of incidence of acute kidney injury in critically ill patients

#### ***Ongoing***

1. Study of predictors of mortality in severe malaria (Microbiology, Emergency Medicine).
2. Outcome implications of implementing a ventilator associated pneumonia prevention bundle in patients on mechanical ventilation (Emergency Medicine).
3. Clinical, investigative and therapeutic profile of patients presenting with hemoptysis (Pulmonary Medicine, Radio diagnosis).
4. To study the diagnostic utility of GeneXpert in diagnosis of pleural and lymph node tuberculosis (Laboratory Medicine).
5. Association of nonalcoholic fatty liver disease with obstructive sleep apnoea in Asian Indians.
6. Study of Non Alcoholic fatty liver disease and Coronary Artery disease in Asian Indians.
7. Frailty in old age: Development of new clinical tool and biomarker for diagnosis.
8. Hepatic left lobe volume as an indicator of adiposity and related metabolic abnormalities in patients with NAFLD.
9. Nonalcoholic fatty liver disease and metabolic syndrome in chronic kidney disease.
10. Association of NAFLD with adiposity and bone mineral density.
11. Prevalence of Non-Alcoholic Fatty Liver Disease in an adult population living in a rural community of Haryana (*Department of Community Medicine*).
12. Proteomic study of tuberculosis pleural fluid to identify potential biomarker(s) for early and definitive diagnosis of tuberculosis.
13. Prevalence of hyperglycemia in tuberculosis and treatment outcomes in tuberculosis patients with diabetes mellitus.
14. Evaluation of GeneXpert in extra-pulmonary tuberculosis.
15. Prevalence of X/MDR-TB in Delhi using solid media and line probe assay (LPA).

16. Detection and strain identification of drug-sensitive and drug-resistant tuberculosis using liquid culture and spoligotyping technique in different regions of Delhi State.
17. Circulating inflammatory biomarkers as predictors of HIV-tuberculosis associated immune reconstitution inflammatory syndrome (IRIS).
18. To study the predictors of relapse in patients with sarcoidosis.
19. Effect of continuous positive airway pressure therapy on neurocognitive impairment in patients with moderate to severe OSA.
20. The effect of continuous positive airway pressure therapy on endothelial dysfunction in moderate to severe obstructive sleep apnea syndrome.
21. Sleep disturbances in critically ill patients at a tertiary care center ambulatory blood pressure monitoring and urinary proteome analysis in patients with obstructive sleep apnoea.
22. Outcome implications of implementing sepsis resuscitation bundle in AIIMS medicine department.
23. Assessment of current CPR practices and effects of implementing guideline compliant CPR.
24. Incidence and outcome of acute kidney injury associated with severe malaria.
25. Evaluation of current management practices of chronic obstructive pulmonary disease and the outcome of implementing the current guidelines in a tertiary care centre.
26. Predictors of response to Methotrexate in Rheumatoid Arthritis.
27. Role of MTHFR mutation and serum Vitamin D level in predicting the response of MTX in RA.
28. Utility of PET/CT/HRCT Chest in the assessment of disease activity of interstitial lung disease in patients with connective tissue diseases.
29. Gonadal failure in patients receiving cyclophosphamide.
30. Expression and modulation of leucocytes complement and receptor1 and CD59 (protection) in relation to Rheumatoid arthritis. (Biochemistry).
31. Expression of leucocyte CR1 and CR2 (Complement receptor 1 and 2) and its significance in the pathophysiology and clinical disease activity of rheumatoid arthritis. (Biochemistry).
32. Expression and modulation of complement regulatory proteins DAF (CD55) and MCP (CD46) in relation to the pathophysiology and clinical disease activity of rheumatoid arthritis. (Biochemistry).
33. Genetic analysis of psoriasis and psoriatic arthritis in Indian (Dermatology).
34. Role of dual energy computed tomography in diagnosis of gout. (Radiology).
35. To study the role of Th-17 cells in arthritis patients in Indian population. (Anatomy).
36. Preparation and quality control of <sup>188</sup>Re-labelled tin colloid for the treatment of refractory inflammatory arthritis (Nuclear Medicine).

## PUBLICATIONS

**Journals: 45                      Chapter in books: 12                      Book: 1**

## PATIENT CARE

### Infectious Disease Clinic (Monday 2 PM)

New cases	213	Old cases	120
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### Sleep Related Breathing Disorder (SRBD) Clinic (Monday 2 PM)

New cases	358	Old cases	329
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### Chest Clinic (Friday 2 PM)

New cases	294	Old cases	770
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### Antiretroviral centre

Total registered till March 2013	7442	ART started till March 2013	3090
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Regular follow up till March 2013	1629	ART started in 2012–13	388
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### AIIMS DOTS Centre

Total patients on DOTS (April 2012–March 2013)	1710
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CAT I	1268	CAT II	442
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### Rheumatology Clinic (Wednesday 2 PM)

New cases registered	42	Number of follow up visits	6565
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Total	6607
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### Laboratories

<b>Sleep laboratory</b>	Sleep studies	254
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### PFT laboratory

Sleep studies	934	6 minute walk test	150
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### ADA/ACE laboratory

Adenosine deaminase tests	940	ACE tests	101
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### RNTCP services

Sputum investigation performed	2890		
<b>DOTS PLUS</b>			
Drug susceptibility tests including line probe assay, liquid culture			1213
<b>Clinical Immunology Laboratory</b>			
Number of blood samples received	10558	Number of tests done	27426
<b>Test</b>	<b>Number</b>		
RF	5696	ANA	7027
Anti-dsDNA	2205	C3	1927
Serum IgG, IgA and IgM	2620	Cryoglobulins	169
ANCA	2640	aCL	3414
Anti-LKM-1	881	ASMA	847
Synovial fluid examination (including polarizing light microscopy)			150

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor S.K. Sharma** was awarded prestigious Indian Sleep Disorder Association (ISDA) Philips Respironics Oration 2012. He also received Dr K.J.R. Murthy Oration Award 2012 of Indian Chest Society (ICS) 2012 and prompt Referee Award for the journal Lung India 2012. He received fellowships of National Academy of Medical Sciences (NAMS) New Delhi (India), since 2012 and Indian National Science Academy (INSA), New Delhi, w.e.f. January 2013. He is expert member of New Drug Advisory Committee (NDAC) – Antimicrobial, Antiparasitic and antifungal to advise Drugs Controller General (India) [DCG(I)] in matters for review of applications of New Drugs & clinical trials, w.e.f. 2011. He continues to be an expert member of Drugs Technical Advisory Board (DTAB) to examine continued marketing of certain drug formulations reported to be prohibited or restricted in other countries since 2010.

**Professor Rita Sood** was invited as expert for the WHO SEARO regional meeting on ‘Role of medical education to address the current health challenges’, Bangkok, 13 to 15 June 2012. She is nominated member of Academic Council, Medical Council of India in October 2012. She was invited by UPSC as adviser for Combined Medical Services examination; She received travel grant to participate in Rendez Vous 2012 Conference on ‘Community participation in Education, Research and Service’ at Thunder Bay, Ontario, Canada; She participated in the Obama Singh 21st Century Knowledge initiative Project, for the joint development of Master’s Degree in Education for faculty in the USA and India, as project team faculty, t MUHS, Pune; She attended the Consultation meeting for ‘Teaching of Professionalism in health professions education’ at Pramukhswami Medical College, Karamsad, Gujarat, She was invited by Centre for Innovations in Public Systems (CIPS), Hyderabad to deliberate on ‘Linking medical schools to secondary and primary health care systems’ at the Ministry of Administrative reforms in Dec.12 in collaboration with CMC, Vellore.

**Dr Naveet Wig** is a member of member of ICMR Technical Resource Group on HIV/AIDS and member of HIV/AIDS Project review committee (PRC) of ICMR. He is also member of expert Group of ICMR on establishment of Antimicrobial Resistance Surveillance Network; He continues to be a member of IndiaCLEN Programme Evaluation group.

**Dr Uma Kumar** organized a Patient Awareness Programme on Arthritis; Conference Hall, AIIMS, New Delhi. She was awarded Zydu's oration 2012 by Indian Rheumatology Association and was awarded Fellowship of Indian Association of Clinical Medicine.

**Dr Naval K. Vikram** was awarded the ‘National Bioscience Award for Career Development 2012’, Department of Biotechnology, Government of India.

**Dr Manish Soneja** received Dr JC Patel and Dr BC Mehta best Papers Award conferred by the Association of Physicians of India for 2nd Prize for Best Case Report entitled ‘Actinomycosis and Nocardiosis Co-infection in Chronic Granulomatous Disease’ Manish Soneja, Atul Batra, Naval K Vikram, Arvind Ahuja, Anant Mohan, Rita Sood, J Assoc Physicians India 2012; 60 (04):66–68.

## 9.19 Microbiology

### Professor and Head

J.C. Samantaray

### Professors

Arti Kapil

Rama Chaudhry

Bimal Das

Lalit Dar

B.R. Mirdha

### Additional Professors

Immaculata Xess

Madhu Vajpayee

Benu Dhawan

Seema Sood

### Associate Professors

Urvashi B. Singh

## HIGHLIGHTS

Extensive studies on molecular epidemiology of *Pneumocystis jirovecii* infection (Pneumocystis carinii pneumonia [PCP]), under Dr B.R. Mirdha have been able to establish the molecular detection of *P. jirovecii* in clinical samples for patient care, for the first time in the country. Genotypic analysis has delineated various circulating strains of *P. jirovecii* in India.

The other important research interests of the laboratory under the direct supervision of Dr Mirdha are to study the prevalence of intestinal coccidian pathogens. Recent work in the laboratory has focused on molecular detection of intestinal coccidial (Cryptosporidium spp., Cyclospora cayetanensis and Isospora belli) infection and Microsporidia and further characterization of these isolates. Multilocus sequence analysis of these micro-organisms has shown both anthroponotic and zoonotic transmission of cryptosporidiosis in people residing in the northern part of India.

## EDUCATION

1. Dr Urvashi Singh organized a one day symposium (CME), 26 March 2013: entitled 'Stop Tuberculosis in my lifetime', AIIMS.
2. Hands-on Workshop on 'Isolation and antimicrobial susceptibility testing of *Neisseria gonorrhoeae*', 16–18 August 2012, AIIMS, New Delhi. This was a part of a Task Force project titled 'Establishment of networking for *Neisseria gonorrhoeae* surveillance in India, funded by Indian Council of Medical Research (ICMR).

## Short- and long-term training

MSc training in Microbiology was provided to 15 students

## CME/Symposia/ Workshops /National and International Conferences

### Lectures delivered

J.C. Samantaray: 1

Rama Chaudhry: 3

Arti Kapil: 8

Lalit Dar: 1

B.R. Mirdha: 2

Seema Sood: 1

Urvashi B. Singh: 1

Papers presented: 10

## RESEARCH

### Funded projects

#### Ongoing

1. Analysis of human gastrointestinal microbial diversity by molecular methods and application of metagenomics for isolation of novel bacteriosis. R. Chaudhry, DBT, 2011–14, Rs 51.72 lakhs.
2. Genotyping of *C. difficile* and *C. perfringens* by PFGE and MLST from fecal samples of antibiotic associated diarrhea. R. Chaudhry, ICMR, 2009–13, Rs 39 lakhs.
3. Detection of *Mycoplasma pneumoniae* and *Legionella pneumophila* in respiratory tract infection by molecular assays: A multicentric study. R. Chaudhry, ICMR, 2011–14, Rs 49 lakhs.

4. Characterization of putative prolipoprotein signal peptidase gene from *Mycoplasma pneumoniae*, a potential drug target. R. Chaudhry, ICMR, 2012–14, Rs 30 lakhs.
5. DNA fingerprinting of clinical isolates of cryptococcus collected during recent 5 years in AIIMS. I. Xess, AIIMS, 2011–13, Rs 5 lakhs.
6. Development of immunoblot assay for diagnosis of sub-clinical cryptococcosis. I. Xess, DBT, 2012–14, Rs 40.93 lakhs.
7. Antifungal susceptibility testing and genotyping of cryptococcal isolates from Delhi and other parts of India. I. Xess, DBT, 2012–14, Rs 79.84 lakhs.
8. LAMP as point-of-care test for gonorrhoea. S. Sood, DBT, 2009–12, Rs 44 lakhs.
9. Establishment of networking for *Neisseria gonorrhoeae* surveillance in India. S. Sood, ICMR, 2010–13, Rs 32 lakhs.
10. In vitro assessment of potential antimicrobials for *Neisseria gonorrhoeae*. S. Sood, AIIMS, 2012–13, Rs 5 lakhs.
11. Role of early diagnosis of drug resistant tuberculosis in guiding therapeutic strategies in treatment of extra-pulmonary tuberculosis. U. Singh, ICMR, 2012–15, Rs 45 lakhs.
12. Identification and evaluation of *Mycobacterium tuberculosis* antigen as biomarkers in clinical samples from pulmonary and extra pulmonary tuberculosis patients. U. Singh, ICMR, 2012–15, Rs 41 lakhs.
13. Evaluation of molecular methods (PCR, immunohistochemistry) against conventional methods (histopathology, culture, AFB staining in endometrial samples) and laparoscopy in detection of genital tuberculosis in infertile women (an ICMR task force study). U. Singh, ICMR, 2012–15, Rs 40 lakhs.
14. Molecular analysis of MDR and XDR strains of *Mycobacterium tuberculosis* isolated from a tertiary care hospital. U. Singh, ICMR, 2010–13, Rs 40 lakhs.
15. Molecular characterization of clinical isolates of vancomycin and high-level gentamicin resistant *Enterococcus faecium* and *Enterococcus faecalis*. B. Dhawan, ICMR, 2012–15, Rs 33.88 lakhs.
16. Multisite monitoring of human influenza virus in India – Phase II. S. Broor (till 31 January 2013) and L. Dar (from 1 February 2013), ICMR, 2009–13, Rs 1.09 lakhs.
17. Congenital cytomegalovirus infection and hearing loss in rural Indian population. L. Dar, ICMR, 2010–13, Rs 70 lakhs.
18. Referral centre for early infant diagnosis of HIV by DNA PCR. L. Dar, NACO, 2012 (continuous), Rs 4.05 lakhs.
19. Apex laboratory for dengue and chikungunya diagnosis for NVBDCP. S. Broor (till 31 January 2013) and L. Dar (1 February 2013), 2011, Rs 1 lakhs.
20. Role of oral vitamin D as an adjunct therapy in category I pulmonary tuberculosis along with assessment of immunological parameters. U.B. Singh, DBT, 2008–12, Rs 50 lakhs.
21. Surveillance of infection in neonates – An ICMR task force study, A. Kapil, ICMR, 2011–15. Rs 20 lakhs.

### **Completed**

1. Emerging infectious diseases in the Republic of India: Influenza disease burden. S. Broor, CDC, 2009–13, Rs 207.31 lakhs.
2. Direct and indirect protection by influenza vaccine given to children in India. S. Broor, CDC, 2008–13, Rs 1036.26 lakhs.
3. Influenza immunization of children in India. S. Broor, CDC, 2011–13, Rs 657.32 lakhs.
4. Mechanisms of chikungunya virus disease: Mouse model, virulence and novel therapeutics. S. Broor, DBT, 2010–13, Rs 96.06 lakhs.
5. Multicenter study in antimicrobial resistance monitoring of *Salmonella typhi* and *Salmonella paratyphi*. An attempt to make national guidelines to treat Enteric fever. A. Kapil, ICMR, 2010–13, Rs 30 lakhs.
6. Study of genetic polymorphism of dihydropteroate synthase (DHPS) gene in *Pneumocystis jirovecii* isolates and its correlation with treatment failure and its correlation with treatment failure and clinical outcome in patients with *Pneumocystis carinii* pneumonia. B.R. Mirdha, DST, 2009–14, Rs 31 lakhs.
7. Molecular characterisation and development of immunological based diagnostics for *Naegleria fowleri* infection. B.R. Mirdha, Defence Research Development Organization (DRDO), 2010–13, Rs 24 lakhs.
8. Population genetic study of coccidian with special reference to *Cryptosporidium* species and *Enterocytozoon bineusi* and its correlation with transmission detection and disease risk in patient with diarrhea. B.R. Mirdha, ICMR, 2013–15, Rs 18 lakhs.

9. Detection and quantification of *Pneumocystis jirovecii* in respiratory samples by real-time PCR for clinical management of *Pneumocystis carinii* pneumonia (PCP) in human immunodeficiency virus (HIV) infected and uninfected individuals. B.R. Mirdha, ICMR, 2009–13, Rs 15 lakhs.
10. Development of a DNA Biosensor for detection of *Neisseria gonorrhoeae* in clinical samples. S. Sood, DBT, 2007–11, Rs 67 lakhs.
11. Development and clinical evaluation of a real time PCR assay for detection of *Chlamydia trachomatis* in Indian women with infertility. B. Dhawan, ICMR, 2010–13, Rs 19.53 lakhs.

### Departmental projects

#### Ongoing

1. Cloning and characterization of cytoadherence region(s) of *Mycoplasma pneumoniae*.
2. A study on alternate antimicrobial agents against typhoidal *Salmonellae*.
3. Early prediction of invasive fungal infections in severe acute and necrotizing pancreatitis: Prospective observational study.
4. The epidemiology and drug resistance of aspergillosis in immunocompromised patients.
5. Molecular characterization of *Neisseria gonorrhoeae* strains with decreased susceptibility to extended spectrum cephalosporins.

#### Completed

1. A prospective cohort study for the incidence and risk factors for central line associated blood stream infection (CLABSI) in pediatric ICU (PICU).
2. Detection of *Blastocystis hominis* and their molecular typing in patients of irritable bowel syndrome: A cross-sectional study.
3. Real time PCR for Herpes simplex viruses.
4. Detection and genotyping of human cytomegalovirus from bone marrow transplant recipients.
5. Detection and typing of 37 human papillomavirus types by PCR and reverse hybridization in head and neck cancers.
6. Sequencing and phylogenetic analysis of dengue and chikungunya virus strains from Delhi.

### Collaborative projects

#### Ongoing

1. Multicenter epidemiological study of Zygomycosis: Identification, classification and molecular typing of Zygomycetes in India (PGIMER, Chandigarh).

#### Completed

1. Administration of *Lactobacillus rhamnosus* GG for the prevention and treatment of *Clostridium difficile* infection and subsequent diarrhoea in Indian population. R. Chaudhry, DBT and TERI, 2007–2012.
2. Prevalence of antibiotic resistant *Propionibacterium acne* in adolescent and peri adolescent acne before and after treatment with oral retinoids (R. Chaudhry, Dermatology and Venereology, 2009–13).
3. Development of Nanosilver nanohydrogels for biomedical applications. (A. Kapil, IIT, Delhi, 2010–13).
4. A study on treatment of genital tuberculosis – randomized controlled trial of either discontinuation at 6 months or continuation till 9 months after initial response to 6 months RNTCP category I treatment (U.B. Singh, Obstetrics and Gynaecology, 2009–12).
5. Comprehensive proteomics profiling of CSF proteins from patients of different meningitis infections for biomarker discovery (TCGA, Delhi). (A. Kapil, U.B. Singh, 2008–11).
6. Detection of mycobacterial pathogens in Crohn's disease patients (U.B. Singh, Gastroenterology and Human Nutrition, 2007–11).
7. Treatment outcome and drug resistance among CAT II pulmonary tuberculosis under Revised National TB Control Programme (RNTCP) of India (U.B. Singh, Medicine, 2007–11, Rs 4.09 lakhs).
8. Role of ATT for positive endometrial aspirates DNA PCR in reproductive outcome in infertile patients in Indian setting: A randomized trial. (U.B. Singh, Obstetrics and Gynaecology, 2010–13).

### PUBLICATIONS

**Journals: 30**

**Chapters in Books: 3**

### PATIENT CARE

**Bacteriology section**

Sample	Total	Positive/Sensitivity
Pus	22,205	11,882
Urine	35,630	10,250
Blood	45,899	4920
Sputum/Throat/Tracheal Swabs	20,015	11,318
CSF	10,050	300
Stool	1820	50
<b>Total</b>	<b>1,35,619</b>	

### Serology laboratory

Sample	Total	Positive
<b>Widal</b>	4438	1460
<b>V.D.R.L</b>	7698	36
<b>T.P.H.A</b>	88	32
<b>A.S.O.</b>	42	9

### HIC laboratory

Samples 20,151      Water sample 1112      Total      21,263

### Mycology and ICP Laboratory

BAL	2072	Urine	2122
CSF	744	Sputum	478
Swab	227	Pus	562
Miscellaneous	1433	Tissue/Biopsy	351
Nail/hair/skin	113	Bone marrow	245
Blood	1854	BACTEC	38
Cryptococcus serology	332	Aspergillus serology	140
Histoplasma serology	54		
<b>Total</b>	<b>10,769</b>		

### Serological investigations

1. Amoebic serology of anti-amoebic IgG antibodies by ELISA      115
2. Hydatid disease serology by Indirect haemagglutination test      126
3. Toxoplasmosis serology for IgG antibodies by ELISA      018

### Investigations for malaria

1. Fluorescent staining (Acridine Orange)      3923
2. Giemsa staining      3923
3. Quantitative Buffy Coat (QBC) assay      1759
4. HRP-II antigen detection tests      0726

### Investigations for kala-azar

1. Fluorescent staining (Acridine Orange)      0192
2. Giemsa staining      0192
3. Quantitative Buffy Coat (QBC) assay      0192
4. Kala-azar serology (rk-39)      0735
5. Aldehyde test      0073

### Examination of faecal samples for intestinal parasitosis

1. Direct and concentration techniques      3344
2. In-vitro culture      30
3. Modified acid-fast and special staining for intestinal coccidia      3344
4. Tissue specimens (homogenates)      25

**Examination of aspirates**

1. Sputum, pus and others 76

**Investigation for filariasis**

1. Direct and concentration 77  
 2. Acridine Orange 77  
 3. Thin and thick smear 77

**Other investigations**

1. Investigation for Pneumocystis jirovecii infection (PCP) 204  
 2. Cerebrospinal fluid examination for free living amoebae (FLA) 130  
**Total 19,358**

**Anaerobic bacteriology**

Anaerobic culture 674  
 Stool culture for Clostridium difficile 294  
 ELISA for C. difficile - toxin A and toxin B 294  
*Antibiotic susceptibility testing of anaerobic isolates*  
 Culture for Propionibacterium acnes 129  
 Antibiotic Susceptibility Testing of Propionibacterium spp; 9  
 Culture for Bartonella 59  
 IFA for Bartonella IgM antibodies 59  
 Culture for Leptospira spp. 189  
 ELISA for Leptospira IgM antibodies 212  
 ELISA for Legionella pneumophila IgM antibodies 107  
 ELISA for Legionella pneumophila IgG antibodies 84  
 Recombinant ELISA for Salmonella Typhi IgM antibodies 12

**Mycoplasma pneumoniae**

ELISA for IgM antibodies 221 ELISA for IgG antibodies 164  
 ELISA for IgA antibodies 111 Culture 148  
 Ureaplasma urealyticum culture 342  
*Antibiotic susceptibility*  
 for Mycoplasma hominis 7  
 for Ureaplasma urealyticum 28  
 ELISA for Chlamydia pneumoniae  
 Ig M antibodies 117 IgG antibodies 97 IgA antibodies 111  
*Polymerase chain reaction*  
 for Mycoplasma pneumonia 128 for Mycoplasma hominis 342  
 for Ureaplasma urealyticum 342 for C. trachomatis 352  
**Total 4702**

**Sexually transmitted diseases**

Clinical sample	Total	Antimicrobial susceptibility testing
High vaginal swabs (HVS)	280	62
Semen	764	73
Expressed prostatic secretions (EPS)	45	08
Urethral discharge	27	10
Vaginal discharge	62	0
Cervical discharge	10	0
<b>Total</b>	<b>1188</b>	<b>153</b>

<b>Tuberculosis laboratory</b>	
Samples processed for ZN smear and culture on LJ medium	15,542
Samples inoculated for Rapid Culture on MGIT 960	3,475
Anti-tubercular drug sensitivity done on MGIT 960	585
PCR for Mycobacterium tuberculosis	5,091
Genxpert diagnosis for Mycobacterium tuberculosis and rifampicin drug resistance	1,509
<b>Total</b>	<b>26,202</b>

<b>Viral culture and identification</b> (HSV, dengue, etc.)	134
<i>Viral antibody detection</i>	
Measles CFT (serum and CSF) 269	Dengue IgM antibody ELISA 1589
Chikungunya ELISA 148	

#### **Viral antigen detection and qualitative PCR**

Dengue NS1 antigen 221	CMV PCR/pp65 antigen 317
HSV PCR 236	HIV PCR 1329

#### **Viral Real-time PCR**

Influenza (diagnosis and surveillance, including novel H1N1)	1936
Miscellaneous (Tzanck smear etc.)	34
<b>Total</b>	<b>6233</b>

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Rama Chaudhry** was given the Bharat Jyoti Award by India International Friendship Society (IIFS) February 2013; Best poster award for the paper entitled 'Spectrum and resistance pattern of propionibacterium species in ACNE vulgaris patients at Indian Association of Medical Microbiologists, Delhi Chapter Award, 28 July 2012, BLK super Specialty Hospital, New Delhi; Meghna K Baweja Award for the paper entitled 'Immunomodulation by Probiotics using non invasive technology', 'Pediatrics infectious diseases', Meghna K Baweja Award, Indian Association of Medical Microbiologists, Delhi; Member of the expert group on Basic Science Research of National institute for Research in Environmental Health (NIREH), Bhopal; Special invitee to attend the 40th Scientific Advisory Committee Meeting (SAC), NICED, Kolkata.

**Professor Arti Kapil** is Editor, Indian Journal of Medical Microbiology; Member of the Core Committee of the National Accreditation Board for Testing and Calibration Laboratories (NABL); Member of Steering Committee Meeting of MoES Project: Drugs from the Sea, CRDI, Lucknow, 17 –18 September 2012; Member of Validation Committee for High Containment Facility, DRDE, Ministry of Defence , Gwalior; Member of the Expert Group on Planning of National Institute for Research in Environmental Health (NIREH), Bhopal, under the Department of Health Research, Govt. of India.

**Professor Lalit Dar** was Member of the HIV Technical Resource Group (Laboratories) of the National AIDS Control Organisation (NACO); Member of the Project Evaluation Committee for the North East Twinning Projects of Department of Biotechnology, Govt. of India; Member of the Core Committee of the National Accreditation Board for Testing and Calibration Laboratories (NABL); Member of the Ethics Committee of the National Brain Research Institute; Member of the Project Review Committee for Virology of the Indian Council of Medical Research (ICMR).

**Professor B.R. Mirdha** was Joint Secretary, Indian Academy of Tropical Parasitology (IATP), 2013–15; Secretary, Indian Association of Medical Microbiologists (IAMM), Delhi and NCR Chapter, 2011–14; Editorial Board member, Indian Journal of Tropical Parasitology (IJTP); Editorial Board member, New Journal of Science (Microbiology), Hindawi Publications (USA).

**Dr Seema Sood** was awarded scholarship to attend the 13th IUSTI World Congress, Melbourne, Australia, October 2012; appointed Assistant Editor, Indian Journal of Medical Microbiology

**Dr Urvashi B. Singh** won the Prof. A N Chakraborty Memorial Prize 2012 for best published paper in mycobacteriology during 2012; awarded gold medal by Indian Association of Medical Microbiologists

(IAMM) at the annual conference at Varanasi; Dr S S Kelkar Memorial Prize 2012, IAMM, Delhi; Dr S R Sengupta, A M Saoji Memorial Prize, 2012, IAMM, Delhi; Junior Best Paper Award, 2012, IAMM, Delhi; Mumbai–Belgaum Award, 2012 IAMM, Delhi Task Force on Female Genital Tract Tuberculosis, ICMR; Expert Screening Committee of the NER Twinning R and D Program (Medical Biotechnology), Department of Biotechnology, 2012; Screening Committee of the R and D Program (Tuberculosis), Department of Biotechnology, 2012; AIIMS Project Review Committee for Intramural Funding; National Expert Committee on Diagnosis and Management of TB under RNTCP, since 2012; RNTCP National Workshop on Standards of TB Care, 2012; National DOTS PLUS Committee, since 2011; National Lab Committee of the Revised National TB Control Program, since 2011; High Level Meeting on Prevention and Management of Drug Resistant TB (DR-TB), 2012; National Committee of NRL/IRL Microbiologists under RNTCP on Laboratory issues, 2012; RNTCP Sub-committee for LED FM Microscopy Specifications; Committee for supporting RNTCP for Programmatic Management of Drug Resistant TB.

#### **VISITING SCIENTISTS**

1. Dr Wayne Sullender, Professor, Department of Pediatrics and Infectious Diseases, University of Colorado, USA, on various occasions in 2012-13 for collaborative projects in virology.
2. Dr Suresh Boppana, Professor, Department of Pediatrics and Infectious Diseases, University of Alabama at Birmingham, USA, in 2012–13, for collaborative project in virology.

## 9.20 Nephrology

### Professor and Head

Sanjay K. Agarwal

Sanjay Gupta

### Additional Professors

Dipankar M. Bhowmik

Sandeep Mahajan

### Assistant Professor

Soumita K. Bagchi

### HIGHLIGHTS

The department has increased capacity of the haemodialysis unit by running round the clock haemodialysis facilities. The department organized AIIMS–Brigham CME in Nephrology in New Delhi on 19-21 October 2012 in association with Brigham and Women Hospital Boston. International faculty from Boston, Mayo Clinic and Cincinnati and many national faculties were actively involved in this CME. We also organized a one day School Health Programme for Prevention of Kidney Disease. The department is now a recognized centre for training physicians for Haemodialysis course of IGNOU. The department completed five funded research projects during this period.

### EDUCATION

#### Long-term training

The department runs a DM Nephrology, 3-year degree course for post-MD (Medicine) candidates, selected by an all India entrance examination. Five candidates were admitted to DM course during this period. Postgraduates in internal medicine are posted on rotational basis for a short period of one to two months. At present the department has three junior residents for 6 months each.

#### Short-term training

The department provided short term training to the following:

1. Nikita Agarwal, University of Cambridge, elective for 3 weeks, 14 July to 3 August 2012 as part of her university requirement for completing bachelor of medicine degree.
2. Mr Aman Yadav, Ireland, elective for 12 days; 9-20 July 2012.
3. Senior residents enrolled for MCh Urology rotate through the department as part of their curriculum.
4. Residents from Paediatric Nephrology also attend discussions in Nephro-pathology conferences regularly.

### CME/Workshops/Symposia/National and International Conference

#### Organized by Department

- AIIMS–Brigham CME (ABC) in Nephrology in New Delhi on 19–21 October 2012 in association with Brigham and Women Hospital, Boston.
- School Health Program for Prevention of Kidney Disease 24 April 2012.

### Lectures delivered

S.K. Agarwal: 5

Sanjay Gupta: 2

D. Bhowmik: 8

Sandeep Mahajan: 9

### Papers presented: 6

### RESEARCH

#### Funded projects

##### Completed

1. A randomized double blind placebo controlled four arm parallel group multi-centric multinational trial comparing weekly intravenous administration of abetimus to weekly intravenous administration of placebo in patients with a history of SLE related renal disease. S.K. Agarwal, Lajolla Pharmaceutical Company, California, USA, 2007–12, Rs 12 lakhs.
2. Tacrolimus as an induction therapy for proliferative lupus nephritis. Sanjay Gupta, AIIMS, 3 years, 2010–12, Rs 1 lakh.

### ***Ongoing***

1. A randomized multi-centric, parallel, open label, active controlled, phase-III study to evaluate the clinical efficacy and safety of Kremezin on suppression of progression of Chronic Renal Failure, S.K. Agarwal, LG Life Sciences India, 2010–13, Rs 11.6 lakhs.
2. Multi-centric study to find out prevalence of chronic kidney disease in adults in urban Indian population, S.K. Agarwal, ICMR, 2012–15, Rs 90 lakhs.
3. Role of urinary NGAL in diagnoses of contrast induced nephropathy. Sanjay Gupta, AIIMS, 2012–13, Rs 5 lakhs.

### **Departmental projects**

#### ***Completed***

1. Proteinuria in Renal Transplant Recipient and Histopathological correlation
2. Tacrolimus as an induction therapy for proliferative lupus nephritis
3. Sleep disorders in ESRD and transplant patients

#### ***Ongoing***

1. To assess the impact of rifampicin based anti-tubercular therapy on hypertension in patients with CKD
2. To assess the course of chronic kidney disease care in India
3. Clinicopathological correlation of HBV and HCV infection in patients on renal replacement therapy
4. Impact of CsA and Tacrolimus on outcome of living related renal transplantation
5. Comparison of Tacrolimus and Mycophenolate mofetil as induction therapy in proliferative lupus nephritis
6. Role of urinary neutrophil gelatinase associated lipocalin in diagnoses of contrast induced nephropathy
7. A study of ambulatory blood pressure and home based blood pressure measurement in patients before and after renal transplant and its relation with markers of inflammation if any in Indian population.
8. Ambulatory blood pressure and clinic based blood pressure measurement in living kidney donors before and after nephrectomy – A short term follow-up study.
9. Evaluation of progression of carotid artery intimal medial thickness in chronic kidney disease patients not on dialysis and its correlation with endothelial dysfunction and biochemical parameters

### **Collaborative projects**

#### ***Completed***

1. Early detection of alloreactive T cells among patients undergoing renal transplantation (Transplant Immunology and Immunogenetics)

#### ***Ongoing***

1. Estimation of anti-oxidant in blood in renal and liver diseases (Laboratory Medicine).
2. Detection and genotyping of human cytomegalovirus from neonates and renal transplant recipients (Microbiology)
3. Molecular detection and characterization of Pneumocystis jiroveci in respiratory samples from the patients both immunocompromised as well immunocompetent with suspected interstitial pneumonia and other chronic lung diseases (Microbiology)
4. Podocyte epithelial mesenchymal transition in chronic allograft dysfunction associated with proteinuria: A immunohistochemical and electron microscopy study with clinicopathological correlation (Pathology)
5. To study the prevalence of UL 97 gene mutation in gancyclovir non-responders vis-a-vis responders in Indian renal transplant patients (Laboratory Medicine)
6. Prevalence of AKI in critically ill patients (Medicine)

### **PUBLICATIONS**

**Journals: 18**

## PATIENT CARE

S.No.	Area	Sub-heading	Numbers	
1	Hemodialysis related	Total HD New Patients	907	
		Emergency HD Patients	530	
		Total hemodialysis	10024	
		Plasmapheresis	192	
		Femoral Vein catherisation	589	
		Jugular / Subclavian catherisation	292	
		AV Shunts	3	
		AV Fistula	42	
		Permacath Insertion	22	
2		ICU Related	CRRT/SLED	68
3		Peritoneal Dialysis	Acute PD	125
	CAPD		38	
4	Indoor Related	Kidney Biopsy	512	
		Liver Biopsy	12	
		Indoor admission	1287	
		Nephrology consultation	3501	
		Ultrasound Abdomen	486	
5	Day Care Treatment	Pulse Methylprednisolone Tt	42	
		IV iron Therapy	166	
		IV Cyclophosphamide Therapy	18	
6	Renal Transplant	Evaluation of LRRT	483	
		Evaluation of Cadaver recipient	17	
		Living RT done	125	
		Cadaver RT done	10	
7	Renal Lab related	Blood sampling	39155	
		Biochemistry (Urea, Cr, Na, K)	64024	
		Urine osmolality	442	
		24 hr urine testing	8705	
		Hemogram for RT Patients	11769	
		CO <sub>2</sub>	9523	
		Serum iron	7991	
		TIBC	8123	
		UIBC	8089	
		T Saturation	7949	
		Serum Ferritin	4238	
8	OPD Related	Renal clinic new patient	6564	
		Renal clinic old patient	28973	
		RT counseling clinic (3 days/wk)	2613	
		RT new cases	200	
		RT old cases	4535	

### Community Service

1. Community Service Camp, Ramakrishna Mission Sevashrama, Virindavan.
2. Health Mela, Banka, Bihar.

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor S.K. Agarwal** was nominated by Ministry of Health and Family Welfare, Government of India as member of Technical Resource Group-I for Life Style Diseases in the context of Non Communicable Diseases to help formulate Guidelines on Policy and Technical Issues related to Chronic Kidney Disease, Organ and Tissue Transplant. Initiated Chronic Kidney Group Task Force, accepted by International Society of Nephrology to make a document for advocacy for CKD in different countries, including India. Founder member of International Society of Nephrology and –American Nephrologist of Indian Origin Committee for promoting nephrology care in India. Included as subject expert for the Education Website of International Society of Nephrology from Indian subcontinent. Member committee to review and finalize the intramural and extramural research projects under National Institute for Research in Environmental Health (NIREH) received by the NIREH/ICMR, New Delhi. Member of Ad-hoc-Postgraduate Super-Specialty Committee of Medical Council of India as appointed by the Board of Governors. Member of a High Powered Committee constituted under the direction of Hon. Court ‘to consider making the Bhopal Memorial Hospital & Research Centre, Bhopal a teaching institution’. Conferred Nephrology Chair and Balaji Gold Medal at Sri Venkateswara Institute of Medical Sciences, Tirupati.

**Dr Sanjay Gupta** was elected to be Governing Body Member of Indian Society of Organ Transplantation and Delhi Nephrology Society.

**Dr Dipanker M. Bhowmik** was elected as Joint Secretary and Treasurer of Delhi Nephrology Society.

## **VISITING SCIENTISTS**

1. Dr Sanjeev Sethi, Senior Consultant and Associate Professor Senior, Mayo Clinic, Department of Lab Medicine and Pathology, Rochester, USA visited the department 19–21 October 2012, and delivered talk and interacted with delegates in AIIMS Birgham course.
2. Esther J Kujvenhoves, dialysis nurse, from Onze Lieve Vrouwe Gasthuis, Amsterdam, The Netherlands, visited the department, on 4 September 2012, for a short exposure to the dialysis facility available in the Institute.
3. Dr Rajiv Saran, Professor of Medicine, Division of Nephrology and Associate Director, University of Michigan Kidney Epidemiology and Cost Centre, visited the department on 4 December 2012, and gave a guest lecture on ‘The importance of observational studies in the era of comparative effectiveness research’
4. A Japanese delegation consisting of Ms. Keiko Muramatsu, Tatsunori Nakashima, Professor Shouichi Fujimoto visited department in reference to the policy oriented research supported by Japan International Cooperation Agency (JICA) on non-communicable diseases (NCDs) with special focus on Dialysis Treatment in India.

## 9.21 Nuclear Magnetic Resonance

### Professor and Head

N.R. Jagannathan

### Additional Professor

Rama Jayasundar

### Associate Professor

S. Senthil Kumaran

### Assistant Professors

Uma Sharma

Virendra Kumar

### Scientist-I

Sujeet Kumar Mewar

Pawan Kumar

## EDUCATION

### Postgraduate

The faculty and scientists participated and delivered lectures for the course titled 'Structural Biology and NMR Technology' and 'Molecular Medicine' of MBiotech programme of the Department of Biotechnology, AIIMS.

The faculty participated in the theory and demonstration of the course on 'Higher mental functions: Techniques (fMRI) used and methodologies', for the Post-graduate training programme, Department of Physiology.

### Short/Long Term Training

Eight persons from medical and science disciplines from various Institutes and Universities from India and Afghanistan and BSc Radiography students, AIIMS, underwent training in MRI, fMRI and MRS techniques.

### Continuing Medical Education

The faculty organized a 'Workshop on in vivo MR Spectroscopy', 15–16 September 2012.

N.R. Jagannathan as Sectional President of the 'New Biology' and organized three day symposium on 'New Biology', 100th Indian Science Congress, Kolkata, 3–7 January 2013.

The faculty participated in and delivered several lectures in continuing medical education programmes, symposia, workshops, and conferences during the year.

### Lectures delivered

**N.R. Jagannathan: 8**

**Rama Jayasundar: 5**

**S. Senthil Kumaran: 2**

**Uma Sharma: 3**

**Virendra Kumar: 2**

### Symposia/ National and International conferences

Oral Presentations: 10

Poster Presentations: 23

## RESEARCH

### Funded projects

1. Spectroscopic analysis of medicinal plants, Dr Rama Jayasundar, Department of AYUSH, Ministry of Health and Family Welfare, Govt. of India, 2010–2013, Rs. 96.9 lakhs.
2. Neurocognitive changes associated with perception, spatial orientation, speech and language process in visually challenged subjects, using functional magnetic resonance imaging (fMRI), S. Senthil Kumaran, Department of Science and Technology (Cognitive Science Initiative), 2010–2013, Rs. 22.1 lakhs.
3. Metabonomics of Celiac Disease Using in-vitro NMR Spectroscopy, Uma Sharma and N. R. Jagannathan, Department of Biotechnology, 2011–2014, Rs. 33.63 lakhs.
4. Magnetic Resonance Spectroscopic Imaging (MRSI) and diffusion-weighted MRI (DW-MRI) in the non-invasive detection, assessment of treatment response and tumor metabolism in breast cancer, N. R. Jagannathan, Department of Science and Technology, 2008–2012, Rs 20.29 lakhs.

5. 700 MHz NMR Spectrometer for Biomedical Research, N. R. Jagannathan, Department of Science and Technology, 2008–2013, Rs 842.6 lakhs.

### **Departmental projects**

#### ***Ongoing***

1. Development of pulse sequence for *in vivo* simultaneous suppression of water and fat in breast cancer patients at 3T.
2. Body composition analysis using MR
3. MR spectroscopic analysis of medicinal plants

### **Collaborative projects**

#### ***Ongoing***

1. In-vivo and in-vitro MR spectroscopy studies of tissue extracts of prostate cancers (Urology and Pathology).
2. In-vitro MR spectroscopy of colon tissue in patients of IBD (GI Surgery).
3. In-vivo MR spectroscopy study of human breast carcinoma (Surgery, Radiotherapy and Pathology).
4. MRI for in-vivo tracking of iron oxide labeled embryonal stem cells in a rat model of heart failure (Cardiology, Cardiac-radiology, Physiology and Stem Cell Facility).
5. MRI of iron oxide nanoparticle formulation (Institute of Life Sciences, Bhubaneswar).
6. MRI/MRS studies to evaluate brain metabolism in patients with obsessive compulsive disorders (Psychiatry).
7. In-vitro MR spectroscopy of intestinal mucosa in patients with celiac disease (Gastroenterology and Human Nutrition).
8. MR imaging to evaluate the neuroprotective activity of drugs in the animal model of acute stroke (Pharmacology).
9. MR imaging studies on in evaluation of nanoparticles as contrast agents and targeted drug delivery (IIT, Delhi).
10. Role of MR spectroscopy in diagnosis of cancer of extremities (Orthopedics).
11. Body composition analysis using MRI, DEXA and BIA and correlation with diabetic risk factors (Endocrinology and Lab Medicine).
12. Spectroscopic analysis of medicinal plants using NMR, UV and FT-IR (Ocular Pharmacology, Dr RP Centre).
13. Spectroscopic analysis and evaluation of anti-oxidant properties of medicinal plants (Ocular Pharmacology, Dr RP Centre)
14. Predicting functional outcome after acute stroke: evaluation of a module of clinic-radiological parameters and growth factors in Asian Indians, (Neurology, DST funded).
15. Mapping neurophysiological, neurochemical and cerebral blood flow changes in attentional processes related to yoga (S-VYASA University, Bangalore, DST–CSI funded).
16. Cognitive activation studies of language and memory as a preoperative evaluation in patients with intractable epilepsy – A novel noninvasive method for investigation, (Neurology and Neuro-Surgery, DST–CSI funded).
17. Role of human umbilical cord blood stem cells and neural stem cells in neuronal regeneration and functional restoration: A comparative study in male adult rats with acute spinal cord injuries, (Neuro-Surgery, DBT funded).
18. Comparison of constrained induced movement therapy and electrical simulation for patients with chronic stroke measured on disability outcome scales and functional imaging, (Neurology, ICMR funded).
19. Study of paracrine mechanisms of autologous mononuclear stem cells in chronic ischemic stroke using biofunctional markers, (Neurology and Neuro-Surgery, CSIR funded).
20. MRI/MRS studies to evaluate brain metabolism in patients with obsessive compulsive disorders (Psychiatry).
21. In-vitro MR spectroscopy of intestinal mucosa in patients with celiac disease (Gastroenterology and Human Nutrition).
22. *In vivo* MR spectroscopy study of human breast carcinoma (Surgery).
23. MR imaging to evaluate the neuroprotective activity of drugs in the animal model of acute stroke (Pharmacology).
24. MRS studies of soft tissue sarcoma (Surgical Oncology, IRCH).
25. Stress induced alterations in the metabolic profile of human monocytes (Biotechnology).

26. Proton NMR based Metabonomic Study of the Developing Auditory Cortex of Chicks Exposed to Chronic High Decibel Noise (Anatomy).

## PUBLICATIONS

**Journals: 22**

**Chapters in Books: 1**

## PATIENT CARE

The department has three whole body MRI scanners (two 1.5 Tesla and one 3.0 Tesla) for patient care and research. The department provides more than twelve hours per day of patient care MRI services. The details of the number of patients scanned during April 2012 to March 2013 are:

Clinical MRI scan	6014 patients	Research	563 patients and subjects
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## Other Experimental Facilities

The department has one 16.4 Tesla High Resolution NMR Spectrometer. More than 1000 samples of serum/plasma/CSF/tissue have been studied.

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor N. R. Jagannathan** is currently President, Asian Biophysics Association (ABA); Sectional President, 'New Biology' section for 100th Indian Science Congress, Kolkata, January 2013; Awarded Achanta Lakshmi pathi Oration for outstanding contributions in the field of Magnetic Resonance Imaging of cancer of the National Academy of Medical Sciences, India, October 2012; Member, Editorial Board, following international journals: (i) *MAGMA (Magnetic Resonance Materials in Physics, Biology and Medicine)*; (ii) *Magnetic Resonance Insights*; (iii) Deputy Editor, *Neuroscience Imaging*; (iv) *NMR Biomedicine*; (v) *Magnetic Resonance Imaging*; (vi) *Biomedical Spectroscopy & Imaging*; (vii) *Biophysical Reviews*. Distinguished Reviewer of Journal of Magnetic Resonance Imaging (Wiley International), 2012; elected member, executive council, International Union of Pure and Applied Biophysics (IUPAB) (2008–14); member, steering committee, Asian Biophysics Association (ABA); council member of the International Conference on Magnetic Resonance in Biological Systems (ICMRBS), USA; member of the Programme Advisory Committee (PAC), Section for Biochemistry, Biophysics and Molecular Biology, DST, Government of India; member of the Steering Committee of the Sophisticated Instruments facilities (SAIFs) of DST, Government of India; member, FIST Committee of DST, Government of India; member of the PURSE Committee of DST; coordinator of the expert panel on 'Biomedical Devices and Bioengineering', Life Sciences Research Board (LSRB), DRDO; member, INSA committee for International Union of Pure and Applied Biophysics (IUPAB); member, Management Advisory Committee (MAC) of Sophisticated Instruments Facility, CDRI, Lucknow; member, MAC, Sophisticated Instruments Facility (SAIF), Indian Institute of Science, Bangalore; Member, Scientific Advisory Committee, Biosciences and Bioengineering (BSBE) Group, Indian Institute of Technology Indore (IIT), Indore; Member, Research Council (RC), Institute for Nuclear Medicine & Allied Sciences, INMAS, DRDO; Member, Science Advisory Council (SAC), National Brain Research Centre (NBRC), Manesar, Haryana.

**Dr Rama Jayasundar** was awarded GCIM Oration, Sri Ramachandra Medical University, Chennai, India, 2012; invited to contribute an article to the Plenary Session on 'Complexity and Analogy in Science', Pontificia Academia Scientiarum, Vatican, 2012.

**Dr Virendra Kumar** is a Reviewer for NMR in Biomedicine, and International Journal of Computer Assisted Radiology and Surgery.

## 9.22 Nuclear Medicine

### Professor and Head

A. Malhotra

### Professors

C.S. Bal

Rakesh Kumar

### Additional Professor

Chetan D Patel (CNC)

### Assistant Professors

Madhavi Tripathi

Anil K Pandey

### EDUCATION

The faculty of the department participated in and delivered 30 lectures in continuing medical education programme, workshops, symposia and annual conferences during the year.

### RESEARCH

#### Completed

1. Cost effective differentiation diagnosis in lung cancer using PET generator based radiopharmaceuticals. Rakesh Kumar, International Atomic Energy Agency (IAEA), Vienna, Austria, 2008–11.

#### Ongoing

1. Early evaluation of treatment response of Neo-adjuvant chemotherapy in locally advanced Breast Cancer patients using Tumor Burden estimation by PET-CT and correlation with CD 34 and VEGF expression. Rakesh Kumar, ICMR, 2010–13.

### PUBLICATIONS

**Journals: 53    Chapters in books: 4**

### PATIENT CARE

Radionuclide Investigations

Investigation	Number		
Radioactive Iodine Uptake (RAIU)	3043	Perchlorate Discharge Test	95
I- <sup>131</sup> Whole Body Scan	250	Dimercaptosuccinic Acid Scans	914
Ca-thyroid I- <sup>131</sup> Whole Body Scan	250	Thyrotoxicosis	277
DTPA/LLEC <sup>99m</sup> Tc renal dynamic scan	2002	Gastro Esophagus Reflux	279
Direct Radionuclide Cystourethrography	333	Golumlar Filtration Rate	2406
Bone Scan	2327	<sup>99m</sup> Tc HIDA (Hepatobiliary)	283
Thyroid Scan	293	Liver Scan	13
Meckel's Study	20	Gastro Intestinal Bleed	16
Lymphoscintigraphy	54	MIBG (diagnostic and therapeutic)	287
<sup>153</sup> Samarium bone pain palliation	35	Parathyroid scan	100
SPECT-CT/CT	746	Sentinel lymph node	118
Cardiac Investigation	3039	Brain SPECT	483
PET-CT Whole Body (including Ga)	6456	Brain Gluocopheptonate (GHA)	27
Inpatient (New Patient)	506	(Total Therapy)	680
New investigations started:			
Tc-99m-HYNIC-TOC Scintigraphy	5	Tc-99m TRODAT scintigraphy	30

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Rakesh Kumar** AIIMS Excellence Award 2012 for research paper titled 'Role of <sup>68</sup>Ga-DOTATOC PET-CT in the diagnosis and staging of pancreatic neuroendocrine tumours. *Eur Radiol.* 2011;**21**:2408–16.'

## 9.23 Obstetrics and Gynaecology

### Professor and Head

Alka Kriplani

### Professors

Sunesh Kumar  
K.K. Roy

Deepika Deka  
Neena Malhotra  
Nutan Agarwal

Neerja Bhatla  
Vatsla Dadhwal

### Additional Professors

J.B. Sharma

Neeta Singh

### Assistant Professors

Aparna Sharma  
Garima Kachhawa

Reeta Mahey  
P. Vanamail

### Scientists

Rohiini Sehgal

A. Chandra Tiwari

## EDUCATION

### Undergraduate, Postgraduate, Paramedical

Delhi Post Graduate Medical Education Forum (Department of Obstetrics and Gynaecology) organizes monthly meetings for postgraduate training since 2001. These are to supplement training of postgraduates in clinical and surgical skills, problem oriented approach to obstetrics and gynaecology, protocols and guidelines, case presentations and discussions. Invited faculty from various academic and teaching institutions of Delhi as well as international faculty contribute towards this programme.

### Short term and Long term training

The Department offers short and long term training in various subspecialty areas such as Gynaecological Endoscopy Surgery, High Risk Pregnancy, Gynaecology Oncology Ultrasonography and Infertility. During the year we had trainees in various specialties. These were Dr Apratim Mohan Debbarma and Dr Smita Punia from AGMC, Agartala (1 March to 30 April 2013), Ms Anita Mohan from Pakistan (27 March 2012 to 26 March 2013), Dr Ruchi Tandon (Kapur) for Infertility/IVF (1–28 January 2013), FOGSI Ethicon Travelling Fellowship, Dr Poonam Kumari, New Delhi short term training in Gynaecological Oncology (3 October to 1 November 2012), Lt. Col. Madhusudan Dey long term training in Maternofoetal Medicine (9 April 2012 to 8 April 2013), Dr Anjuman Ara Begum, Bangladesh in Reproductive Medicine and Infertility CVF (ART) and Endoscopy (1 October 2012 to 31 July 2013), Dr Nighat Firdous from Srinagar (3 February to 9 March 2013) in Operative Laparoscopy, Dr Prabti Jyaswal in IVF (21 March to 20 April 2012), Dr Swati Agarwal in Endoscopy (9 April to 6 May 2012) and Dr Tanna S. Das from Delhi in Infertility (2 July to 30 September 2012).

### Elective training

1. Ms Manon Jaboyedoff, 1–28 February 2013
2. Mr Isabelle Beuchat, 1–28 February 2013
3. Mr Hai Felix, Medical University of Vienna, Austria, 3–23 December 2012

### CME, Workshop and Seminars, National and International Conference

#### Organized

1. Preconference Workshop 'Conducting and publishing Clinical and Research Trials: Any one can do it', 1 September 2012, Apollo Hospital, New Delhi.
2. The 18th WHI training course on Minimally Invasive Surgery, Department of Obstetrics and Gynecology, AIIMS, New Delhi.
3. Seven day interactive live workshop at ART centre of AIIMS with team from Bristol Centre of Reproductive Medicine, UK, 29 Oct–4 Nov 2012.

**Lectures delivered****Alka Kriplani: 37****KK Roy: 5****JB Sharma: 15****Sunesh Kumar: 3****Neena Malhotra: 15****Neeta Singh: 3****Dipika Deka: 9****Vatsla Dhadwal: 8****Garima Kachhawa: 3****Neerja Bhatla: 15****Nutan Agarwal: 2****P. Vanamail: 1****Papers presented: 30****RESEARCH****Funded projects****Ongoing**

1. Role of antitubercular treatment for positive endometrial aspirate DNA PCR on reproductive outcome in infertile patients in Indian setting – a randomized trial. Alka Kriplani, ICMR, 2010–13, Rs. 8.9 lakhs.
2. Phase-IIb clinical trial on selected strains of probiotic lactobacilli packed as tablet for colonization potential and efficacy against recurrence of bacterial vaginosis. Alka Kriplani, DBT, 2009–13, Rs 11.8 lakhs.
3. Effectiveness and safety of 2 vs 3 doses of HPV vaccine in preventing cervical cancer: An Indian Multi-centre randomized trial. Neerja Bhatla, WHO-IARC, 2009–14, US \$65,000.
4. A phase III clinical trial to demonstrate the immunogenicity, tolerability, and manufacturing consistency of V503 (A multivalent human papillomavirus [HPV] L1 virus-like particle [VLP] vaccine) in preadolescents and adolescents (9 to 15 year olds), with a comparison to young women (16 to 26 year olds), Neerja Bhatla, MSD Pharmaceuticals, 2010–13, Rs. 8.8 lakhs
5. Early detection of cervical neoplasia by visual screening and hybrid capture testing by self and physician collection methodology – A community based study in rural area. Neerja Bhatla, Qiagen India, 2010–13, Rs 5,46,327.
6. WHO-AIIMS study for the development of growth standards from fetal life to childhood: the fetal component: Vatsla Dhadwal, WHO.
7. Amniotic fluid oxidative status and functional genomic analysis in normal fetuses and fetuses with congenital anomalies. Vatsla Dhadwal, AIIMS, 1 year, Rs 5 lakhs.
8. Study of treatment of Genital TB: A randomized controlled trial of either discontinuation at 6 month or continuation till 9 months after initial response to 6 months RNTCP Category I treatment. JB Sharma, Central TB Division, Ministry of Health, Govt. of India, 5 years, Rs 4.2 lakhs.
9. Effects of non-ionizing electro-magnetic field (EMF) on human health, ICMR, 5 years, J.B. Sharma, Rs 32.4 lakhs.
10. A randomized open label comparative study of safety and efficacy of metformin and subcutaneous insulin in Asian women with gestational diabetes. Neeta Singh, ICMR, Rs. 29.53 lakhs.
11. Role of sub-endometrial implantation of autologous stem cells in women with Asherman's syndrome – A pilot study. Neeta Singh, AIIMS, Rs. 5 lakhs.
12. Impact of local endometrial trauma on the outcome of IVF in women with previous failed implantation: Exploring the genome wide transcriptomic basis. Neeta Singh, AIIMS, 2 years, Rs 5 lakhs.
13. To study the role of Coenzyme Q<sub>10</sub> on oxidative stress markers and proinflammatory markers and its implications on anti-phospholipid mediated/idiopathic recurrent miscarriage. Aparna Sharma, AIIMS, Rs. 10 lakhs.
14. Evaluation of vascular endothelial function by physiological and biochemical markers in women with preeclampsia versus normal healthy pregnancies. Garima Kachhawa, AIIMS, 2 years, 2012–14. Rs. 5 lakhs.

**Completed**

1. Evaluation of efficacy and anti-inflammatory action of Placentex™ in women with inflammatory Pap smears. Neerja Bhatla, Albert David, 3 years, 2010–13, Rs. 3.75 lakhs.

**Departmental projects****Completed**

1. Prediction of preterm delivery by detection of fetal fibronectin in cervicovaginal secretions by quikcheck® FFN test strip and by ELISA technique and comparison of two method.
2. A comparison of treatment outcome in familial and non-familial epithelial ovarian cancer.

### **Ongoing**

1. A comparison of outcome of trial of labour after previous two caesarean sections versus previous one caesarean section.
2. Comparison of strength of association of Reid's Colposcopic Index vs Swede score with histology in colposcopic guided biopsy.
3. A study of Acceptability, Feasibility and Efficacy of Cervical Screening during Pregnancy.
4. Comparison of expulsion and complication rates of IUCD in immediate and interval insertion.
5. The role of amniotic fluid oxidative stress in congenital anomalies.
6. A prospective randomized clinical study to compare the efficacy of Ethinyl Estradiol-Drospirenone combination plus Metformin versus Ethinyl Estradiol-Drospirenone combination plus placebo on Vascular Function in Young Asian-Indian subjects with Polycystic Ovary Syndrome.
7. Evaluation of Vascular Endothelial function in early Pregnancy by biophysical and biochemical markers and correlate with development of preeclampsia in later pregnancy.
8. To study ovarian reserve after Laparoscopic Endometriotic Cystectomy and to Correlate the effect of post cystectomy Ovarian Suppression with Fertility Outcome: A Randomised Controlled Trial.

### **Collaborative projects**

#### **Ongoing**

1. Weekly paclitaxel in combination with carboplatin every 3 weeks for advanced epithelial ovarian cancer: A phase 3 randomized study (Medical Oncology, IRCH).
2. Cross-sectional study of cord blood immune markers in term appropriate for gestational age and small for gestation age neonates (Paediatrics)
3. Optimisation of HPV detection by Hybrid Capture-II for use on DNA extracted from cytology smears: A method suitable for developing countries (Pathology).
4. To evaluate the effect of Metformin versus Placebo as an Add-on Therapy in patients with recurrent epithelial ovarian cancer receiving chemotherapy: A double blind randomized controlled clinical trial (Medical Oncology, IRCH).
5. Patterns of care for Cervical Cancers in India (Radiation Oncology, IRCH).
6. Maternal, perinatal and neonatal sciences (Paediatrics).
7. Endoplasmic reticulum stress in preeclampsia: An in vitro study (Anatomy).
8. Prevention of Type II diabetes in women with gestational diabetes mellitus in urban India: A feasibility study (Endocrinology and Metabolism).

### **PUBLICATIONS**

**Journals: 64**

**Chapter in books: 8**

**Books: 1**

### **POST-PARTUM PROGRAMME**

The Post Partum Programme (PPP) is a mandatory central hospital-based approach to the family welfare programme by providing a package of RCH and family welfare services in the vicinity of the hospital as well as in the field practice areas. It is run as an integrated multidisciplinary exercise where the Department of Obstetrics and Gynaecology coordinates with the Departments of Paediatrics, Community Medicine, Surgery and Anaesthesiology.

Table I. Achievements of different family planning methods, post partum programme

Methods	Previous year (2011–12)	Current year (2012–13)	Improvement in performance (%)
CuT	514	587	14
Oral pills	420 packets	682 pkts	62
Conventional contraceptives	1,20,000 pieces	1,20,000 pieces	–
<i>Sterilization</i>			
Tubectomy	875	940	7
Vasectomy	27	14	–

Table II. Maternal and child health (MCH) performance

Services	Previous year (2011–12)	Current year (2012–13)	Improvement (%)
<b>Pregnant women</b>			
TT 1st Dose	2011	1601	-
TT 2nd Dose	1987	1302	-
<b>Children (0–1 year) immunization</b>			
<b>DPT 3rd dose</b>			
Males	584	632	8.2
Females	471	486	3.2
<b>Polio 3rd dose</b>			
Males	584	632	8.2
Females	471	486	3.2
<b>BCG</b>			
Males	1470	1565	6.5
Females	1248	1277	2.3
<b>Measles</b>			
Males	731	766	4.8
Females	534	534	–
DT (<5 years)	Not administered	Not administered	–

Clinics	Number of times/week	Patient attendance	
		New	Old
General OPD	6	33373	62132
High risk pregnancy	3	2992	18186
Gynaecological endocrine	3	56	83
Gynaecological cancer	2	687	2876
Post natal	3	Nil	Nil
Medical termination of pregnancy	6	787	–
Family welfare	6	8776	5673

**List of operations performed****Gynaecological***Major*

Surgery for benign diseases	1580	Oncology surgery	287
Infertility	975		
Endoscopy surgeries:			
Laparoscopy+Hysteroscopy	762		
Plastic surgery	39		

*Minor*

D&C/EA	1248	Colposcopy/cryo/LEEP	274
Diagnostic hysteroscopy	1315	MTP	787
Pap's smear	4206	Cervical biopsies	320

**Obstetrics***Major*

LSCS	945		
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*Minor*

Forceps deliveries	126	Normal vaginal deliveries	1282
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**Foetal Medicine**

Cordocentesis	78	Chorionic villus sampling	216
Amniocentesis	24	In-utero infusion	138

**High risk obstetrics**

Obstetric ultrasound	3621	NST	2746
BPP	1500		
Gynae Ultrasound	8033		

Ovarian cyst aspirations	19		
<b>Laboratory investigation</b>			
Urine pregnancy test	2992	Haemoglobin	2992
Blood groups	2393	Urine albumin/sugar	2992

### AWARDS, HONOURS AND SIGNIFICANT ACHIEVEMENTS

**Professor Alka Kriplani** is Director in-charge WHO HRCC and Family Planning, President GESI (Gynecological Endocrine Society of India) 2011–continuing; President AOGD (Association of Obstetricians and Gynaecologists of Delhi) 2013–14; Member Governing Council ICOG (Indian College of Obstetricians and Gynaecologists) 2008 – continuing; Editor, Asian Journal of Obstetrics and Gynaecology practice 1999 – continuing; Chairman Endoscopy Training Programme, AIIMS; Awards to co-authored award to research work: Co-guide for the thesis, Comparison of Glibenclamide (Glyburide) and Insulin for glycemic control, obstetrical and perinatal outcome in diabetes mellitus during pregnancy The postgraduate was awarded Smt. Leelawati Salwan award for the JR for best research in the field of Obstetrics and Gynaecology, 2012 (Dr Rajgopal P. Menon).

**Professor Sunesh Kumar** attended (i) Live Workshop and CME on ‘Gynae Oncology’, Chandigarh, 18–19 August 2012; (ii) 15th Practical Course and CME in Obstetrics and Gynaecology, New Delhi, 7 October 2012; (iii) Second meeting of ICMR Sub-Committee on Cancer Cervix, Hyderabad, 20 June 2012; (iv) 4th meeting of DSMB in Curcumin Clinical Trial in CaCx Cancer, DBT, New Delhi, 22 June 2012; (v) Selection Committee Meeting for the selection of faculty (Obst/Gynae), University of Health Sciences, Rohtak, 28 August 2012; (vi) Doctor’s Committee meeting of PhD students, Ms Salam Gyanashwori Devi, MAMC, New Delhi, 20 November 2012; (vii) Council Committee meeting, AIIMS, 26 November, 2012; (viii) Fellowship meeting, Division of Nutrition, ICMR Campus, Near Parliament House, New Delhi, 30 November 2012; (ix) Expert, Standing Selection Committee meeting, PGIMER, Chandigarh, 16 December 2012; (x) Selection Committee meeting for 6 New AIIMS under PMSSY at NIHF, Munirka.

**Professor Neerja Bhatla** received Young Scientist Travel Award for Oral Presentation at 2012 Conference of Asia Oceania Research Organisation on Genital Infections and Neoplasia (AOGIN 2012) at Hong Kong: Efficacy of human placental extract and lycopene in clearing inflammatory PAP smears and cervical ectropion; Secretary, AIIMSONIANS, 2012–14; Elected Member, Nominating Committee of International Gynecologic Cancer Society (IGCS), 2012–14; Nominated Member, Gynae Oncology Committee, International Federation of Gynaecology and Obstetrics (FIGO), 2012–15; Vice President, AOGD, 2013–14; Chaired session on Preventive Oncology, 11th World Congress NARCHI 2012 and 19th Indian Conference on ‘Reproductive and Child Health’, 15 September 2012, New Delhi; Faculty in VIIIth National Conference of the Indian Society of Colposcopy and Cervical Pathology (ISCCP-2013), 23–24 March 2013, Mumbai; Delivered following public lectures: Invitation of experts – Swastha Bharat Programme, Doordarshan, 3 December 2012; Menopausal Problems and Cervical Cancer Prevention, Lecture for Rotary Club of Bombay Harbour, Inner Wheel Club, Mumbai, 18 January 2013; Talk on Uterine Cancers on Doordarshan, 3 January 2013; Menstrual Hygiene on Bloomberg News, 11 February 2013; Webchat on Cervical Cancer on International Women’s Day, 8 March 2013

**Professor KK Roy** chaired a session in 38th Annual Conference of the Bengal Obstetrics and Gynaecology Society, 22–23 December 2012, Kolkata.

**Dr Nutan Aggarwal** was awarded Leelawati award as chief guide for best thesis candidate (Rajgopal)

**Dr J.B. Sharma** was Examiner in DGO Exam, Maulana Azad Medical College, New Delhi; Conducted MRCOG Part I and II Examinations; Antenatal Care for general audience, Trade Fair Exhibition, 24 November 2012, New Delhi; Chaired a session on ‘Fetal Medicine’ in CME Program on Women’s Health: The Changing Trends, on 3 November 2012, BL Kapur Hospital New Delhi.

**Dr Garima Kachhawa** won the DSL Prize for 2012 for the Best Poster Presentation for Gene analysis of POU1F1 and PROP1 and prenatal diagnosis in combined pituitary hormone deficiency. Birla Shweta, Kachhawa Garima, Sharma Arundhati, Jora Rakesh, Khadgawat Rajesh. Annual Conference of Endocrine Society of India (ESICON 2012), 13–15 December 2012, Kolkata, India; Was awarded Senior Fulbright-Nehru Research scholarship 2012, United States-India Educational Foundation for ‘To evaluate the metabolic and hemodynamic status of pregnant diabetics and its relationship to pregnancy outcomes in India and to compare it to that of non-diabetics cohort’.

## 9.24 Orthopaedics

### Professor and Head

Prakash P. Kotwal

### Professor

Shishir Rastogi  
Rajesh Malhotra

Arvind Jayaswal  
Hira Lal Nag

### Additional Professor

Ravi Mittal

Chandra Shekhar Yadav

Shah Alam Khan

### Associate Professor

Vijay Kumar

### Assistant Professor

Bhavuk Garg

## EDUCATION

Training in 'Sports Medicine and Arthroscopy' in the Department of Orthopedics.

## CMEs/Workshops/Symposia/National and International Conferences

### Organized

1. Workshop on Advanced Spine at the Golden Jubilee Congress of the Asia Pacific Orthopaedics Association (AOPA), 3–6 October 2012, New Delhi (Arvind Jayaswal).
2. Complex Primary Hip Workshop, 8 June 2012, Delhi (Rajesh Malhotra).
3. AIIMS Osteoporosis Update, 28 July 2012, New Delhi (Rajesh Malhotra).
4. Bone and Joint Day. 4 August 2012, New Delhi (Rajesh Malhotra).
5. CME – Musculoskeletal Imaging, 5 August 2012, New Delhi (Rajesh Malhotra).
6. Navigated THA Cadaveric Workshop 2012, 17 August 2012, New Delhi (Rajesh Malhotra).
7. Current Concepts in Arthroplasty 2012, 18–19 August 2012, New Delhi (Rajesh Malhotra).
8. Workshop on Revision Hip Replacement, 3–8 October 2012, New Delhi (Rajesh Malhotra).
9. Oxford Partial Knee Replacement-Instructional Course, 7 December 2012, New Delhi (Rajesh Malhotra).
10. 1st AIIMS Arthroplasty Update, 30 December 2012, New Delhi (C.S. Yadav).
11. AIIMS Cadaver Arthroplasty Course on Total Hip Arthroplasty, 31 March and 1 April 2012, New Delhi (C.S. Yadav).
12. Delhi Orthopedic Association PG teaching course, January 2013, New Delhi (Bhavuk Garg).

### Lectures delivered

P.P. Kotwal: 30

Shishir Rastogi: 16

Arvind Jayaswal: 26

Rajesh Malhotra: 26

H.L. Nag: 10

C.S. Yadav: 22

Ravi Mittal: 28

Shah Alam Khan: 33

Bhavuk Garg: 6

### Oral/Poster Presentations: 14

## RESEARCH

### Funded projects

#### Completed

1. A new hip hemiarthroplasty option based on femoral stem design suitable for the morphology of proximal femur of elderly Indian population. Rajesh Malhotra, CSIR, 2005–12, Rs 30.33 lakhs.

#### Ongoing

1. Database of scoliosis patient. Arvind Jayaswal, ICMR, 2010–14, Rs 17.65 lakhs.

2. Evaluation of cytokines in patients undergoing total hip replacement and their correlation with osteolysis. Rajesh Malhotra, ICMR, 2009–13, Rs 20 lakhs.
3. Assessment of the influence of Birmingham Mid Head Resection Arthroplasty on proximal femoral bone mineral density by serial DEXA scans and comparison of Birmingham Mid Head Resection Arthroplasty. Rajesh Malhotra, ICMR, 2011–14, Rs 27.5 lakhs.
4. Abdomen/Thorax model build/validation. Rajesh Malhotra, Indian Institute of Technology, Rs 5 lakhs.
5. An observational study to assess back pain in patients with severe osteoporosis treated with teriparatide versus antiresorptives. Rajesh Malhotra, Eli-Lilly, 2008–13, Rs 4.20 lakhs.
6. Anthropometric evaluation of a new Asian specific knee prosthesis – The Genesis II Slim. Rajesh Malhotra, Smith & Nephew, 2011–13, Rs 14 lakhs.
7. A multi-centre, prospective, uncontrolled post market clinical follow-up study (PMCFs) to monitor the survival and performance of the Delta Motion Cup System in subjects requiring a total hip replacement. Rajesh Malhotra, Johnson & Johnson Medical, 2012–15, Rs 15.50 lakhs.
8. Prospective randomized trial of efficacy and safety of 6 month vs 9 months DOTS in extra spinal osteoarticular TB, CS Yadav, Ministry of Health, Govt. of India,

### Departmental projects

#### *Completed*

1. Arthroscopic elbow synovectomy in rheumatoid arthritis- Long term follow up of more than 2 years
2. Role of NMR spectroscopy in recurrent and aggressive GCT- a clinical pathological and radiological correlation

#### *Ongoing*

1. Evaluation of femoral footprint and femoral tunnel of ACL
2. Efficacy and safety of Lawsonia intermis, Colchicum luteum, Terminella chebula in experimental model of arthritis.
3. A study of establish the role of T-helper 17 (Th-17) cells in Asian Indian arthritis patients.
4. Efficacy and safety of Gloriosa superb, Berberis aristata, Cissus quadrangularis in experimental models of arthritis rats.

### Collaborative projects

1. Biodegradable polymer composite bone scaffolds by microcellular injection mould technique. Shah Alam Khan, DST (with IIT, Delhi)

### PUBLICATIONS

**Journals: 23**

**Chapters in books: 26**

**Books: 3**

### PATIENT CARE

#### **H.L. Nag**

1. ‘Sports Clinic’ is held once a week, on Thursday afternoon, at OPD of Department of Orthopaedics to cater the needs of the injured athletes and sports personnel.
2. Attendsto the athletes and sports personnel once a week on Monday afternoon at Medical Centre, Sports Authority of India, JL Nehru Stadium.

#### **Bhavuk Garg**

1. Delivered orthopaedic surgical care to patients during 3-day camp at Lifeline Express train in Shivpuri (MP), 22–25 March 2013.

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor P.P. Kotwal** was **Chairman**, Committee for creation of Centre for Emergency Medicine and Acute Care (CEMAC) at AIIMS, 2012; Vidyalaya Management Committee of Kendriya Vidyalaya, INA Colony, New Delhi; Selection Committee, constituted by the Director, National Centre for Antarctic and Ocean Research, Goa, to select Medical Officers for Indian Expedition to Antarctica; **Elected Vice President** of the Indian Society for Surgery of the Hand; **Member**, selection committee constituted by Director, Rajendra Institute of Medical Sciences, Ranchi to select faculty for Department of Orthopaedics, and Physical Medicine

and Rehabilitation; Selection Committee for the post of Associate Professor at Pt. B.D. Sharma University of Health Sciences, Rohtak; Governing body, Automobile Association of Upper India; Advisory Panel for rating candidates for Fellowship/Membership of National Academy of Medical Sciences, 2011–12; Project Review and Monitoring Committee (PRMC) constituted by Technology Development Board (TDB) under DST, New Delhi, to review the project 'MedRc Smarteach Healthcare E-learning Solution'; Indian Society for Bone and Mineral Research, 2012; Committee to start MS Course in Trauma and Acute Care Surgery at AIIMS; Expert Group of ICMR to discuss and monitor the project entitled 'Multicentric trial to study the effect of early active mobilization as compared to 3 weeks immobilization following tendon transfer procedures for claw hand'; Special Medical Board, Indian Institute of Technology; Delivered Radio Talk on 'Joints Pains and Rheumatic Problems' in Swath Bharat Programme on 2 March 2013; Trustee of AO Foundation, Switzerland: Attended the AO Trustees' Meeting at Davos, Switzerland, in the capacity of AO Trustee India.

**Professor Shishir Rastogi** was Subject Expert in Selection of faculty in new six AIIMS; MCI assessment carried out at Chhatrapati Sahuji Maharaj Medical College, Lucknow; Member, undergraduate Board of studies at PGIMS, Rohtak; Examiner of PG courses (i) Aligarh Muslim University (ii) Allahabad University (iii) Lucknow Medical College, (iv) Subharti Medical College, Meerut, (v) MGRM University Chennai (vi) CMC Vellore, and (vii) Govt. Medical College, Chennai;

**Professor Arvind Jayaswal** received Life Time Achievement in Spine Surgery, felicitation by the Spinal Cord Society at New Delhi; President of WENMISS – World Society for Endoscopic, Navigated and Minimally Invasive Spine Surgery (2011–13); Vice-chairman, Spine Section of Asia Pacific Orthopaedics Association (APOA) (2011–13); Visiting Professor Engineering Centre for Orthopaedics Research Excellence (E-core) and Department of Bioengineering and Orthopaedics Surgery, University of Toledo, Ohio, USA; Invited faculty and delivered Guest Lectures at International Spine Conferences, Fukuoka, Japan; Kuala Lumpur, Malaysia; Bandung, Indonesia; Colombo, Sri Lanka; Aichi Japan; Demonstrated Specialized Spine Surgery Live at Bangalore; Bandung, Indonesia; Colombo, Sri Lanka; External Foreign Examiner to the Combined Professional Examination for Master of Medicine (Orthopaedics) for all Universities of Malaysia at Kuala Lumpur, Malaysia; Resource Person for Organization of International Symposium on Management of Idiopathic Scoliosis at 7th Biennial Conference of OASAC 2012 and Annual Academic Sessions of Sri Lanka Orthopaedics Association Colombo, Sri Lanka; Coordinator and Resource Person for Pre Conference Workshop on Posterior Correction of Adolescent Idiopathic Scoliosis, Annual Conference of North East Orthopaedics Surgeons Association (NEOSCON 2013) Dibrugarh, Assam; Extending the Boundaries in Minimally Invasive Spine Surgery, Dr Dinu Bhai Patel Oration 2012 at Annual Conference of Association of Spine Surgeons of Gujarat (ASSG2012), Ahmadabad.

**Professor Rajesh Malhotra** was Awarded Fellowship of Royal College of Physicians and Surgeons of Glasgow, UK, FRCS (Glas); Visiting Professor, University of Lukas-Krankenhaus Bunde, Germany; K. Saha, Eponymous Lecture on 'Osteoporotic Hip fractures – Are we heading for a disaster?', during IOACON 2012, Chennai; International collaboration: MTU (Michigan Technology University) Design of a low cost, energy efficient pneumatic prosthetic knee joint. Design finalized. Ready for use in April 2013; National Collaboration: Involved in Design of Hip Protector for Prevention of Osteoporotic Hip Fracture in Elderly; Won Third Prize in Hindi Debate during Hindi Week in 2012, AIIMS, New Delhi; Judge for Hindi Kavita Pratiyogita during Hindi Week in September 2013, AIIMS, New Delhi; Co-opted member for Ministry of Health (MOH) Committee for fifth year plan for Musculoskeletal Health at New Delhi; Chairman, Subcommittee to formulate guidelines for Osteosarcoma and Ewing's sarcoma in task force on Musculoskeletal cancers constituted by Committee successfully drafted guidelines and submitted to ICMR; Expert for Centre of Excellence for Fluorosis Research and Mitigation of the Disease submitted to ICMR by Fluorosis Foundation of India, Centre for Promotion of Nutrition Research and Training, with special focus on North-east, Tribal and Inaccessible population, ICMR, New Delhi; Chairman Government Relations Committee of Indian Orthopedic Association; Chairman, Committee constituted by President IOA to improve orthopedic training during MBBS; Executive member Delhi Orthopaedic Association (DOA); Convenor Orthopaedic Initiative, Indian Society for Bone and Mineral Research; Executive member Indian Orthopaedic Association (IOA); President DOA 2011–12.

**Professor H.L. Nag** was Member, Selection Committee for recruitment to post of operation theater assistant, AIIMS; Nominated by National Board of Examinations for Mid Term Appraisal for DNB trainees at Deen

Dayal Upadhyay Hospital, New Delhi; Member, Staff Council, 2012–13; Nominated, Member of Medical Board, for 3 years to decide physical fitness of faculty, Gr A, B, C and D staff, AIIMS; Member of International Instrumentational Bio-Design Centre with AIIMS, IIT-D, Translational Health Sciences and Technology Institute (THSTI), Faridabad; AIIMS; Member, Hospital Infection Control Committee; Expert, Selection Committee to fill up the vacant posts of faculty by Pt BD Sharma University of Health Sciences, Rohtak, Haryana; Invited by PMSSY as an Expert, Selection Committee for interview of faculty for 6 new AIIMS; Expert Member for Therapeutic use Exemption Committee for two years by National Anti Doping Agency; Member, Standing Selection Committee for interview of faculty posts at NIGRIMS, Shillong; Member, Meeting of the departmental promotion committee for promotion to the post of Assistant Administrative Officer; Member, Departmental promotion committee for promotion to the post of Pharmacist.

**Dr Ravi Mittal** did DNB appraisal for students at Sant Parmanand hospital in 2012; Member, organizing team APOACON 2012; State representative for Delhi at IOA in 2013; Internal examiner for MS Orthopaedics examination, AIIMS, December 2012; Chaired Free paper session at CASM at Jaipur.

**Dr C.S. Yadav** reviewed projects of DST, Govt of India; Judge, PG Gold medal session, UPORHOCON 2013 at Aligarh; Convenor, Preconference workshop over THA, BOACON – 2013, Muzzafpur, Bihar.

**Dr Shah Alam Khan** was nominated Joint Secretary, Indian Orthopaedic Association; elected Associate Editor, Indian Journal of Orthopaedics; Elected as Founding member of the Ponseti International Association, Indian Chapter; Elected as Member International Advisory Board, The Bone and Joint Journal (formerly JBJS); Elected as Member International Editorial Board, Journal of Clinical Rehabilitative Tissue Engineering Research (China); Nominated as Member, Indian Council of Medical Research (ICMR) Taskforce on Guidelines in the Management of Sarcomas; Elected as Member Reviewer, Sarcoma; Elected as Member Reviewer, Journal of Orthopaedic Surgery and Research.

## 9.25 Otorhinolaryngology and Head–Neck Surgery

**Professor and Head**  
Suresh Chand Sharma

**Additional Professor**  
Alok Thakar

**Associate Professor**  
Rakesh Kumar

Kapil Sikka

**Assistant Professor**  
Chirom Amit Singh

Hukam Singh

### HIGHLIGHTS

The Department is among the best in India and has developed expertise in most current subspecialties in the Otorhinolaryngology. The departmental activities have included expanding horizons for use of endoscopes in paranasal sinus and skull base surgery. The department has a navigation system for navigation during skull base and advanced endoscopic sinus surgery. The department faculty has been regularly performing transoral robotic surgery for oral and oropharyngeal cancers. This technique is the first of its kind in India. The department has also established a state-of-the-art temporal bone dissection laboratory to provide facilities for training postgraduates in performing otologic and neuro-otologic procedures. The department has initiated micro-vascular free flap reconstruction for complex head and neck defects.

### EDUCATION

The formal lecture schedule for the MBBS students is in the 6th and 8th semesters and consists of 1 hour lectures. Undergraduate students are posted in the OPD and ward for 2 months on rotation. Here they learn basic ENT examination, become familiar with diagnosing common ENT diseases and learning the elementary management, including communication skills.

For postgraduates, the major goals are patient care ability, teaching ability, research ability, and team work, presentation of seminar/paper, research writing, preventive aspect, cognitive knowledge and clinical decision making ability and management expertise. Postgraduate students perform major and minor surgical procedures independently as well as under supervision of a faculty member/a senior resident.

They are trained to perform many major operations independently. During training they are posted in orientation programme including exposure to Audiology Section and Vestibular Laboratory. 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.

### CMEs and Conferences organized by department

- 32nd Annual Conference of Neuro-Otologic and Equilibriometric Society of India, 19–21 April 2012, India Habitat Center and AIIMS, New Delhi
- Monthly meeting of Association of Otolaryngologists of India, AOI, Delhi Branch, 23 July 2012, AIIMS, New Delhi
- Cochlear Implant training for audiologists, 3–6 September, 2012, AIIMS, New Delhi
- AIIMS Temporal bone dissection course October 6–7, 2012, AIIMS, New Delhi
- Guest lectures and surgical demonstration of plastic surgical procedures (free flap reconstruction and rhinoplasty) by Dr GS Kalra, Professor and Head, Department of Plastic Surgery, SMS Medical College, Jaipur (visiting consultant from 5–9 February 2013)
- AIIMS Hands On Cadaveric Rhinoplasty Dissection Course – 2013; 10 March 2013

### CMEs, National and International Conferences

#### Lectures delivered

S.C. Sharma: 5

Alok Thakar: 16

Rakesh Kumar: 5

Kapil Sikka: 8

**Chirom Amit Singh: 4**

**Oral papers/posters presented: 11**

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. Double Blind, Placebo Controlled, Randomized, Controlled Trial to Evaluate the Efficacy of Adjuvant Treatment with Homeopathic Medication Thuja (Arbor Vitae) in Decreasing Severity and Decreasing, Post-Surgical Recurrence in Recurrent Respiratory Papillomatosis. Alok Thakar, ICMR, 3 years, Rs 50 lakhs approx.
2. Phase II/III Randomized Placebo Controlled Clinical Trial of Curcumin in Resectable Stage III and IV Oral Squamous Cell Cancer. Alok Thakar. DBT, 5 years, 2008–13, Rs 71 lakhs.
3. Effects of non-ionizing electromagnetic field on human health: effects on auditory and vestibular system. Rakesh Kumar. ICMR, 5 years, Rs 50 lakhs.
4. Effect of long term use of low dose macrolide with intranasal corticosteroid spray v/s monotherapy with intranasal corticosteroid spray in patients of chronic rhinosinusitis. Rakesh Kumar. ICMR, 3 years, Rs 25 lakhs.

### **Departmental projects**

#### ***Completed***

1. RTMS therapy in chronic tinnitus patients
2. Evaluation of voice before and after intracordal injection of autologous fat in patients with unilateral VC paralysis
3. Comparison of outcome of tympanoplasty using titanium and hydroxyl-apatite prosthesis
4. Long term and short term outcome of upper eyelid gold weight implantation in facial paralysis
5. CT measurements of normal and pathological inner ear
6. Assessment of site directed surgical treatment by nasal, oropharyngeal, palatal or retroglossal advancement surgery in the management of OSAS
7. Assessment of clinical and radiological profile and role of sialendoscopy in patients with salivary gland pathology
8. Podoplanin expression in Oral cavity cancer and its clinical significance
9. Evaluation of injury pattern and results of medical And surgical treatment in cases with traumatic and iatrogenic facial nerve palsy

#### ***Ongoing***

1. Study of serum VEGF and its clinicopathological correlation in oral cavity squamous cell carcinoma
2. Role of image guidance in PNS surgery: A comparative study
3. Normative and pathological ranges of otolith and Semicircular canal function test in normal subjects and patients with complete unilateral vestibular loss
4. Clinicopsychological effects of patients undergoing rhinoplasty
5. Application of transoral robotic surgery in treatment of T1-T3 ca middle one third tongue and oropharynx
6. Transoral robotic surgery- Evaluation of intraoperative difficulty, disease clearance and functional outcomes.
7. Audio vestibular effects of transcranial magnetic stimulation
8. To evaluate the association of various risk factors in pre-cancerous lesions and cancer of oral cavity.
9. Effect if IJV ligation during comprehensive neck dissection on intracranial pressure

### **Collaborative projects**

#### ***Ongoing***

1. Indo US joint project for “Center for excellence for nanomedicine in Head and Neck Cancer 2012 with North Eastern university and Harvard Medical School, USA, CSIR, National Physical Laboratory, Indian Institute Of Toxicology Research, Lucknow and AIIMS, New Delhi: Prof S.C. Sharma.
2. Indi-Cleft project on “Cleft lip and palate anomalies in India: Clinical profile, risk factors and current status of treatment – A multi-centric hospital based study’, S.C. Sharma, ICMR project.
3. Congenital cytomegalovirus infection and hearing loss in rural Indian population (Microbiology).
4. Translating head and neck cancer markers into diagnostic assays. Indo–Canadian Joint Project (Biochemistry).

5. Deregulated initiation of translation in oral carcinogenesis. (Biochemistry) A Stereological Study of Age Related Morphological and Neurochemical Changes In the Human Cochlear Nucleus. A Thakar, Indian Council of Medical Research

### **Completed**

1. A randomized, double masked, active controlled phase III study of efficacy, safety and tolerability of repeated doses of intra-vitreous VEGF trap-eye in subjects with neovascular age-related macular degeneration (AMD) (Ophthalmology).
2. Extent of thyroidectomy: Total versus near total thyroidectomy in the therapy of differentiated thyroid cancer: A randomized controlled trial (Surgery).

### **PUBLICATIONS**

**Journals: 13                      Abstract: 1                      Chapter in book: 1**

### **PATIENT CARE**

In patient care/supportive activities include information regarding: (a) facilities available in the department (including special clinics and/or special laboratory facilities (b) community services/camps, etc.

#### **Number of patients operated**

Major cases: 2506                      Minor cases: 1681                      Minor OT cases: 32,634

#### **Number of patient seen in OPD**

New patients: 42,526                      Old registration: 44,568

Total number of ward and short admissions: 4588

#### **Special clinics**

Vertigo	145	Audiology and Skull base clinic	159
Rhinology	105	Speech and hearing at RUAS	3138 and 2168, respectively
Voice	1738		
Tumor clinic (Head and Neck clinic B)			
Old cases:	4162	New cases:	1004                      Total: 5166

#### **Community service clinics**

Twice weekly clinics in Community Hospital, Ballabgarh.  
Weekly clinics in Primary Health Centre, Gurgaon.  
Weekly clinics in community hospital in IIT Delhi.

The department is providing daily OPD services at Outreach OPD Jhajjar. To improve services further, faculty has also been posted at Jhajjar and also once a week at Ballabgarh.

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor S.C. Sharma** delivered the Dr Abir Lal Mukherjee oration, Mid AOICON, Chandan, Nagar, West Bengal; delivered the Sher-e-Kashmir Sheikh Mohammad Abdullah oration award 2011, 1 October 2012, SMS Medical College, Jaipur; delivered the Prof Y.N. Mehra oration, PGIMER Chandigarh, 30 November 2012; External examiner, Institute of medical sciences, Kathmandu, Nepal; Chairperson of surgical treatment guideline formulation of INOSA Guidelines 2013 (Indian Initiative on Obstructive Sleep Apnea Guidelines); Chaired session on 'Role of endoscopic laser surgery in Head and Neck Cancer', IFNOS 2012 world tour and FHNOS annual meeting 11–14 October 2012. Ahmedabad.

**Dr Alok Thakar** delivered the 3rd Lakshmi Prasad Narain Memorial Oration, Annual Meeting, Society of Otolaryngologists of Nepal, and the M.L Bhatia Guest Lecture, UP State Meeting of the Association of Otolaryngologists of India; served as President of the Neuro-otological and Equilibriometric Society of India, 2011–12 and was President at its Annual Meeting in April 2012 in Delhi; elected Honorary Treasurer, Skull Base Society of India; serves on the Executive committee, AIIMSONIANS; on the editorial board of ENT Master class (UK), The Otorhinolaryngologist (UK), Otorhinolaryngology Clinics – An International Journal,

Otology India (Journal of the Indian Society of Otology ) and Indian Journal of Otology; Expert Member, development of (i) National Guidelines on Treatment of Cancer Tongue, (ii) National Guidelines on Treatment of Cancer Larynx and Hypopharynx and (iii) National Guidelines on Obstructive Sleep Apnea under auspices of Department of Health Research, Ministry of Health & Family Welfare, Govt. of India; member, DBT Expert Group Meeting and Brain Storming on Application of Nanotechnology in Cancer Therapy, March 2013; Instructor, Trans Oral Laser Microsurgery for advanced laryngeal and hypopharyngeal Cancer. Instructional Course, 14th British Academic Conference in Otolaryngology, 4–6 July 2012. Glasgow, UK

**Dr Rakesh Kumar** was Expert member, Committee for indigenous digital hearing aid project of DIT Govt. of India; Co-member of BIS Committee looking after the standards of ENT instruments in India; Reviewer for Journal of Cutaneous and Aesthetic Surgery and Journal of Laryngology and Voice; Organized Temporal bone dissection course and Hands On Cadaveric Rhinoplasty; Dissection Course, AIIMS; Examiner to Punjab University and University of Delhi.

**Dr Kapil Sikka** is Nodal Officer, AIIMS for National programme for prevention and control of deafness; Assistant Editor, Indian Journal of Otology and Editorial board member and reviewer for the journal; Reviewer, Indian Journal of Otolaryngology, Head and Neck Surgery; Organizing co-secretary, 32nd Annual Conference of Neuro-Otologic and Equilibriometric Society of India, AIIMS Temporal bone dissection course and AIIMS Hands on Cadaveric Rhinoplasty Dissection Course organized by the department.

## 9.26 Paediatrics

### Professor and Head

Vinod K. Paul  
(Neonatology)

### Professors

M.K. Bhan (Gastroenterology, Hepatology and  
Nutrition; on deputation)

Ashok K. Deorari (Neonatology)

Sushil K. Kabra (Pulmonology, Intensive Care,  
Tuberculosis and Rheumatology)  
Madhulika Kabra (Genetics)

Arvind Bagga (Nephrology)

### Additional Professors

Pankaj Hari (Nephrology)

Sheffali Gulati (Neurology)

### Associate Professors

Ramesh Aggarwal (Neonatology)  
Rachna Seth (Oncology)

Vandana Jain (Endocrinology)  
Rakesh Lodha (Pulmonology, Intensive Care,  
Tuberculosis and Rheumatology)

### Scientists

Shinjini Bhatnagar (on deputation)  
Madhumita Roy Choudhary

Pratima Ray  
Manju Saxena

### Clinical Psychologist

Savita Sapra

### Dietician

Anuja Agarwala

### Physiotherapist

Sumita Gupta

### Medical Social Service Officer

D. Yadav

## HIGHLIGHTS

- Operationalized an 8-bedded High Dependency Unit (HDU) in the ward to cater to children with life-support and other special needs. The nursing staff of the HDU was imparted structured training on the required skills. The HDU has been assigned a designated team of residents.
- Developed an online Learning Program on Newborn Health (OnTop) for doctors and nurses on an interactive platform. A total of 1500 participants took this course in 5 countries.
- Created Apps for smart phones to facilitate management of the sick newborn as a point of care tool for healthcare providers working in small hospitals on iOS system (download from iTunes as SickNewborn) and Android Google play (download as AIIMS WHO CC STPs).
- Continued to host two prestigious collaborating centres of the World Health Organization (WHO), namely, the WHO Collaborating Centre for Training and Research in Newborn Care, and the WHO Collaborating Centre for Clinical and Laboratory Genetics.
- The ICMR Centre for Advanced Research in Newborn Health of the Department has generated a comprehensive profile of antimicrobial resistance.
- Intensified its inter-disciplinary programme in translational research with the launch of new bench-to-bed studies in multiple high priority areas.
- The Rotavirus vaccine developed by the department has completed phase III trials and was found to be an effective preventive intervention against diarrhoea in children.
- An indigenous ELISA based kit for the diagnosis of coeliac disease has reached the stage of being transferred to the industry.
- A Pediatric Science Group comprising PhD scholars and scientists was constituted as a forum for scientific discussions.

- Developed and disseminated patient education materials (booklets, pamphlets) on 12 themes of important childhood disorders.
- Restructured the senior-residency programme along paediatric specialties and streamlined the specialty-based system across outpatient-inpatient continuum with significant improvements in patient care.

## **EDUCATION**

### **Undergraduate**

The department is involved in teaching MBBS students. It runs a practical education programme comprising bedside sessions, tutorials and neonatal resuscitation workshops. Emphasis is laid on child growth, development and feeding. Most of the classroom lectures in neonatology are available as webinars on [www.newbornwhocc.org](http://www.newbornwhocc.org) for use at AIIMS, throughout India and the world.

### **Postgraduate**

The Department conducted a comprehensive teaching programme for MD students with daily teaching sessions, bedside teaching, clinic-based teaching, orientation programme for new residents, symposia and mini-workshops. Specialty based teaching sessions are held every week in Nephrology, Neurology, Neonatology, Pulmonology and Intensive Care. Log books are maintained and regular assessment is done each semester. In addition, an assessment in clinical methods with 70% pass marks is carried out for the new batch. The Department conducted the following special symposia this year: 'Antibiotic therapy in children', and 'Cutting-edge advances in pediatric therapeutics', April 2012.

For postgraduate students, following special teaching events were held: (i) Mini-symposium on 'Disorders of sexual development' participation from Endocrine and Pediatric Surgery Departments, (ii) Workshop on 'Neonatal ventilation' and (iii) Mini-symposium on 'Practical issues in paediatric oncology'.

Faculty of the department is involved in the teaching of PhD scholars and MSc students of the Department of Biotechnology.

### **Paramedical students**

The Department conducts regular teaching of BSc and MSc Nursing students. Faculty members are involved in taking lectures and guiding MSc (Paediatric nursing) students in their theses. We conducted a workshop on 'Infection control' for nurses.

### **DM programmes in Paediatric Neurology and Neonatology**

Eight DM students are admitted in each year. The DM teaching programmes focus on preparing future leaders in their respective specialities. The DM programme lays emphasis on global standards in clinical care, teaching, research and public health. The students are trained in research methods, clinical epidemiology and teaching experience.

### **PhD programme**

The Department runs one of the most comprehensive PhD programmes at the Institute. This year a total of 22 scholars were enrolled for PhD programmes in different divisions of the department. We run a formal Foundation Course for all PhD scholars alongwith special journal club. A vibrant Paediatric Science Group of scholars and scientists was established this year.

### **Short-term and Long-term trainees (59)**

Neonatology (24), Neurology (3), Genetics (19), Pulmonology (2), Nephrology (6) and Medical students (4)

## **CME/ WORKSHOPS/ SYMPOSIA/ NATIONAL AND INTERNATIONAL CONFERENCES**

### **Endocrinology**

- Biology of Fetal Growth restriction, DBT Meeting on development of a conceptual framework for research in biology of birth: Prematurity, Fetal Growth restriction and Stillbirth, 23 April 2012, National Institute of Immunology, New Delhi.
- DBT/Gates Foundation Translational Research Meeting, Research agenda in the field of fetal growth restriction and its consequences, 24 May 2012, New Delhi.
- ISPAE-ISPAD CME on Childhood Diabetes, Management of diabetic ketoacidosis in children, 4–5 November 2012, AIIMS, New Delhi.

- Endocrinology and management issues in CAH, Brainstorming Session on Disorders of Sex Development, Indian Society for Pediatric Urology, and Asian Society for Pediatric Urology, 15 December 2012, AIIMS, New Delhi.

#### **Neonatology**

- WHO CC AIIMS in partnership with IANN organized Stakeholders Workshop for Sharing Training needs for nursing professionals in the country on 29–30 January 2013 with support of Indo-Canadian Shastri Grant and WHO-SEARO.
- 5th Faculty Development Workshop on Enhancing Research Capacity, Bangalore, 21–24 March 2013 with support of ICMR Advanced Centre for Newborn Health Research.
- Department of Pediatrics introduced two courses and enrolled nearly 1500 students and doctors in different courses in the Essential Newborn Care (ENC) and Sick Newborn Care course with skill learning at participating institutions using an online platform (Accessible at [www.ontop-in.org](http://www.ontop-in.org)). Courses are administrated to Maldives, Srilanka, Bangladesh, Nepal, Pakistan, Mauritius and India.
- Coordinated workshops for NNF Tripura State Branch, Agartala, 21–22 July 2012; NNF West Bengal Branch at Calcutta, 4–5 October 2012.
- Neonatal Ventilation Workshops at Aurangabad 20–23 September 2012; Calcutta, West Bengal 25–27 February 2013 for State National Rural Health Mission.
- CPAP Workshops at Guwahati, Assam, 7 April 2012; 11 May 2012; Bhubaneswar, Odisha; 2 March 2013 Pune.
- Ventilation workshop, Raj Neocon, Jaipur, 4–6 October 2013.

#### **Nephrology**

- VI Annual Training Course in Pediatric Nephrology in collaboration with International Society of Nephrology- COMGAN at AIIMS New Delhi, 9–10 February 2013.
- Update on ‘Complement mediated kidney diseases’ on 23 March, 2013.

#### **Pulmonology and Intensive Care**

- 5th KC Chaudhary Oration, IJP Competitive Clinical Grand Round and Best Thesis Awards, AIIMS, 9 September 2012.
- Delhi IAP Respiratory Chapter meeting 2 February 2013, AIIMS, New Delhi.
- Sleep disordered breathing symposium, 7 January 2013, AIIMS, New Delhi.

#### **Patient education programmes**

##### **Genetics**

- Parents meeting for Rett syndrome, 20 October 2012, AIIMS, New Delhi
- Gaucher’s Disease Day, 15 May 2012, AIIMS, New Delhi.

##### **Neurology**

- Autism Awareness campaign, 26 April 2012 for parents, AIIMS, New Delhi.

##### **Nephrology**

- Patient and parent education and interaction on ‘Nutrition in Chronic Kidney Disease’ on the occasion of World Kidney Disease, 17 April 2013.

##### **Oncology**

- Childhood Cancer awareness meet: Parent Education Program in Childhood Cancer, April 2013. AIIMS.
- Organized Childhood Cancer Day, 10 November 2012 in JLN Auditorium: included Public panel discussion, an exhibition on childhood cancer, services offered, NGO interface and experience sharing and Press conference.

#### **Pulmonology and Intensive Care**

- Education Programme for parents of Cystic Fibrosis on 24 February 2013.

#### **Lectures delivered**

<b>V.K. Paul: 20</b>	<b>A.K. Deorari: 6</b>	<b>Arvind Bagga: 11</b>	<b>S.K. Kabra: 31</b>
<b>Madhulika Kabra: 22</b>	<b>Pankaj Hari: 4</b>	<b>Sheffali Gulati: 13</b>	<b>Ramesh Agarwal: 4</b>
<b>Rachna Seth: 3</b>	<b>Vandana Jain: 4</b>	<b>Rakesh Lodha: 12</b>	<b>Madhumita Roy Chowdhury: 1</b>
<b>Neerja Gupta: 10</b>	<b>Rashmi Shukla: 1</b>	<b>Savita Sapra: 2</b>	

**Oral papers/posters presented: 43**

#### **RESEARCH**

## Funded projects

### Ongoing

1. Glue Grant project-‘Developing a long term partnership for Translational Health Research in Child Health’. Vinod K Paul. DBT, 2010–15, Rs. 4 crores.
2. Role of gain in fat mass in early infancy on programming of adiposity and biochemical markers associated with cardiometabolic risk. Vandana Jain, DBT, 2012–15, Rs 69 lakhs.
3. Influence of genetic polymorphisms, clinical and biochemical parameters in determining susceptibility to nonalcoholic fatty liver disease in Indian overweight adolescents. Vandana Jain, ICMR, 2012–15, Rs 48 lakhs.
4. *GHR* gene mutations in children with Idiopathic short stature. Vandana Jain, AIIMS, 2011–12, Rs 1 lakh.
5. Hib Meningitis Sentinel Surveillance in North India. Shinjini Bhatnagar, Johns Hopkins Bloomberg School of Public Health, USA and INCLEN 2008–13, Rs 1.96 crores.
6. Development of a rapid diagnostic test for diagnosis of celiac disease. Shinjini Bhatnagar, DBT, 2010–14, Rs 1.29 crores .
7. National Hospital Based Rotavirus Surveillance Network at All India Institute of Medical Sciences, New Delhi. Pratima Ray, ICMR, 2013–17, Rs. 1.03 crores .
8. National Alliance Programme for Biodesign and in-vitro diagnostics between Translational Health Science and Technology Institute and All India Institute of Medical Sciences. Pratima Ray, DBT, 2010–15, Rs. 1.1 crores.
9. Evaluation of Chikungunya infection in children and adults. Pratima Ray, DBT, 2008–12, Rs. 1.43 crores.
10. Molecular Characterization of Rotavirus strains infecting neonates born in the hospital and diarrheal children admitted at All India Institute of Medical Sciences. Pratima Ray, ICMR, 2009–12, Rs. 33.7 lakhs.
11. Newborn screening for congenital Hypothyroidism and congenital Adrenal Hyperplasia – A multicentric study. Madhulika Kabra, ICMR, 2009–13, Rs 20 lakhs.
12. An Open-Label Extension Study of Gene-Activated® Human Glucocerebrosidase (GA-GCB) Enzyme Replacement Therapy in Patients with Type I Gaucher Disease. Madhulika Kabra, Shire Human genetic Therapies, USA, 2010–12, Rs 15 lakhs.
13. Clinical application of array-based Comparative Genomic Hybridization (array CGH) in the genetic evaluation of stillbirths. Madhulika Kabra, DBT, 2012–14, Rs 85 lakhs. .
14. Identification of Human Chromosome 21-Derived miRNA in Maternal Circulation for Non Invasive Prenatal Diagnosis of Down Syndrome. Madhulika Kabra, DBT, 2012–13, Rs 18 lakhs.
15. Molecular Genetic Studies in Indian patients with Tuberous Sclerosis. Madhulika Kabra, ICMR, 2013–15. Rs 50 lakhs.
16. A comprehensive approach for Mitochondrial encephalomyelopathies in Indian patients. Madhumita Roychoudhury, AIIMS, 2012–14, Rs 5 lakhs per year. .
17. Study of subtelomeric imbalances in children with idiopathic mental retardation using real time PCR. Madhumita Roychoudhury, ICMR fellowship for Pankaj Sharma, 2011–13, Salary of student plus Rs 20,000 contingency per year.
18. To study the mutation profile of Indian patients with common organic acidurias. Madhulika Kabra, ICMR fellowship for Pawan K. Singh, Salary of student plus Rs 20,000 contingency per year.
19. Molecular genetic studies in Indian patients with MPSII. Madhulika Kabra, ICMR fellowship for Gaurav Verma, 2012–14, Salary of student and Rs 20,000 contingency per year.
20. Effect of MECP2 genotype, X chromosome inactivation pattern and common BDNF polymorphism on the phenotype of classical Rett syndrome patients. Madhulika Kabra, ICMR fellowship for Rajni Khajuria, Salary of student plus Rs 20,000 contingency per year.
21. Molecular genetic studies in Indian patients with ectodermal dysplasia. Madhulika Kabra, ICMR fellowship for Shweta Kushmakar, ICMR, 2012–14, Salary of student plus Rs 20,000 contingency per year.
22. Centre for Advanced Research in Newborn Health (research and capacity building activities). Vinod Paul and Ashok Deorari, ICMR, 2010–15, Rs. 9.5 crore.
23. To carry out analysis of training needs for nursing professionals to contribute to facility-based newborn care in India. Ashok Deorari, Indo Canadian Shastri Foundation and WHO-SEARO for 3 months, Rs 4 lakhs + Canadian \$ 8,000.
24. Antiproteinuric effect of oral calcitriol in chronic proteinuric nephropathies: a randomized controlled trial. Pankaj Hari. ICMR, 3 years, 2010–13, Rs. 19 lakhs

25. Effect of atorvastatin on hyperlipidemia and progression of carotid intima media thickness in steroid resistant nephrotic syndrome: a randomized controlled trial. Pankaj Hari, ICMR, 2011–14, Rs. 19 lakhs.
26. Randomized double blind placebo controlled trial to compare the efficacy of three months versus six months therapy with prednisolone for the first episode of idiopathic nephrotic syndrome in children. Arvind Bagga, ICMR, 2011–14, Rs. 14 lakhs.
27. Effect of rituximab on lymphocyte subsets in children with difficult nephrotic syndrome. Arvind Bagga, ICMR, 2011–14, Rs. 15 lakhs.
28. Randomized controlled trial to compare the efficacy and safety of mycophenolate mofetil versus levamisole in children with frequently relapsing or steroid dependent nephrotic syndrome. Arvind Bagga, ICMR, 2012–15, Rs. 8 lakhs.
29. Functional characterization and genetic basis of anti-complement factor H autoantibodies in hemolytic uremic syndrome. Arvind Bagga, Department of Biotechnology, 2011–14, Rs. 41 lakhs.
30. Pathogenesis of idiopathic nephrotic syndrome of childhood: Th1 Th2 polarization of naïve T cells in patients with idiopathic nephrotic syndrome and its relation to disease course. Arvind Bagga, DBT, 2010–13, Rs. 21 lakhs.
31. Serum soluble urokinase receptor as putative permeability factor in children with focal segmental glomerulosclerosis and steroid resistant nephrotic syndrome. Arvind Bagga, DBT, 2012–15, Rs. 41 lakhs.
32. Anti-factor H autoantibody associated hemolytic uremic syndrome. Arvind Bagga, Indo-French Centre for the Promotion of Advanced Research, 2012–15, Rs. 17 lakhs.
33. Randomized Placebo Controlled Trial of Valproate and levocarnitine in Children with Spinal Muscular Atrophy aged 2–15 years. Sheffali Gulati, AIIMS, 2012–14, Rs. 5 lakhs per year.
34. Neuroimaging and cerebral metabolite changes in children undergoing treatment for acute lymphoblastic leukemia: a pilot study. Rachna Seth, AIIMS, 2011–13, Rs 1 lakh.
35. Chemo to Cure 'C to C': A study of childhood Cancer Survivorship. Rachna Seth, Jiv Daya Foundation, 2011–14, Rs. 20 lakhs.
36. Zinc supplementation in childhood tuberculosis patients in Delhi, India. SK Kabra, Norwegian Programme for Development, Research and Education (NUFU), 2007–12, Rs. 1.53 crores.
37. Biomarker discovery in asthma using an integrated-omics approach. Rakesh Lodha, CSIR- IGIB, 2009–14, Rs 96 lakhs.
38. Effect of malnutrition and HIV infection on pharmacokinetics of anti-tuberculosis drugs in children. Rakesh Lodha, ICMR, 2012–15, Rs. 48 lakhs.
39. Identification of correlates of disease severity in pediatric dengue patients in Delhi. SK Kabra, DBT, 2012–15, Rs. 46 lakhs.
40. Immunologic effect of zinc supplementation in HIV infected children receiving highly active antiretroviral therapy: A randomized, double blind placebo controlled trial. Rakesh Lodha, ICMR, 2009–12, Rs. 31 lakhs.
41. Role of zinc supplementation in children with cystic fibrosis: randomized controlled trial. SK Kabra, ICMR, 2011–13, Rs 20 lakhs.
42. To study the effect of highly active antiretroviral therapy on B cell sub-populations in HIV infected children. Rakesh Lodha, ICMR, 2011–14, Rs. 39.87 lakhs.
43. Systematic reviews: Oral antibiotics for treatment of severe pneumonia in children; Utility of fever in diagnosis of pneumonia in children. SK Kabra, WHO, May to November 2012, Rs 4.9 lakhs.
44. Why acute respiratory infections during infancy lead to chronic airway diseases during childhood: differential role of smaller airways and immune imbalance. SK Kabra, DBT, 2012–15, Rs 1.24 crores.

### **Completed**

1. Comparative assessment of growth and body composition during first year of life in term low and normal birth weight infants. Vandana Jain, AIIMS, 2011–12, Rs 1 lakh.
2. KIGS multinational Growth Survey. Vandana Jain, Pfizer Research Division, 2011–12, Rs 1.2 lakhs.
3. DBT Programme Support (Core Project). Madhulika Kabra, DBT, 2007–12, Rs 4 crores.
4. Systematic reviews to be used during the meeting to formulate postnatal care guidelines. Vinod K Paul, WHO, 6 months, 2012, Rs 5 lakhs .
5. Regional Network Meeting on Re-strengthen Newborn Care and Prevention of Birth Defects. Vinod K Paul, WHO, 4 months, 2012, Rs. 4.6 lakhs. .
6. Umbilical Cord Cleansing with Chlorhexidine in Neonates- A Systematic Review. Vinod K Paul, WHO, 4 months, 2012, Rs 5 lakhs.

7. A prospective randomized controlled trial comparing the efficacy and safety of intravenous cyclophosphamide and alternate day prednisolone versus tacrolimus and alternate day prednisolone for patients with steroid resistant nephrotic syndrome. Arvind Bagga, ICMR, 2009–12, Rs. 25 lakhs.
8. Levamisole treatment for children with steroid sensitive nephrotic syndrome: multicentric double blind placebo controlled randomized trial. Arvind Bagga, ACE Pharmaceuticals, Netherlands, 2008–12, Rs. 34 lakhs.
9. Detection of minimal residual disease (MRD) in B cell lineage acute lymphoblastic leukemia (ALL) at the end of induction by flowcytometry. Rachna Seth, ICMR, 2009–12, Rs. 34.8 lakhs.

## Departmental projects

### Ongoing

1. To study the prevalence of genetic polymorphisms of the beta 2 adrenergic receptor and their association with the response to salbutamol in Indian children with acute exacerbation of asthma.
2. Molecular genetics studies in Indian patients with ectodermal dysplasia and Ichthyosis.
3. Non invasive prenatal diagnosis of fetal Rh and Beta Thalassemia.
4. Molecular genetic studies in Indian families with Autosomal recessive non syndromic hearing loss.
5. A study of Genomic rearrangements in Indian Children with Idiopathic MR using whole genome CGH array.
6. Mutation analysis and association of biomarkers in patients with mucopolysaccharidosis type I, II and III.
7. Postnatal maturation of amplitude integrated electroencephalography (aEEG) in preterm small for gestational age neonates: a prospective short study.
8. Hecpidin as a marker for iron stores in small for gestational age and appropriate for gestational age neonates born at  $\geq 34$  weeks of gestation.
9. Efficacy of different regimens of Vitamin D supplementation in preterm infants: A randomized double-blind trial.
10. Evaluation of *PALADAI* feeding in preterm infants with and without bronchopulmonary dysplasia: Retrospective and prospective cohort studies.
11. Transcutaneous bilirubinometry from a shielded skin patch in neonates receiving phototherapy evaluation of a diagnostic tool.
12. Role of change of position during phototherapy in management of non hemolytic hyperbilirubinemia in late preterm and term infants – randomized controlled trial.
13. Comparison of effectiveness of continuous versus intermittent phototherapy for treatment of non-hemolytic hyperbilirubinemia in late preterm and term infants- an open label randomized controlled trial.
14. Adiponectin, Leptin and Lipid Profile in Small for Gestational Age Babies: A cross sectional study.
15. Prevalence of vitamin D insufficiency and efficacy of cholecalciferol supplementation in children with steroid resistant nephrotic syndrome.
16. Effect of cholecalciferol supplementation on FGF23 levels in vitamin D deficient children with CKD.
17. Randomized open labeled controlled trial to compare the efficacy and safety of mycophenolate mofetil and tacrolimus in maintaining remission in patients with steroid resistant nephrotic syndrome.
18. Ambulatory blood pressure monitoring in children with frequently relapsing nephrotic syndrome.
19. Role of FGF-23 in differential diagnosis of refractory rickets in children.
20. Prevalence of haemostatic abnormalities in epileptic children on valproate monotherapy: a cross sectional study.
21. Prevalence of electrophysiologically defined peripheral neuropathy in children with chronic kidney disease stage IV and V: a cross sectional study.
22. Estimation of prevalence of sleep problems in Autistic children in comparison to typically developing children.
23. Role of skin biopsy in childhood muscular dystrophies.
24. Clinical spectrum of Psychogenic non epileptic events in children (6–16 years).
25. Comparison of radiological outcome of 7 days versus 28 days albendazole therapy along with steroids in patients with parenchymal neurocysticercosis with lesion (non-calcified) load: a randomized controlled trial.
26. To study the effect of hyperhydration vs hyperhydration and hydroxyurea in management of newly diagnosed hyperleukocytosis of acute childhood leukemia.
27. JAK mutations and role of CRLF2 in outcome of childhood B lineage acute lymphoblastic leukemia.
28. Study the outcome of childhood langerhans cell histiocytosis.

29. Outcome of childhood acute myeloid leukemia.
30. Late effects of childhood cancer survivorship.
31. Invasive fungal infection in febrile neutropenic episodes in childhood cancers.
32. Clinicopathological profile of mediastinal mass in childhood cancers.
33. Extraocular Retinoblastoma; outcome and risk factors for metastasis (RCT).
34. To compare the role of hydroxyurea and hyperhydration versus hyperhydration alone in decreasing total leukocyte count in children with acute lymphoblastic leukemia and hyperleukocytosis: A randomized trial.
35. Cloning and expression of Chikungunya virus genes and evaluation of their role in Chikungunya pathogenesis in children and adults.
36. Effects of exercise intervention programme on bone mineral accretion in children and adolescents with cystic fibrosis.
37. Pharmacokinetics of antitubercular medications in children.
38. Prevalence of hypophosphatemia in critically ill children.
39. Prevalence of peripheral neuropathy in patients aged 3 to 18 years with cystic fibrosis on vit E (twice the RDA) for 6 months.
40. Prevalence of *Pneumocystis jirovecii* on induced sputum of <15 yr immunocompromised children with pneumonia by Gomori Methenamine silver stain and Polymerase Chain Reaction.
41. Role of FeNO in identification of uncontrolled asthma in children between age group.
42. Serum Vitamin D levels and its association with level of control of childhood asthma.
43. To study the effect of highly active antiretroviral therapy on B cell sub-populations and their co-stimulatory receptors in HIV-1 infected children..
44. Tuberculosis: Evaluation of the diagnostic value of Quantiferon Gold in tube test in Indian children.
45. Ventilator associated pneumonia in pediatric intensive care unit: Incidence, risk factors and etiological agents.
46. Etiology of pulmonary exacerbations in children with cystic fibrosis.

### **Completed**

1. Catch-up growth in term low birth weight infants.
2. Identification of perceived concerns and awareness levels on health related issues among urban Indian adolescents.
3. Iron stores in term and late preterm small-for-gestational age (SGA) and appropriate-for-gestational age (AGA) neonates. Dr
4. Comparison of automated auditory brainstem responses (AABR) and auditory brainstem responses (ABR) for detecting hearing impairment in High Risk Neonates.
5. Efficacy of Phenobarbitone in Neonates with Rh Hemolytic Disease of Newborn: A randomized double blind, Placebo Controlled Trial.
6. Micro-costing based economic analysis of NICU care: implications for insurance models.
7. Study of the prevalence of genetic polymorphisms of UGT1A6 and their association with serum valproate levels in children on valproate monotherapy.
8. Efficacy of low glycemic index diet therapy in children with refractory epilepsy: A randomized controlled trial.
9. Neurodevelopmental outcome in children aged one to five years with infantile spasms one or more years after onset – A cross-sectional study.
10. Prevalence of electrophysiologically defined peripheral neuropathy in patients aged 3 to 15 years with cystic fibrosis; a cross sectional study.
11. Study of the prevalence and electrophysiological characteristics of vincristine induced neuropathy in childhood ALL (Acute Lymphoblastic Leukemia) survivors aged 5–18 years who had received vincristine based chemotherapy.
12. Inspiratory muscle training for chronic neuromuscular diseases in children and adolescents – a systematic review.
13. Blood heavy metal level in children with autism or ADHD – a cross sectional study. Role of skin biopsy in diagnosing childhood muscular dystrophies.
14. Evaluation of incidence and predictors of tumor lysis syndrome in newly diagnosed children of acute lymphoblastic leukemia.
15. Predictors and organism with sensitivity profile in children with episodes of febrile neutropenia.

## **Collaborative projects**

### ***Ongoing***

1. Vitamin D supplementation in patients with congenital ichthyosis (Dermatology).
2. ICMR Young Diabetics registry (Endocrinology and Metabolism).
3. ICMR Childhood Obesity Task Force (Endocrinology and Metabolism).
4. Psychopathology and body shape concerns in overweight and obese children (Psychiatry).
5. Iodine Status of Pregnant Mothers, School Age Children and Neonatal Thyroid Stimulating hormone concentration in three regions of Himachal Pradesh, India (Human Nutrition Unit).
6. 3D – expansion and Differentiation of Mesenchymal Stem Cell into Osteoblast for Bone Tissue Engineering on Biocomposite Scaffold (Orthopaedics).
7. Development of neonatal health care service delivery model for rural India Faridabad (Community Medicine).
8. ANCHUL: Ante natal and Child healthcare in Urban slums (PHFD).
9. Network Co-ordinator and Principal site; Neuro Developmental Disabilities among children in India – An INCLIN Study (INCLIN).
10. Reprogramming of adult cell to develop Duchenne Muscular Dystrophy disease specific pluripotent stem cells (Stem cell facility).
11. Generating trained manpower in the field of Reflexology and hence to validate reflexology in managing epilepsy by carrying out a multi center randomized clinical trial – In collaboration with north eastern state medical colleges (Biophysics)
12. Evaluation of the frequency of pleomorphisms affecting lead and mercury toxicity among children with Cerebral palsy (Pharmacology).
13. Molecular characterisation and development of immunological based diagnostics for *Naegleria fowleri* (Microbiology).
14. Randomized Controlled Trial of early vs late surgery in childhood intractable epilepsy patients in India (Neurology).
15. Evaluation of reflexology as an adjunctive therapy in children with spastic cerebral palsy (Biophysics).
16. Evaluation of reflexology as an adjunctive therapy in children with intractable epilepsy including West syndrome (Biophysics).
17. Pharmacokinetic and pharmacodynamic interaction of ayurvedic medication with antiepileptic drugs: an experimental and clinical study. (Pharmacology).
18. Health related quality of life in children with epilepsy; child and parental perceptions, knowledge and attitudes (College of Nursing).
19. Effects of newer antiepileptic drugs in comparison with conventional antiepileptics on the trace element status of epileptic subjects. (Pharmacology).
20. A study to find out the prevalence of depression in mothers of children with autism spectrum disorders. (College of Nursing).
21. A randomized comparative study between use of botulinum toxin injection and single event multilevel surgery (SEMLS) in children with spastic cerebral palsy (Orthopaedics).
22. Organism profile and sensitivity pattern of febrile neutropenic episodes in childhood cancers (Microbiology).
23. Role of PET CT vs CECT in staging and treatment response assessment in childhood Hodgkin lymphoma (Radiodiagnosis and Nuclear Medicine).
24. Aspergillus infection in immune compromised children (Microbiology).
25. NOTCH signaling pathway:role in Leukemogenesis,mutation analysis and gene expression profiling in childhood acute lymphoblastic leukemia (Laboratory oncology and Institute of Genomics and Integrative Biology).
26. Nucleophosmin mutation in acute myeloid leukemia: evaluation of screening by immunohistochemistry - a simple front-line surrogate for molecular analysis. (Laboratory Oncology).
27. A prospective study on nosocomial infections in a Pediatric high risk unit with special reference to device associated infections (Microbiology).
28. A randomized controlled trial to compare the effectiveness of deep inhalation over tidal breathing during metered dose inhaler use in pediatric asthmatics (College of Nursing).
29. A study on alternate antimicrobial agents against typhoidal salmonellae (Microbiology).

30. A survey of musculoskeletal and pulmonary function abnormalities after thoracotomy in pediatric patients (Paediatric Surgery).
31. Antigenic and molecular characterization of Influenza virus strains from acute respiratory infection (Microbiology).
32. Characterization of genetic diversity and neutralizing antibody response in HIV-1 infected Indian children (Biochemistry).
33. Detection of mycobacteremia in patients with extra pulmonary tuberculosis (Laboratory Medicine).
34. Development of taqman based real timer quantitative polymerase chain reaction assay for detection of pneumocystis carinii/ jirovacci pneumonia (Microbiology).
35. Enhanced Surveillance for Pandemic H1N1 (PH1N1) of swine origin lineage: A multi-centre study, India Supplemental project for 'Developing sustainable Influenza Surveillance Network in India (Microbiology).
36. Evolution of the HIV-1 clade C envelope in chronically infected Indian pediatric patients (Biochemistry).
37. Immune network in the pathogenesis of pediatric HIV 1 infection (Biochemistry).
38. Immunological characterization of HIV 1 infection in children in India (Biochemistry).
39. Immunopathogenesis of pediatric HIV 1 infection and generation of human monoclonal antibodies against the viral envelop (Biochemistry).
40. Ocular manifestations in children with HIV infection (Ophthalmology, RP Centre).
41. Pediatric Population: Expediting the diagnosis of intrathoracic tuberculosis and drug resistant tuberculosis (Microbiology).
42. To study prevalence of uveitis in juvenile rheumatoid arthritis (Ophthalmology, RP Centre).
43. Molecular characterization of isolates of invasive and commensal streptococcus pneumonia. (Microbiology).

### **Completed**

1. Efficacy and safety of single dose 6 lac IU Arachitol in treatment of rickets in children (Endocrinology and Metabolism).
2. Profile of Indian patients with Fanconi's anemia (Haematology).
3. Isolation and genetic chracterization of circulating cell free fetal DNA for non-invasive prenatal diagnosis of hemoglobinopathies and monitoring of pre-eclampsia (Obstetrics and Gynaecology).
4. Evaluation of focal consolidation and systemic chemo reduction in management of intraocular retinoblastoma (Ophthalmology).
5. VCR neuropathy in childhood acute lymphoblastic leukemia survivors (Medical Oncology).

### **PUBLICATIONS**

**Journals: 96**

**Abstracts: 11**

**Chapter in books: 34**

**Books: 10**

### **PATIENT CARE**

#### **Outpatient services**

The department provides general OPD services daily in Paediatrics OPD. Over 1 lakh outpatient consultations took place in this year. There are 15 superspeciality clinics run by the Department.

<b>Name of Service</b>	<b>New Cases</b>	<b>Old Cases</b>	<b>Total Attendance</b>
General OPD	39501	40740	80241
Neurology Clinic	970	2058	3028
Myopathy Clinic	115	1200	1315
Gastroenterology Hepatology and Nutrition	942	2990	3932
Well Baby Clinic	290	135	425
High Risk Neonatology Clinic	285	1889	2174
Nephrology Clinic	406	4024	4430
Chest Clinic	515	4530	5054
Tuberculosis Clinic	370	2139	2509
Rheumatology Clinic	215	1771	1948
Genetics and Birth Defects Clinic	2873	1317	4190
Oncology Clinic	250	1677	1927
Cancer Survivors' Clinic	65	669	734

Endocrine and Metabolism Clinic	1100	1600	2700
Development Clinic	123	182	305
Neurocysticercosis Clinic	73	1440	1513
Autism Clinic	43	180	223
<b>Grand Total</b>	<b>48136</b>	<b>68941</b>	<b>116648</b>

In addition, Cystic fibrosis and Paediatric HIV services were provided in Paediatric Chest Clinic. Physiotherapy Services were provided to the patients in Neurology Clinic, Myopathy clinic Genetics clinics, High risk, Endocrinology, Development clinic, Pediatric Chest Clinic, Rheumatology clinic and OPD services. Total physiotherapy sessions provided during 2012–13 were approximately 5000.

### 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 operationalized an 8-bedded High Dependency Unit in children ward to cater to child patients with life-support and other special needs. A special training program for the nurses of the HDU was held.
- Children requiring short procedures or interventions are admitted for a day in the Day Care Unit situated in the C5 ward.

<b>Total indoor admissions</b>	<b>12,326</b>
Long admissions in Paediatric wards	1,715
Admission in day care facility	10,611
Patient admitted in PICU	300
Mechanical Ventilation	235

<b>Number of neonates delivered</b>	<b>2439</b>
<b>Neonates admitted in NICUs</b>	<b>716</b>
<b>Extramural admissions</b>	<b>65</b>

### Laboratory services

Various laboratories of the department provide over 50 unique diagnostic tests, many of them for rare disorders not readily available in the country.

#### Central laboratory

CD serology		NBT for Chronic Granulomatous Disease	182
Biocard	580	Chemiluminescence Assay for superoxide determination	182
tTg ELISA	1208		
IFA (AEA) for diagnosis of Celiac disease	1208		
<b>Micronutrient Assays</b>			
Serum Zinc	1587	Copper	1591
<b>Endocrinology</b>			
Water deprivation test	10	HbA1c (point of care testing)	275
Vasopressin challenge test	10	Continuous Blood Glucose monitoring	02
ACTH stimulation test	20	17 hydroxyprogesterone assay	50
HCG stimulation test	30	Urinary microalbumin (point of care testing)	107
GnRH stimulation test	30	HbA1C	275
Dexamethasone suppression test	10	Urine Albumin	107
GH stimulation test	100	17-OHP	40
Ambulatory BP recording	05	Growth hormone	375
Modified Oral Glucose tolerance test	50		
<b>Nephrology</b>			
Complement factor 'H'	121	Anti- CFH – Antibody	351
<b>Gastroenterology, Hepatology and Nutrition</b>			
Upper Gastrointestinal Endoscopy AND		Diagnostic UGIE	481
Colonoscopy	995	Small bowel biopsy	146

Stricture Dilatation	33	EST	66
EVL	198	Coeliac serology	926
<b>Genetics</b>			
<i>Molecular Genetics</i>			
Beta Thalassaemia ( $\beta$ Thal) mutation analysis		136 families	
Prenatal diagnosis for $\beta$ Thal		116 families	
Spinal muscular atrophy (SMA) mutation analysis		105 cases	
Prenatal diagnosis for SMA		19 families	
Albinism mutation analysis		6 cases	
Duchene Muscular dystrophy (DMD) mutation analysis		437 families	
Prenatal diagnosis for DMD		16 families	
Hemophilia A Linkage analysis		8	
Prenatal diagnosis for Hemophilia A		1	
Hemophilia B Linkage analysis		4	
Prenatal diagnosis for Hemophilia B offered to Fragile X screening		163 families	
Rett syndrome (MECP2) mutation analysis		20 cases	
Prenatal diagnosis for Rett syndrome		4 families	
Achondroplasia mutation analysis		12 cases	
Hypochondroplasia mutation analysis		3 cases	
Non-syndromic hearing loss (Connexin 26) screening		56 cases	
<b>Tests carried out on research basis</b>			
Ectodermal dysplasia mutation analysis		7 families	
Lamellar Ichthyosis mutation analysis		6 families	
Prenatal diagnosis for Lamellar Ichthyosis		1 family	
Ichthyosis Vulgaris mutation analysis		3 families	
Glutaric acidemia type 1 mutation analysis		10 cases	
Methylmalonic acidemia (MMA) mutation analysis		4 cases	
Biotinidase deficiency mutation analysis		3 cases	
Screening for Intellectual disability		109 cases	
Prenatal diagnosis for Intellectual disability		3 families	
Screening for small micro-deletion syndromes		85 cases	
Megalencephalic leukoencephalopathy (MLC) mutation analysis		7 cases	
Prenatal diagnosis for MLC		2 families	
MECP2 testing in cases with Global developmental delay (GDD)		25	
Autistic spectrum disorder (ASD) and with Epilepsy		25 cases	
Gaucher syndrome mutation analysis		18 cases	
Congenital adrenal hyperplasia (CAH) mutation analysis		24 families	
Prenatal diagnosis for CAH		3 families	
<b>Biochemical laboratory</b>			
Triple Marker	1729	(Urine Spot test)	38
MSAFP alone	61	Homocysteinuria test	55
$\beta$ hCG alone	12	Reducing substances in urine	178
E-3	01	DNPH	337
TLC for disorders of amino acid metabolism	228	Fecl3	341
Dual Marker test	526	Urine Porphyrin	33
Disorder of Muco polysaccharidosis		Oligosaccharides	37
		Blood Ammonia	667
<b>Enzyme assays for inborn of metabolism</b>			
Patients for enzyme assays	529	Iduronate sulphate	26
No. with single enzyme assays	281	$\beta$ - Galactosidase	56
No. with multiple enzyme assays	248	Galactose-6-sulphate sulphatase	16
Arylsulfate A	76	Arylsulfatase B	11
$\beta$ - Glucosidase	55	$\beta$ -glucuronidase	13
$\alpha$ - Iduronidase	36	Hexosaminidase A	50

GALT	48	CVS (NIH)	6
Biotinidase assay	52	CVS (ASA)	3
Plasma - Hexosaminidase A	2	CVS (GM1)	1
Plasma – ASA	6	CVS (MPS-IV A)	2
Chitotriosidase (Plasma)	66	CVS (Hex-A)	3
β-Galacrocerebrosidase (Krabbes)	21	CVS (KRB)	1
Palmiloyl-protein-thioesterase (INCL)	16		

### Cytogenetics lab

Amniotic fluid cultures	373	CV cultures	26
Peripheral blood cultures	646	QF-PCR	190
Cord blood samples + KBT	40		

### Paediatric oncology

Immunephenotype characterization and minimal residual disease estimation of acute lymphoblastic leukemia: 200

### Nephrology

Haemodialysis	1362	Temporary haemodialysis catheter placement (internal jugular, subclavian, femoral)	165
Acute peritoneal dialysis (including automated peritoneal dialysis)	135	Renal biopsies	128
Continuous ambulatory peritoneal dialysis	28	Renal transplantation	10
Plasmapheresis sessions	405		

### Neurology

EPS Lab: NCV	216	Skin biopsies	25
EMG	55	Nerve biopsies	10
RNST	8	Arterial lactate	285
Routine EEG	1968	CSF lactate	170
Ambulatory EEG	87	Forearm ischaemic test	10
Video EEG	162	Neostigmine challenge test	5
Muscle biopsies	169		

### Pulmonology and Intensive Care

Sweat Chloride estimation	456	Arterial blood gas analysis	20,263
Fibre Optic bronchoscopy	196	Electrolyte estimation	20,263
Spirometry	2450	Osmolality	220
Impulse Oscillometry	1340	Haemogram	624
Infant PFTs	432		

### Counselling services

Developmental and behavioural evaluation and intervention		Attention Deficit Hyperactivity Disorder	45
DQ/IQ assessment	943	Learning Disability	62
Behavioural problems	245	Pseudo seizures, Conversion reactions	64
Autism	154	Ward Consultation	55
Functional problems	412		

### Medical Social services

Information and guidance given to patients	3500	investigations	2700
Counselling and psychotherapy	2100	Financial assistance to poor patients	700
Issuing railway concessions	1500	Rehabilitation of unknown babies of unwed mothers.	7
Helping in accommodation	250	Supervision of social work trainees	4
Exemption of charges for		Miscellaneous needs	6

### Child cancer patient support

- Financial support to these patients through the Rashtriya Arogya Nidhi, Prime Ministers relief fund, by providing medications with the help of NGOs like CANKIDS and CPAA: 48

- A support group for pediatric oncology by the name of ‘Sambhav’ has been formulated E mail help line: [3csambhav@gmail.com](mailto:3csambhav@gmail.com) Numbers 1/month 15–20 parents (First week of every month).
- Patient education programme. Such meets are organized once every 3–4 months where doctors, social worker, dietician, parents of children undergoing treatment and representatives from the NGO participate (150–250 parents)/sessions (3).

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

- The Department is a major collaborator for the fellowship program of the Stanford India Biodesign Program. It provided clinical mentorship to the fellows and interns in the programme.
- The Department organized as many as 7 patient education and parents meetings this year.
- The Department continued to run an inter-disciplinary program in Translational Research in Child Health sponsored by the Department of Biotechnology (DBT).
- The Department won the Indian Journal Pediatrics gold medal for best Clinical Grand Round, 2012 for an endocrinology case, presented under guidance by Dr Vandana Jain.
- An indigenous ELISA kit ‘Celiac Microlisa’ for screening children with suspected Celiac disease has been developed in March 2012 as part of the DBT sponsored project on ‘*Development of a rapid diagnostic kit for the diagnosis of Celiac Disease*’. The clone developed by the biology partner ICGEB is ready for transfer to the industry partner as per the protocol from DBT.

### Neonatology

- NNF Gold Medal for the Best Research Paper ‘Vitamin D Supplementation with 800 IU vs. 400 IU per day in Preterm Infants of 28 to 34 weeks’ gestation: Randomized Double Blind Trial’. N Chandra Kumar, M Jeeva Sankar, Ramesh Agarwal. NNF annual meeting, December 2012, New Delhi.
- Dr S.S. Manchanda Award for Best Paper in Neonatology: ‘Transcutaneous bilirubinometry from a shielded skin patch in near term and term neonates receiving phototherapy: Is it useful?’ Lakshmi Murli, Anu Thukral, Jeeva Sankar, R Agarwal. Pedicon 2013, January 2013, Kolkata.
- Ms Geetha George (ANS, C3 NICU) and Ms Veena Bahri (Nursing Incharge, NICU-B) were felicitated by Rotary Club, Delhi, for their outstanding contribution by a cash reward.
- Developed an online Learning Program on Newborn Health (OnTop) for doctors and nurses on an interactive platform. A total of 1500 participants took this course in 5 countries.
- Created Apps for smart phones on the management of sick newborn as a point of care tool for healthcare providers working in small hospitals on iOS system and Android Google play.
- ICMR Advanced Centre for Newborn Health Research was approved by ICMR, New Delhi for the 3rd year.
- WHO CC created webinars on Equipments for healthcare professionals can be accessed from [www.newbornwhocc.org](http://www.newbornwhocc.org)
- Division of Neonatology in collaboration with PGI Chandigarh and SGPGI Lucknow has operationalised regular tele-education for DM neonatology fellows on a regular basis every two week.
- Developed a teaching learning package for newborn care for online Learning on interactive platform. The program is available free from the web to educate health professionals at distant places with skill learning at partner institutions.
- Apps on smart phone for management of sick newborn as point of care tool for healthcare providers working in small hospitals are developed on iOS system and Android Google play.
- Developed 12 Webinars on sick newborn care. These are available on the website [www.newbornwhocc.org](http://www.newbornwhocc.org)
- Assisted Nepal and Bangladesh in setting up newborn health and birth defects database networks
- The Neonatology Division continues to service two websites [www.newbornwhocc.org](http://www.newbornwhocc.org) (has had more than 1,60,000 hits) and [www.kmcindia.org](http://www.kmcindia.org) for Kangaroo Mother Care

**Professor Vinod Paul** was awarded the Vocation Excellence Award by the Rotary International, Delhi District; Delivered Dr Puneet Sharma Oration of NNF Rajasthan; Delivered the Ambica Memorial Oration, 16th Nepalese Congress of Pediatrics, Nepal; Invited to global high level meet on Child Survival: Call to Action hosted by the US Government in Washington DC; WHO Technical Advisor for global initiatives on: i. Home visiting for newborn care, ii. Sick child treatment, and iii. Newborn health research priorities; Invited by the Government of Indonesia and USAD to provided technical support to Indonesia on newborn health; Member, International Data Safety Monitoring Board, Neonatal vitamin A study in Africa and Asia;

**Chairman**, Medical Council of India (MCI) Committee on B.Sc. Community Health (previously Bachelor of Rural Health Care) 2011-13. Developed curriculum for this new mid-level public health professionals whose graduates would be appointed as Community Health Officers, at sub centres; Technical Resource Group on Child Health, Ministry of Health and FW; Committee on Child Health Strategy, Govt. of Punjab; India Child Health LiST Group (2012–13); DGHS Committee on investigating high mortality of children at Kalawati Saran Children’s Hospital; ICMR Project Review Committee on preterm birth research; DSMB of the DBT-WHO study on Severe Acute Malnutrition; Ethics Committee, Futures Group; Selection Committee for the post of Program Director CDSA, THSTI (DBT); Coordinator AIIMS node of the National Biodesign Alliance (DBT); Co-Chair, Neonatal Service Action Group, Ministry of Health and FW; Technical support partner for RMNCH+A Strategy, Ministry of Health and Family Welfare. **Member**, Speciality Advisory Board (SAB) for Public Health, National Board of Examinations; Scientific Advisory Group, Harvard-WHO BetterBirth program study; Committee on Codex of the Ministry of Women and Child Development, Committee on Food Fortification of the Ministry of Women and Child Development; Task Force on Health, Punjab Governance Reforms Commission, Govt of Punjab; Working Group on Maternal and Child Health under the Indo-US Health Initiative; Central Supervisory Board (PC&PNDT Act, Ministry of Health and Family Welfare; New Drug Advisory Committee (NDAC) on vaccines, CDSCO, DCGI, Ministry of Health and FW; National Technical Advisory Group on Immunization (NTAGI), Ministry of Health and Family Welfare; Medical Council of India Committee on Deploying Medical Graduates in Rural Areas; Indo-US Joint Working Group on research on maternal and child health (GoI-ICMR/NIH); ICMR Steering Committee of the Pneumonia etiology stud; DST Expert Group on health hazards of cellphone/tower radiation; High Powered Committee on Independent Evaluation of Performance of ICMR; Selection Committes of Director of Centre for Desert Medicine and Director of National Institute of Nutrition; and selection of senior scientists; DBT Expert Group on Developmental and Disease Biology related to Pregnancy, Foetal life, Neonatal and Early years, and Ageing; DBT Committee on for women and health, hygiene nutrition programmes; ICMR Technical Advisory Group on Surveillance of Neonatal Infection; ICMR, Scientific Advisory Committee on Bhopal gas tragedy; Institutional Ethics Committee, Public Health Foundation of India; Partner, Inter-institutional Research Program on Preterm Birth (DBT); Scientific Advisory Committee of National Institute for Research in Environmental Health , Bhopal; Lead Speaker at the Call to Action – Child Survival Meeting Chennai; Apperaed on multiple shows on child health on Lok Sabha TV, DD National and DD News.

**Professor A.K. Deorari** invited to the Asia-Pacific Leadership and Policy Dialogue for Women’s and Children’s Health Meeting at Manila, Philippines, where the newborncare e Learning package was released, November 2012; Visiting Professor, Faculty of Medicine, University of Gadjah Mada, Yogyakarta, Indonesia, December 2012; Oration for the state NNF Karnataka for Bangalore Neonatology Trust at Bangalore, September 2012; Faculty for NOTE (Neonatal Online Training in Europe) e learning programme for neonatologist 2012–13; Member, Expert group Neonatal Action Group, Government of India; External reviewer, Global Alliance for Helping Babies Survive and Helping Babies Born Soon programme for developing countries 2012–13; Member, Technical specifications for equipment under NHRSC, NRHM, Government of India 2013.

**Professor Arvind Bagga** was Chair, Scientific Committee of 17th Congress of the International Pediatric Nephrology Association being held at Rio de Janeiro, 2016; Chief of Naval Staff Award for best research paper in 2012; Associate Editor of Indian Pediatrics and on the Editorial Board of Indian J Pediatrics, Current Pediatrics and World Journal of Pediatrics.

**Professor S.K. Kabra** was Editor Indian Journal of Pediatrics, Editorial Board of World Journal of Pediatrics; Nominated to ‘Apex Technical Committee for Vaccine Grand Challenge Programme’ of Government of India implemented by Department of Biotechnology; Member, National Technical Working Group on Paediatric tuberculosis; Judge in evaluation of Dr Pohowala and Dr Srivastava awards for papers presented in conference. In Annual Conference of MP Indian Academy of Pediatrics (MP PPEDICON 2012), organized by Indian Academy of Pediatrics MP Branch in Indore from 3–4 November 2012; Chaired Plenary session on Strategies to reduce under five child mortality. In Annual Conference of MP Indian Academy of Pediatrics (MP PPEDICON 2012), organized by Indian Academy of Pediatrics MP Branch in Indore from 3–4 November 2012; Chaired sessions on Nasal ventilation, bronchiectasis, sleep disorders in children. 24th Annual Conference of Respiratory Chapter of Indian Academy of Pediatrics (RESPICON 2012), 26–28 October 2012, Chandigarh.

**Dr Pankaj Hari** was awarded Chief of Naval Staff Award for best research paper in 2012; Reviewer for Pediatric Nephrology, Journal of International Pediatric nephrology Association.

**Dr Sheffali Gulati** was Selected as a Fellow of the Indian Academy of Pediatrics, FIAP (June 2012); Involved in the development of a screening tool for neurodevelopmental assessment for 10 disorders in the community under an INCLIN program. *The tools has been adapted for use in the 'Rashtriya Bal Swasthya Karyakram under the National Rural Health Mission*; Selected as an Expert for the development of National Epilepsy Control Programme; Member, Technical Committee on school health program (Ministry of Health and Family Welfare); Member, Expert Group to develop operational guidelines on Developmental Screening and Early intervention for children with disability and developmental disorders (Ministry of Health and Family Welfare); Member, National Expert Group on Autism of the National Trust; Faculty for six monthly EEG workshops of Indian Epilepsy Society; Member, Expert Group for Epilepsy Conclaves- An advanced level Epilepsy teaching programme of the Indian Epilepsy Society; Faculty for Epilepsy Training session at NIPCCD (National Institute of Public Cooperation and Child Development) for students of regular Advanced Diploma in Child Guidance and Counseling; Expert for Master Trainers programme in Early Intervention conducted by the National Trust; Selected as commentator for Evidence-based Mental Health, an International digest which is published by the British Psychological Society, the Royal College of Psychiatrists and the BMJ publishing group; Review Editor for Frontiers in Child and Neurodevelopmental psychiatry (2011 onwards); Lead Guest Editor for a special issue of International Journal of Pediatrics: Neurodevelopmental disorders; Editorial Board Member: Journal of Special Education and Rehabilitation (2013 on wards); International Journal of Epilepsy School Section Editor: Pediatric Epilepsy (2013 onwards); Journal of Pediatric Neuroscience (2013 onwards); Expert for National Programme on Educational Neuroscience (September 2012), Ministry of Science and Technology); Member, Technical Committee on school health program (Ministry of Health and Family Welfare) (October 2012); Expert for Master Trainers program in Early Intervention conducted by the National Trust; Selected as Expert in the South Asian Autism Network and attended both the conferences in this regard in Dhaka as well as in Delhi ( Ministry of Health and Family Welfare); Member, Committee to draft the 5th Edition of National Formulary of India, Govt of India, Ministry of Health and Family Welfare; Faculty, Epilepsy Teaching Programme (ETP) of the Indian Epilepsy Society; Reviewer for research projects submitted to ICMR, National Trust, DBT and DST; Examiner for University of South Campus, Delhi; PGI Chandigarh; B P Koirala Institute of Health Sciences, Dharan, Nepal; and Chhatrapati Shahuji Maharaj Medical University (SGPGI), Lucknow.

**Dr Rakesh Lodha** was Associate Editor, Indian Pediatrics; Section Editor, Indian Journal of Pediatrics; Member, Technical Advisory Group, Inter-Ministerial Alliance for Medical Management of Children Suffering From Severe Acute Malnutrition (SAM); Member, Technical Reference Group on Pediatric Anti-retroviral therapy, NACO; Chairperson, Ethics Committee, Translational Health Sciences and Technology Institute.

**Dr Rachna Seth** was awarded International Histiocyte Society Scholarship for paper entitled 'Langerhans Cell Histiocytosis: A versatile mimicker' in London; Awarded St Jude Viva Forum Fellowship for work entitled 'Risk Organ Involvement and late sequelae of Langerhans' cell Histiocytosis: A retrospective study of LCH survivors at a tertiary care hospital in India; nominated to Advisory board of Indian Cancer Congress.

**Dr Vandana Jain** was AIIMS representative and Chairperson of the NOC committee of Central Adoption Resource Agency (CARA), an autonomous body under the Ministry of Women and Child Development, Government of India; Member, Teaching Schedule and Curriculum Committee, AIIMS; Section Editor (Endocrinology, metabolism, growth and development), Indian Journal of Pediatrics, January–December 2012; Guest Editor, Special issue on Fetal Growth Restriction, 'Reviews in Endocrine and Metabolic Disorders' (June 2012 issue); Reviewer, Journal of Pediatric Endocrinology and Metabolism, Asia Pacific Journal of Clinical Nutrition, Indian Journal of Medical Research, Indian Pediatrics, and Indian Journal of Pediatrics; Reviewer for applications for research grants for the ICMR and the Council of Science and Technology.

**Dr Ramesh Agarwal** delivered a talk on Rh Isoimmunization on the Radio for general public.

**Dr Pratima Ray** was invited as an expert in the meeting for monitoring and mentoring of the on-going Twinning (MAP and Drug Development) projects by Department of Biotechnology Ministry of Science and Technology Government of India; Chaired 'Vaccine' session in 5th Congress of the Federation of Immunological Societies of Asia Oceania.

**Dhaneshwar Yadav, MSSO** participated in the Seminar 'Formulation of Guidelines on revention of Child Sexual Abuse' Organized by Delhi Commission on Protection of Child Rights; participated in 1st Convocation Ceremony of Manovikas-IGNOU Community College for Persons with Intellectual and Development Disabilities; participated as speaker in the Conference Titled as 'Policies, Programmes, and Schemes on HIV Affected/ infected children in Delhi at Indian Social, organized by SAMARTH, National Institute of Social Defence New Delhi .

#### **VISITING SCIENTISTS**

1. Chitra Prasad, Associate Professor, Genetics, Metabolism and Pediatrics, London.
2. Ciara O'Sullivan, ICREA Research Professor, Nanobiotechnology and Bioanalysis Group, Department of Chemical Engineering, Universitat Rovira i Virgili, Avinguda Països, Catalans, Spain.
3. Rashmi Gopal-Srivastava, Ph.D., Director, Extramural Research Programme, Programme Director for Rare Diseases Clinical Research Network (RDCRN), Office of Rare Diseases Research (ORDR), National center for Advancing Translational Sciences (NCATS), NIH, USA.
4. Dr Joe Sniezek, MD, MPH, Chief, Prevention Research Branch, Captain, USPHS, Division of Birth Defects and Developmental Disabilities, National Center for Birth Defects and Developmental Disabilities, CDC.
5. Dr Sarojini Budden, Developmental Pediatrician and Emeritus Professor of Community Health Systems and Family Nursing, Oregon Health and Sciences University, Oregon, USA.
6. Prof. Julio Frenk, Dean, Harvard School of Public Health, Cambridge, USA.
7. Prof. Doug McMillan, University of Calgary, Canada.
8. Prof. Nalini Singhal, University of Calgary, Canada.
9. Dr Marsha Campbell-Yeo, University of Calgary, Canada.
10. Ms. Jeanne L. Scotland, Alberta, Canada.
11. Ms. Deborah Aylward, Ottawa, Canada.
12. Prof. Vinod Bhutani, Stanford University, USA.
13. Prof. Trinad Chakraborty, CMMV, Germany.
14. Dr Marie Agnes Dragon Durey, Senior Lecturer in Immunology, Descartes University Faculty of Medicine, Paris.
15. Dr Umakanth Khatwa, Director, Sleep Laboratories, Boston Children's Hospital, Center for Pediatric Sleep Disorders, and Instructor in Pediatrics, Harvard Medical School , USA.

## 9. 27 Pediatric Surgery

### Professor and Head

V. Bhatnagar

### Professors

D. K. Gupta (on lein)

M. Bajpai

### Additional Professor

S. Agarwala

M. Srinivas

### HIGHLIGHTS

In addition to the MCh course, the Department has become a prominent destination for short term training for Indian and overseas paediatric surgeons. The Department organized 3 conferences and the faculty delivered 40 guest lectures and performed live operative demonstrations in different parts of the country. A total of 44 scientific papers were read by the Faculty and Residents in various National and International Conferences. The Faculty is involved in 55 research projects and has generated Rs 1.8 crores through extramural grants. The publications have included 16 papers and 6 abstracts in peer reviewed and indexed journals and 3 book chapters. Patient care facilities have registered a qualitative and quantitative gain in almost all areas in which the Department has been engaged. The Faculty has been adequately honoured for its outstanding work and expertise.

### EDUCATION

- Special classes have been initiated for the DM candidates in Neonatology.
- The following candidates underwent short term training in pediatric surgery:
  - Dr Monica Bhagat, R and R Army Hospital New Delhi
  - Dr Bahubali G, Bangalore Medical College, Bangalore
  - Dr Mamta B, Bangalore Medical College, Bangalore
  - Dr Paritosh Thakar, Bangalore Medical College, Bangalore
  - Ms. Sheen Bhatt, University of Melbourne, Australia

### CMEs/Workshops/Symposia/National and International Conferences

#### Organised by the Department

- Hospital Care Associated Infections in Pediatric Surgery, 28 May 2012.
- Inaugural Annual Conference of the Delhi Chapter of Indian Association of Pediatric Surgeons, 8–9 September 2012.
- Brain storming session on ‘Disorders of sex Development in Children’, 12 December 2012, under the aegis of Indian and Asian Societies for Paediatric Urology at Ramalingaswami Hall, AIIMS.

### Lectures delivered

**V. Bhatnagar: 13      M. Bajpai: 10      S. Agarwala: 8      M. Srinivas: 9**

**Oral papers/posters presented: 44**

### RESEARCH

#### Funded projects

##### Ongoing

- A study on Clinical and Molecular Markers of Chronic Interstitial Nephropathy in Congenital Unilateral Ureteropelvic Junction Obstruction (Non–Genetic Markers). Bajpai, Indian Council of Medical Research (ICMR), 2011–14, Rs 38 lakhs.
- To study the role of molecular markers (non-genetic) in the diagnosis and treatment of Posterior Urethral Valves (PUV). Bajpai. Indian Council of Medical Research (ICMR), 2011–14, Rs 37 lakhs.
- A study on aetiopathogenesis of craniosynostosis with respect to phenotypic characterization, imaging and sutural histomorphology. Indian Council of Medical Research (ICMR), 2010–13, Rs 28 lakhs.
- Changes in enteric nervous system and interstitial cells of Cajal in distal loop of colon after diversion colostomy. Srinivas M, AIIMS Research Grant, 2012–13, Rs 5 lakhs.

### Departmental projects

### ***Ongoing***

1. Long term follow up of patients operated for primary vesicoureteric reflux.
2. Various orchidopexy techniques and its effect on testicular histology and antisperm antibody production in neonatal rats.
3. Study of biosynthetic paracrine and endocrine defects as determinants of testicular dysfunction with respect to severity of cryptorchidism with hypospadias.
4. To study the clinical profile and aetiopathogenesis of disorders of sex development (dsd).
5. To study the alterations in TGF- $\beta$ 1 and TGF- $\beta$ 1 mRNA in rat urine as an early, non-invasive, marker of renal injury after experimentally induced unilateral partial ureteric obstruction and the effect of renin-angiotensin blockade on renal recovery (RAS blockade induced by AT-II blocker, ACE inhibitor and anti-renin drug, Aliskiren).
6. To study the clinical profile of patients during the first year after undergoing surgery for esophageal atresia- tracheoesophageal fistula.
7. Penile length-for-age nomogram for prepubertal Indian boys and comparison of penile length in boys with hypospadias vis-a-vis the nomogram.
8. Long term functional outcome and quality of life in operated cases of Hirschprung's disease
9. Evaluation of intralesional sodium tetra decyl sulphate (STS) injection sclerotherapy in vascular malformations.

### ***Completed***

1. Long term outcome of two stage repair for hypospadias.
2. Role of aminoguanidine to prevent deleterious effects of ischemic /reperfusion injury on healing of colonic anastomosis in rats.

### **Collaborative projects**

#### ***Ongoing***

1. Genotypic and phenotypic studies in craniosynostosis and its characterization in Asian Indian children (Nuclear Medicine).
2. Analysis of bile in various hepatobiliary disease states: A Pilot Study (Laboratory Medicine, Gastroenterology).
3. To correlate intracystic pressure with biochemical changes in bile, histopathological changes in liver, length of common channel and volume in cases of choledochal cyst (Radiodiagnosis, Pathology).
4. Neurogenic bladder: a study on identification of risk groups and their therapeutic implications (Radiodiagnosis, Nuclear Medicine).
5. Changes in enteric nervous system and interstitial cells of Cajal in distal loop of colon after diversion colostomy in rat (Anatomy).
6. Expression of angiogenic phenotypes (VEGF and Micro Vessels Density) in Ewing sarcoma family of tumor in children (Pediatric Oncology, Radiodiagnosis, Pathology).
7. To evaluate the incidence of portal hypertension in patients of choledochal cyst and to correlate serum nitric oxide levels in the peripheral blood with portal hypertension and liver histology (Biochemistry, Pathology).
8. GDNF and GFR- $\alpha$ 1 in children with Hirschsprung's disease (Anatomy, Pathology).
9. To evaluate the incidence of portal hypertension in EHBA patients and monitor its progress after Kasai's portoenterostomy by measuring serum nitric oxide levels in peripheral blood (Biochemistry, Pathology).
10. Study of prognostic significance of antenatal ultrasonography and renin angiotensin system activation in predicting disease severity in posterior urethral valves (Obstetrics and Gynecology, Pediatrics, Nuclear Medicine).
11. To correlate hepatic duplex sonography in patients of biliary atresia with portal pressure, serum nitric oxide levels and liver histopathology (Radiodiagnosis, Biochemistry, Pathology).
12. Randomized controlled trial comparing long term DJ stent and short term external ureteric trans-anastomotic stent and a nephrostomy in children undergoing pyeloplasty for pelviureteric junction obstruction (PUJO) (Radiodiagnosis, Nuclear Medicine).
13. A comparative study on risk factors and patterns of inheritance in surgically correctable birth defects between non-ART induced pregnancies and ART-induced pregnancies (Obstetrics and Gynecology).
14. Experimental diversion in newborn rats (Anatomy).
15. To study hyperglycaemic response in neonates after surgery with and without infiltration of local anaesthesia (Endocrinology, Anesthesiology).
16. Primary definitive procedure versus conventional three-staged procedure for management of low anorectal malformations in females: A randomized controlled trial (Biostatistics).

17. Bladder Exstrophy - Epispadias complex: A study on the histomorphology of detrusor with respect to bladder growth as related to upper and lower urinary tract outcomes (Pathology).
18. Renal reserve in different grades of vesicoureteric reflux (Nuclear Medicine).
19. Evaluation of role of DNA Ploidy in predicting prognosis in hepatoblastoma patients (Pathology).
20. Evaluation of neurobehavioral outcome in congenital diaphragmatic hernia patients (Psychiatry).
21. To study the frequency of CTNNB1 gene mutations in hepatoblastoma and to correlate this with the overall clinical outcome of the patients (Pathology).
22. Assessment of the efficacy of laparoscopic approach for appendicectomy and orchiopexy across the pediatric age and size spectrum (Anesthesiology, Radiology).
23. Defining the role of T-regulatory cells and cytokines in the tumour microenvironment in Wilms tumour (Pathology).
24. A comparative correlation of serological markers of autoimmune inflammation with the immunohistochemistry of the liver in biliary atresia (Pathology, Biochemistry)
25. Genomic and proteomic analysis of SCF/C-Kit gene in a pediatric neoplasm, Neuroblastoma. (Pathology, Biochemistry).
26. Gene deletions and mutations in Wilms Tumor: correlation with histopathology and outcome. (Pathology).
27. Assessment of regulatory T cell kinetics in patients of neuroblastoma and PNET – a prospective study. (Medical Oncology).
28. Evaluation of clinic-pathological characteristics, prognostic factors and treatment outcomes of patients with Ewing's sarcoma/PNET (Medical Oncology).

### **Completed**

1. To study the changes in liver histology after surgery for choledochal cyst (Radiodiagnosis, Pathology).
2. To study the effect of stem cells in rat model of upper ureteric obstruction (Pathology, Stem Cell Facility).
3. Assessment of fine needle aspiration cytology for molecular genetic analysis in neuroblastoma (Pathology, Anatomy).
4. A study on profibrotic cytokines TGF- $\beta$ 1, TNF-alpha and IL6 in urine for monitoring therapy in posterior urethral valves (Radiodiagnosis, Nuclear Medicine).
5. A survey of musculoskeletal and pulmonary function abnormalities after thoracotomy in pediatric patients (Radiodiagnosis, Orthopedics, Pediatrics).
6. Study of human Cytomegalovirus DNA in liver tissue of patients with extrahepatic biliary cholestasis (Microbiology, Pathology).
7. Evaluation of growth and nutritional status with particular reference to vitamin D and trace elements in patients of biliary atresia (Pediatrics, Endocrinology, Pathology).
8. To study the association of the MTHFR polymorphism C677T in the bladder exstrophy –epispadias complex (Obstetrics and Gynecology).
9. Long term functional outcome and quality of life in patients of anorectal malformation (Radiodiagnosis).
10. To study the effect of ipsilateral ureteric obstruction on contralateral kidney and the role of renin angiotensin system blockade on renal recovery in experimentally induced unilateral ureteric obstruction – a morphometric analysis (Pathology).
11. To study the role of renin angiotensin system blockade on renal recovery in experimentally induced unilateral ureteric obstruction – a morphometric analysis (Pathology).
12. Recovery of renal function in patients undergoing pyeloplasty (Nuclear Medicine).

### **PUBLICATIONS**

**Journals: 17                      Abstracts: 6      Chapters in books: 3**

### **PATIENT CARE**

#### **Facilities available**

- Intensive care unit for neonatal surgical patients
- High dependency area for patients operated under Pediatric Surgery department
- Computer based urodynamic study
- Computer based anorectal manometry
- Computer based esophageal manometry
- 24 hours pH monitoring for gastroesophageal reflux

#### **Special clinics**

- Hydrocephalus Clinic
- Craniosynostosis Clinic
- Pediatric Urology Clinic

- Intersex Clinic
- Pediatric Solid Tumor Clinic

#### Laboratories

- Departmental Research Laboratory
- Laboratory for urodynamics, esophageal and anorectal manometry

#### Community services

- Weekly outpatient clinic and operative session at CRHSP, Ballabgarh

#### Attendance in OPD and Speciality Clinics

	New cases	Old cases	Total
General OPD	5769	13394	19163
Hydrocephalus clinic	19	119	138
Craniosynostosis clinic	02	02	04
Pediatric Urology clinic	572	2873	3445
Inter sex clinic	0	61	61
Pediatric solid tumor clinic	148	1641	1789
CRHSP Ballabgarh OPD	–	–	1628

#### Admissions

AB5 Ward 1308 AB5 ICU173

#### Surgical procedures

Total	2103		
Major	1578	Minor 525	
Minor procedures in OPD	1357	CRHSP Ballabgarh	268

#### Special investigations

Urodynamic evaluation	463	Uroflowmetry	715
Oesophageal manometry	1	Anorectal manometry	103

#### AWARDS, HONOURS AND SIGNIFICANT EVENTS

Purushottam Upadhyaya Research Award of the IAPS, 2012 for the published article 'Peripherally inserted central venous lines versus central lines in surgical newborns – a comparison. M. Ragavan, S. Gazula, D.K. Yadav, S. Agarwala, M. Srinivas, M. Bajpai, V. Bhatnagar, D.K. Gupta. *Indian Journal of Pediatrics* 2010;77:171–174'.

**Professor V. Bhatnagar** was Member Board of Studies for the newly created Department of Pediatric Surgery, Sanjay Gandhi Post-Graduate Institute of Medical Sciences, Lucknow since February 2011; Governing Council Member, Chacha Nehru Bal Chikitsalaya, New Delhi since 2012; Selection Committee Member for Pediatric Surgery, ESI Hospitals, 2012; Selection Committee Member for Pediatric Surgery, UPSC, 2013; Selection Committee Member for Pediatric Surgery, Pt BD Sharma University, Rohtak, 2013; Selection Committee Member for Pediatric Surgery, Sanjay Gandhi Post-Graduate Institute of Medical Sciences, Lucknow 2013.

**Professor M. Bajpai** was awarded MSR Oration of the Indian Association of Paediatric Surgeons, held at the annual conference of the IAPS in Bhopal, November 2012; Technical Expert appointed by Director General ICMR, on the subject of Disorders of Sex Development in Nirman Bhawan in reviewing court cases; Technical Expert committee member – Ministry of Sports: Medical examinations of athletes

**Dr S. Agarwala** was nominated Executive Board Member for the Asian Association of Pediatric Surgeons; Nominated the Executive Board Member of the International Society of Pediatric Surgical Oncology (IPSO); Section Editor for the *Indian Journal of Pediatrics*; Course Instructor for 4th regional congress of cancer and blood diseases of childhood and pediatric surgical oncology master classes, 7–9 November 2012, Amman, Jordan. Course Instructor for pediatric surgical oncology master classes conducted during 13th Congress of EUPSA and 59th Congress of BAPS, 13–16 June 2012, Rome, Italy.

#### VISITING SCIENTISTS

1. Dr Ghulam Mustafa Zemaray, Chief of Pediatric Surgery, Indira Gandhi Institute of Child Health, Kabul, Afghanistan.
2. Dr Habib-ur-Rehman Qasim, Consultant Pediatric Surgeon, Indira Gandhi Institute of Child Health, Kabul, Afghanistan.
3. Dr Fayza Haider, Consultant Pediatric Surgeon, Salmaniya Medical Complex, Kingdom of Bahrain.

## 9.28 Pathology

### Professor and Head

Subrat K. Panda

### Professors

Chitra Sarkar  
Rajni Safaya

Manoj K. Singh  
Ruma Ray

S. Datta Gupta  
A.K. Karak  
A.K. Dinda

### Additional Professors

M.C. Sharma

Venkateswaran K. Iyer

### Associate Professors

Sandeep R. Mathur

Vaishali Suri

### Assistant Professors

Sudheer Arava  
Deepali Jain

Geetika Singh

Asit Ranjan Mridha  
Prasanjit Das

### Group A Officer

Bharat Bhushan Khurana

Himender Singh Tomar

## EDUCATION

### Postgraduate

Senior Residents: 18; MD students: 22; PhD students: 11

### Short-term training

1. Five trainees from BPKIHS, Dharan, for one month from 1 to 31 March 2013.
2. Drs Ranjana Solanki and Deepika Hemrajani for three weeks, from 19 November 2012 to 9 December 2012 in Renal and Transplant Pathology.
3. Dr Syed Besira Yasin for 8 weeks from 18 June 2012 to 12 August 2012.
4. Two students from KIIT University for 6 months from 3 August 2012 to 2 February 2013.
5. Ms Nazat Mubarak Al Dairi from Oman for 3 months in Pathology from December 2012 to February 2013.
6. Dr Prakash Pandey from Steel Authority of India for 1 month from 5 April 2012 to 4 May 2012 in Histopathology and Cytopathology.
7. Professor Chanda Datta for 1 week from 10 to 15 December 2012 in Renal Pathology.

### Long-term training

1. Major Richa Ranjon for 2 years from 4 June 2012 to 3 June 2014.

### Continuing Medical Education

#### *Organized by the department*

1. Organized Annual Meeting of DAPCON-2013, Delhi Chapter of Indian Association of Pathologists and Microbiologists (IAPM), 23–24 February 2013.
2. Expert Committee Meeting and Brain Storming on Application of Nanotechnology in Cancer Therapy, 3–4 March 2013, Conference Hall, AIIMS.

### Lectures delivered

S.K. Panda: 1

C. Sarkar: 12

S. Datta Gupta: 13

A.K. Dinda: 6

M.C. Sharma: 7

V.K. Iyer: 4

Sandeep Mathur: 3

V. Suri: 7

Sudheer Arava: 3

Geetika Singh: 4

A.R. Mirdha: 3

D. Jain: 5

Prasenjit Das: 1

**RESEARCH**

**Funded projects**

**Completed**

1. Angiogenesis in astrocytic tumors of the brain: A clinicopathological study with special reference to expression of vascular endothelial growth factor (VEGF), and hypoxia inducible factor (HIF) – 1 alpha and correlation with vascular morphometric parameters and tumor infiltrating inflammatory cells. Chitra Sarkar, ICMR, 2009–12, Rs 21 lakhs.
2. Hypoxia and p53-HIC1 axis in stemness of glial tumors and cell lines. Chitra Sarkar, DBT, 2009–12, Rs 50.5 lakhs.
3. Role of molecular genetic alterations in classification and prognosis of Wilms tumor in India: An evaluation of WT-1 and WT-2 region and beta catenin pathway. V.K. Iyer, AIIMS, 2011–13, Rs 10 lakhs.
4. Analysis of her-2/neu status on fine-needle aspiration cytology smears and its correlation with hormone receptor status, proliferation markers and apoptosis in breast cancer: a fluorescent in-situ hybridization (FISH) and immunocytochemistry study. Sandeep Mathur, CSIR, 2009–12, Rs 14 lakhs.

**Ongoing**

1. Non structural polyprotein (pORF1) processing of Hepatitis E virus (HEV). S.K. Panda, DBT, 2008–13, Rs 66 lakhs.
2. Hepatitis E Virus (HEV) superinfection on chronic hepatitis B associated liver disease: Patho-biological study. S.K. Panda, DST, 2011–14, Rs 87 lakhs.
3. Analysis of the intergenic cis acting elements in Hepatitis E virus responsible for the formation of sub-genomic RNA. S.K. Panda, DBT, 2012–15, Rs 78 lakhs.
4. Development of an in vitro System to Study the Pathophysiology of Non-alcoholic Fatty Liver Disease (NAFLD) and Non-alcoholic Steatohepatitis (NASH). S.K. Panda, ICMR, 2012–15, Rs 48 lakhs.
5. Genomic and functional approaches to decipher the role of a large imprinted miRNA cluster in glioblastoma multiforme. Chitra Sarkar, DBT, 2012–15, Rs 50 lakhs.
6. A clinicopathological and molecular genetic study of polycomb repressive complexes in Gliomas. Chitra Sarkar, ICMR, 2012–15, Rs 50 lakhs.
7. Glioblastomas in children and adults: A comparative study with special reference to molecular pathways and MGMT methylation status. Vaishali Suri, ICMR, 2010–13, Rs 24 lakhs.
8. Centre for Research in Epilepsy with special reference to ‘Difficult to treat Epilepsy’. Chitra Sarkar, DBT, 2010–15, Rs 34.86 crores.
9. Hypoxia and Notch signaling in Glioblastoma: Implications for an adverse phenotype. Chitra Sarkar, DBT, 2011–14, Rs 48 lakhs.
10. Molecular Mechanisms of Hypoxia Resistance in Glioblastoma: Role of MicroRNAs. Chitra Sarkar, DBT, 2011–14, Rs 65 lakhs.
11. Clinical application of array based comparative genomic hybridization (array CGH) in the genetic evaluation of still births. Chitra Sarkar and M.C. Sharma, DBT, 2012–15, Rs 85 lakhs.
12. Synthesis and characterization of ultra fine gold nanoparticles, their utility and safety as a novel X-ray contrast agent: an in-vivo study in animal model. A.K. Dinda, ICMR, 2011–13, Rs 30 lakhs.
13. Cell sheet engineering for assembling human corneal construct. A.K. Dinda, IIT Delhi, 2011–15, Rs 1 crore.
14. Development of cost effective nanoparticle based drug delivery system of amphotericin B for treatment against visceral leishmaniasis, A.K. Dinda, DBT, 2012–15, Rs 89 lakhs.
15. A study of miRNA de-regulation and IL-10 expression as prognostic marker in breast cancer. A.K. Dinda, CSIR, 2012–15, Rs 25 lakhs.
16. Human pharmacology and toxicology profiling of INMAS biomedical products. A.K. Dinda, DRDO, 2012–15, Rs 19 lakhs.
17. Optimization of HPV detection by hybrid capture II for use on DNA extracted from cytology smears: a method suitable for developing countries. V.K. Iyer, ICMR, 2012–15, Rs 19.8 lakhs.
18. ICMR Taskforce study on female genital tuberculosis: Evaluation of molecular methods (PCR, immunohistochemistry) against conventional methods (histopathology, culture, AFB staining in endometrial samples) and laparoscopy in detection of genital tuberculosis in infertile women. V.K. Iyer (Immunohistochemistry reference lab), ICMR, 2012–15, Rs 35.24 lakhs.

19. Role of glypican 3 in the molecular pathogenesis of Wilms' tumor and its value in prognosis and treatment response. V.K. Iyer, DBT, 2013–16, Rs 19.55 lakhs.
20. Association of BK Polyoma virus and urothelial carcinoma: A study in the Indian population. Geetika Singh, AIIMS, 2012–13, Rs 4.98 lakhs.
21. Development of Objective light microscopic and morphometric criteria for diagnosis and follow-up of Celiac disease in Indian patients. Prasenjit Das, AIIMS, 2013–14, Rs 10 lakhs.
22. Immunohistochemical analysis of CXCR4, SDF-1, CXCR7 expression, its correlation with p53 mutation and Ki67 Labeling Index (LI) in Ewing sarcoma and its prognostic implication. A.R. Mridha, AIIMS, 2013–14, Rs 10 lakhs.
23. EGFR mutation analysis in non small cell lung cancer using immunohistochemistry and in situ hybridization techniques. Deepali Jain, AIIMS, 2013–14, Rs 10 lakhs.
24. Study of Expression of Biomarkers in Endometrial Hyperplasia and Carcinoma. S.R. Mathur, AIIMS, 1 year, Rs 4.6 lakhs.
25. 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. Sudheer Kumar A, AIIMS, 2013–14, Rs 10 lakhs.
26. The virtual medical classroom an emerging tool for teaching medicine and science. M.K. Singh, National Knowledge Commission, 2011–13, Rs 92.70 lakhs.

### **Departmental projects**

#### ***Completed***

1. Clinicopathological study of CNS AT/RT.
2. Clinicopathological study of pineal tumors.
3. Study of iron metabolism associated proteins in renal cell lines in hyperglycemic and hypernatraemic condition.
4. CD5+B cell lymphomas: A morphologic and immunohistochemical study.
5. CD68 expression status in non-Hodgkin lymphoma and its clinical relevance in terms of therapeutic response and prognosis.
6. Expression of Dkk 1 in endometrial endometrioid carcinoma and its correlation with Wnt/ $\beta$ -catenin signaling pathway.
7. Analysis of chemotherapy induced morphologic alterations and expression of prognostic markers in post-neoadjuvant chemotherapy advanced stage ovarian serous cystadenocarcinomas.

#### ***Ongoing***

1. Subtyping of medulloblastomas by immunohistochemistry.
2. MGMT methylation in hemangiopericytomas.
3. Expression of histone markers in gliomas.
4. MGMT methylation in gliosarcoma.
5. Study of Limb Girdle Muscular Dystrophy (LGMD) Patients in Indian Population Using Calpain-3, Dysferlin and Sarcoglycan Protein Analysis.
6. Mutational analysis of Indian patients of Limb Girdle Muscular Dystrophy (LGMD).
7. Study of Tuberous Sclerosis Complex and Upregulation of WNT pathway in Subependymal Giant Cell Astrocytomas and Cortical Dysplasia.
8. Study of Human Telomerase Reverse Transcriptase (hTERT) and Stem Cell Markers Expression in Ependymomas -Correlation with Apoptotic and Proliferative markers.
9. Molecular genetic study of pediatric gliomas.
10. Analysis of genetic alterations in meningiomas.
11. Study of endocytosis and fate of calcium phosphate based and gold nanoparticle.
12. Nanoparticle mediated antigen presentation and modulation of antigen processing by macrophage.
13. Development of metal nanoparticle for cancer targeting.
14. Gene deletions and mutations in Wilms tumor: Correlation with histopathology and outcome.
15. Lymph node harvesting in resected gastrointestinal specimens: A comparative study among different techniques.
16. Identification of unique histological preneoplastic lesions in colon mucosa during colorectal carcinogenesis.
17. Intestinal Neuronal Dysplasia: Pathologist's take on a rarely reported entity.

- 18 Histopathology of patients presented with Non Cirrhotic portal hypertension Objective Scoring of extent of steatosis and fibrosis using Computer Assisted Image Analysis system in liver biopsy of NASH patients.
- 19 Histopathological spectrum of Non cirrhotic portal fibrosis versus extra-hepatic portal fibrosis-what make us to reach diagnosis?
- 20 Histopathology of Hepatic Venous Outflow Tract Obstruction Revisited: An analysis of 143 cases.
- 21 Comparative study of virtual and conventional autopsy in the phenotypic characterization of stillbirths.
- 22 Pathological evaluation of dilated cardiomyopathy with special reference to histological and morphometric analysis of fibrosis, capillary density, arteriolar density and pattern of collagen IV distribution—a study on endomyocardial biopsies and explanted native hearts.
- 23 Histopathological analysis of light microscopical and ultrastructural features of surgically excised left atrial appendage in patients with atrial fibrillation due to rheumatic heart disease.
- 24 Endothelial injury and other histopathological changes after papavarine injections in radial and left internal mammary arteries used as conduit for coronary artery bypass.
- 25 Histopathological and biochemical analysis of Atherosclerotic plaque in coronary atherosclerosis in comparison with Dual energy technique of CT scanner.
- 26 Immunohistochemical expression of jak-p, stat-3 and bcl-2 in oral squamous cell carcinoma with and without lymph node metastasis and verrucous carcinoma.
- 27 Immunohistochemical study of e-cadherin,  $\beta$ -catenin and vimentin in oral squamous cell carcinoma, verrucous carcinoma in comparison with that of a metastatic squamous cell carcinoma in a cervical lymph node.
- 28 A Clinico morphological study of cutaneous tuberculosis with special emphasis on immunohistochemistry.
- 29 Histopathological evaluation of aortic aneurysms in patients with bicuspid aortic valve.
- 30 Study of Hormone and HER-2/neu Receptor Status before and after Neoadjuvant Chemotherapy in Locally Advanced Breast Carcinoma.

### **Collaborative project**

#### ***Completed***

1. Oxygen concentration, p53 axis and stemness characteristics of glial tumor cell lines (Biochemistry)
2. Expression of Notch signaling molecules, Epithelial Mesenchymal Transition (EMT) markers and HIF-1 $\alpha$  in Glioblastoma Multiforme. (Biochemistry).
3. Clinicopathological study of the thalamus in head injury. (Neurosurgery).
4. Role of macrophage and oxidative stress in airway remodeling (IGIB, Delhi).
5. Development of hydrogel based wound dressing and study of its efficacy in experimental model. (Center for Biomedical Engineering, IIT, Delhi).
6. Posterior approach Vs standard pancreaticoduodenectomy in patients with periampullary carcinoma: a prospective comparison (Gastroenterology)
7. Utility of bronchoalveolar lavage fluid analysis in assessment of disease activity of interstitial lung disease in patients with systemic sclerosis. (Medicine)
8. Clinico-pathological study of antral mucosal changes in patients with ethmoidal polypi. (ENT)
9. Role of computerized tomography in the staging and management of carcinoma cervix. (Radiodiagnosis)
10. Evaluation of efficacy of human placental extract and lycopene in clearing inflammatory cervical smears. (Obstetrics and Gynaecology)
11. Evaluation of transrectal ultrasound elastography and contrast enhanced sonography for detection of prostatic cancer. (Radiodiagnosis).
12. Sentinel lymph node biopsy in malignant eyelid tumours (Ophthalmology, RP Centre)
13. Role of dynamic contrast enhanced and diffuse weighted 3T-MRI in preoperative evaluation of endometrial cancer (Radiodiagnosis).

#### ***Ongoing***

1. Methylation profiling of pediatric GBMs (Indian Institute of Science, Bangalore).
2. CHIP-Sequencing in Gliomas. (IGIB, Delhi).
3. Effect of blocking of HIF1 $\alpha$  gene expression on macrophage endocytosis and generation of ROS. (JNU, Delhi).
4. Evaluation of fibrosis in dilated cardiomyopathy.

5. Histopathological analysis of light microscopical and ultrastructural features of surgically excised left atrial appendage in patients with atrial fibrillation due to rheumatic heart disease.
6. Doppler tissue echocardiography and its correlation with histopathological changes in patients of tetralogy of fallot after intracardiac repair.
7. Endothelial injury and other histopathological changes after papavarine injections in radial and left internal mammary arteries used as conduit for coronary artery bypass.
8. Histopathological and biochemical analysis of Atherosclerotic plaque in coronary atherosclerosis in comparison with Dual energy technique of CT scanner (Medical Physics)
9. Urological evaluation of dermatology patients on cyclophosphamide therapy (Dermatology).
10. A randomized controlled trial comparing modified gemcitabine+oxaliplatin (mGEMOX) to gemcitabine+cisplatin in management of unresectable gall bladder cancer (Medical Oncology).
11. Role of bone marrow mononuclear cells and renal stem cells in renal preservation in obstructive renopathy – An experimental study in mice (Paediatric Surgery, Trauma Centre).
12. Preoperative prediction of tumor angiogenesis by DW MRI and perfusion CT in renal cell carcinoma and using these biomarkers to predict tumor grade in advanced renal cell carcinoma (Radiology).
13. Collaborative project with department of radiology for morphological and computer assisted image analysis assessment of hepatic fibrosis and their comparison with upcoming radiological assessment techniques.
14. Study of placenta for oxidative stress status in pregnant women on daily versus weekly iron supplementation: An ICMR Task Force Study.
15. Safety and efficacy of 2 versus 3 dose HPV vaccine in adolescent girls aged 10-18 years (Gynaecology and Obstetrics).
16. Multicenter epidemiological study of zygomycosis; Identification, classification and molecular typing of zygomycetes in India (Microbiology, ENT).
17. HPV-003, Phase II Placebo-Controlled Study of VGX-3100, (Hpv16e6/E7, HPV 18e6/E7 DNA Vaccine) Delivered IM followed by Electroporation (EP) With Collectra®-5p for the Treatment of Biopsy-Proven CIN 2/3 Or CIN 3 with documented HPV 16 Or 18 (Gynaecology and Obstetrics).
18. Evaluation of The Potential of Two Monoclonal Antibodies For Treatment of Androgen-independent Prostatic Carcinomas (Talwar Research Foundation).
19. Evaluation of efficacy and anti-inflammatory action of Placentrex™ in women with inflammatory Pap smears (Gynaecology and Obstetrics).
20. Long term effects of RISUG ® as an implant in fallopian tube of rabbits. (Biomedical Engineering)

## PUBLICATIONS

**Journals: 85 Chapter in books: 2**

### Patent Filed

AIIMS–DBT joined patent filed on ‘A Process for Preparation of Non-Viral Vector for Delivery of Nucleic Acid by Mucosal Route’, Indian Patent application # 3256/DEL/2012 dated 22.10.2012

## PATIENT CARE

### Laboratory services

#### Surgical Pathology Laboratory

Specimens processed	40546	Special stains	30477
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#### Cytopathology Laboratory

Total specimens	20918	FNAC (outpatient)	8774
Exfoliatives routine	8124	Cervical smears(PAP smears)	4020

#### Autopsies performed

14

#### Electron microscopy

Specimens processed

982

#### Immunohistochemistry Laboratory

Diagnostic	32622	Research	6309
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#### Neuropathology services

Neuropathology surgical specimens	2356	Frozen sections	243
Immunohistochemistry	6472		

Muscle biopsies:

Total number received	374	Muscle enzyme histochemistry	1266
Muscle immunohistochemistry	2281	Diagnostic FISH	180
<b>Tissue Culture Lab</b>			
H and E Staining	3435	Special Stains	180
Immunohistochemistry	500	Frozen Sections	900
Unstained	1188	Coated slices	10401
<b>Renal pathology services</b>			
Urine sediment analysis	6392	Immunofluorescence of kidney biopsy	678
Electron microscopy of kidney biopsy	681		
<b>Cardiac Pathology Services</b>			
<b>Specimens</b>			
Routine	288	Research	101
<b>Slides Coated</b>			
APES	28547		
Others works			
Immunohistochemistry	124	Special stains	205
Manual processing: post cardiac transplant biopsies 3			
<b>Skin Biopsy cutting</b>		<b>Kidney biopsy cutting</b>	
Coated slides	4800		721

#### **AWARDS, HONOURS AND SIGNIFICANT ACHIEVEMENTS**

**Professor S.K. Panda** was nominated for mentoring INSPIRE Internship Programme, DST, Govt. of India, Bhubaneswar, 25–26 April 2012; 8–9 July 2012; nominated to re-schedule DST INSPIRE Programme, DST, Govt. of India, Bhubaneswar, 29–30 July 2012; examiner to examine PhD thesis entitled, 'Identification of Novel Virulence Gene and Development of Safe Liver Attenuated Salmonella Typhimurium Vaccine', Bhubaneswar, 4 September 2012.

**Professor Chitra Sarkar** won AIIMS Excellence Award for notable contribution in research, for the paper entitled 'Molecular profile of oligodendrogliomas in young patients. Neuro Oncol 2011;13:1099-106'; delivered Presidential Oration in the Annual Conference of the Asian Society of Neuro-Oncology; Dr Subhadra Dayananda Rao Oration, Unraveling the Genomic Complexity of Pediatric Gliomas, NIMHANS, Bangalore, 28 March 2013; nominated Member, Council of the Indian Academy of Sciences for the triennium 2013–15; Member, Review committee of the journal Current Science; Member, Selection committee, NIMHANS, Bangalore; Symposium Coordinator for Neuro-oncology symposium in IACR; Symposium Coordinator for Neuropathology symposium in ASNO

**Professor A.K. Dinda** was Nominated as a member of Expert Committee of Indian Council of Medical Research (ICMR) for developing Guideline for Nano-Safety Regulation in India; Nominated as a member of Research and Academic Advisory Council of Institute of Nano-Sciences and Technology (INST), Mohali (An Autonomous Institute of Department of Sciences and Technology, Govt. of India)

**Dr Prasenjit Das** received the 'Prof K C Basu Mallick award' for best research paper presentation at Annual conference of India Society of Pathologists and Microbiologists, December 2012. Jamnagar, Gujarat; Received Award of 'Winner of Online National Pathology Quiz 2013', organized by IAPM through a series of online quizzes for national and international participants.

**Professor S. Datta Gupta:** One of the papers published as a co-author [Makharia GK, Verma AK, Amarchand R, Bhatnagar S, Das P, Goswami A, Bhatia V, Ahuja V, Datta Gupta S, Anand K. Prevalence of celiac disease in the northern part of India: a community based study. J Gastroenterol Hepatol. 2011;26:894-900] received the third prize at the AIIMS Excellence Award 2012 that was awarded to its first author Dr GK Makharia, Department of Gastroenterology; Chairman, Scientific Committee, 28th Annual Conference of the Delhi Chapter, Indian Association of Pathologists and Microbiologists [DAPCON 2013], 23–24 February 2013.

## 9.29 Pharmacology

### Professor and Head

Y.K. Gupta

### Professors

V.L. Kumar  
N.R. Biswas

Kamal Kishore  
S.K. Maulik

### Additional Professors

D.S. Arya

Jatinder Katyal

### Associate Professors

Surender Singh

Kh Reeta

Jagriti Bhatia

### Scientists

Sharda S. Peshin  
Sunder Singh Samuel

Thomas Kaleekal

Amita Srivastava  
Madhuri Gupta

### EDUCATION

The department is engaged in the teaching programme of MBBS (3rd, 4th and 5<sup>th</sup> semesters), BSc Nursing (Hons), MSc, MD, PhD and DM (Clinical Pharmacology) courses. The department also imparted training to fifteen short term trainees.

### CMEs/Workshops/Symposia/National and International Conferences Organized by the department

An Expert Group Meeting on Mercury Free Healthcare was organized on 23 June 2012, AIIMS, New Delhi. Around 19 experts from IITR, Lucknow; NIOH, Ahmedabad; PGIMER, Chandigarh; AIIMS, New Delhi; Central Pollution Control Board, New Delhi; Jamia Hamdard, Delhi and NGOs participated. The recommendations of the experts led to the publication of a Booklet (Awareness Tool Kit) entitled 'Mercury free Healthcare, Why and How?' (Print vision, New Delhi, 2012), and two posters entitled 'Know about Mercury' and 'Parae Se Sawdhan' for public awareness. The booklet and posters have been sent to various hospitals in India for dissemination of information.

### Lectures delivered

**Y.K. Gupta: 9**      **Kamal Kishore: 2**      **N.R. Biswas: 4**      **S.K. Maulik: 4**  
**Jagriti Bhatia: 1**

### Oral papers/posters presented: 11

### RESEARCH

#### Funded projects

##### Ongoing

1. Quantitative detection of heavy metals and phthalates in toys. YK Gupta, ICMR, 2009–13, Rs 19.6 lakhs.
2. A preliminary study on the antiobesity property of a Unani formulation in experimental model in rats. YK Gupta, CCRUM, AYUSH, MoHFW, 2009–13, Rs 6.9 lakhs.
3. Effect of traditionally used Ayurvedic *rasa aushadhies* on renal and hepatic functions: Clinical and experimental study. YK Gupta, AYUSH, 2009–13, Rs 9.8 lakhs.
4. Pharmacological evaluation of five ayurvedic formulations used in the management of migraine. YK Gupta, Ipca Laboratories, Mumbai, 2010–13, Rs 29.6 lakhs.
5. Evaluation of the frequency of polymorphisms affecting lead and mercury toxicity among children with cerebral palsy. YK Gupta, Defence R&D Establishment, DRDE, 2011–13, Rs 9 lakhs.
6. Clinical trial with S-Adenosyl L-methionine (SAME) in patients with osteoarthritis of knee (mild to moderate). YK Gupta, MoHFW, GOI, 2009–14, Rs 14.5 lakhs.

7. Herb-drug interaction studies of selected herbs and allopathic drugs used in treatment of type 2 diabetes, rheumatoid arthritis and epilepsy. YK Gupta, ICMR, 2012–14, Rs 18.2 lakhs.
8. Establishment of clinical research centre (CRRC) for pharmacovigilance. YK Gupta, PATH/One, WHO, Rs 59.8 lakhs.
9. Preliminary pharmacological and safety studies of homeopathic drugs. YK Gupta, Central Council for Research in Homeopathy, AYUSH, MoHFW, 2011–13, Rs 19.3 lakhs.
10. Studies on the anti-inflammatory and anti-arthritis properties of artesunate. V.L. Kumar, AIIMS Institute Research Grant, 2012–13, Rs 2 lakhs.
11. Double-blind, randomized placebo controlled clinical trial to study the add-on efficacy of a standardized preparation of the water extract of *Terminalia arjuna* in patients with left ventricular dysfunction, already receiving standard drug regimen. SK Maulik, DBT, 2010–13, Rs 50 lakhs.
12. Evaluation of disease modifying activity of plant lipid rich in omega-3 fatty acid in experimental models of chronic inflammation. Surender Singh, ICMR, 2011–14, Rs 29.7 lakhs.
13. Effect of bioactive phytoconstituents in experimental metabolic syndrome. Kh Reeta, ICMR, 2010–13, Rs 29.3 lakhs.
14. Evaluation of the potential of edaravone, taurine and their combination in sporadic model of Alzheimer's disease in rats. Kh Reeta, DST, 2012–15, Rs 28.6 lakhs.
15. Evaluation of the renoprotective effect of epicatechin gallate, nobiletin and hesperidin in cisplatin induced nephrotoxicity in rats. Jagriti Bhatia, DBT, 2012–15, Rs 37.7 lakhs.
16. Evaluation of nephroprotective effect of telmisartan in cisplatin induced nephrotoxicity in rats. Jagriti Bhatia, AIIMS Institute Research Grant, 2012–13, Rs 5 lakhs.

#### **Completed**

1. Safety study of Unani medicine (UNIM-004 and UNIM-005, local) used in the treatment of Vitiligo. YK Gupta. CCRUM, AYUSH, MoHFW, 2011–12, Rs 9.9 lakhs.
2. Scientific study to determine the quality of medicines being sold at jan aushadhi drug stores. YK Gupta, Ministry of Chemical and Fertilizers, 2010–13, Rs 13.6 lakhs.
3. Assessment of awareness of environmental mercury pollution in healthcare system: solutions and strategies for prevention. YK Gupta, Ministry of Environment and Forests, 2008 –12, Rs 20.5 lakhs.
4. Evaluation of the effect of curcumin on the expression of metalloproteinase-9, Rho kinase (ROCK II), glycogen synthase kinase-3- $\beta$  and mTOR in pentylenetetrazole-induced kindling in rats. Kh Reeta, AIIMS, 2011–12, Rs 4 lakhs.
5. Role of NMDA and GABA-ergic mechanisms in the antiepileptic effect of tianeptine in experimental models of epilepsy. Kh Reeta, AIIMS, 2011–12, Rs 1 lakh.

#### **Departmental projects**

##### **Ongoing**

1. Pharmacokinetics and pharmacodynamic interaction of an ayurvedic medicine with antiepileptic drug: An experimental and clinical study.
2. Expression profile of microRNAs in patients at various stages of chronic myeloid leukemia and their correlation with imatinib therapy response.
3. Treatment response to imatinib in chronic myeloid leukemia: The role of P-glycoprotein.
4. Neuroprotective potential of lercanidipine and citalopram in middle cerebral artery occlusion model of stroke in rats.
5. Optimization of traditional herbal ingredients for developing a formulation for Alzheimer's disease: in vitro and in vivo study.
6. Evaluation of interaction profile of selected medicinal plants with conventional antiepileptic and oral hypoglycemic agents.
7. Pharmacokinetics based optimization of phototherapy in the infants undergoing treatment for hyperbilirubinemia.
8. Studies on the phytotherapeutic potential of *Calotropis procera* latex fractions in arthritis.
9. Studies on the anti-inflammatory and anti-arthritic properties of callus proteins of *Calotropis procera*.
10. Studies on the anti-inflammatory and anti-arthritic properties of root proteins of *Calotropis procera*.
11. Studies on the safety and efficacy of artesunate in experimental model of colorectal cancer.

##### **Completed**

1. Evaluation of anti epileptic property of selected Indian medicinal plants and their mechanism of action.

2. Evaluation of *Clitoria ternatea* and *Evolvulus alsinoides* extracts for cognitive impairment in rats.
3. Effect of traditionally used Ayurvedic rasa aushadhies on renal and hepatic functions: Clinical and experimental study.
4. Study of immunosuppressive agents (mycophenolate mofetil and rapamycin) on transient focal cerebral ischemia in rats.
5. Effect of antiepileptic drug therapy on bone mineral density and vitamin D status in children with epilepsy.
6. Evaluation of compliance of IND Applications with drug regulatory guidelines of India.
7. Effect of antiepileptic therapies on trace elements status in Indian population in a tertiary care hospital.
8. Interaction of zinc with sodium valproate and phenytoin in animal models of seizure.
9. Leaching of metal ions from orthodontic wires in different soft drinks.
10. Studies on the anti-pyretic and anti-inflammatory properties of protein fraction of *Calotropis procera* latex.
11. Studies on the anti-inflammatory properties of *Calotropis procera* latex fractions.

## **Collaborative projects**

### **Ongoing**

1. Efficacy and safety of concomitant use of nevirapine and rifampicin in patients co-infected with HIV and Tuberculosis in India (Medicine).
2. Development of nanoparticulate anti-TB drug delivery system for macrophage receptor specific targeting through oral and respiratory route: Phase I (Pathology).
3. Once daily dose of nevirapine (400 mg) versus twice daily dose (200 mg) of nevirapine-based highly active antiretroviral therapy regimens in antiretroviral-naïve patients with HIV and tuberculosis infection in India (Medicine).
4. Development of multifunctional metallic nanoparticles for cancer targeting (Pathology).
5. Development of targeted nanoparticles based drug delivery system for treatment of kala-azar (Pathology).
6. Effect of rifampicin as a part of antitubercular therapy on antihypertensive drug requirement in patients of renal disease (Nephrology)

### **Completed**

1. To assess whether serum and saliva free anti-epileptic drug levels are equivalent (Neurology).
2. Anti-cataract activity of Itone and other herbal isolates (Ocular Pharmacology, RP Centre and Dey's Medical).
3. Prevalence of haemostatic abnormality in epileptic children on valproate monotherapy: a cross sectional study (Paediatrics).

## **PUBLICATIONS**

**Journals: 15   Abstracts: 12   Chapters in books: 11   Book: 1**

## **PATIENT CARE**

### **Clinical Pharmacology facility**

The facility is equipped to conduct a range of studies on healthy volunteers. The department is involved in the estimation of a number of metals such as heavy metals and trace metals/ micronutrients in biological samples for various collaborative studies.

### **Therapeutic Drug Monitoring facility**

This facility carries out estimations for drug levels in patient samples. Commonly estimated drugs include antiepileptic drugs (Phenytoin, Phenobarbitone, Carbamazepine and Sodium valproate), anti-cancer/anti-rheumatic drug (Methotrexate) and immunosuppressant (Mycophenolic acid), etc.

### **National Poison Information Centre (Toll Free No. 1800116117)**

The National Poisons Information Centre (NPIC) provides information on management of various poisonings. It provides round-the-clock (365 days) updated, precise and concise information on management of poisoning to medical professionals, healthcare personnel and instructions on first-aid to general public. Queries from various government and non-government organizations on different aspects of toxins are also answered. The data received by the centre is compiled and analyzed. New Toll Free No. 1800116117 is now available for inquiries related to poisoning information.

### Calls received by National Poisons Information Centre (April 2012–March 2013)

Items	<i>n</i>	%
Total number of calls	1941	–
Poisoning Calls	1885	97
Information Calls	56	3
<b>Sex</b>		
Male	1179	63
Female	706	37
<b>Categories</b>		
Household products	881	47.0
Industrial chemicals	126	6.7
Agricultural pesticides	277	14.7
Drugs	422	22.3
Bites and stings	69	3.6
Plants	38	2.0
Miscellaneous	32	1.7
Unknown	40	2.0

### Pharmacovigilance programme of India

The Adverse Drug Reaction Monitoring Centre forwards the adverse drug reaction (ADR) data to the National Adverse Drug Reaction Monitoring Centre. The following projects are being conducted by the ADR Monitoring Centre.

- Prescription trend analysis of various prescriptions originating in outpatient departments of AIIMS: A cross sectional observational study.
- Analysis of handwriting in OPD prescriptions in AIIMS and the assessment of possible fallout of poorly legible prescriptions.
- Focused pharmacovigilance of rituximab in AIIMS.
- To study the effect of levetiracetam with other AED on sleep, mood and behavior in patients with epilepsy at AIIMS.

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Kamal Kishore** is a member of the National Advisory Editorial Board of International Journal of Physiology.

**Professor N.R. Biswas** delivered the 24th Chunilal Memorial Oration at the Institute of Postgraduate Medical Education and Research and Seth Sukhlal Karnani Memorial Hospital, Kolkata (13 April 2012); and the BN Ghosh Oration at 45th Annual Conference of Indian Pharmacological Society and International Conference on Navigating Pharmacology towards Safe and Effective Therapy (Nagpur; 5–7 January 2013).

**Professor S.K. Maulik** is a member of the Scientific Advisory Board of Central Council for Research in Ayurvedic Sciences, Department of AYUSH, MoH&FW, GOI.

**Dr Surender Singh** is an Inspector for the National GLP Monitoring Compliance Authority, DST, GOI; member of Pharmacopeia's Committee (Unani) and Project Evaluation Committee, CCRUM, Department of AYUSH, MoH&FW, GOI; member of Board of Research Studies, GGS Indraprastha University, Jamia Hamdard and Uttar Pradesh Technical University; and Programme Expert Committee, IGNOU, New Delhi.

## 9.30 Physical Medicine and Rehabilitation

### Professor and Head

U. Singh

### Professor

Sanjay Wadhwa

### Additional Professors

S.L. Yadav

Gita Handa

### Chief MSSO

Kiran Bala Singh

### Chief Physiotherapist

Avinash Dhargave

### Senior Physiotherapist

O.P. Yadav

### Senior Occupational Therapist

Raman Kumar Singh

Lily Farhat Parveen

### Senior Technical Officer

Ajay Babbar

### HIGHLIGHTS

The department is actively engaged in guiding the development of rehabilitation services in India and developing collaborative linkages with national and international centers of repute for the same. The faculty has guided research resulting in presentation of more than 30 papers in conferences at the national and international levels, that led to one national and two international awards. Collaborations with institutions like IITs, other Engineering Institutions, Stanford India Biodesign and CISO, etc., has resulted in development of better technological options to improve the quality of life of persons with disabilities. The department is also engaged in constantly upgrading the patient care, education and research capacities in the area of Physical Medicine and Rehabilitation.

### EDUCATION

**UG teaching:** Set of 8 lectures/seminars were taken. Clinical demonstration in the department to the interns and students was provided as and when required.

**PG training:** MD (PMR) 10 students were being trained during this period.

MD (Community Medicine, Paediatrics, Medicine, Geriatrics), MS (Orthopaedics), DM (Neurology and Pediatric Neurology), MHA, and postgraduate Nursing students have been posted in our department from time to time and have received training.

One long-term trainee (2 years) from Armed Forces is undergoing training at the department w.e.f. 10 April 2012.

### CMEs/Workshops/Symposia/National and International conferences

#### Organized by the department

- Clinical Meeting of Indraprastha Association of Rehabilitation Medicine, AIIMS, New Delhi, 17 November 2012.

### Lectures delivered

U Singh: 6      Sanjay Wadhwa: 4      Gita Handa: 5

## Papers presented by Residents/Staff: 17

### RESEARCH

#### Departmental projects

##### Ongoing

1. Prolotherapy versus corticosteroid injections for the treatment of plantar fasciitis: A randomized controlled trial
2. Relationship between stump length, gait parameter and dynamic balance in unilateral transtibial amputee
3. Prolotherapy versus corticosteroid injections for the treatment of lateral epicondylitis: a randomized controlled trial
4. A study of the upper gastrointestinal disorders in patients with spinal cord injury under rehabilitation care
5. Study of comparison of various disability scales in conservatively treated patients of acute prolapsed intervertebral disc
6. Cross sectional study for assessment of autonomic dysfunctions following spinal cord injury
7. Effect of magnetic field on osteoporosis induced by spinal cord injury in rat
8. Industrial design and ergonomic studies of a school bag

##### Completed

1. Contra lateral limb controlled prosthetic knee joint
2. Effect of lateral wedging insole in shoes on radiological analysis and foot pressures in patients of osteoarthritis knee
3. Comparative study of anterior support ankle foot orthosis and posterior ankle foot orthosis in foot drop patients
4. A study of burden and stress in caregivers of children with Cerebral Palsy.
5. Prevalence of 'work-related neck pain' in desk job worker at AIIMS

#### Collaborative projects

##### Ongoing

1. Design of smart functional electrical stimulator for physically challenged persons (Biomedical Engineering, CRUST Murthal, Sonipat)

##### Completed

1. Skeletal muscle strength including its energy metabolism, bone mineral homeostasis and Th1/Th2 cytokines expression in Asian Indians with chronic hypo-vitaminosis D before and after oral cholecalciferol supplementation (Endocrinology and Metabolism).

### PUBLICATIONS

Journals: 1

Abstracts: 4

Chapters in books: 4

#### Patent filed as a team member

- U Singh - Filing of Complete Specification: Contralateral Limb Controlled Prosthetic Knee Joint
- Gita Handa – Provisional Patent: A device aiding elderly people or patients for sitting or rising from sitting

#### PATIENT CARE

Cases	Patient care area	No. of patients
New Cases	OPD	14533
	Prosthetic & Orthotic	5159
	Ballabgarh PMR OPD	2669
<b>Total New Cases</b>		<b>22361</b>
Old Cases	OPD	14935
	OPD Visits PT Section	20862
	OPD Visits OT Section	26714
	OPD Visits MSW	7535
	Disability Evaluation Clinic	299
	Railway Concession Certificates	413
	Prosthetic & Orthotic	18863
	Minor OT Procedures	2030
<b>Total Old Cases</b>		<b>91651</b>

### **Community Services/Camps**

Faculty and residents of the department participated in a series of camps for rehabilitation of persons with disability, Mathura and Agra.

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

The paper by Ranjini P, Wadhwa S, Singh U, Kumar U, Pandey RM. Effect of home based exercise therapy on spinal mobility, disease activity, functional capacity, fatigue and quality of life in patients with ankylosing spondylitis (Preliminary study) received a Special mention by the Jury of the UEMS section and Board of the Physical and Rehabilitation Medicine during the 18th Congress of the European Society of Physical Medicine and Rehabilitation, Thessaloniki, Greece, 28 May–1 June 2012.

**Professor U. Singh** is chairman of the Academic Committee of the Indian Association of Physical Medicine and Rehabilitation and a member of the Sub-Committee on Locomotor, Leprosy Cured, etc., of the Rehabilitation Council of India, Ministry of Social Justice and Empowerment; Research Committee, Guru Nanak Dev University, Amritsar; Academic Committee, National Institute for the Orthopaedically Handicapped, Kolkata; BIS, Rehabilitation Appliances and Equipment for Disabled Sectional Committee (MHD 10); Member, Prevention Committee for Spinal Cord Injuries, International Spinal Cord Society; and Sub-committee on E-learning tool on 'Early and Late Complications of Spinal Cord Injury' for the e-learning tool development of the Comprehensive Management of Spinal Cord Injury under the aegis of International Spinal Cord Society; Emeritus Editor of the Indian Journal of Physical Medicine and Rehabilitation (2011 onwards); Consulting Editor for Journal of Rehabilitation Council of India Locomotor and Associated Disabilities and Editorial Board Member for Indian Journal of Physiotherapy and Occupations Therapy and International Journal of BioSciences and Technology; and as a peer-reviewer for Annals of Indian Academy of Neurology, Journal of American Academy of Physical Medicine and Rehabilitation; chairman for scientific sessions in the pre-conference workshop on Stroke and Rehabilitation, during Annual National Conference of Indian Association of Physical Medicine & Rehabilitation (Bengaluru, 31 January 2013); contributed to the work of Scientist Neelesh Kumar from CSIO, Chandigarh on a Myoelectric Prosthesis that led to a national award for best applied research/innovation/product development aimed at improving the life of persons with disability; Public lectures delivered: Disability and life, Phone-in program: Total Health, DD News, 2 December 2012; backache, Phone-in program: Total Health, DD News, 10 February 2013.

**Professor Sanjay Wadhwa** is the Honorary Secretary of the National Academy of Medical Sciences (India) and the Editor of the Annals of National Academy of Medical Sciences (India) and the Associate Editor of the Indian Journal of Physical Medicine and Rehabilitation (IJPMR); served as President of the Indraprastha Association of Rehabilitation Medicine (IPARM); member of the Speciality Advisory Board of PMR, National Board of Examinations, Sub-Committee under Medical Council of India (to discuss and decide admission of students with disabilities in Medical courses); Research and Ethics Committee, Mother Teresa Saket College of Physiotherapy (Chandimandir, Panchkula, Haryana); South Asian Autism Network (SAAN) (New Delhi, 11 February 2013); Committee to frame guidelines for aids and appliances for CGHS beneficiaries (Spl. DGHS, GOI); Committee on Establishment of National Institute of Paramedical Sciences (NIPS) and Regional Institutes of Paramedical Sciences (RIPS) (DDG (M) GOI); examiner for many national universities; chaired the meeting of the BIS Group on Aids and Appliances (Bureau of Indian Standards, New Delhi, 11 December 2012); and sessions in the Indian Association of Physical Medicine & Rehabilitation Mid-term CME programme (Hyderabad, 8 September 2012); NAMS-PGI Symposium (Chandigarh, 10 March 2013); Annual Conference of Indraprastha Association of Rehabilitation Medicine (New Delhi, 17 March 2013); and delivered the key note address in the international conference on 'The Colours of Career Development' (Manav Rachna International University, Faridabad, 29 March, 2013).

**Dr Gita Handa** served as an executive committee member of the Indian Association of Physical Medicine and Rehabilitation; as a peer reviewer for the Indian Journal for Physiology and Pharmacology; and chaired sessions at the Indian Association of Physical Medicine and Rehabilitation (Bengaluru, 31 January–3 February 2013) and the Spinal Cord Society Gold Medal Award for Best Paper Presenter session (12th Annual Scientific Meeting of Spinal Cord Society, New Delhi, 12–14 October 2012).

### **VISITING SCIENTISTS**

The Department hosted a team from University of Sydney, Australia for exploration of areas of collaborative work in Musculoskeletal & Pain Rehabilitation. The team interacted with the Dean and Director and initiated the dialogue for signing of MOU between University of Sydney and AIIMS.

## 9.31 Physiology

### Professor and Head

Rashmi Mathur

### Professors

Kishore Kumar Deepak  
Sushil C Mahapatra  
(till 14.9.2012)

Hrudananda Mallick  
Kanwal Preet Kochhar

Debabrata Ghosh

### Additional Professors

Ratna Sharma  
Ashok Kumar Jaryal

Nalin Mehta

Suman Jain  
Raj Kumar Yadav

### Associate Professors

Anjana Talwar

Sanjay Kumar Sood (till 22.8.2012)

### Assistant Professors

Asmita Patil (w.e.f. 29.5.2012)

Renu Bhatia (w.e.f 23.3.2013)

## HIGHLIGHTS

The Department of Physiology has been involved in undergraduate and postgraduate teaching in addition to the doctoral programme. The faculty also undertook to train manpower for undergraduate, postgraduate teaching and research techniques in house by holding workshops and symposiums at AIIMS and other institutions. The faculty undertook 24 extramural and intramural research projects in various areas including neurophysiology (including autonomic nervous system), nutrition, vascular physiology, reproduction, respiration and yoga. The research outcomes were presented in both national/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 utilizing cutting-edge technologies in autonomic and vascular function assessments, pain management, intraoperative monitoring during corrective surgery, and yogic intervention. Several awards and honours have been received by faculty members and the students of the department in appreciation of their innovative contributions in physiology research and medical education.

## EDUCATION

### Undergraduate, Postgraduate and Paramedical

The department provided about 400 hours of teaching to the first year MBBS students and about 60 hours of teaching to students of BSc Nursing and allied courses. The department also conducted MD and MSc courses in Physiology and PhD programme. A total of 5 students completed PhD, 7 completed MD and 3 completed MSc course.

### Short term training

The Autonomic Function laboratory provided short-term training to 2 PhD students from the Department of Instrumentation & Control Engineering, Dr B.R. Ambedkar NIT, Jalandhar (16-28 April 2013); 2 Assistant Professors from Department of Physiology, Sawai Mansingh Medical University, Jaipur (1-30 September 2012); 1 Assistant Professor from Department of Physiology, VMMC (16 July-16 September 2012); and 1 Assistant Professor from Department of Physiology, Chennai Medical College Hospital and Research Center, Trichy (8-20 October 2012). One MSc student from Department of Biochemistry, University College of Medical Sciences, New Delhi, came for training in molecular biology techniques (26 June-10 July 2012).

### CMEs/Workshops/Symposia/Conferences

#### Organized by the Department

1. National Symposium on Innovative Practicals in Teaching Physiology (Convener: KP Kochhar). Department of Physiology, AIIMS, New Delhi; 22 September 2012.

2. Symposium on Factors that Affect Sleep (Convenor: HN Mallick). 7th Asian Sleep Research Society Congress (ASRS), Taipei, Taiwan; 1 December 2012.
3. First Sleep Technician Workshop (Convenor: HN Mallick). National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore; 9 December 2012.
4. Workshop on Autonomic Function Testing: Principles and Methods (Conveners: KK Deepak, AK Jaryal). 58th Annual Conference of Association of Physiologists and Pharmacologists of India (APPI), Meerut; 17-20 December 2012.
5. Symposium on Manuscript Writing and Reviewing (Conveners: KK Deepak, AK Jaryal). 58th Annual Conference of APPI, Meerut; 17-20 December 2012.
6. Workshop on Technology Training Platform: Advance Module (Part-I: Topic: Genome Wide Analysis of Expression Arrays) (Convener: D Ghosh). Department of Physiology & Research Section, AIIMS; 16-18 February 2013.

#### Lectures delivered

<b>R. Mathur: 2</b>	<b>K.K. Deepak: 11</b>	<b>H.N. Mallick: 4</b>	<b>D. Ghosh: 1</b>
<b>S.C. Mahapatra: 1</b>	<b>R. Sharma: 2</b>	<b>N. Mehta: 9</b>	<b>S. Jain: 3</b>
<b>A.K. Jaryal: 6</b>	<b>R.K. Yadav: 2</b>		

#### Oral/posters presented: 3

#### RESEARCH

##### Funded projects

##### *Ongoing*

1. To study the effect of repeated magnetic stimulation on sensory motor recovery in spinal cord injured patients. R Mathur, AIIMS Research Grant, 4 years, 2008-12, Rs 20 lakhs.
2. Role of magnetic fields in the spinal cord injury induced osteoporosis. Kaushiki Mukherjee (Mentor: R. Mathur), DST, 3 years, 2012-15, Rs. 25 lakhs.
3. Role of dietary glutamate on thermogenesis and sleep in rats. H.N. Mallick, Ajinomoto Co, Inc. Japan, 3 years, 2011-14, US\$ 30,000.
4. Cellular and molecular basis of action of cationic  $\alpha$ -helical antimicrobial peptide on human placental cytotrophoblast cells. Debabrata Ghosh, ICMR, 3 years, 2012-15, Rs 42 lakhs.
5. Endometrial receptivity for blastocyst implantation in the primate: systems biology approach. Debabrata Ghosh, DST, 4 years, 2009-13, Rs 34 lakhs.
6. Understanding endometriosis using high throughput proteomics strategy. Debabrata Ghosh, DST, 3 years, 2010-13, Rs 35 lakhs.
7. A study of quantitative EEG changes, cognitive function and stress in mild cognitive impairment and Alzheimer's disease, Ratna Sharma, DST, 3 years, May 2010-April 2013, Rs 82 lakhs.
8. Quantitative EEG correlates of cognitive deficits in Parkinson Disease. Ratna Sharma, DBT, 3 years, 2011-14, Rs 22 lakhs.
9. Functional development of the visual cortex following prenatal repetitive auditory stimulation in chicks (*Gallus domesticus*): role of noradrenaline. Suman Jain, DST, 3 years, 2011-14, Rs 23 lakhs.
10. Motor and cognitive behaviour in 6-hydroxydopamine (6-OHDA) adult rat model of Parkinson's disease following magnetic field exposure and implantation of ferromagnetic nanoparticles. Suman Jain, DST, 3 years, 2009-12, Rs 26 lakhs.
11. Prospective study to evaluate the impact of bariatric surgery on glucose metabolism using biomarkers in obese patients. Raj Kumar Yadav, ICMR, 3 years, 2012-15, Rs 29 lakhs.
12. Efficacy of Yoga and dietary management in sedentary overweight subjects with regards to markers of endothelial dysfunction, obesity and diabetes. Raj Kumar Yadav, CCYRN, MoH&FW, 3 years, 2009-12, Rs 23 lakhs.
13. Adipokine mediated inflammation, angiogenesis and proteomic approach in pathophysiology of pelvic endometriosis. Raj Kumar Yadav, AIIMS Research Grant, 1 year, 2012-13, Rs 5 lakhs.
14. Genome-wide gene profiling using array based comparative genomic hybridization and global gene transcript profiling of respiratory tract macrophages in stable COPD patients. Anjana Talwar, DST, 3 years, 2013-16, Rs 50 lakhs.
15. Multi-analyte profiling of plasma biomarkers in patients with stable COPD and their correlation with clinical parameters: A pranayama based study. Anjana Talwar, CSIR, 3 years, 2013-16, Rs 24 lakhs.

16. Non-invasive assessment of airway inflammation and remodeling in COPD and Asthma. Anjana Talwar, AIIMS Research Grant, 1 year, 2012-13, Rs 4 lakhs.

### **Completed**

1. Assessment of cerebral auto regulation and cerebral vascular reactivity in patients of orthostatic hypotension. KK Deepak, AIIMS Research Grant, 2 years, 2010-12, Rs 2 lakhs.
2. Role of human chorionic gonadotropin endometrial receptivity for pregnancy establishment. Debabrata Ghosh, DST, 4 years, 2008-12, Rs 34 lakhs.
3. Effect of bone marrow stromal cells and magnetic stimulation on the sensory-motor recovery of spinalised rats. Suman Jain, ICMR, 3 years, 2008-11, Rs 17 lakhs.
4. Effect of prenatal chronic auditory stimulation on expression of synaptic proteins in the visual wulst of domestic chicks (*Gallus domesticus*). Suman Jain, AIIMS Research Grant, 1 year, 2011-12, Rs 1 lakh.
5. Psychoneuroimmune effects of meditation: an evaluation by PET and biochemical markers. Raj Kumar Yadav, DBT, 3 years, 2008-11, Rs 14 lakhs.
6. Modulation of the activity of barosensitive and chemosensitive neurons in nucleus tractus solitarius by medial preoptic area stimulation in rats. A.K. Jaryal, DST, 3 years, 2009-12, Rs 35 lakhs.
7. To study endothelial function in patients with overlap syndrome of chronic obstructive pulmonary diseases and obstructive sleep apnea. Anjana Talwar, AIIMS Research Grant, 1 year, 2011-12, Rs 1 lakh.

### **Departmental projects**

#### **Ongoing**

1. Effect of transcranial magnetic stimulation on pain modulation status in fibromyalgia patients.
2. Sensorimotor assessment in spinalised rats following electromagnetic stimulation and bone marrow stromal cells transplantation.
3. Influence of complete spinal cord injury on ventromedial hypothalamic function: role of magnetic field.
4. Effect of magnetic field on behavioral, electrophysiological and neurochemical correlates of pain in rats exposed to 3G frequency band.
5. Effect of magnetic field on oxidative stress in rat Parkinson's model.
6. Effect of magnetic field on microglia induced secondary injury of spinal cord in rats.
7. A comparative study of cardiovascular responses to orthostasis in Parkinson's disease and MSA-P.
8. Role of the preoptic area thermo TRPV channels in thermoregulation of rat.
9. The mechanism of thermogenesis induced by glutamate in the gut and in the preoptic area.
10. Electrophysiological characterization of 'yoga nidra' and its role in primary insomnia patients.
11. Interrelationship between body, muscle and brain temperature during sleep.
12. Efficacy of yoga based lifestyle intervention as compared to dietary intervention on metabolic syndrome: A randomized controlled trial.
13. Understanding the pathophysiology of endometriosis by protein profiling and its correlation with stress.
14. Leptin and ghrelin in peritoneal fluid of patients with endometriosis: correlation with VEGF and IL6.
15. To study the effect of short term meditation on stress induced changes in cognitive functions in overweight / obese subjects: neuropsychological and biochemical evidences.
16. Cognitive control of saccadic eye movements in normal subjects and Parkinson disease patients: A behavioural, event related potentials and functional imaging study.
17. Quantitative EEG correlates of emotion induced changes in cognitive performance in healthy volunteers.
18. Effect of preload reduction on the cardiovascular responses to Valsalva maneuver.

#### **Completed**

1. Characterization of photoplethysmographic peripheral pulse waveform changes during Valsalva maneuver.
2. Respiratory modulation of cardiac and vascular oscillations using patterned breathing maneuvers based on pranayama.
3. Effect of deep brain stimulation of the subthalamic nucleus on Bereitschafts potentials in Parkinson's disease.
4. Psychoneuroimmune effects of meditation: an evaluation by PET and biochemical markers.
5. Effect of short term lifestyle intervention on diabetic risk factors in obesity.
6. A RCT to determine a gluten threshold for paediatric patients with celiac disease.

7. Quantitative EEG correlates of cognitive deficits and stress reactivity in mild cognitive impairment and Alzheimer's disease.
8. Quantitative EEG correlates of cognitive deficits in Parkinson disease.
9. Effect of working memory load on visuospatial task performance as assessed by quantitative EEG.
10. Respiratory modulation of cardiac and vascular oscillation using patterned breathing maneuvers based on pranayama.
11. Effect of selective and automatic attention on prepulse modulation of startle reflex.
12. Cognitive control of saccadic eye movements in normal subjects and Parkinson's disease: A behavioral, event related potentials and functional magnetic resonance imaging study.
13. Neural correlates of priming in face word stroop task using functional imaging.

## **Collaborative projects**

### ***Ongoing***

1. Prenatal auditory sound stimulation: effect on spatial memory and expression of synaptic proteins in chick hippocampus (Anatomy).
2. Implantation of human retinal pigment epithelial (HRPE) cells in the 6-OHDA lesioned rat model of Parkinson's disease (Neurology).
3. Role of human umbilical cord blood stem cells and neural stem cells in neuronal regeneration and functional restoration: A comparative study in male adult rats with acute spinal cord injuries (Neurosurgery & JPNA Trauma Center).
4. Evaluation of vascular endothelial function by biochemical and biophysical markers in women with preclampsia versus normal healthy pregnancies (Obstetrics & Gynecology).
5. Postural variation of diffusing capacity in Type 2 diabetes mellitus: marker of lung microangiopathy (Endocrinology).
6. Effect of exercise intervention on bone mineral density in cystic fibrosis patients aged 6-18 years (Pediatrics).
7. Exhaled breath temperature as a marker of airway inflammation in cystic fibrosis patients aged 6-18 years (Pediatrics).
8. Impact of supervised diet and lifestyle modifications on weight loss, body fat distribution and insulin resistance in adult Indian obese patients (Surgical Disciplines).
9. Impact of nutritional and lifestyle modification in subjects with BMI 25-29.9kg/m<sup>2</sup> vs 30-34.9 kg/m<sup>2</sup> and to assess the effect of bariatric surgery in BMI  $\geq$ 35kg/m<sup>2</sup> (Surgical Disciplines).
10. Assessment of systemic vascular autonomic tone, structural and functional outcome in central serous chorioretinopathy (RP Centre for Ophthalmic Sciences).
11. Multimodal intraoperative monitoring of spinal cord function in patients under corrective surgery of spine (Orthopaedics).
12. Longitudinal changes in masseter and temporalis muscles before and after TMJ ankylosis surgery: An EMG study (Centre for Dental Education and Research).
13. Evaluation of facial nerve morbidity in patients undergoing temporomandibular joint surgeries via pre auricular extended temporal incision (Centre for Dental Education and Research).

### ***Completed***

1. Comparison of exercise testing parameters between patients who undergone total cavo pulmonary connection and/or superior cavopulmonary anastomosis with open antegrade flow (CTVS).
2. Assessment of modified BODE index in chronic obstructive pulmonary disease and its correlation with inflammatory markers (Pulmonary Medicine & Sleep Disorders).
3. Assessment of endothelial function in patients with overlap syndrome of chronic obstructive pulmonary diseases and obstructive sleep apnea (Pulmonary Medicine & Sleep Disorders).
4. Psychoneuroimmune effects of meditation: an evaluation by PET and biochemical markers (Nuclear Medicine).
5. Evaluation of masseter and temporalis muscle EMG activity in a group of children having midface deficiency during maxillary protraction therapy (Orthodontics, Centre for Dental Education and Research).
6. Prospective study to evaluate the impact of laproscopic sleeve gastrectomy on type 2 diabetes mellitus (Surgical Disciplines).

7. Evaluation of dehydroepiandrosterone (DHEA) therapy as an adjunct to gonadotrophins for ovulation induction in premature ageing (Obstetrics & Gynecology).
8. Prediction of preterm delivery by detection of fetal fibronectin in cervicovaginal secretions (Obstetrics & Gynecology).
9. Evaluation and correlation of cerebrovascular reactivity and systemic vascular reactivity with insulin resistance in type- 2 diabetics (Endocrinology).
10. Study of serial changes in heart rate variability in children between 2 to 15 years of age presenting with Guillain Barre syndrome (Paediatrics).
11. Assessment of vascular functions before and after renal transplantation (Nephrology).
12. Assessment of arterial stiffness indices in obese children (Endocrinology).
13. Assessment of arterial stiffness indices in women with polycystic ovarian disease (Obstetrics & Gynaecology).
14. To study the effect of repeated magnetic stimulation on sensorimotor recovery in spinal cord injured patients (Stem Cell Facility & Ocular Pharmacology).

## PUBLICATIONS

**Journals: 21**

**Abstracts: 16**

**Chapters in books: 2**

**Books: 1**

## PATIENT CARE

Neurophysiology Research Laboratory offered objective assessment of pain and pain modulation status by a battery of electrophysiological and biochemical tests for select, referred patients of chronic pain. 40 patients (fibromyalgia) were assessed during the year. Relief in pain was successfully provided by transcranial magneto therapy.

Autonomic Function Laboratory and Vascular Function Laboratory provide diagnostic facilities for referred patients. These laboratories provide routine test of autonomic reactivity along with autonomic tone quantification and non-invasive recording of gastric motility (electrogastrography). A total number of 797 humans have been tested for autonomic function test this year, which included 745 patients.

The Department provided multimodal intraoperative monitoring of spinal cord function in patients under corrective surgery of spine (Department of Orthopedics, AIIMS, New Delhi). During orthopedic surgery on spine, somatomotor responses are checked by recording evoked responses. A total of 47 subjects were given neurophysiological monitoring support.

Integral Health Clinic (IHC) is a centre of mind-body medicine. IHC is an outpatient facility which is used for therapeutic gains as well as developing health consciousness. As a de-stressor centre it is helpful to de-stress AIIMS employees including faculty, students, residents and staff. A total of 222 (two hundred and twenty two) subjects were given yogic intervention at IHC during the year. This included patients of chronic diseases like diabetes, obesity, chronic depression, etc. referred from various departments of AIIMS.

The Department provides central facilities for:

- (i) Autonomic function and vascular function
- (ii) Biochemical analysis
- (iii) Confocal microscopy
- (iv) Integral health clinic
- (v) Molecular biology
- (vi) Pain modulation status, and Transcranial magneto therapy for chronic pain patients

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Best Poster Award:** Ansari AH, Jain S, Kumar U, Bhattacharjee M, Mathur R. Repeated transcranial magnetic stimulation relieves pain in fibromyalgia patients: An electrophysiological approach to evaluate pain. Second IBRO School of Neurosciences, Tehran, Iran. May 12-23 2012.

**First Prize in 3 minute thesis competition:** Kumar S, Jain S, Mohanty S, Behari J, Mathur R. Effect of bone marrow stromal cells transplantation on sensorimotor responses to noxious and non-noxious stimuli in complete spinal cord transection injury rats. 33rd Annual Meeting of Australian Neuroscience Society, Melbourne, Australia; 3-6 February, 2013.

**Professor R. Mathur** served as subject expert for the XII FVP Programme, Defence Institute of Physiology and Allied Sciences, Delhi; Member, Board of Studies in Physiology, for Pt. B.D. Sharma University of

Health Sciences (Rohtak) and Banaras Hindu University, (Varanasi); expert for faculty selection/promotion for Chhatrapati Shahuji Maharaj Medical University (Lucknow); Revision of Standard Assessment for Postgraduate Course in Physiology for Medical Council of India (New Delhi).

**Professor K.K. Deepak** was awarded the Dr. B. K. Anand Oration (2011-12) by National Academy of Medical Sciences; member, Education Committee, International Union of Physiological Sciences; chairperson for 'Brain Storming Session - National Portal on Heart Rate Variability (HRV) Analysis', Department of Electronics and Information Technology, New Delhi (27 July 2012); and peer review committee for research proposal with reference to Kyrgyz-Indian Mountain Biomedical Research Centre; convener of Equivalence Sub-Committee of MCI (New Delhi) and member of following MCI committees: Adhoc Undergraduate Assessment Screening Committee, Discontinuation of Dissection and Animal Experimentation in the Teaching of Medical Courses and Development of Alternatives Committee, Sub-committee of the Academic Council on Minimum Standards Requirements; co-convener for workshop on 'Curriculum Implementation Support Programme' for faculty of the Regional Centers in MCI; member, Advisory committee, All India Pre-Medical/Pre-Dental Entrance Examination (CBSE); examiner, King George's Medical University (Lucknow) and Vallabhbhai Patel Chest Institute and the Department of Environmental Studies, Delhi University; member, expert committee for setting up of Physiology Laboratory in Morarji Desai National Institute of Yoga; Research Advisory Committee of Swami Vivekananda Yoga Anusandhana Samsthana University (Bangalore); and the Advisory Board of the Physiological Society of Nepal; nodal officer in National Knowledge Network (NKN), GOI; Executive Editor, Indian Journal of Physiology and Pharmacology (IJPP), member, advisory/editorial boards of the following journals: Health Renaissance, and Al-Amin Journal of Medical Sciences. He is also a peer-reviewer for the following journals: Indian Journal of Medical Research, Journal of Postgraduate Medicine, and International journal of Yoga; member, advisory board for International Conference on Biomedical Engineering and Assistive Technologies, Jalandhar (6-7 December 2012) and chaired 2 sessions during 58th Annual National Conference of APPI, Meerut (17-20 December 2012).

**Professor H.N. Mallick** was awarded the SL Bhatia oration on 'Importance of Sleep' during the 58th Annual Conference of APPI, Meerut (17-20 December 2012); selected as President of Asian Sleep Research Society (2013-16), and is serving as President of the Indian Society for Sleep Research; Finance Secretary for APPI; chaired a symposium titled, 'Factors that affect Sleep' during 7th ASRS Congress at Taipei, Taiwan (1 December 2012) and was Course Director for the National Sleep Medicine Course 2012, NIMHANS, Bangalore (10-11 December 2012).

**Professor D. Ghosh** is core committee member for ICMR workshops on Advancement of Physiological Sciences (ICAPS).

**Professor S.C. Mahapatra** served as examiner for MBBS, Delhi University; Guest of Honour at National Seminar on Health Fitness & Sports Technologies, Punjabi University, Patiala (12 October 2012); and 26th Annual Conference of Physiology, Hi-Tech Medical College, Bhubaneswar (9 December 2012); chaired 2 sessions during 58th Annual National Conference of APPI, Meerut (17-20 December 2012); and 1 session during 'Workshop on UG & PG Curriculum in Medical Physiology' at AIIMS, Jodhpur (26 February 2013); member, National Advisory Board of International Journal of Physiology.

**Dr Ratna Sharma** is member, Organizing Committee, 27th Annual Meeting of Society for Neurochemistry & International Conference on Recent Advances in Molecular Mechanisms of Neurological Disorders, AIIMS, New Delhi, 21-23 February 2013.

**Dr Nalin Mehta** is Chairman of ethics committee of Metro Hospital & Heart Institute (Noida); member of various ethics committees of Dr. Ram Manohar Lohia Hospital & PGIMER (New Delhi); International Clinical Epidemiology Network (New Delhi); Pratham Education Foundation - Annual Status of Education Report (PEF-ASER) Centre (New Delhi); member Board of Studies of School of Medicine and Paramedical Health Sciences, Guru Gobind Singh Indraprastha University (New Delhi); and Amity Institute of Physiology and Allied Sciences, Amity University (Noida); served as resource person for training technicians of Micronutrient Initiative Salt Iodization Estimation Laboratories regarding quality control on behalf of International Council for Control of Iodine Deficiency Disorders (ICCIDD).

**Dr R.K. Yadav** served as chief co-ordinator for AIIMS Medical Quiz; invited as expert for meeting on Curriculum Development for Physiology at AIIMS, Jodhpur (25-26 February 2012); member, editorial board, proceedings of 2nd International Symposium on Medicinal and Nutraceutical Plants (published by Acta Horticulturae, 2013).

**Dr Anjana Talwar** was awarded Short-term Research Training Fellowship for three months by European Respiratory Society at National Heart & Lung Institute, Imperial College London, (1 September-30 November 2012).

#### **Social Contribution**

- The Department (Drs Asmita Patil, K.P. Kochhar and residents of the department) organized a Hindi play on 'Importance of Physiology and Nutrition for Healthy Diet and Lifestyle related Disease Prevention,' Health Exhibition held on Institute Day, 25-26 September 2012.
- The Department (Drs K.P. Kochhar, Vivekanand and other residents) organized 'Cognitive Physiology based Interactive Online Psychometric Personality Assessment,' Health Exhibition held on Institute Day, 25-26 September 2012.

#### **VISITING SCIENTISTS**

1. Dr Rajeev Yadav, PhD, Research Scientist, Canada delivered a talk on 'Model based signal processing in Epilepsy: Neuro-physiological Implications', 28 August 2012.

## 9.32 Psychiatry

### Professor and Head

Rajat Ray

### Professors

S.K. Khandelwal  
R.K. Chadda

Manju Mehta  
Pratap Sharan

### Additional Professor

Rajesh Sagar

### Associate Professors

Nand Kumar

Mamta Sood

Sujata Satapathy

### HIGHLIGHTS

The department has been in the forefront of providing mental health services in a general hospital setting. It provides multidisciplinary services in the field of general adult psychiatry, child and adolescent psychiatry, consultation liaison psychiatry and community services. The department runs a daily walk-in clinic, weekly child and adolescent and dual-diagnosis clinics and provides round the clock emergency services. From January 2013 onwards, the department has started four new weekly specialty clinics, Psychosomatic Clinic on Monday, Common Mental Disorders Clinic on Thursday, and Severe Mental Disorders Clinic and RTMS (Repeated Transcranial Magnetic Stimulation) Clinic on Friday. The Department has also expanded its community outreach services to 6 days a week at Ballabgarh, including one day each at the Primary Health Centre at Dayalpur and Chhainsa. The Department has also started a weekly clinic at AIIMS Campus at Jhajjar. Both pharmacological and non-pharmacological treatments are used. Treatment is conducted by a multidisciplinary team consisting of psychiatrists, clinical psychologists, social workers and psychiatric nurses. Psychological treatments like supportive psychotherapy, psycho education, cognitive behaviour therapy, behaviour therapy and eclectic approaches are used. Modified electro convulsive therapy is given twice a week. Consultation liaison services are run by a team consisting of two consultants, one senior resident and two junior residents.

### EDUCATION

#### Undergraduate teaching

3rd semester: 24 hours    6th semester: 14 hours    8th semester: 6 hours

#### Clinical posting

4–5 semester: 20 days                      6–8 semester: 40 days

#### Undergraduate teaching in CRHSP Ballabgarh.

7 semester: 10 hours (Community psychiatry)

#### BSc Nursing

38 hours in 2 semesters

#### PhD and Postgraduate teaching

- Journal discussion once every week
- Thesis protocol, midterm presentation once a week
- Tutorial twice a week
- Seminar once every week
- Case Conference once every week
- Staff seminar once every week
- Psychotherapy supervision for postgraduate psychiatry and doctoral level clinical psychology students
- Supervision of Consultation-liaison training for junior residents in psychiatry.
- Faculty/Staff presentation once every week besides CCR and CGR in every semester

## **CMEs/Workshops/Symposia/National and International conferences**

### **Organized by the Department**

- Symposium on 'Depression' for college students on the occasion of the World Mental Health Day, 10 October 2012 (Coordinator: Rakesh Chadda).
- Workshop on 'Grant Writing for Winning Proposals.' 19th National Conference of the Indian Association for Social Psychiatry, Chandigarh, 23–25 November 2012 (Coordinators: Suman Sinha, Pratap Sharan).
- Workshop on 'Basics of Research Methodology?' 65th Annual National Conference of the Indian Psychiatric Society, Bangalore, 10–13 January 2013 (Coordinator: Rakesh Chadda).
- Symposium on 'Development of Depression Identification Instrument for countries in WHO–SEARO.' 65th Annual National Conference of the Indian Psychiatric Society, Bangalore, 10–13 January 2013 (Coordinators: Pratap Sharan, Rajesh Sagar).
- Workshop on 'International Personality Disorder Examination.' Government College and Hospital, Chandigarh, 24 March 2013 (Coordinator: Pratap Sharan).
- Symposium on 'Integrating Mental Health in Undergraduate Training.' 65th Annual National Conference of the Indian Psychiatric Society, Bangalore, 10–13 January 2013 (Coordinator: Mamta Sood).

### **Lectures delivered**

**Manju Mehta: 7      S.K. Khandelwal: 8      R.K. Chaddha: 5      Pratap Sharan: 13**  
**Rajesh Sagar: 17      Mamta Sood: 4      Sujata Satapathy: 1**

## **RESEARCH**

### **Funded projects**

#### ***Ongoing***

1. An integrated biological approach in deciphering genotype phenotype correlation for schizophrenia (human complex disorders). R.K. Chadda, CSIR, 2010–15, Institute of Genomics and Integrative Biology and AIIMS, New Delhi.
2. Effect of duloxetine 30/60 mg once daily versus placebo in adolescents with juvenile primary fibromyalgia syndrome (Protocol F1J-MC-HMGW). P. Sharan, R. Sagar, Eli Lilly, 2011–14, Rs 20 lakhs.
3. Testing the performance of Depression Identification Instrument for SEARO in primary care population. P. Sharan, R. Sagar, WHO–SEARO, 2012–13, Rs. 9 lakhs.
4. Development of a Psychosis Identification Instrument for WHO-SEARO. R. Sagar, P. Sharan, WHO-SEARO, 2012–13, Rs 6 lakhs.
5. Neuro-cognitive study and use of functional magnetic resonance imaging (fMRI) in patients having major depressive disorder and mania. R. Sagar, DST, 2010–13, Rs. 39 lakhs.
6. Assessment of cognitive functions and serum brain-derived neurotrophic factor in bipolar disorder: A one-year naturalistic follow-up study. Sagar R, DST, 2012–14, Rs. 25 lakhs.
7. Specific Learning disorder: Indian Scenario. Sagar R, DST, 2012–13, Rs 5 lakhs.
8. Evaluation of a novel neuroplasticity-based training program to remediate cognitive control deficits in attention-deficit/hyperactivity disorder (ADHD). Sagar R, Brain Plasticity Institute, San Francisco, 2012–14, Rs 5 lakhs..

#### ***Completed***

1. Cross-cultural Development of a Depression Identification Instrument for SEARO. P. Sharan, R. Sagar, WHO-SEARO, 2010–12, Rs. 10 lakhs.

### **Departmental projects**

1. High risk behaviour in patients with alcohol dependence and opioid dependent IDUs: relationship with personality.
2. The use of Draw-a-Person Test in the assessment of psychopathology in children.
3. Marital quality and coping strategies in patients with depression.
4. Study of family psychopathology of children with somatoform disorders. Development of intervention module.
5. Sleep disturbances in children with attention deficit hyperactivity disorder.
6. Neuro-cognitive and psycho-social aspects of childhood obesity.
7. Anger in adolescents: psychopathology and management.
8. Computer assisted cognitive behaviour therapy for adolescents with depression.

9. Efficacy of individual versus group transdiagnostic cognitive behaviour therapy in adolescents with anxiety and headache.
10. Self-help manual approach in the treatment of OCD.
11. A study of seclusion and restraint among mental health professional in India: A web based study.
12. Cost assessment in patients suffering from dementia disorders.
13. Family and genetic study of specific reading disorders (dyslexia).
14. Factors affecting outcome of children with attention deficit hyperactivity disorder (ADHD): A 2-year long term follow-up study.

### Collaborative projects

1. Short term impact of hematopoietic stem cell transplantation on psychiatric morbidity and quality of life in hematological malignancies in adults (Medical Oncology)
2. H1-MRS study of OCD patients and their first degree relatives (Nuclear Magnetic Resonance)
3. A case control MRI study of structural and volumetric analysis of the anterior cingulate cortex in patients with bipolar disorder and normal healthy controls (Neuroradiology)
4. A study to assess the knowledge and attitude of nursing personnel regarding suicidal client, with a view to develop a training module (College of Nursing)
5. REM Sleep behavior disorder among patients with major depression on anti-depressants: a randomized controlled open-labelled comparison study of escitalopram versus bupropion (Neurology)
6. Study on depression among elderly persons in rural area of Ballabgarh, Haryana (Centre for Community Medicine)
7. Assessment of cognitive functioning & quality of life in patients with hypoparathyroidism (Endocrinology)
8. Multi-centric project on pharmacogenetics of schizophrenia (Neurochemistry)
9. To study pre-attentive and attentive processing of phonemes and tones in dyslexic children using pre-pulse inhibition paradigm, mismatch negativity and long latency event related evoked potentials (Physiology)
10. The role of neurotrophin, cytokines, and genetic polymorphisms in clinical manifestation of depression in adolescents (Laboratory Medicine)
11. A randomized controlled trial comparing chronic groin pain and quality of life in light weight vs heavyweight mesh in laparoscopic inguinal hernia repair (Surgery)
12. Effect of lifestyle factor and psychological stress on telomere length and DNA quality (Anatomy)

### PUBLICATIONS

**Journals: 37     Abstracts: 4     Chapters in books: 4     Books: 3**

### PATIENT CARE

OPD and Specialty Clinics Attendance	New cases	Old cases	Total
<b>General OPD</b>			
Walk in Clinic	14356	33691	48047
Detailed Assessment	2335	–	2335
<b>Specialty Clinic</b>			
Child Guidance Clinic	506	617	1123
De-Addiction Clinic	96	1410	1506
<b>Total</b>	<b>17293</b>	<b>35718</b>	<b>53011</b>

**Total admission:            293                            Total discharges:            314**

### Laboratory Investigations for Patient Care

Total Number of **Serum Lithium** levels: 1204

### New services

From January 2013 onwards, the Department has started four new weekly specialty clinics, Psychosomatic Clinic on Monday, Common Mental Disorders Clinic on Thursday, and Severe Mental Disorders Clinic and RTMS (Repeated Transcranial Magnetic Stimulation) Clinic on Friday. The Department has also expanded its community outreach services to 6 days a week, including one day each at the Primary Health Centre at Dayalpur and Chhainsa. The Department has also started a weekly clinic at AIIMS Campus at Jhajjar.

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Manju Mehta** served as an external expert for faculty selection at PGIMER, Chandigarh and 6 new AIIMS, and NCAOR, Goa; inspector for M Phil (Clinical Psychology) training institutions on behalf of RCI; served as a member of the Advisory Committee of the Centre of Behavioural and Cognitive Sciences, University of Allahabad; Planning and Monitoring Board of NIMHANS, Bangalore; and Academic Council of Patna University.

**Professor S.K. Khandelal** supervised the making a documentary film, 'Mind at the Seventh Continent' for the Public Service Broadcasting Trust.

**Professor R.K. Chadda** was elected Fellow of the Royal College of Psychiatrists of UK. He also served as Member of the Editorial Board of International Psychiatry (2011-14); President of the Indian Association for Social Psychiatry (Nov 2011 onwards) and delivered the Presidential Address 'Challenges for Social Psychiatry in the Contemporary Indian Society' in XIX National Conference of the Indian Association for Social Psychiatry, Chandigarh (23-25 November 2012; served as the Co-Chairperson (2012-13) and then as the Chairperson (2013-14) of the Indian Psychiatric Society Task Force on Undergraduate Medical Education; member of the Expert Group of the Medical Council of India for revising Minimum Standard Requirements and Standard Assessment Form for conducting MCI Inspections in various broad specialties; member of Expert Group to advise the Department of Women and Child Health, Government of Delhi for running mental health units in institutional complexes; and Member of Board of Research Studies on Psychiatry, BD Sharma University of Health Sciences, Rohtak.

**Professor Pratap Sharan** is a member of the International Advisory Group for the Revision of ICD-10 Mental and Behavioural Disorders. He is the President (2011-13) of the Indian Association for Child and Adolescent Mental Health; Executive Committee Member and the Chairperson of the Taskforce on Research of the Indian Association for Social Psychiatry; member of the Project Review Committee of the Indian Council of Medical Research; reviewer for projects under ICMR sub-committee on Psychiatry, Clinical Psychology and Neurosciences of the Centre for Advance Research at NIMHANS, Bangalore; member of the Editorial Board/Working Committee of the Journal for Eating Disorders, the National Medical Journal of India, the Indian Journal of Social Psychiatry; and the Journal of Mental Health and Human Behaviour. He is a member of the Task Force to suggest remedial measures of occurrences of suicides amongst students of Indian Institute of Technology and other Centrally funded Technical Institutions; Organizing Co-Chair for the 7th Congress of Asian Society for Child and Adolescent Psychiatry and Allied Professions and 12th Biennial Conference of Indian Association for Child and Adolescent Mental Health; served as a member of the International Advisory Board for the Conference on Patient Reported Outcomes and Person Centered Care in Mental Health; served as a peer reviewer for the following journals during the year: BMC Psychiatry, BMC Public Health, Bulletin of the World Health Organization, Comprehensive Psychiatry, Emotion, Indian Journal of Medical Research, Indian Journal of Palliative Care, Indian Journal of Psychiatry, International Journal of Social Psychiatry, International Journal of Psychiatry in Clinical Practice, International Psychiatry, Journal of Affective Disorders, Journal of Eating Disorder, Journal of Postgraduate Medicine, Education and Research, Lancet, National Medical Journal of India, and PLoS Medicine; served as an examiner for MD level examinations in Psychiatry for various universities/boards; chaired the prestigious Balint Award session at the 19<sup>th</sup> National Conference of the Indian Association for Social Psychiatry and the Guest Lecture by Prof. Gordon Claridge (Oxford University, UK) at the 39th National Annual Conference of Indian Association of Clinical Psychologists.

**Dr Rajesh Sagar** received 4 awards for best paper as co-authors (AIMS excellence research award; 13th Congress of ASEAN Federation of Psychiatry and Mental Health, Singapore; 1st Indo-European Symposium on Coercio, Mysore; and the CNS summit award; Secretary of Central Mental Health Authority, GOI, expert member (DGHS nominee) of the Mental Health Policy Group, MoH&FW, and honorary advisor to National Mental Health Programme for DGHS; Chief Editor of Journal of Mental Health and Human Behaviour; and the convener of Specialty Advisory Board in Psychiatry for National Board of Examination, and the Parliamentary Committee of Indian Psychiatry Society. He served as an expert member to the committee on international adoption for Central Adoption Regulatory Authority, Ministry of Women and Child, GOI; Ethics Committee of Central Council of Homeopathy Research, Ministry of AYUSH, GOI; Institutional Human Ethics Committee of National Brain Research Centre, Gurgaon; Committee to develop guidelines for prevention of child abuse by Delhi Commission of Protection of Child Rights (DCPCR),

Committee for development of Indian initiative on obstructive sleep apnea national guidelines for MoH&FW. He is the chairman of the technical committee on Community Mental Health Development Project for DGHS, and an advisor to the SLD Project for DST, GOI. He is also an advisor on mental health to the New Delhi Birth Cohort study group. He also served as an expert member on the Central Coordinating Team and Technical Advisory Group for multi-centric research project on Neurodevelopment Disability in Children (Autism speaks, INCLIN, MoSJ&E); Expert Committee for screening cum mentoring of concept notes received under Cognitive Science Research Initiative (CSI) by DST (Hyderabad, 10-12 October 2012); Project Evaluation Committee of the Central Council of Homeopathy Research; and ICMR Expert group for addressing psychiatric issues in CRPF personnel. He was invited as an expert on the occasion of launch of BMJ-India (New Delhi, 4 February 2013); and attended the 6<sup>th</sup> meeting of the Task Force on Cognitive Science Research Initiative (CSI) (New Delhi, 6-7 February 2013). He was invited as an expert to the 'Roundtable on Prevention of Ill-Treatment, Cruel, Inhuman & Degrading Treatment of Persons with Disability' organized by The Equal Rights Trust (ERT), UK and Human Rights Law Network (New Delhi, 25 February 2013). He is a reviewer for various journals and research projects on psychiatry/mental health. He conducted a workshop on psychosocial issues for resident doctors of RP Centre, AIIMS, New Delhi.

**Dr Sujata Satapathy** is a member of the National Review Working committee to finalize the Minimum Initial Service Package Facilitator Manual: Adaptation to Indian Context for United Nations Population Fund and National Disaster Management Authority. She was invited by UNICEF-IASC as a country representative to a master trainers programmes on Emergency Psychosocial Support and Mental Health services for SAARC and East Asia region (Kathmandu, Nepal; 18-22 March 2013).

## 9.33 Pulmonary Medicine and Sleep Disorders

### Professor and Head

Randeep Guleria

### Professor

G. C. Khilnani

### Associate Professor

Anant Mohan

### Assistant Professors

Vijay Hadda

Karan Madan

### EDUCATION

The department runs a comprehensive undergraduate and postgraduate teaching programme, which includes integrated lectures, seminars, bedside clinical case discussions and journal clubs. The undergraduate students are assessed regularly at the end of each clinical posting.

### CMEs/WORKSHOPS

1. AIIMS–PULMOCRIT 2012 – Update in Pulmonary Critical Care and Sleep Medicine in Collaboration with American College of Chest Physicians (ACCP), AIIMS, New Delhi; 15–16 December 2012 (Convener: R Guleria).
2. AIIMS-ACCP Pulmonary and Critical Care Ultrasound Workshop, AIIMS, New Delhi; 12–14 December 2012 (Convener: R Guleria).
3. Meet the Expert Seminar on ‘Pulmonary Infections and Tuberculosis, Respiratory Update – 2012, Indian Chest Society (Western Chapter), Goa; 27–29 July 2012 (Convener: GC Khilnani).
4. AIIMS PG Pulmonary Update, AIIMS, New Delhi; September 2012 (Convener: A Mohan).
5. 26th Annual Pulmonary and Critical Care Update. PGIMER, Chandigarh. 14 October 2012 (Convener: K Madan).

### NATIONAL AND INTERNATIONAL CONFERENCES

#### Lectures delivered

**Randeep Guleria: 11**

**G.C. Khilnani: 19**

**Anant Mohan: 4**

**Karan Madan: 1**

### RESEARCH

#### Funded projects

##### Ongoing

1. To study the genetic polymorphisms and correlations with cytokine and hormone levels of macrophage migration inhibitory factor (MIF), peroxisome proliferator – activated receptor- $\gamma$  (PPAR $\gamma$ ), interleukin -6 (IL-6), C-reactive protein (CRP), insulin receptor substrate (IRS) 1, and leptin receptor genes in obstructive sleep apnea syndrome (OSAS) and non alcoholic fatty liver disease (NAFLD). Randeep Guleria, till 2015.
2. Clinical trial of herbal compound MA 305 in patients with mild to moderate hypertension: A pilot study. Randeep Guleria, Maharishi Ayurveda, till Sept 2014.
3. Genetic association study of polymorphisms related to chronic obstructive pulmonary disease and its measures, in North Indian population. Randeep Guleria, COPD Genetic Consortium, till 2015.
4. Detection of aberrant promoter methylation of tumor suppression genes and oncogenes in tumor and serum of lung cancer patients. Randeep Guleria, till 2015.
5. Role of acute lung injury biomarker gene polymorphisms in obstructive sleep apnea. Randeep Guleria, ICMR, till 2015.
6. Obesity and metabolic syndrome: the role of nutrition, physical activity, and inflammation. Randeep Guleria, DBT, till 2016.
7. Study of the variability in systemic inflammation in patients with chronic obstructive pulmonary disease due to smoking and non-smoking related causes. Anant Mohan, ICMR, 2009–12, Rs 28 lakhs.

8. Effect of platinum based chemotherapy on oxidative stress, nutritional profile and clinical response in advanced non small cell lung cancer. Anant Mohan, University Grants Commission, 2011–14, Rs 9.4 lakhs.
9. Study of genetic polymorphisms in interleukin-6, IL-13, and IL-10 as risk factors for the development of chronic obstructive pulmonary disease and their correlation with serum levels and disease severity. Anant Mohan, ICMR, 2011–14, Rs 29.3 lakhs.
10. Study of bronchoalveolar and systemic cytokine profile and its correlation to predict outcome of pneumocystis jiroveci pneumonia amongst at-risk population. Anant Mohan, ICMR, Rs 20 lakhs.
11. Detection of aberrant promoter methylation of tumor suppressor genes and oncogenes in tumor and serum of lung cancer patients. Anant Mohan, ICMR, 2012–15, Rs 36.3 lakhs.
12. Role of early diagnosis of drug resistant tuberculosis in guiding therapeutic strategies in treatment of extrapulmonary tuberculosis. Anant Mohan, ICMR, 2012–15, Rs 49.5 lakhs.

### **Completed**

1. To compare the efficacy of yoga and pulmonary rehabilitation on dyspnea, muscle strength, inflammatory markers and quality of life in patients with chronic obstructive pulmonary disease. Randeep Guleria, ICMR, till July 2012.
2. Double blind randomized placebo controlled trial of herbal compound MA-364 in patients with mild to moderate bronchial asthma. Randeep Guleria, Maharishi Ayurveda, till September 2012.
3. Dietary intake of micronutrients and their serum/plasma levels in association with severity of asthma. Randeep Guleria, ICMR, till October 2012.
4. To compare the efficacy of yoga and pulmonary rehabilitation on dyspnea, muscle strength, inflammatory markers and quality of life in patients with chronic obstructive pulmonary disease. Anant Mohan, ICMR, 2009–12.

### **Departmental projects**

#### **Ongoing**

1. Nutritional status in lung cancer
2. Lactate dehydrogenase and alkaline phosphates levels in bronchoalveolar lavage fluid of patients with sarcoidosis
3. Assessment of quality of life in COPD
4. Smoking habits among medical students
5. Nutritional status of stable COPD patients and assessment of quality of life
6. Assessment of quality of life in Asthma patients
7. Role of serial endotracheal aspirate in predicting the causative organism of ventilator associated pneumonia
8. Acquired electrophysiological abnormalities in patient with severe sepsis and their impact on outcome: a prospective study

#### **Completed**

1. Assessment of quality of life in-patient with lung cancer.
2. Smoking habits in urban slums of Delhi.
3. Predictors of mortality and morbidity in patients admitted with acute exacerbation of COPD.
4. To study vitamin D status and bone mineral density (BMD) and its relation to severity of COPD: a case control study

### **PUBLICATIONS**

**Journals: 25    Abstracts: 5    Chapters in books: 12    Books: 1**

### **PATIENT CARE**

#### **Pulmonary Medicine OPD**

New Cases	7621	Procedures	288
Old Cases	11805	Chemotherapy procedures	270
Injections	663		

#### **Lung Cancer Clinic**

New Cases	41	Old Cases	279
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**Sleep Disorder Clinic**

New Cases	36	Old Cases	99
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**Laboratories****Respiratory laboratory**

Spirometry procedures	9684	Oxymetries	2473
Diffusion capacity estimation	1648	Maximum voluntary ventilation	644
Body box (Plethysmography) measurements	592		

**Bronchoscopy Laboratory**

Fiberoptic bronchoscopy procedures	1227
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**Sleep laboratory**

Polysomnography studies	363
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**AWARDS AND HONOURS**

Professor Randeep Guleria has been appointed the External Examiner for DM (Pulmonary and Critical Care) PGIMER, Chandigarh. He was nominated by the Government of India to attend a meeting of expert group for the H1N1 Flu outbreak in Chennai, 27 April 2012, called by the Govt. of Tamil Nadu; appointed the External examiner for MD (Medicine) examination, Shere-I-Kashmir Institute of Medical Sciences, Srinagar, J&K. He has been the member of the Project Review Committee on 'Tuberculosis, Leprosy and other Chest Diseases of the ICMR; has been nominated a member of the Program Advisory Committee (PAC) of the DST in the area of Health Sciences and he has been also nominated as member of the Core Group for the Asian Regional Training Course on Medication Management in Hospitals: Role of Drugs and Therapeutics Committees, New Delhi; appointed External Examiner for the MD (Internal Medicine) National Academy of Medical Sciences, Bir Hospital Kathmandu, Nepal. nominated a member of the Editorial Board of the Indian Journal of Chest Diseases and Allied Sciences. appointed a member of the Expert Committee for developing Curriculum and Training Module on High Altitude Mountain Medicine by the DGHS; delivered a talk at the International Conference on Radiation Protection in Medicine: Setting the Scene for the Next Decade, held at Bonn, Germany. nominated a member of the Scientific Advisory Group of Experts (SAGE) working group on Influenza Vaccine and Immunization of WHO. He has attended their meetings regularly.

**Professor G.C. Khilnani** has been appointed President 2012–13 in National College of Chest Physicians (India); elected as Chairman Credential Committee of Indian Society of Critical Care Medicine 2012–13; appointed as Governor (Northern India) in Council of Governors & Regents, American College of Chest Physicians 2012–13; appointed Member, Executive Council of North Eastern Hill University, Shillong, Meghalaya; nominated member of the National Task Force for involvement of Corporate Hospitals and Institutions offering DNB under RNTCP, Ministry of Health and Family Welfare, Directorate General of Health Services, Government of India (Central TB Division); appointed Member, Board of Studies in the Tuberculosis and Chest Diseases for 2 years April 12 to March 14, Banaras Hindu University; appointed Member Executive Committee of Influenza Foundation of India for 2012; received Presidential Citation Award 2012–14, Indian Society of Critical Care Medicine.

## 9.34 Radiodiagnosis

### Professor and Head

Arun Kumar Gupta

### Professors

Deep Narayan Srivastava

Raju Sharma

### Additional Professors

Sanjay Thulkar (IRCH)

Sanjay Sharma (RPC)

Ashu Seith Bhalla

### Associate Professors

Smriti Hari

Shivanand Gamanagatti (Trauma Centre)

Atin Kumar (Trauma Centre)

### Assistant Professors

Chandan J Das  
Surabhi Vyas  
Chandrashekhara SH (IRCH)

Madhusudhan KS  
Manisha Jana (IRCH)  
Devasenathipathy Kandasamy (IRCH)

### Scientist-IV

Shashi B. Paul

## HIGHLIGHTS

The department was actively engaged in patient care, education and research. We organized two CMEs and delivered about 45 lectures in various CME. We also delivered over 20 lectures in various national and international conferences. Around 25 posters and oral presentations were accepted in various conferences all over the world. We were involved in a multi-centre project funded by National Knowledge Network and two intramural funded research projects. Besides, we were involved in over 100 completed and ongoing departmental and collaborative projects as well. Our faculties were actively involved in research and had published more than 60 papers in various indexed national and international journals. We had contributed 8 chapters in various books and edited a textbook.

## EDUCATION

### Undergraduate

The department faculty was actively involved in teaching of undergraduate students. There were a total of 55 lectures taken by the faculty for them in this period.

### Postgraduate

MD: There were a total of 28 junior residents. Academic activities for post graduate students included around 35 seminars, 35 journal clubs, 70 case discussions, 70 interesting film sessions and 80 lecture classes.

The department provided short term training to a total of 6 radiologists from all over the country during this period and to two interneers from Singapore.

### BSc (Hons) Medical technology in radiography (MTR)

A batch of 9 students was admitted to this course in 2012–13. This course is of three years duration. A total of 26 students were enrolled in this course.

### CMEs/Workshops/Symposia/National and International conferences

#### Organized by department

1. Breast Biopsy Education Programme. 9–10 October 2012, AIIMS, New Delhi.
2. Third AIIMS–MAMC–PGI Imaging Series, 7th Course on ‘Recent Advances in Imaging and Applied Physics’, 29–30 March 2013, AIIMS, New Delhi.

**Lectures delivered****D.N. Srivastava: 5****Raju Sharma: 14****Sanjay Sharma: 4****Ashu Seith Bhalla: 15****Smriti Hari: 3****Shivanand Gamanagatti: 10****Atin Kumar: 8****Chandan J. Das: 5****Shashi Paul: 2****Pawan Popli: 1****Oral presentations/posters presentation: 27****RESEARCH****Funded projects****Ongoing**

1. NKN Model Project: Network Enabled Medical Diagnosis and Education in Skeletal Imaging Using X-rays. Funded by National Knowledge Network. AK Gupta, Rs 50 lakhs.
2. Correlation of CT findings with clinical symptoms and pulmonary functions in patients with sequelae of pulmonary tuberculosis. Ashu Seith Bhalla, AIIMS.
3. Role of contrast-enhanced ultrasound, sonoelastography and MRI (Contrast enhanced, DWI and BOLD) in the evaluation of indeterminate renal masses on CT scan—a prospective study. Chandan J Das, AIIMS, 2012–13, Rs. 5 lakhs.

**Departmental projects****Completed**

1. Comparative evaluation of endovenous LASER ablation, radiofrequency ablation and surgery in the treatment of symptomatic lower limb varicosities.
2. Role of percutaneous radiological intervention in discogenic low back Pain.
3. Role of perfusion CT in predicting outcome in mild head injury.
4. MDCT evaluation of solid retroperitoneal organ injuries in blunt abdominal trauma with limited MRI correlation.
5. Evaluation of vertebral pathology using MR Imaging.
6. Role of Dynamic contrast enhanced and Diffusion weighted MRI in preoperative staging of endometrial cancer.
7. Intra-arterial chemotherapy (neoadjuvant) in patients with advanced laryngeal and hypo-pharyngeal cancer.
8. Role of Dual Energy CT in assessment of renal calculi.

**Ongoing**

1. Role of Diffusion Weighted MRI in imaging of retinoblastoma.
2. Role of MDCT in Evaluation of Traumatic Liver Injuries.
3. Magnetic Resonance Imaging evaluation of adult traumatic brachial plexus injury.
4. Evaluation of neck masses using diffusion weighted MR imaging and ultrasound elastography.
5. Role of dual energy computed tomography in diagnosis of gout.
6. Pre-operative Embolization of Bone Tumors.
7. US and MR evaluation of peripheral neuropathies of upper extremity.
8. Role of perfusion CT in pancreatic pathology.
9. MRI evaluation of chronic hip pain.
10. Role of Digital Breast Tomosynthesis as an adjunct to Full Field Digital Mammography (FFDM) in the evaluation of breast lesions
11. Utility of intra-operative ultrasound (IOUS) for breast conservation surgery (BCS): a feasibility study.
12. To ascertain the role of shear wave elastography as an adjunct to B-mode ultrasonography in characterisation of breast masses.
13. Perfusion studies in lung cancer.

**Collaborative projects****Completed**

1. Evaluation of coronary atherosclerotic plaque. (Medical Physics)
2. Clinical correlation of imaging findings in congenital neuropathic strabismus. (Ophthalmology)
3. Role of imaging modalities in patients of locally advanced breast cancer undergoing neo-adjuvant chemotherapy (Surgery).

4. Use of CT as an adjunct to pre-operative planning and monitoring for osteo-odonto-keratoprosthesis in patients with end-stage Steven Johnson syndrome. (Ophthalmology)
5. MRCP in patients with portoenterostomy for biliary atresia (Paediatric Surgery).
6. Assessment of APBDU in patients with choledochal cyst (Paediatric Surgery).
7. Cognitive dysfunction in hypoparathyroidism (Endocrinology).
8. Prospective and retrospective evaluation of duration of anti-tubercular treatment in spinal tuberculosis – A clinic-radiological study (Orthopaedics).
9. Portal hypertension in patients with choledochal cyst. (Paediatric Surgery)
10. Lipomodelling of breast. (Surgery)
11. Study of duration of anticoagulation in patients with deep venous thrombosis based on compression ultrasound. (Clinical Haematology)
12. Evaluation of intracranial hemorrhage, clinical profile and outcome in patients with hematological diseases (Clinical Haematology).
13. Comparative Prospective and retrospective study of clinical and Radiological outcomes in Arthrodesis of knee versus Arthroplasty following excision of malignant and aggressive bone tumors. (Orthopaedics)
14. Prospective Randomized controlled study of role of thromboprophylaxis with low molecular weight heparin versus aspirin plus intermittent compression device in Indian patients undergoing total hip and knee Arthroplasty. (Orthopaedics)
15. Evaluation of serum VEGF and Diffusion Weighted MRI in locally advanced cervical carcinoma treated with neoadjuvant chemotherapy followed by chemoradiation. (Obstetrics and Gynaecology)
16. A study on clinical, biochemical and radiological markers to describe the outcomes in preterm infants less than 35 weeks gestation born with abnormal antenatal umbilical artery Doppler flow(A/REDF). (Obstetrics and Gynaecology)
17. Assessment of dry weight by monitoring changes in blood volume and inferior vena cava diameter during hemodialysis. (Nephrology)
18. A prospective randomized controlled trial comparing laparoscopic and endoscopic drainage of pseudocyst of pancreas (Surgery)
19. Evaluation of injury pattern and results of medical and surgical treatment in cases with traumatic and iatrogenic facial nerve injury (Otorhinolaryngology)
20. Clinico-pathological study of antral mucosal changes in patients with ethmoidal polypi (Otorhinolaryngology)
21. Effect of progressive resistance exercise training on hepatic fat in Asian Indians with Non-alcoholic Fatty Liver Disease (NAFLD) (Medicine).
22. A clinical study to evaluate structural and functional respiratory parameters after distraction osteogenesis in retrognathic TMJ ankylosis patients with obstructive sleep apnoea syndrome (Dental Surgery).
23. Assessment of clinical, radiological profile and role of sialendoscopy in patients with salivary gland obstructive pathology (Otorhinolaryngology).
24. To estimate the prevalence of metabolic syndrome in patients with COPD. (Medicine)
25. Diagnostic utility of FDG-PET/CT in Pyrexia of unknown origin. (Medicine)
26. Utility of bronchoalveolar lavage fluid analysis in assessment of disease activity of interstitial lung disease in patients with systemic sclerosis. (Medicine)
27. Assessment of site directed surgical treatment by nasal, oropharyngeal, palatal, or retroglottal advancement surgery in the management of obstructive sleep apnea syndrome (Otorhinolaryngology)
28. Computed tomography measurements of normal and pathological inner ear. (Otorhinolaryngology)

### ***Ongoing***

1. Utility of neoadjuvant chemotherapy in carcinoma rectum. (Surgery)
2. Assessment of lower segment caesarian scar using transvaginal ultrasound and MRI (Gynaecology).
3. Early and Mid-term urological and sexual dysfunction following surgery for rectal cancer: a prospective and observational study. (Surgery)
4. Dermatological manifestations of chronic reactive arthritis. (Dermatology)
5. Prediction of leak after pancreaticojejunostomy based on delayed CT. (Gastrointestinal Surgery)
6. Role of CT oesophagography in the evaluation of carcinoma oesophagus. (Gastrointestinal Surgery)
7. Correlation of remnant volume of pancreas after Whipple's surgery with development of Diabetes Mellitus. (Gastrointestinal Surgery)
8. Evaluation of fatty liver by ultrasonography in patients with end-stage renal disease. (Medicine)

9. Correlation of epicardial fat, fatty liver and abdominal fat using MRI with ECHO and body-mass index in obese patients. (Medicine)
10. MDCT in acetabular Fractures (Orthopaedics)
11. MDCT in ACL reconstruction (Orthopaedics)
12. Comparison of single stage versus two stage treatment of patients with common bile duct stones and gall stones – a randomized controlled study. (Surgery)
13. Retrospective and prospective evaluation of magnitude, severity and outcome of traumatic hepatobiliary and pancreatic injuries in a level 1 trauma centre. (Surgery, JPNATC)
14. Effect of N-Acetylcysteine on Oxidative stress, endothelial dysfunction and carotid intimal media thickness in chronic peritoneal dialysis patients – An open labeled randomized trial (Nephrology)
15. Evaluation of progression of carotid artery intimal media thickness in chronic kidney disease patients not on dialysis and its correlation with endothelial dysfunction and biochemical parameters (Nephrology)
16. A cross-sectional study to know the prevalence of upper gastrointestinal disorders in spinal cord injury patients (Physical Medicine and Rehabilitation)
17. Study of association of adipocyte size with anthropometric and biochemical parameters (Medicine).
18. Role of Image guided navigation in Endoscopic surgery of Paranasal sinuses: A Comparative study. (Otorhinolaryngology).
19. Pre-post intervention study of quantitative and qualitative evaluation of bone formed in sinus augmentation with the use of bioactive synthetic bone graft putty.(Dental Surgery)
20. Ultrasound guided localization of internal jugular vein with reference to carotid artery in infants ,children and adolescents (Anaesthesia).
21. Association of Non-alcoholic Fatty Liver Disease (NAFLD) with Obstructive sleep apnea (OSA) in Asian Indians.(Medicine)
22. Clinical, investigative and therapeutic profile of patients presenting with haemoptysis. (Medicine)
23. Study on genotype–phenotype correlation in Asian Indian subjects with childhood onset of growth hormone deficiency. (Endocrinology)
24. Diagnosis and differential diagnosis of patients with Cushing`s syndrome. (Endocrinology)
25. Comparative study of human and non-human long bones by anatomical and radiological methods. (Forensic Medicine)
26. Effect of IJV ligation during comprehensive neck dissection on intracranial pressure. (Otorhinolaryngology)
27. Association of nonalcoholic fatty liver disease with bone mineral density and adiposity. (Medicine)
28. Bone height measurement of postcanine maxilla from alveolar ridge to sinus floor using CT scans. (Anatomy)
29. Voriconazole in the treatment of fungal orbital infections. (Ophthalmology)
30. Evaluation of multimodal treatment approach for extra-ocular retinoblastoma: A randomized study. (Ophthalmology)
31. Evaluation of cortical brain activation and visual pathway in cases of acute optic neuritis by functional MRI and DTI. (Ophthalmology)
32. Evaluation of role of Injection Bupivacaine in Strabismus. (Ophthalmology)
33. Role of Magnetic Resonance Imaging and spectroscopic methods in the evaluation of early prostate cancer. (NMR)
34. Effect of progressive resistance exercise training on hepatic fat in Asian Indians with Non-alcoholic Fatty Liver Disease (NAFLD) (Medicine).
35. Hepatic left lobe liver volume as an indicator of adiposity and related metabolic abnormality in patients with NAFLD MD (Medicine).
36. Evaluation of risk factors for development of post thrombotic syndrome in patients of deep vein thrombosis. (Haematology).
37. Role of PET CT in evaluation of lacrimal gland neoplasms (Ophthalmology).
38. Accuracy of sonographically measured splenic volume compared to splenectomy specimen (Surgery)
39. A clinical, imaging, endoscopic and laboratory evaluation of female genital tuberculosis. (Obstetrics and Gynaecology)
40. Measurement of depth of terminal ductolobular unit preoperatively by breast ultrasound and by histological assessment postoperatively. (Surgery)
41. Evaluation of PET scan in preoperative assessment of cases of endometrial carcinoma. (Obstetrics and Gynaecology)

42. Correlation of stage and imaging of endometriosis with fertility outcome. (Obstetrics and Gynaecology)
43. Role of cholecalciferol in steroid resistant nephritic syndrome. (Paediatrics)
44. Randomized controlled trial of radiofrequency ablation versus percutaneous acetic acid therapy for the treatment of small hepatocellular carcinoma. (Gastroenterology)
45. Randomized control trial of transarterial chemoembolisation (TACE) versus TACE plus oral chemotherapy in the treatment of unresectable hepatocellular carcinoma. (Gastroenterology)
46. Randomized control trial of transarterial chemotherapy (TAC) versus oral chemotherapy in the treatment of unresectable hepatocellular carcinoma. (Gastroenterology)
47. Randomized control trial of N-acetylcysteine in prevention of renal failure in hepatocellular carcinoma patients undergoing transarterial chemotherapy and transarterial chemoembolisation. (Gastroenterology)
48. Randomized control trial of oral chemotherapy versus supportive therapy in the treatment of unresectable hepatocellular carcinoma. (Gastroenterology)
49. Evaluation of the properties of renal stones (Urology and Medical Physics)
50. Hepatic left lobe liver volume as an indicator of adiposity and related metabolic abnormalities in patients with NAFLD (Medicine)
51. Comparison of DWI MRI with background suppression (DWIBS) and fluoride PET for the evaluation of skeletal metastasis in carcinoma prostate (Nuclear Medicine)
52. Non-invasive estimation of central venous pressure in mechanically ventilated patients using bedside ultrasonography: A comparison of two techniques (Anaesthesiology)
53. Impact of nutritional supplementation, early and late rehabilitation in pre-frail patient in geriatrics department of a tertiary care hospital of India (Geriatric Medicine)
54. Evaluation of diagnostic scoring systems in patients with suspected acute appendicitis (Emergency Medicine)
55. Role of contrast enhanced ultrasound in the diagnosis and for assessment of the therapeutic response in patients of hepatocellular carcinoma. (Gastroenterology)
56. Assessment of response of hepatocellular carcinoma to transarterial chemoembolisation by using magnetic resonance imaging. (Gastroenterology)
57. Safety and efficacy of autologous stem cells in prevention of amputation in patients with chronic critical limb ischemia. (Surgery)
58. Blunt chest trauma: prospective and retrospective review. (Surgery)
59. Contrast enhanced ultrasound for the assessment of therapeutic response following locoregional therapy in patients of hepatocellular carcinoma. (Gastroenterology)
60. Surveillance of patients of cirrhosis for detection of hepatocellular carcinoma – a cohort study (Gastroenterology).

## **PUBLICATIONS**

**Journals: 56    Chapters in books: 9    Books: 1**

## **PATIENT CARE**

The department is equipped with all state of art facilities for imaging. We currently have seven digital radiography units, eight digital portal radiography units, four conventional portable radiography units, two digital fluoroscopy units, two conventional fluoroscopy units, one flat panel DSA lab, thirteen ultrasound scanners with color Doppler, four portable ultrasound units, three CT scanners of which one is a dual energy scanner, one 1.5 Tesla MR scanner, one full field digital mammography unit, and a DEXA unit for bone densitometry. The department performs a vast multitude of diagnostic and interventional radiology procedures and caters to all clinical departments in the main hospital. It provides 24 hour coverage for emergency diagnostic and interventional procedures. More than twenty clinic-radiological conferences are held during the week where all imaging investigations are discussed with clinical colleagues. We are making a concerted effort to switch to electronic reporting and archiving to increase efficiency and reduce the turnaround time. During the period under review following equipment were purchased by the department: two mobile radiography units, one 1.5 Tesla MR scanner, one digital flat panel radiography system, one digital mobile radiography system and two high end ultrasound systems. The details of the procedures for the period 1st April 2012 to 31st March 2013 are given below in a tabular form:

## Investigations

Name of Investigation/Special procedures	Total number
<b>Routine X-rays</b>	
OPD	99,367
Indoor	22,789
Casualty	48,833
Portable	35,273
<b>Total</b>	<b>2,06,262</b>
<b>Special Investigations</b>	
Barium studies	2,111
Intravenous pyelography	1,660
Micturating cystourethrography	1,894
Hysterosalpingography	461
Operation theatre studies	117
Others contrast studies	1054
<b>Total</b>	<b>7,297</b>
<b>Mammography</b>	<b>1,907</b>
<b>Ultrasound</b>	
Routine	31,111
Emergency	18,800
Doppler (Routine + Casualty)	3,447
<b>Total</b>	<b>53,358</b>
<b>CT</b>	
Body	14,283
Head	5,938
<b>Total</b>	<b>20,221</b>
<b>Vascular studies</b>	
Digital subtraction angiography (DSA)	2,432
Venography	6
<b>Total</b>	<b>2,438</b>
<b>MRI</b>	<b>4,072</b>
<b>Interventional procedures</b>	
Ultrasound guided	3,161
CT guided	631
Mammography biopsy/FNAC	49
<b>Total</b>	<b>3,841</b>
<b>Total special investigations</b>	<b>89,061</b>
<b>Grand Total (Routine +Special)</b>	<b>2,99,395</b>

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Arun Kumar Gupta** was elected Fellow, National Academy of Medical Sciences (India).

**Professor Deep N. Srivastava** was elected, Fellow, National Academy of Medical Sciences (India).

**Dr Sanjay Sharma** was elected Vice President of the Delhi Chapter of IRIA, 2012; elected Treasurer, Indian Society of Vascular and Interventional Radiology (ISVIR), November 2011–February 2013.

**Dr Ashu Seith Bhalla** was elected Joint secretary Indian Society of Vascular and Interventional Radiology 2012–13

**Dr Chandan J. Das** received ECR Invest in youth award 2013 during European Conference of Radiology 2013, Vienna, Austria. 7–11 March 2013.

## 9.35 Reproductive Biology

### Professor and Head

Anand Kumar

### Additional Professor

Ashutosh Halder

### Associate Professor

P.K. Chaturvedi

### HIGHLIGHTS

Professor Anand Kumar was appointed member Advisory Committee of the UGC-SAP programme in Zoology of M.L. Sukhadia University, Udaipur. He was appointed member editorial board for The Open Andrology Journal (Bentham). He was also appointed reviewer for various international and national journals. He was nominated as a member (reproductive biologist) to discuss the draft protocols for in-depth studies on endocrine disruption of monocrotophos Ministry of Agriculture, Department of Agriculture and Cooperation, Directorate of Plant Protection Quarantine and Storage, NHIV, Faridabad (resigned later). He was also appointed member of the Institutional Review Board (IRB) of NIHFV and Member, Selection Committee of NIHFV, New Delhi. Dr Ashutosh Halder was elected a Fellow of the National Academy of Medical Sciences in 2012. He was selected as expert member of various institutional committees and expert groups including Stem Cell Research and Therapy (IC-SCRT) at National Institute of Immunology, Delhi in 2012; NABL (National Accreditation Board for Testing and Calibration Laboratories) on Genetics and Cytogenetics (since 2011); DBT Expert Group on 'Reproductive Health & Biology' (in 2012); Committee of Endocrine disruptors of Ministry of Agriculture (in 2013); assessment Board for promotion of ICMR scientists (in 2013). He also served as editorial board member and reviewer for various international and national journals. Dr P.K. Chaturvedi was appointed reviewer of projects of Department of Biotechnology (DBT) and member Selection Committee for projects ICMR.

### EDUCATION

**PhD:** 4 students, 1 post doctoral

**MD:** MD Laboratory Medicine and Biochemistry Students in Central RIA Facility

Co-supervisor MD/MS: Seven DM: Two

**Short term training:** Provided to 1 trainee (1 month)

### CME/Workshops/Symposia/National and International conferences

#### Organized

1. National Workshop on Molecular Cytogenetics: Male Reproduction, AIIMS, 26 November–1 December 2013.

#### Lectures delivered

**Anand Kumar: 2      Ashutosh Halder: 1**

#### Oral papers/posters presented: 3

### RESEARCH

#### Funded projects

##### Ongoing

1. Mediatory role of hypoxia inducible factor 1 alpha on vascular endothelial growth factor expression in an immortalized mouse leydig cell line. Anand Kumar, DST, 3 years, Rs 17.69 lakhs approx.
2. An investigation for sub-microscopic chromosomal imbalances and uniparental disomy by array comparative genomic hybridization (aCGH) in FISH negative clinically suspected 22q11.2 microdeletion syndromes. Ashutosh Halder, ICMR, 3 years, 2011–14, Rs 39 lakhs.

3. Testicular germ cell arrest (maturation arrest): An Investigation of Phenotype–Genotype Correlation, AIIMS, 2 years, Rs 10 lakhs.
4. Quality control for hCG kits procured by HLL Lifecare Limited, Gurgaon, P.K. Chaturvedi, HLL Lifecare, Rs 4.20 lakhs/year.
5. Potential effect of gene-environment interaction between CYP450A1, GSTT1, GSTM1 and environmental pollutants on semen quality. P.K. Chaturvedi, DST Women Scientist Programme, 2011–2014, Rs 23.76 lakhs

#### ***Completed***

1. Rapid Detection of Chromosome 13 and 21 Aneuploidy by Primed in situ Labelling. SRF Project. Ashutosh Halder, ICMR, 3 years, March 2010–March 2013, Rs. 6 lakhs.

#### **Departmental projects**

##### ***Ongoing***

1. Analysis of differential expression of proteins in motile and non motile spermatozoa.
2. Understanding Dynamics of Sex Ratio
3. Testicular Germ cell arrest (maturation arrest): An Investigation of Phenotype-Genotype Correlation

##### ***Completed***

1. Genetic and Endocrine Study on Primary Testicular Failure

#### **Collaborative projects**

##### ***Ongoing***

1. Serum alpha-fetoprotein and albumin level in fanconi anemia (Clinical Hematology).
2. Prospective randomized comparison of testicular function, sexual function and quality of life following laparoscopic tep and tap inguinal hernia repair (Surgery).
3. Randomized clinical trial to assess the efficacy of myoinositol with metformin on clinical, metabolic and hormonal parameters of polycystic ovary syndrome (Obstetrics and Gynecology).
4. Effect of continuous positive airway pressure therapy on neurocognitive impairment in patients with moderate to severe obstructive sleep apnea (Medicine).
5. Study of clinico-dysmorphic profile and associated malformations in children with congenital heart disease (MAMC, Paediatrics).
6. Study the molecular biology of multiple myeloma (Medical Oncology).
7. Study proteomics of endometriosis (Physiology).
8. Tacrolimus as induction therapy for proliferative lupus nephritis (Nephrology).

##### ***Completed***

1. Rapid Detection of Chromosome, 13 and 21 Aneuploidy by Primed In Situ Labeling. SRF Project. ICMR, 2 years, 2011–13.

#### **PUBLICATIONS**

**Journals: 5    Chapters in books: 3    Books: 2**

#### **PATIENT CARE**

##### **Central RIA Facility (CRIFA, Room No 5010)**

Routine assays for LH, FSH, Prolactin, T3, T4, TSH, Testosterone, Estradiol, Progesterone, alpha Feto-Protein, Prostate Specific Antigen (PSA), Beta hCG, CA-125 and cortisol in the blood samples of in and out patients were carried out in the facility.

Name of assay	Number	Name of assay	Number
FSH	4560	LH	4253
Prolactin	3799	DHEAS	136
T3	10292	T4	12041
TSH	20951	Testosterone	1577
Oestradiol	1069	Progesterone	314
AFP	4363	PSA	1989
Beta hCG	1147	CA-125	1955
Cortisol	373		
TOTAL	68819		

The number of tests performed has increased from 54272 last year to 68819 this year.

**Andrological Examinations:** Semen Examination: 332, Seminal Fructose 332

Not as part of standard outpatient service however, over 50 cases were referred from various hospitals of Delhi/India for Counselling/Advice and related to Reproductive Genetics in particular Male Primary Hypogonadism and Congenital Malformation.

Also email consultation on infertility, medical andrology, malformation, microdeletion syndrome, etc

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Anand Kumar** delivered the Subhash Mukherjee Memorial Oration of the Endocrine Society of India for the year 2012, Kolkatta, 13–15 December 2012.

**Dr Ashutosh Halder** was elected Fellow, National Academy of Medical Sciences (in 2012).

**Dr P.K. Chaturvedi** was elected Member, National Academy of Medical Sciences (in 2012).

## 9.36 Surgical Disciplines

### Professor and Head

M.C. Misra

### Professors

Anurag Srivastava

Sunil Chumber

Rajinder Parshad

### Additional Professor

V. Seenu

Sandeep Aggarwal

Virinder Kumar Bansal

### Associate Professor

Anita Dhar  
Maneesh Singhal

Amit Gupta  
Subodh Kumar

Biplab Misra  
Sushma Sagar

### Assistant Professor

Hemanga K. Bhattacharjee

Rehan Nabi Khan (on contract)

## EDUCATION

### Short term training

1. Dr Nitin Agarwal, w.e.f.20 March 2012 to 19 April 2012 (one month)
2. Cpl. Rakesh Kumar, w.e.f. 1 August 2012 to 31 August 2012 (1 month)
3. Mr Shailesh Kumar, w.e.f 1 September 2012 to 28 February 2013 (6 months)

### Elective Training

1. Dr Song Ung Kang from DPR Korea, w.e.f 9 April 2012 to 1 June 2012 (8 weeks)
2. Dr Yong Jin Kim from DPR Korea, w.e.f 9 April 2012 to 1 June 2012
3. Dr Sun Gil Kim from DPR Korea, w.e.f 9 April 2012 to 1 June 2012
4. Ms. Moskovchuk Alexandra from Austria, w.e.f. 1 February to 30 April 2012 (3 months)
5. Mr Lehmann Lukas from Austria, w.e.f. 5 March 2012 to 27 April 2012 (4 weeks)
6. Ms. Viktoria Rieder of Austria, w.e.f. 5 March 2012 to 27 April 2012 (4 weeks)
7. Ms. Lee Wen from Singapore, w.e.f 21 May 2012 to .1 June 2012 (2 weeks)
8. Mohammad Khalid from Afghanistan, w.e.f 5 May 2012 to 5 August 2012 (3 months)
9. Ms Divya Arya from Hungary, w.e.f 21 February 2013 to 20 March 2013
10. Mohammad Nasir from Afghanistan, w.e.f 8 June 2012 to 7 September 2012
11. Mr Tim Wei Lun from Singapore, w.e.f 21 May 2012 to 1 June 2012
12. Mr Ang Dun Yong from Singapore, w.e.f 21 May 2012 to 1 June 2012
13. Ms. Sanjana Sharma from Australia, w.e.f. 17 to 30 December 2012 (2 weeks)
14. Mr Poh You Kai from Singapore, w.e.f 9 June 2012 to 15 June 2012 (1 week)
15. Mr Tan Shin Wui from Malaysia, w.e.f 8 September 2012 to 20 September 2012
16. Ms. Jolyn Ching from Malaysia, w.e.f 8 September 2012 to 23 September 2012
17. Ms. Sarah Esther Wulff from Germany, w.e.f. 18 February 2013 to 17 April 2013 (2 months)
18. Ms Hanna Minker from Germany, w.e.f. 20 August 2012 to 4 October 2012 (6 weeks)
19. Ms. Nidhi Mahajan from Australia, w.e.f 28 January 2013 to 22 February 2013 (4 weeks)
20. Ms Beuchat isabelle from Switzerland, w.e.f .1 March 2013 to 31 March 2013 (one month)
21. Ms Mary Garland from USA, w.e.f. 4 February 2013 to 1 March 2013 (4 weeks)
22. Ms. Anisha Kshetrapal from USA w.e.f 04.02.13 to 01.03.13 (4 weeks)
23. Dr Jasneet Singh Bhullar from USA, w.e.f 1 October 2012 to 31 October 2012
24. Ms Manon Jaboyedoff from Switzerland, w.e.f 1 March 2013 to 31 March 2013 (1 month)
25. Ms. Alexandra moskovchuk from Vienna, w.e.f 11 February 2013 to 6 April 2013
26. Mr Leong Kok Keong from Malaysia, w.e.f 4 March 2013 to 29 March 2013 (4 weeks)
27. Ms. Asha J Shah from USA, w.e.f. 1 March 2013 to 31 March 2013 (one month)
28. Dr Yong Sik So from DPR Korea, w.e.f 22 April 2013 to 14 June 2013
29. Dr Myong Min Hwang from DPR Korea, w.e.f 22 April 2013 to 14 June 2013 (8 weeks)
30. Dr Kwang Chol Jo from DPR Korea, w.e.f 22 April 2013 to 14 June 2013 (8 weeks)

31. Dr Chol Hyon Om From DPR Korea, w.e.f 22 April 2013 to 14 June 2013 (8 weeks)
32. Ms Aminath Shanaaz from Maldives, w.e.f 28 April 2013 to 28 July 2013 (3 months)
33. Ms. Shooraa Fathimath from Maldives, w.e.f 28 April 2013 to 28 July 2013 (3 months )
34. Mr David Thomson from UK, w.e.f 25 March 2013 to 18 April 2013

### **Observership**

1. Dr Turki Atia Al-Qurashi from Saudi, w.e.f. 1 January 2012 to 31 December 2012 (1 year)
2. Dr Kuldeep Singh Rawat from USA, w.e.f. 12 December 2011 to 11 March 2012 (12 weeks)
3. Dr Chittaranjan Das from Bangladesh, w.e.f. 1 March 2012 to 30 September 2012 (6 months)
4. Dr Lauren Smithson from Canada, w.e.f 1 to 31 December 2012 (One month)
5. Dr Rishi Nayyar from RML Hospital, w.e.f. 1 February 2013 to 30 June 2013 (6 months)

### **CMEs/Workshops/Symposia/National and International Conferences**

#### **Organized by**

#### **The Department**

1. Seventh AIIMS Surgical Week-Endosurg 2013 – Live Operative International CME cum conference, AIIMS, 15–17 March 2013.
2. Breast and Endocrine Surgical Workshop, AIIMS, 15 March 2012.
3. Advanced Oncoplasty meeting, AIIMS, 9–10 October 2012.

#### **M.C. Misra**

1. Seventh AIIMS Surgical Week – Endosurg 2013 – Live Operative International CME cum conference, AIIMS, 16–18 March 2013.
2. President, Annual Conference of Delhi State Chapter of Association of Surgeons of India ‘SURGICON 2012’, 23–25 November 2012. Convenor of a case scenario based Panel Discussion on management of neck trauma, genitourinary trauma and Polytrauma, 24 November 2012.
3. Chairman, 5th Annual Conference of Indian Society of Trauma and Acute Care (ISTAC), International Conference and workshop ‘TRAUMA 2012’, 22–25 November 2012. Delivered a Key note on ‘Advances in Trauma Management in 2012 and Beyond’ and participated during Case Scenario discussion as a panelist, 23 November 2012.
4. Programme and Course Director, Inaugural Advanced Trauma Life Support (ATLS) Course, LTM Medical College and Sion Hospital, Mumbai, 11–13 October 2012.
5. Organizing Chairman, 2nd International Summit and Workshop on Cost – Effective and Meaningful Use of Technology in Emergency Healthcare (CEUTECH – 2012), 28–30 September 2012, organized by the Department of Information Technology and Emergency Department, JPNATC, AIIMS, AIIMS. Chaired Plenary and Scientific Session, 28–29 and 30 September 2012 and Panelist speaker on ‘Bottlenecks in having a World class ED and how to overcome them: JPNATC Experience.
6. Convenor and Moderator during a Consultative Workshop for Six AIIMS Directors for establishing the Department of Emergency Medicine and Computerization of the Institutions, JPN Apex Trauma Centre, AIIMS, New Delhi, 22 September 2012.

#### **Anurag Srivastava**

1. Breast and Endocrine surgical workshop, 15 March 2012, AIIMS
2. Advanced Oncoplasty meeting, 9–10 October 2012, AIIMS
3. Symposium on Benign Breast Disease. Annual meeting of association of surgeons of India ASICON 2012 Kolkata, 27 December 2012.

#### **Rajinder Prasad**

1. Monthly meeting of Delhi State Chapter of ASI, 23 February 2013, AIIMS, New Delhi.

#### **V K Bansal**

1. Organizing Secretary, Seventh AIIMS Surgical week-ENDOSURG 2013–Live Operative International CME cum Conference, AIIMS, 15–17 March 2013.
2. Organizing Secretary, Two day Live Operative Workshop on Laparoscopic Donor Nephrectomy, AIIMS, New Delhi, 17–18 December 2012.
3. Course Co-ordinator for 10 Training courses in ‘Operative Laparoscopy – Basic and Advanced’
4. Training courses in ‘Laparoscopic Suturing Skills’

5. Training courses in 'Laparoscopic Colorectal Surgery'
6. Training courses in 'Laparoscopic Hernia Surgery'

#### **Anita Dhar**

1. Joint-Organizing Secretary, Sixth AIIMS Surgical week–Endosurg 2012–Live Operative International CME cum Conference, AIIMS, 16–18 March 2012.

#### **Sushma Sagar**

1. Course Director DEMEX (Delhi Emergency Management Exercise) for Delhi Govt doctors at JPNATC, AIIMS, 29 November–1 December 2012.
2. Scientific Chair, Trauma 2012, International Conference, CME cum Live Workshop and 4th Annual Conference of the Indian Society Trauma and Acute Care (ISTAC) 23–25 November 2012.
3. Organizing Secretary, Sixth AIIMS Surgical week and Endosurg-2013, International CME cum Live Workshop, 15–17 March 2013.

#### **Subodh Kumar**

1. Secretary Finance, Trauma 2012, International Conference, CME cum Live Workshop and 4th Annual Conference of the Indian Society Trauma and Acute Care (ISTAC), 23–25 November 2012.
2. Organising Secretary, Sixth AIIMS Surgical week and Endosurg-2013, International CME cum Live Workshop, 15–17 March 2013.

#### **Biplab Mishra**

1. Part of organizing team for Wound Evaluation and treatment skills (WETS) course, 2–3 April 2012, JPNATC, AIIMS, New Delhi.
2. Organizer and Course Director, 'Management of Acute Wounds in ED (MAWE)', workshop on 19 April 2012, JPNATC, AIIMS, New Delhi.
3. Faculty, GROS 2012, 2nd International Conference and Live Surgical Workshop on Robotic Surgery and Advanced Laparoscopy, 27–29 April 2012 at Galaxy care Laparoscopy institute, Pune.
4. Organizer and Course Director 'Management of Acute Wounds in ED (MAWE)', workshop, 4 May 2012, JPNATC, AIIMS, New Delhi.
5. Organizer and Course Director, 'Management of Acute Wounds in ED (MAWE)', workshop on 15 May 2012, JPNATC, AIIMS, New Delhi.
6. Course Director, 'Advanced Trauma Life Support (ATLS) course', 31 May 2012 to 2 June 2012, Apex Medical Academy, Ahmedabad, Gujarat.
7. Organizer and Course Director, 'Management of Acute Wounds in ED (MAWE)', workshop on 27 July 2012, JPNATC, AIIMS, New Delhi.
8. Course Director, 'Advanced Trauma Life Support (ATLS) course', 7–9 August 2012, Indian Institute of Emergency Medical Services, Kottayam, Kerala.
9. Organizer and Course Director, 'Management of Acute Wounds in ED (MAWE)', workshop on 31 August 2012, JPNATC, AIIMS, New Delhi.
10. Organizer and Course Director, 'Management of Acute Wounds in ED (MAWE)', workshop on 28 September 2012, JPNATC, AIIMS, New Delhi.
11. Organizer and Course Director 'Management of Acute Wounds in ED (MAWE)', workshop on 9 October 2012, JPNATC, AIIMS, New Delhi.
12. Organizing Secretary and Faculty, Fifth International Conference, CME cum live workshop 'TRAUMA 2012' from 22–25 November 2012, AIIMS, New Delhi.

#### **Maneesh Singhal**

1. Scientific Chair, Trauma 2012, International Conference, CME cum Live Workshop and 5th Annual Conference of the Indian Society Trauma and Acute Care (ISTAC), 23–25 November 2012.
2. Joint Organising Secretary, Sixth AIIMS Surgical week and Endosurg-2013, International CME cum Live Workshop. 15–17 March 2013.

#### **Amit Gupta**

1. Joint Organizing Secretary: Seventh AIIMS Surgical week and Endosurg-2013, International CME cum Live Workshop. AIIMS and Indian Hernia Society and SELSI. March 2013.

2. Member Organizing Committee: TRAUMA 2012, International Congress, CME cum Live Workshop and Fifth Annual Conference of the Indian Society Trauma and Acute Care (ISTAC), 23–25 November 2012.

#### Lectures delivered

M.C. Misra: 41

Sandeep Aggarwal: 9

Subodh Kumar: 11

Anurag Srivastava: 4

V.K. Bansal: 25

Biplab Mishra: 1

Rajinder Parshad: 6

Anita Dhar: 2

Amit Gupta: 8

V. Seenu: 9

Sushma Sagar: 13

Oral papers/posters presented: 22

#### RESEARCH

##### Funded projects

##### *Ongoing*

1. Adjuvant tamoxifen longer against shorter (ATLAS) for breast cancer patients, Anurag Srivastava, Oxford University, UK.
2. Phase III Clinical trial with intravascular injectable male contraceptive – RISUG. Multicentre study, V Seenu. ICMR.
3. Impact of use of Bio-Absorbable Staple Line Reinforcement on Operative Time and post-operative bleeding in Super-Obese Patients (BMI > 50 Kg/m<sup>2</sup> Undergoing Laparoscopic Sleeve Gastrectomy', Sandeep Aggarwal, AIIMS, 2012–14, Rs 5 lakhs.
4. A prospective randomized controlled trial of laparoscopic vs endoscopic drainage of pseudocyst of pancreas, Virinder Kumar Bansal, ICMR, 2011–13, Rs 15 lakhs,
5. A prospective study of correlation of effect of tacrolimus blood levels on graft function and its impact on overall quality of life in post renal transplant patients, Virinder Kumar Bansal, Institute Research Grant, January 2013 onwards, Rs 2.50 lakhs.
6. Safety and efficacy of autologous stem cells in prevention of amputation in patients with chronic critical limb ischemia, Anita Dhar, Multi-centric Project, DBT, Rs. 1 crore.
7. A Non-randomized, open label multicentric, dose ranging, phase II study assessing the efficacy and safety of intramuscular administration of stempeucel-CLI (ex vivo cultured adult bone marrow derived allogeneic mesenchymal stem cells) in patients with critical limb ischemia due to buerger's disease, Anita Dhar, A Srivastava, Multi-centric Project, Stempeutics Research Pvt. Ltd., Rs 70 lakhs.
8. To compare the effectiveness of VAC (Vacuum Assisted Closure) therapy to conventional treatment of Amputation stump, Sushma Sagar, M Singhal, S Kumar, B Mishra, A Gupta, AIIMS, Rs.1 crore.
9. Sericin based value added finishes for Medical garments and Sportswear in collaboration with Department of Textiles, IIT Delhi, Sushma Sagar, M Singhal, S Kumar, B Mishra, A Gupta, DBT, Rs 34 lakhs.
10. Compression clothings for elderly in collaboration with Department of Textiles, IIT Delhi, Sushma Sagar, M Singhal, DST.
11. Pilot Project on Capacity Building for Advanced Trauma Life Support in India (PPCB-ATLSI). 2012, Amit Gupta, S Kumar, M Singhal, Sushma Sagar, B Mishra, National Disaster Management Authority, Rs 1.18 crore.
12. Development of Wound Registry at Trauma Centre, AIIMS. Manish Singhal, S Sagar, S Kumar, B Mishra, A Gupta, AIIMS, Rs 1 crore.
13. Retrospective and prospective Evaluation of Epidemiology and Magnitude, severity, Outcomes of Complicated Soft Tissue Injuries in a Level 1 Trauma Centre, S Sagar, M Singhal, S Kumar, B Mishra, A Gupta.

##### *Ongoing*

1. Study of human breast cancer by magnetic resonance imaging techniques, Department of NMR, V Seenu.
2. Prospective study to evaluate the impact of bariatric surgery on glucose metabolism using biomarkers in obese patients, RajKumar Yadav, Sandeep Aggarwal, ICMR, 3 years, 2012–15, Rs 29 lakhs.
3. Induction of therapeutic angiogenesis in limb ischemia by intra-arterial delivery of autologous bone marrow derived stem cells. Sanjeev Sharma, Virender Kumar Bansal, Sujata, Balram Bhargava, Gurpreet Singh, DBT, Rs 30 lakhs.
4. Induction of Therapeutic Angiogenesis in Upper Limb Critical Ischemia by Intra-Arterial Delivery of Autologous Bone-Marrow Derived Stem Cells, Sanjiv Sharma, Priya Jagia, Gurpreet Gulati, Sujata Mohanty, Virinder Bansal, Anita Dhar, Rakesh Yadav, R.M. Pandey.
5. Coronary CT angiography to predict vascular events in non-cardiac surgery, G Karthik, Anita Dhar.

6. Cleft Lip and Palate anomaly in India: Clinical profile, Risk factors and current status of treatment – Hospital based surveys, Sushma Sagar and Manish Singhal, ICMR Task Force, Rs 54 lakhs.
7. Prospective, randomized comparison of efficacy and safety of thoracic epidural analgesia with bupivacaine and opioid in two different concentrations versus intravenous two drug analgesia in thoracic trauma. M Singhal, S Sagar, S Kumar, B Mishra, A Gupta, in collaboration with Department of Anaesthesia.
8. Development and Implementation of an Automated Electronic Surveillance System for Hospital Acquired Infections at a Tertiary Care Hospital of India, Amit Gupta, Subodh Kumar, ICMR, Rs. 16 lakhs.
9. Assessment of post-trauma cytokine producing potential of monocytes for early diagnosis of organ dysfunction and sepsis, Amit Gupta, DBT.
10. Proposal for establishment of Cadaveric Skills laboratory at the JPN Apex Trauma Centre, AIIMS, Amit Gupta, Indian Council for Medical Research – Directorate of Human Resources (ICMR-DHR).
11. Collaborative Head Injury and Adherence to Guidelines Study (CHIRAG), Amit Gupta, DBT, in collaboration with Harborview Injury Prevention and Research Center (HIPRC), University of Washington.
12. Role of Immuno-clinical and cytokine gene polymorphisms correlation with recovery in patients with post-traumatic shock, Amit Gupta, Indian Council of Medical Research.
13. To study the safety and efficacy of intravenous estrogen as therapeutic adjunct for treatment of hemorrhagic shock patient presenting to the emergency department of a level 1 Trauma Centre. S Kumar, ICMR, 2012, Rs 36.36 lakhs.
14. Assessment of post-trauma cytokine producing potential of monocytes for early diagnosis of organ dysfunction and sepsis, Amit Gupta, Subodh Kumar, DBT.
15. Evaluation of Plasma and Urine Neutrophil Gelatinase-associated Lipocalin (NGAL) as an early marker in predicting AKI in Trauma patients in Surgical Intensive Care Unit. ICMR, 2012, Rs 20.23 lakhs.
16. Proposal for the establishment of a cadaveric dissection facility at the Jai Prakash Narayan Apex Trauma Centre, AIIMS, New Delhi, India, Amit Gupta, Subodh Kumar, ICMR, 2012, Rs 5.36 crores.
17. Role of MDCT in Evaluation of Traumatic Liver Injuries, S Kumar.
18. A prospective study of correlation of effect of tacrolimus blood levels on graft function and its impact on overall quality of life in post renal transplant patients, S Kumar.
19. To study Magnitude, severity, Outcomes of Peripheral Vascular Injuries in a Level 1 Trauma Centre. M Singhal, S Sagar, S Kumar, B Mishra, A Gupta.

### ***Completed***

1. Cost Effectiveness Analysis and Comparison of Single Stage Vs Two Stage Management of Patients with Concomitant Gall Stone Disease and Common Bile Duct Stones – A Randomized Controlled Trial. Virinder Kumar Bansal, SAGES Research Award, 2009–12.
2. A prospective randomized controlled trial comparing chronic groin pain and quality of life after laparoscopic inguinal hernia repair using heavy weight vs light weight meshes, Virinder Kumar Bansal, AIIMS Research Grant, Rs 1.40 lakhs, 2010–12.
3. The feasibility of management of occult pneumothoraces without intercostal drainage tube. Biplab Misra.

### **Departmental and Collaborative Research**

#### ***Ongoing***

1. A Prospective Study to Compare the Outcomes after Primary Laparoscopic Exploration Of Common Bile Duct and Laparoscopic Exploration following failed Endoscopic Stone Extraction In Patients with Concomitant Gall Stones and Common Bile Duct Stones', (Community Medicine, Radiology and Gastroenterology).
2. To study the expression of Interleukin 10 in patients with breast cancer and its correlation with stage, histological grading and hormone receptor status (Pathology).
3. A prospective study of quality of life and correlation of blood levels of tacrolimus to graft function and adverse effects of tacrolimus in post renal transplant patients (Nephrology and Psychiatry).
4. Retrospective and prospective evaluation of magnitude, severity and outcome of complicated soft tissue injuries in a Level I trauma center.
5. Prospective randomized control study to compare long term outcome, chronic pain, quality of life and cost effectiveness following two techniques of mesh fixation – Non absorbable tackers versus absorbable tackers for laparoscopic mesh repair of incisional and ventral hernias (Anaesthesia and Psychiatry).

6. A prospective randomized control trial comparing the outcome of the two modalities of treatment of gall stone disease viz. single incision laparoscopic cholecystectomy with standard 4 port laparoscopic cholecystectomy (Anaesthesia and Radiology).
7. A prospective randomized comparison study of sexual function, testicular function and quality of life following laparoscopic totally extraperitoneal repair (TEP) and transabdominal preperitoneal (TAPP) inguinal hernia repair' (Radiology, Psychiatry and Reproductive Medicine).
8. A Prospective Study Comparing Outcomes and Quality of life after Laparoscopic Donor Nephrectomy versus Open Donor Nephrectomy (Radiology, Psychiatry and Nephrology).
9. Comparison of quality of life after single stage vs two stage management of patients with concomitant gall stones and common bile duct stones – A prospective randomized control trial (Radiology, Gastroenterology, Psychiatry and Community Medicine).
10. Retrospective and prospective study to evaluate the role of laparoscopy in patients with abdominal trauma at Level I Trauma Centre
11. To study the complications of splenectomy in patients undergoing early splenic artery ligation.
12. Retrospective and prospective Evaluation of Epidemiology and Magnitude, severity, Outcomes of Complicated Soft Tissue Injuries in a Level 1 Trauma Centre.
13. To study Magnitude, severity, Outcomes of Peripheral Vascular Injuries in a Level 1 Trauma Centre.
14. Clinical Relevance of Immune Associated Molecules in Live Related Donor Renal Transplantation (Nephrology and Transplant Immunology).
15. Study to evaluate the effect of training program involving animal models/tissues on operative room performance of general surgery residents.
16. Analgesic efficacy of transversus abdominis plane block for laparoscopic inguinal hernia repair in adult patients: a randomized controlled trial (Anaesthesia).
17. Imaging and intervention in arteriovenous fistulas for hemodialysis (Radiology and Nephrology).
18. To Study the outcome of AV fistula creation in CKD patients in a tertiary care hospital in North India: An Observational Prospective Cohort Study' (Nephrology and Radiology).
19. Role of Cilastazole in treatment of chronic ischemia of the lower limb.
20. To study the pattern of peripheral arterial disease in tertiary care surgical practice: Indian scenario.
21. Radical duct excision for nipple discharge (benign breast disease) – its long term follow up.
22. Role of anti reflux procedure in achalasia cardia following laparoscopic cardiomyotomy.
23. Early and mid term urinary and sexual dysfunction surgery for rectal cancer: a prospective observational study.
24. Impact of supervised diet and lifestyle modifications on weight loss, body fat distribution and insulin resistance in adult Indian obese patients.
25. Role of <sup>18</sup>F FDG PET-CT in predicting early response to neo adjuvant chemotherapy in breast cancer.
26. To evaluate the impact of a supervised program of nutritional counseling and lifestyle modification on weight loss in patients with BMI 25-29.9 kg/m<sup>2</sup> as compared to BMI ≥30-34.9 kg/m<sup>2</sup> over a period of one year and to assess the effect of bariatric surgery in BMI ≥35kg/m<sup>2</sup> as compared to non-surgical intervention over a period of one year.
27. Nutritional management and Bone Health in Morbid Obese Patients Undergoing Laparoscopic Sleeve Gastrectomy.
28. A study of impact of renal transplantation on the Quality of life of donor and recipient in spousal renal transplant group.
29. Prospective Study to Evaluate the Impact of Bariatric Surgery on Obstructive Sleep Apnea.
30. Retrospective and prospective analysis of magnitude severity in outcome of pelvic fracture at level 1 trauma centre.
31. Emergency general surgical admission-prospective institutional experience in non traumatic surgical acute abdomen (NTSAAS).
32. Multiparametric approach to the study of breast cancer and its correlation with molecular markers' (Departments of NMR, Radio-diagnosis, Radiotherapy, Biotechnology and Biotechnology).
33. Studies on synuclein in various pathological conditions (Biophysics, Biotechnology and Ocular Pharmacology).
34. A Prospective Study To Compare The Outcomes After Primary Laparoscopic Exploration Of Common Bile Duct And Laparoscopic Exploration Following Failed Endoscopic Stone Extraction In Patients With Concomitant Gall Stones And Common Bile Duct Stones (Community Medicine, Radiology and Gastroenterology).

35. To study the expression of Interleukin 10 in patients with breast cancer and its correlation with stage, histological grading and hormone receptor status (Pathology).
36. A prospective study of quality of life and correlation of blood levels of tacrolimus to graft function and adverse effects of tacrolimus in post renal transplant patients (Nephrology and Psychiatry).
37. Retrospective and Prospective evaluation of magnitude, severity and outcome of complicated soft tissue injuries in a Level I Trauma Centre.
38. Prospective randomized control study to compare long term outcome, chronic pain, quality of life and cost effectiveness following two techniques of mesh fixation – Non absorbable tackers versus absorbable tackers for laparoscopic mesh repair of incisional and ventral hernias (Anaesthesia and Psychiatry).
39. A prospective randomized control trial comparing the outcome of the two modalities of treatment of gall stone disease viz. single incision laparoscopic cholecystectomy with standard 4 port laparoscopic cholecystectomy (Anaesthesia and Radiology).
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41. A Prospective Study Comparing Outcomes and Quality of life after Laparoscopic Donor Nephrectomy versus Open Donor Nephrectomy (Radiology, Psychiatry and Nephrology).
42. Comparison of quality of life after single stage vs two stage management of patients with concomitant gall stones and common bile duct stones – A prospective randomized control trial (Radiology, Gastroenterology, Psychiatry and Community Medicine).
43. Retrospective and prospective study to evaluate the role of laparoscopy in patients with abdominal trauma at Level I Trauma Center
44. To study the complications of splenectomy in patients undergoing early splenic artery ligation.
45. Clinical Relevance of Immune Associated Molecules in Live Related Donor Renal Transplantation (Nephrology and Transplant Immunology).
46. Study to evaluate the effect of training program involving animal models/tissues on operative room performance of general surgery residents.
47. Imaging and intervention in arteriovenous fistulas for hemodialysis (Radiology and Nephrology).
48. To Study the outcome of AV fistula creation in CKD patients in a tertiary care hospital in North India: An Observational Prospective Cohort Study (Nephrology and Radiology).
49. The causes and pathologic features of traumatic deaths.
50. The role of virtopsy (Postmortem CT scan) in predicting the cause of death in trauma patients by comparing the findings of postmortem CT scan and conventional autopsy.
51. Emergency General Surgical Admissions: Prospective Institutional experience in Non-traumatic Surgical Acute Abdomen (NTSAA).
52. Retrospective and prospective analysis of magnitude and severity and outcome of pelvic fracture at a Level I Trauma Centre.
53. Study to evaluate the impact of bench training involving animal tissues/model on operative room performance of General Surgery residents.
54. Retrospective and prospective evaluation of epidemiology and magnitude, severity, outcomes of complicated soft tissue injuries in a Level 1 Trauma Centre.
55. Evaluation of magnitude, severity and outcome of Chest Trauma in a Level I Trauma Centre.
56. Multidetector CT scan evaluation of retroperitoneal solid organ injury with limited MRI correlation.

### ***Completed***

1. Prospective randomised controlled blinded study to evaluate the effect of short term focused training program in laparoscopy on operative room performance of surgery residents
2. A Prospective Randomized Controlled Trial of Laparoscopic vs Endoscopic Drainage of Pseudocyst of Pancreas (Radiology and Gastroenterology).
3. Retrospective and Prospective analysis of magnitude, severity and outcome of chest trauma at a Level I Trauma Centre
4. Comparison of USG Elastography, Sonography and Mammography in breast masses.
5. Comparing the role of MRI and gray scale and Doppler ultrasound in evaluating neoadjuvant chemotherapy response in locally advanced breast cancer (Radiology, Medicine and Nuclear Magnetic Resonance).

6. Randomized controlled trial to compare the short term morbidity following sentinel lymph node biopsy alone v/s axillary lymph node dissection in clinically node negative breast cancer' (Radiotherapy, Nuclear Medicine, Pathology, and PMR).
7. To assess the feasibility and oncological outcome of minimal invasive colorectal surgery (Radiodiagnosis, Pathology and Gastroenterology).
8. Prevalence of occult contra lateral inguinal hernia during laparoscopic inguinal hernia repair.
9. A detailed ultra structural study of major ducts in women with periductal mastitis/mammary duct ectasia.
10. Breast reconstruction using muscle sparing latissimus dorsi flap for volume replacement following breast conservative surgery: A study of cosmesis and resected margin status.
11. Lipomodelling of breast following breast conservative surgery.
12. Study of human breast cancer by magnetic resonance techniques (NMR and MRI Facility).
13. Prospective Study to Evaluate the Impact of laparoscopic sleeve gastrectomy on type 2 diabetes mellitus in patients with BMI 30-35 kg/m<sup>2</sup>.
14. Evaluation of Reflux Symptoms before and after Laparoscopic Sleeve Gastrectomy.
15. Prospective Study to Evaluate the Impact of Bariatric Surgery on Glucose Metabolism – Comparison of Laparoscopic Roux En Y Gastric Bypass and Laparoscopic Sleeve Gastrectomy.
16. Impact of Renal Transplantation on Quality of Life and anxiety – depression in End-Stage Renal Disease patients on Dialysis.
17. Evaluation of Efficacy of analgesic regimens in patients undergoing laparoscopic Cholecystectomy.
18. Study to evaluate the IRS-1 gene variants and its role if any, in morbid obesity and insulin resistance in Asian Indians (Biochemistry).
19. Retrospective and prospective study of magnitude, severity, and outcome of traumatic hepatobiliary and pancreatic injury in a level I trauma centre (Gastroenterology and Radiology).
20. Epidemiological study of patients of Road Traffic Injuries [RTI] attending Emergency department of Jai Prakash Narayan Apex Trauma Centre [JPNATC], AIIMS, New Delhi.
21. Costing of CSSD and Laundry services at JPNA Trauma Centre (Hospital Administration).
22. Multi-detector CT scan evaluation of retroperitoneal solid organ injury with limited MRI correlation.
23. A Prospective study to compare the outcomes after primary laparoscopic exploration of common bile duct and laparoscopic exploration following failed endoscopic stone extraction in patients with concomitant gall stones and common bile duct stones (Gastroenterology).
24. Costing of OT services at JPNA Trauma Centre (Hospital Administration).
25. Study to evaluate the *IRS-1* gene variants and its role if any, in morbid obesity and insulin resistance in Asian Indians (Biochemistry).

## **PUBLICATIONS**

**Journals: 43 Abstracts: 44 Chapters in books: 2**

## **PATIENT CARE AND COMMUNITY/ PUBLIC SERVICE**

### **M.C. Misra**

1. Invited by 'Doordarshan News to participate as an Expert for the programme at Doordarshan Bhawan, New Delhi, 8 January 2013 for a Discussion on 'Road Accidents', Live Phone in programme 'Total Health'.
2. Invited by 'Doordarshan News' New Delhi to participate as an Expert for the programme at Doordarshan Bhawan, New Delhi, 30 December 2012, for a Discussion on 'Delhi Gang Rape and issues related to Safety of women' during a Live News program '.
3. Invited by the 'Lok Sabha TV' New Delhi to participate as a Guest Expert for the Live programme entitled 'Lok Manch', 'Lok Sabha TV studios', New Delhi, 29 December 2012 for a Discussion on 'Safety and dignity of women'.
4. Invited by 'Doordarshan News' New Delhi, to participate as an Expert for the programme at Doordarshan Bhawan, New Delhi, 27 December 2012, for a Discussion on 'Delhi Gang Rape Victim's Health' during a Live News programme.
5. Invited by the 'Doordarshan National' New Delhi to participate as an Expert for Live discussion on Swasth Bharat (Healthy India), 'Gallbladder stones', Doordarshan Bhawan, New Delhi, 8 November 2012.
6. Invited by the 'Doordarshan News' New Delhi, to participate as an Expert for the programme at Doordarshan Bhawan, New Delhi, 21 October 2012, for a Discussion on 'Breast cancer' during a Live Phone in programme 'Total Health'.

7. Invited for a live Chat on the Radio the 'FM Rainbow, All India Radio 102.6 Mhz', New Delhi, to participate as a Technical Expert, broadcast on 17 October 2012, for a discussion on 'Accidents and Emergencies' on the occasion World Trauma Day.
8. Invited by the 'Lok Sabha TV' New Delhi to participate as a Guest Expert for the programme entitled 'Insight', 'Lok Sabha TV studios', New Delhi, 9 October 2012, for a Discussion on 'Healthcare for all, Clinical Trials, Healthcare Resources, Regulation on Private Hospital for displaying rates of various procedures and cost in response to a litigation and observation by supreme court'. Program was telecast on 9 October 2012.
9. Invited by the INDIA NEWS (Hindi) as Guest Expert to discuss the problem of 'SNORING (खरराटे)' during a Live Telecast, 30 September 2012.
10. Invited by the 'DoorDarshan National' New Delhi to participate as an Expert for discussion on '57<sup>th</sup> Institute Day' for discussion about 'Akhil Bhartiya Ayurvigyan Sansthan's (AIIMS's) Role in the country to fulfill the aspirations of the public at Doordarshan Bhawan, Mandi House, New Delhi on 25<sup>th</sup> September 2012 at 9:30 PM during Live National News.
11. Invited by the 'DoorDarshan National' New Delhi to participate as an Expert for discussion on 'Swasth Bharat' 'Medical Aids in Accidents' at Doordarshan Bhawan, New Delhi, 18 August 2012.
12. Invited by the 'Lok Sabha TV' New Delhi to participate as an Expert for the Live Phone, In programme entitled 'Gender Discourse', 'Lok Sabha TV studios', New Delhi, for a Discussion on 'Blood Donation by Women in India'. Programme was telecast on 14 June 2012.
13. Invited by the 'DoorDarshan News' New Delhi to participate as an Expert for the programme at Doordarshan Bhawan, New Delhi, 10 June 2012 for a Discussion on 'Increasing Road Injuries' during a Live Phone in programme 'Total Health'.
14. Invited by the 'Lok Sabha TV' New Delhi to participate as a Guest Expert for the programme entitled 'Insight' at 'Lok Sabha TV studios', New Delhi, 22 April 2012, for a Discussion on 'One Year Compulsory Rural Posting of Young Medical Graduates'. Programme was telecast on 22 April 2012.
15. Invited by the 'Lok Sabha TV' New Delhi to participate as a Guest Expert for the Live programme entitled 'Lok Manch' at 'Lok Sabha TV studios', New Delhi, 27 April 2012, for a Discussion on 'Grameen Swasthya (RURAL Health)'.

#### **Anurag Srivastava**

1. Public lecture on cancer awareness, Dehradun, 14 April 2012.

#### **Rajinder Prasad**

1. Incharge of Special Breast Cancer Clinic, every Saturday, including follow up of old cases, chemotherapy, and registration of new cases.
2. Follow UP Clinic, Friday.

#### **Sandeep Aggarwal**

1. Bariatric Surgery for Obesity
2. Renal Transplantation

#### **Anita Dhar**

1. Breast health awareness programme organized by Rotary Club of Delhi, Safdarjung, for the teachers and other professionals of Apeejay School. delivered a speech on 25 August 2012.

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

Professor M.C. Misra was Chairman, Surgical Dressings and Disposable Products Sectional Committee MHD16, Bureau of Indian Standards. Meeting held on 17 January 2013, New Delhi; Chairman, Panel of Examiners for the MBBS Surgery Examination in December 2012 in Surgery at the All India Institute of Medical Sciences, New Delhi, Clinical Examination held on 16–17 December 2012; Chairman, Panel of Examiners for the MS Surgery Examination in December 2012 in Surgery at the All India Institute of Medical Sciences, New Delhi, Clinical Examination held on 10–11 December 2012; Appointed External Examiner by the Postgraduate Institute of Medical Education and Research, Chandigarh for the MS Surgery Examination of December 2012; Nominated by Director, PGIMER, Chandigarh to a Committee to look in to the death of a patient at PGIMER, Chandigarh following crush injury on 17 July 2012; patient died after 6 days with gas gangrene; Chairman, Authorization Committee for unrelated Kidney transplantation; Visiting Professor (National) to 'The Tamil Nadu Dr M G R Medical University, Chennai from October 2012; Chairman,

Departmental Promotion Committee (DPC) constituted by the Director, AIIMS. Chairman, Selection Committee, constituted by the Director, AIIMS; Invited as a Guest of Honour during Inaugural Function of CME on 'Connected with Trauma: Response, Recovery and Research' King George Medical University, Lucknow, 4 August, 2012; Invited a Guest of Honour, Installation ceremony of the President of Rotary Club Safdarjung, Delhi, 20 July 2012, India International Centre Annexe; External Examiner, University of Kashmir, Srinagar, J&K., MS Surgery Examination, July 2012; Visiting Professor, University of Michigan, June 24–27 2012; External Examiner, Aligarh Muslim University to conduct the MS Surgery Clinical and practical Examination of May 2012; External Examiner, Dayanand Medical College, Ludhiana (Baba Farid Medical University) to conduct the MS Surgery Clinical and practical Examination of May 2012. Examination was held on 26 May 2012; Chairman, Panel of Examiners for the MS Surgery Examination in May 2012 in Surgery, All India Institute of Medical Sciences, New Delhi; External Examiner, Postgraduate Institute of Medical Education and Research, Chandigarh, for the MS Surgery Examination of May 2012; Guest of Honour, Inaugural Ceremony of the Live Workshops, JPN Apex Trauma Centre, 15 April 2012, in association with Indian Society of Cutaneous Surgery, International Society of Dermatologic Surgery; Chief Guest by the Association of Surgeons of India, Ghaziabad Branch, CME, 15 April 2012, Ghaziabad. Delivered a talk on 'I always do TEP repair'; Chief Guest, Inaugural Function, First National CME and Hands-on Workshop on 'Intracranial Pressure Monitoring', Division of Neurosurgery, JPN Apex Trauma Centre, 15 April 2012; External Examiner, Sher-I-Kashmir Institute of Medical Sciences, Srinagar, J& K, for the MS Surgery Examination of April 2012; Nominated for Membership Advisory Panel in the discipline of Surgery for advising the Credentials Committee, National Academy of Medical Sciences, New Delhi in the selection of candidates for Membership of the Academy for the year 2012; Chief Guest, Association of Surgeons of India, Nagpur Chapter, Installation Ceremony 2012–13, and CME, 8 April 2012; Member of Selection Committee as an Internal Expert Panel for the Selection of Assistant Professor of Surgery at AIIMS; Guest of Honour, Inaugural Function, 4th Cadaveric Workshop on Hip Arthroplasty, Department of Orthopaedics, AIIMS, 31 March–1 April 2012.

**Dr Rajinder Parshad** was Nominated an Expert in the Panel to conduct the interviews for 6 new AIIMS, 5–7 February and 12 February 2013, New Delhi; Chairman, Committee for Disposable items for the Department of Surgical Disciplines; Member, Patient Care Sub-Committee, for preparation of Result Framework Documents (RFDs) for AIIMS; Member in Staff Council Committee; Member, Committee for Negotiation of the equipment for the Department of Surgical Disciplines; Member, Committee for Computer and Peripherals Procurement for the Department of Surgical Disciplines; Member, Departmental Committee, to interview for Senior Resident in Surgery; Member of Medical Board; Member of Anti-Ragging Committee; Member of Doctoral Committee of PhD Students; Member of Specification Committee of Machinery and Equipment (Plan).

**Dr V. Seenu** was Involved in training visiting surgeons in breast cancer; imparting training to governmental institution trainees in kidney transplantation and vascular access procedures; Reviewer for Tropical Gastroenterology, National Medical Journal of India, and Oman Medical Journal; Reviewer for Cochrane Hepatobiliary Group.

**Dr Sandeep Aggarwal** was Co-Chairman of the Surgical Committee to develop the National Guidelines (Indian Initiative) on Obstructive Sleep Apnea – INOSA Guidelines 2013 under the auspices of Department of Health Research, Ministry of Health and Family Welfare, Govt. of India.

**Dr V K Bansal** received AIIMS Excellence award for published research work in year 2011–12; Awarded Fellowship of International College of Laparoscopic Surgeons; European Association of Endoscopic Surgeons (EAES) Travel Fellowship 2012; Honorary Secretary Indian Hernia Society; Honorary Secretary Society of Endoscopic and Laparoscopic Surgeons of India; Honorary Secretary International College of Laparoscopic Surgeons; External Examiner, National Board of Examinations (Fellowship in Minimal Access Surgery); Editor IHS/SELSI Newsletter. Ad hoc Reviewer for Surgical Laparoscopic and Endoscopy and Percutaneous Techniques (SLEPT); Reviewer for Indian Journal of Surgery, Tropical Gastroenterology, Indian Journal of Gastroenterology, British Journal of Surgery, Surgical Endoscopy and Saudi Journal of Surgery.

**Dr Anita Dhar** Won Second prize for the poster competition in VISICON2012 at Jaipur. 'Saga of a rare Pseudoaneurysm'; Appointed External Examiner for the M.S. (Surgery) Examination conducted by University of Kashmir; Awarded Fellowship of College of Laparoscopic Surgeons Society (FCLS) 2012; Member of the

DOTS committee of the AIIMS group; Member of various Medical Boards; Member of the committee for procurement of disinfectants and antiseptics; Member of the Bureau of Standards and Measurements.

**Dr Sushma Sagar** was Awarded Fellowship of American College of Surgeons, USA (FACS) 2012; Awarded Fellowship of College of Laparoscopic Surgeons Society (FCLS) 2012; Awarded Woman of Substance Award on International Women's Day, 8 March 2013 by Parvatiya Sanskritik Sansthan, Delhi; awarded the DST Travel Fellowship to present papers at SAWC Fall 2012 (Symposium on Advancement of Wound Care, Baltimore, USA, 12–14 September 2012); Awarded with Research Poster Review and Critique at Symposium on Advanced Wound Care Fall 2012, Baltimore September 2012, for the poster; Does involvement of wound care nurse improve patient satisfaction and wound healing: An experience from level 1 trauma centre, India; Executive Member, Indian Society of Peripheral Nerve Surgery; Member, core teaching faculty group of National Institute of Disaster Management(NIDM); Member, Committee for formulating First Responder Guidelines for National School Safety Programme, NIDM 2012.

**Dr Subodh** was Awarded Fellowship of American College of Surgeons, USA (FACS) 2012; Awarded Fellowship of College of Laparoscopic Surgeons Society (FCLS) 2012; Member of core group for preparing National Guidelines for Pre-Hospital Trauma Care and Management of Trauma Victims — Developed under World Health Organization and Government of India; Technical expert, nominated by HSCC, Ministry of Health, Govt. of India for up-gradation of Hospitals in Myanmar. 2012; Technical expert, nominated by HSCC, Ministry of Health, Govt. of India for upcoming Trauma Centre at Kathmandu, Nepal, as an initiative of *Bharat-Nepal Maitry*. 2012; Member, Core Committee (Training): To train newly recruited paramedics of Centralized Accident and Trauma Services (CATS) Government of National Capital Territory (NCT) of Delhi in Pre-Hospital Trauma Life Support Course. 2012–13.

**Dr Maneesh Singhal** Received Dr S Radha Krishnan Medical Teachers Award, 5 September, for contribution in field of teaching; Awarded Fellowship of College of Laparoscopic Surgeons Society (FCLS) 2012; Fellowship: Selected for Indian Council Medical Research (ICMR): International Fellowship for Young Bio-Medical Scientists for the year 2012–13 to do fellowship at Michigan, USA; To study advanced wound care practices with use of skin substitutes, tissue engineering and regenerative medicine techniques; Received the Fellowship of the International College of Laparoscopic Surgeons (FCLS). March 2012; Memberships of Professional Bodies: Founder Member and Joint Secretary, Indian Society of Peripheral Nerve Surgery; Member and Treasurer, Indian Society of Trauma and Acute Care (ISTAC); Membership of Editorial boards of indexed international journals: *Advances in Wound Care*; Reviewer: *Journal of Cutaneous and Aesthetic Surgery*; Review Committees at national bodies and institutions: national board of examinations, under MOHFW, regularly organized courses and conducted exams for various medical professionals; was involved in various activities of the medical board which include: setting up of question papers, appraisal of examiners conducting the National Board of Medical Examination in various cities, inspection of new centres for approval of various courses and validation of old centres; External Examiner for Mid Term Examination of DNB Candidates.

**Dr Amit Gupta** was Awarded the Dr Kini Memorial Oration – 2012 of the Indian Association of Traumatology and Critical Care (A section of Association of Surgeons India); Awarded the FACS – Fellowship of American College of Surgeons, USA. September 2012; Awarded the Short Term Visiting Fellowship from University of Michigan, Ann Arbor, MI, USA for advancements in trauma care as collaborative between University of Michigan Medical School and JPN Apex Trauma Centre, AIIMS. June–July 2012; Awarded the Fellowship of the International College of Laparoscopic Surgeons (FCLS) 2012; Member Board of Studies, Department of Simulation Medicine, SRM University, Tamil Nadu, 2012; Member, World Association of Disaster and Emergency Medicine (WADEM) 2012–13; Executive Member, Academic Council for Emergency and Trauma (ACET). Indo–US Emergency and Trauma Collaborative. A collaborative between Division of Emergency Medicine, AIIMS; Division of Emergency Medicine, USF, USA and State University of New York Downstate, New York, USA, 2010–15.

#### **VISITING SCIENTIST**

1. Dr Mal Fobi, Past President of International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) and Medical Director, Center for Surgical Treatment of Obesity, Los Angeles, USA

## 9.37 Transplant Immunology and Immunogenetics

### Professor and Head

N.K. Mehra

### Additional Professor

D.K. Mitra

### Scientists

Uma Kanga  
Sunil Kumar

Gurvinder Kaur  
Sanjeev Goswami

### HIGHLIGHTS

The Department continued its activities in teaching, research and hospital services related to a range of laboratory investigations. Solid phase assays (SPA) including the Luminex system have been established for both HLA matching as well as for providing crucial information on donor specific antibodies (DSA) and virtual cross match for patients referred to the Department for donor selection for renal transplantation. The AIIMS laboratory acts as a national referral centre for SPA based DSA determination and post transplant antibody monitoring for other transplant centres in the country. Further, a national level Quality Control and Quality Assurance (QC/QA) service is offered for DNA HLA typing and antibody determination assay systems. Services are also offered for the detection of non-HLA antibodies, particularly those directed to MHC class I related Antigen (MICA) system on endothelial cells in specific cases. Similarly using SNP based system genetic polymorphism in several cytokines and chemokine genes is done in select cases. A Major thrust is to keep pace with the ever expanding field through establishment of high throughput DNA based technologies for HLA matching.

The focus of the research activities of the department is into several areas that include: (i) clinical relevance of HLA and non-HLA specific antibodies in renal transplantation, (ii) genetics of type 1 diabetes and other autoimmune diseases – development of robust biomarkers, (iii) genetic architecture of HIV infection: implications in vaccine design and therapy, (iv) marrow unrelated donor transplantation: challenges for a developing nation towards donor registries, (v) genomic diversity of HLA region genes in diverse ethnic groups, (vi) understanding MHC peptide interactions with the long term goal of developing MHC targeted vaccines, (vii) understanding the immunological basis of infectious diseases like tuberculosis, leishmaniasis, HIV, etc., (viii) Immune predictors of graft rejection, post transplant monitoring as well as Chimerism studies, (ix) Immunophenotyping of patients with leukemia and development of novel immunological tools, and (x) clinical significance of HLA-G in haematopoietic stem cell transplantation.

### EDUCATION

#### Training in Techniques in Immunology and Immunogenetics

**Short term training:** More than 25 students from various universities and institutions as well as doctors from hospitals in and around Delhi received short term training for laboratory techniques in HLA testing and other immunological investigations. In addition, 3 MBBS students were trained under the Kishore Vigyanic Protsahan Yojna (KVPY) of the Indian Council of Medical Research (ICMR).

**Training to MD/DM students:** Several MD/DM students from the Departments of Pathology (4), Medical Oncology (2), Laboratory Medicine (1), and Haematology (5) of AIIMS and Department of Nephrology, Maulana Azad Medical College, Delhi (2) undertook training in the Department and learnt techniques in HLA testing and other immunological investigations. The Department continued to provide training to under graduate and post graduates students, both from within the institute and to those coming from other universities and research centres.

#### CMEs/Workshops/Symposia/National and International conferences:

##### Organized by the department

1. NABL Accreditation Awareness Seminar for Technical staff of the AIIMS, 26 November 2012 (Convenor: Prof. N.K. Mehra).

- Ranbaxy Science Foundation Symposium on 'Gains of Genomic Research in Biology and Medicine', February 2013 (Chair Prof. N.K. Mehra). Prof. Dhavendra Kumar, University of New Castle upon Tyne, UK, delivered the keynote address and Prof. Samir Brahmachari, Director General, Council of Scientific and Industrial Research was the main Guest Speaker.

#### Lectures delivered

N.K. Mehra: 25

D.K. Mitra: 4 Uma Kanga: 3

Gurvinder Kaur: 1

#### RESEARCH

##### Funded projects

##### *Completed*

- Type 1 diabetes Genetics Consortium: An International Effort. N.K. Mehra, NIH, USA, 2005–12, US\$ 25,000.
- Hematopoietic stem cell transplantation and Genetics of HIV infection. Tata Innovation Fellowship. N.K. Mehra, DBT, 2007–2012. Rs 22.20 lakhs.
- Immunotherapy of drugs in refractory leukemias and lymphomas expressing hcg or subunits by a highly specific recombinant chimeric antibody against Bhcg linked to curcumin or other drugs. N.K. Mehra DBT, 2007–cont, Rs 8.10 lakhs.
- Evolutional Medical Sciences: Identification of HIV/AIDS-related genes to develop therapeutic and preventive strategies. N.K. Mehra, DST, 2 years, 2009–11, Rs 5.46 lakhs.
- Genetic basis for HIV-1 transmission, resistance and disease progression: polymorphism in MHC, chemokine/cytokine and their receptor genes. N.K. Mehra, DBT and ICMR, 3 years, 2008–11, Rs 89.8 lakhs.
- Efficacy of oral zinc administration as an adjunct therapy in category I pulmonary tuberculosis along with assessment of immunological parameters (Double-blind, Randomized, placebo-controlled, multicenter clinical trial). D.K. Mitra, DBT, 2007–12, Rs. 30 lakhs.
- Impact of HIV infection on latent TB among patients with HIV-TB co-infection. D.K. Mitra, DBT, ICMR, 2007–11, Rs. 134 lakhs.

##### *Ongoing*

- Type 1 diabetes Genetics Consortium: An International Effort. N.K. Mehra, NIH, USA, 2005–12, US\$ 25,000.
- Asian Indian Donor Marrow Registry (AIDMR): A national registry of Hematopoietic stem cell donors. N.K. Mehra, DBT, 2010–13, Rs 1505 lakhs.
- Clinical Relevance of MICA and NKG2D genetic and phenotypic diversity in renal transplantation. N.K. Mehra, ICMR, 2010–12, Rs 44 lakhs.
- Implications of the interferon system and immunogenetic basis of resistance to HIV-1 infection and disease progression. N.K. Mehra and Gurvinder Kaur, ICMR, 2010–14, Rs 58.62 lakhs.
- Establishment of Centre for Molecular Medicine (CEMM), AIIMS, N.K. Mehra, Gurvinder Kaur, Uma Kanga, ICMR, 2012–17, Rs. 2.19 crores.
- Role of FoxP3+ regulatory T cells in polarized immunity in leprosy patients. D.K. Mitra, ICMR, 2010–13, Rs. 75.20 lakhs.
- CD 26 Mediated Chemokine Activation: Role in suppression of immunity among visceral Leishmaniasis patients. D.K.Mitra, DBT, 2010–13, Rs. 92.78 lakhs.
- Impact of FoxP3+ Treg cells on the host immune response among HIV-TB co-infected patients: relevance in multidrug resistance tuberculosis (MDR-TB). D.K. Mitra, ICMR, 2011–13, Rs. 49.40 lakhs.
- Representation, trafficking and functional interaction of effector and regulatory T cells: Impact on the local immune response in rheumatoid arthritis. D.K. Mitra, DST, 2012–15, Rs. 49.98 lakhs.
- Clinical significance of HLA-G in hematopoietic stem cell transplantation. Uma Kanga, AIIMS, 2011–13, Rs 10 lakhs.
- A Comprehensive Understanding of the Nasopharyngeal Carcinoma (NPC) in the North-Eastern Region of India. N.K. Mehra, Sanjeev Goswami, DBT, 2011–14, Rs. 64.0 lakhs.
- Impact of HLA-G on host immune response in human tuberculosis. Uma Kanga, ICMR, New Delhi, 2012–14, Rs. 44 lakhs.

## **Departmental projects**

### ***Completed***

1. Immunoregulatory role of costimulatory molecules in tuberculosis (Amar Singh).
2. Studies on the role of Chemokine on T cell mediated reactivity in renal transplantation (Ankit Saxena).

### ***Ongoing***

1. Clinical relevance of HLA, MICA and NKG2D receptor molecules in renal transplantation (Deepali Krishan).
2. Polarized Immunity in Human Leprosy: Role of effector and Regulatory T cell subsets in shaping host immune response (Soumi Sadhu).
3. Genomic diversity of HLA genes in Indian population (Abhishweta Saxena).
4. Clinical significance of HLA-G in Hematopoietic Stem Cell Transplantation (Manish Mourya).
5. Analysis of the antiviral response of Type 1 interferon system against HIV-1 infection (Mrinali Hakim).
6. Study of T cell response among older patients with TB (Manju Namdeo).
7. Studies on Immunoregulatory mechanisms for host T cell response in human tuberculosis (Divya Kamboj).
8. Studies of distinct T cell subsets in the pathogenesis of rheumatoid arthritis (Kaustav Chowdhury).
9. Phenotypic and functional characterization of various T cell subsets in sarcoidosis (Rinkee Kumari).
10. Clinical Relevance of Immune associated molecules in Live related Donor Renal Transplantation (Lt. Col. Dr. Ajay Baranwal).
11. Immunogenetic Analysis of Nasopharyngeal Carcinoma in the North-Eastern Indian population (Student: Reni Nelson).

### **Collaborative projects**

1. Genetic Diversity of HLA in two tribes of North Madhya Pradesh: An association with pulmonary tuberculosis. 2009–2012. (Collaboration with Centre for Genomics, Jiwaji University, Gwalior).
2. Role of FoxP3+ regulatory T cells in polarized immunity in leprosy patients. – Indian Council of Medical Research (ICMR), (Dermatology and Venereology, AIIMS and Central JALMA Institute for Leprosy and other Mycobacterial Diseases, Taj Ganj, Agra).
3. CD26 mediated chemokine activation: role in suppression of immunity among visceral Leishmaniasis patients. Department of Biotechnology, Government of India. (Balaji Utthan Sansthan Fraser Road, Patna)
4. Impact of FoxP3+ Treg cells on the host immune response among HIV-TB co-infected patients: relevance in multidrug resistance tuberculosis (MDR-TB). Indian Council of Medical Research (ICMR). (Dr B C Roy Post-graduate Institute of Basic Medical Sciences (IPGME&R), 244B, AJC Bose Road, Kolkata).
5. Impact of Regulatory T cells on host Immunity among older pulmonary tuberculosis patients. Indian Council of Medical Research (ICMR) (Medicine).
6. To enumerate the in-vitro frequency and effector function of allospecific T cells in patients undergoing allogeneic peripheral blood stem cell transplant and its correlation with graft vs. host disease (Haematology).

## **PUBLICATIONS**

**Journals: 18**

**Chapters in books: 3**

## **PATIENT CARE**

Facilities available in the Department: (i) HLA matching, (ii) Antibody determination, (iii) Virtual cross match assays, (iv) Flow Cytometry, (v) Tissue Culture, (vi) ELISA, (vii) Chimerism assays, (viii) Sequencing, (ix) RT-PCR, and (x) SNP analysis.

Free of cost service provided for Leukemia phenotyping and phenotyping for primary immunodeficiency diseases.

## TRANSPLANTATION

### HLA matching

Disease	Recipients	Donors	Total
<b>Hematopoietic Stem Cell Transplantation</b>			
Aplastic anaemia	86	260	346
Acute myeloid leukaemia	22	58	80
Acute lymphocytic leukaemia	20	55	75
Thalassaemia	30	60	90
Others	42	130	172
Total	200	563	763

## DIAGNOSTICS

Spondyloarthropathies, HLA-B27 screening	535
Other diseases (Behcets' disease/Narcolepsy/Celiac disease)	25
Unrelated donor search for BMT	198

During the year, a total of 198 requests for search of unrelated HLA matched donor from the 'Asian Indian Donor Marrow Registry' for bone marrow transplantation (BMT) were received. These included 77 from USA, 51 from Europe, 45 from various Asian countries and 25 from India.

### Patient Service Data for Renal Transplant Recipients

1. HLA tests done:	611
2. CDC cross-matches:	858
3. Flowcytometry cross-matches:	225
4. PRA tests:	546
5. Cadaveric donors:	4
6. Cadaveric recipients tested:	55

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor N.K. Mehra** delivered the Dr. H.M. Bhatia Memorial Oration awarded by the National Institute of Immunohaematology (NIIH), Mumbai, 27 February 2013; nominated member, International Selection Board for Else Kroner Fresenius International Immunology Award; member, teaching faculty of EFIS sponsored South Eastern European Immunology School, Sarajevo, Bosnia (September 2012); Member, Research Advisory Committee of the Central University of Punjab, Bhatinda; Member, Research Advisory Committee of the King George's Medical University, Lucknow (UP); Elected Member, Executive Committee of the Indian Society of Primary Immuno-deficiency diseases; successfully qualified the Laboratory Assessors Course of the National Accreditation Board for Testing and Calibration Laboratories (NABL), December 2012; President of the Asia Pacific Histocompatibility and Immunogenetic Association (APHIA); Co-chair of the International Union of Immunological Societies (IUIS) committee on Gender Equality and Career Development.

Chairman, of the following committees: (i) Institutional Committee for Stem Cell Research and Therapy, National Institute of Pathology, Delhi; (ii) DBT-NER Committee on Twinning Research Projects; (iii) ICMR Committee for Research projects of National Institute of Research in Environmental Health (NIREH), Bhopal; (iv) ICMR Expert Group for Establishment of Rural Centres of Genome Research to provide comprehensive diagnostic services; (v) Jodhpur Scientific Conclave, Desert Medical Research Centre, Jodhpur; (vi) Chairman, ICMR Committee for providing infrastructure and equipment at NIREH, Bhopal; (vii) ICMR Expert Group for Developing Centres of Advanced Research on Primary Immunodeficiency diseases in India; (viii) ICMR Negotiation Committee for high-end equipments for various institutes; (ix) Selection Committee of National AIDS Research Institute, Pune; (x) Pre-SAC of National JALMA Institute for Leprosy and other Mycobacterial Diseases, Agra; (xi) Project Mentoring and Monitoring Committee (PMC) of the Department of Biotechnology, Govt. of India. (x) Medical Sciences Research Committee of the CSIR; (xi) DBT Expert Group for the Maintenance and operation of TB Aerosol Challenges facility at ICGB; (xii) Scientific Advisory Committee of the National Institute of Immunohaematology, Mumbai; and (xiii) Scientific Advisory Committee of the Desert Medical Research Centre, Jodhpur.

Member of the following committees: (a) Scientific Advisory Committee of the National Institute of Pathology, Delhi; (b) Scientific Advisory Committee of the National JALMA Institute for Leprosy and other

Mycobacterial Diseases, Agra; (c) Research Council of the Institute of Microbial Technology (CSIR), Chandigarh; (d) Scientific Advisory Committee of the Institute of Cytology and Preventive Oncology, Noida; (e) DBT-NER Committee for Research Projects in Medical Sciences; (f) DBT Expert Group for Indo-ISTP (Canada) and DBT-Holland Research projects; (g) CSIR NMILTI Monitoring Committee to develop therapeutic moabs.; (h) DBT Committee for National Research Associateships; (i) Trustee, Immunology Foundation of India; (j) Special Invitee to Executive Committee of Indian Immunology Society; (k) ICMR Expert Group on Congenital deafness in Doda District of Jammu; (l) ICMR-DBT drafting Committee for stem cell guidelines, New Delhi; (m) CSIR Travel Grant Committee; (n) ICMR Task Force on Immunology; (o) CSIR NMITLI Advisory and Monitoring Committee to develop new diagnostic systems for affordable testing to manage HIV and TB; (p) ICMR Project Research Group on Diabetes; (q) DBT Expert group on Research in TB; (r) DCGI Committee on Stem Cell Therapy projects; (s) Selection Committee of National Institute of Immunology; (t) Scientific Advisory Committee of National Institute of Cholera and Enteric Diseases, Kolkata; (u) DGHS Committee on Draft Transplantation of Human Organs Rules, 2012; (v) NAC-SCRT of ICMR; (w) Scientific Advisory Group of Division of Non-communicable diseases, ICMR; (x) ICMR Project Research Committee on Physiology and Organ Transplantation, (y) Screening Committee for AIIMS Research Awards; and (z) Research Council of Institute of Life Sciences, Bhubaneshwar.

External Examiner for B.P. Koirala Institute of Medical Sciences, Dharan, Nepal; Member of the Jury to select Ranbaxy Science Foundation awards; Member, Editorial Board of the Proceedings of Indian National Sciences Academy. During the year, he delivered guest/invited lectures at the (a) Vienna Medical Academy, Austria, (b) Hopital St.Louis, Paris under the ICMR-INSERM programme (October 2012), (c) Annual scientific meeting of the Asian Pacific Histocompatibility and Immunogenetics Association (APHIA), Adelaide, Australia (November 2012), (d) Symposium organized by the Indian Science Congress Association, (e) DBT symposium on 'Accelerating India's response to research for a preventive HIV vaccine', (f) Guru Nanak Dev University, Amritsar, (g) Postgraduate Institute of Medical Education and Research, Chandigarh, (h) International Conference on Primary immunodeficiency diseases, Mumbai, (i) INSA-INSPIRE programme for high school students in rural area, Amritsar, (j) J.N. Medical College, Sawangi, Maharashtra, (k) Lecture series for science students at Miranda House, New Delhi, (l) Indo-US workshop on innovative approaches and technologies for diabetes management, New Delhi, (m) annual scientific conference of the Indian Immunology Society, Varanasi, (n) international symposium on Gastrointestinal Immunology, Gurgaon, (o) World TB day organized at National JALMA Institute of Leprosy and other Mycobacterial Diseases, Agra, (p) Probiotic symposium at Bangalore and a few others.

**Dr Uma Kanga** is a Councillor for the Asia Pacific Histocompatibility and Immunogenetics Association (APHIA); Member of the DBT Task Force on 'Chronic Disease Biology'.

**Dr Gurvinder Kaur**, Secretary of the Asia-Pacific Histocompatibility and Immunogenetics (APHIA) and Co-Editor of its Newsletter.

### VISITING SCIENTISTS

1. Dr Vijay Kuchroo, Professor of Neurology, Center for Neurologic Diseases, Brigham and Women's Hospital, Boston, USA visited our department and delivered a lecture on 'Role of Th17 cells in the induction of Tissue Inflammation and Autoimmunity', 12 July 2012.
2. Dr Maninder Kahlon, PhD, Deputy Director and CIO, Clinical and Translational Science, Institute (CTSI), University of California, San Francisco, USA visited our department and delivered a lecture on, 'Accelerating Biomedical Research to improve health – the U.S. approach and Indo-US collaboration', 17 December 2012.
3. Dr Aisha N. Hasan, MD, Assistant Professor of Paediatrics, Pediatric Bone Marrow Transplantation Service, Memorial Sloan-Kettering Cancer Center, NY Presbyterian Hospital, Weill Cornell Medical College, New York, NY visited our department and delivered a lecture on, 'Adoptive immunotherapy for Targeted Eradication of Viral Infections and Relapsed Hematological Malignancies in Recipients of Hematopoietic Stem Cell Transplants (HSCT)', 21 January 2013.

## 9.38 Urology

### Professor and Head

P.N. Dogra

### Professor

Amlesh Seth

### Additional Professor

Rajeev Kumar

### Assistant Professors

Prabhjot Singh

Ashish Kumar Saini (JPNATC)

### EDUCATION

The faculty of the department participated in and delivered lectures in continuing medical education programmes, symposia, national and International conferences during the year.

The Department imparted lectures for the undergraduates and nursing students. The department trains 11 postgraduates for the degree of MCh in Urology over a three year period.

The department had observers, fellows and visiting faculty from various Indian/Foreign Medical Universities to observe and learn Robotics, Endourology, Laparoscopy, Open surgery and Microsurgery in Urology.

The faculty of the department continues to be examiners for NBE and MCh Urology in various universities and Inspector for the Medical Council of India and National Board for recognition of standard of teaching and training and facilities for Urology postgraduate courses.

The faculty of the department took active part in restructuring and reframing the curriculum for MCh and DNB training courses in Urology.

### CMEs/Workshops/Symposia/National and International conferences

#### Organized by Department

1. International Prostate Cancer Symposium and Live Operative Robotic Workshop RGCON-2012 and First National Conference on Men's Health, 5-8 April 2012, PGIMER, RML Hospital, New Delhi.
2. Live operative Robotic Urologic Surgery Workshop on Current and Future Trend of Robotic Surgery, 4 July 2012.

### Lectures delivered

P.N. Dogra: 10

Rajeev Kumar: 24

Prabhjot Singh: 2

Ashish Kumar Saini: 2

### Oral papers/posters presented: 17

### RESEARCH

#### Funded projects

##### Completed

1. Targeted antimicrobial prophylaxis using rectal swab cultures in men undergoing TRUS guided prostate biopsy: Analysis of incidence of infectious complications and prevalence of fluoroquinolone resistant E. coli. Prabhjot Singh, AIIMS, 2012-13, Rs 4.5 lakhs.

##### Ongoing

1. Evaluation of the significance of positive semen PCR for tuberculosis in asymptomatic men undergoing infertility evaluation.
2. Preparation and management of pheochromocytomas and paragangliomas.
3. Validation of in-vivo MRS studies in small renal masses.
4. Fever and systemic inflammatory response syndrome (SIRS) following percutaneous nephrolithotomy: Assessment of risk factors and their impact on patient outcomes.

5. Comparison of perioperative outcomes following open versus robot assisted laparoscopic radical cystectomy.
6. Health related quality of life and bone health in patients receiving androgen deprivation therapy for metastatic prostate cancer.
7. Role of narrow band imaging in diagnosis and treatment of non muscle invasive bladder cancer in comparison to standard white light cystoscopy.
8. Role of screening and treatment for tuberculosis in infertile azoospermic men with obstructive azoospermia.
9. Etiopathogenesis, Demographic profile, Erectile function, Socioeconomic Impact and Quality of life patients with pelvic fracture urethral distraction defects.
10. Outcome evaluation of various types of surgeries in management of stricture of anterior urethral stricture.
11. Long term outcomes of holmium laser core through in pelvic fracture urethral distraction defects.
12. ESWL in management of Paediatric nephrolithiasis.
13. Outcome analysis of robotic radical prostatectomy.
14. Outcome analysis of robotic pyeloplasty: long term follow-up.
15. Robotic ureterolithotomy for ureteric calculus.

### **Collaborative projects**

#### ***Ongoing***

1. Comparison of whole body diffusion weighted magnetic resonance imaging with whole body 18F-NaF PET-CT imaging in prostate cancer (Nuclear Medicine).
2. Telomere status and DNA repair mechanisms in idiopathic male infertility (Anatomy).
3. Mitochondrial genes and Y chromosome deletions in male infertility (Anatomy).
4. 3 dimensional chemical shift imaging and diffusion weighted imaging using proton MRS in the diagnosis of carcinoma prostate. (Nuclear Magnetic Resonance)
5. Study of sperm molecular factors in idiopathic recurrent spontaneous abortions (Anatomy).
6. Neuroendocrine stress response in robotic urological surgery: dexmedetomidine-based versus fentanyl-based total intravenous anaesthesia (Anaesthesia).
7. Comparison of whole body diffusion weighted MRI with whole body 18F-NaF PET-CT imaging in prostate cancer (Nuclear Medicine).
8. Haemodynamic changes during steep Trendelenburg position in robotic procedures (Anaesthesia).
9. To evaluate the efficacy of obturator nerve block in controlling adductor muscle spasm during transurethral resection of bladder tumors involving lateral wall- Nerve stimulator guided vs ultrasound guided approach (Anaesthesia).

#### ***Completed***

1. EMT in treatment of urinary in continence.
2. Outcome analysis of patients with testicular tumours and undescended testes.
3. Pediatric PCNL: outcome analysis.
4. Paravertebral block during PCNLs (Anaesthesia).

### **PUBLICATIONS**

**Journals: 25**

**Abstracts: 12**

**Chapters in books: 1**

### **PATIENT CARE**

**Main OT surgical procedures 1809**

**Open surgery**

**391**

**Major 264**

**Minor 127**

Radical cystectomy	29	Radical nephrectomy	41
Simple nephrectomy	24	Partial nephrectomy	11
E-E urethroplasty	16	Graft urethroplasty	14
Anterior lay open	11	Second stage closure	8
Transpubic urethroplasty	2	Pyeloplasty	11
Augmentation cystoplasty	5	Continent catheterisable pouch	2
Adrenalectomy	8	Boari flap	5
Ureteric reimplantation	4	Radical nephroureterectomy	3
VVF repair	16	Total penectomy	4

Orchiopexy	11	Prostatectomy	2
AUS implantation	2	Bladder neck reconstruction	1
Cystolithotomy	4	Hypospadias repair	3
Ilioinguinal LN dissection	2	Others	25

### Endourology 1135

<b>Upper tract 342</b>		<b>Lower tract 798</b>					
PCNL	204	TURP	82	CLT	35	DJ stenting	160
URS	121	TURBT	211	HoLAP	3	DJR	85
RIRS	17	PVP	18	HoLCT	10	CPE+OIU	27
		CPE (LA+ GA)	65	Endodilatation	32	TUR fulguration	26
		Clot evacuation	5	Ureterocele incision	3	Laser welding	3
		Endoscopic evaluation	18	Others	15		

### Laparoscopic surgery 125

Radical nephrectomy	35	Partial nephrectomy	5
Simple nephrectomy	46	Adrenalectomy	16
Pyeloplasty	9	Radical cystectomy	3
Diagnostic lap	8	Others	3

### Robotic surgery 102

Radical prostatectomy	20	Radical cystectomy	5	Pyeloplasty	44
Ureterolithotomy	10	VVF repair	4	Radical nephrectomy	1
Simple nephrectomy	2	Partial nephrectomy	4	Ureteric reimplantation	2
Pyelolithotomy	5	Adrenalectomy	3		
Radical nephroureterectomy	1	Others	1		

### Microsurgery 51

VEA	25	VVA	5	MVL	5	Scrotal exploration	16
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### Minor OT

Cystoscopy, DJ stent removal, OIU	2097
Open cases (Orchidectomy, circumcision)	72
Minor cases (Catheter change, etc.)	4523

### Extracorporeal shock wave lithotripsy (ESWL)

New cases	318	Re-do cases	863
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### Urodynamic procedures

Uroflowmetry	4154	Cystometrogram (CMG)	244
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### Ultrasound procedures 250

TRUS/ Prostate biopsies	180	SPC	30
PCN	3	Ultrasound KUB	37

### Stone analysis 311 EMT (Electromagnetic therapy) 218

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor P.N. Dogra** delivered the Marudhara Jodhpur Trust Oration: Preperitoneal robotic assisted radical prostatectomy, 22nd NZUSICON, Jammu, 16–18 November 2012; did liver surgery demonstrations at (a) Live operative transpubic urethroplasty in PFUDD in Mid Term CUE on Reconstructive Urology organized by Department of Urology, SMS Medical College, Jaipur, 28 –29 April 2012; (b) Live operative Robotic extraperitoneal robotic prostatectomy in the Urologic Surgery Workshop on Current and Future Trend of Robotic Surgery. 4 July 2012, AIIMS; (c) Live Laparoscopic Transperitoneal nephrectomy, SELSICON-2012, 2–4 November 2012, PGI, Chandigarh; (d) Laser Prostectomy by Green Light Laser: 9 October 2012,

Government Medical College and Hospital, Chandigarh; (e) Laser Prostatectomy by Green Light Laser: Invited as a Faculty, 27 September 2012, ESI Hospital, Basai Darapur, New Delhi; (f) Artificial Urinary Sphincter and Sling Surgery for Urinary Incontinence: Chairperson, 25 August 2012, organized by CIPLA, New Delhi; Chairperson at In Pursuit of Excellence-Laparo Urology Surgery: Keynote Address CME & Workshop on Advanced Laparoscopy in Urology-13–14 October 2012. Organized by Department of Urology, Army Hospital (Research & Referral), Delhi Cant; Chairperson, Live Laparoscopic Renal Transplantation Surgery in CME & Workshop on Advanced Laparoscopy, 13–14 October 2012, Department of Urology, Army Hospital (Research & Referral), Delhi Cant; Advisory Board Meeting regarding the scope of Mirabegron in India: Expert faculty, 24 June 2012, organized by Astellas Pharma (India) Private Limited, New Delhi.

**Dr Rajeev Kumar** delivered the Dr Roy Chally Oration: Magnetic Resonance Methods-a new tool in prostate cancer diagnosis. Annual meeting of the Urological Association of Kerala, 26–28 October 2012, Kannur; Organized a full day workshop on Medical Writing, 11th Asian Congress of Urology, 22–26 August 2012, Pattaya, Thailand; Organized a 3-hour workshop: Chairing a scientific session. Annual meeting of Urological Society of India, 17–20 January 2013, Pune; Conducted a solo 6 hour workshop: Biostatistics and Andrology. Bengal Urological Association, 29 March 29 2013, Kolkata; Faculty for CMET–NMJI workshop on scientific writing for Residents and Researchers. 9–10 February 2013, AIIMS; demonstrated live laparoscopic adrenalectomy. 8th International meeting of BAUS, 14–16 February 2013, Dhaka, Bangladesh; PCNL (5 cases) and Transperitoneal laparoscopic pyeloplasty with pyelolithotomy. SLAUS Mentorship program on PCNL, 1–4 December 2012, Colombo, Sri Lanka; Laparoscopic adrenalectomy. 22nd Annual Conference of North Zone Chapter of Urological Society of India, 16–18 November 2012, Jammu.

**Dr Prabhajot Singh** chaired the session Psychosexual Counseling for HIV Couples, Joint Andrology Workshop, April 2012, PGIMER, RML Hospital, New Delhi.

**Dr Ashish Kumar Saini** was Member, Organizing Committee of Trauma 2012, 23–24 November 2012, AIIMS, New Delhi; was awarded Chandigarh best video (second prize) for Robot assisted inguinal lymph node dissection at USICON 2013, Pune; Chaired the session Sexual Health – Ancient Concept, Joint Andrology Workshop, April 2012, PGIMER, RML Hospital, New Delhi.

## 10.1 Cardiothoracic Sciences Centre

### Chief

Balram Airan

### CARDIOTHORACIC AND VASCULAR SURGERY

#### Professor and Head

Balram Airan

#### Professors

U.K. Chowdhury

S.K. Choudhary

A.K. Bisoi

#### Additional Professors

Milind Hote

Sachin Talwar

V. Devagourou

#### Assistant Professors

P. Rajashekhar

Manoj Kumar Sahu

### CARDIOLOGY

#### Professor and Head

V.K. Bahl

#### Professors

Anita Saxena  
K.C. Goswami

S.S. Kothari  
R. Juneja

Balram Bhargava  
R. Narang

#### Additional Professors

S. Mishra  
N. Naik

S. Seth  
G. Karthikeyan  
S. Singh

Rakesh Yadav  
Gautam Sharma

#### Associate Professors

Ambuj Roy

S. Ramakrishnan

#### Assistant Professors

Saurabh K. Gupta

Sunil K. Verma

### CARDIAC ANAESTHESIA

#### Professor and Head

Usha Kiran

#### Professor

Sandeep Chauhan

#### Additional Professors

Neeti Makhija

Poonam Malhotra Kapoor

Minati Choudhury

#### Associate Professors

Shambhu Nath

Das Parag Gharde

Vishwas Malik

#### Assistant Professors

Suruchi Hazija

Arindam Choudhury

**CARDIAC RADIOLOGY**

**Professor and Head**

Sanjiv Sharma

**Additional Professor**

Gurpreet Singh Gulati

**Associate Professor**

Priya Jagia

**NUCLEAR MEDICINE**

**Additional Professor**

Chetan D. Patel

**STEM CELL FACILITY**

**Additional Professor**

Sujata Mohanty

**CARDIAC PATHOLOGY**

**Professor**

Ruma Ray

**Assistant Professor**

Sudheer Arava

**CARDIAC BIOCHEMISTRY**

**Additional Professor**

R. Lakshmy

**ORGAN RETRIEVAL BANKING ORGANIZATION (ORBO)**

**Additional Professor**

Aarti Vij

**HOSPITAL ADMINISTRATION**

**Additional Professor**

Aarti Vij

**BLOOD TRANSFUSION SERVICES**

**Chief Medical Officer**

Anjali Hazarika

**Additional Professor**

R. Lakshmy

## HIGHLIGHTS

The department of CTVS was in the forefront in the field of patient care, teaching and research. Besides catering to a large number of patients with all types of congenital and acquired cardiovascular diseases, the department is actively engaged in research and collaboration at national and international levels in the field of research and publication. The faculty of the department delivered lectures and presented important research papers at national and international conferences.

This year Professor Airan published 25 research articles and has been appointed as an external examiner for conducting CTVS examination at Koirala Institute, Kathmandu, Nepal. He has been nominated member in various selection committees like UPPSC for selection of lecturer CTVS, selection of candidates for the award of Commonwealth Fellowship Plan, 2013 by the government of UK, Interview Board of ICMR for selection of faculty at Bhopal Memorial Hospital and Research, Bhopal, policy matter with respect to cardiothoracic discipline by the Union Health Ministry/DGHS, Government of India.

Under his headship the department performed around 4191 operations this year. Nearly 42,000 patients have been observed and treated at the OPD section.

Cardiology department has developed excellent facilities for clinical care and has fully developed facilities for adult and pediatric interventions. Laboratory testing facilities include treadmill testing, Holter recording, echocardiography, etc. The department has done pioneering work in the field of rheumatic fever and rheumatic heart disease. The department has organized conferences and the faculties have delivered many lectures in national and international conferences and published 51 research articles.

Cardiac Anaesthesia has a total of 19 publications and 62 talks and research papers were presented by the faculty and residents of the Department of Cardiac Anaesthesia. Four papers were awarded 'Best presentation award' at various conferences and workshops.

Cardiac Radiology is involved in research projects apart from routine clinical care programmes. The faculty have been members of various committees and delivered lectures in national and international conferences. Many research papers have been published based on the many research projects being done.

Nuclear Medicine (CTC) is a specialized nuclear cardiology unit in the Centre where diagnostic nuclear cardiology procedures are performed. It is also a unit where nuclear medicine students and technologists are trained on rotational basis in nuclear cardiology techniques.

Stem Cell Facility is committed to basic, preclinical and clinical stem cell research. The Facility has more than 25 running projects funded by various funding agencies like DBT, ICMR, UGC, etc. The facility imparts training to postgraduates and professionals from different institutions in India and abroad. The facility is continuously publishing research papers in peer-reviewed journals of national and international repute.

In the Cardiac Pathology department 124 cases of immunohistochemistry, 3 cases of H and E staining and other manual processing like 3 post-cardiac transplant biopsies have been done.

The department of Cardiac Biochemistry is involved in research based on telomere biology, endothelial function, genetic predisposition for CAD in Indians, biological mechanism behind developmental origin of adult chronic diseases. The various tests being carried out in Cardiac Biochemistry Lab for patients include routine chemistry, routine hematology, coagulation, etc.

ORBO has contributed in framing Transplantation of Human Organs Rules 2012. The department has procured 157 organs and tissues for transplantation. 15 whole bodies were also donated through ORBO to facilitate medical education in the last one year and 1480 persons pledged for organ donation on motivation of ORBO. Total number of registry till date is more than 17500.

Hospital administration is involved in management and administration of cardiothoracic and neurosciences centre – 411 bedded super specialty centre. Supervision of nursing, sanitation, security, administration, stores and other support staff for blood bank, labs, manifold, reception, laundry, CSSD, etc. Various patient care areas were also renovated. Renovated and Upgraded Cafeteria of C.N. Centre.

The blood transfusion services of CN Centre caters round the clock transfusion needs of patients admitted in CN 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 and various serological tests. Every unit of blood collected is tested for transfusion transmissible infections like Hepatitis B, Hepatitis C, HIV- 1 and 2, syphilis, Malaria. In addition, test for CMV is carried out for heart transplant cases.

The Department of Dietetics provides dietetics services in CN Centre and CN Tower, private wards. The department is actively involved as an integral part in the patient care services of the hospital. The department is involved with Medical Nutrition Therapy, Administration and Dietary Services, Teaching and Research.

## **EDUCATION**

### **CARDIO-THORACIC VASCULAR SURGERY**

#### **CMEs/Workshops/Symposia/National and International Conferences**

1. Operative Workshop on Minimally Invasive Cardiac Surgery, 17 January 2013, AIIMS, New Delhi. Organizing faculty: SK Choudhary, V Devagourou, Milind Hote.
2. Workshop on mitral and aortic valve repair conducted by V. Devagourou, VS Hospital Ahmedabad, May 2012.
3. International Mitral Valve Repair Workshop, 4-5 August 2012, AIIMS, New Delhi. Organizing faculty: S.K. Choudhary, V. Devagourou, Sachin Talwar, Milind Hote.
4. Workshop on Bentall's Procedure, 16 September 2012, AIIMS, New Delhi. Organizing faculty: S.K. Choudhary, V. Devagourou.
5. Workshop on Proximal Aorta, 27-28 October 2012, AIIMS, New Delhi. Organizing faculty: S.K. Choudhary.
6. Workshop on Tetralogy of Fallot, AIIMS, New Delhi, 2-3 February 2013. Organizing faculty: S.K. Choudhary, Sachin Talwar, V. Devagourou.

#### **Lectures delivered**

**Balram Airan: 5      S.K. Choudhary: 16      Sachin Talwar: 17      V. Devagourou: 4**  
**Milind Hote: 1      Manoj Sahu: 1**

**Oral papers/posters presented: 7**

### **CARDIOLOGY**

#### **CMEs/Workshops/Symposia/National and International Conferences**

##### **Organized by the department**

1. The third AIIMS pediatric cardiac CME, AIIMS, 2012.
2. Annual meeting of Delhi CSI 2013, 16-17 March 2013, Professor KC Goswami.

### **CARDIAC ANAESTHESIA**

9 DM candidates including three Lt. Col. sponsored by the Army and 8 other MD Junior resident doctors from Anesthesia department have undergone superspeciality training in Cardiac-thoracic-Anesthesia. Ten MD candidates from Lady Harding Medical College were imparted short term training in the specialty of Cardiac-Anesthesia. Short term training imparted to two DM candidates from Shree Chitra Tirunal Institute.

#### **CMEs/Workshops/Symposia/National and International Conferences**

##### **Organized**

1. Sandeep Chauhan organized the 1st AIIMS ECMO workshop, 29 September 2012 at AIIMS.

#### **Lectures delivered**

**Usha Kiran: 24      Neeti Makhija: 2      Poonam Malhotra: 13      Minati Choudhury: 5**  
**Parag Gharde: 1      Vishwas Malik: 1      Arindam Choudhury: 1**

## **Oral papers/posters presented: 11**

### **CARDIAC RADIOLOGY**

#### **CMEs/Workshops/Symposia/National and International Conferences**

1. Gurpreet S. Gulati conducted a workshop: Cardiac Imaging with CT and MRI, 66th Annual Conference of the Indian Radiological and Imaging Association, 3–4 January 2013, Indore.
2. Gurpreet S Gulati conducted a workshop: Venous Access: PICS, PERMS and PORTS, Annual meeting of the Annual Meeting of the Indian Society of Vascular and Interventional Radiology, 14–17 February 2013, Coimbatore.

#### **Lectures delivered**

**Sanjiv Sharma: 8**

**Gurpreet S. Gulati: 10**

**Priya Jagia: 6**

### **NUCLEAR MEDICINE**

Postgraduate students: 10 (training of Nuclear Medicine, MD students on rotational basis in Nuclear Cardiology)

Thesis/research papers completed: 5 (Four thesis and One MCh research paper)

Moderator in Journal Club/Seminars: 6

New thesis started: 4

## **Oral papers/posters presented: 3**

### **STEM CELL FACILITY**

#### **Undergraduate, post graduate, paramedical**

The department participates in PhD, DM and MD programmes: 15

#### **Short and Long term training**

One graduate student and four WHO fellows from Korea received short term training.

#### **CMEs/Workshops/Symposia/National and International Conferences**

##### **Organized**

1. Workshop on In Vitro characterization of hematopoietic stem cells by Colony Forming Unit Assay, Stem Cell Facility, AIIMS, 11–13 March 2013.

#### **Lectures delivered**

**Sujata Mohanty: 8**

### **CARDIAC BIOCHEMISTRY**

Two students (Tarik Mohammad and Vineet Shah) pursuing PhD in the department.

Two students (Kranthi Kumar Vemparala and Ransi Ann Abraham) were awarded doctorate degree.

Co-guide for one student (ArpitaSharma) from NDDTC

#### **CMEs/Workshops/Symposia/National and International Conferences**

**Oral/poster presentations: 2**

### **ORGAN RETRIEVAL BANKING ORGANISATION (ORBO)**

#### **CMEs/Workshops/Symposia/National and International Conferences**

##### **Organized**

1. National Consultation to develop guidelines for tissue donor screening, tissue retrieval and tissue tracking, 18 August 2012, Dr Ramalingaswami Board Room, AIIMS, New Delhi.
2. Nurses Training Programme on Cadaver Organ Donation Process, 11–15 March 2013, CMET, AIIMS. 280 Nurses of AIIMS were trained.

#### **Lectures delivered**

**Aarti Vij: 4**

**Oral papers/posters presented: 3**

## **BLOOD TRANSFUSION SERVICES**

### **CMEs/Workshops/Symposia/National and International Conferences**

#### **Lectures delivered**

**Anjali Hazarika: 4**

## **RESEARCH**

### **CARDIO-THORACIC VASCULAR SURGERY**

1. CORONARY – 5 year follow up on pump vs off pump CABG (International Multicentric trial)
2. Serum Osteopontin – A marker for severity of coronary artery disease.
3. A prospective randomized study to evaluate the effects of Levosimendan in patients with coronary artery disease with diastolic dysfunction.
4. Completed DBT funded project – Role of mesenchymal stem cells in surgical treatment of ischemic heart disease .
5. Study of DAPI labelled mesenchymal stem cells in a rat model of myocardial infarction and heart failure.
6. SIRS Trial – Steroids In Cardiac Surgery: A randomised trial to study effectiveness of steroids in open cardiac surgery.
7. REMOTE IMPACT – Remote Ischemic preconditioning in cardiac surgery.
8. Study of Doppler gradients in femoral artery following patch repair of cannulation site.
9. Sternal bone scan to determine differences in outcome following LIMA harvesting – skeletonised vs pedicled LIMA harvesting technique.
10. Study of histopathological and clinical correlates in patients with chronic atrial fibrillation undergoing mitral valve surgery.
11. Hemodynamic outcomes following unidirectional valved patch closure of ventricular septal defects.
12. Del-Nido versus cold blood cardioplegia for myocardial protection.
13. Pericardial patch versus PTFE patch for RVOT reconstruction.
14. Off pump TCPC versus TCPC on cardiopulmonary bypass.
15. Extent of Degenerative Changes in Ascending Aorta of Patients with Bicuspid Aortic Valve (BAV).
16. Comparison of clinical and angiographic outcome in patients undergoing on pump CABG with radial artery graft pretreated with phenoxybenzamine Vs. papaverine.
17. Histopathology of the ascending aorta and the risk factors related to histopathological conditions and aortic dilatation in patients undergoing corrective surgery for Cyanotic Congenital Heart Diseases.
18. Specific issues after pericardiectomy for chronic constrictive pericarditis: Actuarial survival, fate of preoperative mitral and tricuspid regurgitation, ventricular function, freedom from reoperation and other events.
19. The fate of the aortic root after intracardiac repair of tetralogy of Fallot.
20. Serial non-invasive hemodynamic monitoring in patients undergoing pericardiectomy for chronic constrictive pericarditis: a comparative intraoperative and postoperative evaluation of two surgical approaches.
21. Does postoperative right-to-left ventricular pressures ratio in the absence of residual correctible surgical lesion determine the postoperative outcome following intra-cardiac repair of tetralogy of Fallot.
22. Doppler tissue imaging evaluation of right ventricular function and its relationship to histopathology of the right ventricular outflow tract in patients undergoing intra-cardiac repair of tetralogy of Fallot.
23. The impact of myocardial histopathology on right ventricular function after repair of tetralogy of Fallot.
24. Doppler tissue imaging evaluation of right ventricular function at rest and during dobutamine infusion in patients after repair of tetralogy of Fallot.
25. Histopathologic comparison of phenoxybenzamine vs papaverine use for radial artery conduit during coronary artery bypass grafting.

### **CARDIOLOGY**

#### **Funded projects**

##### ***Ongoing***

1. CVD Biomarker profiling in Acute coronary events by antibodies and antigen array. VK Bahl, ICMR.
2. Rheumatic Study – To study the prevalence of Rheumatic Heart Disease among children of 5–15 years age group, Ballabgarh, Haryana, using echocardiography with Doppler. Anita Saxena, ICMR, 2010–13, Rs 30 lakhs.

3. Rheumatic heart disease in children–AIIMS Prospective Registry. Anita Saxena, ICMR, 2012–15, Rs 28 lakhs approximately.
4. Intravascular Ultrasound for severe pulmonary artery hypertension in congenital heart diseases. R Juneja, DST.
5. Stem cell therapy in dilated cardiomyopathy. Sandeep Seth, DBT
6. Global Rheumatic Heart Disease Registry (REMEDY). G. Karthikeyan, Canadian Institutes of Health Research through CANNeCTIN (Canadian Network of Clinical Trials Internationally).
7. Prevalence of gene polymorphisms affecting VKA metabolism in patients with mechanical heart valves, Intramural grant, AIIMS.
8. Assessment of myocardial perfusion in the territory of the left anterior descending artery proximal to left internal mammary graft insertion, Intramural grant, AIIMS.
9. Endothelial microparticles and EPC in predicting thromboembolism in patients with IE. AIIMS Intramural Grant.

#### ***Completed***

1. To define the incidence of congenital heart disease in new born. Anita Saxena, ICMR, 2009–12, Rs 29 lakhs.
2. Morphology and function of platelets in idiopathic pulmonary artery hypertension. DST.

#### **Departmental projects**

##### ***Ongoing***

1. Incidence of stroke and systemic embolism in patients of rheumatic MS in sinus rhythm.
2. Rhythm control in patients with rheumatic MS with atrial fibrillation following PTMC.
3. Chronic low grade inflammation and risk of AF in rheumatic MS.
4. CT angiography findings during an episode of hemoptysis in Eisenmenger syndrome.
5. 3D echo predictors of success of AVBD.
6. A study of effort limitation in Eisenmenger syndrome.
7. Effect of tobacco chewing on coronary microvasculature and hemodynamics.
8. 2D versus 3D echo in predicting acute outcome of PTMC.
9. Prospective evaluation of children with NSAA.
10. Thiamine levels in heart failure patients on high dose diuretics.
11. Incidence of new onset AF in post rheumatic heart valve surgery patients.

##### ***Completed***

1. MRI during acute rheumatic fever.
2. Comparison of 3D echo and MRI parameters in Ebstein's anomaly.
3. Pacemaker lead placement in RVOT versus RV apex – a validation by CT.
4. Anti streptococcal antibodies as predictor of success of prosthetic heart valve thrombolysis.
5. Indication and efficacy of vascular plug in congenital heart disease interventions.

#### **Collaborative projects**

1. RED HF study – A double blind randomized placebo-controlled, multicentre study to assess the efficacy and safety of Darbepoetin alfa treatment on mortality and morbidity in Heart failure (HF) subjects with symptomatic left ventricular systolic dysfunction and Anemia. V K Bahl, Amgen Technology Pvt. Ltd.
2. National Leader and Co-Investigator of the Steroids in Cardiac Surgery (SIRS) trial. G Karthikeyan, Canadian Institutes of Health Research.
3. Remote Ischemic Preconditioning pilot trial (Remote IMPACT), G Karthikeyan, Canadian Institutes of Health Research.
4. Global PI and Coordinator of the Rest-stress MIBI-SPECT compared to Coronary CT Angiography in the Assessment of Patients at Intermediate Risk of Coronary Events – A Pilot Randomized Controlled Trial, G Karthikeyan, IAEA.
5. VISION Registry-International registry of patients undergoing non-cardiac surgery which is looking at the incidence and predictors of perioperative ischemic cardiac events in the first 30 days after surgery. The registry has participants from over 10 countries around the world.
6. UKIERI Project – A collaboration of Imperial college London and Department of Cardiology AIIMS – Inflammatory and novel biomarkers in untreated heart failure. Funded by UKIERI initiative.

## **CARDIAC ANAESTHESIA**

### **Funded projects**

#### ***Ongoing***

1. Role of prognostic markers in complex congenital cardiac surgery. Poonam Malhotra Kapoor, 2009–12, Rs 24 lakhs.
2. Association between inflammation and osteopontin in coronary artery disease patients with severe ventricular dysfunction. Minati Choudhury. AIIMS Intramural Research, 2011–13, Rs 2 lakhs.
3. Role of pentoxifylline in reducing neuro-cognitive decline and inflammatory response after coronary artery bypass surgery, using cardio-pulmonary bypass. Sambhunath Das, 2010–12. Rs 2 lakhs.
4. A prospective randomized study to evaluate the effects of Levosimendon in patient with coronary artery disease with diastolic dysfunction. Vishwas Malik, AIIMS Intramural Research, 2012–13, Rs 2.77 lakhs.
5. Effect of induction with etomidate, thiopentone or ketamine on hemodynamic responses in patients with left ventricular dysfunction due to coronary artery disease undergoing coronary artery bypass graft surgery. Arindam Choudhury, AIIMS Intramural Research, 2012–13, Rs 4.63 lakhs.

#### ***Completed***

1. Comparison of epsilon aminocaproic acid and tranexamic acid in aneurismal surgery: Safety and clinical efficacy. Neeti Makhija. Institute research grant, 2010–12, Rs 2 lakhs.

### **Departmental projects**

#### ***Ongoing***

1. Comparison of the haemodynamic effects of the induction agents etomidate, ketamine and sevoflurane using the model of electrical velocimetry based cardiac output monitoring.
2. Comparison of the effect isoflurane, sevoflurane, and desflurane on myocardial protection in paediatric patients undergoing cardiac surgery.
3. Comparison of induction with etomidate and propofol on adrenocortical suppression in patients, undergoing coronary artery bypass graft surgery.
4. Comparison of induction with etomidate and ketamine on adrenocortical suppression in patients undergoing Tetralogy of Fallot.
5. Comparison of role of sonoclot in cyanotic and acyanotic children. Sonoclot V/s TEG in cyanotic patients undergoing cardiac Surgery.
6. Role of SCVO<sub>2</sub> in TOF patients.
7. Changes in cerebral oxygenation and its correlation with haematocrit, MAP and Pao<sub>2</sub> in patients, undergoing CABG with aid of cardiopulmonary bypass.
8. The effect of angiotensin converting enzyme inhibitors when administered early after CABG.
9. Electric Cardiometry in patients undergoing Cardiac-Catheterization.

#### ***Completed***

1. Comparison of different doses of epsilon aminocaproic acid in patients undergoing corrective surgery in Tetralogy of Fallot.
2. Effect of phenoxybenzamine in patients undergoing arterial switch operation during cardiopulmonary bypass.
3. Haemodynamic effect of intranasal dexmedetomidine in comparison to dexmedetomidine plus ketamine or midazolam in congenital heart disease paediatric patients undergoing cardiac catheterization.
4. Effect of intranasal dexmedetomidine on premedication, sedation and haemodynamics of intubation in Tetralogy of Fallot patients.

### **Collaborative projects**

#### ***Ongoing***

1. Comparison of off pump versus on pump fontan operation (CTVS).
2. Comparison of Del-nido versus custodial cardioplegia solution in paediatric patients undergoing Tetralogy of Fallot surgery (CTVS).
3. A prospective randomized study to compare systemic emboli in computer assisted navigation as conventional surgical technique for knee replacement (Orthopaedics).

### ***Completed***

1. Neurological outcome in aortic arch replacement surgeries without hypothermic circulatory arrest (CTVS).
2. Histopathological study of degenerative changes in ascending aorta of patients with bicuspid aortic valve (CTVS).
3. Desflurane and TIVA in shunt procedures for cyanotic congenital heart disease (University of Florida).

## **CARDIAC RADIOLOGY**

### **Funded projects**

#### ***Ongoing***

1. Induction of therapeutic angiogenesis in critical limb ischemia by intraarterial delivery of autologous bone marrow derived stem cell. Sanjiv Sharma, DBT, 2009–14, Rs 60 lakhs.
2. Dual energy, dual source CT in the comprehensive cardiac assessment of patients at intermediate risk of coronary artery disease (CAD). Gurpreet S Gulati, AIIMS Research Grant, 1 year 6 months, 2012–23, Rs 4 lakhs.

#### ***Completed***

1. MRI for in vivo tracking of iron oxide labeled Mesenchymal stem cells in rat model of heart failure. Gurpreet S Gulati, DBT, 2008–13, Rs 67 lakhs.
2. Utility of 3 Tesla MRI in evaluating response to immunosuppressant therapy in Takayasu's arteritis. Gurpreet S Gulati, AIIMS Research Grant, 2011–13, Rs 2 lakhs.

### **Departmental projects**

#### ***Ongoing***

1. To evaluate the feasibility, safety and efficiency of cell base therapy for the treatment of diabetes mellitus by local intra-arterial delivery of autologous bone marrow derived adult stem cells in the pancreas.

#### ***Completed***

1. Volumetric analysis and dynamic assessment of aorticaneurysm size with Gated CT angiography
2. MRI for assessment of cardiac morphological changes in patients with acute rheumatic fever.

### **Collaborative projects**

#### ***Ongoing***

1. Coronary CT angiography to predict vascular events in non-cardiac surgery patients cohort evaluation study (Coronary CTA VISION) (Cardiology).

## **NUCLEAR MEDICINE**

### **Collaborative projects**

1. Use of autologous bone marrow stem cells for myocardium regeneration.
2. Labeling of stem cells with Technetium-99m hexamethylenepropylene amineoxine (Tc99m HMPAO) and to detect the homing of stem cells in the myocardium after intra-coronary injection.
3. Efficacy of stem cells in improvement of left ventricular function in patients with acute myocardial infarction.
4. Role of SECT-MPI and CT angiography in the assessment of Patients at intermediate risk of coronary events – A pilot randomized controlled trial..
5. Dual Energy, Dual source Computed Tomography (DEDSCT) in the comprehensive cardiac assessment of patients at intermediate risk for coronary artery disease.
6. Role of stem cell after late opening of infarct related artery (COAT trial).

### **Departmental projects**

#### ***Completed***

1. Detection of perfusion abnormalities in patients with pacemakers on stress-rest Tc99m tetrofosmin myocardial perfusion SPECT: Comparison between right ventricular outflow tract septum vs apical pacing.
2. Role of phase analysis on equilibrium radionuclide angiocardiology in assessment of ventricular dyssynchrony in patients of dilated cardiomyopathy. Comparison with echocardiography.
3. PET–CT in treatment response evaluation in patients with primary NSC lung cancer.

- PET-CT in treatment evaluation of recurrent cervical cancer.
- Skeletonized vs. pedicled harvest of left internal thoracic artery in patients undergoing CABG: Effect on postoperative sterna vascularity, pain and dysesthesia – a prospective randomized study.

### ***Ongoing***

- Assessment of cardiac dyssynchrony in patients with non-ischemic dilated cardiomyopathy undergoing Cardiac Resynchronization therapy using Tc- 99m MIBI myocardial perfusion imaging. Comparison with Radionuclide ventriculography.
- Imaging and molecular characterization of differentiated thyroid cancer.
- Cytokeratin fragment 19 a dedifferentiation marker of advanced thyroid cancer.
- Feasibility of F-18 FDG in diagnosis of infective endocarditis.

## **STEM CELL FACILITY**

### **Funded projects**

#### ***Ongoing***

- To study the association of cardiac specific genes towards generation of functionally active cardiomyocytes derived from human bone marrow Mesenchymal stem cell, Sujata Mohanty, ICMR, 3 years, Rs 49.9 lakhs.
- Transplantation of mesenchymal stem cell in animal models of myocardial infarction and Parkinson's disorder, Sujata Mohanty, DBT, 5 years, Rs 45 lakhs.
- Role of mouse embryonic fibroblasts and human foreskin fibroblast feeder cells in maintaining self renewal of embryonic stem cells: Role of TGF- $\beta$  and IGF-II, Sujata Mohanty, UGC, 2 years, Rs 4.95 lakhs.
- 3D Expansion and differentiation of mesenchymal stem cell into osteoblast for bone tissue engineering on biocomposite scaffold, Sujata Mohanty, ICMR, 3 years, Rs 24.83 lakhs.

#### ***Completed***

- Isolation and expansion of Mesenchymal Stem Cells (MSC) from human BM (BM)/ umbilical cord blood (UCB) and evaluation of its cardiomyogenic and neurogenic differentiation potential, Sujata Mohanty, ICMR, 3 years, Rs 29.33 lakhs.
- Designing a biobank for biological samples collected from a mega study of acute coronary events in India, Sujata Mohanty, DBT, 1 year, Rs 5.35 lakhs.

### **Departmental projects**

#### ***Ongoing***

- To optimize the differentiation potential of BM-MSC into cardiomyocytes using a novel inducer-TGF- $\beta$ 1.

#### ***Completed***

- Comparative analysis of expansion and differentiation potential of MSC derived from dental pulp and bone marrow.
- Expression status of HLA molecules on undifferentiated and differentiated mesenchymal stem cells (MSC) an in vitro study.
- Establishment of Melanocyte Culture in a serum free system for transplantation in vitiligo patients.
- To optimize the differentiation potential of BMSC into cardiomyocytes using a novel inducer.

### **Collaborative projects**

#### ***Ongoing***

- DBT Centre of Excellence for Stem Cell Research: Basic and Transplantation (IIT, Delhi).
- Induction of therapeutic angiogenesis in critical limb ischemia by intra-arterial delivery of autologous bone marrow derived stem cells (Surgery).

#### ***Completed***

- Use of autologous bone marrow stem cells for myocardium regeneration (CTVS).
- Efficacy of stem cell in improvement of left ventricular function in patients with acute myocardial infarction (Cardiology).
- Culture of limbal stem cell for ocular surface reconstruction in stem cell deficiency disorder (Dr R.P. Centre).

4. Use of autologous bone marrow derived stem cells for rehabilitation of patients with dry age related macular degeneration and retinitis pigmentosa: A phase-I clinical trial (Dr R.P. Centre).
5. Safety and Efficacy of Autologous Stem Cell in prevention of amputation in patients with chronic critical limb ischemia (Surgery).
6. MRI from in-vivo tracking of iron oxide labeled mesenchymal stem cells in a rat model of heart failure (Cardiac Radiology).
7. Development of a potential biopolymer to serve as an alternative substrate of human amniotic membrane for ex – vivo expansion of corneal epithelial cell (Dr R.P. Centre).
8. Exploring the role of MHC and co-stimulatory molecules in the immune evasion mechanism of glioma stem cells (Neurobiochemistry).

## **CARDIAC PATHOLOGY**

### **Collaborative projects**

1. Pathological evaluation of dilated cardiomyopathy with special reference to histological and morphometric analysis of fibrosis, capillary density, arteriolar density and pattern of collagen IV distribution-a study on endomyocardial biopsies and explanted native hearts.
2. Histopathological analysis of light microscopical and ultrastructural features of surgically excised left atrial appendage in patients with atrial fibrillation due to rheumatic heart disease
3. Endothelial injury and other histopathological changes after papavarine injections in radial and left internal mammary arteries used as conduit for coronary artery bypass.
4. Histopathological and biochemical analysis of Atherosclerotic plaque in coronary atherosclerosis in comparison with Dual energy technique of CT scanner.
5. The virtual medical classroom an emerging tool for teaching medicine and science (funded by national knowledge commission).
6. Immunohistochemical expression of jak-p, stat-3 and bcl-2 in oral squamous cell carcinoma with and without lymph node metastasis and verrucous carcinoma.
7. Immunohistochemical study of e-cadherin,  $\beta$ -catenin and vimentin in oral squamous cell carcinoma, verrucous carcinoma in comparison with that of a metastatic squamous cell carcinoma in a cervical lymph node.
8. A clinico morphological study of cutaneous tuberculosis with special emphasis on immunohistochemistry.
9. 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.
10. Histopathological evaluation of aortic aneurysms in patients with bicuspid aortic valve.

## **CARDIAC BIOCHEMISTRY**

### **Funded projects**

#### ***Ongoing***

1. Relationship of birth size, infant and childhood growth on telomere length and telomerase activity in adulthood. R.Lakshmy, DBT, 2012–15, Rs 70.87 lakhs.

#### ***Completed***

1. Evaluation of HDL<sub>2</sub>, HDL<sub>3</sub> and apolipoprotein A1 levels in a large Indian industrial population: Association with genetic variants in CETP, LCAT, hepatic lipase and LPL gene. R. Lakshmy, DST, 2008–12, Rs 65 lakhs.
2. Effect of trans fatty acids on expression of transcription factors, PPAR  $\gamma$  and SREBP1c. Institute funded. R. Lakshmy, Intramural, 2011–12, Rs 1.80 lakhs.
3. Estimation of trans fatty acid content in selected common Indian fast food items. R. Lakshmy, SRF fellowship funded by ICMR, 2009–12.

### **Departmental projects**

#### ***Ongoing***

1. Relationship of birth size, infant and childhood catchup growth on telomere length and oxidative stress markers in adulthood.
2. Association of vitamin D deficiency with circulating endothelial progenitor cell number and telomere length in patients with ischemic or dilated cardiomyopathy.

### **Completed**

1. Circulating endothelial progenitor cells (EPC) in the patients of CAD: Role of telomere length and telomerase activity in EPC senescence.
2. Development and validation of a simple method for measurement of trans fatty acid intake and to study the association between trans fatty acids and CAD.

### **Collaborative projects**

#### **Ongoing**

1. Effect of antioxidant supplementation on pancreatic function and markers of fibrosis in chronic pancreatitis: A randomized controlled double blind trial (Gastroenterology).
2. Nutritional status in pediatric acute leukemia patients on follow up with Dr Sameer (IRCH).
3. A case control study of global and MTHFR gene specific methylation vis a vis pregnancy complications in North Indian population (Delhi University).
4. Assessment of prevalence of Vitamin D deficiency and associated factors amongst children in the age group of 6-18 yrs. from three high altitude regions (1000 metre and above) of Himachal Pradesh, India (Human Nutrition Unit).
5. Assessment of Nutritional Status, diet related morbidity and utilization of health care facilities in the elderly population aged 60 years and above (Human Nutrition Unit).
6. Influence of genetic polymorphisms, clinical and biochemical parameters in determining susceptibility to nonalcoholic fatty liver disease in Indian overweight adolescents (Paediatrics).
7. Neuroendocrine stress response in robotic urological strategy: Dexmedetomidine based versus fentanyl based total intravenous anesthesia (Cardiac Anaesthesia).
8. Re-establishment of normal reference range of radioiodine uptake values (RAIU) in the era of universal salt iodination (Nuclear Medicine).
9. Prevention of type 2 diabetes in women with prediabetes using vitamin D supplementation and lifestyle intervention in North India (PREVENT-WIN Study) (Community Medicine).
10. Genetic determinants of birth weight and growth trajectory and influence of parental genotype on these anthropometric indicators (Endocrinology).
11. Understanding the inter-generational programming of health and disease in Indians (Endocrinology).
12. Childhood obesity in India: A multi-centre study on its measurement and determinants (Endocrinology).

### **Completed**

1. Oxidative stress, Carotid intima media thickness and endothelial dysfunction in renal transplant recipients and effect of therapy with N-Acetyl cysteine (Nephrology).
2. Adiponectin, C-reactive protein and interleukin-6 in overweight children and adolescents and their relationship with dyslipidemia and insulin resistance (Pediatrics).
3. Study of oxidative stress risk factors in Alzheimer's disease and vascular dementia (Lab Medicine).
4. Prevalence of coronary heart disease and its risk factors in residents of urban and rural areas of NCR-A repeat survey (Community Medicine).
5. Effect of atorvastatin in hyperlipidemia and progression of carotid intima media thickness in steroid resistant nephrotic syndrome (Pediatrics).

## **ORGAN RETRIEVAL BANKING ORGANISATION (ORBO)**

### **Departmental projects**

1. Study of awareness about organ donation in a rural community of Haryana.
2. Study of factors affecting tissue and organ donation in medico-legal cases at a tertiary care hospital.
3. Study of the death to preservation time and its impact on utilization of donor corneas.

### **Collaborative projects**

1. Intravenous autologous bone marrow mononuclear cells (BMNC) for patients with acute ischemic stroke (Neurology).
2. Intravenous autologous bone marrow mononuclear cells (BMNC) for patients with acute ischemic stroke: Multicentric study (Neurology).
3. Impact of grief counsellors vs. trained nurses in improving and sustaining eye donation in institutional setting and operational research (Dr R.P. Centre).
4. Survey of the awareness and belief regarding brain death and the role of educational intervention on its acceptance and deceased donation rates (G.I. Surgery).

## **HOSPITAL ADMINISTRATION (CTC)**

### **Departmental projects**

1. Study of the system of involvement of the patient/relatives in decision making before any surgical intervention in the CN Centre and the Main hospital at AIIMS, Delhi.
2. Study of the System of issue of medical certificates in AIIMS, identify gaps and develop SOP (Protocol) for issue of medical certificates.
3. Study to investigate the Prevalence and Circumstances of Needle Stick Injury (NSI) among Healthcare Workers at AIIMS and to ascertain the effectiveness of the existing control measures and standard precautions.
4. Study of the Policies and Procedures for issue of Birth and Death Certificate in AIIMS, identify the gaps and suggest a SOP for the same.
5. Study of Quality and efficacy of HVAC system in OTs and ICUs in AIIMS.

## **BLOOD TRANSFUSION SERVICES**

### **Collaborative projects**

#### **Ongoing**

1. Safety and efficacy of autologous stem cell in preventing amputation in patients with chronic critical limb ischaemia (Surgery).
2. Generation and characterization of single chain variable region (ScFv) antibody against envelope gp120 of HIV-1 Clade C (Biochemistry).
3. Production and characterization of site selected human monoclonal antibodies against the envelope glycoprotein of HIV-I (clade-C) (Biochemistry).
4. SDF-1 and DC-SIGNR polymorphism and expression in HIV-I infection (Biochemistry).
5. Immunological characterization of HIV-1 infection in children (Biochemistry)
6. Functional characterization of Dendritic cells in HIV-I infection. (Biochemistry).
7. Dendritic cell count and cytokine levels in HIV-I infection (Biochemistry).
8. Establishing normal reference range of serum Free light chains in healthy Indian adults (Laboratory oncology)
9. Generation and characterization of Pseudoviruses for HIV-1 in Indian infected patients (Biochemistry)
10. Evolution of HIV-1 clade C envelope in chronically infected Indian paediatric patients (Biochemistry)

## **PUBLICATIONS**

### **CARDIO-THORACIC VASCULAR SURGERY**

**Journals: 34**

### **CARDIAC ANAESTHESIA**

**Journals: 15      Abstracts: 3**

**Chapters in book: 2      Books: 1**

### **CARDIAC NUCLEAR MEDICINE**

**Journals: 2**

### **CARDIAC PATHOLOGY**

**Journals: 4      Chapters in books: 2**

### **CARDIOLOGY**

**Journals: 51**

### **CARDIAC RADIOLOGY**

**Journals: 10      Abstracts: 2**

### **STEM CELL FACILITY**

**Journals: 8      Abstracts: 5**

### **CARDIAC BIOCHEMISTRY**

**Journals: 8      Abstracts: 3**

## **BLOOD TRANSFUSION SERVICES**

**Journals: 2**

## **PATIENT CARE**

### **CARDIO-THORACIC VASCULAR SURGERY**

Total operations performed	4191	Open Heart Surgery	3206	Closed Heart Surgery	985
Outpatient attendance:	41923 patients				

### **CARDIOLOGY**

New OPD cases	30, 820	Old cardiology cases	78,746
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**Patient services**

TMT	2,229	Holter	2,813
Echocardiography	34,270	Fetal echocardiography	378
TEE	48	ECG (Indoor)	34,796
ECG (OPD)	34,676	Ambulatory BP	45
Event Recorder	21	Head up tilt test	94

**Cath Lab Services****Diagnostic**

Coronary angio and Cath 1489 + 1426

**Interventions**

Coronary Interventions	1098	Mitral Valve Dilatations	454
Device closures	120	Pacemakers	166
ICD/BiV/Combo	74	EPS/RFA	41
Other interventions			210

**CARDIAC ANAESTHESIA**

Faculty and Residents of the Department of Cardiac-Anesthesia are involved in providing anesthesia care in 8 operation theater, 5 catheterization labs, CT angiography and MRI Cardiac-Anesthesia department is also involved in resuscitation and ventilatory care in CTVS-ICU-A and B, ICCU, all the general wards and C.N. Tower.

Stress Management clinic is looked after by the department for Cardio-Neuro patients care and staff of AIIMS.

**CARDIAC RADIOLOGY****Investigations done**

Cine Fluoroscopy	73671	X-ray	8400
DSA	930	MRI	377
CT	2840	US/Doppler	3668
Catheter procedures	6071		

**NUCLEAR MEDICINE**

Nuclear Cardiology unit is equipped with a dual head SPECT-CT Gamma Camera. The nuclear cardiology unit caters to patients referred for cardiac studies from CN centre and other departments of the hospital. The department also performs MUGA studies for assessment of left ventricular function in CAD patients referred from the centre and from IRCH for cardiac evaluation in patients receiving chemotherapy and evaluation of patients on pacemaker. We also perform cardiac PET imaging with N-13 NH3 perfusion and F-18 FDG glucose metabolic studies for assessment of myocardial viability.

**Total number of studies performed 2578**

Myocardial perfusion study	1629	MUGA study	864
Cardiac PET	43	Misc.(V/Q scan, 1st pass)	42

**STEM CELL FACILITY**

Stem cell transplantations under various clinical trials: 100

**Corneal Surface Reconstruction**

Limbal Stem Cell transplantation	5	Oral mucosal transplantation	12
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**Cryopreservation**

Cord blood stem cell	8	Bone marrow stem	12
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**Facilities available**

Mononuclear cell separation, Stem Cell enumerations by Flow Cytometer, Cryopreservation of stem cells

**CARDIAC PATHOLOGY****Specimens**

Routine	288 cases	Research	101 cases
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**Slides coated** APES: 28,547 slides

## Other work

Immunohistochemistry 124 H and E slides: 3

Manual processing (post cardiac transplant biopsies) 3 Frozen sections 2

## CARDIAC BIOCHEMISTRY

### Investigation

Routine chemistry: plasma glucose, urea, creatinine, uric acid, Calcium, phosphorus, total protein, albumin, SGOT, SGPT, alkaline phosphatase, amylase, electrolytes.

Routine hematology: hemoglobin, WBC, differential counts, platelets and ESR.

Coagulation: PT, APTT, FDP, Fibrinogen.

Cardiac Markers: CK, CK-MB, LDH, Troponin I and BNP.

Lipids: Cholesterol-total, Cholesterol-HDL, Cholesterol-LDL, Cholesterol-VLDL, Triglycerides, Lipoprotein (a), Apo(a), Apo(b).

Drugs: Digoxin, cyclosporine.

Thyroid hormones: T<sub>3</sub>, T<sub>4</sub>, TSH.

ASLO, CRP, Homocysteine, Vitamin B12 and Folate, RA factor, Catecholamine (plasma and urine), VMA, Glycosylated hemoglobin, Insulin.

## ORGAN RETRIEVAL BANKING ORGANISATION (ORBO)

- Initiated Registration of AIIMS for Lungs and Heart-Lung Transplantation.
- Contributed in framing Transplantation of Human Organs Rules 2012.
- Designed and Updated real time and vibrant ORBO Website ([www.orbo.org.in](http://www.orbo.org.in)) with a facility to download the organ donor form.
- 137 organs and tissues were procured for transplantation.
- 15 whole bodies were also donated through ORBO to facilitate medical education in last one year.
- Donor Registry: 1480 persons pledged for organ donation on motivation of ORBO. Total number of Registry till dated is more than 17500.
- Collaboration with various NGOs to promote the noble cause of organ and tissue donation.

## Community Services/Camps

- IEC activity on Organ Donation at India International Centre, 5 December 2012. Mrs. Brinda Karat, CPI-M Leader Pledged for Organ Donation with ORBO.
- Organized IEC activity on organ donation, 25–27 September 2012. Photographs were clicked and given on the spot to those who supported the cause of organ and tissue donation.
- Poster competition on organ donation for medical graduates of different medical colleges of the country was organized in 26 September 2012.
- Awareness Camp on Organ Donation at American Express, Gurgaon, 25–27 September 2012. More than 500 Person pledged for organ donation with ORBO.
- Designed and Displayed Big Hoarding of ORBO in prominent places of AIIMS and Trauma Centre (First time in public sector).
- Designed and Displayed Electronic Boards of ORBO in prominent places of AIIMS and Trauma Centre (First time in public sector).
- IEC activity at India International Trade Fair 2012, Pragati Maidan in the Stall organized by Ministry of Health and Family Welfare, Govt. of India.
- IEC activity in 3<sup>rd</sup> Indian Organ Donation Day, 30 November 2012, Safdarjung Hospital.
- Awareness Camp on Organ Donation at Bhagat Hospitals Pvt. Ltd., Janakpuri, New Delhi, 2 October 2012.
- IEC activity at Old Age Home at Nazafgarh on organ donation, 18 October 2012.
- Awareness camp on Organ Donation at Dr Mukherjee Nagar, Delhi, 12 January 2013.
- Awareness Camp on Organ Donation at Bosco Public School, Paschim Vihar, New Delhi, 23 February 2013.
- IEC activity at Ram Lal Anand College, University of Delhi, Dhaula Kuna, New Delhi, 24 February 2013.
- Awareness Camp on Organ Donation at Mayur Vihar Phase-III, Delhi, 3 March 2013.

## HOSPITAL ADMINISTRATION (CTC)

- Management and Administration of Cardio Thoracic and Neuro Sciences Centre – 411 Bedded Super Specialty Centre. Having 15 Operation Theatres including Intra-op MRI Facility, 107 ICU beds, 7 Cath Labs along with state-of-the art Gamma Knife facility.
- Human Resource Management, Integration and co-ordination of patient care, clinical, diagnostic and support services.
- Supervision of nursing, sanitation, security, administration, stores and other support staff for blood bank, labs, manifold, reception, laundry, CSSD etc.
- Patient grievances and redressal.
- Hospital supplies and procurement.
- Various patient care areas were renovated. (NS-5 Neurology Ward, CT-3 Cardiology Ward, Paediatric Cardiology Ward, ORBO, Intra-operative MRI, Neurosurgery Operation Theatre).
- Renovated and Upgraded Cafeteria of C.N. Centre.
- Implemented Prepaid Cash Card Systems in CN Centre first time in any government hospital
- Implemented CCTV Surveillances and monitoring system as well as MIS for CN Centre.
- Paediatric Cardiology Ward received the award for Best Maintained Ward in AIIMS
- Computerization of Blood Bank, OPD and Stores of CN Centre was done.
- LED System for patient call in CN Centre OPD was installed
- Co-ordination for VVIP care at C.N. Centre.

## BLOOD TRANSFUSION SERVICES

### Blood units collected

Voluntary donors in the department	259	Replacement donors	12774
Voluntary donors through blood mobiles	186	Blood received from IRCS	28
Blood received from Blood Bank, AIIMS	225	Family voluntary donor	8393
Blood received from other hospitals	365	Autologous	1
Total number of blood units collected	22231		

### Blood Units issued

To CTVS/NS	26163	To Blood Bank, AIIMS	1626
To JPNATC	326	To IRCS	29
To other hospitals	1350	HIV/HBV/HCV/VDRL reaction units discarded	551
Total number of blood units issued	30045		

### Laboratory procedures

Total blood grouping (ABO/Rh)	89553	Total crossmatching done	106964
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### Infection markers

HIV	26482	HBV	26345
HCV	26128	VDRL	23170
MP	24170	CMV	112
Total	126407		

### Total number of blood components

Fresh frozen plasma (FFP)	17418	Platelet concentrate	18753
Recovered plasma	1367	Cryoprecipitate	1261
Packed red blood cells	20245		
Total	59044		

### Special procedures

Single donor plateletpheresis

## DIETETICS

The total number of patients seen in general and private wards and the therapeutic diets given:

A. Diets in general wards :

Normal diet	77400	Khichdi /semisolid diet	10590
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Feeds	12960		
B. Therapeutic diets in general wards			
Diabetic diets	4000	Renal diets	740
High protein diets	22000	High carbohydrate diet	2200
Bland diets	360		
Total	30,000		
C. Therapeutic feeds			
Special feeds	4000	Modified feeds	7000
Diabetic feeds	5600	Curd feeds	5000
Chart feeds	400	Moong daal/Hepatic feeds	400
Renal feeds	400		
Total	22800		
D. Diets in in tower private ward			
E. Number of diet counseling given to indoor and outdoor patients			

Month	Number of patients	Month	Number of patients
April	237	October	286
May	265	November	230
June	145	December	260
July	405	January	286
August	340	February	216
September	304	March	281
<b>Total</b>	<b>3255</b>		

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

### CARDIO-THORACIC VASCULAR SURGERY

**Professor Balram Airan** was appointed chairperson of the team for inspection by DGHS to carry out the inspection at PGIMER, Chandigarh on account of suitability of the hospital for registration to perform Heart, Lung and Heart-Lung Transplantation in terms of THOA, 1994; appointed chairperson of the team for inspection by DGHS to carry out the inspection of Sir Ganga Ram Hospital, New Delhi for renewal of registration to perform Heart and Lung Transplantation in terms of THOA, 1994; External Examiner for MCh CTVS examination at Koirala Institute, Kathmandu, Nepal; participated in 3rd International Conference on Stem Cells and Cancer (ICSCC-2012): Proliferation, Differentiation and Apoptosis, PGIMER, Dr Ram Manohar Lohia Hospital, New Delhi; appointed Member of High Powered Committee constituted by ICMR for making the Bhopal Memorial Hospital and Research Centre, Bhopal a teaching institution; appointed to select candidates for award of Commonwealth Scholarship/ Fellowship Plan, 2013 by Govt. of United Kingdom in Cardiology by Ministry of HRD; Member, Interview Board by ICMR for selection of Faculty at Bhopal Memorial Hospital and Research Section, Bhopal; appointed Expert/Member in various committees of policy matters with respect to Cardio Thoracic discipline by Union Health Ministry/DGHS, Govt. of India; appointed Member (Consultant) of Selection Committee, Allahabad by UP Public Service Commission for selection of Lecturer of CTVS in UP medical education department; participated in First meeting of 'Advanced Heart Failure and Mechanical Assist Meet-2013', Chennai; 14th Annual Conference of the Pediatric Cardiac Society of India, Chennai, 4-7 October 2012, and Faculty at the Conference and chaired a session on 'Invited Guest Lectures' delivered by Dr V.M. Reddy, Stanford University, USA and Dr P. Krishnan, Mayo Clinic, USA. Also member of the Panel of Judges on Session on 'Innovations in Pediatric Cardiac Surgery/ Anaesthesia/ ICU Management'.

**Professor S.K. Choudhary** was appointed External Examiner for MCh (CTVS) examination at PGIMER, Chandigarh; External Examiner for final examination to Diploma Certificate Course in Perfusion Technology, Safdarjung Hospital, New Delhi; expert to assist Rajasthan Public Service Commission (Ajmer) Rajasthan to select the candidates for post of Assistant Professor; nominated member Expert Group for 'National Consultation to develop Guidelines for Tissue Donor Screening, Tissue Retrieval and Tissue Tracking; appointed external examiner to conduct MCh (CTVS) practical examination, at PGIMER, Chandigarh; Expert for selection of Professor in Department of CTVS of Dr Ram Manohar Lohia Institute, Lucknow; appointed expert for selection of Professor in Department of CTVS, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow; nominated member, Expert Committee on Heart Valves for 'National Consultation to

develop Guidelines for Tissue Donor Screening, Tissue Retrieval and Tissue Tracking; nominated a member of National Rheumatic Heart Consortium (NRHC).

## **CARDIOLOGY**

**Professor V.K. Bahl** delivered prestigious Dr VV Shah (NSPHERE) oration 2012 during CSI annual meeting; Associate Editor of Heart Asia, a publication of BMJ group.

**Professor Anita Saxena** was Member World heart federation workgroup for echocardiography in rheumatic heart disease; best poster award ACC (American College of Cardiology) 2013; Visiting professor of Pediatric Cardiology, Variety Children's heart centre Winnipeg.

**Professor S.S. Kothari** was President, Pediatric Cardiac Society of India; Editor, Annals of Pediatric Cardiology.

**Professor Balram Bhargava:** Wellcome Trust, DBT initiative on R & D for Affordable Health Care for India.

**Professor K.C. Goswami** was Secretary, Cardiological Society of India, Delhi branch.

**Dr S. Mishra** was Chairman National interventional council, Cardiological society of India; Elected Member Executive Committee, Cardiological Society of India.

**Dr S. Ramakrishnan**, Best paper award APPCS 12 (Asia Pacific Pediatric cardiac society), Taiwan; Assistant editor of Annals of pediatric cardiology; treasurer of Pediatric cardiac society of India.

**Dr Saurabh K Gupta** won Best interventional case award, PCSI 2012, Chennai; Sujoy B Roy award 2013, Best paper Delhi CSI.

## **CARDIAC ANAESTHESIA**

Paper presented by Sarupria A, Makhija N, Lakshmy R, Kiran U. Comparison of different Doses of Epsilon Aminocaproic Acid in Children for Tetralogy of Fallot Surgery: Clinical Efficacy and Safety. Presented for Punnose young scientists award in the Society of Cardiac Anaesthesiology meeting, Was awarded second prize and Dr Arun, Senior Resident, received best paper award for thesis paper presentation.

**Professor Usha Kiran** was conferred Fellow of Indian College of Anaesthesiology; Review Board Member of Journal of Transesophageal echocardiography; honoured to release 1st issue at PGI; President of 'PRAN'; Review Board Member, International Journal of Biosciences.

**Dr Neeti Makhija** was awarded first prize for presenting in free paper session on paper 'Comparison of Epsilon Aminocaproic Acid and Tranexamic Acid in Thoracic Aortic Surgery: Clinical efficacy and Safety'. Makhija N, Sarupria A, Choudhary SK, Das SN, Lakshmy R, Kiran U in 51st Annual Conference of anaesthesiologists, Delhi Branch; was Elected as Member of executive council of Indian Association of Cardiac and Thoracic Anaesthesia (IACTA); Member Editorial Board of 'Open Journal of anaesthesiology'; Member Editorial of J of Perioperative Echocardiography (Official J of Society of Transesophageal Echocardiography); Member Reviewer Board in J of anaesthesiology Clinical Pharmacology (pubmed indexed journal). Invited reviews from J of Clinical Anaesthesia (international indexed journal) and many other journals.

**Dr Poonam Malhotra Kapoor** was Member, Education Committee, Indian Association of Cardiac Anaesthesiologists which is a 7 membered panel for 10 years; Member Sub Committee for Revision of FIACTA syllabus of Indian Association of Cardiac Anaesthesiologists, 2011-12; Appointment as 'Adjunct Professor' in department of Anaesthesiology at the University of Central Florida College of Medicine' USA for Research Collaboration; Member of 'International Society of Cardiovascular Ultrasound' in Alabama, USA; Coordinator of examination for the IACTA perioperative TEE Examination; Coordinator of Examination of the 6th FIACTA Examination, Medanta, Medicity, Gurgaon; Elected President of the ECMO Society of India for the third year, 2012-13; Continuing on the Advisory Board of (a) Sonoclot Coagulation Testing at Institute of Liver and Biliary Sciences (ILBS), (b) Perioperative TEE workshop of Narayana Hrudayalaya at Bangalore; Editorial Board of (a) Annals of Cardiac Anaesthesia (ACA), (b) Journal of Anaesthesiology and Clinical Pharmacology (JOCAP); Review Committee of: ( a) Indian Association of Cardiothoracic and Vascular Anaesthesiologists (IACTA), (b) Research Society of Anaesthesiology and Clinical Pharmacology (RSACP), (c) Journal of Clinical Anaesthesiologists (JCA), (d) Indian Journal of Cardiovascular and Thoracic Surgery (IJCTVS), (e) Nominated Executive Member of Delhi Branch Indian Academy of Echocardiography (IAE).

**Dr Minati Choudhury** was Editorial board member, Annals of Cardiac Anesthesia; Review board member: (a) Indian Journal of Anesthesia, and (b) Journal of Anesthesiology and clinical pharmacology.

**Dr Vishwas Malik** was Nominated as Member Editorial Board of 'Annals of Cardiac Anaesthesia'; Nominated Member 'Executive Committee of Indian Association of Cardiothoracic Anaesthiologists (20011–13).

**Dr Arundam Choudhury** received 'best paper awarded' in 'Who's the best' interesting paper section in Annual perioperative TEE workshop held at PGIMER, Chandigarh.

### **CARDIAC RADIOLOGY**

**Professor Sanjiv Sharma** was Chairman, AORTA 2013 (Aortic Open and Endovascular Repair, Techniques, Outcomes and Analysis); Examiner, for post graduate examination in Radiology, B.P. Koirala Institute of Health Sciences, Dharan, Nepal; External Expert, meeting of the committee constituted by DPGI for the purchase of PACS and RIS system for the department of Radiodiagnosis and rest of the hospital, PGIMER, Chandigarh; Expert, technical review and assessment of the TIFAC-Centre of Relevance and Excellence in Interventional Radiology' in JNCM, Wardha by TIFAC, Department of Sciences and Technology; Editorial board meeting of Cardiovascular and Interventional Radiology (official journal of the European Society; (chaired a session on embolotherapy) and deliver a lecture on the current status of gene and stem cell therapy for below knee critical limb ischemia; Adviser: Technical committee meeting of International Atomic Agency (IAEA) on Needs for Interventional Radiology in the Emerging World, IAEA's Headquarters in Vienna; External examiner: MD (Radio-Diagnosis) – PGI, Chandigarh, December 12–13 2012. External Expert.; assisting the standing selection committee for faculty selection meeting, PGIMER, Chandigarh; National faculty, Extending the proximal neck in thoracic aneurysm, ISVIR – Aortic Summit, January 11 –12, 2013, Chennai.

**Dr Gurpreet S Gulati** was Organizing Secretary, AORTA 2013 (Aortic Open and Endovascular Repair, Techniques, Outcomes and Analysis); Inducted as Section Editor, Imaging, Indian Heart Journal 2012. Inducted as member of the Editorial Board: Journal of Cardiovascular Magnetic Resonance, 2013.

**Dr Priya Jagia** was co-organizing Secretary, AORTA 2013 (Aortic Open and Endovascular Repair-Techniques, Outcomes and Analysis).

### **STEM CELL FACILITY**

**Dr Sujata Mohanty** received AIIMS Excellence Award 2012 in Recognition of Notable Published Research Work; Attended 5th Congress of the Federation of Immunological Societies of Asia-Oceania (FIMSA), New Delhi, 14–17 March 2012; Third Meeting of the Biotechnology Career Advancement and Re-orientation Programme, DBT, New Delhi, 26 April 2012; 10th Annual Meeting of International Society for Stem Cell Research, Yokohama, Japan, 13–16 June 2012; 20th Annual Meeting of Indian Eye Research Group – ARVO, India Chapter, Hyderabad, 27–29 July 2012; Fourth meeting of the Expert Committee of the 'Biotechnology Career Advancement and Re-orientation' programme for the Women Scientists (Bio-CARe), DBT, New Delhi, 9 August 2012; Fifth meeting of the Expert Committee on 'Biotechnology Career Advancement and Re-Orientatation', Programme for the Women Scientists (Bio-CARe), DBT, New Delhi, 20 February 2013; Research Advisory Council Meeting, AIIMS, 4 March 2013; One day training cum awareness programme – Indexing of Indian Medical Journals and Hosting of full text articles of Indexed Indian Medical Journals, NIC, HQ, CGO Complex, 5 April 2013; Chairperson, Indo German Workshop on Regenerative Medicine in Liver Disease – Bone Marrow Stem Cell Therapy in liver regeneration, ILBS, New Delhi, 15 February 2013.

### **CARDIAC BIOCHEMISTRY**

**Dr R. Lakshmy** Member, Project Review committee of ICMR in the area of gastroenterology; Member, Project Review committee of ICMR in the area of obesity and metabolic syndrome; Reviewed abstracts for World Congress of Cardiology (WCC 2012).

### **ORGAN RETRIEVAL BANKING ORGANISATION (ORBO)**

**Dr Aarti Vij** was Independent (Non-Official Part Time) Director on the Board of HLL Lifecare Ltd., Govt. of India Enterprise; Member, Advisory Group, National Organ Transplant Programme under Directorate General

of Health Services, Ministry of Health and Family Welfare, Govt. of India; Expert in the Committee for Development of Website for National Organ and Tissue Transplantation Organization, Directorate General of Health Services, Ministry of Health and Family Welfare, Govt. of India; Re-elected Executive Member of Indian Society of Organ Transplantation (ISOT) from 2012–14; Member, Committee for Preparation of Results Framework Documents (RFDs) for AIIMS.

**Mr Mukesh Kumar**, MSSO, ORBO, was Editorial Board Member of 'Journal of Advances in Medicine' – an International Peer Reviewed Journal; Member, Working Group on Education on Organ Donation and Transplantation for Schools (EODTS) under The Transplantation Society, an organization in official relation with WHO.

### **BLOOD TRANSFUSION SERVICES**

Seven technologists attended the seminar on NABL, AIIMS, 26 November 2012. Ms. Lucy Joseph, Sister grade II and Mrs. Rupa Debnath, Sr Grade I, attended training in Blood Safety organized by NACO at RML Hospital, PGI, 14–16 February 2013.

**Dr Anjali Hazarika** was External examiner for practical and viva voce of MLT course 4th semester at Vardhman Mahavir Medical College, Delhi; Resource person during Blood Safety training programme held for blood bank medical officers, technicians and nurses by NACO at RML Hospital PGI, Delhi; Technical expert for upgradation of Indian Red Cross Society HQ Blood Bank; External examiner for practical and viva voce of MLT course 5th semester, Vardhman Mahavir Medical College, Delhi; Participated In the Following Workshop; attended Workshop on 'Implementation of Quality Management system in Blood Banks', organized by National AIDS Control Organisation, Govt of India, 22 – 25 May 2012; Workshop on Management, Procurement and Purchase, CMET, AIIMS, 29 November 2012; Workshop on 'Pathogen Reduction System', by State. Blood Transfusion Council in Delhi, 18 January 2013; Workshop on Animation in Powerpoint, at CMET AIIMS on 1 February 2013.

**B. Majhi**, Sr Technical Officer, gave a presentation on 'Component Preparation – Lapses in BTS', a technologist's perspective, 22 February 2013.

**G. Chauhan** gave a presentation on 'Transfusion transmissible infection testing – Lapses in BTS', a technologist's perspective, 22 February 2013.

**Mr G. Mehta**, Technical Officer, attended a workshop on 'Implementation of Quality Management system in Blood Banks', NACO, Govt. of India, 22–25 May 2012.

### **HOSPITAL ADMINISTRATION**

**Dr Aarti Vij** was External Examiner for the evaluation of Thesis 'Perception of Healthcare Providers Regarding Hospital Bed Utilization at Nehru Hospital, PGIMER, Chandigarh' Vikrant Kanwar, PGI Chandigarh.

### **VISITING SCIENTISTS**

#### **CARDIO-THORACIC VASCULAR SURGERY**

The following Cardiac Surgeons, Physiotherapist, Nurses, have undergone short term training at CTVS Department.

1. Dr James Njoroge Karithi from Kenya.
2. Dr Mohd Lateef Mani and Dr Babar Rashid Zargar from J and K, Srinagar.
3. Dr Haifuzullah Lone and Dr Farooq Ahamad Gaine from J and K Srinagar.
4. Dr Il Chol Jang, Dr Kyong SOK and Dr In Su Jo from Kenya.
5. Dr Tong Chol Choe, Dr IL Son Jong and Dr Hak Se Om and Dr Kwang Bin Kang CTVS Stem Cell Facility from Kenya.

## 10.2 Centre for Dental Education and Research

### Chief

Naseem Shah

### Professors

O.P. Kharbanda

Ritu Duggal

### Additional Professors

Ajoy Roychoudhury

Veena Jain

Ongkila Bhutia

### Associate Professors

Vijay Prakash Mathur

Ajay Logani

## EDUCATION

### Undergraduate

The Centre conducted the teaching programme of MBBS undergraduate students during their clinical posting.

### Postgraduate

The Centre conducts postgraduate programmes in four specialties namely, Orthodontics, Prosthodontics, Conservative Dentistry and Endodontics, and Oral and Maxillofacial Surgery. Apart from this, PhD candidates were admitted to Orthodontics, Conservative Dentistry and Endodontics, and Oral and Maxillofacial Surgery.

### Paramedical teaching

The Centre conducts teaching programme for nursing students in the form of lectures and orientation programmes.

### Short term training

The Centre provided 2 to 8 weeks short training programmes for armed forces doctors from Delhi as well as Government employees from India. During this year a total of 40 dental professionals were trained as short term trainees at the centre.

### Continuing Medical Education

#### Organized by the Department

1. WHO Curriculum guide on 'Patients' safety'; Four workshops were conducted for Senior and Junior residents of the Centre in August 2012.
2. A Continuing Dental Education programme in Conservative Dentistry and Endodontics for postgraduates and faculty from nearby dental institutes, New Delhi, 31 March 2013.
3. One day workshop 'Teachers Training Programme' (TTP), organized in collaboration with KL Wig CMET and International College of Dentists (ICD) India and Sri Lanka, New Delhi, 15 September 2012.
4. 'Reality Check' One day, CDE, organized in collaboration with Orthodontic Study Group of Delhi, New Delhi, 4 October 2012.
5. CME on Cleft, Lip and Palate through Tele Conference held between Ramachandra Medical College and AIIMS, New Delhi, 3 December 2012.
6. Digital Technologies in Orthodontic Practice and Different Ways to Treat Class II Malocclusions with Clear aligners, CME, CDER, New Delhi, 11 January 2013. Dr Morris Rapaport from Department of Orthodontics, University of Sydney, Australia, was the guest speaker.
7. Continuing Dental Education Programme with special emphasis on tobacco cessation counseling for Dental Professionals in collaboration with Indian Dental Association, New Delhi, 15 April 2012 and 9 June 2012.
8. Lecture cum Hands-on Programme for Dental Professionals on use of Stainless Steel Crowns in Pediatric Patients for Dental Professionals, New Delhi, 29 September 2012.
9. Lecture cum hands-on Programme for Pediatric Dentists from Delhi and NCR on 'Use of Soft Tissue Laser in Pediatric Dentistry', New Delhi, 2 September 2012.

10. Pre-conference course (Didactic cum Hands-on) during 10th Pedo PG Convention in New Delhi, on 'Use of Soft Tissue Laser in Pediatric Dentistry', New Delhi, 13 March 2013.
11. Continuing Education Programme by Prof. Nigel King, University of Hong Kong on 'Early childhood caries and MTA' through Telemedicine being conducted at Sri Ramachandra Dental College, Chennai, 18 September 2012. New Delhi

#### Lectures delivered

**Naseem Shah: 8      O.P. Kharbanda: 20      Ritu Duggal: 2      Veena Jain: 2**  
**Ongkila Bhutia: 2      Vijay Prakash Mathur: 6      Ajay Logani: 7**

**Oral/poster presentations: 8**

#### RESEARCH

##### Funded projects

##### *Ongoing*

1. A randomized equivalence clinical trial to evaluate the efficacy of an innovative, non-obturation endodontic treatment protocol 'SealBio' for mature, permanent non-vital teeth as compared to conventional endodontic treatment with root canal obturation. Naseem Shah, ICMR, 2012–14, Rs 7.17 lakhs for first year.
2. Cleft Lip and Palate anomaly in India: Clinical Profile, Risk factors and current status of Treatment – A Hospital based study, Task force project (pilot phase), O.P. Kharbanda, ICMR, 2012–14, Rs 22.38 lakhs.
3. An evaluation of dental prosthesis need, its relation to nutritional status and quality of life of elderly population: A hospital base study. Veena Jain, ICMR, 2011–13, Rs 30 lakhs.
4. Bone Resorption Assessment in Cases of Mandibular and Maxillary Implant Supported Overdentures with Different Attachment Systems, Veena Jain, DST, 2012–15, Rs 71 lakhs.
5. Evaluation of success of indirect pulp capping using three different materials: A Clinical study using CBCT. Vijay P. Mathur, DBT, 2011–13, Rs 12.33 lakhs.
6. Age estimation in living adults based on aspartic acid racemization from tooth biopsy specimen. Ajay Logani, DBT, 2010–13, Rs 19 lakhs.

##### *Completed*

1. A dynamic calibrated fixed dentofacial corrector to treat class II malocclusions. O.P. Kharbanda, ICMR, 2010–12, Rs 3.32 lakhs.
2. Finite Element study to analyze the stress distribution in Human mandible following Twin Block Therapy. Ritu Duggal Raju Sharma, ICMR, 2.5 years, Rs 23 lakhs.
3. Cone beam computed tomographic assessment of root canal morphology in an Indian population: A retrospective 3D radiographic study. Ajay Logani and Radhika M Nayak, ICMR, 2011–13, Rs 7 lakhs.

#### PUBLICATIONS

**Journals: 24    Abstracts : 3    Chapter in book: 1    Book: 1**

#### PATIENT CARE

The Centre provides comprehensive dental treatment for the patients visiting the Dental Centre. The treatments being provided are Oral Diagnosis, Dental Extraction, Management of cyst, tumor and other pathology, trauma to oro-facial region and TM joints, Restoration of teeth, Root Canal Treatment, Crowns, Removable and fixed dentures, Implants, Orthodontic Treatment, Cleft lip and palate management, dental care in children, etc. The centre also has latest state of the art facilities for patientcare like Micro surgery, Soft Tissue lasers, computerized cephalometry and radiovisiography, etc. It also has functional fixed and removable prosthodontic labs and orthodontic lab. The centre supports a community out- reach activity of the Institute by providing dental care at AIIMS Rotary Mid Town Hospital, Trilokpuri.

#### OPD/SURGERY/SPECIALITY CLINIC DATA

S.No.	CLINIC	NEW	OLD	TOTAL
1.	Trigeminal Neuralgia	35	278	313
2.	Combine Cleft Palate	60	312	372
3.	Oral Prophylaxis	8680	7045	15725
4.	Orthodontics	1542	13250	14792
5.	Prosthodontics	4525	9416	13941

6.	Restorative-cum-Endodontic	4978	19742	24720
7.	Oral and Maxillofacial Surgery	10738	13686	24424
8.	Paedodontics and Preventive	3172	9848	13020
9.	OPD Patients	33073	4704	37777

Total operations 11084 Major 488Minor 10596

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Naseem Shah** was President, Indian Endodontic Society (2012–13), President–Elect, Indian Society for Dental Research (2013–15), Co-coordinator for WHO Programme on ‘Patient Safety’, Nominated Chairperson of Data Safety Monitoring Board at PGIMER, Dr Ram Manohar Lohia Hospital, New Delhi; Member, National Workshop on Curriculum Reforms in MDS Course Regulations, 2007 of Dental Council of India at Government Dental College and Hospital, Mumbai, October 2012; Member, Medical Device Advisory Committee (MDAC) to advice Drugs Controller General (India) in matter for review of application of new medical devices and clinical trials; Nominated Member of Technical Resource Group (TRG) I on Lifestyle Disease, Ministry of Health and Family Welfare (NCD division) Government of India; Project evaluator for NRDC, ICMR, DBT, etc; On Editorial board of JCD, JFO, Case Reports in Dentistry, Gerodontology, etc; Member, selection committee for faculty positions at Pt. B.D. Sharma University of Health Sciences, Rohtak; Invited as the Guest of Honor at a workshop on ‘Laser and ultrasonic in endodontic with magnification’, at ITS Dental College, Hospital and Research Centre, Greater NOIDA, 24 January 2013; Expert for University affiliation of MDS course at Sardar Patel Post Graduate Institute of Dental and Medical Sciences, 29 January 2013.

**Professor O.P. Kharbanda** was invited as Visiting Professor to deliver module on Cleft Lip and Palate to Postgraduates at the University of Western Australia Perth and University of Sydney, Sydney Australia; Expert member of committee set up by the Ministry of Health and Family Welfare to review recommendations of Dental Council of India; Expert to ICMR to review the research projects in the field of Oral Health and as an advisory Committee to the postgraduate research grants; Expert member of Selection Committee at Dental Colleges of Panjab University, Chandigarh, University College of Medical Sciences, University of Delhi, and Chancellors Nominee to Jamia Millia Islamia, New Delhi; Served as a ‘Technical Subject Expert’ to Selection Committee meeting of NDMC. He also served as PG Examiner at University of Delhi and Maulana Azad Institute of Dental Sciences (New Delhi); Chaired session, ‘Sleep Disordered breathing basics’, ‘SLEEPCON 2013’, New Delhi, 29–31 March 2013; Invited by Director-General of India–Taipei Association to visit Taipei Medical University (TMU) to explore possibilities of education and research cooperation with concerned departments in TMU, Taipei, Taiwan, 19–21 April 2012.

**Professor Ritu Duggal** was appointed by the Dental Council Inspector for approval of MDS courses at various Dental Colleges; Appointed Expert by the P.G. Board of Studies Dental College, Rohtak; Appointed Implementation Coordinator for ‘Evaluation of the WHO Patient Safety Curriculum Guide’ where CDER was one of the pilot site.

**Dr Veena Jain** was appointed DCI inspector, to evaluate the Infrastructure and other facilities to start the MDS in Prosthodontics and standards of institution that are running the MDS in Prosthodontics; received ‘Fellowship of International College of Dentists’; Appointed as Honorary Member of the PG Board of Studies in Dental Sciences at Pt. B. D. Sharma University of Health Sciences, Rohtak.

**Dr Ongkila Bhutia** was Appointed as member of Staff Council, AIIMS for the year 2012–13.

**Dr Vijay Prakash Mathur** was Co-opted Member of Board of Studies of the Department of Pedodontics, Aligarh Muslim University for two years (2012–14); Elected Representative to Continuing Dental Education of Indian Dental Association–South Delhi Branch, 2012–13; Elected Executive Member of Indian Dental Association, Delhi State Branch, 2012–13.

### Visiting Scientists

Dr Morris Rapaport, Lecturer in Orthodontics, University of Sydney, Australia

Dr Jacques Verre a Volunteer Dental Surgeon, France settled in Auroville

## 10.3 Dr B.R. Ambedkar Institute Rotary Cancer Hospital

### Chief

G.K. Rath  
(Radiation Oncology)

### Professors

P.K. Julka  
(Radiation Oncology)

N.K. Shukla  
(Surgical Oncology)

Subhash Chander  
(Radiation Oncology)

Rajive Kumar  
(Laboratory Oncology)

Lalit Kumar  
(Medical Oncology)

Sidhartha Sathpathy  
(Hospital Administration)

### Additional Professors

S.V.S. Deo  
(Surgical Oncology)  
Atul Sharma  
(Medical Oncology)  
Pratik Kumar  
(Medical Physics)

Sanjay Thulkar  
(Radiodiagnosis)  
Sameer Bakhshi  
(Medical Oncology)  
D. N. Sharma  
(Radiation Oncology)  
Ritu Gupta  
(Laboratory Oncology)

Sushma Bhatnagar  
(Anaesthesiology)  
Seema Mishra  
(Anaesthesiology)  
Suman Bhaskar  
(Radiation Oncology)

### Associate Professors

Sushmita Pathy  
(Radiation Oncology)

### Assistant Professors

Haresh K.P.  
(Radiation Oncology)

Manisha Jana  
(Radiodiagnosis)

Devesenathipathy K  
(Radiodiagnosis)

Chandrashekhara S.H.  
(Radiodiagnosis)

Anita Chopra  
(Laboratory Oncology)

Subhash Gupta  
(Radiation Oncology)

Pranay Tanwar  
(Laboratory Oncology)

Sanjeev Kumar Gupta  
(Laboratory Oncology)

Amar Ranjan Singh  
(Laboratory Oncology)

Sunil Kumar  
(Surgical Oncology)

M.D. Ray  
(Surgical Oncology)

Durgatosh Pandey  
(Surgical Oncology)

Sachidanand Jee Bharti  
(Anaesthesiology)

Vinod Kumar  
(Anaesthesiology)

Rakesh Garg  
(Anaesthesiology)

Nishkarsh Gupta  
(Anaesthesiology)

### Senior Medical Physicist

V.Subramani

### Scientist-I

N. Manoharan

Sunil Kumar Verma

M.A.Laviraj  
Rajendran M.

### Medical Physicist

Kumari Seema Sharma  
Ashish Binjola

Shri Gopal

### Chief Technical Officer

Silas George

## **HIGHLIGHTS**

### **Delhi Cancer Registry**

The Delhi Cancer Registry is a Population Based Cancer Registry which collects cancer patient's data from more than 167 government and/or private hospitals/centres and 250 nursing homes and vital statistics division of MCD and NDMC and reports the incidence of various cancers among Delhi urban residents. A total of 15244 incidence of cancer cases were registered for the year 2009 with 8122 males and 7122 females. The crude incidence rates of cancer among males and females are 80.4 and 86.5 per 100,000, respectively. The common sites of cancer among males are lung, prostate, tongue, mouth, and larynx while in females it was breast, cervix, gallbladder, ovary and corpus uteri. The registry sent the data for publication in the 'International Incidence of Childhood Cancer, Vol. III', International Agency for Research on Cancer, Lyon, France. The reports on cancer incidence and mortality prepared by registry are being widely used by researchers, government organizations, etc.

### **Laboratory Oncology**

The advanced diagnostic work-up of leukaemia that this laboratory provides for IRCH as well as several main departments of AIIMS, is undergoing expansion.

### **Medical Oncology**

Medical Oncology has a thriving teaching programme with regular DM and PhD and training programme. More than 50 papers were published in various international and national medical journals, and 30 lectures were delivered in international and national meetings. Medical oncology faculty was invited in number of universities in India as examiners for DM and PhD. Department has a very active research programme as well; more than 20 research projects are being run at present funded by various international, national govt and non government agencies. Department also has a regular lab service for patients' care; these include cytogenetics and PCR facilities for CML patients, CD 34 enumeration and cryopreservation facilities for stem cell recipients. In addition, 85 patients underwent stem cell transplant (28 allogeneic and 57 autologous). All this was possible with hard work, and sincere efforts put up all the members of the department.

### **Medical Physics**

The department has been looking after radiation safety, radiation dose measurement, radiation dose optimization, quality assessment of radiological equipment, medical images, imaging procedures and radiation education. Its services encompass Dr BRA IRCH, C.N. Centre, Dental Centre, Dr R.P. Centre for Ophthalmic Sciences, Departments of Radiology, Orthopaedics, Urology, Anaesthesia, Trauma Centre and Neurosurgery. We did 3901 measurements, tests, experiments, exposures and blood bag irradiation during 2012–13. The faculty and staff were frequently invited by other departments and hospitals to provide expert advice and for academic presentations on radiation-related skills. We imparted training to professionals from other hospitals and also have a PhD course in Medical Physics.

### **Radiodiagnosis**

Three new faculty members and four radiology technologists have joined the department. Round the clock X-ray service, including portable X-rays, has started. The various interventional procedures such as image-guided biopsies, percutaneous catheter drainages, percutaneous nephrostomy, biliary stenting, RF Ablation have increased significantly in the last one year.

### **Surgical Oncology**

All faculty members of the department participated in undergraduate and postgraduate teaching and structured training of 12 Senior Residents. The department started MCh course in Surgical Oncology from July 2012. Till now 5 students have joined the MCh course and the departmental faculty is involved in teaching and training. The faculty acted as co-guide in thesis work of various departments including Radiation Oncology, Medical Oncology, Biochemistry and Biotechnology Geriatric Medicine, etc. They delivered lectures in 11 CME programmes, participated in panel discussions and presented educational videos. 12 lectures were delivered in international and national conferences by the faculty. The faculty and residents presented 6 papers in international and 5 in national conferences. The department was involved in 7 research projects and 16 collaborative research projects. One collaborative research project was completed during the year. 26 research papers were published in various national and international medical journals. The department started 3 new clinics—Thoracic oncology, Hepatobiliary pancreatic and Genitourinary. A new OPD started on Thursday mornings. The department provides major and minor operation facilities to cancer patients. Faculty

participated in community services by giving advice to ostomates, giving public lectures and presentations in media such as All India Radio and Doordarshan. The faculty members were involved as members of editorial boards, reviewer of research papers and members of national and international bodies.

## **EDUCATION**

### **Anaesthesiology**

IRCH Seminar Every Monday and Thursday at 8.15 a.m.

Unit Seminar Every Monday 8–9 a.m.

Unit Journal Club Every Saturday at 11 a.m.

Unit Radiology conference Every Saturday at 9 a.m.

### **Laboratory Oncology**

Laboratory Oncology provides morphology, myeloma and flowcytometry training to residents from pathology and laboratory medicine. In addition, residents from medical oncology and paediatrics also receive training. Short term training is given to MSc students from various colleges in India.

### **Medical Oncology**

#### **Undergraduate**

Number of lectures/seminars allotted and taken Seminars 2, Lectures 2

Hours per week/year spent in clinical teaching 6 hours per semester  
demonstrations/tutorials

#### **Postgraduate**

Hours per week spent in clinical teaching, 6 hours per weekseminars, conferences, journal club, etc.

Number of postgraduate students writing theses Chief guide: 3 (DM), Co-guide: 6 (MD)

Number of postgraduate students 12 (DM)

#### **DM programme**

Medical Oncology is running a DM programme under which there are 13 regular students.

#### **PhD training**

Two PhD students are pursuing their work in various aspects. Two have been awarded PhD in this year and one student is currently enrolled.

#### **Medical Physics**

The Department of Medical Physics imparted training and education regarding physics of medical imaging, radiation protection, radiation dosimetry physics and quality assurance tests in medical imaging to the students of MD Radiology, MBBS, BSc (Hons.) Nursing and BSc (Hons.) Radiography. The Department gave training to a trainee Ms. Deepa Atri, ESI Hospital, Basaidarapur for one month. Medical Physics Unit also has 4 PhD students undergoing PhD course presently.

#### **Radiodiagnosis**

Department held various academic activities including postgraduate teaching sessions, radio-conferences, clinical combined rounds and other interdepartmental team meetings, where junior and senior residents enthusiastically participated.

#### **Radiotherapy**

The department is involved in Undergraduate, Post graduate, BSc Nursing and PhD teaching programmes. Dr GK Rath worked as a faculty from AIIMS for the Government of India's Pan-African telemedicine project and conducted Telemedicine Lectures for African Countries. Short-term training was given to 23 doctors from different centres in the country.

#### **Surgical Oncology**

**Undergraduate teaching:** The faculty was involved in undergraduate teaching by giving didactic lectures and by participating/moderating seminars on oncological topics.

**Post graduate teaching:** The faculty was involved in teaching and training of 12 surgical oncology senior residents, 5 Mch surgical oncology students, DM medical oncology residents and MD radiotherapy junior

residents by giving didactic lectures, moderating seminars, journal clubs, etc., and clinical teaching during ward rounds and in special cancer clinics of IRCH. Dr Shukla and Dr Deo acted as Co-guide and Co-supervisors in DM medical oncology thesis; MD radiation oncology thesis and PhD students from different department of BRA IRCH and AIIMS.

**Para clinical teaching/training:** The faculty was involved in the teaching of the BSc nursing students.

Two short term trainees attended the department, Dr Shamita Chatterjee from Kolkata for period of two weeks in Breast Cancer Surgery and Dr Nitin Leekha from Thiruananthapuram attended for a period of one month, w.e.f. 1 February 2013.

One long term trainee Dr Manju Govil is attending the department for a period of one year, w.e.f. 1 February 2013.

## **CMEs/Workshops/Symposia/National and International conferences**

### **Organised by department**

#### **Anaesthesiology**

1. Organized 12th Foundation Course on Palliative Care for Medical Practitioners and Nursing Staff treating cancer patients in and around Delhi, in February 2013 at Dr B.R.A IRCH, AIIMS, New Delhi, India.
2. Organized 'IAPC certificate course in Palliative Care' in the month of June and November 2012, at Dr B.R.A IRCH, AIIMS, New Delhi, India. "2nd International Conference on Interventional Pain Management', 2–26 August 2012, AIIMS, New Delhi, India.

#### **Delhi Cancer Registry**

1. Organized a Workshop on Cancer Registration System in AIIMS, New Delhi, 12 January 2013 and coordinated a session (N. Manoharan).

#### **Laboratory Oncology**

1. Organized 4th Advanced TCS Flow Cytometry Workshop on Hematological Malignancies, 22–25 January 2013, Delhi-NCR (Ritu Gupta).

#### **Radiotherapy**

1. Organized the 'Workshop on cancer registration', at All India Institute of Medical Sciences, New Delhi, on 12 January 2013.
2. DBT sponsored Expert Group Meeting and Brain Storming on Application of Nanotechnology in Cancer Therapy, 4–5 March 2013, Ramalinga Swamy Board Room, AIIMS, New Delhi.

#### **Lectures delivered**

##### **Anaesthesiology**

**Sushma Bhatnagar: 4                      Seema Mishra: 4                      Nishkarsh Gupta: 6                      Rakesh Garg: 6**  
**Sachidanand Jee Bharati: 3**

##### **Laboratory Oncology**

**Rajive Kumar: 2                      Ritu Gupta: 3                      Sanjeev Kumar Gupta: 2**

##### **Medical Oncology**

**Lalit Kumar: 7                      Atul Sharma: 10                      Sameer Bakhshi: 13**

##### **Medical Physics**

**Pratik Kumar: 7**

##### **Radiotherapy**

**G.K. Rath: 17                      P.K. Julka: 11                      D.N. Sharma: 6                      Subhash Gupta: 1**

##### **Radiodiagnosis**

**Sanjay Thulkar: 4                      Chandrashekhara SH: 1                      Manisha Jana: 3**  
**Devasenathipathy Kandasamy: 1**

##### **Surgical Oncology**

**N.K. Shukla: 3                      S.V.S. Deo: 8                      M.D. Ray: 1                      Oral Papers/Posters presented: 33**

## **RESEARCH**

### **Funded projects**

#### **Anesthesiology**

##### ***Ongoing***

1. Evaluation of the effect of rhythmic breathing process—Sudarshan Kriya and Pranayam (SKP) on pain perception among advance stage cancer patients having pain, Sushma Bhatnagar, Neeta Kumar, Central Council for Research in Yoga and Naturopathy, Department of Ayush, 2010–12, Rs 20 lakhs.
2. Molecular determinants of response to opioids in cancer patients: Indian scenario. Sushma Bhatnagar, ICMR, 2012–15, Rs 28.14.
3. A randomized, comparative, clinical study to evaluate the efficacy and safety of oral transmucosal fentanyl citrate versus oral morphine in patients with breakthrough pain. Seema Mishra. Troikaa Pharmaceneuticals, 6 months, 2012, Rs 0.50 lakhs.
4. Develop a protocol for cancer pain management application to be used in Dr BRAIRCH, AIIMS in Phase-1. Sushma Bhatnagar, ICMR, 2013–15, Rs 28.85 lakhs.

##### ***Completed***

1. Comparison of Epidural Triamcinolone and Betamethasone for lumbosacral radicular pain: a prospective randomized study.

#### **Delhi Cancer Registry**

##### ***Ongoing***

1. A study on methodology of population based cancer registries in India – A collaborative research project of International Agency for Research on Cancer, Lyon, France (IARC) and International Association of Cancer Registries (IACR) and Tata Memorial Center, Mumbai.
2. Hospital Based Cancer Registry.

#### **Laboratory Oncology**

##### ***Ongoing***

1. Prognostic relevance of DNA methylation in chronic lymphocytic leukemia. Ritu Gupta, DBT, 3 years, Rs 50.25 lakhs.
2. Th17 cells in pathobiology of multiple myeloma. Ritu Gupta, DST, 2 years Rs 20.23 lakhs.
3. Molecular and immunological basis of biological heterogeneity in chronic Lymphocytic Leukemia. Ritu Gupta, DBT, 3 years, Rs 19.46 lakhs.
4. Towards a comprehensive molecular score in CLL. Ritu Gupta, AIIMS, Rs 10 lakhs.
5. Natural Killer and T-lymphocyte Subset Analysis in Multiple Myeloma. Ritu Gupta, ICMR.
6. Detection of minimal residual disease in T-lineage acute lymphoblastic leukemia by a low-cost PCR analysis of clonal T-cell receptor gene rearrangement. Anita Chopra, AIIMS, Rs 9.85 lakhs.

##### ***Completed***

1. HIF-1 $\alpha$  as regulator of angiogenesis in multiple myeloma- Funded by Indian Council of Medical Research. Natural Killer and T-lymphocyte Subset Analysis in Multiple Myeloma. Ritu Gupta, ICMR.

#### **Medical Oncology**

##### ***Ongoing***

1. Lenalidomide plus low dose Dexamethasone Versus Thalidomide plus low dose dexamethasone for multiple myeloma: A randomized Phase III study. Lalit Kumar, Reddys Labs, 2008–2013.
2. A randomized, double-blind, placebo controlled, phase 3 study to assess the efficacy and safety of weekly Farletuzumab (MORAb-003) in combination with Carboplatin and Taxane in subject with Platinum sensitive ovarian cancer in first relapse. Lalit Kumar, Morphotek Inc., USA, 2010–2013.
3. A multicentric open label phase III study to evaluate the safety and efficacy of Rituximab (Zenotech) in non-Hodgkin's lymphoma. Lalit Kumar, Ranbaxy Foundation, Gurgaon, 2009–2014.
4. Global study to assess the addition of Bevacizumab to carboplatin and paclitaxel as first line treatment of epithelial ovarian cancer fallopian tube carcinoma or primary peritoneal carcinoma. Lalit Kumar, ROSIA study (Roche), 2011–2014.

5. To Evaluate the effect of Metformin versus placebo as an Add-on Therapy in patients with recurrent epithelial ovarian cancer receiving chemotherapy: A double blind randomized controlled clinical trial. Lalit Kumar, ICMR, New Delhi, 2012–13.
6. Prognostic significance of T regulatory cells in advanced ovarian cancer. Lalit Kumar, ICMR, New Delhi, 2012–13.
7. Weekly paclitaxel in combination with carboplatin every 3 weeks for advanced epithelial ovarian cancer: A phase 3 randomized study. Lalit Kumar, DBT, New Delhi, 2010–2014.
8. To study the effect of non-ionizing electromagnetic field on human health. Lalit Kumar, ICMR, 2012–2017.
9. Study of bone marrow microenvironment in multiple myeloma. Lalit Kumar, AIIMS, 2013–2014.
10. A randomized phase III study of imatinib dose optimization compared to nilotinib in patients with chronic myelogenous leukemia and suboptimal response to standard dose imatinib. Lalit Kumar, Novartis India, 2011–2016.
11. Randomized, Phase III-b, Multi-centre, Open-label, Parallel study of Enoxaparin (low molecular weight heparin) given concomitantly with chemotherapy Vs chemotherapy alone in patients with inoperable gastric and gastro-oesophageal cancer. Atul Sharma, Criterium, Pune, 2008–till date.
12. A Phase III Study Of Erbb2 Positive Advanced Or Metastatic Gastric Or Esophageal Or Gastroesophageal Junction Adenocarcinoma Treated With Capecitabine Plus Oxaliplatin With Or Without Lapatinib. Atul Sharma, GlaxoSmithKline Pharmaceuticals, 2009–12.
13. A phase III, randomized, double-blind, placebo controlled study to investigate the efficacy of a probiotic VSL#3<sup>®</sup>, on Chemotherapy-induced diarrhea in cancer patients receiving Fluoropyrimidines/Irinotecan. Atul Sharma, CD Pharma India Pvt. Ltd, 2010–13.
14. Randomized Controlled Trial Comparing modified Gemcitabine + Oxaliplatin (mGEMOX) to Gemcitabine+Cisplatin in Management of Unresectable Gall Bladder Cancer. Atul Sharma, 2010– till date.
15. To study the gene expression profile of advanced Gall Bladder Cancer. Atul Sharma, AIIMS, 2011.
16. Treatment and Characterization of Acute Lymphoblastic Leukemia in Children, Adolescents and Young Adults. Sameer Bakhshi, Network of Cancer Treatment and Research and Sir Ratan Tata Trust, Ongoing (2005 onwards).
17. Pharmacokinetic and Toxicity profile of High Dose Methotrexate: relationship with Serum Creatinine and MTHFR Polymorphisms in Indian Children. Sameer Bakhshi, JIV DAYA Foundation, since October 2008.
18. A study to evaluate the Anti-emetic effect of Aprepitant versus placebo as an add-on therapy in children and adolescent receiving chemotherapy: A randomized double blinded controlled trial. Sameer Bakhshi, Reddy's Laboratories, 2011 onwards.
19. Nutritional status in pediatric Acute Leukemia patients on follow-up. Sameer Bakhshi, ICMR, 2011 onwards,.
20. Serial assessment of T regulatory cells and T helper 17 cells in pediatric Non Hodgkin's lymphoma – A prospective study. Sameer Bakhshi, AIIMS, 2012–13.

### **Completed**

1. CML Registry: An Observational Study (multinational, multicentric study). Lalit Kumar, Novartis India Ltd.International, 2008–2013.
2. Evaluation of Serum VEGF and Diffusion Weighted MRI in locally advanced Carcinoma Cervix treated with Noadjuvant Chemotherapy followed by Chemo radiation. Lalit Kumar, AIIMS, 2012–13.
3. A pilot study of efficacy of *Lactobacillus* CD2 lozenges in preventing high-dose chemotherapy induced oral mucositis in patients undergoing hematopoietic stem cell transplantation. Atul Sharma.
4. Functional significance of T regulatory cells in patients with acute myeloid leukemia. Sameer Bakhshi, AIIMS, 2011–12.
5. To study quantitative Bax and Bcl-2 gene expression in acute myeloid leukemia. Sameer Bakhshi, AIIMS, 2011–13.

### **Medical Physics**

#### **Ongoing**

1. Development of sensitive thermo-luminescent materials for radiation dose determination and their dosimetric applications in radiological medical imaging. Pratik Kumar, ICMR, 2009–12, Rs 12.10 lakhs.
2. Evaluation of coronary artery plaque. Pratik Kumar, ICMR, 2012–15, Rs 17.54 lakhs.

## **Radiodiagnosis**

### ***Ongoing***

1. Pediatric lymphoma: Whole body MRI versus 18F FDG-PET/CT for staging and post-treatment evaluation: Manisha Jana, Research Section, AIIMS.

## **Radiotherapy**

### ***Ongoing***

1. A pilot study evaluating quality of life with AYUSH QOL-2C in non metastatic breast cancer patients treated with adjuvant chemotherapy/ radiotherapy and correlating it with molecular markers. GK Rath, Central Council for Research in Ayurveda and Siddha, since 2010, Rs 51.45 lakhs.
2. BCIRG 006 – A Multicentric Phase III randomized trial comparing doxorubicin and Cyclophosphamide followed by Docetaxel (AC→t) with Doxorubicin and Cyclophosphamide followed by Docetaxel and Trastuzumab (Herceptin) (AC→TH) and with Docetaxel, Carboplatin and Trastuzumab (TCH) in the Adjuvant treatment of node positive and high risk node negative patients with operable Breast cancer containing the HER2 alteration. PK Julka, Aventis, 2004 onwards, Rs 1.62 lakhs.
3. A Phase 1/2, Modified Dose Escalation, Open Label Trial to Determine the Therapeutic Effect and Safety of INCB007839 Combined with Trastuzumab in Patients with Previously Untreated HER2 Positive Metastatic Breast Cancer. PK Julka, , Siro, since 2008, Rs 15 lakhs.
4. A randomized, double-blind, placebo-controlled, multi-centre phase 3 study of Denosumab on Prolonging Bone Metastasis-Free survival in Men with Hormone-Refractory prostate Cancer. PK Julka, Quintiles, since 2007, Rs 9 lakhs.
5. Prognostic significance of circulating tumor cells in locally advanced breast cancer patients. PK Julka, DST, since 2011, Rs 23 lakhs.
6. Adjuvant tamoxifen long against short (ATLAS) – Multi centre international trial, Oxford, UK. (Surgical Oncology, Medical oncology and Radiation Oncology). –ATLAS.
7. PET-CT Guided Interstitial Brachytherapy in the Management of Locally Advanced Cervical Carcinoma. DN Sharma. Institute Intramural Grant Scheme.
8. A pilot study to evaluate the tumoricidal effect of antiviral agents and herbal formulations in addition to radiotherapy in HPV positive carcinoma cervix cell lines. Haresh KP. AIIMS intramural research grant, since 2013, Rs 5 lakhs.

### ***Completed***

1. T cell repertoire in plasma cell myeloma. Atul Sharma, DBT, 2007-2012, Rs 13 lakhs.
2. Assessment of multi drug resistance pattern in AML and response to therapy. Atul Sharma, AIIMS, 2006–11, Rs 1.9 lakhs.
3. Expression of ZAP 70 and CD 38 in patients of CLL. Atul Sharma, 2008–11.

## **Departmental projects**

### **Medical Oncology**

#### ***Completed***

1. Analysis of clinical characteristics, prognostic factors, and treatment of adult Acute Myeloid Leukemia.

### **Medical Physics**

#### ***Ongoing***

1. Development of protocol for quality assurance of medical image laser printer.
2. Measurement of radiation dose in interventional fluoroscopy.
3. Development of new luminescence material for dosimetry purpose.
4. Calibration and use of optically stimulated luminescence dosimeter.
5. Characterization of kidney stone using dual energy CT scanner.

## **Radiodiagnosis**

### ***Ongoing***

1. Utility of intra-operative ultrasound (IOUS) for breast conservation surgery (BCS): a feasibility study.
2. Ultrasound guided thoracocentesis using pigtail catheter with or without pleurodesis in the palliation of recurrent/refractory malignant pleural effusions.

3. Role of shear wave elastography as an adjunct to B-mode ultrasonography of breast masses.
4. Role of perfusion CT in pancreatic pathology.
5. Role of Pefusion-CT in evaluation of Non-Small Cell Lung Carcinoma in Patients undergoing Chemotherapy.
6. Impact of supervised weight loss secondary to Bariatric surgery (LSG) and/or lifestyle modifications on fat distribution of Indian adult obese patients.
7. Comparison of CT and MRI with diffusion weighted imaging in evaluation of response to chemoradiotherapy in gall bladder carcinoma.
8. Imaging and Intervention in arteriovenous fistulas for hemodialysis.
9. MR neurography in upper limb peripheral neuropathies.
10. Diffusion weighted MRI in retinoblastoma.

#### ***Completed***

1. Effect of postnatal steroid therapy on appearance of external genitalia in girls with congenital adrenal hyperplasia.

#### **Radiotherapy**

##### ***Ongoing***

1. Neoadjuvant chemotherapy and concurrent chemoradiotherapy followed by targeted therapy in locally advanced ca cervix, a phase II study.
2. Phase II randomized controlled trial comparing neoadjuvant chemotherapy followed by radical radiotherapy vs. neoadjuvant chemotherapy followed by hypofractionated radiotherapy concurrent with chemotherapy in locally advanced non small cell lung cancer (except adenocarcinoma).
3. Comparative Study of Treatment Outcome with Hypofractionation versus Standard Fractionation Regimen in Early Breast Cancer after Breast Conservation Surgery.

##### ***Completed***

1. Randomized controlled trial of accelerated fractionation radiotherapy (6 fractions per week) versus concurrent chemoradiotherapy in locally advanced head and neck squamous cell carcinoma.
2. Comparison of early clinical outcome in carcinoma cervix after radiotherapy: Conventional vs intensity modulated radiotherapy (IMRT).
3. High dose rate versus Pulse dose rate brachytherapy in carcinoma cervix.
4. Phase II randomized study comparing concurrent chemoradiotherapy versus neoadjuvant chemotherapy followed by chemoradiation in locally advanced carcinoma esophagus.
5. Randomized trial comparing postoperative radiotherapy vs. postoperative chemoradiation in oral cavity carcinoma.
6. Comparative study of treatment outcome in Glioblastoma patients with 6 cycles of adjuvant chemotherapy versus 12 cycles of adjuvant chemotherapy with temozolomide and molecular basis of resistance based on EGFR, MIB-1, P53 mutations.

#### **Surgical Oncology**

##### ***Ongoing***

1. Functional assessment of Oral cancer patients after Radical surgery and Radiotherapy.
2. Oncoplastic Breast Surgery – Prospective evaluation of patient profile and outcome.
3. Assessment of Skin involvement in Breast cancer patients with T4b lesions.
4. Prophylactic antibiotics in surgical oncology patients.
5. Sentinel Lymph Node Biopsy of oral cancer patients using dye and gamma probe.
6. Study of deep vein thrombosis in patients of gynecological and lower G I cancers.
7. Study to assess the effect of prophylactic low molecular heparin in patients of pelvic maligna

#### **Collaborative projects**

##### **Anesthesiology**

1. Molecular Determinants of Response to opioids in cancer patients: Indian Scenario (Hematology).
2. Nature and frequency of spiritual problems and concerns faced by patients of the pain clinic. (Department of Theology, University of Ghent, Belgium).

## **Medical Oncology**

### ***Ongoing***

1. Prognostic relevance of DNA methylation in chronic lymphocytic leukemia (Biotechnology).
2. Assessment of multi-drug resistance pattern in acute myeloid leukemia and response to therapy.
3. Molecular and immunological basis of biological heterogeneity in CLL (Biotechnology).
4. EPC as biomarker of disease activity in multiple myeloma. (Biotechnology).
5. To study the molecular biology of multiple myeloma (Biotechnology).

### ***Completed***

1. EPC as biomarker of disease activity in multiple myeloma. Atul Sharma, DBT (Laboratory Oncology).
2. To study the molecular biology of multiple myeloma. Atul Sharma, DBT (Laboratory oncology).
3. Prevalence and trends of human papilloma virus in oropharyngeal cancer in a predominantly north Indian population. Atul Sharma (Radio-diagnosis, ENT and Radiation Oncology).
4. Intra arterial chemotherapy (neoadjuvant) in patients with advanced laryngeal and hypo-pharyngeal cancer. Atul Sharma (Radio-diagnosis, ENT and Radiation Oncology).

## **Medical Physics**

### ***Ongoing***

1. In vitro studies to explore strategies for extended utilization of donor corneal tissues (Medical Physics Unit and RPC of Ophthalmology).

### ***Completed***

1. Patient radiation dose determination in RF ablation procedure for tachycardia (Medical Physics, Cardiology and Cardiac Radiology).
2. Impact of partial volume effect corrections in the assessment of solitary pulmonary nodules. (Medical Physics and Nuclear Medicine).

## **Radiodiagnosis**

### ***Ongoing***

1. Phase II randomized controlled trial comparing neoadjuvant chemotherapy followed by radical radiotherapy versus neoadjuvant chemotherapy followed by hypofractionated radiotherapy concurrent with chemotherapy in locally advanced non small cell lung cancer (except adenocarcinoma) (Radiotherapy).
2. Expression of angiogenic phenotypes (VGEF and microvessels density) in Ewing's sarcoma family of tumors (ESFT) (Pediatric Surgery).
3. Role of magnetic resonance imaging and spectroscopic methods in evaluation of prostate cancer (NMR).
4. Assessment of therapeutic response of radiolabeled anti CD20 antibodies <sup>131</sup>Iodine Rituximab and/or <sup>90</sup>Yttrium Rituximab in diffuse large B cell non Hodgkin lymphoma (Nuclear Medicine).
5. Characterization and dosimetric evaluation of thermoluminescent phosphors (Medical Physics).
6. The application of 4D imaging for modeling the internal motion and deformation of lungs for use in radiotherapy treatment planning (Radiotherapy).
7. A randomized, double blind, placebo controlled, phase 3 study to assess the efficacy and safety of weekly Farletuzumab (MORAb-003) in combination with carboplatin and taxane in subjects with Platinum sensitive ovarian cancer in first relapse (Medical Oncology).
8. Correlation of clinical and dosimetric factors with dysphagia and feeding tube dependence in patients treated with intensity modulated radiotherapy concurrent with chemotherapy for head and neck cancer (Radiotherapy).
9. Correlation of clinical and dosimetric factors with dysphagia and feeding tube dependence in patients treated with intensity modulated radiotherapy concurrent with chemotherapy for head and neck cancer (Radiotherapy).
10. Evaluation of clinicopathologic, treatment outcome and prognostic factors in patients with soft tissue sarcoma (Medical Oncology).
11. Evaluation of clinicopathological features, prognostic factors and treatment outcome of osteosarcoma patients (Medical Oncology).
12. To correlate hepatic Duplex sonography in patients of biliary atresia with portal pressure, serum nitric oxide levels and liver histopathology (Pediatric Surgery).

13. Low dose chemotherapy (metronomic therapy) versus best supportive care in progressive and/or refractory pediatric malignancies: a double blind placebo controlled randomized study (Medical Oncology).
14. Assessment of the efficacy of laparoscopic approach for appendicectomy and orchiopexy across the pediatric age and size spectrum (Pediatric Surgery).
15. Influence of genetic polymorphisms, clinical and biochemical parameters in determining susceptibility to nonalcoholic fatty liver disease in Indian overweight adolescents (Pediatrics).
16. Neurocognitive and physical outcomes of infants with low birth weight and perinatal asphyxia at 2 years of age (Pediatrics).

## **Radiotherapy**

### ***Ongoing***

1. Percutaneous Radiofrequency Ablation in painful bone lesions (Radiodiagnosis and Radiotherapy).
2. Evaluation of Curcumin in the management of advanced cancer cervix. (Radiotherapy, Gynecology, Biochemistry and Pathology).
3. Randomized study of preoperative short course radiotherapy (25 Gy) Vs. preoperative concurrent radiotherapy (45 Gy) and chemotherapy followed by Surgery in rectal cancer (Radiation Oncology, Surgical Oncology, Medical Oncology, Pathology, Radiodiagnosis).
4. National Retinoblastoma Registry-Delhi site, Dr RP Centre, AIIMS, A collaborative study under ICMR fund, New Delhi, India.

## **Surgical Oncology**

### ***Ongoing***

1. Multicentric National Programme on Evaluation and validation of molecular markers in oral cancer: A cross sectional study. (Biochemistry and Surgical Oncology).
2. To evaluate microsatellite instabilities in different chromosomes in Indian female breast cancer patients. (Surgical Oncology and Biosciences, Jamia Millia Islamia, New Delhi).
3. Molecular analysis of Brother of the regulator of imprinted sites (BORIS) and CTCF gene in Indian Female Breast Cancer Patients. (Bio-sciences, Jamia Millia Islamia and Surgical Oncology).
4. Phenotypic and Functional characterization of T helper-17 (TH 17) cells in patients with oral squamous cell carcinoma and evaluation of their antitumor activity (Biotechnology and Surgical Oncology).
5. Role of D Dimer and other coagulation profile in correlation with lymph node metastasis in operable breast cancer. (Laboratory Medicine and Surgical Oncology).
6. Role of CT scan and MRI in the evaluation of locally advanced Oral cancer. (Surgical Oncology and Radiodiagnosis).
7. Molecular Evaluation of p 21 WAF -1 gene in Indian Female Breast Cancer Patients (Surgical Oncology and Bio Sciences, Jamia Millia Islamia).
8. Molecular basis of tobacco associated oral carcinogenesis. (Biochemistry and Surgical Oncology).
9. An open label, non randomized phase II trial of oxaliplatin, docetaxel and capecitabine in advanced esophageal and gastric adenocarcinoma Protocol 0701 (Medical Oncology, Surgical Oncology and Radiation Oncology).
10. A randomized, open label multicenter study of single agent larotaxel (XRP9881) at 90 MG/M2 every 3 weeks compared to continuous administrative of 5-FU for the treatment of patients with advanced pancreatic cancer previously treated with a gemcitabine-containing regimen (Medical Oncology and Surgical Oncology).
11. Clinical significance of TC21/R-Ras2 over expression in Oral Cancer (Biochemistry and Surgical Oncology).
12. A Pivotal trial to determine the efficacy and safety of AP23573 when administered as maintenance therapy to patients with Metastatic soft tissue or bone sarcomas. (Medical Oncology and Surgical Oncology).
13. An Asia pacific non randomized, open – label phase II study evaluating the safety and efficacy of FOLFIRI plus cetuximab (Erbix) or FOLFOX plus cetuximab in patients with KRAS wild type metastatic colorectal cancer (APEC study) (Medical Oncology and Surgical Oncology).
14. Functional and phenotypic characteristic of Natural killer T cell and dendritic cells in oral cancer. (Biotechnology, Surgical Oncology).
15. Functional characterization of differentially expressed proteins in Head and Neck cancer. (Biochemistry and Surgical Oncology).

16. Translating Head and Neck Cancer Markers into diagnostic Assays – an Indo-Canadian research project (Biochemistry, Surgical Oncology and Chemistry, York University Canada).

**Completed**

1. Molecular Analysis of cytokine genes in Indian Female Breast Cancer patients (Surgical Oncology and Biotechnology Jamia Millia Islamia)

**PUBLICATIONS**

**Journals: 125                      Abstracts: 38                      Chapters in Books: 12**

**PATIENT CARE**

**Total bed strength                      182**  
 Medical oncology                      78                      Radiation oncology                      37  
 Surgical oncology                      61                      Palliative care unit                      6

**Total OPD attendance 91100**

New Patient`s Registered                      9059                      Revisits 82041

**Details of various OPDs/Clinics**

S.No.	Name of the OPD/Clinic	New Patient Registered			Revisits		
		Male	Female	Total	Male	Female	Total
1.	Adult Medical Oncology	527	405	932	11486	13664	25150
2.	Adult Lymphoma Leukemia	17	08	25	2588	1359	3947
3.	AML/HL	57	30	87	975	344	1319
4.	ALL/CML	121	67	188	1347	667	2014
5.	Breast Cancer	27	504	531	92	4812	4904
6.	Bone and Soft (Tissue)	137	80	217	501	277	778
7.	Chemotherapy Evaluation	03	–	03	07	03	10
8.	Familial Cancer	–	01	01	–	–	–
9.	Gastrointestinal	371	280	651	775	520	1295
10.	Gynaecology– A	–	142	142	–	685	685
11.	Gynaecology– B	–	354	354	–	1652	1652
12.	Gynaecology–C	–	190	190	–	539	539
13.	Genitourinary and Gynae	12	27	39	17	33	50
14.	Head and Neck (Surgery) - A	271	67	338	1334	280	1614
15.	Head and Neck (ENT) - B	856	148	1004	3547	615	4162
16.	Hepatobiliary and pancreatic	59	44	103	86	65	151
17.	Lung cancer	95	40	135	320	95	415
18.	NHL/MM/CLL	124	69	193	957	393	1350
19.	Ophthalmic tumour	06	02	08	100	45	145
20.	Paediatric Medical Oncology	245	108	353	6359	2470	8829
21.	Paediatric Lymphoma Leukemia	122	33	155	3187	1015	4202
22.	Paediatric (Surgery)	69	44	113	1360	675	2035
23.	Pain relief	231	179	410	3209	2411	5620
24.	Pain and palliative care (RT-II)	–	01	01	–	01	01
25.	Paediatric palliative care	02	01	03	03	–	03
26.	Radiotherapy	1044	886	1930	3670	4376	8046
27.	Rehabilitation	09	08	17	08	06	14
28.	Surgical Oncology	224	235	459	399	412	811
29.	Thoracic Oncology	113	70	183	134	73	207
30.	Transplant	21	10	31	373	123	496
31.	Urology Malignancy	248	15	263	517	80	1597
	<b>Total</b>	<b>5011</b>	<b>4048</b>	<b>9059</b>	<b>44351</b>	<b>37690</b>	<b>82041</b>

**Total admissions                      30009**                      Regular                      5853                      Short/Day-Care                      24156  
**Total discharge                      29506**                      Regular                      5514                      Short/Day-Care                      23992



## Radiodiagnosis Services

C.T. Scan	5419	Special Investigation (BA,I)	270
Doppler	275	Ultrasound	5878
Intervention	970	X-rays (Routine)	13860
Mammography	1298		
<b>Grand Total</b>	<b>27970</b>		

## Medical Oncology

New Cases (CTE+LL)	1936	Old Cases (CTE+LL)	46821
<b>Total</b>	<b>48757</b>		

Total chemotherapy in Day Care	24156
OPD chemotherapy	11553
Admission (Ward)	5853

## Medical Oncology Diagnostic and Therapeutic procedures

Bone marrow biopsy	936	Bone Marrow Aspiration	1889
Pleural Tapping	90	Skin Biopsy	3
Intra Thecal therapy with CSF	1968	Catheterization/Removal	31
Other supportive services	567	Suturing/Removal	22
<b>Total OPD procedures</b>	<b>5506</b>		

## Medical Oncology Laboratory Services

Haemogram	12829	Single Donor Platelet (SDP)	1533
SDP stored	3032	No. of infusions performed	143

### Cytogenetics

Detection of Philadelphia chromosome	497		
For chimerism	4		
Cryopreservation of PBSC	36	Mononuclear cell count	133
Viability of stem cells	125	CD34 count of stem cells	84
CD3 count of stem cells	18		

### Polymerase chain reaction

RT-PCR for detection of p210 and p190 translocation in CML (qualitative)		294
RQ-PCR for detection of p210 and p190 translocation in CML (quantitative)		285
Screening of Flt-3 Mutations in AML	69	
Peripheral blood stem cells harvest	111	
Storage of peripheral blood stem cells (PBSC) at 4°C	107	
ELISA for aspergillosis detection	232	
Granulocyte harvest	8	
Plasma exchange	1	

## Radiotherapy services

Total cases on Radiotherapy	63677	Total fields on Radiotherapy	172058
Cases on Brachytherapy	609	Treatment Planning and Simulations	4111
2D and 3D distribution	975	Compensators	317
Shielding blocks, immobilization devices, moulds	2262		
Radiation Review clinic	3767	Number of cases on chemotherapy	11535
Number of injections	67340	RFA	7

## Anesthesiology Services

### Facilities available in the Department

1. ICU facilities for postoperative patients.
2. Pre-anaesthetic checkup, Pain and Palliative Care Clinic is run four times in a week in addition to the anaesthesiology and critical care work.

3. Home support to patients with advanced malignancies by NGOs and keeping monthly meeting with them to know follow up reports.
4. Providing critical care to patients of Radiotherapy, Medical oncology and Surgical oncology.
5. Facility for Pediatric radiotherapy.
6. Anaesthesia for minor paediatric oncology procedures such as Bone marrow biopsy, Central line insertion, Bone marrow harvesting and others.
7. Facility for Paediatric radiological procedures under anaesthesia, Radio frequency ablation for liver, lung, and breast carcinoma.
8. Scrambler Therapy.

### **Medical Oncology Clinical Services**

- Two Adult Medical Oncology Clinic and one LL Clinic is running in a week. (Professor Lalit Kumar)
- Two Adult Medical Oncology Clinic, one GIC, one LL clinic and two Head and neck clinic in a week (Dr Atul Sharma)
- Two Pediatric Medical Oncology Clinic, one Pediatric Surgery clinic, Bone/Soft Tissue, Ophthal tumor clinic and one Ped LL Clinic in week (Dr Sameer Bakhshi)

Two Adult Medical Oncology Clinic, two Breast Cancer Clinic and one LL and lung Cancer Clinic in a week (Dr Ajay Gogia)

### **Community Service**

**Dr G.K. Rath** wrote an article on cancer in Rajasthan Patrika October 2012 and participated in the Swastha Bharat Programme on cancer related problems in Doordarshan on 10 November 2012

**Dr P.K. Julka** participated in the following Television/Radio Programmes

1. Tobacco and Cancer, Swastha Bharat Live Show, Delhi Doordarshan, 7 February 2013.
2. Brain Tumor, Total Health Live Show, Delhi Doordarshan News, 9 December 2012.
3. Cancer Uterus, Swastha Bharat Live Show, Delhi Doordarshan, 3 December 2012.
4. Breast Cancer, Total Health Live Show, Delhi Doordarshan News, 21 December 2012.
5. Causes, Prevention and Treatment of Cancer at All India Radio, 7 November 2012.
6. Breast Cancer—Awareness, Prevention and Treatment, Delhi Doordarshan, 3 November 2012.
7. Causes, Symptoms and Treatment of Brain Tumors at FM Rainbow, 8 June 2012.
8. Tobacco and Cancer, Total Health Live Show, Delhi Doordarshan News, 27 May 2012.
9. Head and Neck Cancer, Swastha Bharat Live Show, Delhi Doordarshan, 22 May 2012.

### **Surgical Oncology services**

#### **Facilities available**

1. *Minor Operation Theatre*: Diagnostic and minor therapeutic procedures including Lymph node biopsy, punch/trucut biopsy, excision of Skin/Oral tumours, soft tissue tumours, feeding jejunostomy, colostomy, insertion of Hickman's catheter/chemo ports for long term chemotherapy are available in the Minor OT.
2. *Endoscopy Services (Diagnostic and Therapeutic)*: 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 Theatre*: Facilities available for all major cancer Surgeries including radical resection and reconstruction of tumors involving head and Neck, GI tract, Breast, Bone and Soft tissue, Gynaecological malignancies and Thoracic tumors. Advanced reconstructive surgical procedures.

In addition advanced state of art technologies like LASERS, CUSA, Harmonic Scalpel, Surgibone, Vesalius, Thoracoscopy and Intra Operative Radiotherapy are also available.

### **Community services**

1. NK Shukla gave a radio talk organized by All India Radio on 11 December 2012.
2. SVS Deo participated in a Dooradarshan Programme – 'Health show on Cancer Awareness' and in a telemedicine educational activity for Pan-African network.

Staff/Faculty	Number
Faculty	36
Resident Doctors	66
Technical Staff (Radiotherapy, Laboratory, Oncology, MRT, OT, Radiodiagnosis, etc.)	143
Nursing Staff	196
Stores Staff	6
Ministerial Staff	21
Secretarial Staff	5
Group 'D' Staff	79
Daily wages	2
P. T. S. G.	7
Outsourced Sanitation Staff	129
Outsourced Security Staff	76
Outsourced Data Entry Operators	15

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

### Anaesthesiology

**Dr Sushma Bhatnagar** was nominated as Expert by WHO for ImPACT Mission to Khartoum Sudan; received 'IASP Award for Excellence in Clinical Research or Practice and/or Policy Changes in Pain Management in the Developing World', at the 14th World Congress on Pain; received an award for outstanding abstract presentation in 1st Global Conference on Peri-operative care in November 2012 at MD Anderson Cancer Center, Houston, Texas; member of Organizing Committee of 1st International Conference on Opioids, at Boston, USA; Member of the Development of Implementing Framework for Palliative Care Across India. Appointed by Ministry of Health and Family Welfare, Govt. of India; Faculty for Training-of-Trainers in Palliative Care Programme by Asia Pacific Hospice Palliative Care Network; is an Editorial Board Member of World Journal of Anaesthesiology (2012–15) and Annals of Palliative Medicine (2012–15). Chief Editor of Indian Journal of Palliative Care; Organizing Chairperson of 2nd International Conference on Interventional Pain management with Cadaveric Workshop and FIPP Review Course at Institute Rotary Cancer Hospital, AIIMS, New Delhi.

**Dr Seema Mishra** was invited as chairperson for the session on Cancer pain at ISSPCON, 1–3 February 2013, Nagpur, Maharashtra; Invited as Examiner for DNB practical examination at AFMC (Armed Force Medical College), 17–20 October 2012, Pune, India.

**Dr Nishkarsh Gupta** was awarded certificate of excellence for paper entitled, 'Comparative evaluation of intraperitoneal bupivacaine: Pethidine combination and bupivacaine for postoperative pain relief after laparoscopic cholecystectomy'. This paper was also adjudged as one of the three best papers published in the 'The Ganga Ram Journal' during 2012.

### Laboratory Oncology

AIIMS Excellence Award, 2012 was given to Dr Rajive Kumar for the following work: Chopra A, Pati H, Mahapatra M, Mishra P, Seth T, Kumar S, Singh S, Pandey S, Kumar R. Flow cytometry in myelodysplastic syndrome: analysis of diagnostic utility using maturation pattern-based and quantitative approaches. Ann Hematol. 2012;91:1351–62.

**Ritu Gupta** chaired a session on Chronic Lymphoproliferative Disorders, National Hematology Update-IX (April 8, 2012) at AIIMS, New Delhi, India

### Medical Oncology

**Professor Lalit Kumar** chaired a session on 'Molecular Biology of stem cells and cancer', 3rd International Conference on Stem cells and Cancer, 30 October 2012; Chaired a session on 'Next Revolution in Genetics and Genomics – Applications in Health and Disease', International Conference, Dr RML Hospital, New Delhi, 27 January 2013; **Member**, Task Force on Cancer, Department of Biotechnology, Government of India; Expert Committee on Nanomedicine: ICMR; Project review committee, CSIR; Dean's Committee, AIIMS; Ethics Committee to review projects related to Oncology, Dharmshila Cancer Hospital, Delhi; Ethics

Committee on Stem cell Research, CCSM (KGMC) University, Lucknow; Scientific Advisory Committee, Cancer Institute (WIA), Adyar, Chennai; **Examiner** for DSc, The Tamil Nadu Dr MGR Medical University, Chennai (2012); PhD – NIMS, Hyderabad (2012); DM, Medical Oncology for the Tamil Nadu Dr MGR Medical University, Chennai (Madras), Nizam's Institute of Medical Sciences, Hyderabad; National Board (DNB) in Medical Oncology; **Editor**, Journal of Cancer Research and Experimental Oncology (JCREO): An International open access journal; **Member**, Editorial board (Clinical Cancer Research section), Cancer Medicine.

**Sameer Bakhshi** was Member, Screening Committee to screen concepts on Nano Biotechnology, Department of Biotechnology, Government of India, Ministry of Science and Technology, Hyderabad, 7–8 June 2012; ICMR Sarcoma Task Force, ICMR, ICMR Headquarters, New Delhi, 3 August 2012; Expert member for Childhood Leukemia meeting, organized by The International Agency for Research on Cancer (IARC), World Health Organization (WHO), Lyon, France, 20–22 February 2013; Member, DBT expert group meeting and brainstorming on application of nanotechnology in cancer therapy, organized by Department of Biotechnology, Government of India at All India Institute of Medical Sciences, New Delhi, 4–5 March 2013; Section Editor of Indian Journal of Pediatric 2011; Chaired a session on 'Symposium on Lymphoma' in 'National Hematology Update – IX', Department of Hematology, AIIMS, 7–8 April 2012.

### **Medical Physics**

**Pratik Kumar** was nominated to sign the document on behalf of MoHFW as per procedure laid down by AERB for establishment of Department of Nuclear Medicine at six AIIMS like institutions under PMSSY; Expert at Rajasthan Public Service Commission, Ajmer for selecting faculty of Medical Physics; Examiner in theory and practical by University of Delhi for MSc Medical Imaging Technology course at UCMS, New Delhi; Member, Technical Advisory Committee, Delhi State Cancer Institute (DSCI), Govt. of NCT of Delhi, Delhi; External expert at Deptt. of Physics and Astrophysics, Delhi University for upgradation of JRF to SRF; Member, Ionising Radiation Imaging and Radiotherapy Equipments Sectional Committee MHD-18, Bureau of Indian Standards (BIS); Referee for proposals submitted to Biotechnology Industry Research Assistance Council (BIRAC), an enterprise of Govt. of India and Department of Biotechnology; Guest faculty for PG Diploma course in Radiological Physics, Guru Gobind Singh Indraprastha (GGSIP) University, Delhi; Member, Specification Committee of RT equipment at Lady Hardinge Medical College, New Delhi; Technical expert for selection of Associate Professor of Medical Physics at DSCI, Delhi; Chaired a session at 1st International Conference on Occupational and Environmental Health, organized by OHS-MCS and Department of Community Medicine, MAMC, New Delhi; External examiner for practical and viva-voce, GGSIP University for PG DipRP examination; External expert for Indian Railway Cancer Institute, Varanasi for RT tender selection committee; Member, IAEA Tecdoc Report No. 1641 on Patient Dose Optimization in Fluoroscopically Guided Interventional Procedures; Editor, Medical Physics Chronicle; Member of the Editorial Board of Journal of Medical Physics; Member of Electro-medical Equipment Sectional Committee, BIS, New Delhi; Referee for Journal of Medical Physics; Question setter for IGNOU, Delhi for B.Sc. in Medical Imaging Technology course; Member, board of trustee, Association of Medical Physicists of India (AMPI).

### **Radiotherapy**

**Professor G.K. Rath** was nominated by Ministry of Health and Family Welfare as Chief representative of Govt of India to IARC Governing council, Lyon, France; Nominated by the Department of Atomic Energy (DAE) as the Member, Atomic Energy Regulatory Board (AERB), Govt of India; Odisha platinum Jubilee Award 2012. Paul Harris Fellow of the Rotary Foundation of Rotary International. Faculty for the ICON-ESMO meeting at Vienna, Austria; Member Scientific Advisory Committee ICON; Member, Technical Resource Group (Advisory group) on NPCDCS, Ministry of Health and Family Welfare, Govt of India; Chairman of the selection committee for the post of Scientist D (Medical) at NCDIR, ICMR, Bangalore; Chairman of Technical Committee to purchase a linear accelerator at RCC, Thiruvananthapuram; Chairman for the steering committee cum Research area panel on cancer at NCDIR, ICMR; Chairman, Scientific Advisory Committee (SAC) of National Centre for Disease Informatics and Research (NCDIR), Bangalore; Chairman, the Project Review and Steering Group (PRSG) of the Department of Information Technology (DIT), Govt. of India for the project 'Design and Development of Multileaf collimator for use in Linear Accelerators; Chairman, the PRSG of the DIT for the project entitled 'Development of Oncology Management system for RCC, Thiruvananthapuram being implemented by the Centre for Development of Advanced Computing (C-DAC), of the Ministry of Communications and Information Technology,

Government of India; Chairman, the PRSG of the DIT on 'Design and development of Electronic Portal Imaging Device (EPID) for Radiation Therapy' being carried out by CSIO (Central Scientific and Industrial Organization), Chandigarh and TSG integration, New Delhi; Chairman, the ICMR Task force Project on 'Breast Cancer and Malignant Brain Tumors'. Chairman, the Steering Committee of NCRP (National Cancer Registry Programme), ICMR; Chairman, the ICMR task force on 'Cancer Management Guidelines'; Chairman, the Ethics Committee, Institute of Cytology and Preventive Oncology (ICPO), ICMR; Chairman, the Expert Committee constituted by the Ministry of Health and Family Welfare, Government of India for the establishment of a National Cancer Institute (NCI) under AIIMS at Jhajjar, Haryana.

**member of the following expert committees/bodies:** Delegated by the Govt. of India for the inspection of Mizoram State Cancer Institute to help them plan their endeavor to improve infrastructure; Expert for the selection committee to the selection of Professor and Associate Professor in Radiation oncology at the Dr Ram Manohar Lohia Institute of Medical Sciences, (RML) Lucknow; The External Technical Expert for the purchase of Brachytherapy Machine for Cancer Care Center, Sidhpur, Gujarat; Visited the Acharya Tulsi Regional Cancer Treatment and Research Institute, Bikaner, to discuss about the project on 'Development of an Atlas of Cancer in Punjab State and also Hospital Based Cancer Registry'; Examiner for PhD Viva, at Manipal University; Member of the National Advisory Committee, Annual Conference of the Indian Association of Cancer Research, IACR 2013; Member of the committee to develop the protocol for the 'multi-institutional pilot study to evaluate capability of infrared thermography of breast to demonstrate breast cancers with clinical, mammographic and pathological correlation' at Navi Mumbai; Member of the ICMR Task force meeting of esophageal cancer at Bengaluru; Member of the National cancer Grid meeting at Tata Memorial Center, Mumbai; Member of the Technical assessment committee for the procurement of equipments of Dr B Borooah Cancer Institute, Guwahati; Special Invitee for the task force meeting on cancer biology of DBT at New Delhi; Member, Scientific Committee of Regional Cancer Centre, Thiruvananthapuram; Member Carcinogenesis Foundation of India; Chairman, Task force project on 'Screening of cancer in three districts of Himachal Pradesh', ICMR, New Delhi; Chairman, PRSG meeting to review the progress of the project 'Medical Image Analyser for Cervical Cancer' submitted by CDAC, Thiruvananthapuram, RCC, Thiruvananthapuram and IIT, Kharagpur; Member, PRSG meeting for transfer of technology for 6 MV Medical linac and review of following linac related projects: establishment of facility for batch fabrication of linac tube and linear accelerator machine; design and development of dual photon energy and multiple electron energy; development and deployment of 6 MV medical linac for cancer treatment (phase II) being implemented at SAMEER, Mumbai; Member of the meeting to identify a user hospital for the 4th machine in the JV Phase II project of SAMEER, Mumbai. Member of Scientific Advisory Committee of the Regional Medical Research Center (RMRC), Dibrugarh; Member of the Technical Advisory Committee (TAC) for finalization of Technical specifications for equipments for DSCI Govt of NCT, Delhi; Member of the Project Review Committee of North East (PRC-NE) of ICMR; External examiner for MD (Radiotherapy) at Tata Memorial Hospital, Mumbai; External examiner for MD (Radiotherapy) at NIMS, Hyderabad; Governing Bodies of four Regional Cancer Centres (Acharya Tulsi Regional Cancer Centre, Bikaner, Kamla Nehru Memorial Cancer Centre, Allahabad, Acharya Harihara Regional Cancer Centre, Cuttack, and Regional Cancer Centre, Agartala); Governing Body of Delhi State Cancer Institute (DSCI), Govt of NCT, New Delhi; Governing Body of the Bhagwan Mahavir Cancer Center, Patna; Safety Review Committee for Application of Radiation (SARCAR), Atomic Energy Regulatory Board (AERB), Anushakti Nagar, Mumbai, Govt. of India; Academic Senate of the Manipal University, Manipal; President of the Cancer Research Foundation of India; Member, Indian Cancer Winner's Association; Member, Project Review Committee, Oncology (PRC Oncology), Indian Council of Medical Research, New Delhi; Member, Standing Committee on Radiotherapy Development Programme, Dte GHS, Ministry of Health and Family Welfare, Govt. of India; Member, SAG (Scientific Advisory Group), ICMR; Member, Indo American Cancer Association; Member, Forum for Breast Protection; Member, Anti Cancer Trust; Member, The sub group of Ministry of Information and Technology, Govt. of India to review the progress of the Jai Vigyan project, Ministry of Communication and Information Technology, Govt. of India on the development and deployment of 6 MV Medical Linear Accelerator; Member, Cancer foundation, Delhi; Project Review Committee on Working Group of Medical Electronics, Ministry of Information Technology, Govt. of India; Scientific Advisory Committee of three Institutes (a) Gujarat Cancer and Research Institute, Ahmedabad, (b) Institute of Pathology, ICMR and (c) Institute of Cytology and Preventive Oncology, ICMR.

**had the following editorial responsibilities:** Advisory Editor of Journal Academy of Hospital Administration; Member of Editorial Board of Indian Journal of Chest Diseases and Allied Sciences; Indian Journal of Cancer; International Journal of Biosciences and Technology; Journal of Contemporary Brachytherapy; South Asian Journal of Cancer; Consulting Editor, Journal of Cancer Research and

Therapeutics; Reviewer for Clinical Oncology; International Journal of Otolaryngology; International Journal of Biosciences and Technology; Eastern Journal of Medicine; Journal of Cancer Research and Therapeutics; Projects submitted to ICMR on Oncology;

**chaired** session at the International conference on multidisciplinary management of common cancers, Oncology 2012, GV Raja Convention Center, Thiruvananthapuram 4–6 May 2012; ‘Approach to a patient with metastatic adenocarcinoma of liver’, International Symposium on ‘Management Paradigms for Hepatocellular carcinoma: Current and future’, Institute of Liver and Biliary Sciences, New Delhi, 7–8 April 2012; Molecular radiation biology of fractionated dose, International Conference on Radiation Biology (ICRB 2012), and 11th Biennial Meeting of Indian Society for Radiation Biology: Cosmic Radiation to Cancer Therapy, ACTREC, 22–24 November 2012; ‘Translational radiation biology’, International Conference on Radiation Biology (ICRB-2012), and 11th Biennial Meeting of the Indian Society of Radiation Biology: Cosmic Radiation to Cancer Therapy, ACTREC, Tata Memorial Centre, Navi Mumbai, 22–24 November 2012; plenary lectures at Carcinogenesis 2012, International Conference, New Delhi, 19–21 November 2012; panel discussion on ‘NCCN guidelines of Head and neck cancers’, 5th Biennial Conference Cancer Care Education and Research Conference International ‘CANCER CI-2013’, Hyderabad, 9 February 2013; two sessions, XXVIII Annual Review Meeting (ARM) of National Cancer Registry Programme (NCRP), 6–7 December 2012, Thiruvananthapuram.

**Professor P.K. Julka** received ‘Padma Shri’ award, 2013; Head of Delhi Cancer Registry, under National Cancer Registry Programme; Administrative Incharge of Records, Dr BRA-IRCH, New Delhi; Central Public Information Officer (CPIO), Dr BRA-IRCH, New Delhi; Chairman of Store Purchase Committee, Dr BRA-IRCH, New Delhi.

**Member of ICMR High Powered Committee Meeting**, New Delhi; Member, ICMR High Powered Committee Meeting on Cancer Projects for XII Plan, New Delhi; Member, ICMR High Powered Committee Meeting to Evaluate Research Projects, New Delhi; Member of PhD Doctoral Committee on New Growth Factors in Breast Cancer, New Delhi; Member, Delhi Cancer Registry Meeting, AIIMS, New Delhi; Member of GGSIP University Meeting on Granting Equated Teaching Designations to Ram Manohar Lohia Hospital Staff Doctors, New Delhi; Member of GGSIP University Meeting on Equated Teaching Designations to Safdarjung and Ram Manohar Lohia Hospital, New Delhi; Member of Selection Committee Meeting on Equated Teaching Designations to Affiliated Safdarjung and Ram Manohar Lohia Hospitals, GGSIP University, New Delhi; Member, Advisory Body Meeting of Chitranjan Cancer Institute, Kolkata at MOHFW, New Delhi; Member, ICMR ‘High Grade NHL’ Guideline Committee Meeting, AIIMS, New Delhi; Chairperson for the GGSIP University Medical Admission Meeting.; Task Force Meeting for Developing the ICMR Guidelines on Colorectal Cancer, Tata Memorial Hospital, Mumbai; Editorial Board of Journal of Cancer Research and Therapeutics.

**Expert for** Selection of Prof. and Asst. Prof., Radiotherapy at NEIGREMS, Shillong; CSIR Interview for Sr. Research Associate, New Delhi; Selection of Sr. Residents- RT, AIIMS, New Delhi; Nominated Member of Selection Committee Meeting at Delhi Cancer Institute, GTB Hospital, New Delhi; Member of Specification Committee Meeting for procuring the Linear Accelerator, CT Simulator and Brachytherapy at ILBS, New Delhi; Member of Expert Committee for Finalizing the Specifications of Linear Accelerator, CT Simulator and Brachytherapy at ILBS, New Delhi; Expert for Selection of Candidates for PG Diploma in Radiological Physics at GGSIP University, New Delhi.

**Examiner for** Chairman, MD Radiotherapy Examination at AIIMS, New Delhi; Examiner for MD Radiotherapy, SMS Medical College, Jaipur; Examiner for MD Radiotherapy, MD University, Rohtak; Examiner for MD Radiotherapy, Safdarjung Hospital, GGSIP University, New Delhi.

**Inspected** Bara Hindu Rao Hospital, New Delhi for MLT-Radiotherapy Course; Rajiv Gandhi Cancer Institute, New Delhi for MLT-Radiotherapy Course.

**Felicitated** as a Padma Awardee by Maulana Azad Medical College Old Students (MAMCOS), New Delhi, 31 March 2013.

**Chairperson**, Lung Cancer Symposium on Targeted Therapies, New Delhi, 30 March 2013; Plenary Session at Asia Pacific Neurooncology (ASNO) Meeting, Mumbai, 23 March 2013; Indo-US Meeting on Thoracic and GI Cancers, ILBS, New Delhi, 6 March 2013; SPC Meeting at Dr BRA-IRCH, AIIMS, New Delhi, 19 February 2013; Scientific Symposium on Rectal Research at RGCON, New Delhi, 17 February 2013; Scientific Symposium on Clinical Cancer Research at IACR Cancer Conference, Patel Chest Institute, New Delhi, 13 February 2013; Scientific Symposium on RCC, New Delhi, 8 February 2013; Chairperson for a Scientific Symposium on NSCLC, New Delhi, 19 May 2012; Seminar on Gene Expression Profile in Head and Neck Cancer, New Delhi, 2 February 2013; Debate on IGRT, ASTRO Course, New Delhi, 14 October

2012; ICON Meeting at ESMO, Vienna, 29 September 2012; Scientific Symposium on Adjuvant Therapy in Breast Cancer, New Delhi, 14 July 2012; Participated in a Meeting on Cancer Research, AIIMS, New Delhi, 21 February 2013; Participated in Convocation at GGSIP University as Member of Academic Council, New Delhi, 3 December 2012; Participated in ESMO Meeting, Vienna, 29 September–2 October 2012; Chief Guest at World Cancer Day Programme, New Delhi, 4 February 2013; Chief Guest for Cancer Awareness Programme at Mirpur Institute of Medical Sciences, Rewari, 20 May 2012.

**Dr DN Sharma** was elected as Joint Secretary of the Indian Brachytherapy Society.

### **Surgical Oncology**

**Professor N.K. Shukla** was reviewer for Journal of Indian Association of Medical and Pediatric Oncology, Indian J of Surgery, Indian J of Cancer, Otorhinolaryngology; attended National Cancer Congress, Dharmasheela Hospital, New Delhi, 19–20 January 2013, and chaired a session on Breast Cancer.

**Dr S.V.S. Deo** was invited as an International Collaborating faculty for breast cancer trials by Oxford University, UK; invited by MD Anderson Cancer Center, Houston, USA, to deliver a grand round lecture. invited as an Expert Selection committee member for NEIGRIMS Shilling Faculty selection and MCh examiner, BHU, Varanasi; was appointed as Chair – Breast Cancer Trial during the National Cancer Grid Meeting, held at Tata Memorial Hospital, Mumbai; elected as a Council member and teaching faculty of ‘Breast Surgery International’ of International Society of Surgery, Switzerland.

**Dr Durgatosh Pandey** was invited to become a founder member of the Lung Cancer Consortium Asia; member of ICMR task force on ‘Review of guidelines for management of cancer’, in Lung Cancer subcommittee;

**Dr Dilip Mudulay** was awarded a travel grant by the organizing committee of European Breast cancer Congress to attend the 8th EBCC Meeting, Vienna; was awarded developing Nations Travel Award for the ESMO: 14th World Congress on Gastrointestinal Cancer, 27–30 June 2012, Barcelona, Spain.

## 10.4 Dr Rajendra Prasad Centre for Ophthalmic Sciences

### Chief

Rajvardhan Azad

### Professors

S. Ghose (Retired on 30.11.2012)

S.P. Garg (Retired on 31.10.2012)

Atul Kumar  
Gita Satpathy  
S.K. Khokhar

Dilip R. Shende  
(Ocular Anaesthesia)

Rasik B. Vajpayee  
Anita Panda (Retired on  
31.08.2012)

Pradeep Sharma  
J.S. Titiyal  
Shakti Kumar Gupta  
(Medical Superintendent)

Mandeep Singh Bajaj

Niranjan Nayak (Ocular Microbiology)

Vimla Menon  
Y.R. Sharma

Ramanjit Sihota  
Radhika Tandon  
Mahesh Chandra

Raj Pal

### Additional Professors

Seema Sen  
(Ocular Pathology)  
Namrata Sharma  
Neelam Pushker  
(Ocular Pharmacology)

Sanjay Sharma  
(Radiodiagnosis)  
Tanuj Dada  
T. Velpandian  
(Community Ophthalmology)  
Jasbir Kaur (Ocular Biochemistry)

Seema Kashyap  
(Ocular Pathology)  
Pradeep Venkatesh  
Praveen Vashist

### Associate Professors

Rohit Saxena  
Tushar Agarwal  
Bhavna Chawla

Vinay Gupta  
M.Vanathi

Renu Sinha (Ocular Anesthesia)  
Rajesh Sinha  
Parijat Chandra

### Assistant Professors

Senjam Suraj Singh

Sumit Malhotra  
Nabanita Halder

Alok Kumar Ravi

## HIGHLIGHTS

Dr Rajendra Prasad Centre for Ophthalmic Sciences continues to be the first major re-accredited WHO Collaborating Centre for Prevention of Blindness (PBL) in the South East Asian region since 1973. Professor Rajvardhan Azad was elected as President of Asia Pacific Academy of Ophthalmology. We have achieved new innovative advanced surgical procedure for 'Endoilluminator assisted sclera buckling surgery' and 'Endovitreal resection of choroidal melanoma with vortex ligation'. A new eye donation centre has been started at Deen Dayal Upadhyay Hospital with the support of National Eye Bank, Dr RP Centre, AIIMS, New Delhi. The Centre has been recognized by Ministry of Health and Family Welfare for dispensing of corneal preservative media to all government Eye Banks in India. Two community-based major projects like Vision Delhi Project and Sightsavers innovation project have been launched. *In Vitro* and *In Vivo* Multispectral Optical Imaging System (PhotonIMAGER) for research has been established at Department of Ocular Biochemistry. New Pharmaceutics and Pharmacology research laboratory facilities have been established at Department of Ocular Pharmacology. The faculty members of the Centre were invited for several guest lectures and as panelists and chairs at various national and international events. The Centre was active in clinical care, teaching of residents, trainees and fellows. During this period there was a lot of research activity and many research papers were presented in national as well as international scientific conferences by the PhD scholars, Residents and Faculty members.

## EDUCATION

Undergraduates MBBS 42	Post graduates MD 30 (passed)	Paraclinical BSc (H) Ophthalmology 36 12 students passed
PhD 23	JRs. Ophthalmology 111	

### Short and long term training

11 short term trainees and 11 ophthalmologists from various parts of the country were trained in different fields of specialization.

### CME

The faculty of the Centre participated in various scientific forums, 192 lectures delivered including key note addresses, and have presented 119 papers/posters. During the year the centre organized following Conferences/Seminars/Workshops.

1. RPC Update 2012 28–29 April 2012
2. 71st Annual Conference of All India Ophthalmological Society and 28th Asia–Pacific Academy of Ophthalmology Congress at Hyderabad International Convention Centre (HICC), Hyderabad International Trade Exhibition (HITEX), Hyderabad 15–20 January 2013
3. RPC Update 2013 10 March 2013
4. Glaucoma Awareness Camp 16 March 2013
5. Training on Conducting Trachoma survey 28 March 2013
6. Trachoma Rapid Assessment and Trachoma prevalence surveys

## RESEARCH

### Funded projects

#### Ongoing

1. Sightsavers Phase II RPC National Project for ROP capacity building at 8 centres in India.
2. An exploratory, randomized study assessing the efficacy and safety of OZURDEX implant alone Vs. OZURDEX implant plus laser in patients with visual impairment due to macular edema secondary to branch vein occlusion (BRVO).
3. ICMR Task Force Project entitled ‘National Retinoblastoma Registry’.
4. ICMR Task Force Project on The Epidemiology of Anophthalmia and/or Microphthalmia in Children aged 0–5 years in selected districts of Bihar.
5. A 12 month, Phase III, Randomized, Double masked multicentre, active controlled study to evaluate the efficacy and safety of two different dosing regimens of 0.5 mg ranibizumab vs. verteporfin PDT in patients with visual impairment due to choroidal neovascularisation secondary to pathological myopia.
6. Stem Cell-ICMR project: ‘Use of Autologous bone marrow derived stem cell for rehabilitation of patients with dry age related macular degeneration and retinitis pigmentosa’.
7. Genotype determination of *Acanthamoeba* spp. from amoebic keratitis and CNS infections and evaluation of PCR assay *vis. a vis.* conventional methods for rapid diagnosis.
8. Developing quality control parameters and dispensing MK Media for corneal transplant preservation for Indian eye banks.
9. Evaluation of the possible modalities to enhance the ocular kinetics of an anti cancer agent in rabbits for its utilization in the treatment of retinoblastoma.
10. Development and preclinical studies of a novel topical formulation of natamycin (Natasol\*) for the treatment of corneal ulcers.
11. Evaluation of factors associated with success of mitomycin augmented trabeculectomy among primary adult and juvenile glaucomas in India.
12. A Multicentre, patient – masked, safety extension study to evaluate the biodegradation of the brimonidine tartrate posterior segment drug delivery system.
13. Role of micro RNA-200 family in ocular malignancies.
14. Sentinel Surveillance Unit project.
15. National Surveillance Unit project Primary Eye Care Primary Eye Care facilities in west Delhi.
16. Impact of UV radiation and environmental changes on eye health.
17. Reach in Programme.

18. Comprehensive Primary Eye Care Services in Rural areas of Delhi.
19. Vision Delhi project on refractive error Developing a cost-effective model for community based screening of diabetic retinopathy in urban slums of Delhi.
20. Evaluation of efficacy of cultivated oral mucosal epithelial cells transplantation in patients with acute ocular burns as compared to amniotic membrane transplantation.
21. Voriconazole in the treatment of fungal orbital infections.
22. Role of stratifin in OSSN and its correlation with other tumor suppressors.
23. Evaluation of safety and efficacy of multi-modal treatment modalities in advanced retinoblastoma.
24. Evaluation of clinical and histopath factors associated with success of MMC augmented trabeculectomy among primary glaucomas in India.
25. Evaluation of role of cultivated oral mucosal epithelial cells in patients with bilateral acute ocular burns as compared to amniotic membrane transplantation. Multi-institutional project AIIMS and PGIMER (Chandigarh).
26. Factors associated with severity at presentation of juvenile onset primary open angle glaucoma.
27. Phenotype-genotype correlation among patients with juvenile onset primary open angle glaucoma.
28. Exome sequencing based detection of novel and causal mutation(s) associated with juvenile onset open angle glaucoma.
29. Tear analysis in ocular graft versus host disease.
30. Circulating stem cells in preterm infants: correlation with the development of retinopathy of prematurity.
31. Vascular endothelial growth factor and insulin-like growth factor-1 levels in the preterm infants: correlation with retinopathy of prematurity.
32. Genetic polymorphisms of cytochromes P450 and glutathione-S-transferase and the risk of primary open angle glaucoma and primary angle closure glaucoma in North Indian population.
33. Immunohistochemical detection of cell division cycle (CDC25) proteins in retinoblastoma.
34. Role of HMG proteins in intraocular malignant childhood tumors.
35. Role of stratifin in ocular squamous cell neoplasia and its correlation with other tumor suppressors.
36. Immunohistochemical detection of oestrogen and progesterone receptors in sebaceous cell carcinoma of the eyelid.
37. Ocular adnexal lymphomas and Chlamydia: An immunophenotypic and molecular study.

### ***Completed***

1. Development of small interfering RNAs (siRNAs) for inhibition of Enterovirus 70 and Coxsackievirus A24 viruses causing Acute Hemorrhagic Conjunctivitis.
2. Phenotypic molecular and ultrastructural study of coagulase negative staphylococci and their biofilms in device related infections.
3. Evaluation of calcium dobesilate for various ocular pharmaceuticals conditions.
4. Development of novel water soluble isoflavone derivatives using in-silico approach and determination of its ocular pharmacological activity in experimental model of post menopausal dry eye.
5. A 3-Year, Phase-3, multicenter, masked randomized, sham controlled trial to assess the safety and efficacy of 700 µg dexamethasone posterior segment drug delivery system (DEX PS DDS) applicator system in the treatment of patients with diabetic macular edema.
6. Implication of microbial biofilms in chronic rhinosinusitis and orbital cellulites.
7. The development of a potential biopolymer to serve as an alternative substrate of human amniotic membrane for ex vivo expansion of corneal epithelial stem cells.
8. Malignant tumor of the eye and orbit-varied clinical profile, role of tumor markers in management.
9. Mutational analysis of PAX6 gene in patients with aniridia.
10. Role of polo-like kinase proteins in retinoblastoma – An immunohisto-chemical study. Correlation between clinical features, imaging characteristics and histopathological findings in advanced intraocular retinoblastoma.
11. Cytogenetic and FOXL2 gene mutation analysis in Blepharophimosis ptosis epicanthus inversus syndrome (BPES).
12. Phenotypic characterization of limbal epithelial cells culture on amniotic membrane.
13. Impact of Grief counselor versus trained nurses in increasing and sustaining eye donation in institutional setting; An Operational Research.
14. Confocal microscopy analysis of the cornea in chronic glaucoma patients on long term medical therapy.
15. Assessment of magnitude and progression of myopia in school going children in Delhi.

16. Evaluation of incidence and determinants of recurrence of amblyopia following cessation of amblyopia therapy.

### **Departmental projects**

#### ***Ongoing***

1. Comparison of RetCam assisted fluorescein angiography vs.gonioscopy for early detection of angle neovascularization in proliferative diabetic retinopathy.
2. Correlation of visual acuity with integrity of foveal photoreceptor layer using SD-OCT and multifocal ERG in patients of diabetic macular edema.
3. Comparison of anti-VEGF agents in angiogenesis in a rabbit model.
4. Comparison of video angiography with standard angiography in retinal disorders.
5. Anatomical and functional outcomes of intraoperative bevacizumab in diabetic vitreoretinal surgery.
6. Comparative evaluation of 23G and 25G microincision vitrectomy in management of diabetic tractional retinal detachment.
7. Comparison of large spot laser vs. standard spot laser for treating retinopathy of prematurity.
8. Comparative evaluation of predictors for success in macular hole surgery varying gas mixtures (18% C3F8, 25% SF6) for managing minimal gauge dye enhanced.
9. Role of posterior barrage laser in treatment of advancing retinopathy of prematurity.
10. Anatomical and visual outcomes of posterior segment trauma requiring vitreoretinal surgery.
11. Role of autologous bone marrow derived stem cells in retinitis pigmentosa and age related macular degeneration.
12. Morphology of cataract following 23G vitreoretinal surgery and surgical difficulties and complications in phacoemulsification.
13. Conventional (532nm) laser versus sequential laser (posterior subtenon triamcinolone followed by laser) in macular edema secondary to branch retinal vein occlusion.
14. Elenium and Glutathione levels in ROP.
15. Modulation of organic cationic transporters for the intraocular penetration of drugs.
16. Isolation and evaluation bioactive compounds from marine origin (with special reference to antiangiogenic property).
17. Prediction of ocular toxicity using OMR paradigms in gold fish.
18. Development of topical estrogen or androgen receptor modulator for postmenopausal dry eye using computer aided drug design.
19. Evaluation of polyherbal formulation for ocular neovasulcar conditions.
20. Correlating clinical features at baseline and after control of IOP in glaucomatous eyes.
21. Estimation of rate of progression and projected life time risk of blindness among JOAG patients.
22. Determinants of optic disc morphometry among JOAG patients.
23. Retinotopic correlation of optic nerve head and automated perimetry.
24. Optic disc morphometry among eyes with BRVO.
25. Morphometric evaluation of the disc in BRVO eyes using confocal scanning laser ophthalmoscope.
26. Correlation of visual acuity with integrity of diabetic macular edema.
27. Profile and outcome in endophthalmitis.
28. The causes and anatomical-visual outcomes of vitreo retinal surgery in paediatric retinal detachment.
29. Vitreomacular traction surgery outcome.
30. To study the effect of intravitreal injections of anti-VEGF agents and steroids on foveal ganglion cell layer and vitreoretinal interface.
31. Silicone sling surgery for congenital ptosis: tarsal tunnel technique vs. suture fixation.
32. To evaluate the changes of retinal nerve fibre layer and optic nerve head after pascal panretinal photocoagulation using optical coherence tomography.
33. Chemoreduction failure in retinoblastoma – A clinical and histopathological risk factors.
34. Study of oral rebamipide in management of dry eye.
35. Expression of cell cycle regulatory proteins in ocular surface squamous neoplasia.
36. Molecular analysis of mitochondrial genes associated with tumorigenesis in retinoblastoma.
37. Epithelial-mesenchymal transition (EMT) in sebaceous carcinoma of the eyelid – an immunohistochemical and molecular study.
38. Evaluation of multimodal treatment approach for extraocular retinoblastoma: A randomized study.
39. Expression of stem cell markers in RB and their clinicopathological correlation.
40. Gene expression profile of human uveal melanoma.
41. Role of diffusion weighted MRI in RB.

42. Conjunctival autofluorescence as a marker of ultraviolet radiation exposure in pterygium.
43. Study on awareness and health seeking practices about common eye conditions in urban slums of Delhi.
44. Community based epidemiological study on corneal opacities.
45. Epidemiological study of diabetic retinopathy in north India.
46. MRI evaluation of chronic hip pain.
47. Role of digital breast tomosynthesis as an adjunct to full field digital mammography (FFDM) in the diagnosis of breast lesions.
48. To ascertain the role of shear wave elastography as an adjunct to B-mode ultrasonography in characterisation of breast masses.
49. Evaluation of cultivated mucous membrane in reconstruction of anophthalmic contracted socket.
50. Molecular studies and expression of cell cycle regulatory proteins in ocular surface squamous neoplasia.
51. Clinico-investigative profile of patients with thyroid associated ophthalmopathy at a tertiary eye centre.
52. Skin grafting in cicatricial ectropion – suture vs. fibrin glue. Role of fine needle biopsy in orbital and periorbital lesions.
53. Clinical profile of patients with pediatric epiphora in tertiary eye care centre.
54. Role of FNAC in diagnosis of orbital and peri-orbital lesions.
55. Evaluation of multi-modal treatment approach for retinoblastoma: A randomized study.
56. Evaluation of focal consolidation and systemic chemoreduction in management of intraocular retinoblastoma.
57. Clinicoepidemiologic profile of patients presenting with orbital and/or peri-orbital trauma to a tertiary care centre.
58. Comparison between silicone and porous polyethylene orbital implants in patients undergoing enucleation.
59. Experimental study on ocular penetration of drugs used for retinoblastoma by using non-invasive iontophoretic technique.
60. Sight life Delhi eye banking pilot project.
61. Study of death to prevent time and its impact on utilization of donor corneas.
62. Study of corneal changes in mechanically ventilated trauma patients.
63. Evaluation of tear film lipidomics in selected ocular surface disorders.
64. Analysis of the expression of mucins and antiangiogenesis markers in human oral mucosal epithelial cells (OMEC) on using mycophenolate mofetil (MMF) and bevacizumab (BVCZ) in vitro.
65. Molecular characterization of Steven Johnson Syndrome Ocular Sequelae.
66. Isolation, expansion and characterization of corneal limbal epithelial cells.
67. Ocular surface evaluation in chronic glaucoma.
68. Randomized control trial to compare the efficacy of pterygium excision and conjunctival autograft with fibrin glue and with autologous blood.
69. Clear lens extraction in Chronic PACG.

### ***Completed***

1. Comparison of 20G and 25G PPV for rhegmatogenous RD.
2. Comparison of pascal photocoagulation and diode laser for treatment of diabetic retinopathy.
3. Evaluation of predictors for success in macular hole surgery.
4. Comparative outcomes of 23G vs 25 G MIVS in Diabetic TRD – a prospective randomized trial.
5. Ocular surface evaluation in allogeneic hematopoietic stem cell transplant patients.
6. Sentinel lymph node biopsy in malignant eyelid tumors.
7. Correlation between baseline intraocular pressure and histopathology of trabecular meshwork.
8. Clinical, histopathological and genetic characterization of corneal endothelial dystrophies.
9. Assessment of incidence and progression of myopia in school going children.
10. Comparative evaluation of endovenous LASER ablation, radiofrequency ablation and surgery in the treatment of symptomatic lower limb varicosities.
11. Role of percutaneous laser disc decompression in patients with low back ache.
12. Evaluation of modified levator plication vs. fascia lata sling for congenital severe ptosis.
13. Lateral eyelid rotation flap for reconstruction of full thickness eyelid defects.
14. Role of fine needle biopsy in orbital and periorbital lesions.
15. Immunohistochemical and molecular studies of Wnt/Beta catenin signaling in Sebaceous cell carcinoma of the eyelid.
16. Identification and characterization of differentially expressed genes in human retinoblastoma.

17. Regulation of apoptosis in human retinoblastoma.
18. Conjunctival DCR using Medpor coated tube.
19. Development and validation of a donor tracking protocol and establishment of a corneal graft registry.
20. PCR in acanthamoeba keratitis.
21. To evaluate the efficacy of motorized diamond burr in polishing corneo-scleral bed after pterygium excision with conjunct autograft with glue.
22. Collagen crosslinking in infectious keratitis.
23. Corneal tomography in pterygium.

## **Collaborative projects**

### ***Ongoing***

1. Quantification of plasma antitubercular drug levels in pediatric population.
2. Evaluation of rhythmic process of Surdershan Kriya Pranayam on cancer patients for pain management.
3. Development of the method for the quantification of neurotransmitters from brain microdialysate in rats.
4. Development of new LC-MS/MS method for the determination of lipids from patients suffering from diabetic retinopathy.
5. Quantification of A2E from the cadaveric eyes.
6. Bone marrow derived stem cell therapy and the trabecular meshwork: An experimental study.
7. Strategies for extending utilization of donor corneal tissues for corneal transplantation by harnessing their full clinical potential.
8. Multi-centric collaborative Study on the impact of global warming and ultra violet radiation [UVR] exposure on ocular health in India.
9. Evaluation of cortical brain activation and visual pathway in cases of acute optic neuritis by functional MRI and DTI.
10. Role of magnetic resonance imaging and spectroscopic methods in the evaluation of early prostate cancer.
11. Hepatic left lobe liver volume as an indicator of adiposity and related metabolic abnormality in patients with NAFLD MD.
12. Study of non-alcoholic fatty liver disease and coronary artery disease in Asian Indians.
13. Evaluation of risk factors for development of post thrombotic syndrome in patients of deep vein thrombosis.
14. Biomarkers assessing activity of interstitial lung disease in systemic sclerosis.
15. Role of PET CT in evaluation of lacrimal gland neoplasms.
16. Accuracy of sonographically measured splenic volume compared to splenectomy specimen.
17. Evaluation of possible modalities to enhance the ocular kinetics of anti-cancer agents and their anti-angiogenic effect for their potential application in retinoblastoma.
18. Cell sheet engineering for assembling human corneal construct.
19. A study of factors affecting tissue and organ donation in medico legal cases at tertiary care hospital.

### ***Completed***

1. Genetic polymorphisms of vascular endothelial growth factor and risk of 'Threshold' retinopathy of prematurity.
2. Epidemiology, pathogenomics and system biology of A flavus infections in India - an integrative approach.
3. Determination of plasma levels of morphine and its metabolites and correlation with its pharmacodynamics.
4. Evaluation of vitreous humor as a marker fluid in the autopsy drug level analysis.
5. Evaluating the correlation of serum levels of morphine and its metabolites on pain in cancer patients.
6. Estimation of nevirapine and ATT drugs in patients co-infected with tuberculosis and undergoing anti HIV therapy.
7. Evaluation of bioactive components from algae.
8. Culture of limbal stem cells for ocular surface reconstruction in stem cell deficiency diseases.
9. Serial ultrasonic evaluation and its clinicopathological correlation in retinoblastoma patients undergoing hemoreduction and focal treatment or enucleation.
10. Pilot study to evaluate chemotherapy in stage 3 RB as per the IRSS.
11. Clinical correlation of imaging findings in congenital neuropathic strabismus.
12. Study of duration of anticoagulation in patients with deep venous thrombosis based on compression ultrasound.

13. Evaluation of intracranial hemorrhage, clinical profile and outcome in patients with hematological diseases.
14. Evaluation of coronary atherosclerotic plaque.
15. Randomized control trial using carboplatin 750mg/m<sup>2</sup> and 560 mg/m<sup>2</sup> for ocular salvage in group C and D retinoblastoma.
16. Isolation, expansion and characterization of oral mucosal epithelial stem cells.
17. Detection of cancer stem cells in retinoblastoma by flow cytometry.

## PUBLICATIONS

**Journals: 93**

**Abstracts: 4**

**Chapters in books: 27**

**Books: 3**

## PATIENT CARE

	<b>New cases</b>	<b>Old cases</b>	<b>Total</b>
General O.P.D.	135818	79620	215438
Emergency	9728	7198	16926
<b>Total Cases</b>	<b>145546</b>	<b>86818</b>	<b>232364</b>
<b>Speciality Clinics</b>			
Cornea	5736	15814	21550
Lens	920	2388	3308
Uvea	993	4281	5274
Contact lens	1212	2355	3567
Glaucoma	2871	7360	10231
Ophthalmoplasty	3146	1956	5102
Paediatric ophthalmology	492	266	758
Trauma	197	172	369
Retina	2739	6002	8741
Neuro-ophthalmology	2241	2095	4336
Medical ophthalmology	439	1501	1940
Vitreo retinal	1265	756	2021
Ocular surface disorder	24	47	71
Retinoblastoma	236	811	1047
a) Orthoptic	5388	26126	31514
b) Squint	6802	28138	34940
Refraction	–	36308	36308
<b>Total cases</b>	<b>34701</b>	<b>136376</b>	<b>171077</b>
<b>Grand Total</b>	<b>180247</b>	<b>223194</b>	<b>403441</b>

### Indoor admissions

	<b>No. of cases</b>		
General	15397	Short	6110
Casualty	2548	Day care	9737
Private	1388	<b>Total</b>	<b>35180</b>

### Operations

Major	17482
Day Care	9259
<b>Total Major</b>	<b>26741</b>
Minor	8284
<b>Grand total</b>	<b>35025</b>
Deaths	01

### Other figures

Average bed occupancy rate	79%	Average indoor admissions per working	
Average length of stay	4.7 days	day	96
Average OPD attendance per working		Average surgeries per working day	95
day	1358		

### Investigative laboratories

FA	2688	OCT	8555
Angiography	24	ECG	2677
USGB-Scan	195	LASER	1173
ROP new	411	ROP old	875
ROP Laser	86	LVA clinic	1916
mfERG	243	Microperimetry	69
PDT	70	Refraction	3721
AR/Retinoscopy	3343	POGs	4740
NCT	4791	G.AT	3396
Tono Pen/ Perkins AT	2759	Kerotometry	434
CCT/N.CCT	3088	HVF	5001
DRPPT	93	HRT-3	4322
GDxECC/VCC	2023	Fundus Photo	1806
HD-OCT	1898	Ant.Seg.Phot	575
UBM	9	Gonioscopy/Gonio Photo	411
Ant.Seg.OCT	525	Yag. Laser	112
Visual Evoked Response	5020	Electro-reino gram	492
Electro Oculo Gram	41	Electro Nystagmography	49
GVF+HVF	1664	Color Vision	1864
Auto Refraction	670	POG	266
Contrast sensitivity	1182	Auto Refraction	49,086
Axial Length	28,040	Keratometry	31813
POG	10080	HVF	5275
GVF	1728	Ultrasonography	20629
EUA	103	AL	6308
KM	6067	AR	5617
IOL Master	1679	CP	372

### Ocular Microbiology

#### Samples processed

Bacterial culture and sensitivity	10142
Fungal culture	3240
Specimens processed for cytology	820
Specimens processed for viral antigen detection and PCR	80
Specimens processed for Chlamydia	221
Antigen detection	
Culture for acanthamoeba	73
Specimens processed for acanthamoeba PCR	52
Specimens processed for conjunctivitis	18
Specimens processed for microsporidia	3
Specimens processed for mycobacteria	11
Grand total	14660

### Ocular Pathology

Total number of Investigations	69825
<u>Blood:</u> Total leucocyte count, differential leucocyte count, peripheral blood smear, erythrocyte sedimentation rate, bleeding time/clotting time	40852
<u>Urine</u>	10296
<u>Histopathology, Cytopathology and Research</u>	18677

### Ocular Biochemistry (Clinical Chemistry)

Total number of samples (apart from research)	11050
Indoor	9612
Outdoor	1438

## Ocular Pharmacology and Pharmacy

Free drugs (vials) supplied through ocular pharmacy including media 1,61,812

## Community Ophthalmology

### 1. Eye Care Services in Slums

Primary eye care clinics	17
Slums covered for primary eye care services	36
Attendees at PEC centres in slum clusters	27959
Refraction carried out in PEC centres in slum clusters	13608
Patients referred to R.P. centre	4404
Patients operated	1145
Subsidized spectacles issued in slums	4353

### 2. Training events and health education events

Volunteers Training Programmes organized	25
Volunteers Trained	250
Eye Health Education Events	43
Participants in the Health Education events	1275

### 3. Reach-in-programme for cataract surgery in rural and remote areas

Adult screening camps organized	19
People examined	5143
Patients referred to R.P. centre	751
Patients operated at R.P. centre	722
Follow-up camps organized	33
Patients examined in follow-up camps	1065

### 4. School eye screening programme

School covered under SES programme	13
Teachers trained under school vision screening programme	10
Children screened	5080
Children prescribed spectacles	467
Children issued spectacles	256

## Rehabilitation services

Blind patient counseled for rehabilitation services with other activities 40

## National Eye Bank

Category	New patients registered	Waiting list on 31.3.2013
Children below 6 years of age	88	0
Children between 6–12 years and adults with blindness in both eyes	462	0
Adults with visual impairment in both eyes	83	0
Adult with blindness in one eye	565	311

## AWARDS, HONOURS AND SIGNIFICANT ACHIEVEMENTS

**Professor R.V. Azad** is Honorary Physician to President of India, 2013; President, Asia Pacific Academy of Ophthalmology, 2013; delivered Fourth Nawab Arastu Yar Jung Bahadur Memorial Oration in Art, Science and Commerce of Medical Education (India) at L.V. Prasad Eye Institute, Banjara Hills, Hyderabad, 2013; Chief Guest at Update on 'Role of anti VEGF in Diabetic Macular Edema' Deen Dayal Upadhyaya Hospital, Delhi, March 2013; Chief Guest, Allergan Academic Achievers Award and Erudio-2012, January 2013; President, Asia Pacific Ophthalmic Trauma Society, 2012; International Advisor, State Key Laboratory in Ophthalmology (SKLO) Zhongshan Ophthalmic Centre, Guangzhou, China, 2012; Honorary Professor at Sun Yat-Sen University, Guangzhou, China, 2012; Advisor (Ophthalmology) – Ministry of Health and Family Welfare, Government of India, 2012; Chairman – International Relation Committee, All India Ophthalmological Society, 2012; Bangalore Ophthalmic Society Oration, Bangalore, 24 June 2012; Chief

Guest, National CME 2012 by the U.P. State Ophthalmological Society at Hotel Country In and Suite, Sahibabad, Ghaziabad, September 2012; Dr Aroop Midya and Dr Meenakshi Midya Memorial ACOIN Award 2011 by the Association of Community Ophthalmologists of India at H.V. Desai Eye Hospital, Pune, November 2012; Guest of Honour, Inaugural function, Golden Jubilee Annual Conference of the Bihar Ophthalmological Society, Patna, November 2012; Chair Executive, Chairman and Invited Speaker at 3rd World ROP Congress, Shanghai, China, October 2012; President, Ophthalmic Research Association (since 2011); Director, WHO Collaborating Centre for Prevention of Blindness (since October 2011); Chairman, Technical Committee for upgradation of Rajendra Nagar Super-specialty Eye Hospital, Patna, Bihar, 16–18 May 2012; External Examiner: Conduct the MD/MS Practical Examination at Government Medical College and Hospital, Punjab University, Chandigarh, 22 May 2012; Appointed Member, Faculty of Medicine, IMS (Department of Ophthalmology), Banaras Hindu University, Varanasi, 2009–12; Expert, Interviews for faculty post in Bhopal Memorial Hospital and Research Centre, New Delhi, November 2012; Co-Chairman, Postgraduate Medical Education Committee appointed by the Board of Governors, Medical Council of India, New Delhi, since 30 August 2011; Chairman, Ophthalmic Education and Certification Committee, Asia Pacific Academy of Ophthalmology (since 2010); Member Reviewers Committee, Indian Council of Medical Research (ICMR); Reviewer: BioMed Central Ophthalmology, London; Ophthalmic Surgery Laser and Imaging; Indian Journal of Ophthalmology; Journal of American Association Pediatric Ophthalmology and Strabismus; Clinical and Experimental Ophthalmology; British Medical Journal Ophthalmology; Indian Journal of Pediatrics; Acta Ophthalmologica; Advisor, Editorial Board, Delhi Journal of Ophthalmology; Section Editor, Retina – Indian Journal of Ophthalmology; Section Editor, Surgical Retina-Asia Pacific Journal of Ophthalmology (since 2011); Editor, Open Journal Ophthalmology, 2012; Editor, International Journal of Pharma Medicine and Biological Sciences, 2012; Editor, Ocular Surgery News APAO (OSN), 2012; Chief Executive Editor, Ophthalmology World Report; Chairman, Committee to develop the idea and plan to host nation-wide competition for UG and PG students of medical schools in India (since 2011); Chairman, committee to fix the cleaning charges of J.L. Auditorium, foyer, quadrangle lawn, Biophysics Lawn, etc.; Chairman, Sub committee for considering proposal to be put up before hospital affairs committee at AIIMS, New Delhi (since 2011); Chairperson, Hospital Management Board, AIIMS, New Delhi (since 2011); Chairman, AIIMS House Allotment Committee, AIIMS, New Delhi (since 2009); Member, Deans Committee, AIIMS, New Delhi; Member, AIIMS Fund Allocation and Annual Budget committee, New Delhi; Regional Secretary, SAARC Academy of Ophthalmology (since 2006); Chairman, Expert Committee established for Rajendra Nagar Super Specialty Hospital for Eye, by the State Health Society, Bihar (since 2008); Chairman, Credential Committee and Council Member, Asia Pacific Vitreoretinal Society (since 2009).

**Professor Y.R. Sharma** was Scientific reviewer – Ophthalmology (AAO), (since 2006); American Journal of Ophthalmology (since 2007); Indian Journal of Ophthalmology (since 1990); Journal of Clinical Ophthalmology and Research – 2012; Scientific Reviewer - Free papers on surgical Retina, APAO-AIOS, 2012; Scientific Reviewer, DBT, 2012; Expert, DBT (Biotech Consortium India Limited (BCIL), Management Agency (SMA) of the scheme.)

**Professor Atul Kumar** was nominated as Expert on Advisory Panel in the Discipline of Ophthalmology (Advisory Panel, Expert Member) NAMS, 2012; Awarded DMA award for excellence in Ophthalmic service ‘Vishishth Chikitsa Rattan Award’, July 2012; Delivered ‘Retina Foundation Oration’ at the Gujarat Ophthalmic Society meeting, September 2012; Awarded Dr P.N. Sinha Gold Medal Oration at ‘Swarnjyoti’ on Golden Jubilee celebrations of Bihar Ophthalmic Society Conference, November 2012; Guest Speaker at the Asia Pacific Vitreoretinal Society Meeting, Hong Kong, December 2012.

**Professor J.S. Titiyal** was awarded Professor B.P. Kashyap oration award (extramural lecture, Jharkhand Ophthalmological Society Conference ‘JHOSCON’, December 2012, Ranchi; awarded Dr Rustom Ranji Oration for outstanding work in the field of Ophthalmology, ‘Past Present and Future of Lamellar keratoplasty’, 36th Annual Conference of Andhra Pradesh Ophthalmological Society, Guntur (AP), October 2012; Selected member of Joint Working Group (JWG) of Indo-US vision research programme with the Department of Biotechnology (DBT) and National Eye Institute, USA, conferred by Govt. of India Ministry of Science and Technology Department of Biotechnology (DBT).

**Professor Radhika Tandon** was Member, Committee constituted for inspection for advising hospital registration to perform cornea transplantation facilities, DGHS, Nirman Bhavan, New Delhi: Saroj Hospital

and Heart Institute, Delhi; Vasan Eye Care Hospital, Pusa Road, New Delhi; Guru Teg Bahadur Hospital, Dilshad Garden, New Delhi; awarded Complimentary certificate of Recognition, Who's Who in the World, July 2012; awarded Cambridge Certificate for outstanding health professional and a worthy recipient; Elected as International Member, American Academy of Ophthalmology, California; Member, Strabismological Society of India, February 2013; Member, Education Subcommittee for preparation of Result Framework Documents (RFDs), AIIMS; Member, Foundation day committee, Dr R.P. Centre, AIIMS, 10 March 2013; Member, Committee-Meeting, Website for National Organ and Tissue Transplantation Organization and Formats for National Registry for various organs and tissues Committee Room, Nirman Bhavan, DGHS, New Delhi, 4 March 2013; Judge for the session to judge papers (Free paper – Cornea) (Dr T.P. Agarwal Trophy) 64th Annual Conference DOS, 12–14 April 2013, New Delhi.

**Dr Sanjay Sharma** was Vice President, Delhi Chapter of IRIA, 2012; Treasurer, Indian Society of Vascular and Interventional Radiology (ISVIR), November 2011–February 2013; Organising Secretary, AIIMS-MAMC-PGI CME course on 29–30 March 2013, on Recent Advances and Applied Physics in Imaging; Treasurer, Breast Biopsy Education Programme organised by All India Institute of Medical Sciences in New Delhi, 9–10 October 2012; External Expert: Member, Expert Committee for formulating Standard Treatment Guidelines by DGHS, Ministry of Health, February 2013; Member, Expert Committee for conducting workshop for DNB (Radiodiagnosis) Exam (MCQ review and validation), 28 June 2012, NBE Office at Dwarka, New Delhi; External expert, DGHS for procuring the 3.0 T MRI m/c and 800mA X Ray m/c at RML Hosp. December 2012–March 2013; Member, Indian Delegation representing Indian Society of Vascular and Interventional Radiology (ISVIR) for 10th Scientific meeting of the Chinese Society of Interventional Radiology (CSIR 2012) and Global Embolisation Symposium and Techniques (GEST 2012 plus), Nanjing, China, 31 October–3 November 2012.

**Dr Tanuj Dada** was appointed Secretary General, International Society Glaucoma Surgery; Associate Advisory Board, World Glaucoma Association.

**Dr Rohit Saxena** was awarded Intraocular Implant and Refractive Society of India (IIRSI) Gold Medal 2012 for outstanding contribution in the field of Ophthalmology; awarded Certificate of Academic Excellence by the Delhi Ophthalmology Society, 2011–12; awarded Certificate of 'Esteemed Resource Teacher' by the Delhi Ophthalmology Society, 2011–12.

**Dr Bhavna Chawla** was Invited Faculty at World Ophthalmology Congress, 2012; Awarded 'AIIMS Excellence Award' in research 2012; Awarded Narsing A. Rao Award and Gold Medal by All India Ophthalmology Society, 2012.

**Dr Parijat Chandra** was reviewer Journal of Postgraduate Medicine (since 2004); Indian Journal of Ophthalmology (since 2005); Eye (since 2009); Journal of Clinical Ophthalmology and Research (since 2012); Moderator, Current Management of Diabetic Retinopathy Session. Annual Conference of Delhi Ophthalmological Society 6–8 April 2012, Delhi; Judge, Video Session – Mid-Term conf. of Delhi Ophthalmic Society 27–28 October 2012; Organizer – RPC – Sightsavers National ROP Summit, July 2012 Delhi; Scientific Programme Coordinator; Member, International Programme Committee and Member, International Scientific Committee, World ROP Congress, Shanghai, 14–16 October 2012.

#### **VISITING SCIENTISTS**

1. Ms. Caroline Harper, CEO, Sightsavers
2. Mr. Martin, Trustee, Sightsavers International
3. Prof James Chodosh, Ophthalmology, Harvard Medical School
4. Dr Sahar, Director of Cornea and Refractive Surgery Services
5. Tim Schotman Tim Schotman, Chief Global Officer, Sight Life
6. Dr Audrey Rostov, Corneal Surgeon, Seattle, USA
7. Mr Manoj Gulati, Country Director, Sight Life, USA

## 10.5 Jai Prakash Narayan Apex Trauma Centre

### Chief

M.C. Misra

### Additional Medical Superintendent

Sanjeev K. Bhoi

### Additional Professor

Kamran Farooque (Orthopaedics)

### Associate Professors

#### Emergency Medicine

Sanjeev Bhoi

#### Forensic Medicine

Sanjeev Lalwani

Adarsh Kumar

#### Anaesthesiology

Babita Gupta

Chhavi Shawney

#### Laboratory Medicine

S. Arul Selvi

Purva Mathur

#### Neurosurgery

Deepak Agrawal Deepak K Gupta

Sumit Sinha GD Satyarthee

#### Orthopaedics

Vijay Sharma

Buddhadev Chowdhry

Vivek Trikha

#### Radiodiagnosis

Shivanand G.

Atin Kumar

#### Surgery

Biplab Mishra Sushma

Subodh Kumar

Amit Gupta

Maneesh Singhal

#### Anaesthesiology

Naveen Yadav

### Assistant Professor

#### Cardiology

Neeraj Parakh

#### Critical Care

Kapil Dev Soni

Richa Garg

#### Nephrology

Soumita Bagchi

#### Neuroanaesthesia

Keshav Goyal

Ashish Bindra

Navdeep Sokhal

Gyanendra Pal Singh

Neeraj Kumar

#### Neurosurgery

Pankaj K Singh

#### Obstetrics and Gynaecology

Garima Kachawa

#### Paediatric Surgery

Shilpa Sharma

#### Urology

Ashish Saini

### HIGHLIGHTS

Jai Prakash Narayan Apex Trauma Centre, AIIMS, continued to be leader in providing quality patient care services, research, teaching and training. All the faculty and staff members are working actively in providing quality care to the victims of trauma. A Total number of 57004 patients visited casualty in year 2012–13. Among these 5254 patients were admitted. A total of 31216 patients attended follow up OPD. A total number of 5773 patients were operated upon. With augmented strength of faculty and staff the number of patients treated at JPNATC has also increased significantly.

Beside involvement in the undergraduate and postgraduate teaching at AIIMS, the faculty members are actively involved in providing short term and long term training to the medical and paramedical staff of various hospitals and agencies of the country. These are also given training on newer methodology for management of trauma patients including ATLS Protocols, BECC, AUTLS, etc. To update the knowledge interactive seminars, CMEs, Symposium, Conferences have been organized.

A total of about 78 research papers have been published in national and international journals. Faculty members are also involved in various research projects and have also presented papers based on the research conducted by them in various national and international forums. Based on research several inputs aiming to reduction of incidences of trauma morbidity and mortality have been suggested to policy makers.

Use of information technology in patient care related services, installations of newer equipment related to patient care, addition of facility of dialysis, HDU, PAC clinic are the other highlights of functioning of JPNATC.

## EDUCATION

### Training

Faculty of JPNATC is regularly involved in providing short term/elective training/clinical observer for students from India and abroad. During the year 2012–13 number of students visited for training at JPNATC is as under:

**Short term training:** 3 students

**Elective Training:** 34 students from Korea, Austria, Afghanistan, Hungary, Singapore, Australia, Germany, USA, Malaysia, UK, Maldives and Switzerland

**Clinical Observer:** 5 students from Canada, Bangladesh, USA and UAE

## TEACHING

Faculty members of JPNATC were regularly involved in teaching and training programmes organized for undergraduate students, postgraduate students, senior residents, nurses, paramedical staff, and OT technicians.

## INNOVATIVE EDUCATIONAL ACTIVITIES

1. Special training programs were organized for CRPF personnel on ‘Abdominal and thoracic trauma’ on 27 July 2012.
2. Special training courses on ‘Operative Laparoscopy – Basic and Advanced’ (10 in number), ‘Laparoscopic Suturing Skills’ (3 in number), ‘Laparoscopic Colorectal Surgery’ (2 in number), ‘Laparoscopic Hernia Surgery’ (6 in number) were organized (Course Director – Dr MC Misra). Wound Evaluation and treatment skills (WETS), 2–3 April 2012, JPNATC, AIIMS, New Delhi.
3. Management of Acute Wounds in ED (MAWE), 19 April 2012, JPNATC, AIIMS, New Delhi. (Organizer and Course Director – Dr Biplab Mishra).
4. Management of Acute Wounds in ED (MAWE), 4 May 2012, JPNATC, AIIMS, New Delhi. (Dr Biplab Mishra – Organizer and Course Director).
5. Management of Acute Wounds in ED (MAWE), 15 May 2012, JPNATC, AIIMS, New Delhi. (Dr Biplab Mishra – Organizer and Course Director).
6. Advanced Trauma Life Support (ATLS) course, 31 May to 2 June 2012, Apex Medical Academy, Ahmedabad, Gujarat (Dr Biplab Mishra, Course Director).
7. Management of Acute Wounds in ED (MAWE), 27 July 2012, JPNATC, AIIMS, New Delhi. (Dr Biplab Mishra – Organizer and Course Director).
8. Advanced Trauma Life Support (ATLS) course, 7–9 August 2012, Indian Institute of Emergency Medical Services, Kottayam, Kerala. (Dr Biplab Mishra, Course Director).
9. Management of Acute Wounds in ED (MAWE), 31 August 2012, JPNATC, AIIMS, New Delhi. (Dr Biplab Mishra – Organizer and Course Director).
10. Management of Acute Wounds in ED (MAWE), 28 September 2012, JPNATC, AIIMS, New Delhi. (Dr Biplab Mishra – Organizer and Course Director).
11. Management of Acute Wounds in ED (MAWE), 9 October 2012, JPNATC, AIIMS, New Delhi. (Dr Biplab Mishra – Organizer and Course Director).
12. DEMEX (Delhi Emergency Management Exercise) for Delhi Govt doctors at JPNATC, AIIMS, 29 November–1 December 2012 (Course Director – Dr Sushma Sagar).
13. AIIMS KISS (Keep It Simple Sonography) course for Neurosurgeons held in Nepal (November 2012) and Delhi (December 2012) (Programme Director – Dr Deepak Aggarwal).
14. AIIMS Ultrasound Trauma Course (AUTLS) and held courses in various parts of India and abroad (Nepal and Iran) during 2012–13 (Programme Director – Dr Deepak Aggarwal).
15. AIIMS BECC course and held in various parts of India during 2012–13 in partnership with NHRM (National Rural Health Mission). (Course Director – Dr Deepak Aggarwal).
16. Public awareness lectures on Brain tumor awareness April 2012 at AIIMS (Dr Deepak Gupta).
17. Public awareness lectures on Pediatric neurosurgical disorders 1 November 2012 at AIIMS (Dr Deepak Gupta).
18. AIIMS BECC Program for Sri Lankans, 3–13 December 2012 (Programme Director – Dr Sanjeev Bhoi).

19. Advanced Ultrasound Trauma Life Support Courses (AUTLS), JPNATC, AIIMS, 9–10 December 2012. (Program Director – Dr Sanjeev Bhoi)
20. Advanced Ultrasound Trauma Life Support Courses (AUTLS), JPNATC, AIIMS, 14–15 December 2012. (Programme Director – Dr Sanjeev Bhoi)

### **CMEs/Workshops/Symposia/National and International conferences**

#### **Organized**

1. Seventh AIIMS Surgical Week – Endosurg 2013, Live Operative International CME cum conference, AIIMS, 16–18 March 2013. (Dr MC Misra – Organizing Chairman).
2. Annual Conference, Delhi State Chapter Association of Surgeons of India ‘SURGICON 2012’, 23–25 November 2012. Convenor of a case scenario based Panel Discussion on management of neck trauma, genitourinary trauma and Polytrauma, 24 November 2012. (Dr MC Misra – Organizing President).
3. 5th Annual Conference of Indian Society of Trauma and Acute Care (ISTAC), International Conference and workshop ‘TRAUMA 2012’, 22–25 November 2012. Delivered a Key note on ‘Advances in Trauma Management in 2012 and Beyond’ and participated during Case Scenario discussion as a panelist on 23 November 2012. (Dr MC Misra – Organizing Chairman).
4. Inaugural Advanced Trauma Life Support (ATLS) Course, held at LTM Medical College and Sion Hospital, Mumbai, 11–13 October 2012. (Dr MC Misra – Program and Course Director).
5. 2nd International Summit and Workshop on Cost – Effective and Meaningful Use of Technology In Emergency Healthcare (CEUTECH – 2012), 28–30 September 2012, organized by the Department of Information Technology and Emergency Department, JPNATC, AIIMS held at AIIMS. Chaired Plenary and Scientific Session on 28, 29 and 30 September 2012 and Panelist speaker on ‘Bottlenecks in having a World class ED and how to overcome them: JPNATC Experience. (Dr MC Misra – Organizing Chairman)
6. Consultative Workshop for Six AIIMS Directors for establishing the Department of Emergency Medicine and Computerization of the institutions, held at JPN Apex Trauma Centre, AIIMS, New Delhi on 22 September 2012. (Dr MC Misra – Convenor and Moderator).
7. 2nd Live operative workshop and symposium on Complex Spinal trauma, JPNATC, AIIMS, May 12–13, 2012 (Organizing Secretary – Dr Deepak Aggarwal).
8. Neuropedicon 2012 (Annual Conference of Indian Society of Pediatric Neurosurgery) and ISPN (International Society of Pediatric Neurosurgery), CME course, 1–3 November 2012, AIIMS. ( Organizer – Dr Deepak Gupta).
9. ICP Monitoring workshop: 16 April 2012, JPNATC (Organizer – Dr Deepak Gupta).
10. Monthly DNA (Delhi Neurological Association monthly meeting at AIIMS): May 2012 (Organizer – Dr Deepak Gupta).
11. BRACHIALCON–AIIMS 2013, JPNA Trauma Centre, 8–10 March 2013. (Organizing Secretary - Dr Sumit Sinha).
12. Workshop for residents of Obstetrics and Gynaecology, Forensic Medicine and Hospital administration on ‘Management of sexual Offences’, AIIMS, May 2012. (Organizing Coordinator – Dr Sanjeev Lalwani).
13. Co-organizer, 3rd International Conference on Stem Cells and Cancer (ICSCC–2012): Proliferation, Differentiation and Apoptosis. 27–30 October 2012, PGIMER Auditorium, RML Hospital, New Delhi, India. (Co-Organizer – Dr Shilpa Sharma).
14. Organizing Committee Member, Carcinogenesis 2012, International Conference of Carcinogenesis Foundation (USA): 19–22 November, 2012. PGIMER Auditorium, Dr RML Hospital, New Delhi. (Member, Organizing Committee, Dr Shilpa Sharma).
15. AIIMS Ultrasound guided regional anaesthesia workshop, 8 October 2012. (Co- Organizing Secretary-Dr Naveen Yadav)
16. 2nd International conference on interventional pain management 24-26 August 2012. (Member-Organizing Committee- Dr Naveen Yadav)

#### **Papers (oral/poster) presented at conferences/CME and workshops: 118**

#### **Lectures delivered**

**M.C. Misra: 40**

**Vijay Sharma: 9**

**Amit Gupta: 8**

**Chhavi Sawhney: 1**

**Vivek Trikha: 8**

**Subodh Kumar: 11**

**Richa Sharma: 2**

**Biplab Mishra: 4**

**Sanjeev Lalwani: 10**

**Sumit Sinha: 11**

**Sushma Sagar: 13**

**Shivanand G: 10**

## **RESEARCH**

### **Funded projects**

1. To study the reduction in intra- and postoperative analgesia requirement and the quality of recovery after intraoperative intrathecal morphine in patients with pelvic acetabular injuries undergoing stabilization, Chhavi Sawhney, 2012–13 AIIMS Funds, Rs 3.20 lakhs.
2. To study the cerebroprotective effects of Dexmedetomidine in patients undergoing epilepsy surgery – A biomarker guided study. Ashish Bindra, AIIMS, 2013, Rs 3 lakhs.
3. Thromboelastometry (TEG): Utility and Cost-effectiveness in diagnosing of infection in Neurosurgery Intensive care unit (NICU) as compared to established biomarkers. Deepak Agrawal, AIIMS, 2012–13, Rs 9 lakhs.
4. Evaluation of early prediction markers of DIC in trauma patients, Arulselvi S, AIIMS, 2012–13, Rs 4.20 lakhs.
5. Evaluation of coagulation status among North Indian blood donors using thrombo-elastography and conventional methods, Arulselvi S, AIIMS, 2011–12, Rs 20,000.
6. Study of coagulation and inflammatory changes in patients with post-traumatic fracture shaft femur undergoing intra medullary nailing, Arulselvi S, AIIMS, 2012–14, Rs 9.25 lakhs.
7. To study the safety and efficacy of intravenous estrogen as therapeutic adjunct for treatment of hemorrhagic shock patient presenting to the emergency department of a level 1 Trauma Centre. 2012. Sanjeev Bhoi, ICMR, Rs 36.36 lakhs.
8. Development of Wound Registry at Trauma Centre, AIIMS, Maneesh Singhal, AIIMS, 2012–13, 2012–13, Rs. 1 lakh.
9. To compare the effectiveness of VAC (Vacuum Assisted Closure) therapy to conventional treatment of Amputation stump. Sushma Sagar. AIIMS, 2012–13, Rs.1 lakh.
10. Evaluation of Plasma and Urine Neutrophil Gelatinase-associated Lipocalin (NGAL) as an early marker in predicting AKI in Trauma patients in Surgical Intensive Care Unit. Babita Gupta, ICMR, 2012–15, Rs. 20,23,950.
11. Proposal for the establishment of a cadaveric dissection facility at the Jai Prakash Narayan Apex Trauma Centre, All India Institute of Medical Sciences, New Delhi, India. ICMR, 2012–17, Rs 5.36 crores.
12. A randomized, placebo-controlled study to investigate the efficacy of progesterone in patients with severe traumatic brain injury. Sumit Sinha, AIIMS, 2010–12, Rs 10 lakhs.
13. Role of Simvastatin in prevention of vasospasm and improving functional outcome after aneurysmal Sub-arachnoid hemorrhage: A Prospective Randomized Double blind Placebo controlled trial. Sumit Sinha, AIIMS, 2012–13, Rs 1 lakh.
14. Molecular and epidemiological study of Streptococcus pyogenes at a tertiary care hospital of north India. Purva Mathur, ICMR, 2009–12, Rs 17.06 lakhs.
15. Development and Implementation of an Automated Electronic Surveillance System for Hospital Acquired Infections at a Tertiary Care Hospital of India. Purva Mathur, ICMR, 2011–14, Rs 15.26 lakhs.
16. Molecular Characterization of Resistant Clinical Isolates of Streptococcus Pyogenes From North India. Purva Mathur, ICMR, 2011–14, Rs 9.02 lakhs.
17. Molecular and Epidemiological study of Beta-Lactamase producing Gram Negative Nosocomial Pathogens in India. Purva Mathur, ICMR, 2012–15, Rs 35.11 lakhs.
18. Assessment of post-trauma cytokine producing potential of monocytes for early diagnosis of organ dysfunction and sepsis. Purva Mathur, DBT, 2012–15, Rs 36.96 lakhs.
19. Molecular Epidemiology of Carbapenemases at a level 1 Trauma Centre of India. Purva Mathur, DST, 2012–15, Rs 23.58 lakhs.
20. Role of Autologous bone marrow mononuclear stem cells in children with neurological deficits due to polio infection Shilpa Sharma, DBT, 2009–12, Rs 15.36 lakhs.
21. European Society of Intensive Care Medicine trial of therapeutic hypothermia (32–35°C) after traumatic brain injury (EUROTHERM 3235). Ongoing Multicentric Trial funded by the National Institute of Health Research's Health Technology Assessment Programme. Trial Sponsor: University of Edinburgh and NHS Lothian (UK). Deepak Gupta, NIH, USA, 2013–16, Rs 35 lakhs.

22. Phase II multicentre, open label dose confirmation study of interstitial I<sup>131</sup>-chTNT 1bMoAb (COTARA) for the treatment of glioblastoma multiforme (at first relapse), Peregrine Pharmaceuticals, Texas, USA. Deepak Gupta, 2007–14, Rs 30 lakhs.
23. Improving Indo-US Traumatic Brain Injury Outcome – Collaborative Head Injury and Adherence to Guidelines (CHIRAG) Study. Deepak Gupta, NIH-NINDS–DBT, 2013–15, Rs 30 lakhs.
24. Distributed cognition and modelling complexity: a Bioinformatics approach for deciding medical errors. Deepak Agrawal, DST, 2011–13, Rs 1.2 crores.
25. Assessment of Handwashing compliance using Kinect camera. Deepak Agrawal, DBT, 2013–15, Rs 22.5 lakhs.
26. Study of novel chemokine RANTES (Regulated upon Activation, Normal T cell Expressed, and Secreted) levels in plasma, cerebrospinal fluid and contused brain tissues as a marker of immune activation in Traumatic Brain Injury (TBI) patients. Arulselvi S, ICMR, 2010–2013, Rs 6.32 lakhs.
27. Association of cytokines – IL 6, IL 10, IL 18 and TNF  $\alpha$  in acute coronary syndrome. Arulselvi S, ICMR, 2010–12, Rs 17.33 lakhs.
28. Capacity Building for Advanced Trauma Life Support in India (PPCB-ATLSI). MC Misra/Amit Gupta/Subodh Kumar, National Disaster Management Authority, 2012–13, Rs 1.18 crores.
29. Cleft Lip and Palate anomaly in India: Clinical profile, Risk factors and current status of treatment – Hospital based surveys. Maneesh Singhal, ICMR, 2011–14, Rs 54 lakhs.
30. Sericin based value added finishes for Medical garments and Sportswear. Sushma Sagar, DBT, 2012–15, Rs 45 lakhs.
31. Compression clothings for elderly in collaboration with Department of Textiles, IIT Delhi. Sushm Sagar, DST, 2012–15, Rs 35 lakhs.
32. Role of human umbilical cord blood stem cells and neural stem cells in neuronal regeneration and functional restoration: A comparative study in male adult rats with acute spinal cord injuries (Rapid Young Investigator scheme 2011), DBT, 2011–14, Rs 30.20 lakhs.
33. A Randomized Placebo controlled trial (Factorial design) of Progesterone with or without hypothermia in subjects with acute severe traumatic brain injury. DBT, 2011–14, Rs 25.87 lakhs.

## **Departmental projects**

### ***Ongoing***

#### **Surgery**

1. Emergency General Surgical Admissions: Prospective Institutional experience in Non-Traumatic Surgical Acute Abdomen (NTSAA).
2. Retrospective and prospective analysis of magnitude and severity and outcome of pelvic fracture at a level 1 trauma centre.
3. Multi-detector CT scan evaluation of retroperitoneal solid organ injury with limited MRI correlation.
4. To study magnitude, severity, outcomes of peripheral vascular injuries in a Level 1 trauma centre.
5. To evaluate the role of mandibular fixation plates for rib fracture stabilization in patients sustaining blunt chest injury.
6. Prospective randomised controlled trial of early versus late tracheostomy in critically ill trauma patients.

#### **Radiodiagnosis**

1. Role of MDCT in Evaluation of Traumatic Liver Injuries.
2. Magnetic Resonance Imaging evaluation of adult traumatic brachial plexus injury.
3. Evaluation of neck masses using diffusion weighted MR imaging and ultrasound elastography.
4. Pre-operative Embolization of Bone Tumors.
5. US and MR evaluation of peripheral neuropathies of upper extremity.
6. Role of perfusion CT in pancreatic pathology.

#### **Neuroanaesthesia**

1. Effect of Lidocaine infusion on hemodynamics and recovery in patients undergoing endoscopic pituitary surgery: A multicentre, randomized control trial.
2. Cardiovascular complications after traumatic spinal cord injury.

#### **Laboratory Medicine (Pathology and Blood Bank)**

1. Identification of circulating procoagulant markers in traumatic brain injury patients and their involvement in development of Early Trauma Induced Acute Coagulopathy.

### **Microbiology (Laboratory Medicine)**

1. Assessment of post-trauma cytokine producing potential of monocytes for early diagnosis of post-trauma complications.

### **Neurosurgery**

1. Serum IL-6 as potential bio-marker for intracranial pressure elevation in isolated head injury patients.
2. Oxidative DNA damage and total Oxidant status in mild traumatic brain injury.
3. Epidemiology of head injury and spinal cord injury at integrated level 1 trauma centre in India.
4. Integrated online portal for AIIMS trauma Centre: Potential to improve patient's satisfaction and care on the ground.
5. A functional MRI study of cortical Reorganization after brachial plexus injury.
6. A Phase II randomized double blind placebo controlled dose finding safety and tolerability trial of XY-2405 as a treatment for traumatic brain injuries
7. Brain trial (Bradykinin B2 receptor antagonist in Neurotrauma): A multicentric randomized trial by London school of Hygiene and Tropical medicine.
8. DECRA trial (Decompressive craniectomy in severe head injury): A multicentric Randomised trial being conducted in USA.
9. CRASH2 trial: A Multicentric Randomised trial by London school of Hygiene and Tropical medicine.
10. Randomized Evaluation of Surgery with Craniectomy for Uncontrollable Elevation of Intra- Cranial Pressure (RescueICP study) – international, multicentre, prospective, randomized, controlled trial on the role of decompressive craniectomy in management of severe traumatic brain injury.
11. Topical Airway Anesthesia for awake fiberoptic intubation in cervical spine injury patients. Comparison between nerve blocks and nebulised 4% lidocaine.
12. Assessment of post-trauma cytokine producing potential of monocytes for early diagnosis of organ dysfunction and sepsis.
13. Development and Implementation of an automated electronic surveillance system for hospital acquired infections at a tertiary care hospital of India.
14. Molecular epidemiology and automated tracking of Ventilator Associated Pneumonia caused by carbapenem resistant *Acinetobacter baumannii* in intensive care units at a level 1 Trauma Care Centre.
15. Early versus Delayed Decompression for Traumatic high Cervical Spinal Cord Injury in Acute Spinal Cord Injury Study: A Randomized Controlled Trial.

### **Completed**

#### **Surgery**

1. Prospective randomized controlled blinded study to evaluate the effect of short term focused training programme in laparoscopy on operative room performance of surgery residents.
2. Retrospective and Prospective evaluation of magnitude, severity and outcome of complicated soft tissue injuries in a Level I- trauma centre.
3. Retrospective and prospective study to evaluate the role of laparoscopy in patients with abdominal trauma at Level I trauma centre.
4. To study the complications of splenectomy in patients undergoing early splenic artery ligation.
5. Study to evaluate the effect of training program involving animal models/tissues on operative room performance of general surgery residents.
6. Epidemiological study of patients of Road Traffic Injuries [RTI] attending Emergency department of Jai Prakash Narayan Apex Trauma Centre [JPNATC], AIIMS, New Delhi.
7. The feasibility of management of occult pneumothoraces without intercostal drainage tube.

#### **Forensic Medicine**

1. Study of medico-legal factors in promoting organ donation.

#### **Radiodiagnosis**

1. Role of perfusion CT in predicting outcome in mild head injury.
2. MDCT evaluation of solid retroperitoneal organ injuries in blunt abdominal trauma with limited MRI correlation.

3. Intra-arterial chemotherapy (neoadjuvant) in patients with advanced laryngeal and hypo-pharyngeal cancer.

### **Laboratory Medicine (Pathology and Blood Bank)**

1. Cholesterol levels on admission day as determinant of development of MOF/ VAP PI.
2. Evaluation of role of CK, CK-MB, urinary myoglobin detection in the clinical diagnosis of trauma patients.
3. Applicability of transfusion scores in determining transfusion requirement of trauma patients.
4. Auditing platelet usage among head injury patients in a tertiary trauma care centre and study on incidence and clinical factors influencing platelet refractoriness.

### **Neurosurgery**

1. Traumatic Brachial Plexus Injuries – Analysis of Surgical Outcomes.
2. Functional and cognitive recovery after severe traumatic brain injury: A cross-sectional study at a tertiary trauma care centre.
3. Role of Simvastatin in prevention of vasospasm and improving functional outcome after aneurysmal Sub-arachnoid hemorrhage: A Prospective Randomized Double blind Placebo controlled trial.

### **Collaborative projects**

#### ***Completed***

1. Retrospective and prospective analysis of magnitude, severity and outcome of chest trauma at a Level I trauma centre (Surgery, Radiodiagnosis and Anaesthesia).
2. Retrospective and prospective analysis of magnitude, severity and outcome of hepatobiliary and pancreatic trauma at a Level-I trauma centre (Surgery, Radiodiagnosis and Gastroenterology)
3. A Prospective Randomized Controlled Trial of Laparoscopic vs Endoscopic Drainage of Pseudocyst of Pancreas (Surgery, Radiology and Gastroenterology)
4. Analgesic efficacy of Transversus abdominis plane block for laparoscopic inguinal hernia repair in adult patients: a randomized controlled trial (Surgery and Anaesthesia)
5. Imaging and intervention in arteriovenous fistulas for hemodialysis (Surgery, Radiology and Nephrology).
6. To Study the outcome of AV fistula creation in CKD patients in a tertiary care. (Surgery, Nephrology and Radiology).
7. Clinical Relevance of Immune Associated Molecules in Live Related Donor Renal Transplantation'. (Surgery, Nephrology and Transplant Immunology).
8. Prospective randomized control study to compare long term outcome, chronic pain, quality of life and cost effectiveness following two techniques of mesh fixation – Non absorbable tackers versus absorbable tackers for laparoscopic mesh repair of incisional and ventral hernias (Surgery, Anaesthesia and Psychiatry).
9. A prospective randomized control trial comparing the outcome of the two modalities of treatment of gall stone disease viz. single incision laparoscopic cholecystectomy with standard 4 port laparoscopic cholecystectomy (Surgery, Anaesthesia and Radiology).
10. A prospective randomized comparison study of sexual function, testicular function and quality of life following laparoscopic totally extraperitoneal repair (TEP) and transabdominal preperitoneal (TAPP) inguinal hernia repair (Surgery, Radiology, Psychiatry and Reproductive Medicine).
11. A Prospective Study Comparing Outcomes and Quality of life after Laparoscopic Donor Nephrectomy versus Open Donor Nephrectomy (Surgery, Radiology, Psychiatry and Nephrology).
12. Comparison of quality of life after single stage vs two stage management of patients with concomitant gall stones and common bile duct stones – A prospective randomized control trial (Surgery, Radiology, Gastroenterology, Psychiatry and Community Medicine).
13. A Prospective Study to Compare the Outcomes after Primary Laparoscopic Exploration of Common Bile Duct and Laparoscopic Exploration following Failed Endoscopic Stone Extraction in Patients with Concomitant Gall Stones and Common Bile Duct Stones (Surgery, Community Medicine, Radiology and Gastroenterology).
14. To study the expression of Interleukin 10 in patients with breast cancer and its correlation with stage, histological grading and hormone receptor status (Surgery and Pathology).
15. A prospective study of quality of life and correlation of blood levels of tacrolimus to graft function and adverse effects of tacrolimus in post renal transplant patients (Surgery, Nephrology and Psychiatry).

16. To study the effect of intravenous fluids used during intraoperative period on coagulation profile using TEG (Anesthesia and Lab Medicine).
17. Costing of CSSD and Laundry services at JPNA Trauma Centre. (Surgery and Hospital Administration).
18. Comparative Prospective and retrospective study of clinical and Radiological outcomes in Arthodesis of knee versus Arthroplasty following excision of malignant and aggressive bone tumors (Radiodiagnosis and Orthopaedics).
19. Prospective Randomized controlled study of role of thromboprophylaxis with low molecular weight heparin versus aspirin plus intermittent compression device in Indian patients undergoing total hip and knee Arthroplasty. (Radiodiagnosis and Orthopedics).
20. Evaluation of injury pattern and results of medical and surgical treatment in cases with traumatic and iatrogenic facial nerve injury (Radiodiagnosis and Otorhinolaryngology).
21. Clinico-pathological study of antral mucosal changes in patients with ethmoidal polypi (Radiodiagnosis and Otorhinolaryngology).

### **Ongoing**

1. MDCT in acetabular Fractures(Radio Diagnosis and Orthopedics).
2. MDCT in ACL reconstruction(Radio Diagnosis and Orthopedics).
3. Comparison of single stage versus two stage treatment of patients with common bile duct stones and gall stones – a randomized controlled study. (Radio Diagnosis and Surgery).
4. Retrospective and prospective evaluation of magnitude, severity and outcome of traumatic hepatobiliary and pancreatic injuries in a level 1 trauma centre. (Radio Diagnosis and Surgery, JPNATC).
5. Effect of N-Acetylcysteine on Oxidative stress, endothelial dysfunction and carotid intimal media thickness in chronic peritoneal dialysis patients – An open labeled randomized trial (Radio Diagnosis and Nephrology).
6. Evaluation of progression of carotid artery intimal media thickness in chronic kidney disease patients not on dialysis and its correlation with endothelial dysfunction and biochemical parameters (Radio Diagnosis and Nephrology).
7. A cross-sectional study to know the prevalence of upper gastrointestinal disorders in spinal cord injury patients (Radio Diagnosis and Physical Medicine and Rehabilitation).
8. Randomized controlled trial of Radiofrequency ablation versus percutaneous acetic acid therapy for the treatment of small hepatocellular carcinoma. (Radio Diagnosis and Gastroenterology).
9. Randomized control trial of Trans arterial chemoembolization (TACE) versus TACE plus oral chemotherapy in the treatment of Unresectable Hepatocellular carcinoma. (Radio Diagnosis and Gastroenterology).
10. Randomized control trial of Trans arterial chemotherapy (TAC) versus Oral chemotherapy in the treatment of Unresectable Hepatocellular carcinoma. (Radio Diagnosis and Gastroenterology).
11. Randomized Control Trial of N-Acetyl cysteine in Prevention of Renal Failure in Hepatocellular Carcinoma patients undergoing Trans arterial Chemotherapy and Trans arterial Chemoembolization. (Radio Diagnosis and Gastroenterology).
12. Randomized control trial of Oral chemotherapy versus supportive therapy in the treatment of Unresectable Hepatocellular carcinoma. (Radio Diagnosis and Gastroenterology).
13. Umbilical Cord blood stem cells for Bulbar Motor Neuron Disease- Single Case Trial (Paediatric Surgery, Stem cell facility, Transplant Immunology, Neuroanaesthesia, Neurology, General Surgery).
14. Prognostic value of serially estimated serum procalcitonin in multiple trauma victims with and without head injury (Microbiology and Neuroanaesthesia).
15. Prospective, randomised comparison of efficacy and safety of thoracic epidural analgesia with bupivacaine and opioid in two different concentrations versus intravenous two drug analgesia in thoracic trauma. (Surgery and Anaesthesia).
16. Costing of OT services at JPNA Trauma Centre. (Surgery and of Hospital Administration).
17. Role of MDCT in Evaluation of Traumatic Liver Injuries (Radiodiagnosis).

### **PUBLICATIONS**

**Journals: 73**

**Abstracts: 3**

**Chapters in books: 4**

## PATIENT CARE

### Radiodiagnosis

Details of investigations

Name of Investigations/Special procedures	Number
<b>Routine X-rays</b>	
• OPD	7,774
• Indoor	3,721
• Casualty	47,742
• Portable	22,297
<b>Total</b>	<b>81,534</b>
<b>Fluoroscopic studies</b>	<b>219</b>
<b>Ultrasound</b>	<b>15,454</b>
<b>CT</b>	<b>17,632</b>
<b>Digital subtraction angiography(DSA)</b>	<b>112</b>
<b>MRI</b>	<b>1044</b>
<b>Grand Total</b>	<b>1,15,995</b>

## LABORATORY MEDICINE

Total tests done in Laboratory medicine = 10,38,694

### Haematology

Haemoglobin	43,124	TLC	43,124
Differential count	28,534	HCT	43,124
RBC	43,124	MCH	43,124
MCHC	43,124	MCV	43,124
RDW	43,124	Platelet count	43,124
Retic count	13,173	ESR	6,013
RBC Morphology	1,883	Blood parasite	4,315
<b>Total</b>	<b>4,42,034</b>		

### Coagulation

PT	29,825	APTT	29,180
TT	923	Fibrinogen	853
Thromboelastography (TEG)	2,234	D-dimer	678
<b>Total</b>	<b>63,733</b>		

### Clinical pathology

Urine routine and microscopy	4,374	Urine myoglobin	623
CSF microscopy	2,483	Fat globules	86
Total	10,466		
Total done in haematology section	5,13,193		

### Biochemistry

Sugar	9770	Urea	38,045
Creatinine	38,045	Calcium	24,620
Phosphorous	25,100	Uric Acid	23,827
Sodium	37,924	Potassium	37,863
Total bilirubin	25,417	Direct bilirubin	25,386
Total protein	22,113	Albumin	22,110
SGOT	21,175	SGPT	21,159
ALP	20,768	Cholesterol	5,062
Amylase	4,668	HDL	1,418
LDL	1,418	TG	1,452
VLDL	1,418	CK	469
CRP	4	Mg	1,374

Lipase	11	CK-MB	20
CSF Sugar	1,618	CSF Protein	1,618
Peritoneal fluid protein	112	Peritoneal fluid sugar	108
Urine sugar	115	Urine protein	112
Drain fluid amylase	27	Urinary sodium	10
Urinary potassium	10	Urinary calcium	80
Urinary creatinine	80	Serum osmolality	20

### ABG

PO2	10,535	PCO2	10,535
PH	10,535	H+	10,535
Potassium (K)	10,535	Sodium (Na)	10,535
Calcium (Ca)	10,535	Cl	10,535
<b>Total done in biochemistry section</b>	<b>4,98,599</b>		

### Microbiology

Culture	12198	Bacterial identification	3408
Antibodies sensitivity	3408	HIV serology	944
Hepatitis B serology	932	Hepatitis C serology	931
Hospital infection surveillance culture	3389	Serum procalcitonine	137
<b>Total done in microbiology section</b>	<b>25,347</b>		

### Histopathology

Specimen processed	688	No. of blocks	1117
Total No. of slides	1585		
<i>Stains</i>			
Hematoxylin and Eosin	1337	Acid Fast Bacilli staining	130
Periodic acid and Schiff's staining	44	Silver Methenamine staining	33
PAP staining	30	VVG stain	7
Masson trichrome	4		
Total stains done	1585		

### FORENSIC MEDICINE

- 937 Medicolegal Postmortem performed at JPNATC
- Casualty Services: The department continued to provide round the clock coverage to the casualty in complicated medico-legal cases.
- Court attendance by the faculty/residents of the department – as expert witness
- Clinical Forensic Medicine-Involved in cases referred by honourable courts, CBI and other investigating agencies.
- Medical Toxicology – In process of developing toxicology laboratory facilities.

### MEDICAL SOCIAL WORK UNIT

- A total of 322 exemptions for unknown, unattended, poor patients having BPL ration card and poor patients not having BPL was done. The department wise exemptions done (October 2012–March 2013) was as below.

Department	Inpatient		Outpatient	
	Total exemptions	Amount (Rs)	Total exemptions	Amount (Rs)
Neurosurgery	101	7,21,492	6	17060
Orthopedics	19	2,68,575	3	8500
Surgery	18	5,18,000	1	1000
Neuro-anesthesiology	1	1,500	0	0
<b>Total</b>	<b>139</b>	<b>15,09,567</b>	<b>10</b>	<b>26,560</b>

- To strengthen documentation of exemption process of payment for poor patients (not having BPL ration card) a proforma for 'socio-economic assessment' has been developed.

2. 281 unknown/unattended patients were rehabilitated. Of these, 242 were sent to their homes and 39 were rehabilitated to various shelter homes.
3. To document the process of rehabilitation of unknown/unattended patients a set of proforma has been designed by the MSW Unit which is being used to bridge the communication gap between MSW Unit and Wards.
4. 66 corneas were donated in coordination with MSW Unit from August 2012 to March 2013.
5. Blood Donation Camps were organized in coordination of MSW Unit and 321 units of blood were collected. Blood replacement counseling is being done by the MSW Unit with support of a counselor of JDSKS NGO.
6. Draft exemption guidelines have been developed to standardize the exemption process.
7. In a multidisciplinary team of Amputation Clinic (recently started) the MSW Unit is playing crucial role in the rehabilitation of the amputee patients by arranging funds for the prosthesis and looking for avenues of vocational training wherever required.
8. Counseling and guidance was provided to 12 patients, i.e. Grief and bereavement counseling, Marital discord, Vocational counseling, etc.
9. The process of verification of bills for reimbursement has been streamlined with active role of MSSO. 120 Patients bills were verified.
10. MSW Unit is coordinating with various Govt. Agencies/Schemes for arranging funds for the poor patients, i.e., National Illness Assistance Fund, Health Minister's Discretionary Grant, PM Relief Fund, etc.
11. Liasoned with various Government and NGOs for better patient welfare activities, i.e., Deen Dayal Upadhyaya Institute for Physically Handicapped, Bhagwan Mahavir Viklang Sahayata Samiti, DNipCare, Kiwanis Artificial Limb Centre, etc.
12. Free medicines and aid/appliances were provided to the poor patients, i.e., Wheel Chairs (40), walking aids/appliances (18), Suction Machine (23), Air/Water Mattresses (17), Commode Chairs (5), Steam Inhaler (3), Splint (2) and Metallic Tube (10) with the support of SAPNA NGO.

### Medical Record Section, JPNATC

The complete statistical data is as under.

I.	<b>Total bed strength of facility</b>	<b>186</b>		
	Ward beds	120	ICU beds 2nd floor	16
	ICU beds 3rd floor	20	Triage	30
	<b>Total functional beds</b>	<b>176</b>		
	Ward beds	144	ICU beds 2nd floor	20
	ICU beds 3rd floor	12		
II	<b>Statistics at a Glance</b>			
	Total Casualty Attendance	57004	Average per day	156
	Total Admissions	5254	Average admissions per day	14
	Average length of stay 11 days		Total follow-up OPD cases	31216
III	<b>Total Cases in Casualty</b>	<b>57004</b>		
	Males	43430	Females	13574
	MLC	25993	Non MLC	31011
IV	<b>Total follow-up OPD Cases</b>	<b>31216</b>		
	New	12455	Old (Re-visit)	18761
	Males	24548	Females	6668
	<i>Specialty-wise break-up</i>			
	Orthopaedics	17868	Surgery	7221
	Neurosurgery	6127		
V	<b>Total Admissions</b>	<b>5254</b>		
	<i>Specialty-wise break-up</i>			
	Orthopaedics	1691	Surgery	1870
	Neurosurgery	1686	Emergency Medicine	7
VI	<b>Total operations performed</b>	<b>5773</b>		
	Major	5290	Minor	483
	<i>Specialty-wise break-up</i>			
	Orthopaedics	2240	Surgery	2137

	Neurosurgery	1339	Urology	57
VII	<b>Total Deaths</b>	<b>959</b>		
	Brought Dead Cases	328	Deaths Under 48 Hours	344
	Deaths after 48 Hours	287	Gross Death Rate	12%
	Net Death Rate	6%		
	Bed Occupancy Rate	86%	Bed turnover rate	30 patients/bed

### **Central Registration and Emergency Reception**

By virtue of its location, the CRC initiated and undertook the function of Emergency Reception of JPNATC. Approximately 400–500 enquiries are attended daily at first hand and about 90% of these are sorted out at this level. It is providing information regarding patient care; follow up, organizational structure, hospital administration and related services to patients, relatives/attendants, police, media and general public. The result of successful disposal of most of the enquiries at this level is that other sections are spared of facing these enquiries directly thus saving their precious manpower, man-hour and disruption of work thereby smoothlining whole function. Satisfaction of majority of visitors query at the entrance itself reduces the rush and crowd inside Trauma centre thus helping in better management of all existing facilities. CRC at present is functioning as a Multifunctional emergency Reception with three separate dedicated counters for (a) round the clock casualty registration (b) round the clock wards/ICU admission (c) inquest apers clearance counter.

### **Follow-up OPD Registration Counter**

In addition to improvements introduced last year regarding queue management system; a single window system of disposal was done for Certification of Medical/ Fitness and Reimbursement claims. Evening OPD for all concerned specialties was also started in current year of reporting.

### **Main Medical Records Division**

In addition to above, Medical Record Section (MRS) of JPNATC which is the first Govt. Hospital that has started Online Registration of Deaths at NDMC since year 2008, is running successfully and also coordinating the amendments pertaining to deceased after due legal procedure. This year MRS introduced ICD-10 coding of all deaths reported at JPNATC. About 6000 case sheets/records were coded including backlog. MRS is regularly disposing of summons from various Hon'ble Courts in Delhi as well as other neighbouring states. There was huge increase in number of summons from previous year and total 1979 (Within Delhi – 1830 and Outside Delhi – 149) summons were disposed off during this period. MRS is also handling various Insurance Policy matters of patients who attended JPNATC in both case whether alive or dead. Total 69 such cases were disposed off during this period. During the preceding year MRS has entertained police requests for issuing X-rays; and coordinating for collection of X-rays from Radio-diagnosis unit and handing over to police. Total 938 such cases were disposed off during this period. MRS is furthermore involved in issuing information (for assistance/ compensation, etc.) to Delhi State/ Central Govt. pertaining to the patients/victims attended JPNATC during the year. The replies of questions raised under Right to Information Act 2005 by various applicants, were also provided by MRS in 35 cases. MRS has provided the basic framework as well as continuous inputs to computer facility; so as to computerize whole registration process in a phased manner. The custody of 16,000 electronic MLCs lying with Police Post JPNATC after introduction have been taken in a phased manner. Retrieval of case files for faculties/residents/nursing staff/lab staff/computer facility as and when requested was done for 15126 cases (3615 for research + 11511 for scanning).

## BLOOD BANK

### Blood donation complex

Month	Donors screened	Donor Bled	Replacement donors			Voluntary donors			Voluntary donor	
			Women	Men	Total	Women	Men	Total	Indoor	Outdoor camp
April	939	816	13	710	723	3	90	93	93	0
May	910	804	1	719	720	3	81	84	84	0
June	792	715	4	603	607	4	104	108	108	0
July	854	763	5	660	665	1	98	99	99	0
Aug	1121	1005	2	620	622	26	357	383	142	241
Sept	981	910	2	653	655	4	251	255	94	161
Oct	1022	879	0	610	610	40	229	269	148	121
Nov	786	709	2	622	624	2	83	85	85	0
Dec	1021	917	1	617	618	32	267	299	134	165
Jan	606	590	3	478	481	3	106	109	109	Nil
Feb	727	656	3	559	562	2	92	94	94	Nil
Mar	737	646	3	506	509	5	131	136	118	18
<b>Total</b>	<b>10496</b>	<b>9410</b>	<b>39</b>	<b>7357</b>	<b>7396</b>	<b>125</b>	<b>1889</b>	<b>2014</b>	<b>1308</b>	<b>706</b>

Voluntary blood donation camps 7

Voluntary blood donors 201

### Component separation laboratory\*

Month	Pack RBC prepared	Fresh Frozen Plasma prepared	Platelets prepared	Cryoprecipitate prepared
Apr	816	764	625	59
May	802	727	645	67
June	715	678	631	55
July	763	734	690	14
Aug	1005	943	694	22
Sep	910	899	625	31
Oct	894	861	682	26
Nov	709	686	621	31
Dec	917	820	720	22
Jan	590	542	512	26
Feb	656	598	542	41
Mar	646	586	528	57
<b>Total</b>	<b>9410</b>	<b>8838</b>	<b>7515</b>	<b>451</b>

\* Quality control of blood and components: 1% of all units

### Infectious marker laboratory and donor counselling

Month	HIV		HBsAg		HCV		VDRL		MP	
	Done	Reactive	Done	Reactive	Done	Reactive	Done	Reactive	Done	Reactive
April	814	3	844	10	813	4	832	4	801	Nil
May	830	3	852	15	853	8	867	3	835	Nil
June	753	2	755	16	757	4	773	4	739	Nil
July	772	4	772	13	768	18	784	3	745	Nil
Aug	1044	5	1040	8	1034	6	1064	6	1013	Nil
Sep	944	Nil	945	15	944	6	962	7	908	Nil
Oct	914	2	915	18	909	3	941	6	892	1
Nov	727	3	731	9	736	7	749	4	708	Nil
Dec	950	3	954	14	954	6	975	7	926	Nil
Jan	608	0	609	7	609	6	619	2	588	Nil
Feb	660	4	659	7	658	2	685	2	642	Nil

Mar	680	1	682	13	678	8	708	3	658	Nil
<b>Total</b>	<b>9696</b>	<b>30</b>	<b>9758</b>	<b>145</b>	<b>9713</b>	<b>78</b>	<b>9959</b>	<b>51</b>	<b>9455</b>	<b>1</b>

Total donors reported and counseled **61**

Total donors referred to VCTC **7**

### Grouping laboratory

Month	Donor grouping	Patient grouping	Total
April	816	913	1729
May	802	1071	1873
June	715	1107	1822
July	763	1082	1845
Aug	1005	1021	1026
Sep	910	986	996
Oct	879	1057	1936
Nov	709	976	1685
Dec	917	902	1819
Jan	590	741	1331
Feb	656	855	1511
Mar	646	951	1597
<b>Total</b>	<b>9410</b>	<b>11662</b>	<b>21072</b>

### EMERGENCY ISSUE COUNTER

Month	No. of samples received	No. of cross-match done	No. of PRBC issued	FFP Issued	PRC Issued	Cryo Issued
Apr 12	913	2031	796	606	500	58
May 12	1071	2440	913	623	501	55
Jun 12	1107	2414	832	788	615	50
Jul 12	1082	2183	862	729	623	41
Aug 12	1021	2186	864	749	558	22
Sep 12	986	2294	802	680	471	29
Oct 12	1057	2375	838	549	556	12
Nov 12	976	2119	785	625	488	24
Dec 12	902	2053	903	608	660	40
Jan 13	741	1685	647	459	181	30
Feb 13	855	1864	686	544	416	31
Mar 13	951	2250	765	538	542	70
<b>Total</b>	<b>11662</b>	<b>25894</b>	<b>10555</b>	<b>7498</b>	<b>6111</b>	<b>462</b>

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor M.C. Misra** delivered 'Silver Jubilee MASICON Oration', Association of Surgeons of India, Nagpur Chapter, 2012-13, Installation and CME 8 April 2012, on Epidemic of the 21st Century: Capacity Building to Improve Trauma care in India; delivered Prestigious Col. Sangham Lal Oration, 52nd Annual Conference of National Academy Of Medical Sciences (India), The Tamil Nadu Dr M.G.R. Medical University, 12-14 October 2012. Oration titled 'Trauma: An Epidemic of the 21st Century: Capacity building to improve trauma care in India: Part - II: Changing trends in the management of blunt Abdominal Trauma, 13 October 2012; Chairman, Surgical Dressings and Disposable Products Sectional Committee MHD16, Bureau of Indian Standards. Meeting on 17 January 2013 New Delhi.; Nominated by Director, PGIMER, Chandigarh, to a Committee to look in to the death of a patient at PGIMER, Chandigarh following crush injury on 17 July 2012; Chaired Meeting of Authorization Committee for unrelated Kidney transplantation; Visiting Professor (National) to 'The Tamil Nadu Dr M G R Medical University, Chennai; Nominated, Chairman of Departmental Promotion Committee (DPC) for the post of Operation Theatre Assistant (OTA); Chairman, Selection Committee for selection of Operation Theatre Assistant (OTA); Guest of Honour during

Inaugural Function of CME on 'Connected with Trauma: Response, Recovery and Research', King George Medical University, Lucknow (UP), India, 4 August 2012; Guest of Honour, Installation ceremony, President of Rotary Club, Safdarjung, Delhi, 20 July 2012; Visiting Professor, University of Michigan, 24–27 June 2012; Guest of Honour, Inaugural Ceremony of Live Workshops organized at JPN Apex Trauma Centre, 15 April 2012, in association with Indian Society of Cutaneous Surgery, International Society of Dermatologic Surgery; Chief Guest, Association of Surgeons of India, Ghaziabad Branch, CME, 15 April 2012, and delivered a talk on 'I always do TEP repair'; Chief Guest, Inaugural Function of First National CME and Hands-on Workshop on 'Intracranial Pressure Monitoring', Division of Neurosurgery, JPN Apex Trauma Centre, AIIMS, 15 April 2012; Nominated for Membership Advisory Panel, Surgery for advising Credentials Committee, National Academy of Medical Sciences, New Delhi for selection of candidates for Membership of Academy for year 2012; Chief Guest, Association of Surgeons of India, Nagpur Chapter, during Installation Ceremony 2012–13, and CME, 8 April 2012; Member, Selection Committee, for the Selection of Assistant Professor of Surgery, AIIMS, 1 April 2012; Guest of Honour during Inaugural Function of 4th Cadaveric Workshop on Hip Arthroplasty, Department of Orthopaedics, AIIMS, 31 March–1 April 2012.

**Dr Sanjeev Lalwani** was Awarded Fellowship of International Medical Sciences Academy; Awarded Fellowship of Royal Society of Medicine (UK); Awarded Fellowship of Academy of Forensic Medical Sciences (UK); Member of Project team of NETS received Scroll of honour from German Collaborator; Reviewer, Indian Journal of Criminology and Criminalistics; Chaired Session, CEUTEH-2012, organized by JPNATC AIIMS, New Delhi 29 September 2012; Chaired Session, 'Medico-legal issue', EMCON 2012, 7 November 2012, Annual Conference of SEMI, Max Hospital, Delhi.

**Dr Arulselvi S** received 'INDO–US Academician and Researcher of the year 2012 award' from His Excellency Governor of Maharashtra, Mr K. Sankaranarayanan, in the inauguration (26 October 2012) of 8th annual INDUS EM summit 2012 held simultaneously with 7th annual assembly of the academic counsel for emergency and trauma and 2nd annual meeting of Indian network of critical illness and injury translational trial experts (INCIITTE), 27 October 2012.

**Dr Deepak Aggarwal** was awarded the prestigious 'Tata Innovation Fellowship' by DBT for a 3 year period, wef 2013 of Rs 22.5 lakhs.

**Dr Sumit Sinha** was Founder Member and Secretary of Indian Society OF Peripheral Nerve Surgery; Reviewer for British Journal of Neurosurgery, British Medical Journal, Molecular and Biochemical Parasitology, Sultan Qaboos University Medical Journal, Journal of Neurological Surgeons Society of India and was Associate Editor, Indian Journal of Neurotrauma

**Dr Vivek Trikha** was Assistant Editor of Indian Journal of Orthopaedics for 2012–14.

**Dr Biplab Mishra** was Joint Secretary: Indian Society of Trauma and Acute Care (ISTAC), Member: Association for Trauma Care of India (ATCI); Fellow: International College of Laparoscopic Surgeons (ICLS); Member, Indian Hernia Society (IHS), Association for Trauma Care of India (ATCI), Association of Surgeons of India (ASI) and American College of Surgeons (ACS).

**Dr Sushma Sagar** was Awarded Fellowship of American College of Surgeons, USA (FACS) 2012; Awarded Fellowship of College of Laparoscopic Surgeons Society (FCLS) 2012; Awarded Woman of Substance Award on International Women's Day, 8 March 2013, by Parvatiya Sanskritik Sansthan, Delhi; Awarded DST (Department of Science and Technology) Travel Fellowship to present papers at SAWC Fall 2012 (Symposium on Advancement of Wound Care, Baltimore, USA, 12–14 September 2012; Awarded Research Poster Review and Critique at Symposium on Advanced Wound Care Fall 2012 at Baltimore, MD, USA (Sept 2012) for the poster; Does involvement of wound care nurse improve patient satisfaction and wound healing: An experience from level 1 trauma centre, India; Executive member Indian Society of Peripheral Nerve Surgery; Member core teaching faculty group of National Institute of Disaster Management (NIDM); Member committee for formulating First Responder Guidelines for National School Safety Program at NIDM (2012).

**Dr Amit Gupta** was awarded the Dr Kini Memorial Oration – 2012 of the Indian Association of Traumatology and Critical Care (A section of Association of Surgeons India); Awarded Fellowship of

American College of Surgeons, USA. September 2012; Awarded the Short Term Visiting Fellowship from University of Michigan, Ann Arbor, MI, USA for advancements in trauma care as collaborative between University of Michigan Medical School and JPN Apex Trauma Centre, AIIMS. June–July 2012; Awarded the Fellowship of the International College of Laparoscopic Surgeons (FCLS), 2012; Member Board of Studies. Department of Simulation Medicine, SRM University, Tamil Nadu, India. 2012; Member: World Association of Disaster and Emergency Medicine (WADEM) 2012–13; Executive Member: Academic Council for Emergency and Trauma (ACET). Indo–US Emergency and Trauma Collaborative. A collaborative between Division of Emergency Medicine, AIIMS; Division of Emergency Medicine, USF, USA and State University of New York Downstate, New York, USA. – 2010–15

**Dr Subodh Kumar** was awarded Fellowship of American College of Surgeons, USA (FACS) 2012; Awarded Fellowship of College of Laparoscopic Surgeons Society (FCLS) 2012; Member of core group for preparing National Guidelines for Pre-Hospital Trauma Care and Management of Trauma Victims – Developed under World Health Organisation and Government of India; Technical expert nominated by HSCC, Ministry of Health, Govt. of India for up-gradation of Hospitals in Myanmar. 2012; Technical expert nominated by HSCC, Ministry of Health, Govt. of India for upcoming Trauma Centre at Kathmandu, Nepal as an initiative of Bharat-Nepal Maitry. 2012; Member Core Committee (Training): To train newly recruited paramedics of Centralized Accident and Trauma Services (CATS) Government of National Capital Territory (NCT) of Delhi in Pre-Hospital trauma Life Support course. 2012–2013

**Dr Maneesh Singhal** received the Dr S. Radhakrishnan Medical Teachers Award on 5 September for contribution in field of teaching; Awarded Fellowship of College of Laparoscopic Surgeons Society (FCLS) 2012; Selected for ICMR International Fellowship for Young Bio-Medical Scientists, 2012–13 for a fellowship at Michigan, USA to study advanced wound care practices with use of skin substitutes, tissue engineering and regenerative medicine techniques; Received Fellowship of the International College of Laparoscopic Surgeons (FCLS, March 2012; Founder Member and Joint Secretary: Indian Society of Peripheral Nerve Surgery; Member and Treasurer: Indian Society of Trauma and Acute Care (ISTAC); Reviewer: Journal of Cutaneous and Aesthetic Surgery; Editorial Board Member: Advances in Wound Care; External Examiner for Mid Term Examination of DNB Candidates.

**Dr Shilpa Sharma** was awarded the James Lister Fellowship 2012 by the British Association of Pediatric Surgeons for attending the 49th BAPS/EUPSA Conference, Rome, 13–16 June 2012; awarded a Prize in Test paper during Workshop on ‘How to Write Research Grant Proposal’, CEU, AIIMS, 31 July 2012.

**Dr Naveen Yadav** became Life Member Indian Society of Neuroanaesthesiology and Critical care.

**Dr Niraj Kumar** became Life Member Indian Society of Neuroanaesthesiology and Critical care.

**Dr Navdeep Sokhal** became Life Member Indian Society of Neuroanaesthesiology and Critical care.

## COMMUNITY SERVICES

### Professor M.C. Misra

**I. was invited by DoorDarshan News** New Delhi to participate as an Expert on

1. 8 January 2013 for a Discussion on ‘Road Accidents’ during a Live Phone-in programme ‘Total Health’.
2. 30 December 2012 for a Discussion on ‘Delhi Gang Rape and issues related to Safety of women’ during a Live News programme’.
3. 27 December 2012 for a Discussion on ‘Delhi Gang Rape Victim’s Health’ during a Live News programme.
4. 21 October 2012 on ‘Breast Cancer’ during a Live Phone in programme ‘Total Health’.
5. 10 June 2012 for a Discussion on ‘Increasing Road Injuries’ during a Live Phone in program ‘Total Health’.

**II. was invited by DoorDarshan National** New Delhi to participate as an Expert

1. for discussion on 57th Institute Day about ‘Akhil Bhartiya Ayurvedigyan Sansthan’s (AIIMS’s) role in the country to fulfill the aspirations of the public on 25 September 2012 during Live National News.
2. for discussion on ‘Swasth Bharat’ ‘Medical Aids in Accidents’ on 18 August 2012.
3. for live discussion on ‘Swasth Bharat (Healthy India)’ ‘Gallbladder stones’ on 8 November 2012.

**III. was invited by 'Lok Sabha TV' New Delhi to participate as a Guest Expert**

1. for the Live programme entitled 'Lok Manch' at 'Lok Sabha TV studios', New Delhi, 29 December 2012 and a Discussion on 'Safety and Dignity of Women'.
  2. for the programme entitled 'Insight', 9 October 2012 and a Discussion on 'Healthcare for all, Clinical Trials, Healthcare Resources, Regulation on Private Hospital for displaying rates of various procedures and cost in response to a litigation and observation by supreme court'. Programme was telecast on 9 October 2012.
  3. for the Live Phone-In programme entitled 'Gender Discourse' and for a Discussion on 'Blood Donation by Women in India'. Programme was telecast on 14 June 2012.
  4. for the programme entitled 'Insight' at 'Lok Sabha TV studios', New Delhi, 22 April 2012 and for a Discussion on 'One Year Compulsory Rural Posting of Young Medical Graduates'. Programme was telecast on 22 April 2012.
  5. for the Live programme entitled 'Lok Manch' on 27 April 2012 and for a Discussion on 'Grameen Swasthya (RURAL Health)'.
- IV. Invited for a live Chat on FM Rainbow All India Radio, New Delhi, as a Technical Expert, broadcast on 17 October 2012 for a Discussion on 'Accidents and Emergencies' on the occasion World Trauma Day.
- V. Invited by INDIA NEWS (Hindi) as Guest Expert to discuss the problem of 'SNORING' during a Live Telecast on 30 September 2012.

**Dr Shilpa Sharma**

1. Operated 22 cases in a surgical camp for poor patients at Barabanki, UP among the 500 cases operated there, 22–24 January 2013.

**ADDITIONAL FACILITIES CREATED**

1. HDU
2. PAC Clinic
3. Neuroanesthesia critical care
4. Bedside dialysis in TC-2 ICU for acute kidney injury following trauma.

## 10. 6 National Drug Dependence Treatment Centre

### Professor and Chief

Rajat Ray

### Professors

Raka Jain

Rakesh Lal

### Additional Professor

Anju Dhawan

### Associate Professors

Sonali Jhanjee

Atul Ambekar

### Assistant Professors

N Kaw  
Ravindra Rao  
Gauri Shanker Kaloiya

Yatan Pal S Balhara  
Prabhu Dayal  
Jai Singh Yadav

Raman Deep Pattanayak  
Ashwani K. Mishra  
Rachna Bhargava

### Scientists

Anita Chopra

Hem Sethi

### HIGHLIGHTS

NDDTC continues to be the WHO Collaborating Centre on Substance Use (2012–16). During 2012–13, the Centre made definite progress with regard to treatment, training and research in the area of drug abuse. A total of 80,257 patients were seen (5701 new patients and 74,556 old patients) in regular OPD, 3 community clinics and 3 speciality clinics. The NDDTC laboratory is equipped for investigations related to drugs of abuse (19 types of addictive substances), biochemistry, haematology and HIV screening. The faculty of the centre acted as a resource person in various training programmes conducted by organizations like National AIDS Control Organisation (NACO), the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), State Council for Education Research and Training (SCERT), CHILDLINE, India, etc. Faculty delivered invited talks in national and international meetings. Many faculty members served as technical experts in national and international organizations and held key positions in national and international professional bodies and on editorial boards of prestigious journals. Several faculty members received professional honours and awards. Currently, national and international agencies are funding 12 ongoing research projects in the centre. They contributed a number of articles in peer reviewed national and international journals and books/chapters in books/reports. Faculty members have contributed to development of the Clinical practice guidelines for opioid dependence and inhalant use disorders (first such guideline for India) for the Indian Psychiatric Society.

### EDUCATION

#### Undergraduate

MBBS students are posted for a day in the centre during their Psychiatry posting.

#### Postgraduate

Residents doing MD (Psychiatry) are posted at the centre for 6 months.

#### PhD and Postgraduate teaching

- Journal discussion: Weekly\*
- Seminar: Weekly\*
- Case Conference: Weekly\*
- Faculty/Staff presentation: Weekly\*
- CCR and CGR two in every semester\*
- Seminars: Weekly (at NDDTC, GZB)

*\*Joint activities of the Department of Psychiatry and the Centre*

NDDTC offers PhD in Addiction Psychiatry.

### **CMEs/Workshops/Symposia/Training courses/National and International Conferences Organised by the Centre**

1. Annual Day Symposium on Capacity Building in the Management of Substance Use Disorder, NDDTC, AIIMS, Ghaziabad, 16 April 2012.
2. Meeting for the launch of Methadone Maintenance Treatment (MMT) at NDDTC, AIIMS, New Delhi, 14 July 2012.
3. Training Course for Medical Professionals from Bhutan, NDDTC, AIIMS, Ghaziabad, 23 July 2012–4 August 2012.
4. Training Course for Medical Professionals from Bangladesh, NDDTC, AIIMS, Ghaziabad, 24 September–6 October 2012.
5. Training Programme at National Institute of Mental Health and Neurosciences (NIMHANS) under the activity ‘National Capacity Building of Medical Professionals on Treatment of Substance Use Disorders,’ NIMHANS, Bangalore, October 2012.
6. Review and refresher training workshop for Methadone Maintenance Treatment in India: A Multi-site Feasibility and Effectiveness Study, NDDTC, AIIMS, New Delhi, 19–21 November 2012.
7. Two-day training of research investigators under the project entitled ‘An assessment of pattern, profile and correlates of drug use among adolescents in India,’ Aizawal (1–2 May 2012), Pune (26–27 November 2012), Kerala (13–14 December 2012), and New Delhi (April 2012 and December 2012).
8. Under the GFATM project, 12 training courses for medical doctors and nurses, programme managers, counsellors, data managers and NGO staff were organized by NDDTC (as the Nodal RTTC) to support capacity building of medical staff as well as those providing Opioid Substitution Treatment (OST) of various states of India (25–29 June 2012, 9–13 July 2012, 6–10 August 2012, 30 October–4 November 2012, 26–30 November 2012, 17–21 December 2012, 18–22 December 2012, 28 January–1 February 2013, 14–16 February 2013, 20–21 February 2013, 11–15 March, 2013, and 18–22 March 2013). Of the 12 training courses 10 were conducted at New Delhi and 2 at Bhubaneswar and Raipur.

### **Lectures delivered**

<b>Rajat Ray: 3</b>	<b>Raka Jain: 4</b>	<b>Rakesh Lal: 6</b>	<b>Anju Dhawan: 13</b>
<b>Sonali Jhanjee: 4</b>	<b>Atul Ambekar: 8</b>	<b>Yatan Pal Singh Balhara: 18</b>	<b>Raman DeepPattanayak: 2</b>
<b>Ravindra Rao: 8</b>	<b>Ashwani K. Mishra: 5</b>	<b>Gauri Shanker Kaloiya: 2</b>	<b>Rachna Bhargava: 5</b>
<b>Rizwana Quraishi: 1</b>			

### **RESEARCH**

#### **Funded projects**

##### **Ongoing**

1. National capacity building of medical professionals on treatment of substance use disorders. Rajat Ray, Anju Dhawan, Ministry of Finance, 3 years, 2011–14, Rs 228.7 lakhs.
2. Development of a web-portal on problem alcohol use in India. Rajat Ray, Atul Ambekar, Y.P.S. Balhara, Sanjay Gupta, WHO, 2010–12, Rs 4 lakhs.
3. Rapid situation assessment of drug and alcohol use at Digboi, Assam. Rajat Ray, Atul Ambekar, Rakesh Lal, Deepak Yadav, India Oil Corporation, Digboi, 2010–13.
4. Efficacy of Varenicline for smokeless tobacco use, Raka Jain, Sonali Jhanjee, Veena Jain, R Schnoll (University of Pennsylvania), National Institute on Drug Abuse (NIDA), NIH, USA, 3 years, 2011–14, Rs 69 lakhs.
5. Feasibility of transporting urine samples of drug users on filter paper for screening drugs of abuse: A pilot exploratory study. Raka Jain, Atul Ambekar, Rizwana Quraishi, ICMR, 2012–14, Rs 12.5 lakhs.
6. Effect of nalbuphine on opiate withdrawal in rats: behavioural, biochemical and molecular study, Raka Jain, T.S. Roy, Anju Dhawan, ICMR, 3 years, 2012–15, Rs 46 lakhs.
7. Assessment of pattern, profile and correlates of substance use in children, Anju Dhawan, Raman Deep Pattanayak, Anita Chopra, National Commission for Protection of Child Rights (NCPCR), 1 year, 2012–13, Rs 16.6 lakhs.
8. Methadone maintenance treatment in India: A multi-site feasibility and effectiveness study, Anju Dhawan, Rajat Ray, Atul Ambekar, Raka Jain, Ravindra Rao, Deepak Yadav, Anita Chopra, UNODC–ROSA, 2 years, 2011–13, Rs 35.3 lakhs.
9. Post marketing surveillance of methadone in India, Atul Ambekar, R. Ray, Raka Jain, Anju Dhawan, Anita Chopra, Rusan Pharmaceuticals, 2012–13, Rs 14.5 lakhs.

10. Capacity building of Staff working on HIV Prevention among Injecting Drug Users in India, The Global Fund to fight against AIDS, Tuberculosis and Malaria (GFATM) Round 9 HIV-IDU, 2012–15, Rs 4.2 crores.

### **Completed**

1. A Situation Assessment of Opioid Substitution Therapy programme under National AIDS Control Programme. Atul Ambekar, Emmanuel Hospital Association (under the GFATM Round-9 India-HIV-IDU grant).
2. National Drug Use Survey, Maldives. Idaho Fahumy, Yaseer Wasim, Atul Ambekar, R.M. Pandey. UNODC–ROSA.

### **Departmental projects**

#### **Ongoing**

1. Association of ANKK I polymorphism and Nicotine Dependence (ND): A Pilot Study.
2. Development of a web-portal on problem alcohol use in India.
3. Addressing alcohol use at a workplace settings: Indian Oil Refinery, Digboi, Assam.
4. Enhancing the services for substance use disorders in the tribal areas of the country (District drug de-addiction programme).
5. Assessment of biochemical and haematological profile of opioid dependent patients receiving Buprenorphine/Buprenorphine–naloxone Combination.
6. Evaluation of compliance in patients receiving naltrexone for long term management of opioid dependence.
7. A retrospective cohort study of predictors of outcome among opioid dependents on naltrexone treatment at a tertiary care substance use disorder treatment centre.
8. A urinalysis based evaluation of cannabis use among opioid dependent subjects maintained on buprenorphine: A retrospective study.
9. A comparative study of pathways to care among alcohol and opioid dependent individuals seeking help at a tertiary care center and a community clinic.
10. Substance use profile of treatment seeking middle aged adults at a tertiary care substance use disorder treatment centre in northern part of India over five successive years through analysing database on Drug Abuse Monitoring System (DAMS).
11. Association of drug use pattern with vulnerability and service uptake among injecting drug users.
12. An appraisal of compliance and retention of injecting drug users in the service uptake of opioid substitution therapy.
13. Assessment of abuse liability of tramadol in opioid dependent subjects.
14. Effect of intravenous naloxone in opioid dependent men on sublingual buprenorphine maintenance treatment.
15. Harmful / hazardous alcohol use in opioid dependent patients on buprenorphine. maintenance treatment: feasibility of screening and brief intervention.
16. Cue associated craving in treatment seeking alcohol dependent men.
17. Cue induced craving in heroin dependent men.
18. To assess substance use and its association with strength and difficulties, peer group and family related factors in the students of two schools in Delhi.
19. Cue induced craving in adolescent inhalant users: a functional magnetic resonance imaging (fMRI) study.
20. Assessment of effect of sweet tastants on cue related craving recently detoxified alcohol dependent subjects.
21. Assessment of cognitive functioning in diabetes and pre-diabetes.
22. Family and genetic study of specific reading disorders.
23. Assessment of biochemical measures in adolescent inhalant users.
24. Computer assisted cognitive behaviour therapy for adolescents with depression.

### **Completed**

1. Effect of nitric oxide synthase inhibitor L-NNA on sensitization to the operant decrement produced by naloxone in morphine treated rats.
2. Cost analysis of alcohol dependence and its treatment.
3. High risk behaviors in in-patients with alcohol-dependence and opioid-dependent IDUs: relationship with personality.
4. Assessment of psychiatric co-morbidity in inhalant using children.

## 5. Managing Alcohol Use in Diverse Workplace Settings.

### Collaborative projects

#### Ongoing

1. Impact of a package of intensive smoking-cessation interventions versus recommended, basic smoking-cessation advice on outcomes in smear-positive patients with pulmonary tuberculosis; a randomised controlled trial (Medicine).

#### Completed

1. A pilot study of feasibility and efficacy of brief intervention compared with simple advice when linked to the brief ASSIST for substance use disorders in primary health care and community settings (WHO Collaborating Centre, University of Adelaide).
2. Study to explore transition to injecting drug use by opioid users in North India (SPYM, Regional Resource and Training Centre - North, MoSJ and E).
3. Factors influencing performance of IDU TIs (UNODC-ROSA).
4. Capacity building needs assessment of IDU TIs in India (UNODC-ROSA).
5. Curriculum development for preventive Psychiatry: Global survey of current medical school curricula (Section of Preventive Psychiatry and Section of Education in Psychiatry of World Psychiatric Association).
6. Study on depression among elderly persons in rural area of Ballabgarh (Centre for Community Medicine).
7. Comparative appraisal of data collection methods and related epidemiological models for smoking, drinking and tobacco chewing among adolescent children in India (Biostatistics).

### PUBLICATIONS

**Journals: 46**

**Abstracts: 8**

**Chapters in Books: 20**

### PATIENT CARE

#### General Information

Total no. of beds 50

General Ward beds 50

OPD Attendance (NDDTC, Trilokpuri Community, Mobile Clinic, Sundar Nagri, Methadone Clinic,

Sundar Nagri) 80257

Admission (Day Care, In-Patients) 982

Discharges 976

Average % of Bed Occupancy 66%

Admission Charges Exempted 250

OPD and Specialty Clinics Attendance (NDDTC)		New Cases	Old Cases	Total
<b>General OPD</b>		5242	36310	41552
<b>Specialty Clinics</b>				
a	Tobacco use cessation Clinic	56	746	802
b	Adolescent Clinic	10	24	34
c	Dual Diagnosis Clinic	77	339	416
<b>A.</b>	<b>Total</b>	<b>5385</b>	<b>37419</b>	<b>42804</b>
<b>B.</b>	Trilokpuri Community Clinic	139	20037	20176
<b>C.</b>	Mobile Clinic, Sunder Nagri, Delhi	13	11271	11284
<b>D.</b>	Methadone Clinic, Sundar Nagri, Delhi	164	5829	5993
<b>Grand Total: A+B+C+D</b>		<b>5701</b>	<b>74556</b>	<b>80257</b>

#### Investigations

Biochemistry laboratory	n		n
Biochemistry investigations	25320	Haematological investigations	6827
HIV investigations	405		
<b>Drug Screen Laboratory</b>	<b>Nos.</b>		
Morphine Test	3021	Codeine Test	2428
Buprenorphine Test	3084	Proxyvon Test	3092

Avil Test	2428	Naltrexone Test	35
Pentazocine Test	31	Naloxone Test	290
Diazepam Test	3062	Nitrazepam Test	3062
Chlordiazepam Test	3062	Cannabis Test	491
Cotinine Test	312	Inhalents	52
<b>Total number of drugs tested in urine</b>	<b>24450</b>		

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Rajat Ray** continues to be member of the prestigious International Narcotics Control Board (INCB); Chairperson of the WHO working group on the Classification of Substance Use Disorder (ICD-10 Revision) and the Expert Committee for development of the National Drug Demand Reduction Policy, MoSJandE; member, expert group on development of guidelines for pain management among pediatric population (WHO), the International Advisory Board of Mental Health and Substance Use – Dual Diagnosis; and is on the Editorial Board of the International Journal of Drug Science, Policy and Law.

**Professor Raka Jain** chaired the session of ‘Forensic Psychiatry, Toxicology’ in the 4th International Conference on Legal Medicine, Medical Negligence and Litigation in Medical Practice (IAMLE) and 4th International Conference on Current Trends in Forensic Sciences, Forensic Medicine and Toxicology, Thiruvananthapuram, 25-27 January 2013; member of the selection committee for admission to MSc, Ph.D combined degree programme and as an examiner for PhD thesis in biomedical sciences for University of Delhi; peer reviewer for Indian Journal of Medical Research and Nicotine and Tobacco Research; member of National Advisory Board for the IAMLE 2013.

**Professor Rakesh Lal** served as Temporary Advisor to WHO for the ‘Biregional Workshop on Building Capacity for Reducing Harmful Use of Alcohol at the Country Level with the NCD Prevention and Control (Bangkok, Thailand, 22–24 October 2012). He chaired the working group on ‘Corrective Measures including Treatment and Rehabilitation: Adequacy and Effectiveness of Existing Programmes for Children’ and ‘Need for Strengthening by way of having more Regional Resource and Training Center (RRTCs), Anti-retroviral Therapy (ART) Counselling Centres and Centres dedicated to Professional Counselling’ for National Commission for Protection of Child Rights (Aizawl, 17–18 December 2012); helped coordinate the NACEN Workshop on Extent and Pattern of Drug Use for Law Enforcement Officials from Bhutan (September 2012), and the Orientation Programme for Baba Saheb Nursing College; edited five manuals for training of health professionals working in the field of substance use disorders for the NDDTC, AIIMS.

**Dr Anju Dhawan** is member of the Working Group on Drug Abuse and Addiction among Children constituted by NCPCR; expert reviewer on Ketamine as a Member of the WHO Expert Advisory Panel on Drug Dependence – Abuse Liability Evaluation (35th Expert Committee Meeting on Drug Dependence, WHO); peer reviewer for addiction; made quality assurance visits to the following hospitals implementing methadone maintenance treatment: Civil Hospital Kapurthala, Civil hospital Bathinda, and RIMS Imphal; resource person for capacity building and assessing impact of psycho-social intervention on substance using children accessing Childline – 24 hour help line for children in distress.

**Dr Atul Ambekar** was course coordinator under the (GFATM) project for 12 training courses for medical doctors and nurses, programme managers, counsellors, data managers, NGO staff of various states, organized by NDDTC, AIIMS as Nodal RTTC to support capacity building of medical staff and those providing opioid substitution treatment (OST); member of the following national/international bodies: National Technical Resource Group – IDU (NACO), Reference Group to United Nations on HIV and IDU (United Nations, Vienna), Delhi IDU Forum (Government of NCT of Delhi), Technical Working Group for Drafting National AIDS Control Programme – Phase IV (IDU TI) (NACO), Academic Committee of State Training and Resource Centre, School of Social Work, University of Delhi (under Delhi State AIDS Control Society), International Research Advisory Committee (RAC) of the Community Action on Harm Reduction (International HIV/AIDS Alliance); member of the editorial board of the International Journal of Drug Policy and the Journal of Mental Health and Human Behaviour.

**Dr Yatan Pal Singh Balhara** is member of Early Career Psychiatrist Council and Education Committee of World Psychiatric Association (2011 onwards); Board of Councilors and Education Committee of the International Society for Bipolar Disorders (2011 onwards); contributed to the First Indian Recommendations for Best Practice in Insulin Injection Technique (Forum for Injection Techniques, India), National Guidelines

on Psychosocial Management of Diabetes in India (Endocrinological Society of India), Consensus Guidelines on Male Sexual Dysfunction (ALLIANCE group), and Clinical Practice Guidelines on Management of Postmenopausal Osteoporosis (Indian Menopause Society); awarded for an Outstanding Article by Indian Chest Society (National Conference of the National College of Chest Physicians, Bhubaneswar, 18 November 2012) and for the Best Paper in the 20th Annual Conference of the Delhi Diabetic Forum (31 March 2012–1 April 2012); Assistant Editor of News and Views, a Newsletter published by NDDTC, Section Editor (Psychiatry) for the Journal of Medical Nutrition and Nutraceuticals (JMNN) and Section Editor (Addiction Psychiatry), ASEAN Journal of Psychiatry; member, editorial board of Journal of Social Health and Diabetes, the International Journal of Clinical Cases and Investigations, the Journal of Mental Health and Nursing, the Journal of Mental Health and Human Behaviour, and the Internet Journal of Medical Update; and a peer reviewer for various national and international journals; conducted quality assurance visits to OST centre at SPYM and District Hospital, Sonipat under the Global Fund Round 9 IDU-HIV project for NDDTC, AIIMS.

**Dr Raman Deep Pattanayak** was awarded membership of National Academy of Medical Sciences (NAMS); Honorary Associate Editor of Journal of Mental Health and Human Behaviour; resource person for capacity building and assessing impact of psycho-social intervention on substance using children accessing Childline-24 hour help line for children in distress.

**Dr Ashwani K. Mishra** is member, Editorial Board for International Journal of Biosciences and Technology and scientific reviewer for British Medical Journal (BMJ) Open, and Indian Journal of Medical Research (IJMR).

**Dr Gauri Shanker Kaloiya** chaired a scientific session in the International Seminar on Psychology of Trauma held at Jamia Millia Islamia, New Delhi (13–14 March 2013).

**Dr Rachna Bhargava** was Organizing Secretary, 29th Annual Conference of Indian Association of Clinical Psychologists held at AIIMS (17–20 February 2013); chaired the Free Oral Paper Session in the International Conference of Applied Psychology, Lahore (16–18 December 2012).

**The National Drug Dependence Treatment Centre** continues to be the WHO Collaborating Centre on Substance Use (2012–16). In 2012, NDDTC AIIMS was designated as the Nodal Regional Technical Training Centre (Nodal RTTC) under the project 'Hifazat', being implemented with support from Global Fund for AIDS TB and Malaria, by the Emmanuel Hospital Association in collaboration with NACO, GOI. As a part of National Drug Abuse Control Programme, NDDTC works closely with the DDAP, MoHFW, NACO, MoSJandE, Department of Revenue, Ministry of Finance, WHO (SEARO/HQ-Geneva) and UNODC. The centre initiated methadone maintenance programme in India at 5 sites namely – Civil Hospital, Kapurthala; Civil Hospital, Bathinda; King Edward Memorial (KEM) Hospital, Mumbai; Regional Institute of Medical Sciences (RIMS), Imphal; and NDDTC, AIIMS, New Delhi (the coordinating centre). The centre launched a web portal <https://www.alcoholwebindia.in/>, which is the first of its kind in any developing country. It provides information regarding problem alcohol use to general public, professionals and policy makers as well as provides on line screening and self-help intervention for those affected by harmful/hazardous drinking. The centre published 9 manuals for training of various cadres of health professionals in substance use disorders, with the support of the Department of Revenue, MoF, GOI.

The centre has also contributed to the development of draft National Policy On Prevention of Alcoholism and Substance Abuse and Rehabilitation (now National Drug Demand Reduction Policy), an initiative by MoSJandE), the WHO global strategies to reduce harmful use of alcohol – National and Regional Response, and quality assurance indicators on OST-supported by NACO and DIFID. The centre also assisted WHO in the Revision of ICD-10, Substance Use Disorder Section (Chair: Prof Rajat Ray) and activities of the International Narcotics Control Board-INCB (Prof Rajat Ray).

## VISITING SCIENTISTS

1. Members of the working committee of the NCPCR.
2. National Institute of Social Defence trainees.
3. H.E. Juan Alfredo Pinto, Ambassador, Govt. of Columbia in India, along with Mrs. Soraya Caro, Ms. Cristina Albertin (Representative, UNODC-ROSA) and Ms. Isheeta Sumra (Communications Officer, UNODC (29 August, 2012).

## 10.7 Neurosciences Centre

### Neuroanaesthesiology

**Professor** (on leave)  
Parmod K. Bithal

**Professor and Head**  
Arvind Chaturvedi

### **Additional Professors**

Rajendra Singh Chouhan

Mihir Prakash Pandia

### **Associate Professor**

Girija Prasad Rath

Hemanshu Prabhakar

### **Assistant Professors (JPNATC)**

Gyaninder Pal Singh  
Keshav Goyal

Ashish Bindra  
Kapil Dev Soni  
Navdeep Sokhal

Niraj Kumar  
Richa Aggarwal

### Neurology

**Professor and Head**  
Madhuri Behari

### **Professors**

Kameshwar Prasad

M.V.Padma Srivastava

### **Additional Professors**

Manjari Tripathi  
Garima Shukla

Vinay Goyal

Achal Srivastava  
Rohit Bhatia

**Associate Professor**  
Mamta Bhushan Singh

### **Assistant Professors**

Deepti Vibha

Deepa Dash

### Clinical Neuro-Psychology

**Associate Professor**  
Ashima Nehra

### Neuro-pathology

**Professor**  
Chitra Sarkar

**Additional Professor**  
M.C. Sharma

**Associate Professor**  
Vaishali Suri

### **Neuroradiology**

#### **Professor and Head**

N.K. Mishra

#### **Professor**

Shailesh B. Gaikwad

#### **Additional Professor**

Ajay Garg

#### **Assistant Professor**

Leve Joseph

#### **Chief Technical Officer**

Rakesh Kalia

### **Neurosurgery**

#### **Professor and Head**

B.S. Sharma

#### **Professor**

A.K. Mahapatra (on deputation)

#### **Additional Professors**

S.S. Kale  
Man Mohan Singh

P. Sarat Chandra

Ashish Suri  
Rajinder Kumar

#### **Associate Professors**

Sumit Sinha (JPNATC)  
Deepak Kumar Gupta (JPNATC)

Deepak Agrawal (JPNATC)  
G. D. Satyarthee (JPNATC)

#### **Assistant Professors**

Vivek Tandon  
Sachin A. Borker

Pankaj Kumar Singh  
Hitesh Kumar Gujjar

#### **Professor Emeriti**

P.N. Tandon

A.K. Banerjee

## **NEUROANAESTHESIOLOGY**

### **HIGHLIGHTS**

Anaesthetic management for 2933 neurosurgical procedures (Elective 2071; Emergency 862) and 538 neuroradiological procedures (395 diagnostic; 143 therapeutic) was performed. More than 3000 patients were managed in ICU. A total of 2239 patients (1859 new and 380 old) were seen in Pre-Anaesthesia Check-up (PAC) clinic OPD. A total of 924 patients (163 new and 761 old) were seen in pain clinic OPD (406 were treated with nerve blocks).

Three candidates were awarded DM (Neuroanaesthesiology) degree. Two new candidates joined DM course. Eight postgraduate students and 12 senior residents from other departments received neuroanaesthesia training.

Fifteen research projects (2 funded, 13 departmental) completed while 20 research projects (3 funded, 17 departmental) were going on. In addition 2 collaborative projects were going on.

Fourteen conferences (5 international, 9 national), 7 workshops and 2 symposia were attended (29 lectures delivered and 8 papers presented) by faculty and a senior resident. Seven workshops were conducted

by the department faculty. Six scientific sessions were chaired by the faculty in different conferences. Faculty and residents published 18 articles (15 international, 3 national in scientific journals. Two abstracts published in international journals. Two chapters in books were written by the faculty. Two scientists from USA visited the department. One faculty was nominated in editorial board of an international scientific journal.

Two faculty members continued to be general secretary and treasurer of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC) respectively. Two from the faculty were in board for certification of brain death in AIIMS. Two new facilities were started in JPNATC.

Three awards (2 for presentations in conference and 1 for a published article) were won. Two new facilities were started in JPNATC.

## **EDUCATION**

### **Postgraduate teaching**

Eight (8) MD Anaesthesiology students from the main department received neuroanaesthesiology training in the department, as an integral part of their curriculum.

Twelve Senior Residents (8 from Department of Anaesthesiology, AIIMS, and 4 from Department of Anaesthesiology, Dr BRAIRCH received training in Neuroanaesthesiology for variable periods as a part of interdepartmental rotation on mutual exchange basis.

Thrice a week (Mondays, Tuesdays, Saturdays) Seminars, Journal club and case presentations (for one hour at a time) were organized as a part of departmental teaching programme.

### **Short-term training**

Seven MD (Anaesthesiology) students from Lady Hardinge Medical College received neuroanaesthesia training between 17 July 2012 and 31 August 2012.

## **CME**

### **Conferences, Seminars, Workshops**

#### **Organized by the department**

1. Dr Hemanshu Prabhakar conducted workshop on 'Transcranial Doppler in Neurosurgical patients' in ISNACC 2013, 8 February 2013, BHU, Varanasi.
2. Dr A. Bindra conducted 'Basics of Mechanical ventilation', Workshop on Mechanical Ventilation in TRAUMA 2012, 23 April 2012, JPNA Trauma Centre, New Delhi.
3. Dr A. Bindra conducted 'Skill station on Airway management', AIIMS BECC Programme for Srilankans, 3–13 December 2012.
4. Dr Keshav Goyal conducted workshop on 'Trouble-shooting the ventilator' at Basic mechanical ventilation workshop, 22 November 2012, at JPNATC, New Delhi.
5. Dr Kapil Dev Soni conducted skill stations on 'Bedside lung ultrasound in emergency' – AIIMS–ACCP.
6. Pulmonary and critical care ultrasound workshop in collaboration with American College of Chest Physician, All India Institute of Medical Sciences, New Delhi, 12 and 14 of December 2012.
7. Dr Kapil Dev Soni conducted workshop 'The Pump-Cardiac Ultrasound in Trauma, Advances Ultrasound trauma life support courses (AUTLS)', JPNATC AIIMS, 9–10 December 2012 and conducted workshop 'The Pump-Cardiac Ultrasound in Trauma, Advances Ultrasound Trauma life support course (AUTLS)', organized at JPNATC AIIMS, 14–15 December 2012.

### **Lectures delivered**

**Arvind Chaturvedi: 2**

**M.P. Pandia: 3**

**G.P. Rath: 5**

**Hemanshu Prabhakar: 4**

**Gyaninder P. Singh: 2**

**Ashish Bindra: 3**

**Keshav Goyal: 1**

**Kapil Dev Soni: 9**

**Oral/poster presentations: 7**

## **RESEARCH**

### **Funded projects**

#### **Ongoing**

1. Effect of pregabalin premedication on postcraniotomy pain in patients undergoing supratentorial tumor surgery. Girija Prasad Rath, AIIMS, January 2011–till date, Rs 1 lakh.
2. Evaluation of cerebroprotective effects of Isoflurane and Propofol anesthesia in patients undergoing neuroendoscopic procedures. HemanshuPrabhakar, January 2011–till dte, AIIMS, Rs 1 lakh.

3. To study the cerebroprotective effects of Dexmedetomidine in patients undergoing epilepsy surgery – A biomarker guided study. Ashish Bindra, AIIMS, January 2013–till date, Rs 3 lakhs.

### **Completed**

1. Assessment of effects of Nitrous oxide during anaesthesia in patients undergoing craniotomy for supratentorial tumors and MTHFR gene polymorphism. H.H. Dash, ICMR, 2009–11, Rs 4.82 lakhs.
2. Coagulation abnormalities following aneurysmal subarachnoid hemorrhage during perioperative period as detected by ROTEM thromboelastography (TEG). Hemanshu Prabhakar, ICMR, 2011–12, Rs 3.88 lakhs.

### **Departmental projects**

#### **Ongoing**

1. Prognostic value of serially estimated serum procalcitonin in multiple trauma victims with and without head injury.
2. Intraoperative use of dexmedetomidine in large vascular Meningiomas.
3. Cardiovascular complications after traumatic spinal cord injury.
4. Effect of dexmedetomidine in attenuating hemodynamic response due to nasal speculum insertion in patients undergoing transsphenoidal resection of pituitary tumours.
5. A retrospective analysis of anaesthetic implications of patients undergoing deep brain stimulation surgery.
6. Comparison of intraoperative brain condition and postoperative recovery between sevoflurane and desflurane in supratentorial surgery.
7. Postoperative pulmonary complications in postsurgical patients for cervical spinal cord/ spine pathology.
8. Effect of Tranexamic Acid on Intraoperative Blood Loss and Transfusion Requirements in Patients Undergoing Excision of Intracranial Meningioma.
9. Comparison of two infusion doses of dexmedetomidine to alleviate stress response during tracheal extubation.
10. Factors predicting outcome of acromegalic patients undergoing pituitary surgery.
11. Comparison of sevoflurane and desflurane in children in children undergoing lumbosacral spine surgery.
12. Sitting position for paediatric neurosurgery – A retrospective analysis.
13. Use of dexmedetomidine in anterior cervical spine surgery – Effect on haemodynamic stability.
14. Perioperative course of patients undergoing transsphenoidal pituitary surgery via endoscopic versus microscopic technique-A retrospective analysis.
15. Effect of stellate ganglion block on intraoperative propofol and fentanyl consumption in patients with CRPS II undergoing surgical repair of brachial plexus injury.
16. Perioperative complications in geriatric patients undergoing intracranial surgery.
17. Perioperative complications in patients in elderly age group undergoing cervical spine surgery.

#### **Completed**

1. Effect of dexmedetomidine in attenuating hemodynamic response to nasal speculum insertion in patients undergoing trans-sphenoidal pituitary surgery.
2. A retrospective review of patients undergoing deep brain stimulation (DBS) surgery.
3. Effect of intraoperative brain protection with propofol on postoperative cognition in patients undergoing temporary clipping during intracranial aneurysm surgery.
4. Perioperative management of children with encephalocele: An institutional experience.
5. Effect of Nitrous oxide in patients undergoing supratentorial craniotomy as assessed using S- 100 $\beta$ , CR-P and IL-6.
6. Postoperative complications in paediatric patients undergoing craniotomy.
7. A study comparing effects of 20% mannitol and 3% hypertonic saline on intracranial pressure and systemic haemodynamics.
8. Perioperative complications in patients undergoing awake craniotomy – A retrospective analysis.
9. Attenuation of hemodynamic response and recovery profile using dexmedetomidine and lignocaine.
10. Anaesthetic management and postoperative outcome in patients of Moya-Moya disease.
11. Effect of intraoperative dexmedetomidine on postoperative recovery profile children undergoing surgery for spinal dysraphism.
12. Clinical evaluation of C-Mac videolaryngoscope with or without use of stylet for endotracheal intubation in patients with cervical spine immobility.
13. Comparison of intubation success with McIntosh blade videolaryngoscope using stylet or bougie in patients undergoing neurosurgical procedures.

## **Collaborative projects**

### **Ongoing**

1. Effect of Lidocaine infusion on hemodynamics and recovery in patients undergoing endoscopic pituitary surgery: A multicentre, randomized control trial (University of Manitoba, Winnipeg Canada).
2. European Society of Intensive Care Medicine trial of therapeutic hypothermia (32–35°C) after traumatic brain injury (EUROTHERM 3235).’ Ongoing Multicentric Trial, National Institute of Health, Research's Health Technology Assessment Programme. (University of Edinburgh and NHS Lothian, UK).

## **PUBLICATIONS**

**Journals: 17**

**Abstracts: 2**

**Chapters in books: 2**

## **PATIENT CARE**

### **Pre-Anaesthesia Check-up (PAC) Clinic**

A total of 2239 patients (1859 New and 380 Old) were seen in the OPD.

### **Peri-operative Anaesthetic Care**

1. Neurosurgical operations (Total – 2933) = Elective (2071) + Emergency (862)
2. Neuroradiological procedures (Total – 538) = Diagnostic (395) + Therapeutic (143); Under General Anaesthesia 445 patients whereas 93 patients under Monitored Anaesthesia Care.

### **Neuro-Intensive Care Unit**

About 3000 patients (Neurosurgical and Neurological) were admitted.

### **Pain clinic**

A total of 924 patients (163 new and 761 old) were seen in the OPD and 406 of them were treated with nerve blocks in the operation theater.

### **New Facilities**

1. High dependency unit started in JPN Apex Trauma Centre.
2. Bed side dialysis facility started in Tc2 ICU for acute kidney injury patients following trauma.

### **Community service**

1. Dr Kapil Dev Soni as course faculty in – AIIMS Basic Emergency Care Course; delivered lectures on varied topics for medical and non medical personnel including paramedics, staff nurses, college students, teachers, etc.
2. Dr Kapil Dev Soni was part of workshop on trauma in Guwhati for disaster management and preparedness GMEX (Guwhati Medical Emergency Exercise), Guwhati, 30 October 2012, NDMA.

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Arvind Chaturvedi** took charge of Head, Department of Neuroanaesthesiology in July 2012; nominated a Member Board of Studies (Neuroanaesthesiology) at Banaras Hindu University (BHU) Varanasi; Selected as Examiner of PDCC Neuroanaesthesia in BHU, Varanasi; Reviewer of Journal of Anaesthesiology and Clinical Pharmacology (JOACP); member of Staff council AIIMS, member of Store and purchase committee CN Centre, AIIMS and Hospital Transfusion committee CN Centre AIIMS; Chaired, prestigious Prof.Gode oration during 14th National Conference of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC 2013), 8–10 February 2013, BHU, Varanasi; Chaired a session in 2nd International Conference on Interventional Pain Management and Pain Certificate Review Course, AIIMS, New Delhi, 24–26 August 2012. Chaired a session in 2nd International Conference on Recent Advances in Anaesthesiology (INCRAA) and 5th SAARC Critical Care Conference, 5–7 October 2012, New Delhi; Chaired a session in Trauma 2012 Conference, organized by JPNA, AIIMS, New Delhi, 23–25 November 2012.

**Dr R.S. Chouhan** chaired a scientific session in Annual Conference of Indian Society of Anaesthesiology (ISA), 26–30 December 2012.

**Dr G. P. Rath** chaired a scientific session in 13th Annual Conference of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC), 8–10 February 2013, Varansi; member, Editorial Board, World Journal of Anesthesiology.

**Dr Hemanshu Prabhakar** was awarded Certificate for Notable contribution (AIIMS Excellence Award – 2012) for the paper ‘Prasanna BU, Chouhan RS, Dash HH, Bithal PK, Prabhakar H. Comparative evaluation of Percutaneous Retrogasserian Glycerol Rhizolysis and Radiofrequency Thermocoagulation techniques in the management of Trigeminal Neuralgia. *Neurosurgery* 2012; 70 (2): 407– 412.

### **VISITING SCIENTISTS**

1. Dr Paul Hertz, Assistant Professor of Clinical Anesthesiology, University of Illinois, Chicago, USA visited and delivered a lecture in the department
2. Dr Sergio D Vergese, Chief, Department of Neuroanesthesia, Ohio State University Medical Centre, USA visited and delivered a lecture in the department.

## **NEUROLOGY**

### **EDUCATION**

#### **Undergraduate teaching**

All faculty members were actively involved in the UG training programme in UG lectures, seminars and clinical teaching during their posting in wards. Few UG students are also involved in conducting short-term research work under the guidance of the department faculty. BSc Nursing lectures were regularly taken as per schedule.

#### **Postgraduate teaching**

The department of Neurology has 18 DM Neurology residents. DM Pediatric neurology residents are regularly posted for training. MD Medicine and Psychiatry residents are posted periodically for training purposes. The department runs regular teaching in the form of detailed case presentations on rounds, weekly seminars, journal club, and clinical case discussions.

Dr Garima Shukla initiated a unique educational activity for DM Neurology and other specialty students, called the AIIMS Sleep Clinics, under which various puzzling cases of sleep disorders are discussed in an educative format.

Dr Mamta B Singh conducts regular (~ once a month) ‘Epilepsy Basics’ interactive orientation classes with physicians serving in remote, rural areas. She has covered 7 rural destinations in the last one year.

#### **CME/Workshop**

##### **Organised by the department**

1. Organized workshop on ‘How to Write a Research Grant Proposal’ at Ramalingaswamy Board Room, AIIMS for AIIMS faculty, 31 July 2012 (Kameshwar Prasad).
2. Organized Research Methods Seminar on topic ‘Confidence Interval in Interpretation of Clinical Trials’, 10 April 2012 AIIMS, New Delhi (Kameshwar Prasad).
3. Organized ‘First International Conference for Evidence Based Healthcare’, New Delhi, 6–8 October 2012 (Kameshwar Prasad).
4. Organized a 2 day Workshop on EEG Source localization, by invited guest faculty, Dr Richard Burgess, MD, PhD, Epilepsy Centre, Cleveland Clinic, Ohio, USA, 21–22 September 2012, Neurosciences Seminar Room, AIIMS, New Delhi (Garima Shukla).
5. Organized the Sleepcon 2013, (Annual meeting of the Indian Sleep Disorders Association), 29 –31 March 2013, New Delhi (Garima Shukla).
6. Organized a workshop on ‘Sleep disordered breathing in the young – implications and importance to the Neurologist’, Prof. Christian Guilleminault, Stanford University, 9 April 2012, Neurosciences Seminar Room, AIIMS, New Delhi (Garima Shukla).
7. Organized a workshop on ‘Difficult to treat obstructive sleep apnea’ Dr Robert Thomas, 12 April 2012, Neurosciences Seminar Room, AIIMS, New Delhi (Garima Shukla)
8. Organized workshops on Stroke and Multiple Sclerosis (Rohit Bhatia).

#### **Lectures delivered**

**Madhuri Behari: 9      Kameshwar Prasad: 16      Manjari Tripathi: 40      Garima Shukla: 21**  
**Rohit Bhatia: 6**

**Papers Presented at conferences: 27**

## RESEARCH

### Funded projects

1. Neuro-mapping of motor, speech and cognitive functions in Parkinsonism, Madhuri Behari, DBT, 3 years, Rs 42.5 lakhs.
2. Randomized multicenter double blind placebo controlled dose comparison study to determine the efficacy and safety of BG 00012 in subjects with relapsing and remitting MS, Madhuri Behari, Biogen Idec, 24 months, Rs 40 lakhs.
3. Study of efficacy and safety of BG 00012 in subjects with RRMS-extension study. Madhuri Behari, Biogen Idec, 5 years, Rs 30 lakhs.
4. Randomized, multicentric, double blind placebo controlled study of safinamide fixed dose in early PD. Madhuri Behari, MercSerenio, 24 month, Rs 10 lakhs.
5. Long term controlled study to evaluate the efficacy of safinamide as add on therapy in PD patients with motor fluctuations. Madhuri Behari, MercSerenio, 2 years, Rs 30 lakhs.
6. Open label trial to study the efficacy of human MSC transplantation in advanced PD. Madhuri Behari, Reliance Life Sciences, 3 years, Rs 15 lakhs.
7. Study to determine the long-term safety of safinamide in PD patients. Madhuri Behari, MercSerenio.
8. Establishment of a US-India Collaborative Partnership in Parkinson Disease (CPPD) Madhuri Behari, Indo-US, Rs 64 lakhs.
9. Double blind randomized controlled trial to study the efficacy and safety of NT201 in adult spasticity. Madhuri Behari, 2 years..
10. Intravenous autologous bone marrow derived stem cell therapy for patients with acute ischemic stroke: A multi-institutional project. Kameshwar Prasad, DBT.
11. Central Database Management Facility. Kameshwar Prasad, DBT.
12. Capacity Building on Stroke Biology. Kameshwar Prasad, DBT.
13. Mobilization of stem cells using G-CSF in acute ischemic stroke patients: A randomized clinical trial. Kameshwar Prasad, DBT.
14. Beta adrenergic receptor and angiotensin converting enzyme encoding gene polymorphism as a risk factor for stroke: A Case Control Study. Kameshwar Prasad, ICMR.
15. Comparison of effects of administration of bone marrow mononuclear cells (BMMNCs) in combination with melatonin versus BMNCs alone in middle cerebral artery occlusion model of stroke in rats. Kameshwar Prasad, DBT.
16. An international pilot study of an internet based platform to run epilepsy trials. (EPINET) University of Auckland, New Zealand. Manjari Tripathi.
17. An International multi centre, open parallel group, prospective, randomized, controlled trial to determine the effectiveness of treatment with continuous positive airways pressure (CPAP) in addition to standard care in reducing cardiovascular (CV) severe obstructive sleep apnea (OSA) Manjari Tripathi, 5 years, Monash University, Australia.
18. Validation of a rapid diagnostic method for the detection of HLA allele and its association with cutaneous drug reactions in persons with epilepsy. DBT. Manjari Tripathi.
19. Association of associated antibodies in the serum of epilepsy patients. AIIMS, Intramural Project, Manjari Tripathi.
20. Development and validation of a comprehensive clinical and neuropsychological test battery for use in Indian context for patients with vascular cognitive impairment (VCI)-ICMR, Manjari Tripathi.
21. Correlation of Electrophysiological States and Hemodynamic changes during simultaneous EEG-fMRI in Intractable Epilepsy', DBT, Manjari Tripathi.
22. Cognitive Activation Studies of Language and Memory as a Preoperative Evaluation in Patients with Intractable Epilepsy-A Novel Non-invasive method of investigation. DST, Manjari Tripathi.
23. Randomized controlled clinical trial to evaluate prophylactic properties of Ayurvedic Treatment Protocol in refractory and chronic migraine patients. Ipca Laboratories, Manjari Tripathi.
24. Radio-Surgery or Open surgery for Epilepsy Trial (ROSE), NIH, Manjari Tripathi.
25. Center for Excellence (COE) for Difficult to Treat Epilepsy. DBT, Manjari Tripathi.
26. Prospective randomized 12-week controlled study of visual field change in subjects with partial seizures receiving pregabalin or placebo. Pfizer, Manjari Tripathi.
27. Neurological outcome after aortic arch replacement surgeries without hypothermic circulatory arrest. Manjari Tripathi.
28. Role of candidate gene in vascular cognitive impairment, mild cognitive impairment and Alzheimer's disease: defining the common genetic markers and pharmacogenetics. Manjari Tripathi.

29. Role of candidate genes in vascular cognitive impairment, mild cognitive impairment and Alzheimer's disease: defining the common genetic markers and pharmacogenetics. Manjari Tripathi.
30. Design of specific peptide activator of Sirtuin as potential therapeutic target for mild cognitive impairment (MCI) and Alzheimer's disease (AD). Manjari Tripathi.
31. Determination of efficacy and safety of reflexology therapy for the patients with intractable epilepsy: a multicenter randomized clinical trial. Manjari Tripathi.
32. Automatic detections of non-convulsive seizures in scalp recorded electro encephalogram (EEG), DBT. Manjari Tripathi.
33. Effect of multitasking in progression of MCI to AD, CSI-DST. Manjari Tripathi.
34. Assessment of mutations in GABRG2 gene from microelectrocorticographically defined areas of hippocampus and amygdala in patients with MTLE with intractable epilepsy. DBT, Manjari Tripathi.
35. A study of quantitative EEG changes, cognitive functions and stress in mild cognitive impairment and Alzheimer's disease, AIIMS. Manjari Tripathi.
36. Generating knowledge for assessment of emerging technologies - The effects of Continuous positive airway pressure therapy for prevention of new vascular events in patients with sleep disordered breathing and stroke: A randomized controlled study. Garima Shukla, DST, 2009–13, Rs 67 lakhs.
37. Obstructive sleep apnea in patients with first ever stroke verses those with refractory hypertension: search for common pathological mechanisms. Garima Shukla, ICMR, 2012–15. Rs 41 lakhs.
38. FIST Programme, Stroke and Sleep Disorders, MV Padma, Manjari Tripathi, Garima Shukla, 5 years, Rs 94.5 lakhs.
39. To evaluate the response in the obstructive sleep apnea (OSA) parameters after distraction of the mandible in temporomandibular joint (TMJ) ankylosis patient with obstructive sleep apnea: A hospital –based study, 3 years, Rs 32 lakhs, Garima Shukla
40. To determine and search the role of persistent viral infection in patients of monomelic amyotrophy (MMA). AIIMS, Deepti Vibha.

#### **Departmental projects**

1. Inflammatory markers in CSF and serum of patients with SSPE and effect of treatment.
2. Clinical profile and natural history of PD at a single tertiary care hospital..
3. Translation and validation of non-motor symptom questionnaire n Hindi in PD patients.
4. Translation and validation of PDQ-39 in PD patients.
5. Spectrum of NMS in PD patients at a tertiary care center.
6. Complementary and Alternative Medicines in PD.
7. Prescription pattern of TBM among AIIMS faculty.
8. RLS in SCA..
9. CSF Testosterone levels in MND patients.
10. Olfactory functions in PD and Parkinsonism.
11. Olfactory functions in familial PD patients and their first degree relatives.
12. Treatment cost of PD in India.
13. Prevalence of Impulsive – compulsive behavior disorders in Parkinson's disease patient: Questionnaire-based study.
14. Cost of therapy of PD in India: hospital based study.
15. Evaluation of sexual function in PD and the urological dysfunction in PD, with correlation of urological parameters prospective study.
16. Predictors of refractoriness in patients with temporal lobe epilepsy.
17. Effect of refractory epilepsy and controlled epilepsy versus controls on circadian sleep rhythm (using actigraphy watch and proforma).
18. Role of sleep in the localizing value of video-EEG in patients with refractory focal epilepsy.
19. Sleep efficacy and its effect on cognitive function in intractable epilepsy patients before and after surgery.
20. Corneal health in PD patients undergoing treatment with amantadine.
21. Definition of Drug responsiveness in a cohort of epilepsy patients.
22. AED adverse Drug reactions and effects on trace metals.
23. Comparison of seizure semiology elicetd through caregiver history, home video and Video EEG.
24. Prevalence of Subclinical Seizures in patients with Idiopathic Hypoparathyroidism- a Clinical- Electroencephalographic study.
25. Efficacy of modified atkins diet versus ketogenic diet in children with refractory epilepsy aged 1 year to 18 years, 2012.

26. Electrophysiological Characterization of Yoga Nidra and its role in primary insomnia patients, 2012.
27. Impact of sleep on localizing value of video EEG in patients with refractory focal seizures- a Prospective Video polysomnography- EEG study.
28. Study of memory, Executive function and language performance in Refractory epilepsy.
29. Obstructive sleep apnea in patients with first ever stroke versus those with refractory hypertension: Search for common pathogenic mechanisms.
30. To study the clinical, demographic and treatment profile of patients with multiple sclerosis.
31. To study the seasonal and diurnal variation of stroke.
32. Outcomes of surgical interventions in acute stroke.
33. Predictors of stroke in patients with Rheumatic Heart Disease.
34. To study the long term outcome of patients undergoing decompressive hemicraniectomy for malignant MCA infarctions.
35. To study biomarkers of stroke recovery and correlation with TCMS in patients with stroke.
36. Restorative therapy with autologous mononuclear and mesenchymal stem cells in chronic stroke: a clinico-functional correlative evaluation.
37. Knowledge and understanding of anticoagulation in patients on oral anticoagulation therapy.
38. To study the difference in knowledge in patients with stroke and risk factors for stroke.
39. Feasibility, patient acceptability and efficacy of follow-up by phone in epilepsy patients – A Randomized Controlled Study.
40. Effect of an AED holiday in the EMU on subsequent seizure frequency after reinstating the drugs in medically refractory epilepsy patients- a Prospective Observational Controlled Study.
41. Validation of a phone application for the diagnosis of epileptic seizures in a rural Indian population – A Cross-sectional survey.
42. Unsupervised ‘distance-care’ model for management of epilepsy in rural India: Is it a sustainable model? A pilot study.

### **Collaborative projects**

#### ***Ongoing***

1. Thrombolysis with intravenous rt-PA for acute ischaemic stroke: the third International Stroke Trial. (IST-3). (Medical Research Council, UK).
2. ENOS: Efficacy of Nitric Oxide in Stroke – A prospective, international, multicentre, randomised, parallel-group, blinded, controlled, collaborative, factorial trial to investigate the safety and efficacy of treatment with transdermal glyceryl trinitrate, a nitric oxide donor, and of stopping or continuing prior antihypertensive therapy, in patients with acute stroke. (Medical Research Council, UK)
3. Genetic basis of ischaemic stroke in an Indian population. (UK–India Education Research Initiative, British Council, UK.)
4. Knowledge and understanding of anticoagulation in patients on oral anticoagulation therapy. (Nursing).
5. To study the difference in knowledge in patients with stroke and risk factors for stroke. (Nursing).
6. To evaluate the impact of a teaching programme on tracheostomy care. (Nursing).
7. To evaluate the impact of a teaching program on prevention of complications after stroke. (Nursing).
8. Improvement of quality of life and glycaemic control in diabetes mellitus with rhythmic breathing (Sudarshan Kriya Yoga and Pranayam) in addition to standard treatment of diabetes. (Endocrinology)
9. A study to assess the bone health and knowledge of osteoprotective measures in persons with epilepsy with a view to develop a teaching module suggesting osteoprotective measures. (Nursing)
10. Electrophysiological Abnormalities and acquired neuromuscular weakness in severe sepsis and its impact on outcome: A prospective study (Medicine)
11. Bone Health in Patients with Juvenile Myoclonic Epilepsy on Antiepileptic drugs (Medical Endocrinology)
12. Is nurse-led epilepsy follow up clinic a feasible option for India? (Nursing)
13. Reproductive health in WVE: A case-controlled descriptive study (Nursing)

### **PUBLICATIONS**

**Journals: 75**

**Abstracts: 5**

**Chapter in Books: 8**

### **PATIENT CARE**

**Dr Manjari Tripathi**

1. Invited to submit a proposal for a National epilepsy program by the Ministry of Health which has now moved to the Planning Commission.
2. Started a rural outreach program (iREAP: Indian Rural Epilepsy Awareness Program) to be modelled as a pilot study to start a National Program for epilepsy which has completed 2 years of existence.
3. Developed GEMIND; Guidelines for Epilepsy Management in India (Indian Epilepsy Society) as a core founding member. practice guidelines for physicians.
4. The ETP- Epilepsy Teaching Programme with the mission of teaching and reducing education gap in epilepsy among PHC and GPs.
5. Volunteer network for families with dementia for support of caregivers by the ARDSI–Delhi.

### **Dr Mamta B. Singh**

Community services/camps, etc. Mamta held one 2-day rural epilepsy screening and awareness session every month in a remote rural location. In the last one year, 7 camps were organized at (i) Betul, MP (5,6 May 2012); (ii) Katni, MP (21,22 July 2012); (iii) Raipur, Chattisgarh (1,2 Dec 2012); (iv) Sagar, MP (Dec 22,23 2013); (v) Biyavra, MP (Jan 19, 20, 2013); (vi) Naksalbari WB (Feb 16,17 2013); and (vii) Gopalpur, Orissa (26, 27 April 2013)

### **AWARDS AND HONOURS AND SIGNIFICANT EVENTS**

**Professor M. Behari** organized World Parkinson's Disease day for Parkinson's disease patients on 8 April 2012. Expert in the live show 'Total Health' telecast on DD NEWS on Parkinson's disease.

**Professor Kameshwar Prasad** was nominated by the Bihar Shatabdi Utsav Aayojan Samiti (BSUAS) for a Vishisth Bihari Samman to be conferred by Hon'ble Chief Minister of Bihar 18 March 2012, New Delhi; Member of the WSO (World Stroke Organization) Global Quality Working Group, 2013; Attended the BMJ's International Editorial Advisory Board Meeting, London, 21–22 March 2013; attended Cochrane Stroke Group Editors' Meeting, 19 April 2012, Edinburgh, UK; Founding Board Member, International Society for Evidence-Based Healthcare; Nominated as a member of the Expert Group to study the Health Effects of Mobile Technology constituted by Ministry of Health and Family Welfare, Govt. of India; Nominated expert for Standing Selection Committee meeting for Faculty post (Neurology) at NEIGRIHMS, Shillong; Nominated Member of the Postgraduate Medical Education (Super-speciality) Committee of the Medical Council of India; Member, International Advisory Committee, Asia Pacific forum for quality improvement in healthcare; Member, Infectious Diseases and ARI Review Group of the International Cochrane Collaboration; Member, International Clinical Epidemiology Network; Member, Task Force on Chronic Disease Biology of DBT; Member, Executive Council of Assam University, Silchar (2010–13); Member, Technical Advisory Group to IndiaCLEN Health Research Capacity Building Initiative; Director, Clinical Epidemiology Unit, AIIMS, New Delhi; Member, Executive Council of Pandit Bhagwat Dayal Sharma University of Medical Sciences, Rohtak; Editor, Edinburgh-based Cochrane Stroke Group and Amsterdam-based Cochrane ARI Group; Editorial Board Member –*Practical Neurology – a British Medical Journal publication*; *Cochrane ARI Review Group, Australia*; *Neurology India, Annals of Indian Academy of Neurology*; Participated in 14th Joint Annual Conference of Indian Epilepsy Association and Indian Epilepsy Society, organized by Epilepsy Association of Hyderabad, 8–10 February 2013.

**Dr Manjari Tripathi** Chief author – Autoimmune encephalitis awarded best poster in DNACon-2013; Awarded Anandi Bai Joshi award for Medicine in Third IRDS awards 2012; Co and chief author in the awarded poster entitled 'Triggering factors of seizures in people with epilepsy'; 13th Annual Conference of Indian Epilepsy Association and Indian Epilepsy Society ECON 2012; Member, Medical Sciences Research Committee for Council of Scientific and Industrial Research (CSIR), 2013; Member of the group in the development of 'National Guidelines on Obstructive Sleep Apnea' for the diagnosis of OSA, under the auspices of Department of Health Research, Ministry of Family and Health Welfare, Govt. of India 2013; **Chairperson** Session for the Symposium of Myopathy-2, International Workshop on Nerve Muscle Disorders, G.B. Pant Hospital, New Delhi, 22 February 2013; Session 'Point counter Point' Epilepsy Surgery, 15th Annual DNACon, 15th Annual Conference of Delhi Neurological Association and Annual Neuronurses Update, New Delhi, 17 February 2013; Session at the IV Childneurocon, 4th National Conference of Association of Child Neurology, 16 February 2013; Introducer of the topic CNS bugs and stroke at the presidential oration session, Tropicon 2013, NEDFI House, Guwahati, 2 February 2013; Convener and chairperson, 'Symposium on epilepsy for Neurologist and Neurosurgeons', NEUROCON 2012, Gurgaon, Haryana, 21 December 2012; Session for 'MRI-PET: the next step in multi-modal imaging', NEUROCON

2012, Gurgaon, Haryana, 20 December 2012; Preceptor for the topic 'Management of Seizures (Emphasis on newer AEDs), Medicine Lecture Theatre, AIIMS, New Delhi, 21 March 2012; Session of 'Dental and Surgical issues', SLEEPCON 2012, National Conference on Sleep Disorders, Chandigarh, 8 April 2012; Expert in the group meeting for Indian Initiative on Obstructive Sleep Apnea Guidelines (INOSA GUIDELINES 2013), Department of Health Research, Ministry of Health and Family Welfare, Govt. of India. 16–17 March 2013; Chaired session for 'Interpretation of Polysomnography' and 'Management of Central Sleep Apnea', 16 December 2012, AIIMS PULMOCRIT 2012; Attended the Expert Committee Meeting for screening cum mentoring of concept notes received under Cognitive Science Research Initiative (CSI), CR Rao Advanced Institute of Mathematics, Statistics and Computer Science, Hyderabad, 8–9 October 2012; Chaired the session at the Indian Academy of Neurology IANCON 2012, 5 October 2012.

**Dr Garima Shukla** Organized the Sleepcon 2013, (Annual Meeting of the Indian Sleep Disorders Association); Appointed 'Member, Editorial Board of the prestigious journal, 'Sleep Medicine'; Publication in 'Sleep Medicine' was a winner of the Elio Lugaresi WASM Award for Sleep Medicine, 5th World Congress on Sleep Medicine, Valencia, Spain; Chief Guide for paper submitted by Shaily Singh, to the 30th International Epilepsy Congress, Montreal, June 2013, awarded the 30th IEC Travel bursary award; Appointed a part time councilor at skill development Centre (SDC) of PGDGM Programme; Nominated by the DGHS for formulating the national epilepsy control Programme; Member of the advisory board of the Indian Academy of Clinical Medicine Journal; Representative of the Indian Epilepsy Society (IES) to the ASEPA and the EEG Board Examination from India, 2011–15.

**Dr Rohit Bhatia** Coauthored a paper in prestigious Lancet Neurology Journal; Co-editing and authoring a textbook on 'The Clinical Practice of Multiple Sclerosis', in process; National Coordinator for International GBS outcome study by Rotterdam Group; 3rd Best Paper Award, Indian Academy Neurology 2012 for the thesis work of DM resident as a chief guide; Collected data on Hospital Based Registry on Multiple Sclerosis for two years as a chief guide for DM thesis. Co-Organising the First International Conference on the theme of 'Heart and Stroke', to bring together two specialities for holistic stroke care in Nov 2013; Invited as an abstract reviewer for the annual International Stroke conference by the prestigious American Heart Association for a period of three years; Continuing as a Executive Member of Indian Stroke Association; Organized public awareness programmes with information in all leading newspapers on Stroke diagnosis and prevention and comprehensive management of Multiple sclerosis.

**Dr Mamta B Singh** Received 2012 American Academy of Neurology International Scholarship; Award for the 64th Annual Meeting of AAN, New Orleans, LA, April 2012. Founder Member of the Global Health Section of the American Academy of Neurology; Received 2012 Prof Peter and Jytte Wolf Award for Baltic Sea Epilepsy Summer School, Rostock, Germany July 2012; Invited by the AAN Media Experts Programme as a disorder-related expert on behalf of the American Academy of Neurology in the field of Epilepsy; Invited by the Association of Indian Neurologists in America (AINA) to deliver a talk during the 64th Annual Convention of the AAN at New Orleans, LA, April 2012; On the Editorial board of Epileptology: Facts and Controversies (Elsevier); Invited to join an international academic group for the study of Epilepsies with External Modification of Ictogenesis (EpExMo); Awarded International League Against Epilepsy (ILAE) award to attend the 10th European Congress of Epilepsy, London, October 2012.

### **VISITING SCIENTISTS**

1. Richard Burgess MD, PhD, Epilepsy Center, Cleveland Clinic, Cleveland, Ohio, USA  
Christian Guilleminault, MD. Stanford University Center for Sleep disorders
2. Robert J Thomas, MD. Beth Israel Deaconess Medical Center.
3. Jerome Chin Lecturer, Global Health, School of Public Health University of California, Berkeley, USA.

### **NEURO-PSYCHOLOGY**

#### **HIGHLIGHTS**

In the last one year a separate Specialized Clinic: Cognitive Disorders and Memory Clinic ('CD' and 'M' Clinic) (by the Departments of Neurology and Clinical Neuro Psychology) on every Wednesday mornings has been started.

## **EDUCATION**

- Plan Course Curriculum, IIT Jodhpur, course on Clinical Psychology 2012
- Institute of Behavioural Sciences, Gujarat Forensic Sciences University, Meeting for approval for MSc Neuropsychology Syllabus, May 2013.
- Amity University M.Phil Programme, external examiner, 2013.

## **CMEs/Workshops/Symposia/National and International conferences**

NACIACP: 39th National Annual Conference of Indian Association of Clinical psychologists, AIIMS, 18-20 February 2013.

**Lectures delivered: 11**

**Papers presented: 18**

## **RESEARCH**

### **Funded projects**

#### *Ongoing*

1. Preclinical predictors of progression of cognitive decline in MCI and AD Using a Multitasking paradigm. Ashima Nehra Wadhawan, DST, 2012–15, Rs 40 lakhs.

### **Collaborative projects**

#### *Completed*

1. Generating knowledge for assessment of emerging technologies – The effects of Continuous positive airway pressure therapy for prevention of new vascular events in patients with sleep disordered breathing and stroke: A randomized controlled study. (DST, Neurology, Clinical Neuropsychology)
2. The Effects of Positive, Negative and Neutral Affect on Cognitive Functions and Associated Psychological Stress Response. (DBT, Physiology and Clinical Neuropsychology).
3. 'Plasma- derived miRNAs as potential biomarkers for Cognitive Deficits in mild traumatic brain injury'. (ICMR, Neurosurgery and Clinical Neuropsychology).

#### *Ongoing*

1. Effects of Yoga Shri Vivek practice on Mild Cognitive Impairment patients and normal Ageing: balancing the nervous system (Neurology).
2. Indian adaptation and validation of a recently developed executive functions test – Jansari Assessment of Executive Functions (JEF) test for 'adult, chronic neurological populations' that includes Epilepsy, Traumatic Brain Injury (TBI), Mild Cognitive Impairment (MCI), Dementia and Stroke populations. (Cognitive Science Research Initiative (CSI), Neurology).
3. Oxidative DNA damage and total Oxidant Status in Mild Traumatic Brain Injury. (Neurosurgery)
4. Plasma- derived miRNAs as potential biomarkers for Cognitive Deficits in mild traumatic brain injury, (DST, Neurosurgery), February 2013.
5. Unraveling the Cause of Stroke and Cognitive Decline in the General Population. A cross Cultural Perspective Study. (DBT, Neurology).
6. Study of the changes in sleep architecture, melatonin levels and metabolic abnormalities on F-18 Fluorodeoxyglucose Positron Emission Tomography (FDG-PET) in persons with Mild Cognitive Impairment (MCI) progressing to Alzheimers type dementia (AD). (CSI, Neurology, Nuclear Medicine).
7. Alzheimer Disease Neuroimaging Initiative – A Longitudinal Multi-Center Study. (Adni-India Project). (DBT-Cognitive Science Initiative, Neurology, Nuclear Medicine).

## **PUBLICATIONS**

**Journals: 3    Chapters in Books: 4**

## **PATIENT CARE**

Neuropsychological assessment, interpretation and therapy of various Neurosurgical and Neurological patients. It included patients of Head injury, Stroke, Parkinson's, Dementia, Epilepsy, Referrals for Psychiatry Ward/OPD. Work also included practical neuropsychological assessment/evaluation including clinical diagnosis, comprehensive interview; behavioural observations, assessment with series of neuropsychological tests, interpretation, report writing neuropsychological formulation including cerebral impairment, severity of injury and disability; neuropsychological retraining including basic function approach to improve the

functional skills improving basic pre morbid functions of persons daily life; neuropsychological reorganization including compensation for the deficit when deficient function can neither be reorganized nor restored, clinic based therapy; home based therapy. OPD work of 4–5hours/day. There were 4 OPD/week and the fifth by appointment (Clinical Neuro Psychology) while a special Cognitive Disorders and Memory Clinic on Wednesday Mornings which is run by Departments of Neurology and Clinical Neuropsychology, Neurosciences Center, AIIMS. Teaching of MBBS and Nursing Students. Guiding thesis/theses and research. First step towards planning of research work to be done was formulated.

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Ashima Nehra** started Cognitive Disorder and Memory Clinic (CD and M Clinic) and Neuropsychological Rehabilitation (NR), a new registry under Departments of Neurology and Clinical Neuropsychology. She was Organizing Secretary: 39th National Annual Conference of IACP at AIIMS, New Delhi. She was visiting faculty, Gujarat Forensic Sciences University. She is an executive committee member of the Neuropsychological Society of India. She is a member ethics committee of Indian Association of Clinical Psychologists and member editorial board of the Indian Journal of Clinical Psychology, 2012–14

### **NEUROPATHOLOGY**

#### **EDUCATION**

##### **CMEs/ Seminar/Workshops**

**Lectures delivered: 13**

**Oral/poster presentations: 37**

#### **RESEARCH**

##### **Funded projects**

##### ***Completed***

1. Angiogenesis in astrocytic tumors of the brain: A clinicopathological study with special reference to expression of vascular endothelial growth factor (VEGF), and hypoxia inducible factor (HIF) – 1 alpha and correlation with vascular morphometric parameters and tumor infiltrating inflammatory cells. Chitra Sarkar, ICMR, 2009–12, Rs 21 lakhs (approx).
2. Hypoxia and p53-HIC1 axis in stemness of glial tumors and cell lines. Chitra Sarkar, DBT, 2009–12, Rs 50.5 lakhs.

##### ***Ongoing***

1. Genomic and functional approaches to decipher the role of a large imprinted miRNA cluster in glioblastoma multiforme. Chitra Sarkar, Department of Biotechnology, 2012–15, Rs 50 lakhs (approx.).
2. A Clinicopathological and Molecular Genetic Study of Polycomb Repressive Complexes in Gliomas. Chitra Sarkar, ICMR, 2012–15, Rs 50 lakhs (approx).
3. Glioblastomas in children and adults: A comparative study with special reference to molecular pathways and MGMT methylation status. Vaishali Suri, ICMR, 2010–13, Rs 24 lakhs (approx).
4. Clinical application of array based comparative genomic hybridization (array CGH) in the genetic evaluation of still births. Chitra Sarkar, M.C. Sharma, DBT, 2012–15, Rs 85 lakhs.

##### **Departmental projects**

##### ***Completed***

1. Clinicopathological study of CNS AT/RT.
2. Clinicopathological study of pineal tumors.

##### ***Ongoing***

1. Subtyping of medulloblastomas by immunohistochemistry
2. MGMT methylation in hemangiopericytomas
3. Expression of histone markers in gliomas
4. MGMT methylation in gliosarcoma
5. Study of Limb Girdle Muscular Dystrophy (LGMD) Patients in Indian Population Using Calpain-3, Dysferlin and Sarcoglycan Protein Analysis.
6. Mutational analysis of Indian patients of Limb Girdle Muscular Dystrophy (LGMD).

7. Study of Tuberos Sclerosis Complex and Upregulation of WNT pathway in Subependymal Giant Cell Astrocytomas and Cortical Dysplasia.
8. Study of Human Telomerase Reverse Transcriptase (hTERT) and Stem Cell Markers Expression in Ependymomas -Correlation with Apoptotic and Proliferative markers.
9. Molecular genetic study of pediatric gliomas.
10. Analysis of genetic alterations in meningiomas.

### **Collaborative projects**

#### **Completed**

1. Oxygen concentration, p53 axis and stemness characteristics of glial tumor cell lines (Biochemistry)
2. Expression of Notch signaling molecules, Epithelial Mesenchymal Transition (EMT) markers and HIF-1alpha in Glioblastoma Multiforme (Biochemistry).
3. Clinicopathological study of the thalamus in head injury (Neurosurgery).

#### **Ongoing**

1. Methylation profiling of pediatric GBMs (Indian Institute of Science, Bangalore).
2. CHIP-Sequencing in Gliomas (IGIB, Delhi).

### **PUBLICATIONS**

**Journals: 23**

#### **PATIENT CARE**

Neuropathology Surgical Specimens	2356	Frozen Sections	243
<i>Muscle biopsies</i>			
Total number received	374	Muscle enzyme histochemistry	1266
Muscle immunohistochemistry	2281		
Immunohistochemistry	6472		
Diagnostic Fluorescent in situ hybridization	180		
<i>Electron Microscopy</i>			
Specimen received	1234	Specimen processed	982

#### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor Chitra Sarkar** received AIIMS Excellence Award for notable contribution in research at AIIMS for the paper entitled ‘Molecular profile of oligodendrogliomas in young patients. Neuro Oncol. 2011;13:1099–106’; Delivered Presidential Oration in the Annual Conference of the Asian Society of Neuro-Oncology; Delivered Subhadra Dayananda Rao Oration in the NIMHANS, Bangalore; Nominated Member of the Council of the Indian Academy of Sciences for the triennium 2013–15; Member of the Selection committee, NIMHANS, Bangalore. She was the symposium Coordinator for Neuro-oncology symposium in IACR and Neuropathology symposium in ASNO.

#### **Awards to Students**

**Dr Mukund Sable** received H D Tandon award for best poster entitled ‘Limb girdle muscle dystrophy type II A (calpinopathy) with rimmed vacuoles’ (Mukund Sable, Mehar C. Sharma, Vaishali Suri, Rohit Bhatia, Shefali Gulati, Chitra Sarkar Department of Pathology, neurology and paediatrics) at Delhi Chapter Meet of IAPM (DAPCON 2013), AIIMS, New Delhi.

**Dr Prerna Jha** received the first prize for the paper entitled ‘Genome wide promoter methylation in pediatric Glioblastoma’, Annual Conference of Indian Society of Pediatric Neurosurgery Neuropedicon 2012 **Dr Aanchal Kakkar** received the Herbert Krause Gold medal for the paper entitled ‘Meningeal hemangiopericytoma – a clinicopathological, immunohistochemical and molecular genetic study, with emphasis on MGMT (O6 – methylguanine- DNA methyltransferase) promoter methylation status’, 61st Annual Conference of Neurological Society of India ‘ Neurocon 2012’, New Delhi. **Dr Rakesh Gupta** received the first prize for the poster entitled ‘Study of chromosome 9q, notch pathway regulators and tenascin C in ependymomas’, annual conference of DNA (DNACON 2013), New Delhi.. **Dr Suwendu Purkait** received the third prize for the oral presentation entitled ‘Cyclin dependent kinase 2A (CDKN2A) deletion in pediatric versus adult GBMs’, Annual Conference of DNA (DNACON 2013), 17 February 2013.

## **NEURORADIOLOGY**

### **EDUCATION**

#### **Undergraduate Teaching**

Faculty of the department undertakes didactic lectures and seminars for undergraduate students of the Institute.

**DM Neuroradiology** course started in July 2001. Three candidates are registered for this course presently.

#### **Short Term Training**

Two faculty members, one from SCTIMST and another from Airforce Hospital had short term training in this department this year. Senior residents/junior residents from Neurology, Neurosurgery, Neuroanaesthesia, have rotational postings in this department. MD (Radiodiagnosis) and BSc (Radiography) students from the department of Radiodiagnosis have rotational posting in this department.

#### **Continuing medical education**

##### **Lectures delivered**

**N.K. Mishra: 3                      Shailesh B Gaikwad: 14                      Ajay Garg: 11**

### **RESEARCH**

#### **Funded projects**

1. Efficacy of Imaging assessment of Neoangiogenesis and permeability to Pre-operatively Grade Cerebral glioma, Intramural grant-research project.

#### **Departmental projects**

1. Correlation of Imaging finding with clinical presentation in patients of primary central nervous system vasculitis
2. Imaging biomarkers of angiogenesis and the micro vascular environment in high-grade gliomas with perfusion MR imaging and diffusion tensor imaging with image guided biopsy corroboration.

#### **Collaborative projects**

1. Randomized Two Arm Parallel Group Clinical trial to evaluate efficacy of trans-sphenoidal microscopic/endoscopic surgery using high field intra-operative magnetic resonance imaging guided resection as compared to two dimensional fluoroscopic guidance in extent of tumor resection in Non-functioning Pituitary macro-adenoma
2. Prediction of Motor Recovery in Upper Limb through parameters obtained from Clinical Assessment, Diffusion Tensor Imaging (DTI) and Transcranial Magnetic Stimulation (TMS) in patients with Acute Ischemic Middle Cerebral Artery (MCA) Stroke.

### **PUBLICATIONS**

**Journals: 15**

### **PATIENT CARE**

#### **Procedures**

Digital subtraction angiography	550	Interventional procedures	109
MRI	2470	CT routine	9533
Mobile CT	1684	Image guided/CT guided study	199
Emergency CT	9587	CT Angio	93
HRCT	18	Stereotactic biopsy	26
Gamma Knife	58	Chemical Angioplasty and Thrombolysis	18
Ultrasound	2030	Plain X-rays OPD/indoor	22807
Pvt. Case reporting	3254		
Total	52436		

## AWARDS AND HONOURS

**Professor N.K. Mishra** was awarded Gold Medal, 15th Annual Conference of the Indian Society of Vascular and Interventional Radiology (ISVIR), 14–17 February 2013, Coimbatore.

**Dr Shailesh B Gaikwad**, was elected President of Indian Society of Neuroradiology, 15th Annual Conference of Indian Society of Neuroradiology (ISNR), 22–25 September 2012, Shillong, Meghalaya; Secretary of Indian Society of Vascular and Interventional Radiology, 15th Annual Conference of Indian Society of Vascular and Interventional Radiology (ISVIR), 14–17 February 2013, Coimbatore.

## NEUROSURGERY

### HIGHLIGHTS

This year was full of Academic activities and education oriented year. During the year overall development of Department occurred with various academic and patient care activities.

1. Establishment of new cell and electrophysiology laboratory and molecular biology laboratory is under process at Center for Epilepsy research funded by Department of Biotechnology, Ministry of Science and Technology this year. AIIMS.
2. Microneurosurgery skill lab for training neurosurgeons under FIST, DST.
3. Magnetoencephalography (MEG) facility is going to establish at NBRC in collaboration with COE, AIIMS funded by Department of Biotechnology, Ministry of Science and Technology this year.
4. 14th Annual AIIMS Microsurgery Workshop, attended by over 200 delegates.
5. 2,470 emergency procedures, 3,366 elective procedures and 40,927 patients seen in OPD, 398 patients admitted for gamma knife procedures. A total of 55 papers published and 12 ongoing projects.

### EDUCATION

MCh programme: Post MS – 3 years, Post MBBS – 6 years

PhD programme

Visiting Fellows: During the period various distinguished fellows attended the Department of Neurosurgery, for observation from India and abroad.

Experimental Lab: Fully functional for microneurosurgery and neuroendoscopic training.

### CMEs/Workshops/Symposias/National and International Conferences

#### Organized by department

1. Neurological society of India along with First Indo-German neurosurgical friendship meeting, Annual Congress, 2012.
2. AIIMS KISS (Keep It Simple Sonography) course for Neurosurgeons, Nepal, November 2012, and Delhi December 2012. Programme Director: Dr Deepak Agrawal.
3. AIIMS Ultrasound Trauma Course (AUTLS) held courses in various parts of India and abroad (Nepal and Iran) during 2012–13. Course Director: Dr Deepak Agarwal.
4. AIIMS BECC course and held in various parts of India during 2012–13 in partnership with NHRM (National Rural Health Mission) Course director: Dr Deepak Agarwal.
5. 2nd Live operative workshop and symposium on Complex Spinal trauma, JPNATC, AIIMS, 12–13 May 2012. Organising secretary: Dr Deepak Agrawal.
6. 2nd International summit and workshop on Cost Effective and Meaningful Use of Technology in Emergency Healthcare (CEUTEH 2011), 28–30 September 2012, AIIMS, New Delhi. Organising secretary: Dr Deepak Agrawal.

### Lectures delivered

**B.S. Sharma: 8P.**

**Sarat Chandra: 5**

**Sachin Anil Boriker: 6**

**Oral/posters presented: 8**

### RESEARCH

#### Funded projects

1. Distributed cognition and modelling complexity: a bioinformatics approach for decreasing medical errors, Deepak Agrawal, DST, 2011–13, Rs 1.2 crores.
2. Thromboelastometry (TEG): Utility and Cost-effectiveness in diagnosing of infection in Neurosurgery Intensive care unit (NICU) as compared to established biomarkers, Deepak Agrawal, AIIMS, 2012–13, Rs 9 lakhs.

3. Assessment of Handwashing compliance using Kinect camera, Deepak Agrawal, DBT, 2013–15, Rs 22.5 lakhs.
4. Assessment of mutations in GABRG2 gene from microelectrocorticographically defined areas of hippocampus and amygdale in patients with MTLE with intractable epilepsy, P Sarat Chandra, DBT, 2010–13, Rs 39 lakhs.
5. Study of PAX1 gene mutations in patients with Chiari 1 malformation (CIM) associated with syringomyelia and other bony Craniovertebral junction anomalies, P Sarat Chandra, AIIMS, 2012–14.
6. Exon Defects in Osseous developmental CVJ anomalies, P Sarat Chandra, DBT, 2011–continuing, Rs 17 lakhs.
7. fMRI and simultaneous EEG for localizing the epileptogenic focus in patients with intractable epilepsy, P Sarat Chandra, DBT, 2011–continuing, Rs 17 lakhs.

### **Departmental projects**

#### **Ongoing**

1. Serum IL-6 as potential bio-marker for intracranial pressure elevation in isolated head injury patients.
2. Oxidative DNA damage and total Oxidant status in mild traumatic brain injury.
3. Epidemiology of head injury and spinal cord injury at integrated level 1 trauma center in India.
4. Integrated online portal for AIIMS trauma centre: Potential to improve patients' satisfaction and care on the ground.

### **Collaborative Projects**

1. Centre of Excellence to be commissioned as a National facility for difficult to treat epilepsy (AIIMS and NBRC), P Sarat Chandra, DBT, 2011–continuing.

### **PUBLICATIONS**

**Journals: 45**

**Chapters in books: 8**

### **PUBLIC AWARENESS/ MEDIA PUBLICATION**

#### **B.S. Sharma**

1. DD News, Total Health, Sunday, Backache, 2013
2. DD News, Total Health, Sunday, Road traffic accidents, 2012
3. Brain Tumors in Children, Public awareness programme in ISPN Conference 2012.
4. Epilepsy, Public awareness programme in NSI Conference 2012.

#### **Sarat Chandra**

1. AIIMS doctors cure a seven year old girl's rare laughing epileptic disorder, Article published in Hindustan Times in June 2012.
2. Alcohol se tumor theek hua aur napkin se jakm bhar gaya, Article in Hindustan Times, Hindi edition, in June 2012.
3. 15 minute surgery for carpal tunnel using endoscopy, Article in Hindustan Times, 3 September 2012.
4. DD News Total health Epilepsy Surgery.

### **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Professor B.S. Sharma** was President (Elect), Delhi Neurological Association; President (Elect), Neurotrauma Society of India; Secretary, Cerebrovascular Society of India.

**Professor P. Sarat Chandra** is Chief Editor, Neurosurgery Scan, Publisher: Wolter Kluwers; Chief Editor, Indian Journal of Neurosurgery (IJN), Publisher: Wolter Kluwers. ISSN-2277-954X; Editorial board, Journal of Krishna Institute of Medical Sciences University (JKIMSU), ISSN-2331-4261; Executive member, Indian Epilepsy Society; Executive Member Secretary General, Asian Epilepsy Surgery Society; Member: GEMIND: Guideline for epilepsy management, India; Core committee member, National Tuberculosis programme; Editor in Chief, Indian Journal of Neurosurgery (IJN); Executive member and Life member, Neurological Society of India (NSI); Faculty 1000 of ILAE (International League Against Epilepsy); Member of Penry epilepsy Alumni (wake forest university, USA); Member of Committee for Improvement of standards of research activities of medical education by Ministry of Health and Family welfare. Published the following **Patient**

**information handbooks:** (i) Taking Care of Your Back: The ‘HEAL’ programme’ Patient information handbook published in collaboration with CMET AIIMS; (ii) Guidelines for patients with neck pain: The ‘HEAL’ programme’: Patient information handbook published in collaboration with CMET AIIMS; (iii) Patient/Caregiver Information Booklet’ Patient information handbook of epilepsy.

**Dr Deepak Agrawal** was Awarded the ‘Tata Innovation Fellowship’, by DBT for a 3 year period, 2013–16, Rs 22.5 lakhs; Best paper award for co-authoring study titled ‘Theco-peritoneal shunt for post-traumatic hydrocephalus – A valuable adjunct? Presented at the annual conference of NTSI in Kochi, 17–19 August 2012; Best paper award in oral category for co-authoring study titled ‘The effectiveness of blood bag bar code matching by nurses in reducing post transfusion related errors’, Annual DNACON Conference, New Delhi, 16–17 February 2013; Best paper award, poster category for co-authoring study titled ‘Incidence of ear injuries in head and spinal injury patients’, Annual DNACON Conference, New Delhi, 16-17 February 2013; Best paper award, poster category for co-authoring study titled ‘The effectiveness of blood bag bar code matching by nurses in reducing post transfusion related errors’, annual DNACON conference, New Delhi, 16–17 February 2013; Best paper award in poster category for co-authoring study titled ‘Differentiating between Pleural Effusion and Lung Consolidation Using Bedside Ultrasound by Nurses in Neurosurgery ICU’, annual DNACON conference, New Delhi, 16–17 February 2013.

**Dr Sachin Anil Borkar** Assistant Webmaster for ‘Neurological Society of India (NSI)’ website for the year 2012.

#### **PATIENT CARE**

The department has 2 units with a general neurosurgical ward under each unit [35 × 2 beds]. There are 2 ICUs with 23 beds. There are now 4 elective ‘state of art’ operating theatres available on the 7th floor of the CN tower and two exclusive operating theatres are in the Trauma Centre. The ‘brain suite’: intraoperative MRI with neuronavigation, is the process of installation in the first floor and three more elective operating rooms are available of the CN centre. World class facility for neurosurgery is offered to include all specialities: vascular surgery, epilepsy surgery, minimally invasive cranial and spinal neurosurgery, pediatric neurosurgery, functional neurosurgery, tumor surgeries, skull base surgeries and complex spine surgeries. All operating rooms are optimally equipped with operating microscopes, high speed pneumatic Drills, CUSA, cell saver, neuronavigation, neuroendoscopes, electrophysiology and EEG monitoring.

#### **OPD cases**

New cases	10470	Old cases	21545	<b>Total cases</b>	<b>32015</b>
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#### **Pediatric cases**

New cases	2600	Old cases	6312	<b>Total cases</b>	<b>8912</b>
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<b>Gamma knife treatment</b>	398
<b>Number of elective surgeries</b>	3366
<b>Number of surgeries in trauma centre</b>	2470
<b>Total number of surgeries</b>	<b>5856</b>

## 11.1 B.B. Dikshit Library

**Chairperson**  
Chitra Sarkar

**Vice Chief Librarian**  
H.K. Prasad

### **Timings and Membership**

The library is open round the clock (24 hours) on all days of the week including Sundays and holidays w.e.f. 1 August 2003. It has 2507 regular members and an average of 330 readers visit the library every day.

### **Services**

The library continues to extend the following services to the users. These services have been optimized and updated.

1. **Books Alert Service:** This is a monthly service; it facilitates listing of new books, monographs and pamphlets added to the library in a particular month.
2. **Periodical Alert Service:** This is a fortnightly service; it facilitates listing of new periodicals received in the library during the previous fortnight.
3. **Interlibrary Loan Services:** With several local libraries are being maintained to help users procure documents that are not available in the library.
4. **Reprographic Services:** The library has three machines to meet the photocopying needs of readers, viz. two WC5638 and one WC 7242 Colour of Xerox India Ltd. During the year 21,297 pages were photocopied on payment.
5. **CD-ROM Printout Services:** During the year 4,148 pages pertaining to articles and other useful literature were printed as per requirements of the readers on payment.

### **Book Bank**

It continues to serve undergraduates and interns. The total membership is 92. The book bank has more than 2,735 books, which are issued on a long-term basis to students.

### **Audiovisual Section**

The library has four colour television sets and four video cassette recorders. The number of video cassettes available in the library is 308. This section also has four audio cassettes playback decks and 109 audio cassettes.

### **CD-based Services**

The library has a collection of 1066 CD ROMs of different digital books/journals. It can be used by the readers within the library. Different encyclopedias and dictionaries are also available on CD-ROMs.

### **Library Automation**

The library has a centralized server with 16 terminals, ten laser printers and one network laser printer. The house keeping operation of the library (viz. acquisition, cataloguing, serial control) has been automated. The library is using a commercially available software package named LS-Premia.

### **Computerized Thesis Search**

About 6,166 theses received so far in the library can be retrieved through a computer search. Information about each thesis such as author, title, department, guide's name, co-guides and other bibliographical details have been fed into the computer.

### **Print and Online Journals**

The library subscribed to 788 journals in various field of health sciences; 436 online along with their print version; 125 for online version only; and 22 print version journals have been subscribed exclusively for the National Drug Dependence Treatment Centre (NDDTC), Ghaziabad. The online versions are accessible in the campus area through internet/Wi-Fi facility of the Institute.

### **Online Public Access Catalogue (OPAC)**

Almost all documents can be retrieved through computers; 6,166 theses received so far in the library can be retrieved through OPAC. The searchable databases (through OPAC) include video cassettes, audio cassettes and compact disc. Six online public access terminals are placed in the lobby at the entrance of the library where users can search bibliographic databases and find specific information online. Information about the journals and its recent arrivals can also be retrieved through Web-OPAC.

### **Internet**

The facility is available in the library from 10 a.m. to 10 p.m. from Monday to Friday and till 8.30 p.m. on Saturdays. Eighteen nodes are available to the users.

### **New addition**

The library added 301 new books, 139 bound volumes of journals, 25 pamphlets/reports, 289 new theses and now has a total of 72,430 books, 69,223 bound journals and 17,282 pamphlets/reports.

### **Conferences and publications**

1. Mr Jahangir Khan and Mr M.K. Vishwakarma presented a paper titled 'The role of medical librarian in Global Health Initiatives in AIIMS: An overview', National Convention of Medical Library Association of India (MLAI) 2012, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), Shillong, Meghalaya, 12–14 December 2012.
2. Mr Rakesh Rawat, Mr Jahangir Khan and Mr M.K. Vishwakarma presented a paper titled 'Users expectation and satisfaction with Wi-Fi network services in B.B. Dikshit Library (AIIMS): A case study', National Convention of Medical Library Association of India (MLAI) 2012, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), Shillong, Meghalaya, 12–14 December 2012.
3. Mr Prashant Shrivastava attended National Conference K-Society 2012: Creating Digital Library in Globalised E-Society, Indian Social Institute (ISI), New Delhi, 28 July 2012.
4. Mr Umesh Kumar attended National Conference K-Society 2012: Creating Digital Library in Globalised E-Society, Indian Social Institute (ISI), New Delhi, 28 July 2012.

## 11.2 Cafeteria

### Chairman

R.S. Shukla (Deputy Director, Administration)

### Faculty in-charge

O.P. Kharbanda

### Accounts Officer

A.K. Sharma

### General Manager

S.K. Kaushik

### Deputy General Manager

K.K. Sharma

### AIMS AND OBJECTIVES

The cafeteria was established in 1972 to provide wholesome food, prepared in healthy hygienic condition at reasonable prices to the Institute employees. Cafeteria is being run on 'No Profit No Loss basis', without any financial assistance from the Institute for equipment, furniture, utensils and other basic requirements.

### MANAGEMENT COMMITTEE

A Management Committee is constituted by Director, AIIMS for policy decisions that pertain to the Cafeteria from time to time. The members were:

Deputy Director (Administration)	Chairperson
Dr S. Rastogi	Member
Dr V.K. Paul	Member
Senior Financial Advisor	Member
Financial Advisor	Member
Superintending Engineer	Member
Accounts Officer, Cafe	Member
Chief Dietician	Member
Representative of RDA	Member
Representative of Officer Association	Member
Representative of Nurses Union	Member
Representative of Karamchari Union	Member
Representative of FAIMS	Member
Dr O.P. Kharbanda	Member Secretary
Shri S.K. Kaushik General Manager, Cafe	Member

### SERVICE FACILITIES

The cafeteria runs 7 units for services to about 10,000 employees of the Institute. These are:

1. Main Cafeteria (24-hour service) situated near Jawahar Lal Nehru Auditorium.
2. Main Operation Theatre Cafeteria situated on 9th floor of Main hospital.
3. CN Centre Cafeteria situated on 2nd floor of the Centre.
4. Dr R.P. Centre OT Cafeteria situated on 5th floor of the Centre.
5. Centre for Dental Education and Research
6. Dr B.R. Ambedkar IRCH
7. Faculty room Cafeteria situated near Main Cafeteria.

In addition cafeteria provides hospitality services to all higher officers and faculty members on day-to-day requirement, as well as special requirements for important meetings, organized at the Institute.

#### **STAFF STRENGTH**

There are 95 employees in the Cafeteria on regular as well as adhoc/temporary status/ contractual basis. Catering services are also provided to official meetings, conferences and symposia held the Institute.

#### **ANNUAL TURNOVER**

The total turnover of the Cafeteria is approximately Rs 2 crore 58 lakhs.

#### **DEVELOPMENT ACTIVITIES**

1. Several changes were made in the Cafeteria during the past year. These included extended facility at CNC Cafeteria, complete renovation with good ambience, new equipment was installed and new items added to the daily menu.
2. Lots of improvements were made to the ambience in the faculty room, resulting in an many-fold increase in users. Overall, faculty members appreciated the new facilities.
3. New food items/service introduced.
4. New additional eatables like Mini Pizza, Hot Dog, Paneer Kulcha, Rawa Idly, Sprout Idly and Dhokla were introduced.

#### **FUTURE PLANS**

There is a proposal for construction of multistory Cafeteria which will be equipped with latest technology to maintain healthier, hygienic conditions in the cafeteria and to cater to the needs of employees of the Institute.

Cafeteria services have been extended by establishing independent cafeteria at the AIIMS Outreach OPD, Badsa village, Jhajar, Haryana, which was appreciated by all category of staff.

## 11.3 Central Animal Facility

### Professor in-Charge

D.N. Rao

### Senior Veterinary Officer

P.K. Yadav

### Veterinary Officer

Vijender Singh

During 2012–13, animals were maintained in the facility (rodents, sheep and non-human primates, i.e. monkey). The various activities of this unit are categorized as follows.

#### Small Animal (Rodents)

The following rodents (average/months) were maintained throughout the year.

1. Rats (Wistar)	736
2. Rats (Sprague Dawley)	212
3. Mice (Swiss)	434
4. Rabbits (New Zealand)	070
5. Guinea Pigs (Dunkin Hartley)	065

A total of 3423 small animals (rat, mice, rabbit and guinea pig) were supplied to various departments and a number of animals were sold to sister institutions in Delhi and outside Delhi including 45 rats, 100 mice, 9 rabbits and 85 guinea pigs.

#### Large Animal Facility (Sheep)

The sheep colony housed 2 sheep for research work of the Microbiology department.

#### Non Human Primate (Monkeys)

##### *Census report*

Total number of monkeys on 1 April 2012	16
Rehabilitation	06
Deaths	Nil
Total number of monkeys on 31 March 2013	10

#### Breeding programme

All monkeys were carried out in open run. Non-human primates have five indoor runs which are used to provide exercise to all the monkeys housed in the monkey runs.

#### Rehabilitation facility

A programme for rehabilitation of monkeys was started in 2000. All monkeys used for a period of three to five years of experiments, and old monkeys were also put in open run. Most of these monkeys were permanently rehabilitated (after experiments) to animal welfare organizations as per instructions from the CPCSEA. Six monkeys were rehabilitated to Sanjay Gandhi Animal Care Centre, Raja Garden, New Delhi with the permission of CPCSEA (Ministry of Environment and Forests, Government of India) on 10 May 2012.

Non-human Primates (monkey) has five indoor runs for physical exercises to 10 monkeys.

#### Clinical procedures done

Blood Sample collected	20
Physical Examination, TB Test and weight	20
Hematology and Biochemistry	20
X-Ray	10

### **Experimental surgery**

25 surgical procedures were done by various departments on animals in the facility. These include Surgery, Biomedical Engineering Unit, Neurosurgery, Paediatric surgery, Laboratory medicine, Biotechnology, Stem Cell facility and Pathology.

### **Institutional Animal Ethics Committee**

The Institutional Animal Ethics Committee (IAEC) cleared 68 projects on small animals (Rodents) of various investigators of Institute during the year.

### **Services provided**

A departmental wing has been operational for maintaining animals belonging to the Departments of Microbiology, Biomedical Engineering, Biochemistry, Biotechnology, Reproductive Biology, Anatomy, Psychiatry, Pathology, Laboratory Medicine, Stem Cell facility, Neurology and Neurosurgery. This facility housed the following animals: Sprague Dawley rats 30, Rats 95, Mice 330, Rabbits 33 and Guinea pigs 3.

The facility provided laboratory facilities to various investigators, viz. vacuum drying of sera and storage of serum samples, haematology, clinical biochemistry, microscopic investigation and X-ray facility.

### **Educational programme**

1. Dr P.K. Yadav, Senior Veterinary Officer participated in the XXVII Convention of IAVA and National Symposium, 'Advances in Applied Anatomy of Domestic and Wild Animals—an interdisciplinary approach for animal health and wealth, 28–30 November 2012, College of Veterinary and Animal Sciences, Mannuthy, Thrissur, Kerala.
2. Dr P.K. Yadav, Senior Veterinary Officer participated in the Fifth International Conference by Laboratory Animal Scientists Association (LASA), India, 'Laboratory Animal Medicine and Management', 7–9 February 2013, Hotel Fortune Select Manohar, Begumpet Exit Road, Begumpet, Hyderabad.
3. Dr P.K. Yadav, Senior Veterinary Officer was invited as a guest lecturer in National Institute of Animal Welfare, Ministry of Environment and Forest for conducting one week and two week training programme on animal welfare and to deliver a lecture on 'Care, breeding and Management of Laboratory Animals'.
4. Dr P.K. Yadav, Senior Veterinary Officer participated in two day training on the CPCSEA Norms and Guidelines at NIAW, Ballabgarh, 15 –May 2012.
5. Dr P.K. Yadav, Senior Veterinary Officer, Mr Jasbir, Laboratory Attendant and Mr Dhananjay Kumar, Animal House Attendant, helped in 'Animals in Minimally Invasive Surgery Training Centre, Department of Surgical Disciplines, AIIMS'.

## 11.4 Central Workshop

### Faculty Coordinator

Shashi Kant

### Chief Technical Officer

Adarsh Kumar Sharma

### Senior Technical Officer

Kalu Ram

The strength of Group B and C staff in Central Workshop is as under:

Technical officer	7		
Technician (Grade I)	6	Technician (Grade II)	10
Workshop Assistant	2	Khalasi	6
Store Clerk (UDC)	1	Assistant (NS)	1

### HIGHLIGHTS

The Central Workshop is engaged in the repair and the maintenance of various equipment used for medical education, scientific research and hospital services. It also provides modifications of instruments according to the needs of departments as well as undertakes new fabrication jobs.

There are various sections in the Central Workshop to cater the above mentioned services. Each section is headed by a Technical Officer with supporting staff. It has the following sections:

Electronic section	Electrical section
Refrigerating section	Mechanical section – I and II
Fine Instrument Section	Painting ,Upholstery, and Carpentry section

### REPAIR AND MAINTENANCE

The Central Workshop carries out repair and maintenance of all types of equipment including blood pressure instruments, electrosurgical unit, ECG machine, infusion pump, multi-parameter monitors, defibrillators, patient warmer, OT table, refrigerators, ice machine, cold labs, water chiller, cryostat, deep freezer, UV spectrophotometer, electronic weighing machine, audiometer, ultrasound therapy unit, OT light, tissue processor, cold centrifuge, microscope, needle destroyer, water bath, X ray view box, OT care machine, suction machine, oxygen regulator, flow meter, servo stabilizer, boilers, hot plates, table top centrifuge, microwave ovens, incubators, S.S. drum, surgical instruments, and many more.

The Central Workshop also carries out repair and painting jobs of all hospital furniture such as patient beds, patient trolleys, patient lockers, intravenous stands, instrument trolleys, loading trolleys, wheel chair, side screen, bed side Locker, push carts, etc.

During the year 2012–13, the Central Workshop attended a total number of 7075 repair jobs.

### FABRICATION AND GUIDANCE

In spite of gradually increasing load of repair and maintenance activities, Central Workshop has been able to help in the research activities of the Institute with design and fabrication of useful gadgets as per specifications provided by the departments.

Twenty-three different Jobs (total 246 items) have been fabricated by the Central Workshop during 2012–13 which include Tr. Tube, Stilette, Fibre Board, Hammer Cap, Handle for Surgical Equipment, Perpex Box, View Box, Cylinder stand, CPAP Connector, Chick Cages, 'S' Hook, Gel cast tray, Head Impact Cap, Bend Cutter, Shea set holder, Plastic Mould, OT Table leg holder, OT Table side support, Tunneller, Bone punch handle, PCNL roll, Weight pouch, OT Table mattress, Belt with hook, etc.

### SHORT-TERM TRAINING

The Department is actively involved in providing guidance and imparting short term training (4–6 weeks) to Diploma/undergraduate students of various engineering colleges.

Students from Government Polytechnic, Hissar (Haryana), CRR Institute, and Technology (Delhi) and Kasturba Polytechnic for Women (Delhi) have been provided short term training during the year.

## 11.5 Computer Facility

### Professor in-charge

P. P. Kotwal

### Systems Analysts

S.N. Ragu Kumar

Satish Prasad

Sushil Kumar Meher

### Senior Programmers

Sanjay Gupta

S.P. Singh

Vinay Pande

Hari Shankar

### Programmers

Tripta Sharma

Shyamal Barua

Sanjeev Kumar

Ankita Saini

## EDUCATION

### Postgraduate

Computer programming classes covering both theory and practical aspects were conducted for postgraduate students of Department of Biotechnology and College of Nursing.

### Undergraduate

A three-month course on basics of computers, internet, Windows applications, computer-aided learning, database, etc. was conducted for first year students of BSc (Hons) Nursing. A computer course was conducted for students of BSc Nursing (Post-certificate).

### Continuing medical education

Members of the facility participated and delivered lectures in continuing medical education programmes, symposia, international and national conferences.

## SERVICES

### Hospital computerization

Under the e-Hospital project of NIC/NICSI the following modules were implemented at main hospital AIIMS and various centres in collaboration with Computer Facility.

- **The OPD modules implemented are** OPD registration and appointment at Main OPD, and at the following department/centres OPD: Paediatrics, Medicine, PMR, Pulmonary Medicine, CDER, R.P. Centre, Cardiology, Neurology and Neurosurgery, Geriatric Medicine and Skin.
- **Admission, Transfer and Discharge (ADT) in Wards:** This has been implemented in 19 wards in Main Hospital (AB1, C5, D5, C1, D1, C2, D2, Pulmonary Ward, Rheumatology, NPW, OPW, AB2, AB4, D4, C7, AB6, D6, Geriatric, AB7), 10 wards in RP Centre (1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B, Private 2, Private 3).
- **Cash and Billing:** The billing module has been implemented at Main Cash Counter, New Private Ward Building (GF) and Main Cash Counter, RAK OPD (GF), RP Centre and Center for Dental Education and Research.
- **Casualty:** Main Casualty, Emergency Building, RP Center Casualty registration is computerized.
- **Inventory Management System (receipt+issue of items) has been implemented in** Main hospital, CNC, CDER, RPC, etc. It includes all stores like Crystalloid store, Medicine and Drug store, General store, Stationary and printing, Surgical store, Linen store. Sub-stores are maintained at the ward level. It covers 19 wards in Main Hospital Building (AB1, C5, D5, C1, D1, C2, D2, Pulmonary ward, Rheumatology, NPW, OPW, AB2, AB4, D4, C7, AB6, D6, Geriatric, AB7) and 10 wards in RP Centre (1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B, Private 2, Private 3).
- **Employees Health Scheme (EHS)** is computerized.

### **Software developed in-house**

- **Dr B.R. Ambedkar IRCH:** Continuous maintenance and enhancement of in-house developed modules for IRCH is done like New Case Registration, Old Case Registration, In-patient Registration, Day Care Appointment System, Drug Authorization Software, Billing, Cheque Printing Facility, Lab Request/Collection software tool, Lab Reporting, Discharge report for Radiotherapy, Medical Oncology, Day Care, Pain Clinic, Drug Authorization Software for Day Care and Medical Oncology department.
- **CN Centre:** The modules implemented/maintained are discharge report of Neurosurgery; OT Store inventory; ORBO Donor Form.
- **RP Centre:** The modules implemented/maintained is Histology and Cytology pathology reporting.
- **Raj Garhia Vishram Sadan (Three Vishram Sadans).** This module was developed and provided continuous support to the end user for smooth functioning of room reservation and billing.
- A total of more than 2000 AIIMS employees have been imparted hands on training to use their respective modules of e-Hospital software.

### **Outreach OPD, Jhajjar (Haryana) AIIMS**

The computerization of OPD at Jhajjar was started in September 2012 for OPD registration for Surgery, Medicine, ENT, Obstetrics & Gynaecology, Paediatrics, Psychiatry, Orthopaedics and Ophthalmology departments. On an average 200 patients are registered daily in the OPD.

### **Administration**

- Under the e-governance project of government, Computer Facility along with NIC/NICSI implemented the e-Office project in all the sections of administration/Finance/ Engineering/IRCH/CDER and a few departments.
- More than 500 AIIMS employees have been imparted hands on training to use of e-Office software.
- Developed (in house) and implemented the computerized Annual Property Return (APR) software for Vigilance Cell.

### **IT infrastructure and Networking, Internet and Intranet management activities**

1. Continued management of User Id based internet access system.
2. Continued management of Network based endpoint antivirus solution for network based PCs.
3. Facility Management for Wireless Networking: Continued implementation of support systems and call center for student support.
4. Continued management of webmail system.
5. Continued management of Unified Threat Management (UTM) and deployed for the security of computer networks and applications at gateway level antivirus, anti-spam, IPS, load balancing and content filtering.
6. Continued management of the wireless networking zones at around 18 hostel locations, created wi-fi zones for internet, information and online journals access to students and resident doctors. So far 1500 connections are provided.
7. Continued management of online access to journals subscribed by B B Dixit Library is enabled through VPN tunnel based access outside the Institute.
8. Continued management of ICU Neuro patient monitoring online to view the status of ICU patients anywhere outside the ICU.
9. Continued management of CT-6 ICU patient monitoring online to view the status of ICU patients anywhere outside the ICU.
10. Bilingual website creation process continued so far 35 departments have been translated into Hindi and hosted in the website.
14. Continued management of Wi-Fi zone at B.B. Dikshit Library for internet and online journal access for students.
15. The website of [www.aiims.edu](http://www.aiims.edu), [www.aiims.ac.in](http://www.aiims.ac.in) is being maintained in-house by the Computer Facility.
16. Internet facility for faculty and students was maintained 24x7 days on the AIIMS network at around 2500 nodes.
17. National Knowledge Network (NKN) lease line of 100 Mbps with capacity to extend upto 2 Gbps has been installed at Computer Facility from NIC. Nodes have been given to various lecture theatres and departments for information access through NKN.
18. Creation and maintenance of 900 email user accounts on [aiims.ac.in](http://aiims.ac.in) domain.

19. The total number of visitors to AIIMS website was approx. 29 lakhs during 2012–13.
  20. Maintenance of Web server, Proxy server, Mail Server and Antivirus server 24x7 days.
  21. 224 new internet connections have been provided to faculty and staff of AIIMS.
  22. Facility management and call maintenance for internet and network users complaints and resolution.
  23. Continued management of technical coordination for online journal access and provision of journal access using internet and PC at the Duty rooms and common rooms for scholars and senior/junior residents.
  24. VPN tunnel configured between AIIMS and FSS Chennai for CNC OPD cash card payment gateway.
- The total number of pages updated, created and uploaded on the AIIMS website are about 3000.
  - The number of email users at [aiims.ac.in](http://aiims.ac.in) are approximately 900.
  - The number of tenders uploaded on <http://tenders.gov.in> & aiims.edu are approximately 1800.

#### **Other facilities**

The following facilities were maintained during the year:

1. Email and FTP facility
2. BBDL OPAC Services
3. Consultancy for Software, Hardware and Networking

#### **PUBLICATIONS**

**Abstracts: 2                      Chapters in Books: 1**

#### **SIGNIFICANT EVENTS**

**Mr S.N. Ragu Kumar and Hari Shanker** conducted Orientation Programme for the newly selected SR, JR, MBBS students and faculty of AIIMS

**Mr Satish Prasad** was the Database administrator of the Administrative LAN (Novel Netware server) which caters to the Administration and Finance. Maintained software for AIIMS Finance. Course Coordinator and teaching faculty of MSc, BSc and Post-certificate of Information Technology classes of Nursing College; Took classes of IT of 'Disaster Management course' for Indian Red Cross Society (Master's course affiliated to IP University).

**Mr S.K. Meher** was the course coordinator of MBIotech computer classes. Took classes for MBIotech, MSc (Nursing). Invited as expert member of the Project Review Group (PRG) on Health Account Scheme website being developed under the ICMR Task force study. Prepared a project report for requirement and implementation of IT in CRHSP, Ballabgarh. Supervised procurement/implementation of new telemedicine equipment in Telemedicine department. Conducted orientation program for MBBS students. Reviewer, Journal of Biomedical Informatics (JBI) and American Association of Medical Informatics. Elected Organizing Secretary for triennial conference for Asia Pacific Association of Medical Information in 2014 being organized by Indian Association of Medical Informatics.

**Mr Vinay Pande** studied and designed the web enabled Asset Management System (Computers and Peripherals) Software for AIIMS (at development stage); One of the administrators for File Tracking System (FTS) and eOffice implementation at AIIMS; took MSc, BSc Inf. Technology and Medical Informatics classes of Nursing College, AIIMS; took classes of IT in Disaster Management and Cyber Terrorism for Indian Red Cross Society (Masters course affiliated to I.P. University).

## 11.6 Electron Microscope Facility

### **Officer in-charge**

Shashi Wadhwa

### **Additional Professor**

Taposh K. Das T.C. Nag

### **Technical Officer**

Sandeep Arya

### **EDUCATION**

1. Twelve MBIotech students of Department of Biotechnology, AIIMS, received two-week training, 23 August to 5 September 2013 (as part of their first semester cell biology practical course).
2. Four PG anatomy students attended the E.M. course from 22 February to 29 March 2013 (only on Fridays).

### **CME**

1. The 28th National Training Programme in Electron Microscopy for Scientific Investigators was held from 29 October to 10 November 2012. Eighteen candidates from different parts of the country participated in this training programme. In all, 13 lectures were delivered by Professor Shashi Wadhwa, Dr Taposh K. Das and Dr T.C. Nag to the participants of the above training programme.
2. The 19th National Training Programme in Electron Microscopy for Technical personnel was held from 4 to 16 February 2013. Twelve candidates from different parts of the country participated in this training programme. In all, 11 lectures were delivered by Professor Shashi Wadhwa, Dr Taposh K. Das and Dr T.C. Nag.
3. The summer training course in Electron Microscopy for technical persons was held from 14 May to 23 June 2012. Four candidates were trained in sample processing, microtomy, CPD, sputter coating, TEM and SEM viewing and routine maintenance of microscopes.

### **RESEARCH**

#### **Funded projects**

##### *Ongoing*

1. Endemic Fluorosis: Role of oxidative stress as a causative factor for skeletal fluorosis. Taposh K Das, Ministry of Environment and Forests, 3 years, 2010–13, Rs 23 lakhs.
2. Correlation of autophagy and apoptosis in ischemia-reperfusion injury in rat middle cerebral artery occlusion model. Taposh K Das, AIIMS, 2 years, 2011–13, Rs 10 lakhs.
3. Morphological and biochemical changes in neonatal chick retina following exposure to variable photoperiods. TC Nag, DST, 3 years, 2013–16, Rs 33.6 lakhs.

##### *Completed*

1. Cellular localization of markers of oxidative stress in aging human retina. TC Nag, AIIMS, 2 years, 2010–12, Rs 2 lakhs.

#### **Departmental projects**

##### *Ongoing*

1. Correlation between autophagy and apoptosis in ischemia-reperfusion injury model by middle cerebral artery occlusion in rat brain.
2. Light-induced retinal degeneration in neonatal chicks.
3. Ultrastructural changes of the human choroidal vessels with aging.

#### **Collaborative projects**

##### *Ongoing*

1. A study to establish the role of T-helper 17 (Th-17) cells in the Asian Indian arthritis patients (Orthopaedics).

2. Role of fluoride toxicity on renal pathogenesis in childhood Nephrotic Syndrome: An ultrastructure, biochemical, protein profiling study (Pediatrics).

### **Completed**

1. Effect of amyloid-beta on the morphology and protein profile of the rat hippocampus.
2. Phenotypic, molecular and ultrastructural studies of coagulase negative *Staphylococcus* sp. and their biofilm in device-related infections (R.P. Centre).
3. Cardioprotective mechanism of telmisartan in experimental model of myocardial infarction in streptozotocin-induced diabetic rats (Pharmacology).

## **PUBLICATIONS**

**Journals: 6**

## **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		Specimens analysed	
		External	Internal	External	Internal
1.	Transmission Electron Microscope	199	317	1371	1632
2.	Scanning Electron Microscope	21	51	124	326
3.	Immuno-electron Microscopy	23	25	54	46

## **AWARDS, HONOURS AND SIGNIFICANT EVENTS**

**Dr Taposh K. Das** delivered lectures at TERI University, Vasant Kunj, New Delhi, 18 and 20 April 2012, on 'Routine techniques in Electron Microscopy' and 'Advanced techniques in Electron Microscopy'; Invited to attend the technical committee meeting for the purchase of a table top SEM, as technical expert on 7 May 2012, at Ch. Charan Singh University, Meerut; Attended the technical committee meeting on 3 September, 21 November, and 7 December 2012, as an external expert for the purchase of a 200kV TEM at NII, New Delhi; Checked the PhD thesis of Ms Pooja Rawat from IMTECH Chandigarh and conducted PhD viva-voce Exam on 25 March 2013; delivered lecture on 'Application of Electron Microscopy in Medical Science Research', 5th Refresher Course in Medical Sciences, BHU, Varanasi, 26 February 2013.

**Dr T.C. Nag** delivered a talk at National Seminar on 'Recent applications in life science research', at ABN Seal College, Cooch Behar, West Bengal, 8-9 December 2012; reviewed manuscripts from European Journal of Histochemistry.

## 11.7 Hostel Section

### Superintendent

N.K. Mehra

### Deputy Superintendent

S.K. Khandelwal  
S.K. Maulik  
Kapil Yadav

S. Datta Gupta  
Tanuj Dada

Neerja Bhatla  
Rakesh Kumar  
Shashi Mawar

### Senior Administrative Officer

Keshav K. Giridhari

### Accounts Officer

Sunil Jain

### Assistant Stores Officer

Narender

The AIIMS has several halls for residents with a capacity of over 1200 single/double rooms, about 200 married accommodations and 388 accommodations for nursing students/staff nurses. These are spread over different hostels and residences in the AIIMS Main Campus, Masjid Moth, A.V. Nagar, Transit Accommodation and the JPNATC Hostel (Raj Nagar).

### RESIDENCES

S.No.	Hostel	Location	Single room	Double/Three/ Four/Five seater	Guest rooms (with 2 beds) Gents Hostel	Total
1.	I (Charak)	Main Campus	62	3×2=6	–	68
2.	II ( Jivak)	Main Campus	55	2×2=4	1	60
3.	III (Sushruta)	Main Campus	70	6×2=12	1	83
4.	IV( Madhava)	Main Campus	53	7×2=14	–	67
5.	V (Nagarjuna)	Main Campus	52	5×2=10	–	62
6.	VI (Vagbhatta)	Main Campus	69	7×2=14	–	83
7.	VII (Ashwini)	Main Campus	108	4×2=8	1	117
8.	VIII( Bharadwaj)	Main Campus	108	1×2=2	1	111
9.	RPC-I (Dhanwantri)	Main Campus	72	–	1	73
10.	MMRDH (Single)	Masjid Moth	154	–	6	160
11.	JPNATC	Raj Nagar	57	–	2	59
<b>Total</b>						<b><u>943</u></b>

### Married Quarters

1.	F type	Ansari Nagar (West)		17		17
2.	MMRDH	Masjid Moth campus		42		42
3.	A.V. Nagar.	A.V. Nagar		80		80
4.	F.T.A.	A.V. Nagar		49		49
5.	JPNATC	Raj Nagar		6		06
<b>Total</b>						<b><u>194</u></b>

### Ladies Hostels

1.	IX ( Saraswati )	Main Campus	62	16/1/1/0	1	102
2.	X ( Pravati)	Main Campus	91	0/0/1/1	1	101
3.	RPC-II ( Lakshmi)	Main Campus	20	13/0/0/0	1	47
4.	Ladies Hostel XI	Main Campus	–	15/0/0/0	–	30
<b>Total</b>						<b><u>280</u></b>

### New Nurses Hostel, Masjid Moth

1.	Nursing Students	Masjid Moth	160	90/4/0/0	2	354
2.	Staff Nurses	Masjid Moth	34			34
		<b>Total</b>				<b><u>388</u></b>
		<b>Grand Total</b>				<b><u>1,805</u></b>

The AIIMS follows a policy of zero tolerance towards ragging in the Hostels. For this purpose, an anti-ragging cell has been created and the wardens and security personnel are ready to guide and support any student with a complaint or inconvenience.

### INFRASTRUCTURE ADDED

- New hostels:** Because of acute shortage of rooms for students/residents, the Hostel Committee organized several meetings with the administration and Engineering section to expedite construction of the New Hostel block in the Masjid Moth area. Presently, 3 towers are under construction with a total of 350 rooms. Another block is under active consideration. The New Hostel blocks are expected to be ready by December 2013.
- Upgradation of existing rooms:** Professor N.K. Mehra has been concerned about facilities provided to the residents/students in various hostels. Accordingly, it was decided to renovate all existing rooms in a phased manner. To begin with, a model room has been prepared in Hostel No. 7 with inbuilt almirahs, cupboards, wash basin and new electrical fitting and flooring. This will significantly improve the living standards of residents and provide a more congenial environment for their studies.
- Additional rooms for students (Ladies hostel):** During the past few years, the number of lady students entering the MBBS, BSc and MSc courses has more than doubled as compared to earlier years. To meet this increasing demand, additional rooms will be added in the coming year to the undergraduate ladies hostels.
- Renovation activity:** During the year, several renovation activities have been undertaken. These include road widening, provision of separate parking for two wheelers and for cars, New Hostel office in Ashwani Hostel (Hostel No.7), electric wiring and various toilets.

The main entry road of the Gents Hostel has been widened with tiled flooring on both sides with lawn adjoining. The postgraduate gents hostel has been aesthetically landscaped with stone cuts and new floor tiles. A barricade has been put up in front of Hostel No. 7 to restrict entry of vehicles. A dedicated parking zone has been earmarked for vehicles with separate sign boards made for two wheelers and cars. The hostel messes have been planned for upgradation and TV rooms in hostels have been renovated and provided with LED TVs and Godrej sofas.

- Hostel office:** The most important work done during the year has been construction of a New Hostel Office at Hostel No.7 complete with all facilities. It is air conditioned with separate cabins/cubicles for the wardens and a dedicated cashier room. The Office of the Superintendent of Hostels is attached to the Hostel Section for better coordination.

A visitor room has been added with attached bathroom on the ground floor in Hostel No. 7 for convenience of visiting parents/guardians.

- Safety and Security measures:** All Gents Hostels from I to VIII have been provided with appropriate gates for better security. Round the clock Security Guards have been posted in all hostels for safety of the residents. The Institute has provided cab facility for female residents on late evening duties who stay within a radius of 5 km of the AIIMS campus. A Grievance cell (email ID [aiimshostelgrievance@gmail.com](mailto:aiimshostelgrievance@gmail.com)) has been in operation in Room No. 13 in Gents Hostel complex. Faculty from the Department of Psychiatry is on duty from 5.30 p.m. to 6.30 p.m. (Monday to Friday) to address grievances of the students.
- Messes:** New co-operative mess guidelines have been introduced for the first time in the Hostels. An independent mess committee comprising of various categories of students in each of the hostels guides the general working of the messes, including their upgradation.

### FUTURE PLANS

#### 1. Infrastructure

- Construction of additional hostels and hiring of off campus accommodation is an utmost priority, as at present more than 400 students are on the waiting list. Further, since the strength of the nursing

students has increased appreciably over the years, additional rooms have been planned in the New Nurses Hostel in Masjid Moth area.

b. All the UG and PG rooms in Hostel No. I to XI will be renovated fully as per the model room norms. This will be done in a phased manner beginning with postgraduate hostels.

2. **Hostel café:** As there is no 24×7 café for residents in the hostel complex, it has been planned to renovate the existing Hostel V café in the Gents hostel with modern kitchen and dining facilities. This will serve as a nodal point for informal student–faculty interaction.
3. **Guest room:** All guest rooms in various hostels will undergo renovation with full amenities to be used by parents/guardians of the students on short visits.
4. **Hostel rule book:** The Hostel committee has undertaken the task of revising the Hostel rule book with complete information on duties and responsibilities of the students and residents and allotment rules.

## 11.8 Institution Ethics Committee

### Members of Institute Ethics Committee

1. Professor J.P. Wali, Former Professor, Department of Medicine, AIIMS	Chairman
2. Professor S.S. Sidhu, Former Head, Department of Dental Surgery, AIIMS	Member
3. Dr D.R. Saini, Principal, Delhi Public School, R.K. Puram, New Delhi	Member
4. Dr Vijay Kumar, Scientist 'F' DDG (Sr. Grade), ICMR, New Delhi	Member
5. Sh. Mukul Gupta, Sr. Advocate, Ex-SLC, AIIMS	Member
6. Dr A.M. Khan, Head, Department of Social Sciences National Institute of Health and Family Welfare, Munirka, New Delhi	Member
7. Professor Shashi Wadhwa, Dean (Academic), AIIMS	Member
8. Professor Y.K. Gupta, Head, Department of Pharmacology, AIIMS	Member
9. Professor A.B. Dey, Department of Medicine, and Professor Incharge (Research), AIIMS	Member
10. Professor Peush Sahni, Head, Department of GI Surgery, AIIMS and Editor, NMJI	Member
11. Professor Praveen Aggarwal, Head, Department of Emergency Medicine, AIIMS	Member
12. Professor Ravinder Kumar Batra, Department of Anaesthesiology, AIIMS	Member
13. Dr Rakesh Yadav, Sub-Dean (Academic), AIIMS	Member
14. Professor Renu Saxena, Head, Department of Haematology, AIIMS	Member Secretary

Dr Rani Kumar retired in April 2012 and Dr Shashi Wadhwa, Dean Academics, became a member of Ethics Committee.

### Members of Institute Ethics Sub-Committee

1. Dr Ravinder Kumar Batra, Professor of Anaesthesiology	Chairman
2. Dr Renu Saxena, Professor & Head, Haematology	Member
3. Dr Arvind Bagga, Professor of Paediatrics	Member
4. Dr Shashi Kant, Professor of Centre for Community Medicine	Member
5. Dr Kalpana Luthra, Additional Professor of Biochemistry	Member
Dr Ashok Kumar, Prof. Obst. & Gynae, MAMC, New Delhi	Member
6. Dr Praveen Agarwal, Professor of Emergency Medicine	Member
7. Dr Anurag Srivastava, Professor of Surgery	Member
8. Dr Radhika Tandon, Professor of Ophthalmology	Member
9. Dr Manju Vatsa, Principal, Colleg of Nursing	Member
10. Dr S.B. Gaikwad, Professor of Neuroradiology	Member
11. Dr Ravinder Goswami, Sub-Dean (Research)	Member
12. Dr Naval Kishore Vikram, Associate Professor of Medicine	Member
13. Dr G. Karthikeyan, Additional Professor of Cardiology	Member
14. Dr Rakesh Yadav, Sub-Dean (Acad.) & Additional Professor of Cardiology	Member-Secretary

### EDUCATION

#### Lectures delivered

**Renu Saxena: 2**                      **Ravinder Kumar Batra: 5**

#### Meetings

The number of meetings of Institute Ethics Committee was as follows:

Institute Ethics Committee: 12              Institute Ethics Sub-Committee for Thesis and Dissertation: 12

Number of projects reviewed by the Institute Ethics Committee

New projects: 490              Old projects: 124

Number of thesis reviewed by Institute Ethics Sub-Committee

Thesis: 489

Review thesis: 472

In addition, the Institute Ethics Committee continued to receive notifications of serious adverse reactions, serious adverse events, six monthly progress report and completion report, etc.

The Institute Ethics Committee's Standard Operating Procedures (SOPs) were modified as per the need and made available on the AIIMS website.

#### **SIGNIFICANT EVENTS**

The Institute Ethics Committee was registered with DCGI and FWA.

## 11.9 K.L. Wig Centre for Medical Education and Technology

### Professor in-charge

K.K. Deepak

### Co-ordinator (Medical Sciences)

Rakesh Yadav

### Co-ordinator (Dental Sciences)

O.P. Kharbanda

### Educationist

B.V. Adkoli

### Education Media Generalist

Yogesh Kumar

### Manager (HRD)

Sourav Sarkar

(w.e.f. 7 November 2012)

### Lecturer, English and Communication Skills

Vidushi Sharma (w.e.f. 6 February 2013)

## HIGHLIGHTS

In response to the need for addressing faculty development in the context of overall functioning of AIIMS, CMET emphasised faculty development and skill enhancement of various health professionals across the Institute. Orientation workshops were held for 90 newly inducted faculties, 76 resident doctors of AIIMS, in two batches each, besides 15 newly joined interns. A ten-day residential workshop was conducted by AIIMS for the fresh MBBS batch of students in collaboration with a management consultant organization, Centre for Research and Education for Social Transformation (CREST). A total of 34 Workshops/Symposia were organized during the year for Senior/Junior residents, Pool Officers, and PhD students on issues such as scientific writing, informational retrieval in health sciences and making effective presentations using media. CMET faculty were involved in important national initiatives such as, National Knowledge Commission, Steering Committee for establishment of National Health Portal, Expert Committees of Medical Council of India related with Undergraduate/Postgraduate Medical Education besides designing curriculum for Bachelor of Rural Healthcare (BRHC) course.

## EDUCATION

CMEs/Workshops/Symposia National and International Conferene

A total number of 32 workshops were held during the year 2012–13 as per details below. The residential workshop for the fresh MBBS batch of students in collaboration with CREST was followed by a two-day sensitization workshop for the mentoring faculty belonging to basic science disciplines. Two workshops were organized for the senior faculty of AIIMS on Leadership and Management of Procurement.

S. No.	Title	Target group	Date	Participants
1.	Faculty Orientation Programme Part I	New faculty	22 May 2012	61
2.	Faculty Orientation Programme Part II	New faculty	20 July 2012	29
3.	Self Enrichment Workshop (CREST)	New MBBS students	19–28 July 2012	77
4.	Workshop for Faculty Mentors from Basic	Teacher Mentors	31 July–1 August	30

	Sciences Departments, AIIMS		2012	
5.	Orientation Programme Residents of AIIMS Part I	New residents	3 September 2012	20
6.	Orientation Programme Residents of AIIMS	New residents	12 September 2012	56
7.	Effective Teaching through Microteaching	Faculty	1 November 2012	35
8.	Managing procurement and purchase	Faculty	29 November 2012	65
9.	Effective Communication with patients and health team	All Residents	6 December 2012	31
10.	Training of Group D employees of AIIMS (Batch I and II)	Group D employees	17–21 December 2012	78
11.	Effective use of media and e-learning	All Residents	27 December 2012	71
12.	Scientific writing, literature search, tips for publishing	Faculty	3 January 2013	58
13.	Information Retrieval using Internet and Bibliography Management	Resident, Sr. Residents, PhD students, Pool Officers	29 January 2013	35
14.	Professionalism and Ethical Behaviour	All Residents	31 January 2013	47
15.	Designing Effective Presentation	Nursing students	31 January 2013	23
16.	Animation in Power point	Nursing students	1 February 2013	23
17.	Tools for Scientific writing in MS word	Resident, Sr. Residents, Ph.D. students, Pool Officers	5 February 2013	46
18.	MCQs and Item Analysis	Faculty	7 February 2013	25
19.	Information Retrieval using Internet and Bibliography Management	Resident, Sr. Residents, PhD students, Pool Officers	8 February 2013	47
20.	CMET–NMJI workshop on Writing a Research Paper	Resident, Sr. Residents, PhD students, Pool Officers	11–12 February 2013	62
21.	Orientation program for Interns	Interns of AIIMS	14 February 2013	15
22.	Tools for Scientific Writing in MS word	Resident, Sr. Residents, PhD students, Pool Officers	15 February 2013	54
23.	Information Retrieval using Internet and Bibliography	Nursing students	21 February 2013	24
24.	Tools for Scientific Writing in MS word	Nursing students	22 February 2013	18
25.	Designing Effective Presentation	Resident, Sr. Residents, PhD students, Pool Officers	26 February 2013	57
26.	Leadership and Management of change	Faculty	28 February 2013	39
27.	Organizing Workshop	Nursing students	28 February 2013	24

28	Introduction to Digital Photography	Nursing students	1 March 2013	24
29	Animation in Power Point	Resident, Sr. Residents, PhD students, Pool Officers	19 March 2013	49
30	Management of Stress	Residents	7 March 2013	49
31	Introduction to Digital Photography	Nursing students	15 March 2013	15
32	Organizing a Workshop	Resident, Sr. Residents, PhD students, Pool Officers	22 March 2013	15

In addition CMET provided logistic and technical support for 18 CMEs (53 days) organized by other departments.

Workshops/Symposium organized at National level.

- Dr K.K. Deepak was a resource person for the workshop on undergraduate and postgraduate curriculum in Medical Physiology Workshop, 25–26 February 2013, Jodhpur, AIIMS.
- Dr K.K. Deepak was co-convener for Curriculum Implementation Support Programme (CISP) workshop for faculty of the Regional Centres, 3–4 May 2012, in Medical Education Technology Cell of Medical Council of India, Delhi.
- Dr O.P. Kharbanda was convenor of a Dental Educators workshop on ‘Changing paradigm in Dental Education’, Dr Ramalingaswami Board Room, 15 September 2012.
- Dr K.K. Deepak convened a symposium on ‘Manuscript Writing and Reviewing Symposia’, 58th Annual Conference of APPICON 2012, 17–20 December 2012, Subharti Medical College, Swami Vivekanand Subharti University, Meerut.
- Mr Yogesh Kumar, Educational Media Generalist along with Dr Ashima Nehra, Neuro Psychologist, CNC, conducted a pre conference workshop on ‘Effective Communication Building Skills’, 39th National Annual Conference of the Indian Association of Clinical Psychologist, 17 February 2013, CMET, AIIMS.
- Mr Yogesh Kumar, presented a demo lecture on ‘Bibliography Management’, ‘An insight into Orthodontic Post Graduate Examination’, 10 February 2013, Department of Orthodontics, Jamia Milia Islamia, New Delhi.

#### Lectures delivered

**K.K. Deepak: 6      B.V. Adkoli: 42      Yogesh Kumar: 17**

**Oral papers/Posters presented: 3**

#### PUBLICATIONS

**Abstracts: 1      Chapters in Books: 2**

#### SUPPORTIVE ACTIVITIES

##### Media Production

Media related job	Output/quantity produced
Clinical photography	5069
X-ray, specimen, gel	5634
Scanning of images (slides, photos, documents)	637
Video recording and editing	192
Designing/printing of large format posters	1794 + 481 small prints (A4, A3 size)
On Screen presentations	262

#### Designing and Formatting

1. Designed and formatted Abstract Book for the SEARAME NCHPE 2012, PSG Institute of Medical

Sciences and Research, Coimbatore, India, 5–8 September 2012.

2. Designed and formatted Manual on Gynaecologic Oncology, Department of Medical Oncology, IRCH, AIIMS.

### **Educational Material for Nurses**

#### ***Module/leaflets (3)***

Designing and formatting for module/leaflets of students of MSc Nursing: (i) Stoma care, (ii) Girl and puberty, and (iii) Counselling women with epilepsy.

#### ***Production of video films (2)***

Training films for nurses/patients explaining the problems and care of particular issues, along-with dos and dongs during the care: (i) Tracheotomy care and (ii) Endotracheal suction.

### **Exhibitions organized**

CMET played a key role in organizing 57th Institute Day Exhibition, 25–27 September 2012, the theme of which was ‘AIIMS contribution to Health Care’. The Exhibition included hundreds of posters video/live demonstrations besides skits and role plays. The exhibition was inaugurated by the Hon’ble Union Minister for Health, and was attended by a large number of general public.

### **AWARDS, HONOURS and SIGNIFICANT EVENTS**

**Professor K.K. Deepak** was awarded Dr B. K. Anand Oration 2011–12 by National Academy of Medical Sciences (NAMS) in the field of Medical Education. He delivered an oration on ‘Medical Education: A Re-evaluation of Current Problems and Possible Way Ahead’; Member, The Raj Bhasha Committee, Hindi Section, AIIMS; Judge, Hindi Section, AIIMS; External Expert, expert committee meeting on Curriculum Development for Physiology, Jodhpur, AIIMS; Member, Project Review Committee for Intramural Funding, AIIMS; Convener, Equivalence Sub-Committee, MCI, Dwarka; Member, Ad-hoc undergraduate assessment screening committee, MCI; Member, Medical Board, Academic section, AIIMS; Member Teaching schedule committee for UG, AIIMS.

**Dr B.V. Adkoli** served as faculty for joint conference of the South East Asian Regional Medical Education and National Conference of Health Professionals (SEARAME-NCHPE-2012), PSG Institute of Medical Education and Research, Coimbatore, 6–7 September 2012; Editor, Abstract book of the conference; Member, Expert Committee, Medical Council of India for framing curriculum of Bachelor of Sciences Community Health, BSc (CH) course; Member, Steering Committee for launching National Health Portal, appointed by Ministry of Health and Family Welfare, Government of India; Accredited Educator, by American College of Surgeons for conducting Instructor’s course for Advanced Trauma Life Support (ATLS); Participated in National Initiative on Allied Health Services (NIAHS), Public Health Foundation of India (PHFI), 21 December 2012.

## 12. Publications

### Journals

1. Abraham RR, Vyas R, Sood R, Banu S, Dongre AR, Ashwini CA, *et al.* Adult learning principles in an online learning faculty development program. *Thrita Med Sci* 2012;**1**:77–81.
2. Agarwal A, Batra RK, Chhabra A, Subramaniam R, Misra MC. The evaluation of efficacy and safety of paravertebral block for perioperative analgesia in patients undergoing laparoscopic cholecystectomy. *Saudi J Anaesth* 2012;**6**:344–9.
3. Agarwal G, Kochar HS, Julka PK, Bahadur S. Osteosarcoma as a second malignant disease in a case of bilateral retinoblastoma. *Indian J Otolaryngol Head Neck Surg* 2011; **63 (Suppl 1)**: 115–17.
4. Agarwal MB, Verma, S, Mahapatra M, Tripathy AK, Bhave A, Despande A, *et al.* Balancing efficacy and bleeding risk in the prevention of stroke due to atrial fibrillation with newer oral anticoagulants. *Indian J Hematol Blood Transfus* 2012;**28**:129–143.
5. Agarwal N, Singh S, Kriplani A, Bhatla N, Kulshrestha V. Role of Gabapentine in treatment of hot flushes in post menopausal women. *Int J Obstet Gynecol* 2012;**11953**:267.
6. Agarwal P, Singh D, Sinha G, Sharma N, Titiyal JS. Bilateral Mooren's ulcer in a child secondary to helminthic infestation of the gastrointestinal tract. *Int Ophthalmol* 2012;**32**:463–6.
7. Agarwal R, Virmani D, Jaipal M, Gupta S, Sankar MJ, Bhatia S, *et al.* Poor zinc status in early infancy among both low and normal birth weight infants and their mothers in Delhi. *Neonatology* 2013;**103**:54–9.
8. Agarwal R, Virmani D, Jaipal ML, Gupta S, Gupta N, Sankar MJ, *et al.* Vitamin D status of low birth weight infants in Delhi: A comparative study. *J Trop Pediatr* 2012;**58**:446–50.
9. Agarwal S, Sharma MC, Jha P, Pathak P, Suri V, Sarkar C, *et al.* Comparative study of IDH1 mutations in gliomas by immunohistochemistry and DNA sequencing. *Neuro Oncol* 2013;**15**:718–26.
10. Agarwal S, Sharma MC, Singh G, Suri V, Sarkar C, Garg A, *et al.* Papillary glioneuronal tumor--a rare entity: report of four cases and brief review of literature. *Childs Nerv Syst* 2012; **28**(11): 1897-904.
11. Agarwal SK. Chronic kidney diseases in India - a ray of hope. *J Clin Sci Res* 2012;**3**:112–3.
12. Agarwal T, Bhartiya S, Dada T, Panda A, Jhanji V, Yu M. Agreement of corneal thickness measurement using slitlamp and ultrasound pachymetry. *Eye Contact Lens* 2012;**38**:231–3.
13. Agarwal T, Jhanji V, Gopalakrishnan K, Khokhar SK, Dada T, Panda A. Hybrid bimanual technique for aspiration of residual cortex. *Acta Ophthalmol* 2012;**90**:e236–7.
14. Agarwal T, Jhanji V, Satpathy G, Nayak N, Chawla B, Tandon R, *et al.* Moxifloxacin resistance: Intrinsic to antibiotic or related to mutation? *Optom Vis Sci* 2012;**89**:1721–4.
15. Agarwal T, Jhanji V. Auto-Descemet membrane endothelial keratoplasty (auto-DMEK). *Med Hypotheses* 2013;**80**:102–3.
16. Agarwala S. Primary malignant liver tumors in children. *Indian J Pediatr* 2012;**79**:793–800.
17. Aggarwal K, Khandpur S, Khanna N, Sharma VK, Pandav CS. Comparison of clinical and cost-effectiveness of psoralen + ultraviolet A versus psoralen + sunlight in the treatment of chronic plaque psoriasis in a developing economy. *Int J Dermatol* 2013;**52**:478–85.
18. Aggarwal NT, Tripathi M, Dodge HH, Alladi S, Anstey KJ. Trends in Alzheimer's disease and dementia in the asian-pacific region. *Int J Alzheimers Dis* 2012;2012:171327.
19. Aggarwal S, Kailash S, Sagar R, Tripathi M, Sreenivas V, Sharma R, *et al.* Neuropsychological dysfunction in idiopathic hypoparathyroidism and its relationship with intracranial calcification and serum total calcium. *Eur J Endocrinol* 2013; **168**(6): 895-903.
20. Aggarwal S, Maras JS, Alam S, Khanna R, Gupta SK, Ahuja A. Novel nonsense mutation of ABHD5 in Dorfman-Chanarin syndrome with unusual findings: A challenge for genotype-phenotype correlation. *Eur J Med Genet* 2012;**55**:173–7.
21. Aggarwal S, Wahal A, Anand S, *et al.* Laparoscopic Sleeve Gastrectomy: One and Three Year Results in Indian Population. *Obes Surg* 2012:86.
22. Aggarwal S, Yadav K, Sharma AP, Sethi V. Laparoscopic bilateral transperitoneal adrenalectomy for Cushing syndrome: Surgical challenges and lessons learnt. *Surg Laparosc Endosc Percutan Tech* 2013;**23**:324–8.
23. Aggarwal S. Laparoscopic management of acute intestinal obstruction due to an unusual cause after roux -en -y gastric bypass. *Obes Surg* 2012:13.

24. Aggarwal V, Kapoor PM, Choudhury M, Kiran U, Chowdhury U. Utility of Sonoclot analysis and tranexamic acid in tetralogy of Fallot patients undergoing intracardiac repair. *Ann Card Anaesth* 2012;**15**:26–31.
25. Aggrawal CS, Tewari P, Mishra S, Rao A, Hadke NS, Adhikari S, et al. Interrupted Abdominal Closure Prevents Burst: Randomized Controlled Trial Comparing Interrupted-X And Conventional Continuous Closures In Surgical And Gynecological Patients. *Indian Journal of Surgery* 2012;1–7.
26. Agrawal D, Garg A. Acute arterial infarcts in patients with severe head injuries. *Indian J Neurosurg* 2012;**1**:126–9.
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## 13.1 Finance Division

### Senior Financial Advisor

Sandeep Lall

### Financial Advisor

Basanti Dalal

### F. & C.A.O.

Sunil Kumar Kedia

Satish Khurana

### Accounts Officers

D.P. Gangal

Bhom Singh

S.S. Yadav

M.S. Negi

M.J. Razdan

M.K. Bhatt

R.K. Sharma

S.K. Jain

A.K. Sharma

S.K. Tikoo

The Institute gets grants under the Heads 'Plan' and 'Non-Plan' from the Government of India, Ministry of Health and Family Welfare. Plan grants are also received for National Drug Dependence Treatment, separately. Besides, extramural grants are also received from various external funding agencies such as ICMR, DST, CSIR, WHO, UNICEF, DBT, etc. for various research projects. Plan and Non-Plan grant received from the Government of India and other agencies are further allocated to superspecialty centres/departments/research section as per their projections/requirements.

The Finance division of the Institute monitors/controls the expenditure against the above funds/budget by obtaining monthly expenditure from the respective centres/units/departments and also administers day-to-day financial matters, payment of salaries to faculty and staff, payment of personal claims, pension and GPF in respect of the employees of the Institute and payment to contractors/suppliers. While making payments, all checks prescribed by Government of India are exercised by the respective DDOs. Financial advice is also being rendered by the Finance division whenever required.

All the above works are executed by Financial Advisor, Finance & Chief Accounts Officers (F&CAOs)/Accounts Officers under overall control of Senior Financial Advisor.



<b>G</b>	<b><u>DEPARTMENT OF GERIATRIC MEDICINE</u></b>			<b>E</b>	<b><u>Dr.B.R.A.I.R.C.H.</u></b>		
	a) Cash at bank	36954889	0	i)	Plan		
<b>H</b>	<b><u>CUSTOM DUTY A/C</u></b>			a)	Capital Assets (New)	100000000	50000000
	a) Cash at bank	323820525		b)	Grant in Aid Salary	11168000	
<b>I</b>	<b><u>PDA A/C</u></b>			c)	Grant in Aid General	42300000	20500000
	a) Cash at bank	6819584		ii)	Non-Plan		466000000
<b>2</b>	<b><u>GRANTS FROM GOVT. OF INDIA</u></b>			a)	Grant in Aid Salary	345000000	
a)	PLAN			b)	Grant in Aid General	195000000	
i)	Capital Assets (New)	2610000000	2464500000	(c)	Transfer from receipts of AIIMS (Main)	20000000	20000000
ii)	Grant in Aid General	1170000000	1659000000	<b>F</b>	<b><u>J.P.N. APEX TRAUMA CENTRE</u></b>		
iii)	Grant in Aid Salary	920000000			Plan		
b)	Non-Plan		6500000000	i)	Capital Assets (New)	150000000	158900000
i)	Grant in Aid General	2087000000		ii)	Grant in Aid (General)	459000000	804700000
ii)	Grant in Aid Salary	5800000000		ii)	Grant in Aid (Salary)	545148000	
c)	N.D.D.T.C.	119185000	90000000	<b>G</b>	<b><u>CENTRE FOR DENTAL EDUCATION &amp; RESEARCH</u></b>		
d)	Oversight Committee(Plan)		1055100000		Plan		
i)	Capital Assets (New)	518000000		i)	Capital Assets (New)	17677000	6000000
ii)	Grant in Aid Salary	333000000		ii)	Grant in Aid General	41523000	42962000
<b>3</b>	Miscellaneous Receipts	362680234	250076174	ii)	Grant in Aid Salary	41055000	
<b>4</b>	Hospital Receipts	168907902	126446267	<b>2</b>	<b><u>ADMINISTRATIVE EXPENDITURE</u></b>		
<b>5</b>	Interest	205356243	166972091		<b><u>AIIMS (MAIN)</u></b>		
<b>6</b>	Licence Fee	34160635	23076241	a)	Pay and allowances	3332589926	2779826670
<b>7</b>	Tution Fee /Examination Fee	26433405	22658306	b)	Travelling Allowances	27921090	29040465
<b>8</b>	Employees Health Scheme (EHS)	41051636	36062621	c)	Stipend	21516884	14872905
<b>9</b>	Pot Fund	227150	28740	d)	Leave salary & Pension contribution	2565585	4375538
<b>10</b>	Employees Insurance Scheme	11959635	15700661	e)	Pensionary Benefits	574594347	495281233
<b>11</b>	GPF	410074915	390137488	<b>3</b>	Office Contingency	556077558	413065126
				<b>4</b>	Material & Supply (Non-Plan)	1417192339	1106674133
				<b>5</b>	Repair and maintenance of Machinery & Equipment	25812831	26774871

12	Out side recoveries	482190669	380407494	6	Maintenance of buildings	109306265	121365634	
13	Security Deposits/ Earnest Money	62381319	55438282	7	Employees Insurance Scheme	12219458	12378868	
14	Caution Money	84452	19375	8	G.P.F.	410074915	390137488	
15	Leave Salary & Pension contribution	1416698	1327296	9	Recoverable Advances			
16	Recoverable Advances			a)	Car		180000	
	a)Car	693799	751328	b)	Scooter/Motor Cycle	464000	658000	
	b)Scooter/Motor Cycle	648153	621528	c)	Bicycle		9000	
	c)Bicycle	7900	5980	d)	House Building Advance	533451	702539	
	d)H.B.A.	2982134	3435779	e)	Computer	750000	720000	
	e)Computer	1049693	1287845	f)	Festival	3228750	2984250	
17	Post Partum Programme (Incentive money)	200000	400000	10	Expenditure out of grant received for specific purpose (Scheme Cell)			
	18	Grants received for specific purpose Appendix-A (Scheme Cell)	613629615	627878595	i)	Appendix-A	773548536	
					ii)	Add undisbursed for 2011-2012 paid now	197351	
			iii)	Less undisbursed for 2012-2013	61475	773684412	635192077	
19	Schemes			11	Post Partum programme (Incentive money)	541710	545175	
	i) Grants against receipt	659581278	686816150	12	Furniture & Fixture		1517285	
	ii) Grants transfer from A.I.I.M.S. Non-Plan			13	Books & Publications	27785807	25508255	
	iii) Direct received	70080014	58934952	14	<u>PLAN</u>			
iv) IRG Grant from AIIMS	13114290	28403000	a)	Salary	153772089	127190439		
20	Miscellaneous Donations (Appendix-D)	3148775	425337	b)	Spares & Accessories	107801859	65991491	
21	Revolving Funds	74829825	72098705	c)	Machinery & Equipment	272340033	216031990	
22	New Pension Scheme	66000356	44190751	d)	Expenditure of Urology against IRCH receipts		1000000	
23	Cochelar Inplant Patient			e)	Building Construction			
				i)	Major Works	122886333	109914765	

Treatment A/c	36974460	34829450	ii) Minor Works	227168508	272586165
			f) Institute Research Grant		989933
<b>24</b> Deposit Work			g) Computerisation	17423627	700309
(a) Shri Sai Vishram Sadan		75000	h) Travelling Allowances	13081063	11692798
(b) MTNL for cable lying in A.V Nagar		42000			
<b>26</b> Janani Suraksha Yojana (JSY)		26000	<b>15</b> Purchase of Vehicles		
			(a) Transport Office		
			(b) Hospital Store		637563
<b>27</b> Received from IRCH under (Plan) for Urology		1000000	<b>16</b> <u>Advance Payments</u>		
			a) Material & Supply (NP) for foreign purchase	6999037	9737625
<b>28</b> Custom Duty deposited by Trauma Centre		20000000	b) Machinery & Equipment (Plan) for foreign purchase	440029200	418748632
			c) PAO for procurement of Stores		4000000
<b>29</b> Travel Grant	1298460	233271	d) Temporary/Contingent Advances	17130218	32084006
			e) Private firms for stores	148620	
<b>30</b> UNDCP Grant		219584	f) Custom Duty for Machinery & Equipment		105144337
			<b>g) For Books &amp; Journals</b>	<b>48638922</b>	<b>41877157</b>
<b>31</b> Unspent balance (Construction Advance Received) from HSCC		299943	h) National Informatics Centre Services Inc for computerisation	1777253	95293333
			i) HSCC for prep of master plan surgical block phase - II (oversight)		5868950
<b>32</b> TCIL payment for honorarium	390308	394875	j) HSCC for PC & Teaching Block phase II (oversight)	214842628	83814950
			k) HSCC for cont. of Hostel Bolck at AIIMS Campus (oversight)	183000000	55699950
<b>33</b> Scholarship from Ministry of Tribal Affairs		75400	l) HSCC for renovation of RKAK OPD (major work)		16899950
			m) HSCC Ex. Engineer, Delhi Water Service Haryana Govt. (major work)		50000000
<b>34</b> GSLI Settlement		20320	n) National Environment Engineering Res. Institute (NEERI) (major work)		900000
			o) DMRC for tunnel connection between AIIMS & Trauma Centre (major work)		250000000
<b>35</b> Receipt for Patient Treatment	20000	617753	p) CPWD for Lift (major work)		10000000
			q) CPWD for covering of Nallah Phase-II (major work)	48600000	100000000
<b>36</b> Receipt for conference	2411591	886500	r) HSCC for underground parking (major work)	108900000	299499950
			s) HSCC for outreach OPD Badsha (Hr.) (major work)	10416000	95000000
<b>37</b> Receipts from Gamma Knife Patient A/c	150000000				
<b>38</b> Refund from Custom Duty Advance	100000000				
<b>39</b> Workshop Receipts	225000				
<b>40</b> Receipt for Scholarship	419800				
<b>41</b> Reimbursement for CGHS Claim	38724				
<b>42</b> Grant for FIMSA Congress	350000				

43	Donation Prof. P.N. Tondon & A.K. Banerjee	500000			
	t)	Mahindra & Mahindra Ltd for p/o Tractor (minor work)			431510
	u)	Seed advance for Tabassum Const. Co. (minor work)			680408
	v)	Hitachi Homes for p/o split A/c (minor work)	606704		204423
	w)	Hitachi Homes for WTC units (minor work)			196328
	x)	HSCC for Dining Hall (Oversight)	132500000		
	y)	HSCC for renovation of CNC -CCU ward (major work)	30000000		
	z)	HSCC for renovation of laundry & OPD (major work)	22400000		
	aa)	HSCC for consultancy fee (major work)	24700000		
	ab)	E.E. Delhi Water Services Division (major work)	55100000		
	ac)	Sidwal Refregration for p/o A.C. (major work)	165363		
	ad)	<b>Hitachi Homes for p/o AC</b> (major work)	1172959		
	ae)	LG Elect. For p/o AC (major work)	3289004		
	af)	Inderprastha Gas Limited (minor work)	841610		
	ag)	LG Elect. For p/o AC (minor work)	274618		
	ah)	Usha Int'nal for p/o AC (minor work)	331120		
	ai)	Universal Comfort for p/o AC (minor work)	539474		
	<b>17</b>	<b>Security Deposit/ Earnest Money</b>			
	(i)	Refund against the receipts upto the year 2011-12	39458726		
	(ii)	Pertains to 2012-13	4065665	43524391	47934764
	<b>18</b>	<b>Outside recoveries</b>		482572675	395397593
	<b>19</b>	<b>Miscellenous Donations</b>			

(Appendix-D)	3104625	343550
<b>20</b> Revolving Funds	62756000	54064822
<b>21</b> New Pension Scheme		
<b>i)</b> to National Securities Depository Ltd.	95395062	20408372
<b>ii)</b> to NPS A/c	41766302	102158307
<b>22</b> Cochelar Inplant Patient A/c	35439560	34722600
<b>23</b> Deposit Work		
a) Shri Sai Vishram Sadan		74500
b) MTNL for cable lying in A.V Nagar		41888
<b>24</b> Deposit Linked Insurance Scheme	626915	1223614
<b>25</b> Oversight committee		
a) Major works	32738990	21681424
b) Pay & Allowances	231000000	102100000
c) Machinery & Equipment (Store)	58325581	38263518
<b>26</b> WHO-in-Country fellowship		73772
<b>27</b> Transfer to Custom Duty Account		20000000
<b>28</b> Janani Suraksha Yojna(JSY)	17200	25000
<b>29</b> Travel Grant	1298460	233271
<b>30</b> Unspent balance of construction Advance transfer to IRCH		299943
<b>31</b> UNDCP Grant		219584
<b>32</b> TCIL payment for honorarium	390308	394875
<b>33</b> GSLI Settlement		20320
<b>34</b> Scholarship from Min. of Tribal Affairs		75400
<b>35</b> Refund for Patient Treatment	20000	617753
<b>36</b> Refund for Conference	2411591	886500



	b) Unspent Balance of Specific Grants remained with AIIMS (Main)	303080499	2421796446	1512454727
2	Schemes Cell		170451547	201224501
	<b><u>B CASH IN HAND (IMPREST)</u></b>			
1	AIIMS (Main)			
	a)Balance as per cash book of the cashier		703950	683950
	<b><u>C AMOUNT LYING UNDISBURSED</u></b>			
1	AIIMS (Main)			
2	Scheme Cell		61475	197351
	<b><u>D POOR PATIENT ACCOUNT</u></b>			
1	AIIMS (Main)			
	(a) Cash/Bank		2597226	1685917
	(b) FDR's		1202610	1202610
	<b><u>E PATIENT TREATMENT A/C</u></b>			
	AIIMS		91316376	91464066
	Interest		14990210	
	<b><u>F HOSTELS</u></b>			
1	Cash in hand			
2	Cash at Bank		956437	396906
3	FDR's		5283021	5026772
	<b><u>G DEPARTMENT OF GERIATRIC MEDICINE</u></b>			
	Cash at Bank		28340109	36954889
	<b><u>H CUSTOM DUTY ACCOUNT</u></b>			
	Cash at Bank		195937688	
	<b><u>I PD ACCOUNT</u></b>			
	Cash at Bank		13653385	
<b>Sub-Total(A)</b>		<b>19446207975.00</b>	<b>15956310909</b>	<b>19446207975.00</b>
			<b>15956310909</b>	

**DR. RAJENDER PRASAD CENTRE FOR OPHTHALMIC SCIENCES(B)**

<b>I</b>	<b><u>OPENING BALANCE</u></b>				<b>I A</b>	Pay & Allowance	446076846	388802680
A	Cash at Bank	112157899	64667551		<b>B</b>	Pay & Allowance (Revenue General )	50400000	44766275
<b>B</b>	<b><u>Cash in hand</u></b>							
i)	Imprest	20000	20000		II	Engineering (New Capital assets	16889843	
					III	Travelling Expenses	4750066	3230618
<b>C</b>	<b><u>Poor Patient A/C</u></b>				IV	Office Expenses	13135036	13506571
	Cash/Bank	332390	186104		V	Capital Works (Revenue General)	39500000	12174067
					VI	Maintenance of buildings	9985000	8406039
<b>II</b>	<b><u>GRANT IN AID</u></b>				VII	<b><u>Material &amp; Supply</u></b>		
i)	Plan				a)	Material &Supply(Reg Pay	265543783	
a)	Capital Assets (New)	319839843			b)	Advance Payment	5015313	270559096
b)	Grant in Aid Salary	50400000						196681060
c)	Grant in Aid General	91000000			VIII	Refund of Security	5000	25000
ii)	Non-Plan				IX	a)Repair & Maint. Of Mach. & Equip. Non- Plan	2935000	60055
a)	Grant in Aid Salary	444000000			X	<b><u>Mach. &amp; Equipment (Plan)</u></b>		
b)	Grant in Aid General	95000000			i)	Actual Payment	284389274	
iii)	Non-Plan (Receipt from AIIMS (Main) revenue)	20000000	1020239843	858800000	ii)	Adv. Payment made to foreign purchase	7626401	292015675
					iii)	Comprehensive Annual Maintenance Contract (CAMC) (RG)	51500000	28259658
III	Security Deposits received	4576000	55000		XI	Vehicle purchased		
					XII	Furniture & Fixture	7984325	3062274
					XIII	Mach. & Equipment (Plan) Jhajjar	2950000	
<b>IV</b>	<b><u>GRANT IN AID (NON-RPC SCHEMES)</u></b>				<b>XIV</b>	<b><u>PAYMENTS TOWARDS NON RPC SCHEMES</u></b>		
1	ABN AMRO Natra Raksha		..		1	ABN AMRO Natra Raksha	30000	19989
2	Acuate Bacterial Conjectivities		..		2	Acuate Bacterial Conjectivities		
3	Administrative charges received through Projects	1147796	1469266		3	Administrative Charges	265631	653453
4	AMD View Study		1430441		4	AMD View Study		11155862
5	Bacterial Corneal Ulcer Eye		36000		5	Bacterial Corneal Ulcer eye Treatment		37827
6	Brimiridine DS/DDS	36936	39366		6	Brimiridine DS/DDS	41971	208770
7	Catract Patient (IOL)	108000	189346		7	Catract Patient (IOL)	121400	304786
8	Clinical Evaluation Polyherbal AOD		150000		8	Clinical Evaluation AOD		242150

9	Clinical Evaluation on Blink & Clean (AMO)			9	Clinical Evaluation on Blink & Clean (AMO)		
10	Clinical Evaluation OZONE			10	Clinical Evaluation OZONE		
11	CRP			11	CRP		
12	CSIR	1769032	2554352	12	CSIR	1552680	2554352
13	DCDRF		35000	13	DCDRF		35000
14	DEGAS		131400	14	DEGAS		265439
15	DME		263988	15	DME	1340	513609
16	DST Cyclosporine			16	DST Cyclosporine		
17	DST Evaluation of Tear fluid			17	DST Evaluation of Tear fluid		
18	DST/FIST			18	DST/FIST		
19	ENDURE Study		308400	19	ENDURE Study		478020
20	ESG Evaluation Study on Gloucoma			20	ESG Evaluation Study on Gloucoma		
21	FAME Study			21	FAME Study		
22	FTG	25000	96090	22	FTG	24326	165987
23	High Precision Bio Analytical (HP-BAF)	216135	342700	23	High Precision Bil Analitial (HP-BAF)	158692	237612
24	ICMR	6189252	7430522	24	ICMR	9655242	
25	INDEGEN ( LSTM)			25	INDEGEN (LSTM)	115500	11004659
26	INDEYE			26	INDEYE		9617
27	INMAS Biomedical Dispensing Products			27	INMAS Dispensing Biomedical Products		
28	INMAS Human Pharmacology			28	INMAS Human Pharmacology		
29	LCIF			29	LCIF		
30	LUX 201 Omnicare			30	LUX 201 Omnicare	43152	83977
31	MA Foundation		600000	31	MA Foundation	242564	385067
32	MBDL ILLY- LILLY			32	MBDL ILLY LILLY		
33	Mayopia Study	1102320	1000000	33	Mayopia Study	1272778	829542
34	M.K. Media corneal Transplant ( Min. of Finance)	1397660		34	M.K. Media Corneal Transplant(Min. of Finance)	322333	475218
35	Multifocal IOL			35	Multifocal IOL		
36	NAB		720000	36	NAB	160896	1513620
37	Neema International			37	Neema International		
38	Novartis Shield study		8000	38	Novartis Shield Study		14870
39	Novartis Visudyme			39	Novartis Visudyme		
40	NPCB DOS Training	811171		40	NPCB DOS Training	380092	416720
41	NPCB Eye Camp Godda Jharkhand	157718	142165	41	NPCB Eye Camp (Godda Jharkhand)	63293	142165
42	NPCB/DBCS	621250	50000	42	NPCB/DBCS	86988	809221
43	NPCB-NSU	172210		43	NPCB-NSU	229973	162210
44	NPCB-SSU	274114	157935	44	NPCB-SSU	213189	274114
45	OEU	349916	330570	45	OEU	372771	355234
46	ORBIS PECP			46	ORBIS PECP	18817	
47	Pharmacokinetic Quinacrine			47	Pharmacokinetic Quinacrine	5806	283583

48	Phase II age related macular degeneration menet study (ARMD)		424800	48	Phase II age related macular degeneration menet study (ARMD)		653692
49	Pink Eye (Bausch & Lomb)			49	Pink Eye (Bausch & Lomb)		
50	Polyherbal Evaluagion DES			50	Polyherbal Evaluagion DES		
51	Posudurex Allergan International	58860	216641	51	Posudurex Allergan International	486412	694253
52	PVD /VRT Study			52	PVD /VRT Study		
53	Reliance Relinatra			53	Reliance Relinatra		
54	ROP Macugen			54	ROP Macugen		
55	ROP Workshop	660000		55	ROP Workshop	660000	
56	RTI			56	RTI		
57	Sight Saver			57	Sight Saver		
58	SSMI-VFA	872953	674000	58	SSMI-VFA	691356	667386
59	Symposium Workshop			59	Symposium Workshop		
60	Treatment of Dry eye Allergan International			60	Treatment of Dry eye Allergan International		
61	Prevalence of dry eye		207000	61	Prevalence of dry eye		101700
62	WHO Malaysia	80400	455600	62	WHO Malaysia	20118	455600
63	WHO Gujrat Survey		-	63	WHO Gujrat Survey		
64	WHO-SEIND			64	WHO-SEIND		
65	WHO Short term training	24900	148500	65	WHO Short term training	173400	
66	Ozurdex Project	360000	180000	66	Ozurdex Project	520247	18000
67	Diabetic Retinopaty in Urban slum of Delhi (DRUSD)	5778867		67	Diabetic Retinopaty in urban slum of Delhi (DRUSD)	4099808	
68	GNEC (Guru Nanak Eye Centre)	25000		68	GNEC (Guru Nanak Eye Centre)	25000	
69	Study Drug (DE-109)	160000		69	Study Drug (DE-109)	107830	
70	Vision Delhi -PEC	1733422		70	Vision Delhi -PEC	579953	
71	ROP Services	1353188		71	ROP Services	407103	
72	Comprehensive Primary Eye care Services (CPECS/DJJS)	646000		72	Comprehensive Primary Eye care Services (CPECS/DJJS)	218027	
V	NIAF	83900		XV	NIAF	68235	3417
VI	Hospital Receipts including variouskits	160148617	147015616	XVI	AIIMS Recoveries Remitted	104616997	94624196
VII	Interest on Recoverabl Adv.	2216	1170522	XVII	Outside Recoveries remitted	35340481	32796569
VIII	Misc. Receipts	589499	1815142	XVIII	NPS Contribution remitted	5702170	
IX	AIIMS Recoveries Received	104616997	94624196				
X	Outside Recoveries Received	35340481	32796569				
XI	Interest on CLTD	15926718	24387210				
XII	<b><u>RECOVERABLE ADVANCE</u></b>			XIX	<b><u>RECOVERABLE ADVANCE</u></b>		
a)	Car	101740		a)	Car		
b)	Scooter	15784		b)	Scooter		
c)	Cycle			c)	Cycle		
d)	H.B.A.	219965		d)	H.B.A.		
e)	Computer	12000		e)	Computer		

d) Festival	781975	1131464	1138520	d) Festival	720000	720000	945000
<b><u>Poor Patient A/C</u></b>				<b><u>Poor Patient A/C</u></b>			
Receipts				Payment		185594	131255
a) Interest		14724	9801				
b) Donation		208350	267740				
c) Misc. Receipts							
				XX <b><u>CLOSING BALANCE</u></b>			
				a) Cash at Bank	102443276		
				b) Cash in hand (Imprest)	20000	102463276	112177899
				<b><u>Poor Patient A/c</u></b>			
				Cash / Bank		369870	332390
<b>Sub-Total (B)</b>		<b>1481521198</b>	<b>1246746053</b>			<b>1481521198</b>	<b>1246746053</b>

**CARDIO-THORACIC & NEURO SCIENCES CENTRE (C)**

<b>1 <u>OPENING BALANCES</u></b>				<b>1 <u>ADMINISTRATIVE EXPENDITURE</u></b>			
<b>A <u>Cash at bank</u></b>				a) Pay & Allowances (Non-Plan)	1005844990		880425417
i) C.N. Centre		103302133	171455298	b) Wages	13776069		6604688
ii) CT Patient A/c				c) Travelling Allowance	3111088		3045724
a) Bank		53823111	21625780	<b>2 <u>Stores (Non-Plan)</u></b>			
b) FDR		170000000	299400000	a) Repair & Maintenance of Machinery & Equipment	1931648		2916862
iii) Angiography A/c				b) Material & Supply	338031779		229005920
a) Bank		54339147	14744516	c) ORBO	151164		
b) FDR		19800000	79200000	<b>3 <u>Stores (PLAN)</u></b>			
iv) Gamma Knife patient A/c				a) Machinery & Equipment (Advance Payment)	275343773		153787789
a) Bank		16353119	57268485	b) Machinery & Equipment (Indian currency)	129766771		131089332
b) FDR		197300000	126400000	c) Furniture & Fixtures	1526924		1236790
v) Neuro Surgery patient A/c				d) Spares & Accessories (CTC)	48383000		51484534
a) Bank		16888680	9915213	e) Spares & Accessories (NSC)	3651541		
b) FDR		15900000	31800000	f) Consumables spare & Accessories/ Maintaince			9118213
<b>B <u>CASH IN HAND (IMPREST)</u></b>				g) Salary (Plan)	114029121		47576479
i) C.N. Centre				h) Development Activities	23866480		
ii) Cash in hand with Cashier		41000	41000	i) Grant in Aid General	12495954		
iii) Add during 12-13		6000		<b>4 Building maintenance</b>		29213265	28200134

<b>C</b>	<b><u>POOR PATIENT A/C</u></b>			<b>5</b>	Building construction (Plan)			
i)	N.S. Centre							
	a) Cash/Bank	133123	101932	<b>6</b>	Minor Work (Revenue General)	39596705		37948823
<b>2</b>	<b><u>GRANT-IN-AID</u></b>			<b>7</b>	Office Contingencies	20749091		14176979
(i)	Plan			<b>8</b>	<b><u>Recoverable Advance</u></b>			
	a)Capital Assets (New)	400000000	250000000		<b><u>(Non-Plan)</u></b>			
	b)Grant in Aid Salary	114029000			a) Car			
	c)Grant in Aid General	64500000	85600000		b) Scooter/Motor Cycle	160000		360000
	d)Development Activities	29375000			c) House Building Advance			1082500
(ii)	Non-Plan		1050065000		d) Computer	780000		300000
	a) Grant in Aid Salary	990000000			e) Bi-cycle			3000
	b) Grant in Aid General	230000000			f) Festival	1207500		1317000
iii)	Transfer from receipts of AIIMS (Main)	30000000	20000000	<b>9</b>	Refund of Security Deposits	3349000		5980000
iv)	a)Transfer of fund from CT Patient A/c for Spares & Accessories	60000000	61400000	<b>10</b>	Donation			746020
	b) Less Refund to CT Patient A/c	11617000	48383000	<b>11</b>	Neurology Patient A/c	13565736		10365366
<b>3</b>	a) Miscellenous Receipts	8575354	9933823	<b>12</b>	Blood Test/Lab. Charges	11436711		9500531
	b)Private Ward	38897230	31161758	<b>13</b>	Cardio Test	4343050		3573871
	c)X-Ray	919110	810210	<b>14</b>	Thallium Test	5760953		3641495
	d)C.T.Scan charges	2934720	2638500	<b>15</b>	Amount sent to PAO (GPF)			
	e)Ultra sound	136920	148800	<b>16</b>	i)GPF	109941568		
<b>4</b>	Interest	16014659	20925401		ii)Amt sent to PAO (GPF)	488000	110429568	103067871
<b>5</b>	Security Deposit/ Earnest Money)	12485650	3254000	<b>17</b>	New Pension Schemes			
<b>6</b>	Donations		5100		(i) NPS A/c (Main)	2241271		
<b>7</b>	Refund and Recoveries	2553422	1419213		(ii) NPS (Employees Share)	20197128	22438399	19196423
<b>8</b>	Neurology Patient A/c	13396365	13424932		(iii) NPS(Employer Share)	20197128	20197128	5366751
<b>9</b>	Thallium Test	3836250	3429000	<b>18</b>	Employees Health Services		5477235	5136325
<b>10</b>	Levy charges	107000	81500	<b>19</b>	<b><u>Outside Recovery</u></b>			
<b>11</b>	Rent Charges/Licence Fee	1150300	922483		a)Outside Recovery	132905024		

			b)Amt Sent to PAO (E.I.S.)	1560	132906584	107474672
<b>12</b>	GPF	110429568	103067871			
<b>13</b>	New Pension Schemes	22438399	19196423	<b>20</b>	Amount Sent to PAO (E.I.S.)	
<b>14</b>	<u>Recoverable Advances</u>			<b>21</b>	Pot Fund	34680 35540
	a) Bicycle	1800	1200	<b>22</b>	Water charges	994057 552023
	b) Scooter	305046	297536	<b>23</b>	Institute Recovery (Computer Advance)	7900 27971
	c) Car	99492	89592	<b>24</b>	Amount sent to PAO (Computer Adv)	
	d) House Building	867870	1009540	<b>25</b>	NACO Fund	40000 99900
	e) Computer	311984	210310	<b>26</b>	HBA Sent to Main Instt.	29892 22000
	f) Festival	1222781	1097075	<b>27</b>	Scooter Advance Sent to Main Instt.	5520 5060
<b>15</b>	Cardio Test	4977070	4420820	<b>28</b>	P.M Relief Fund	504824
<b>16</b>	Blood Test/Lab. Charges	9546120	8316255	<b>29</b>	Institute Rec (Festival Advance)	2500
<b>17</b>	Employees Health Services	5438105	5175330			
<b>18</b>	<b>Outside Recovery</b>	<b>132906584</b>	<b>107474672</b>			
<b>19</b>	Water Charges	994057	552023			
<b>20</b>	Pot Fund	34680	35540			
<b>21</b>	Institute Recovery (Computer Advance)	7900	27971			
<b>22</b>	NACO Fund	400000	99900			
<b>23</b>	Institute Recovery (Scooter Advance)	5520	5060			
<b>24</b>	Institute Recovery HBA	29892	22000			
<b>25</b>	Transport Charges	1374	0			
<b>26</b>	P.M Relief Fund	504824	0			
<b>27</b>	Institute Rec (Festival Advance)		2500			

<b><u>C.T. PATIENT A/C</u></b>			
1	a)Patient's Receipts during 2012-13	276117165	
	b) Patients' Refund 12-13	54054391	222062774 259621929
2	a) Interest during 2012-13		14042684 10087034
3	Cancelled Cheques		1877563

<b><u>ANGIOGRAPHY PATIENT A/C</u></b>			
1	a)Patient's Receipts 20112-13	242697803	
	b)Patients refunds	31806902	210890901 190545391
2	Interest during 2012-13		6888598 5361074
3	Cancelled Cheques		9348657

<b><u>GAMMA KNIFE PATIENT A/C</u></b>			
1	Patient Receipts 2012-13	29673255	
	Refund to Patients	1636250	28037005 22947550
2	Interest		22949900 7037522

<b><u>NEURO SURGERY PATIENT A/C</u></b>			
1	a)Patient Receipts 2012-13	85484337	
	b) Patient Refund	16034256	69450081 59320646
2	Fixed/CLTD Interest 12-13		2165401 487008
3	Cancelled Cheques		451253

<b><u>C.T. PATIENT A/C</u></b>			
1	Purchase of Stores	288632861	324435514
2	Fresh Cheque		1853681
3	a)Transferred to AIIMS CNC A/cs	60000000	
	b) Less Received back	11617000	48383000 42500000
4	Poor Patient Treatment Expenditure 2012-13		21694201

<b><u>ANGIOGRAPHY PATIENT A/C</u></b>			
1	Purchase for stores	193716711	200286819
2	Fresh Cheque		985379
3	Transferred to AIIMS CNC A/cs		17500000
4	Poor Patient's treatment expenditure during 2012-13	6186700	6288293

<b><u>GAMMA KNIFE PATIENT A/C</u></b>			
1	Purchase for Stores		
2	MRI Charges	2356000	
3	Bank charges	225	438
4	Fund transfer to AIIMS (Main)	150000000	

<b><u>NEURO SURGERY PATIENT A/C</u></b>			
1	Purchase for Stores	63224413	53998610
3	Fresh Cheques		186830
4	Transferred to AIIMS CNC A/cs		15000000
5	Poor Patient Treatment Expenditure 12-13	3162103	

**POOR PATIENT ACCOUNTS**

N.S. Centre		
Donation	1784	35179

**POOR PATIENT ACCOUNTS**

N.S. Centre		
Expenditure	2000	3988

**CLOSING BALANCES****A CASH AT BANK**

i) C.N. Centre	5981079	103302133
ii) C.T. Patient A/c		
(a) Bank	1218507	53823111
(b) FDRs	100000000	170000000
iii) Angiography A/c		
a) Bank	32215235	54339147
b) FDRs	59800000	19800000
iv) Gamma Knife Patient A/c		
a) Bank	42283799	16353119
b) FDRs	70000000	197300000
v) Neuro Surgery Patient A/c		
a) Bank	22117646	16888680
b) FDRs	15900000	15900000

**B C.N. Centre**

i) Imprest	47000	41000
ii) Cash in Hand with cashier		

**D POOR PATIENT ACCOUNT**

i) N.S. Centre		
Cash at Bank	132907	133123

<b>Sub-total (C)</b>	<b>3522192487</b>	<b>3185394368</b>	<b>3522192487</b>	<b>3185394368</b>
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**Dr. B.R.A. INSTITUTE ROTARY CANCER HOSPITAL (D)****1 OPENING BALANCES**

<b>A <u>Cash at bank</u></b>	19863732	28911048
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**B POOR PATIENT A/C**

a) Cash/ Bank	3455807	2546411
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**C PATIENT TREATMENT A/C**

<b>1</b> Pay & Allowances	336325500	283883913
<b>2</b> Festival Advance	273750	326250
<b>3</b> Expenditure under TA/DA	6749453	2584133
<b>4</b> Contingency Bills	3834619	2989491
<b>5</b> Medical Oncology		1497848
<b>6</b> RT Revolving Funds	2786818	6976699
<b>7</b> Maintenance of Building	11914903	10812820

a) Cash/ Bank		41663018	30746984	<b>8</b>	Repair & Maintenance of M &E	10075662	12491605
b) Short Term Investment				<b>9</b>	Computer Advance	240000	0
c) FDR's		6000000	6000000	<b>10</b>	Scooter/Motorcycle Advance		54000
<b>D</b>	<b><u>HMC/F/C</u></b>			<b>11</b>	Material & Supply	202594128	180078844
a) Cash/ Bank		1616095	996555	<b>12</b>	Outsourcing	24316914	18528948
				<b>13</b>	Refund of EMD/SD		24980
<b>B</b>	<b><u>Grant in Aid</u></b>			<b>14</b>	<b><u>PLAN</u></b>		
	<b><u>Plan</u></b>	100000000	50000000				
	Revenue General		20500000	(i)	Advance Payment to foreign purchase for M&E	77735295	19599500
1	i) Grant in Aid Salary	11168000		(ii)	Machinery & Equipment	21993901	20363041
	ii) Grant in Aid General	42300000	53468000	(iii)	Custom Duty & PDA (Advance)		10000000
2	<b>NON-PLAN</b>			(iv)	Furniture and Fixtures		32671
i	Grant in Aid Salary	345000000			<b>Revenue General (Plan)</b>		
ii	Grant in Aid General	195000000		a.	Comprehensive Annual Maintenance Contract of Machinery & Equipment	27203399	17172166
iii	From revenue rec. AIIMS	20000000	560000000	b.	Minor Works	7683290	3051258
3	ICMR	188000	375000	c.	Sanitation (BVG)	11491122	
4	Interest Received	3488628	3643558	d.	Salary Plan	11168000	
5	Miscellaneous Hospital Receipt	22186181	17064366				
6	RT Revolving Fund	2682285	2760458				
7	Medical Oncology Fund	399420	511460				
8	Computer Advance Recoveries	100500	82200				
9	Car Advance Recovery	13500	16500				
10	Festival Advance Recovery	451950	108750				
11	Scooter/Motor cycle Adv. Recoveries	46116	58616				
12	EMD & Security deposit						
13	HSCC		299943				
14	AIIMS Recoveries Remitted	33984038	37698656	<b>15</b>	AIIMS Recoveries Remitted	33984038	37698656
15	Out side Recoveries Remitted	52206718	30030758	<b>16</b>	Outside Recoveries Remitted	52206718	30030758
	<b><u>POOR PATIENT ACCOUNT</u></b>				<b><u>POOR PATIENT ACCOUNT</u></b>		
a)	Receipt	732487	925731	a)	During 12-13	633346	565510
b)	Interest on FDR's	661782	549175	b)	Miscellaneous	102	
	<b><u>PATIENT TREATMENT ACCOUNT</u></b>				<b><u>PATIENT TREATMENT ACCOUNT</u></b>		
	Receipt	47946912	55378949	a)	During 12-13	49584594	44700161
a)	Cheque Cancelled	1831967	284382	b)	Miscellaneous	154007	53279
b)	Interest	666	6143				
	<b><u>HMC/PF ACCOUNT</u></b>				<b><u>HMC/PF ACCOUNT</u></b>		
a)	Receipt during 2012-13	0	2027331	a)	During 2012-13	725164	1422162

b) Refund Charge	550		b) Miscellaneous	550	685
c) Cheque Cancelled	722	15056			
			<b><u>CLOSING BALANCE</u></b>		
			<b>A <u>CASH AT BANK</u></b>	6501558	19863732
			<b>B <u>POOR PATIENT ACCOUNT</u></b>	4216628	3455807
			<b>C <u>PATIENT TREATMENT ACCOUNT</u></b>		
			a) Cash/Bank	41703962	41663018
			b) FDRs	6000000	6000000
			<b>D <u>HMCPF ACCOUNT</u></b>		
			Cash/Bank	891653	1616095
<b>Sub-Total (D)</b>	<b>952989074</b>	<b>777538030</b>		<b>952989074</b>	<b>777538030</b>

**NATIONAL DRUG DEPENDENCE TREATMENT CENTRE & UNDCP PROJECT (E)**

**1 OPENING BALANCES**

<b>A <u>Cash at bank</u></b>			1 Pay & Allowances	66442329	51898392
i) a) N.D.D.T.C.	6021395	1257618	2 Material & Supply	39542550	24021782
b) UNDCP	2890820	7474748	3 Wages	5350358	4247851
1 i) Grant-in-Aid (DAC)	115900000	90000000	4 Books & Publication	65131	3407107
ii) Grant-in-Aid (DAC) Capital	3285000		5 Furniture	1384669	382286
2 Hospital Receipt	398655	341880	6 Machinery & Equipment	1794540	1592075
3 Miscellenous Receipt	23563	15586	7 Security Refund	15000	5000
4 Funds recovered under UNDCP		57000	8 Temporary Advance	80000	65000
5 Security Earnest Money	65000	140000	9 Refund to Min. of H.& F.W.	6021000	
6 UNDCP A/C receipt incorrectly deposited		632	10 Custom Duty Adv.		
			11 Motar Vehicle		
			12 Transfer for GIF-HIV A/c		11000
			13 Employee Contribution		
			to NPS	784355	164060
<b><u>Institute Recovery</u></b>			<b><u>Institute Recovery Remitted</u></b>		
1 GPF Subscription & Advance	8874216	8048251	1 GPF Subscription & Advance	8874216	8048251
2 Conveyance		17924	2 Conveyance		17924
3 HBA	66876	68640	3 HBA	66876	68640
4 Licence fee	117865	84273	4 Licence fee	117865	84273
5 Officer Association	2160	2200	5 Officer Association	2160	2200
6 EIS	48310	43360	6 EIS	48280	43360
7 EHS	322300	263200	7 EHS	321975	263200

8	Computer Recovery	19200	19200	8	Computer recovery	19200	19200
9	Faculty Club	3000	3000	9	Faculty Club	3000	3000
10	One day salary contribution	18871		10	New Pension Scheme	957809	
11	New Pension Scheme	957809	667826	11	One day salary contribution	18871	
				12	New Pension Scheme		667826
	<b><u>Outside Recovery</u></b>				<b><u>Outside Recovery</u></b>		
1	Income Tax	4177078	3121053	1	Income Tax	4180310	3117821
2	LIC	59538	48141	2	LIC	59538	48141
3	Court Rec.	102996	154496	3	Court Recovery	102996	154496
4	Society	4002626	3246763	4	Society	4002626	3246763
5	TDS	88220	53522	5	TDS	88220	53522
6	Labour cess	27148		6	Labour cess	27148	
	<b><u>NATIONAL DRUG DEPENDENCE TREATMENT CENTRE (N.D.D.T.C.) (UNDCP PROJECT)</u></b>				<b><u>NATIONAL DRUG DEPENDENCE TREATMENT CENTRE (N.D.D.T.C.) (UNDCP PROJECT)</u></b>		
1	i) Grant-in-Aid	5528734		1	a)TA	575775	2255000
	ii) less refunded	292341	5236393		b) TA Advance		34000
			3246094		c) Pay & Allowances	347173	358315
2	Miscellaneous Receipt		2695359	2	a)Office contingency	14546	71905
					b)Refreshment	63195	194145
					c) Accommodation charges	953749	285860
					d)Advance for Accommodation Charges		100000
					e)Printing Charges	2379094	
					f)Transportation		166777
					g) Postage	97932	
					h) Training	33750	2294250
					i) Training Advance		3809250
				3	Refund to WHO		898097
				4	Transfer to NDDTC		57000
				5	RTGS		150
				6	Inacorrectly deposited in NDDTC transferred bank account		632
				7	Advance	1400000	
				8	Bank Charges	1980	
					<b><u>CLOSING BALANCES</u></b>		
				<b>A</b>	<b><u>CASH AT BANK</u></b>		
				i)	N.D.D.T.C.	4210804	6021395
				ii)	UNDCP	2260019	2890820
	<b><u>Sub-Total (E)</u></b>	<b>152709039</b>	<b>121070766</b>			<b>152709039</b>	<b>121070766</b>

**J.P.N. APEX TRAUMA CENTRE (F)**

			1(a) Building Construction -Minor works	10880043	11991319		
<b>1</b>	<b><u>Opening Balance</u></b>		b Engg. Maintenance etc	103641299	90421117		
	Cash at bank	53543326	21126261				
<b>2</b>	<b><u>GRANT-IN-AID</u></b>		<b>2</b>	<b><u>Manpower</u></b>			
	i) Creation of Capital Assets (New)	150000000	158900000	a Recurring & Out Sources	55759175	38555013	
	ii) Grant-in-Aid (General)	459000000	804700000	b Pay & Allowances	547900933	437532803	
	iii) Grant-in-Aid (Salary)	545148000		c Festival Advance Paid	93750	40500	
<b>3</b>	<b><u>Other Receipts</u></b>			d Material & Supply	267648581	208603969	
	a) i) Hospital Receipt	8344503	8098590	e Contingency	18985054	16300208	
	ii) Security refund from NDMC	2700000		<b>3</b>	Furniture & Fixtures	753249	1102741
	b) Security deposit(EMD)	5080000	6184000	<b>4</b>	<b><u>Machinery &amp; Equipment</u></b>		
	c) Interest on TDR	10885071	15907532		Machinery & Equipment	56011609	75772233
	d) Miscellenous Receipt			(a) Advance Payment made to			
	(PT A/C,ATLAS/other Transferable Dues)	17096392	8345772	Foreign Purchases	88951917	52525026	
	e) Festival Advances Recoveries	55500	39150	(b) Advance paid as Custom Duty		20000000	
				(c) Advance paid as PDA		9500000	
				<b>5</b>	<b><u>Refunds</u></b>		
				a)Security Refunds	6965000	3888000	
				b)PT A/C,ATLAS/other Transferable Dues	13052035	3525050	
				<b>6</b>	<b><u>CLOSING BALANCES</u></b>		
				CASH IN HAND	90000	53543326	
				CASH AT BANK	81120147		
<b>Sub-Total (F)</b>		<b>1251852792</b>	<b>1023301305</b>		<b>1251852792</b>	<b>1023301305</b>	

**CENTRE FOR DENTAL EDUCATION AND RESEARCH (G)**

<b>A</b>	<b><u>Cash at Bank</u></b>			1	Pay & Allownces	40989363	15794316
(i)	CDER	10455873	9822091		Office expences	3261150	2039776
	Cash in Hand	5000	5000		Bank charges	6380	7840
<b>1</b>	<b><u>Grant -in-Aid</u></b>			2	Material & Supply	29042571	19740541
i)	Capital (New)	17677000	6000000	3	Maintenance Of Building	9031550	5778794
ii)	Revenue General	41523000	42962000	4	Capital works	822340	2242533
iii)	Grant in Aid Salary	41055000		4	Machinery & Equipment		
2	Security Deposit	2430751	310000	(j)	Actual payment	16854660	3919729
3	Interest on STD R		59176	5	Security refund	254915	699845
4	Miscellenous Receipt	133519	8800				
5	Hospital Receipt	1545450	1517180				

**Closing Balance**

A	Cash at Bank	14557664	10455873
B	Cash in Hand (Imprest)	5000	5000

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<b>Sub-Total (G)</b>	<b>114825593</b>	<b>60684247</b>	<b>114825593</b>	<b>60684247</b>
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<b>GRAND TOTAL (A) TO (G)</b>	<b>26922298158</b>	<b>22371045678</b>	<b>26922298158</b>	<b>22371045678</b>
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**Financial Advisor**

**Senior Financial Advisor**

**DIRECTOR**

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**INCOME AND EXPENDITURE ACCOUNT**  
**FOR THE YEAR 2012-2013**

<b><u>EXPENDITURE</u></b>		<b><u>AIIMS(Main) (A)</u></b>		<b><u>(Amount in )</u></b>				
		<b><u>2012-13</u></b>	<b><u>2011-12</u></b>	<b><u>INCOME</u></b>	<b><u>2012-13</u></b>	<b><u>2011-12</u></b>		
<b><u>NON-PLAN</u></b>				<b><u>GRANT-IN-AID</u></b>				
1	Pay & Allowances	3332589926	2779826670	1	Oversight Committee (Plan)	333000000	55100000	
2	Stipend	21516884	14872905	2	Grant in Aid Salary (Plan)	158200000		
3	Travelling Allowances	27921090	29040465	3	Grant in Aid General (Plan)	9475665	140573479	
4	Pensionary Benefits	574594347	495281233	4	<b><u>Non-Plan</u></b>		4483935000	
					i)Grant in Aid General	1567000000		
					ii)Grant in Aid Salary	4021000000		
				<b><u>REVENUE RECEIPTS</u></b>				
5	Material & Supply			1	Hospital Receipts	167624703	127236649	
	i) Expenditure during 2012-13	1417192339						
	ii) Adjustment of Advances	7762768		2	Tution Fee and Examination Fee	26433405	22658306	
	iii) Adjustment of Advances	1379868	1426334975	1125615411				
6	Office Contingency			3	Employees Health Scheme	41051636	36062621	
	i) Expenditure during 2012-13	556077558						
	ii) Adjustment of Advances	32084006	588161564	436689578	4	Licence fee	34160635	23076241
7	Repair & Maintenance of Machinery & Equipment			5	Interest	205356243	166972091	
		25812831	26774871					
8	Maintenance of Buildings			6	Miscellaneous Receipts	362680234	250076174	
	i) Expenditure during 2012-13	109306265						
	ii) Adjustment of Advances	1742488	111048753	121365634	7	Receipt from Gamma Knife Pt. A/c	150000000	
9	New Pension Scheme							
	i) Less Receipts	66000356	71161008	78375928				
10	Leave salary & Pension Contribution							
	i) Less Receipt	1416698	1148887	3048242				
11	Deposit Linked Insurance Scheme							
		626915	1223614					

12	Amount transferred from Revenue to:-			AIIMS 2012-2013/ 454
	i) Dr. R.P. Centre	20000000		
	ii) C.N. Centre	30000000	20000000	
	iii) Dr. B.R.A.I.R.C.H.	20000000	20000000	

**PLAN**

13	Pay & Allowances	153772089	127190439
14	Travelling Allowances	13081063	11692798
15	Insititue Research Grant		989933
16	Computerisation	822513	700309
17	Amount transferred from revenue to:- C.N. Centre	29375000	
18	<b><u>Oversight Committee</u></b> Pay & Allowances	231000000	102100000

**HOSTELS**

1	Miscellenous Expenditure	360	-
<b><u>DEPARTMENT OF GERIATRIC MEDICINE</u></b>			
	(i)Salary	4493476	
	(ii)Research Activities	4000000	
	(iii)Material & Supply (Non-Plan)	556592	
	(iv)Bank Charges	0	1188

**EXCESS OF INCOME OVER EXPENDITURE**

1	AIIMS (Main)	397014676	
2	Hostel	565280	596118
3	Department of Geriatric Medicine		36953889

**HOSTELS**

1	Miscellenous Receipts	112079	74535
2	Interest	453561	521583

**DEPARTMENT OF GERIATRIC MEDICINE**

	(i)Grant in aid		36687600
	(ii)Interest	1391465	267477

**EXCESS OF EXPENDITURE OVER INCOME**

1	AIIMS(Main)		89097469
2	Department of Geriatric Medicine	7658603	

<b>Sub-Total (A)</b>		<b>7085598229</b>	<b>5432339225</b>	<b>7085598229</b>	<b>5432339225</b>
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**DR. RAJENDER PRASAD CENTRE FOR OPHTHALMIC SCIENCES(B)**

1	i) Pay & Allowances	446076846	388802680	1	Grant-in-Aid		
	ii) Pay & Allowances (Revenue General)	50400000	44766275		i) Non-Plan	559000000	500000000
	iii) Spare & Accessories (RG)		28259658		ii) Pay & Allowances (Revenue General)	50400000	73025933
	iv) CAMC (RG)	51500000			iii) CMC (RG)	51500000	
2	Daily Wages			2	Hospital Receipts i/c kits	160148617	147015616
3	Travelling Expenses	4750066	3230618	3	Interest on Recoverable Adv.	2216	1170522
4	Material & Supply			4	Miscellaneous Receipts	589499	1815142
i)	Reg. payment	265543783		5	Interest on CLTD	15926718	24387210
ii)	Material received during 12-13	0	265543783				
5	Office Expenses	13135036	13506571				
6	Maintenance of Buildings	9985000	8406039				
7	Repair & Maintenance of Machinery & Equipment	2935000	60055				
8	NPS Contribution	5702170					
	<b><u>EXCESS OF INCOME OVER EXPENDITURE</u></b>				<b><u>EXCESS OF EXPENDITURE OVER INCOME</u></b>		
	Dr. R.P. Centre		67239478		Dr. R.P. Centre	12460851	
	<b>Sub-Total (B)</b>	<b>850027901</b>	<b>747414423</b>			<b>850027901</b>	<b>747414423</b>

**CARDIO-THORACIC & NEURO SCIENCES CENTRE (C)**

	<b><u>Non-Plan</u></b>			1	<b><u>Grant-in-Aid</u></b>		
1	Pay & Allowances & Wages	1019621059	887030105	(a)	Plan (Revenue General)	169904000	47651177
2	Travelling Expenditure	3111088	3045724	(b)	Transfer of fund from Patient Account for consumbales		9915466
3	Material & Supply	338031779	231790718	(c)	Non-Plan	1250000000	1070065000
4	Office Contingency	20749091	14176979	2	<b><u>Revenue Receipts</u></b>		
5	Repair & maintenance of Machinery & Equipment	1931648	2916862	a)	Hospital Receipts	42887980	
6	Maintenance of Buildings	29213265	28200134	b)	Amount received from outside patients 2012-13	167032	
7	For consumbales Spares & Accessories/Maint.	3651541	9118213	c)	Amount due 2012-13	810631	43531579
8	Salary Plan (Revenue General)	114029121	47576479	3	Misc. Receipts	8575354	9933823
9	New Pension Scheme	20197128	5366751	4	Rent Charges/ Licence Fee	1150300	922483
				5	Refund & Recoveries	2553422	1419213
				6	Interest	16014659	20925401

10	ORBO	151164		7	Levy Charges	107000	81500
11	Development Activities	23866480		8	Transport Charges	1374	
12	Grant in Aid General (RG)	12495954					
<b><u>C.T. PATIENT A/C</u></b>				<b><u>C.T. PATIENT A/C</u></b>			
1	Purchase for Stores	288632861	324435514	1	Patient's Receipts	222062774	259621929
2	Poor Patient Treatment Expd	21694201		2	Interest during 2012-13	14042684	10087034
3	Transferred to AIIMS CNC A/cs	48383000	42500000	3	Cancelled Cheque		1877563
<b><u>ANGIOGRAPHY PATIENT A/C</u></b>				<b><u>ANGIOGRAPHY PATIENT A/C</u></b>			
1	Purchase for Stores	193716711	200286819	1	Patient's Receipts	210890901	190545391
2	Poor Patient Treatment Expenditure	6186700	6288293	2	Interest during 12-13	6888598	5361074
3	Transferred to AIIMS CNC A/cs		17500000	3	Cancelled Cheques		9348657
<b><u>GAMMA KNIFE PATIENT A/C</u></b>				<b><u>GAMMA KNIFE PATIENT A/C</u></b>			
1	Purchase of Stores			1	Patient Receipts	28037005	22947550
2	MRI Charges	2356000		2	Interest	22949900	7037522
3	Fresh Cheques						
4	Bank Charges	225	438				
5	Fund transfer to AIIMS (Main)	150000000					
<b><u>NEURO SURGERY PATIENT A/C</u></b>				<b><u>NEURO SURGERY PATIENT A/C</u></b>			
1	Purchase of Stores	63224413	53998610	1	Patient Receipts	69450081	59320646
2	Bank Charges			2	Fixed/CLTD Interest	2165401	487008
3	Transferred to AIIMS CNC A/cs		15000000	3	Cancelled Cheques		451253
4	Poor Patient Treatment Expenditure 2012-13	3162103					

**EXCESS OF INCOME OVER EXPENDITURE**

1	CT PATIENT A/C		
2	ANGIO PATIENT A/C	17876088	
3	GAMMA KNIFE PATIENT A/C		29984634
4	NEURO SURGERY PT. A/C	5228966	

**EXCESS OF EXPENDITURE OVER INCOME**

1	CNC	95211630	33349294
2	CT PATIENT A/C	122604604	95348988
3	NEURO SURGERY PT. A/C		8739703
4	ANGIO PATIENT A/C		18819990
5	GAMMA KNIFE PATIENT A/C	101369320	

**Sub-Total (C)****2387510586 1919216273****2387510586****1919216273****Dr. B.R.A. INSTITUTE ROTARY CANCER HOSPITAL (D)**

1	Pay & Allowances	336325500	283883913
2	Expenditure of TA/DA	6749453	2584133
3	Material & Supply	202594128	180078844
4	Maintenance of Building	11914903	10812820
5	Outsourcing	24316914	18528948
6	Contingency Expenditure	3834619	2989491
7	Repair & Maintenance of Mach. & Equip.	10075662	12491605
8	Comprehensive Annual Maintenance Contract of Machinery & Equipment	27203399	17172166
9	Salary Plan	11168000	
10	Sanitation (BVG)	11491122	

**Non-Plan**

1	i)Grant-in-aid Salary	345000000	486000000
	ii)Grant-in-aid General	195000000	
	iii) Revenue Rec. from AIIMS	200000000	
2	Grant in Aid General (Plan)	45784710	17448742
3	Miscellaneous Hospital Receipt	22186181	17064366
4	ICMR	188000	375000
5	Interest Receipts	3488628	3643558

**EXCESS OF INCOME OVER EXPENDITURE**

I.R.C.H.

**Sub-Total (D)****645673700****528541920**

I.R.C.H.

**EXCESS OF EXPENDITURE OVER INCOME**

14026181

**645673700**

4010254

**528541920**

**NATIONAL DRUG DEPENDENCE TREATMENT CENTRE & UNDCP PROJECT (E)**

1	Pay & Allowances		66442329	51898392	1	Grant-in-aid (Plan)	115900000	84618532
2	Wages		5350358	4247851	2	Hospital Receipt	398655	341880
3	i) Material & Supply	39542550			3	Miscellaenous Receipt	23563	15586
	ii) Material received	40000	39582550	24050714				
4	Transfer to GIF-HIV A/c			11000	4	Transfer from UNDCP		57000
5	NPS		784355	164060				

**NATIONAL DRUG DEPENDENCE TREATMENT CENTRE (N.D.D.T.C.) (UNDCP PROJECT)**

**NATIONAL DRUG DEPENDENCE TREATMENT CENTRE (N.D.D.T.C.) (UNDCP PROJECT)**

1	TA adjusted		575775	2255000
2	Misc./Office Contingency		14546	71905
3	Transfer to NDDTC a/c			57000
4	Refund to WHO			898097
5	Pay & Allowances		347173	358315
6	Accommodation adjusted		953749	285860
7	Refreshment		63195	194145
8	Transportation			166777
9	Traning advance adjusted			2294250
11	RTGS			150
12	Printing	2379094		
13	Training	33750		
14	Bank Charges	1980		
14	Postage	97932		

1	Grant-in-aid (Plan)	5236393	3246094
2	Miscellaneous Receipts		2695359

**EXCESS OF INCOME OVER EXPENDITURE**

**EXCESS OF EXPENDITURE OVER INCOME**

1	NDDTC	4162626	4660981
2	UNDCP Project	769199	

1	NDDTC		
2	UNDCP Project		640046

<b>Sub-Total (E)</b>		<b>121558611</b>	<b>91614497</b>			<b>121558611</b>	<b>91614497</b>
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**J.P.N. APEX TRAUMA CENTRE (F)**

1	Material & Supply	267648581	224904177	1	Grant -in -Aid (Salary)	545148000	792708681
2	Contingency	18985054		2	Grant -in -Aid (General)	448119957	
2	Manpower /Out sources	55759175	38555013				
3	Pay & Allowances	547900933	437532803	2	Hospital Receipts	8344503	8098590
4	Engg. Maintenances etc.	103641299	90421117	3	Interest on TDR	10885071	15907532

**EXCESS OF INCOME OVER EXPENDITURE**

J.P.N. APEX TRAUMA CENTRE	18562489	25301693					
<b>Sub-Total (F)</b>	<b>1012497531</b>	<b>816714803</b>			<b>1012497531</b>	<b>816714803</b>	

**CENTRE FOR DENTAL EDUCATION AND RESEARCH (G)**

1	Pay & Allowances	40989363	15794316	1	Grant in Aid Salary	41055000	
2	Material & Supply	29042571	19740541		Grant in Aid General	41523000	82578000
3	Maintenance of Building	9031550	5778794	2	Interest on STDR by Bank	0	59176
4	Office Expenses	3261150	2039776	3	Miscellaneous Receipts	133519	8800
5	Bank Charges	6380	7840	4	Hospital Receipts	1545450	1517180

**EXCESS OF INCOME OVER EXPENDITURE**

**EXCESS OF EXPENDITURE OVER INCOME**

CENTRE FOR DENTAL EDUCATION & RESEARCH	1925955	1185889					
<b>Sub-Total (G)</b>	<b>84256969</b>	<b>44547156</b>			<b>84256969</b>	<b>44547156</b>	

<b>Grand Total (A) to (G)</b>	<b>12187123527</b>	<b>9580388297</b>			<b>12187123527</b>	<b>9580388297</b>	
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Financial Advisor

Senior Financial Advisor

DIRECTOR

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**

**BALANCE SHEET AS ON 31.3.2013**

		<u>AIIMS(Main) (A)</u>		<u>(Amount in ₹)</u>		
<u>LIABILITIES</u>		<u>2012-13</u>	<u>2011-12</u>			
				<u>ASSETS</u>	<u>2012-13</u>	<u>2011-12</u>
<b><u>AIIMS (MAIN)</u></b>				<b><u>AIIMS (MAIN)</u></b>		
<b>1</b>	<b><u>BALANCE</u></b>			<b>1</b>		
a)	Amount due but not paid (Scheme Cell)	61475	197351	a)	703950	683950
				b)	61475	197351
<b>2 A)</b>	<b><u>CAPITAL GRANTS FROM GOVT. OF INDIA</u></b>			<b>2</b>		
i)	Upto 2011-12	12440974959		a)		
ii)	a) During 2012-13			(i) AIIMS (Main)	2118715947	
	i) Creation of Capital Assets	1622483157		(ii) Unspent Balance of Specific Grants remained with AIIMS (Main)	303080499	2421796446
	ii) Grant in Aid General (Plan)	449087045				1512454727
iii)	Less on account of Machinery & Equipment condemned during 12-13	95645728		b)	170451547	201224501
iv)	Less Books weeded out/ lost during 2012-13	11367		<b>3</b>	94780742	61154988
v)	Less on account of furniture condemned during 2012-13	536190		<b>4</b>	7613109	16386441
vi)	Less on account of vehicle condemned during 12-13	3429307	14412922569	<b>5</b>	3517650323	3572687823
			12440974959	<b>6</b>	200000	200000
<b>B)</b>	<b><u>Oversight Committee</u></b>			<b>7</b>	7240007	4138161
	i) Grant upto 11-12	1317500000				
	ii) During 12-13	518000000	1317500000	<b>8</b>	330986	330986

<b>3</b>	Grant received from Ministry of Welfare for P.M.R. ADIP Scheme		1218	1218	<b>9</b>	Recoverable Advances			
<b>4</b>	Centralised Accident and Trauma Services		29142	29142	i)	Car		541662	1235461
<b>5</b>	Diabetes Control		420000	420000	ii)	Motor Cycle-Scooter		916423	1100576
<b>6</b>	AIDS		2400000	2400000	iii)	Bicycle		124411	132311
<b>7</b>	<u>NON-INSTITUTE SCHEMES</u> Unspent balance of grants received for specific purpose (APPENDIX-A)		480772053	546782088	iv)	Computer Advance		2523726	2823419
<b>8</b>	<u>Donated Vehicles</u>				v)	House Building Advance		9670718	12119401
a)	Up to 2011-12	3508197			vi)	Festival		2646750	2106250
b)	During 2012-13				<b>10</b>	Outside Recoveries			
c)	Vehicle condemned During 2012-13		3508197	3508197	<b>11</b>	Employee Insurance Scheme			
<b>9</b>	Donated books				<b>12</b>	Furniture & Fixture (AIIMS)			
a)	Upto 2011-12	184653			a)	Upto 2011-12	1411376		
b)	During 2012-13	9002	193655	184653	b)	During 2012-13			
<b>10</b>	Donations (Appendix-C)				c)	Furniture condemned During 2012-13	536190	875186	1411376
a)	upto 11-12	10902514			<b>13</b>	Machinery & Equipment			
b)	during 12-13	250000	11152514	10902514	<b>A</b>	AIIMS (MAIN)			
<b>11</b>	Miscellaneous Donations (Appendix-D)				a)	Upto 2011-12	6150714624		
a)	Up to 2011-12	2955263			b)	During 2012-13			
b)	Receipts during 2012-13	3148775			i)	Machinery & Equipment	272340033		
c)	Less Expenditure During 2012-13	3104625	2999413	2955263	ii)	Spares & Accessories	107801859		
					c)	Equipment received during 2012-13	399300436		
					d)	Machinery Condemned during 2012-13	95645728		
					e)	Adjustment of custom duty during 2012-13	1606701		
					f)	Computerisation	16601114	6852719039	6150714624
					<b>B</b>	AIDS		820600	820600
					<b>C</b>	NACO			



iii)	Expenditure during 12-13	62756000			<b>H</b>	Custom duty for Machinery & Equipment			
iv)	Transferred as 'Receipt' as per SFC approval	20757000	22687161	31370336	i)	Upto 2011-12	235127153		
					ii)	Add during 2012-13	0		
<b>22</b>	Post Partum Programme				iii)	Less adjustment/ receipt during 2012-13	100000000		
	a) Upto 2011-12	419875			iv)	Less adjustment during 2012-13	1606701	133520452	235127153
	b) Receipts during 2012-13	200000			<b>I</b>	For Books & Journals			
	c) Expenditure during 2012-13	541710	78165	419875	i)	Upto 11-12	57292139		
<b>23</b>	V.V.I.P.		120842	120842	ii)	Add during 12-13	48638922		
<b>24</b>	VVIP Care at Parliament House Annexe Upto 12-13		7600	7600	iii)	Adjustment of advances made in previous years	25445102	80485959	57292139
<b>25</b>	Cochelar Patient treatment A/c				<b>J</b>	National Informatics Centre Services Inc for computerisation			
	a)Upto 2011-12	918426			i)	Upto 11-12	95293333		
	b) Receipt during 12-13	36974460			ii)	Add during 12-13	1777253	97070586	95293333
	c) Expenditure during 12-13	35439560	2453326	918426	<b>K</b>	Central Public Works Department, SJHPD for Nallah			
<b>26</b>	Janani Suraksha Yojana(JSY) A/c				i)	Upto 11-12	50000000		
	a) Upto 11-12	27000			ii)	Adjustment during 12-13	50000000	0	50000000
	b) Receipt during 12-13				<b>L</b>	Central Public Works Department, SJHPD for Dr.Hostel		1181250	1181250
	c) Expenditure during 12-13	17200	9800	27000	<b>M</b>	Central Public Works Department, SJHPD for construction of sub-station		5000000	5000000
<b>27</b>	WHO-in-Country Fellowship A/c				<b>N</b>	M/s Delhi Metro Rail Corporation			
	a) Upto 12-13		720487	720487	i)	Upto 11-12	60000000		
					ii)	Adjment during 12-13		60000000	60000000
					<b>O</b>	New Delhi Municipal Corporation for augmenting L.T-Line in Eastern & Western Campus		12755500	12755500
					<b>P</b>	New Delhi Municipal Corporation			

				for HT Transformer and laying of cable	7463500	7463500
				<b>Q</b> Covering of Nallah		
			i)	Upto 11-12	12371057	
			ii)	Adjustment during 12-13	12371057	0
				<b>R</b> Central Public Works Department for Lift	14000000	14000000
				<b>S</b> Central Public Works Department for Surgical Ward	1711770	1711770
				<b>T</b> Caryair Equipment India Private limited for building construction	192602	192602
				<b>U</b> Indian Oil Corporation for Lubricant Diesel Oil		
			i)	Upto 11-12	282474	
			ii)	Adjustment during 12-13	0	282474
				<b>V</b> New Delhi Municipal Corporation for Building Construction	18733600	18733600
				<b>W</b> Upgrading Architectural cell of Engineering Services Department at AIIMS	45132	45132
				<b>X</b> Chief Controller of Accounts (M/s Deepak Elect. Co.) for Electric works	190890	190890
				<b>Y</b> Chief Controller of Accounts (M/s Sanico Ind.) for Electrics works	98486	98486
				<b>Z</b> Chief Controller of Accounts (M/s Surya Roshni) for Electric works	266165	266165
				<b>AA</b> M/s Blue Star Ltd.(for A/c works) for maintenance		
			i)	Upto 11-12	1742488	
			ii)	Adjustment during 12-13	1742488	0
				<b>AB</b> M/s Universal comfort		1742488

				(for A/c work)			
				i) Upto 11-12	275101		
				ii) Add during 12-13	539474		
				iii) Adjstment during 12-13	275101	539474	275101
				<b>AC</b> M/s Carrier Air Conditioning			
				(for A/c work)			
				i) Upto 11-12	584235		
				ii) Adjstment during 12-13	584235	0	584235
				<b>AD</b> M/s Videocon Ind.			
				Ltd.(A/c work)			
				i) Upto 11-12	559841		
				ii) Adjstment during 12-13	0	559841	559841
				<b>AE</b> M/s Voltas Ltd. for			
				A/c work			
				i) Upto 11-12	461833		
				ii) Adjstment during 12-13	0	461833	461833
				<b>AF</b> Chief Controller of Accounts			
				for purchase of stores		3343957	3343957
				<b>AG</b> M/s Inderprastha for CNG			
				Pipeline		10405000	10405000
				<b>AH</b> Directorate General Supply & Disposal			
				M/s Rashmi Industry		2976242	2976242
				for A/c work			
				<b>AI</b> M/s LG Elect. Split A/c			
				for A/c & Electric Work			
				i) Upto 11-12	262260		
				ii) Adjstment during 12-13		262260	262260
				<b>AJ</b> Ex. Engg. SJH(CPWD)			
				for sewage Treatment plant		11344542	11344542
				<b>AK</b> M/s HSCC Ltd. for			
				construction		1000000	1000000
				<b>AL</b> Registrar, Guru Govind Singh Univ.			
				for consultancy fee		18000	18000
				<b>AM</b> M/s Indian Oil Corporation			
				for lubicant Diesel Oil (minor work)			
				i) Upto 11-12	2487842		
				ii) Adjstment during 12-13	2487842	0	2487842
				<b>AN</b> M/s HSCC for preparation of			
				Master Plan (major work)		105874500	105874500
				<b>AO</b> M/s HSCC for repair & renovation of			
				RKAK OPD (major work)		136540015	136540015

<b>AP</b>	M/s HSCC for facilitation block (Major work)		14500000	14500000
<b>AQ</b>	M/s HSCC construction of P.C. Teaching block (major work)		3000000	3000000
<b>AR</b>	M/s Alpine Industries for p/o AC units (Major work)		36918	36918
<b>AS</b>	M/s Alpine Industries for p/o AC units (Minor work)			
i)	Upto 11-12	285376		
ii)	Adjstment during 12-13	285376	0	285376
<b>AT</b>	M/s Sidwal Refregration for p/o A/c units (minor work)			
i)	Upto 11-12	222030		
ii)	Adjstment during 12-13	222030	0	222030
<b>AU</b>	M/s Kohli & Co. for A/c (minor work)			
i)	Upto 11-12	224836		
ii)	Adjstment during 12-13		224836	224836
<b>AV</b>	M/s Videocon Ind. Ltd. For p/o A/C (Minor work)			
i)	Upto 11-12	59622		
ii)	Adjstment during 12-13	59622	0	59622
<b>AW</b>	M/s LG Elect. For p/o A/c (major work)			
i)	Upto 11-12	1310504		
ii)	During 12-13	3289004		
iii)	Adjstment during 12-13	1310504	3289004	1310504
<b>AX</b>	M/s LG Elect. For p/o A/c (minor work)			
i)	Upto 11-12	335815		
ii)	During 12-13	274618		
iii)	Adjstment during 12-13	335815	274618	335815
<b>AY</b>	Ex. Engg. SJH(CPWD) for sewage treatment plant (minor work)		12500000	12500000
<b>AZ</b>	Ex. Engg. SJH(CPWD) for installation of additional lifts (major work)		4868896	4868896
<b>BA</b>	Ex. Engg. CPWD for installation of lift at ward block (major work)		1000000	1000000
<b>BB</b>	Ex. Engg. CPWD for sewage treatment plant (major work)		10900000	10900000

<b>BC</b>	Ex. Engg. CPWD for covering of Nallah Phase-II (major work)			
i)	Upto 11-12	50000000		
ii)	Adjstment during 12-13	50000000	0	50000000
<b>BD</b>	Ex. Engg. AIIMS CPWD for const. of Hostel (major work)		5000000	5000000
<b>BE</b>	M/s Hitachi Homes Solutions for p/o A/c (minor work)			
i)	Upto 11-12	177587		
ii)	Adjstment during 12-13	177587	0	177587
<b>BF</b>	M/s Hitachi Homes Solutions for p/o A/c (major work)			
i)	Upto 11-12	488308		
ii)	During 12-13	1172959		
iii)	Adjstment during 12-13	488308	1172959	488308
<b>BG</b>	M/s Gurdev Singh Sons for A/c (minor work)		302357	302357
<b>BH</b>	M/s Usha International Ltd. for A/c (minor work)			
i)	Upto 11-12	315020		
ii)	During 12-13	331120		
iii)	Adjstment during 12-13	315020	331120	315020
<b>BI</b>	HSCC for prep of master plan surgical block phase - II (oversight)		5868950	5868950
<b>BJ</b>	HSCC for PC & Teaching Block phase II (oversight)			
i)	Upto 11-12	83814950		
ii)	Add during 12-13	214842628	298657578	83814950
<b>BK</b>	HSCC for cont. of Hostel Bolck at AIIMS Campus (oversight)			
i)	Upto 11-12	55699950		
ii)	Add during 12-13	183000000	238699950	55699950
<b>BL</b>	HSCC for renovation of RKAK OPD (major work)		16899950	16899950
<b>BM</b>	HSCC Ex. Engineer, Delhi Water Service Haryana Govt. (major work)		50000000	50000000
<b>BN</b>	National Environment Engineering Res. Institute (NEERI) (major work)			
i)	Upto 11-12	900000		

	ii)	Adjstment during 12-13	900000	0	900000
<b>BO</b>		DMRC for tunnel connection between AIIMS & Trauma Centre (major work)		250000000	250000000
<b>BP</b>		CPWD for Lift (major work)		10000000	10000000
<b>BQ</b>		CPWD for covering of Nallah Phase-II (major work)			
	i)	Upto 11-12	100000000		
	ii)	Add during 12-13	48600000		
	iii)	Adjstment during 12-13	89203901	59396099	100000000
<b>BR</b>		HSCC for underground parking (major work)			
	i)	Upto 11-12	299499950		
	ii)	Add during 12-13	108900000	408399950	299499950
<b>BS</b>		HSCC for outreach OPD Badsha (Hr.) (major work)			
	i)	Upto 11-12	95000000		
	ii)	Add during 12-13	10416000	105416000	95000000
<b>BT</b>		Mahindra & Mahindra Ltd for p/o Tractor (minor work)			
	i)	Upto 11-12	431510		
	ii)	Adjstment during 12-13	431510	0	431510
<b>BU</b>		Seed advance for Tabassum Const. Co. (minor work)			
	i)	Upto 11-12	680408		
	ii)	Adjstment during 12-13	680408	0	680408
<b>BV</b>		Hitachi Homes for p/o split A/c (minor work)			
	i)	Upto 11-12	204423		
	ii)	Add during 12-13	606704		
	iii)	Adjstment during 12-13	204423	606704	204423
<b>BW</b>		Hitachi Homes for WTC units (minor work)			
	i)	Upto 11-12	196328		
	ii)	Adjstment during 12-13	196328	0	196328
<b>BX</b>		HSCC for Dining Hall (Oversight)		132500000	
<b>BY</b>		HSCC for renovation of CNC -CCU ward (major work)		30000000	
<b>BZ</b>		HSCC for renovation of laundry & OPD (major work)		22400000	

<b>CA</b>	HSCC for consultancy fee (major work)		24700000	
<b>CB</b>	E.E. Delhi Water Services Division (major work)		55100000	
<b>CC</b>	Sidwal Refregration for p/o A.C. (major work)		165363	
<b>CD</b>	Inderprastha Gas Limited (minor work)		841610	
<b>15</b>	Books & Publications			
i)	Books & periodicals (purchased)			
a)	Upto 2011-12	354890802		
b)	During 2012-13	27785807		
c)	Less books weeded out/ lost during 2012-13	11367		
c)	Adjustment of advances made in previous year	25445102	408110344	354890802
ii)	Books donated			
a)	Upto 2011-12	184653		
b)	During 2012-13	9002	193655	184653
<b>16</b>	Building Construction AIIMS (Main)			
a)	Upto 2011-12	3430123580		
b)	during 2012-13	350054841		
c)	Adjustment of advances	50000000		
d)	Adjustment of advances	12371057		
e)	Adjustment of advances	275101		
f)	Adjustment of advances	584235		
g)	Adjustment of advances	2487842		
h)	Adjustment of advances	285376		
i)	Adjustment of advances	222030		
j)	Adjustment of advances	59622		
k)	Adjustment of advances	1310504		
l)	Adjustment of advances	335815		
m)	Adjustment of advances	50000000		
n)	Adjustment of advances	177587		
o)	Adjustment of advances	488308		
p)	Adjustment of advances	315020		
q)	Adjustment of advances	900000		
r)	Adjustment of advances	89203901		

s)	Adjustment of advances	431510		
t)	Adjustment of advances	680408		
u)	Adjustment of advances	204423		
v)	Adjustment of advances	196328	3990707488	3430123580
<b>18</b>	<b>Advance Payment</b>			
i)	Indian Iron & Steel Company		572139	572139
ii)	Tata Iron & Steel Company		654154	654154
iii)	Hindustan Steel Limited		520295	520295
iv)	Indian Iron & Steel Company		594000	594000
<b>19</b>	<b>Land Account</b>			
	Upto 2012-13		112832263	112832263
<b>20</b>	<b>Vehicles</b>			
<b>A</b>	Vehicle (purchased for AIIMS)			
a)	Upto 2011-12	29536518		
b)	During 2012-13			
i)	Transport Office			
ii)	Hospital Store			
c)	Less Vehicles condemned during 12-13	3429307	26107211	29536518
<b>B</b>	Vehicles donated for AIIMS			
a)	Upto 2011-12	3508197		
b)	During 2012-13			
c)	Vehicle condmned dg12-13		3508197	3508197
<b>21</b>	Hospital receipts recoverable from outside patients			
a)	Upto 2011-12	5169461		
b)	During 2012-13	2085096		
c)	Amount recovered during 2012-13	3368295	3886262	5169461
<b>22</b>	Oversight Committee			
a)	Major works			
i)	upto 2011-12	339181124		
ii)	during 12-13	32738990	371920114	339181124

				b) Machinery & Equipment(store)			
				i) upto 2011-12	38263518		
				ii) during 12-13	58325581	96589099	38263518
	<b><u>POOR PATIENT A/C</u></b>			<b><u>POOR PATIENT A/C</u></b>			
1	AIIMS (Main)			1 AIIMS (Main)			
	a)Opening Balance			a)Cash/Bank		2597226	1685917
	i) Cash/Bank	1685917		b)FDR's		1202610	1202610
	ii) FDR's	1202610					
	b)Receipts						
	i) Grants	942217					
	ii)Interest	68565					
	iii) Payments	99473					
	c)Closing Balance						
	i) Cash/Bank		2597226				
	ii) FDR's		1202610				
			1685917				
			1202610				
	<b><u>PATIENT TREATMENT ACCOUNTS</u></b>			<b><u>PATIENT TREATMENT ACCOUNTS</u></b>			
1	AIIMS			AIIMS		106306586	91464066
	a)Opening Balance	91464066					
	b)Receipts						
	(i) Grants	78575055					
	(ii) Interest	3870917					
	(iii) Payments	67592171					
	(iv) Bank Charges	11281					
	c)Closing Balance						
	(i) Grants		91316376				
	(ii) Interest		14990210				
	<b><u>HOSTELS</u></b>			<b><u>HOSTELS</u></b>			
	<b><u>Security Deposits</u></b>			1 Cash in hand		-	-
	i) Upto 2011-12	2579280		2 Cash at Bank		956437	396906
	ii) receipts during			3 FDR's		5283021	5026772
	2012-13	1470000					
	iii) less refunds						
	during 2012-13	1219500	2829780				
			2579280				
	<b><u>DEPARTMENT OF GERIATRIC MEDICINE</u></b>			<b><u>DEPARTMENT OF GERIATRIC MEDICINE</u></b>			
1	(i)Amount payable to			(i)Machinery & Equipment		301846	

	AIIMS (Main)	1000				(ii)Furniture	59331	
	(ii)Paid to AIIMS (Main)	1000	0	1000		(iii) Advance to Engg.	594000	
						Cash at bank	28340109	36954889
1	<b><u>CUSTOM DUTY ACCOUNT</u></b>					<b><u>CUSTOM DUTY ACCOUNT</u></b>		
	a)Opening Balance	323820525				Cash at bank	195937688	
	b)Receipts	0						
	c)Payments	127882837						
	c)Closing Balance		195937688					
1	<b><u>PD ACCOUNT</u></b>					<b><u>PD ACCOUNT</u></b>		
	a)Opening Balance	6819584				Cash at bank	13653385	
	b)Receipts	12000000						
	c)Payments	5166199						
	c)Closing Balance		13653385					
	<b><u>EXCESS OF INCOME OVER EXPENDITURE</u></b>							
1	AIIMS (Main)							
	(i) Upto 2011-12	104753357						
	(ii) Add during 12-13	397014676						
	iii) Revolving funds added as Receipt' as per SFC approval	20757000	522525033	104753357				
2	HOSTEL							
	i)Upto 2011-12	2844398						
	ii)During 2012-13	565280	3409678	2844398				
3	DEPARTMENT OF GERIATRIC MEDICINE							
	i)Upto 2011-12	36953889						
	ii)Less Excess of Expd over Income during 12-13	7658603	29295286	36953889				
	<b>Sub-Total (A)</b>		<b>21423444783</b>	<b>18382482739</b>			<b>21423444783</b>	<b>18382482739</b>

**DR. RAJENDER PRASAD CENTRE FOR OPHTHALMIC SCIENCES(B)**

I	<u>Capital Grant from Govt. of India</u>				1	<u>CASH IN HAND</u>		
	i) Upto 2011-12	1316506328			a)	Imprest	20000	20000
	ii) During 12-13	319839843			2	CASH AT BANK	102443276	112157899
	iii) During 12-13 (Revenue				3	<b><u>Recoverable Advances</u></b>		

	(General)	39500000							
iv)	Furniture condemned	624685							
v)	M & E Condemned 12-13	33194840							
vi)	Vehicles -condemned	342312	1641684334	1316506328					
II	NPCB upto 12-13		25629000	25629000					
III	Donated vehicles (upto 12-13)		896357	896357					
IV	Vehicles purchased under DBCS/NPCB (upto 12-13)		455574	455574					
V	<b><u>NON RPC SCHEMES</u></b>								
1	<b><u>ABN AMRO Natra Raksha</u></b>								
i)	Upto 11-12	62091							
ii)	Rec. during 12-13								
iii)	Exp. during 12-13	30000	32091	62091					
2	<b><u>Acuate Bacterial Conjectivities</u></b>								
i)	Upto 11-12	0							
ii)	Rec. during 12-13	0							
iii)	Exp. during 12-13	0	0	0					
3	<b><u>Administrative Charges</u></b>								
i)	Upto 11-12	2059138							
ii)	Rec. during 12-13	1147796							
iii)	Exp. during 12-13	265631	2941303	2059138					
4	<b><u>AMD View Study</u></b>								
i)	Upto 11-12	294646							
ii)	Rec. during 12-13	0							
iii)	Exp. during 12-13	0	294646	294646					
5	<b><u>Brimiridine DS/DDS</u></b>								
i)	Upto 11-12	18677							
ii)	Rec. during 12-13	36936							
iii)	Exp. during 12-13	41971	13642	18677					
6	<b><u>Catract Patient (IOL)</u></b>								
i)	Upto 11-12	125124							
a)	<b><u>CAR</u></b>								
i)	Upto 11-12	161952							
ii)	Paid during 12-13								
iii)	Recovered during 12-13	101740	60212	161952					
b)	<b><u>SCOOTER</u></b>								
i)	Upto 11-12	15784							
ii)	Paid during 12-13	0							
iii)	Recovered durng 12-13	15784	0	15784					
d)	<b><u>H.B.A.</u></b>								
i)	Upto 11-12	632390							
ii)	Paid during 12-13	0							
iii)	Recovered durng 12-13	219965	412125	632090					
e)	<b><u>COMPUTER ADVANCE</u></b>								
i)	Upto 11-12	39500							
ii)	Paid during 12-13	0							
iii)	Recovered durng 12-13	12000	27500	39500					
f)	<b><u>Festival Advance</u></b>								
i)	Upto 11-12	495645							
ii)	Paid during 12-13	720000							
iii)	Recovered durng 12-13	781975	433670	495645					
4	<b><u>Machinery &amp; Equipment (PLAN)</u></b>								
i)	Upto 11-12	931420000							
ii)	Paid during 12-13	284389274							
iii)	Recovered during 12-13	266463084							
iii)	Condmned during 12-13	33194840	1449077518	931420000					
5	<b><u>Machinery &amp; Equipment (Non-Plan)</u></b>								
i)	Upto 12-13		5872266	5872266					
6	<b><u>Capital Assets (Building)</u></b>								
i)	Upto 11-12	125207205							
ii)	During 12-13	56389843	181597048	125207205					

ii)	Rec. during 12-13	108000							
iii)	Exp. during 12-13	121400	111724	125124	7	NPCB (M & E)		7002852	7002852
7	<b><u>CGD in Primary Angle Closure Glacoma</u></b>				8	ICMR ( M & E )		605150	605150
i)	Upto 11-12	41445							
ii)	Rec. during 12-13	0							
iii)	Exp. during 12-13	0	41445	41445	9	<b><u>Vehicles</u></b>			
8	<b><u>CSIR</u></b>				a) i)	Vehicles Up to 11-12	4589299		
i)	Upto 11-12	0			ii)	Vehicle purchased 12-13	0		
ii)	Rec. during 12-13	1769032			iii)	Vehicle Condmned	342312	4246987	4589299
iii)	Exp. during 12-13	1552680	216352	0	b)	Donated Vehicles upto 12-13		1351931	1351931
9	<b><u>DEGAS</u></b>				10	<b><u>Furniture &amp; Fixtures</u></b>			
i)	Upto 11-12	184074			i)	Upto 11-12	6046218		
ii)	Rec. during 12-13	0			ii)	During 12-13	7984325		
iii)	Exp. during 12-13	0	184074	184074	iii)	Furniture condem. dg12-13	624685	13405858	6046218
10	<b><u>DME</u></b>				11	Sundry Debtors		76253	76253
i)	Upto 11-12	9102			12	<b><u>Advances Payment made to foreign purchases (ME)</u></b>			
ii)	Rec. during 12-13	0			i)	Upto 11-12	266463084		
iii)	Exp. during 12-13	1340	7762	9102	ii)	During 12-13	7626401		
11	<b><u>DNB Examination</u></b>				iii)	M & E received during 12-13	266463084	7626401	266463084
i)	Upto 11-12	5000			13	<b><u>Material &amp; Supply (RPC)</u></b>			
ii)	Rec. during 12-13	0			i)	Upto 11-12	8149089		
iii)	Exp. during 12-13	0	5000	5000	ii)	Advances payment made to foreign purchase 12-13	5015313		
12	<b><u>FTG</u></b>				iii)	Material received during 12-13	0	13164402	8149089
i)	Upto 11-12	0			14	Machinery & Equipment (PLAN) Jhajjar During 12-13		2950000	
ii)	Rec. during 12-13	25000							
iii)	Exp. during 12-13	24326	674	0					
13	<b><u>High Precision Bio Analital (HP-BAF)</u></b>								
i)	Upto 11-12	377468							
ii)	Rec. during 12-13	216135							

iii)	Exp. during 12-13	158692	434911	377468			
14	<b><u>ICMR</u></b>						
i)	Upto 11-12	6328655					
ii)	Rec. during 12-13	6189252					
iii)	Exp. during 12-13	9655242	2862665	6328655			
15	<b><u>INDEGEN (LSTM)</u></b>						
i)	Upto 11-12	116230					
ii)	Rec. during 12-13	0					
iii)	Exp. during 12-13	115500	730	116230			
16	<b><u>LUX 201 Omnicare</u></b>						
i)	Upto 11-12	930397					
ii)	Rec. during 12-13	0					
iii)	Exp. during 12-13	43152	887245	930397			
17	<b><u>MA Foundation</u></b>						
i)	Upto 11-12	364652					
ii)	Rec. during 12-13	0					
iii)	Exp. during 12-13	242564	122088	364652			
18	<b><u>M.K. Media Corneal Transplant (Min. of Finance)</u></b>						
i)	Upto 11-12	287110					
ii)	Rec. during 12-13	1397660					
iii)	Exp. during 12-13	322333	1362437	287110			
19	<b><u>NAB</u></b>						
i)	Upto 11-12	215028					
ii)	Rec. during 12-13	0					
iii)	Exp. during 12-13	160896	54132	215028			
20	<b><u>Novartis Shield study</u></b>						
i)	Upto 11-12	0					
ii)	Rec. during 12-13	0					
iii)	Exp. during 12-13	0	0				
21	<b><u>NPCB DOS Training</u></b>						
i)	Upto 11-12	88829					
ii)	Rec. during 12-13	811171					

iii)	Exp. during 12-13	380092	519908	88829			
22	<b><u>NPCB Eye Camp Godda Jharkhand</u></b>						
i)	Upto 11-12	0					
ii)	Rec. during 12-13	157718					
iii)	Exp. during 12-13	63293	94425	0			
23	<b><u>NPCB/DBCS</u></b>						
i)	Upto 11-12	15029					
ii)	Rec. during 12-13	621250					
iii)	Exp. during 12-13	86988	549291	15029			
24	<b><u>NPCB-NSU</u></b>						
i)	Upto 11-12	127790					
ii)	Rec. during 12-13	172210					
iii)	Exp. during 12-13	229973	70027	127790			
25	<b><u>NPCB SSU</u></b>						
i)	Upto 11-12	25886					
ii)	Rec. during 12-13	274114					
iii)	Exp. during 12-13	213189	86811	25886			
26	<b><u>OEU</u></b>						
i)	Upto 11-12	91868					
ii)	Rec. during 12-13	349916					
iii)	Exp. during 12-13	372771	69013	91868			
27	<b><u>ORBIS PECP</u></b>						
i)	Upto 11-12	71140					
ii)	Rec. during 12-13	0					
iii)	Exp. during 12-13	18817	52323	71140			
28	<b><u>Pharmacokinetic Quinacrine</u></b>						
i)	Upto 11-12	5869					
ii)	Rec. during 12-13	0					
iii)	Exp. during 12-13	5806	63	5869			
29	<b><u>Posudurex PS/DDS Allergan International</u></b>						
i)	Upto 11-12	427552					

ii)	Rec. during 12-13	58860					
iii)	Exp. during 12-13	486412	0	427552			
30	<b><u>Ozurdex Study</u></b>						
i)	Upto 11-12	162000					
ii)	Rec. during 12-13	360000					
iii)	Exp. during 12-13	520247	1753	162000			
31	<b><u>Mayopia Study</u></b>						
i)	Upto 11-12	170458					
ii)	Rec. during 12-13	1102320					
iii)	Exp. during 12-13	1272778	0	170458			
32	<b><u>SSMI-VFA</u></b>						
i)	Upto 11-12	322494					
ii)	Rec. during 12-13	872953					
iii)	Exp. during 12-13	691356	504091	322494			
33	<b><u>Treatment prevalance of dry eye</u></b>						
i)	Upto 11-12	105300					
ii)	Rec. during 12-13	0					
iii)	Exp. during 12-13	0	105300	105300			
34	<b><u>WHO Malaysia</u></b>						
i)	Upto 11-12	0					
ii)	Rec. during 12-13	80400					
iii)	Exp. during 12-13	20118	60282	0			
35	<b><u>WHO Short term Training Programme</u></b>						
i)	Upto 11-12	148500					
ii)	Rec. during 12-13	24900					
iii)	Exp. during 12-13	173400	0	148500			
36	<b><u>Workshop</u></b>						
i)	Upto 11-12	31600					
ii)	Rec. during 12-13	0					
iii)	Exp. during 12-13	0	31600	31600			
37	Diabetic Retinopaty in Urban slum of Delhi (DRUSD)						

	Upto 11-12	0				
	Rec. during 12-13	5778867				
	Exp. during 12-13	4099808	1679059	0		
38	<u>GNEC (Guru Nanak Eye Centre)</u>					
	Upto 11-12	0				
	Rec. during 12-13	25000				
	Exp. during 12-13	25000	0			
39	<u>Vision Delhi-PEC</u>					
	Upto 11-12	0				
	Rec. during 12-13	1733422				
	Exp. during 12-13	579953	1153469	0		
40	<b><u>Comprehensive Primry eye care services</u></b>					
	Upto 11-12	0				
	Rec. during 12-13	646000				
	Exp. during 12-13	218027	427973			
41	<u>ROP Services</u>					
	Upto 11-12	0				
	Rec. during 12-13	1353188				
	Exp. during 12-13	407103	946085			
42	<u>ROP Workshop</u>					
	Upto 11-12	0				
	Rec. during 12-13	660000				
	Exp. during 12-13	660000	0			
43	<b><u>Study Drug (DE-109)</u></b>					
	Upto 11-12	0				
	Rec. during 12-13	160000				
	Exp. during 12-13	107830	52170			
VI	<b><u>NIAF</u></b>					
i)	Upto 11-12	1257776				
ii)	Rec. during 12-13	83900				
iii)	Exp. during 12-13	68235	1273441	1257776		

VII	<b><u>NPCB</u></b>						
	i) Upto 11-12	827					
	ii) Rec. during 12-13	0					
	iii) Exp. during 12-13	0	827	827			
VII	<b><u>Security deposits</u></b>						
	I i) Upto 11-12	1851000					
	ii) Rec. during 12-13	4576000					
	iii) Exp. during 12-13	5000	6422000	1851000			
IX	<b><u>A.I.I.M.S. Remittance</u></b>						
	Upto 11-12	215790					
	Rec. during 12-13	0	215790	215790			
X	<b><u>Outside Recoveries</u></b>						
	Upto 12-13		11288	11288			
	<b><u>Poor Patient A/c</u></b>						
1	Cash	332390					
2	Receipts						
	i) Interest	14724					
	ii) Donation	208350					
	iii) Misc Receipts						
	iii) Payments	185594					
3	Closing Balance		369870	332390			
XI	<b><u>Excess of Income Over Expenditure</u></b>						
	i) Upto 11-12	110269125					
	ii) Less Excess of Expd over income during 12-13	12460851	97808274	110269125			
	<b>Sub-Total (B)</b>		<b>1790743319</b>	<b>1470638607</b>			
						<b>1790743319</b>	<b>1470638607</b>

**Poor Patient A/c**  
Cash/Bank

369870

332390

**CARDIO-THORACIC & NEURO SCIENCES CENTRE (C)**

1	a) Amount due but not paid (Cashier)						
	b) Imprest 2012-13		6000				
1	<b><u>Cash in hand</u></b>						
a)	Imprest (CNC Cashier)					41000	41000

2	<u>Capital Grant from Govt. of India</u>				b)	Amount due but not paid	6000	
A)	Upto 2011-12	4074853016			2	Cash at Bank	5981079	103302133
B)	During 2012-13				3	<u>Recoverable Advance</u>		
	i)Capital Assets (New)	400000000			a)	Computer	1404156	936140
	ii) Revenue General	38000000			b)	Car	507460	606952
	iii)Transfer of fund from Patient Account for Spares & Accessories	48383000			c)	Cycle		1800
	iv) Less Machinery Condemn during 2012-13	64355210			d)	Scooter	689630	834676
	v) Less Furniture Condemn during 2012-13	4259040	4492621766	4074853016	e)	House Building Advance	5351600	6219470
					f)	Festival Advance	926304	941585
3	Amount transfer from IRCH		1478400	1478400	4	<u>Machinery &amp; Equipment</u>		
4	Cost of the vehicle donated by Sai Bhakta Samaj		613384	613384	i)	Upto 2011-12	3367915904	
5	CT Patient A/c Machinery & Equipment Transfer Sai Bhakta Samaj		49025000	49025000	ii)	During 12-13	129766771	
6	<u>Neurology Patient A/c</u>				iii)	Spares & Accessories(CTC)	48383000	
i)	Upto 2011-12	25571427			iv)	Mach. & Equip. Received against advance payment	170511573	
ii)	Receipt during 12-13	13396365			v)	Machinery & Equipment condmned during 12-13	64355210	3652222038
iii)	Less refund/Exp. 12-13	13565736	25402056	25571427	5	Machinery & Equipment Transfer From CT Patient A/C	49025000	49025000
7	<u>Outside recoveries/ Institute Recovery</u>				6	<u>Advance payment for Foreign Purchase</u>		
i)	Upto 2011-12	342175			a)	<u>Machinery &amp; Equipment</u>		
ii)	Less during 2012-13	39130	303045	342175	i)	Upto 2011-12	133099763	
8	<u>Donations</u>				ii)	During 12-13	275343773	
i)	Upto 2011-12	1353152			iii)	Less equipments received During 12-13	170511573	237931963
ii)	Receipt during 2012-13				7	<u>Building construction/Minor Work</u>		
ii)	Less expenditure 2012-13		1353152	1353152	i)	Upto 2011-12	323543473	
9	<u>Security Deposits</u>				ii)	During 2012-13	39596705	363140178
i)	Upto 2011-12	28764964			8	Advance against works	174596762	174596762
ii)	Receipt during 2012-13	12485650			9	<u>Amount due from outside patients</u>		
iii)	Less refund during 2012-13	3349000	37901614	28764964	i)	Upto 2011-12	1805520	
10	<u>Thallium</u>				ii)	During 2012-13	810631	
					iii)	Less amount Received		

i)	Upto 2011-12	2191662				During 2012-13	167032	2449119	1805520
ii)	Receipt during 2012-13	3836250							
iii)	Less expenditure 2012-13	5760953	266959	2191662	<b>10</b>	<u>Vehicles</u>			
					i)	Ambulance ORBO		1305522	1305522
<b>11</b>	<u>Heart Transplant Donation</u>				<b>11</b>	<u>Furniture &amp; Fixture</u>			
i)	Upto 2011-12	274919			i)	Upto 2011-12	3840719		
ii)	Receipt during 2012-13	0			ii)	During 2012-13	1526924		
iii)	Less expenditure	0	274919	274919	iii)	Furniture condemned During 2012-13	4259040	1108603	3840719
<b>12</b>	<u>Lab Test</u>								
i)	Upto 2011-12	1902419							
ii)	Receipt during 2012-13	9546120							
iii)	Less expenditure 2012-13	11436711	11828	1902419					
<b>13</b>	<u>Cardiac Test</u>								
i)	Upto 2011-12	8058431							
ii)	During 2012-13	4977070							
iii)	Receipt during 2012-13	4343050	8692451	8058431					
<b>14</b>	<u>NACO fund</u>								
ii)	During 2012-13	400000							
iii)	Less Expd during 2012-13	40000	360000						
	<b><u>POOR PATIENT A/C</u></b>					<b><u>POOR PATIENT A/C</u></b>			
<b>1</b>	N.S. Centre				<b>1</b>	N.S. CENTRE			
a)	Cash/Bank	133123			a)	Cash/Bank		132907	133123
b)	Donations	1784							
c)	Payments	2000							
d)	Closing Balance		132907	133123					
	<b><u>C.T. PATIENT A/C</u></b>					<b><u>C.T. PATIENT A/C</u></b>			
					<b>1</b>	Fixed Deposits	10000000		17000000
					<b>2</b>	Cash at Bank	1218507		53823111
	<b><u>ANGIOGRAPHY PATIENT A/C</u></b>					<b><u>ANGIOGRAPHY PATIENT A/C</u></b>			
					<b>1</b>	Cash recoverable from Sh. Dal Chand Verma, Cashier	3245441		3245441
					<b>2</b>	Fixed Deposits	59800000		19800000
					<b>3</b>	Cash at bank	32215235		54339147

	<b><u>GAMMA KNIFE PATIENT A/C</u></b>								
	<b><u>NEURO SURGERY PATIENT A/C</u></b>								
	<b><u>EXCESS OF INCOME OVER EXPENDITURE</u></b>								
1	<u>C.N.C.</u>								
a)	upto 12-13								
2	C.T. PATIENT A/C								
i)	Upto 2011-12	223823111							
ii)	less excess of expenditure over income 12-13	122604604	101218507	223823111					
3	ANGIOGRAPHY PATIENT A/C								
i)	Upto 2011-12	77384588							
ii)	During 2012-13	17876088	95260676	77384588					
4	GAMMA KNIFE PATIENT A/C								
i)	Upto 2011-12	213653119							
ii)	less excess of expenditure over income during 12-13	101369320	112283799	213653119					
5	NEURO SURGERY PATIENT A/C								
i)	Upto 2011-12	32788680							
ii)	During 12-13	5228966	38017646	32788680					
	<b>Sub-Total (C)</b>		<b>4965224109</b>	<b>4742211570</b>				<b>4965224109</b>	<b>4742211570</b>

	<b><u>GAMMA KNIFE PATIENT A/C</u></b>								
1	Fixed Deposit							70000000	197300000
2	Cash at Bank							42283799	16353119
	<b><u>NEURO SURGERY PATIENT A/C</u></b>								
1	Fixed Deposits							15900000	15900000
2	Cash at bank							22117646	16888680
	<b><u>EXCESS OF EXPENDITURE OVER INCOME</u></b>								
1	<u>C.N.C.</u>								
i)	upto 2011-12				26412530				
ii)	During 2012-13				95211630		121624160		26412530

<b><u>Dr. B.R.A. INSTITUTE ROTARY CANCER HOSPITAL (D)</u></b>									
1	Capital Grant								
a)	Upto 2011-12	1597402164							
b)	During 2012-13	100000000							
c)	During 12-13								
1	<b><u>Cash at Bank</u></b>							6501558	19863732
2	<b><u>Revenue General (Plan)</u></b>								



				11	<b><u>Furniture &amp; Fixture</u></b>			
				a)	Upto 2011-12	10840372		
				b)	during 2012-13			
				c)	Less furniture condmned during 12-13		10840372	10840372
				12	<b><u>Advance payment to Custom Duty &amp; PDA Account</u></b>			
				(i)	Upto 2011-12	22490268		
				(ii)	Add during 2012-13			
				(iii)	Less Custom Duty adjusted during 2012-13	2473628	20016640	22490268
				13	<b><u>Festival Advance</u></b>			
				i)	Upto 2011-12	349500		
				ii)	During 2012-13	273750		
				iii)	Less Recoveries dg.2012-13	451950	171300	349500
					<b><u>Poor Patient A/c</u></b>			
					Dr. B.R.A.I.R.C.H.			
				a)	Cash/Bank	3455807		
				b)	Receipts			
				i)	Grants	732487		
				ii)	Interest	661782		
				iii)	Payments	633346		
				iv)	Misc Payments	102		
				c)	Closiing Balance Cash/Bank		4216628	3455807
					<b><u>Patient Treatment A/c</u></b>			
					Dr. B.R.A.I.R.C.H.			
				a)	Opening Balance	41663018		
				b)	Short term investment			
				c)	FDR	6000000		
				i)	Grants	47946912		
				ii)	Cheque Cancelled	1831967		
				iii)	Dly. Interest	666		
					<b><u>Patient Treatment A/c</u></b>			
					Dr. B.R.A.I.R.C.H.			
				a)	Cash/Bank		41703962	41663018
				b)	Short term investment			
				c)	FDR		6000000	6000000



				<b>6</b>	<u>Vehicle</u>				
					Upto 2012-13			9033101	9033101
				<b>7</b>	Outside recovery				
				a)	Upto 2011-12	37476			
				b)	during 2012-13	3232	40708		37476
				<b>8</b>	Advance for Material & Supply				
				a)	Upto 2011-12	250000			
				b)	During 12-13	80000			
				c)	Less Mat.& Supply Recvd. during12-13	40000	290000		250000
				<b>9</b>	Custom duty Advance		400000		400000
					<u>NATIONAL DRUG DEPENDENCE TREATMENT CENTRE (N.D.D.T.C.) (UNDCP PROJECT)</u>				
					Opening balance	464680	464680		
					<u>EXCESS OF INCOME OVER EXPENDITURE</u>				
1	NDDTC								
	i)Upto 2011-12	6353654							
	ii)Dg. 12-13	4162626							
	iii) Less Grant refunded to Min. of Health & F.W.	6021000	4495280		6353654				
2	N.D.D.T.C. (UNCDP Project)								
	i) Upto 2011-12	6370022							
	ii) During 12-13	769199	7139221		6370022				
	<b>Sub-Total (E)</b>		<b>188396853</b>		<b>186150673</b>			<b>188396853</b>	<b>186150673</b>

**J.P.N. APEX TRAUMA CENTRE (F)**

1 Capital Grants from Govt. of India				1 Cash in Hand			
(i)	Upto 2011-12	2232186719			Cash at Bank	81120147	53543326
(ii)	During 2012-13				<u>M/S HSCC</u>		
	a) Capital Asset (New)	150000000			Outstanding (11-12) Adj.	6500000	6500000
	b) Revenue General	10880043	2393066762	2232186719	Security deposit to NDMC	5979000	5979000
					Security Deposite with IGL	1304680	1304680
2	Security/ EM deposit				Advance Payment to "TRIGEN" (Min. of Power as per MOU)	1170000	1170000
(i)	Upto 2011-12	8453968					
(ii)	Receipt During 2012-13	5080000					
(iii)	Less Refund dg 2012-13	6965000	6568968	8453968	2		
					<u>Machinery &amp; Equipment</u>		
3	(PT A/C, ATLS)				i) Advance Payment made for foreign purchase upto 11-12	64839883	
(i)	Upto 2011-12	5663694			ii) L.C. adv. During 12-13	88951917	
(ii)	Receipt during 2012-13	17096392			iii) Less Adv. Adjusted 12-13	70649886	83141914
(iii)	Less refund dg.12-13	13052035	9708051	5663694			64839883
					3		
					<u>Custom Duty Adv.</u>		
					i) upto 11-12	54288900	
					(ii) during 12-13	0	
					ii) Less Adjusted dg 12-13	7776200	46512700
							54288900
					4		
					<u>PDA Advance</u>		
					i) upto 11-12	9894185	
					(i) Adv. During 12-13	0	
					(ii) Less Adjusted dg.12-13	246970	9647215
							9894185
					5		
					Construction Building		
					i) Capital works upto 11-12	675090751	663099432
					ii) Minor Works during 12-13	10880043	11991319
					iii) Less Security Refund NDMC	2700000	
					iv) Land A/C transferred AIIMS		54310794
						683270794	
					5		
					Festival Advance		
					i) upto 11-12	21750	
					ii) during 12-13	93750	
					iii) recovered during 12-13	55500	60000
							21750
					6		
					Machinery & Equipments		
					i) upto 11-12	1390682574	
					(ii) during 12-13	56011609	
					(iii) M & E received against advance payment	70649886	
					(iv) Incorporation of Custom Duty a) during 12-13	7776200	

					b) PDA upto 12-13	246970	1525367239	1390682574
				7	Furniture & Fixture			
					i) upto 11-12	7777055		
					ii) during 12-13	753249	8530304	7777055
	<b>EXCESS OF INCOME OVER EXPENDITURE</b>							
	(I) upto 2011-12	79098517						
	ii) add dg 12-13	18562489	97661006	79098517				
	<b>Sub-Total (F)</b>		<b>2507004787</b>	<b>2325402898</b>			<b>2507004787</b>	<b>2325402898</b>

**CENTRE FOR DENTAL EDUCATION AND RESEARCH (G)**

1	Capital Grant				1	Cash in Hand	5000	5000
(i)	Upto 11-12	493260204			2	Cash at bank	14557664	10455873
	from AIIMS Main A/c							
(ii)	During 2012-13	17677000			3	Machinery & Equipment		
(iii)	Less value of the old equipment				(i)	Upto 2011-12	183547508	
	given to supplier on buy back				(ii)	During 2012-13	0	
	procurement basis	2804750	508132454	493260204	(iii)	Add Mach & Equip		
						received against		
						advances during 2012-13	16854660	
2	Security Deposits				(iv)	Less value of the old equipment		
(i)	Upto 2011-12	2051245				given to supplier on buy back		
(ii)	During 12-13	2430751				procurement basis	2804750	197597418
(iii)	Less refund during				5	Building		
	2012-13	254915	4227081	2051245	(i)	Upto 11-12	262271549	
					(ii)	During 12-13	822340	263093889
								262271549
					6	Advance Payment		
					(i)	Advance paid to HSCC	45668116	45668116
					(ii)	Adv.paid to NDMC upto 12-13	2364500	2364500
					(iii)	Security Deposite to NDMC upto 12-13	3000000	3000000
					(iv)	Advance paid to DGS&D upto 2012-13	469471	469471
	<b>EXCESS OF INCOME OVER EXPENDITURE</b>							
i)	Upto 11-12	12470568						
ii)	During 2012-13	1925955	14396523	12470568				
	<b>Sub-Total (G)</b>		<b>526756058</b>	<b>507782017</b>			<b>526756058</b>	<b>507782017</b>

<b>GRAND TOTAL (A) TO (G)</b>	<b>33162085901</b>	<b>29267128996</b>		<b>33162085901</b>	<b>29267128996</b>
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Note:

- 1 The accounts have been prepared on actual Receipt and Expenditure basis.
- 2 No depreciation on Machinery & Equipment, vehicles etc. has been provided as the Institute is fully funded by the Govt. of India.
- 3 A statement showing the expenditure made by various Project Investigators during 2012-13 is attached at Appendix-A-I. It may be mentioned that on completion of Research Projects, the equipments are either returned to the funding agencies or used in the Departments.
- 4 Institute is exempted from Income-Tax under Section 8G(5)(vi) of the Income Tax Act, 1961.
- 5 The amount shown under four patient Accounts viz. C.T. Patient A/c, Angio Patient A/c, N.S. Patient Account and Gammaknife Patient A/c on the asset side of the Balance Sheet represents the amount as "Excess of Income over Expenditure" and the same is invested in term deposits. The amount is accumulated during the previous years on introduction of package charges in the year 1995. Package was introduced for convenience of patients and to ensure that quality products are used at reasonable rates.  
The package rates included service charges and ICU charges which were approved by Standing Finance Committee and ratified by Governing Body. Later on it was decided not to levy such charges from the patients and was withdrawn in the year 2000. During that period (1995-2000) accumulated balance amount and also the earned interest were invested in term deposit. A part of the interest only has however been utilised for treatment of poor patients as is reflected in the Receipt & Payment Account. The accumulated balance has not been utilised during the previous years in the absence of a guideline regarding its utilisation. Issue regarding the utilisation of accumulated balances on account of user charges and interest thereon was discussed in the Standing Finance Committee meeting held on 11.11.2010, wherein it was decided that all the Centres will prepare their sub-budget (from the financial year 2011-12 onwards) indicating the amount proposed to be utilised out of accumulated balances available under patient account before the consolidated budget for the Institute is prepared. The same was ratified by the Governing Body on 27.11.2010. Accordingly, C.N. Centre has utilised Rs. 6.14 crore out of the accumulated balances for the current financial year 2012-13 under CT patient A/c.
- 6 During the year 2011-12 an amount of Rs.10.21 crores was utilised towards the payment of manpower under Oversight Committee. The same was asked for from the Ministry. Ministry had noted the requirement and had assured that the amount of Rs.10.21 crore will be allocated to the Institute by the end of the financial year. However, no such allocation was made by the Ministry during 2011-12. Since the salary to the officials appointed against Oversight Committee was being paid regularly during the financial year, the requirement was met from the balances available with the Institute. However, Ministry has released Rs.10.20 crore during the financial year 2012-13 to meet out the liability of 2011-12..
- 7 Committee on Management on Finances at AIIMS had recommended that Revolving/Patient Funds may not remain open ended. Balances outstanding may be transferred to the General Revenue of the Institute leaving a 'start up' amount to meet initial costs of the services of the next cycle. The issue was discussed in the 197th meeting of the Standing Finance Committee held on 11.11.2010, and it was decided that after the close of Financial Year a start up amount sufficient to cater to two months requirement may be kept with the department concerned and excess fund be transferred to the respective main account of the Institute as normal Receipt. This was ratified by the Governing Body on 27.11.2010. Accordingly, a balance of Rs.20757000/- and Rs.150000000 has been transferred out of the accumulated balances of Revolving Funds & Gamma Knife Patient A/c to main account of the Institute as 'Receipt'.

Financial Advisor

Senior Financial Advisor

DIRECTOR

**Appendix-A**  
**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**RESEARCH SECTION**

**STATEMENT SHOWING THE EXPENDITURE OF THE GRANT RECEIVED FOR THE VARIOUS RESEARCH PROJECTS FOR THE YEAR 2012-2013**

No.	Funding Agency	Opening Balance		Receipt	Total Receipt	Expend	Estd	Expenditure	Adj.		Balance	
		Credit	Debit						Cr.	Dr.	Credit	Debit
1	Institute Research Grant	26,030,810.00		13,114,290.00	39145100.00	35284835.00	0.00	35284835.00			3860265.00	
2	ICMR	97,112,056.00		0.00	97112056.00	0.00	9,461,958.00	9461958.00			87650098.00	
3	C.S.I.R.	19,537,620.00		0.00	19537620.00	0.00	166,590.00	166590.00			19371030.00	
4	DST	19,081,723.00		59,451,475.00	78533198.00	0.00	2,414,913.00	2414913.00			76118285.00	
5	UNICEF	493,773.25		0.00	493773.25	0.00	200,129.00	200129.00			293644.25	
6	D.B.T.	161,395,261.00		0.00	161395261.00	0.00	5,371,128.00	5371128.00			156024133.00	
7	W.H.O.	14,066,678.00		0.00	14066678.00	0.00	127,765.00	127765.00			13938913.00	
8	U.G.C.	1,457,526.00		0.00	1457526.00	0.00	500.00	500.00				1457026.00
9	Indian Council of Agriculture Research.			0.00	0.00	0.00	185,260.00	185260.00			-185260.00	
10	Ministry of Health and Family welfare	136,084.00	00	0.00	136084.00	0.	179,455.00	179455.00			-43371.00	
11	Ministry of Environment & Forest	528,016.00		0.00	528016.00	0.00	90,904.00	90904.00			437112.00	
12	Dabur Research Foundation	508,578.00		0.00	508578.00	0.00	0.00	0.00			508578.00	
13	DEPTT. OF ELECTRONICS	56,370.00		0.00	56370.00	0.00	0.00	0.00			56370.00	
14	Himalaya Drug Co.	1,366,236.00		0.00	1366236.00	0.00	0.00	0.00			1366236.00	
15	International Atomic Energy Agency	252,097.00		0.00	252097.00	0.00	90,794.00	90794.00			161303.00	
16	Convatee Sayibb	2,328.00		0.00	2328.00	0.00	0.00	0.00			2328.00	
17	Rajiv Gandhi Foundation	0	-989.00	0.00	-989.00	0.00	0.00	0.00				-989.00
18	Directorate of Education (NSS)	22,799.00		0.00	22799.00	0.00	0.00	0.00			22799.00	
19	Ministry of Welfare			0.00	0.00	0.00	0.00	0.00			0.00	
20	Torrent Pharma	1,265,329.00		0.00	1265329.00	0.00	110,000.00	110000.00			1155329.00	
21	INDO-US	749,033.00		0.00	749033.00	0.00	0.00	0.00			749033.00	
22	Ford Foundation	458,594.00		0.00	458594.00	0.00	0.00	0.00			458594.00	
23	Fulford India Ltd.	371,795.00		0.00	371795.00	0.00	13905.00	13905.00			357890.00	
24	National Thalassaemia Welfare Societ y	919.00		0.00	919.00	0.00	2,700.00	2700.00			-1781.00	
25	INCLN		-118,368.00	0.00	-118368.00	0.00	0.00	0.00				-118368.00
26	Institute of Cancer Research UK co-ordination Committee		-7,209.00	0.00	-7209.00	0.00	0.00	0.00				-7209.00
27	Central Council for Research in Yoga And Naturopathy	0.00	-62,660.00	0.00	-62660.00	0.00	23,626.00	23626.00				-86286.00
28	Ranbaxy /Elililly & company pvt Ltd	1,962,229.00		0.00	1962229.00	0.00	4,680.00	4680.00			1957549.00	
29	NATIONAL INSTITUTE OF HEALTH, USA	4,933,333.00		0.00	4933333.00	0.00	275,871.00	275871.00			4657462.00	
30	NIE	43,367,441.00		25,969,953.71	69337394.71	0.00	0.00	0.00			69337394.71	
31	Sarabhai Chemicals		-4868	0.00	-4868.00	0.00	0.00	0.00				-4868.00
32	INSA	25,331.00		0.00	25331.00	0.00	0.00	0.00			25331.00	
33	SRB-Clinical Pharamacology		-3,154,100.00	0.00	-3154100.00	0.00	0.00	0.00				-3154100.00

No.	Funding Agency	Credit	Debit	Receipt	Total Receipt	Expend	Estd	Expenditure	Cr.	Dr.	Credit	Debit
34	I.C.C.S.R.			0.00	0.00	0.00	0.00	0.00				0.00
35	Panacea biotech Ltd.	8,084.00		0.00	8084.00	0.00	0.00	0.00			8084.00	
36	Revolving Funds for Drugs. / SNMC	195,710.00		0.00	195710.00	0.00	0.00	0.00			195710.00	
37	Atomic Energy Regulatory Board	409,629.00		0.00	409629.00	0.00	0.00	0.00			409629.00	
38	Pfizer Ltd.	1,749,150.35		0.00	1749150.35	0.00	22,350.00	22350.00			1726800.35	
39	NATCO Pharma India	24,579.00		0.00	24579.00	0.00	0.00	0.00			24579.00	
40	University of Maryland	90,282.00		0.00	90282.00	0.00	0.00	0.00			90282.00	
41	Glaxo India Ltd.	217,377.00		0.00	217377.00	0.00	0.00	0.00			217377.00	
42	Ministry of Defence (D.R.D.O)	306,385.00		0.00	306385.00	0.00	26,232.00	26232.00			280153.00	
43	MBI Kits.	8,867.00		0.00	8867.00	0.00	0.00	0.00			8867.00	
44	Nova Nordisk India Pvt Ltd.	303,321.00		0.00	303321.00	0.00	16,645.00	16645.00			286676.00	
45	Indian Institute of Technology	118,315.00		0.00	118315.00	0.00	4,596.00	4596.00				113719.00
46	Cystic Fibrosis/World Wide, USA	14,605.00		0.00	14605.00	0.00	0.00	0.00			14605.00	
47	CONARD, USA	591.00		0.00	591.00	0.00	0.00	0.00			591.00	
48	The Cancer Foundation	44,245.00		0.00	44245.00	0.00	0.00	0.00			44245.00	
49	Novartis India Ltd.	2,656,327.47		0.00	2656327.47	0.00	68,060.00	68060.00			2588267.47	
50	Maharishi Ayurveda	114325		0.00	114325.00	0.00	0.00	0.00			114325.00	
51	UN International Drug and crime Control Programme	2,024,739.00		0.00	2024739.00	0.00	44,167.00	44167.00			1980572.00	
52	Russan Pharma Ltd Mumbai	5,425.00		0.00	5425.00	0.00	0.00	0.00			5425.00	
53	Central Council for Research in Ayurveda & Sidha	777,466.00		0.00	777466.00	0.00	0.00	0.00			777466.00	
54	Ministry of Social Justice and Empowerment	77,882.00		0.00	77882.00	0.00	0.00	0.00			77882.00	
55	Quintiles Spectral India	3,109,901.96		0.00	3109901.96	0.00	23,854.00	23854.00			3086047.96	
56	Ministry of Communication and Information & Technology		-52,557.00	0.00	-52557.00	0.00	0.00	0.00				-52557.00
57	University of Bergen, Norway	1,799,945.00		0.00	1799945.00	0.00	91,850.00	91850.00			1708095.00	
58	Zydas Healthcare Ltd	0	-398.00	0.00	-398.00	0.00	0.00	0.00				-398.00
59	Oxford University, UK	1,799,389.78		0.00	1799389.78	0.00	26,979.00	26979.00			1772410.78	
60	Federation of Obstetric & Gynaecological		-276.00	0.00	-276.00	0.00	0.00	0.00				-276.00
61	Aimil Pharmaceutical India Ltd.		-331.00	0.00	-331.00	0.00	0.00	0.00				-331.00
62	Pharmacia India Pvt. Ltd	837.00		0.00	837.00	0.00	0.00	0.00			837.00	
63	INCTR USA		-35,818.00	0.00	-35818.00	0.00	0.00	0.00				-35818.00
64	Emcure Pharmaceutical Ltd.		-6380.00	0.00	-6380.00	0.00	0.00	0.00				-6380.00
65	Delhi State Control Society/AIDS	117,199.00		0.00	117199.00	0.00	0.00	0.00			117199.00	
66	Bharat Biotech International Ltd	12,241.00		0.00	12241.00	0.00	0.00	0.00			12241.00	
67	L.G. Chemicals India Pvt Ltd.		-668.00	0.00	-668.00	0.00	0.00	0.00				-668.00
68	Wockhardt, Mumbai	749,459.00		0.00	749459.00	0.00	49,500.00	49500.00			699959.00	
69	NSD (Security Deposit)	4,104,350.00		1,886,000.00	5990350.00	0.00	0.00	0.00			5990350.00	
70	Sanofi Pasteur India Pvt Ltd	123,346.00		0.00	0.00	0.00	0.00	0.00			123346.00	
71	Helpage India		-426,500.00	0.00	-426500.00	0.00	0.00	0.00				-426500.00
72	Johnson & Johnson	46,176.55		0.00	46176.55	0.00	962.00	962.00			45214.55	

No.	Funding Agency	Credit	Debit	Receipt	Total Receipt	Expend	Estd	Expenditure	Cr.	Dr.	Credit	Debit
73	Beijing Toshiba Pharmaceuticals Co. Ltd.	180,235.00		0.00	180235.00	0.00	0.00	0.00			180235.00	
74	C.P.W.W. Jersulam	6,534.00		0.00	6534.00	0.00	0.00	0.00			6534.00	
75	AVENTIS PHARMACEUTICALS, USA	14,135.00		0.00	14135.00	0.00	0.00	0.00			14135.00	
76	Dr. Reddys Lab. Pvt. Ltd.	104,925.00		0.00	104925.00	0.00	31,157.00	31157.00			73768.00	
77	Hindustan Latex Family Planning Promotion		-7,020.00	0.00	-7020.00	0.00	0.00	0.00				-7020.00
78	SIRO CLIN PHARMA PVT. LTD	1,520,625.00		0.00	1520625.00	0.00	12,441.00	12441.00			1508184.00	
79	Charak Pharma (P)Ltd.	81,999.00		0.00	81999.00	0.00	0.00	0.00			81999.00	
80	INCLIN & USAID	24.00		0.00	24.00	0.00	0.00	0.00			24.00	
81	SAVING NEWBORN LIVES, USA		-10,898.00	0.00	-10898.00	0.00	0.00	0.00				-10898.00
82	DANIDA RESEARCH COUNCIL	19.00		0.00	19.00	0.00	0.00	0.00			19.00	
83	THE MICRONUTRIENT INITIATIVE, ASIA		-4,702.00	0.00	-4702.00	0.00	0.00	0.00				-4702.00
84	Ministry of Health And Family Welfare(N.A.C.O)	136,446.00		0.00	136446.00	0.00	152,879.00	152879.00			-16433.00	
85	The University of Albama, USA	67,747,603.00		0.00	67747603.00	0.00	1,264,618.00	1264618.00			66482985.00	
86	Indian council of Philosophical Research	4,920.00		0.00	4920.00	0.00	0.00	0.00			4920.00	
87	Sterling Synergy System (P) Ltd.	58,580.00		0.00	58580.00	0.00	0.00	0.00			58580.00	
88	Reliance Clinical Research Services (P) Ltd.	2,288,301.64		0.00	2288301.64	0.00	3,987.00	3987.00			2284314.64	
89	KLPP,USA	16,473.00		0.00	16473.00	0.00	0.00	0.00			16473.00	
90	Vulimini Ramalingaswami Foundation		-6,508.00	0.00	-6508.00	0.00	0.00	0.00				-6508.00
91	Texas A&M Research Foundation (TAMRF) USA	16,237.00		0.00	16237.00	0.00	0.00	0.00			16237.00	
92	Biomerieux India (P)Ltd.	12,011.00		0.00	12011.00	0.00	0.00	0.00			12011.00	
93	Media Lab Asia		-11,301.00	0.00	-11301.00	0.00	0.00	0.00				-11301.00
94	University of Warwick U.K		-1061	0.00	-1061.00	0.00	0.00	0.00				-1061.00
95	National AIDS Control Organisation	56.00		0.00	56.00	0.00	0.00	0.00			56.00	
96	BHARAT SERUMS AND VACCINES LTD.		-10,000.00	0.00	-10000.00	0.00	0.00	0.00				-10000.00
97	CD PHARMA INDIA PRIVATE LIMITED	764,141.00		0.00	764141.00	0.00	121,050.00	121050.00			643091.00	
98	CODMAN & SHURTLEFF, INC., USA	42,138.00		0.00	42138.00	0.00	0.00	0.00			42138.00	
99	KHANDELWAL LABORATORIES LTD.	805.00		0.00	805.00	0.00	0.00	0.00			805.00	
100	Directorate General of Health Services		-57,267.00	0.00	-57267.00	0.00	0.00	0.00				-57267.00
101	Lajolla Pharmaceutical Company, California	395,337.00		0.00	395337.00	0.00	0.00	0.00			395337.00	
102	Institute De Recherches Internationales Servier (IRIS), France		-2034	0.00	-2034.00	0.00	0.00	0.00				-2034.00
103	BONE & JOINT DECADE INDIA	130.00		0.00	130.00	0.00	0.00	0.00			130.00	
104	Eli Lilly			0.00	0.00	0.00	42,120.00	42120.00				-42120.00
105	ANTISENSE PHARMA Gmbh, GERMANY	76,810.00		0.00	76810.00	0.00	15,014.00	15014.00				61796.00
106	I.S.H.T.M	13,108.00		0.00	13108.00	0.00	69,000.00	69000.00			-55892.00	

No.	Funding Agency	Credit	Debit	Receipt	Total Receipt	Expend	Estd	Expenditure	Cr.	Dr.	Credit	Debit
107	National Institute of Nutrition (NIN) Hyderabad	109.00		0.00	109.00	0.00	0.00	0.00			109.00	
108	Wyeth Pharmaceuticals Inc	2,497,265.00		0.00	2497265.00	0.00	0.00	0.00			2497265.00	
109	Peregrine Pharmaceuticals, USA	453,338.00		0.00	453338.00	0.00	13,878.00	13878.00			439460.00	
110	B.A.R.C		-1,078.00	0.00	-1078.00	0.00	14,800.00	14800.00			-15878.00	
111	Ozone pharmaceuticals ltd.	125,150.00		0.00	125150.00	0.00	0.00	0.00			125150.00	
112	Ovation Pharmaceuticals, USA	39,827.00		0.00	39827.00	0.00	0.00	0.00			39827.00	
113	DELHI TAPEDIK UNMULAN SAMITI	10,824.00		0.00	10824.00	0.00	0.00	0.00			10824.00	
114	JOHN HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH (JHBSPH)	540,004.00		0.00	540004.00	0.00	138,365.00	138365.00			401639.00	
115	Clinigene International Pvt. Ltd	725,709.00		0.00	725709.00	0.00	28,675.00	28675.00			697034.00	
116	D.R.D.O.	1,579,832.00		0.00	1579832.00	0.00	88,110.00	88110.00			1491722.00	
117	FREEDOM TRIAL	86,253.00		0.00	86253.00	0.00	0.00	0.00			86253.00	
118	DIGENE CORPORATION, USA	42,184.00		0.00	42184.00	0.00	0.00	0.00			42184.00	
119	Ministry of Health & Family Welfare (AYUSH)	1,127,255.00		0.00	1127255.00	0.00	167,304.00	167304.00			959951.00	
120	KOBE, JAPAN	10,221.00		0.00	10221.00	0.00	0.00	0.00			10221.00	
121	AYUSH, Ministry of Health and Family Welfare	17,684.00		0.00	17684.00	0.00	0.00	0.00				17684.00
122	Troikaa Pharmaceutical Ltd	32,914.00		0.00	32914.00	0.00	2,000.00	2000.00			30914.00	
123	International Paedtrics Nephrology Association	462,959.00		0.00	462959.00	0.00	0.00	0.00			462959.00	
124	National Perinatal Epidemiology Unit, University of Oxford, UK	1,995,040.50		0.00	1995040.50	0.00	123,977.00	123977.00			1871063.50	
125	ABBOTT VASCULAR, USA	482,902.00		0.00	482902.00	0.00	0.00	0.00			482902.00	
126	European Commission	2,178,247.00		0.00	2178247.00	0.00	83,598.00	83598.00			2094649.00	
127	Synergy Network India Pvt Ltd,	551.00		0.00	551.00	0.00	0.00	0.00			551.00	
128	Solvey Pharma Ltd.	13,465.00		0.00	13465.00	0.00	0.00	0.00			13465.00	
129	Relisys Medical Devices Ltd.		-3,433.00	0.00	-3433.00	0.00	0.00	0.00				-3433.00
130	PPD Pharmaceutical Development India Pvt. Ltd.		-22668	0.00	-22668.00	0.00	0.00	0.00				-22668.00
131	Auxilium Technical & Management Services Pvt. Ltd.	400.00		0.00	400.00	0.00	0.00	0.00			400.00	
132	M/S ASPREVA PHARMACEUTICAL CORPORATION, CANADA		-41,266.00	0.00	-41266.00	0.00	0.00	0.00				-41266.00
133	CLINIRx RESEARCH PVT. LTD. GURGAON, HARYANA	511,763.00		0.00	511763.00	0.00	1,418.00	1418.00			510345.00	
134	SANOFI-AVENTIS	39,555.00		0.00	39555.00	0.00	6,377.00	6377.00			33178.00	
135	Central Council for Research in Unani Medicine	1,713,239.00		0.00	1713239.00	0.00	80,469.00	80469.00			1632770.00	
136	CLINCYTE, USA	665.00		0.00	665.00	0.00	0.00	0.00			665.00	
137	M/S Markansas Research Division		-4,745.00	0.00	-4745.00	0.00	0.00	0.00				-4745.00

No.	Funding Agency	Credit	Debit	Receipt	Total Receipt	Expend	Estd	Expenditure	Cr.	Dr.	Credit	Debit
138	THRESHOLD PHARMACEUTICALS, USA		-3,136.00	0.00	-3136.00	0.00	0.00	0.00				-3136.00
139	London School of Hygiene & Tropical Medicine, UK	146,225.00		0.00	146225.00	0.00	0.00	0.00			146225.00	
140	GlaxoSmith Kline Asia Private Ltd	2,639,449.00		0.00	2639449.00	0.00	0.00	0.00			2639449.00	
141	AJINOMOTA CO. JAPAN	31,082.00		0.00	31082.00	0.00	54,558.00	54558.00			-23476.00	
142	The International Society for Paediatric Neurosurgery (ISPNE)	408.00		0.00	408.00	0.00	0.00	0.00			408.00	
143	MSD (India) Pvt. Ltd.	293,027.00		0.00	293027.00	0.00	0.00	0.00			293027.00	
144	Fogarty International Centre,NIH, USA			0.00	0.00	0.00	8,485.00	8485.00			-8485.00	
145	Solumiks Herbaceuticals Limited	13.00		0.00	13.00	0.00	0.00	0.00			13.00	
146	Cadila Health care ltd.	53,240.00		0.00	53240.00	0.00	7,000.00	7000.00			46240.00	
147	AO Spine International, USA	218,151.00		0.00	218151.00	0.00	3,529.00	3529.00			214622.00	
148	Shire Human Genetic Therapies, Inc., USA	2,387,016.30		0.00	2387016.30	0.00	34,820.00	34820.00			2352196.30	
149	Centocor Research & Development, USA	4,797.00		0.00	4797.00	0.00	0.00	0.00			4797.00	
150	Neeman Medical International Asia Ltd.	237,385.00		0.00	237385.00	0.00	0.00	0.00			237385.00	
151	Apothecaries Ltd	435.00		0.00	435.00	0.00	0.00	0.00			435.00	
152	PAREXEL INTERNATIONAL LTD., U.K.	2,802,565.27		0.00	2802565.27	0.00	0.00	0.00			2802565.27	
153	OXIGENE, USA	215,126.84		0.00	215126.84	0.00	0.00	0.00			215126.84	
154	Hindustan Latex Limited	428,451.00		0.00	428451.00	0.00	11,130.00	11130.00			417321.00	
155	Deptt of Information Technology	12,922.00		0.00	12922.00	0.00	12,600.00	12600.00			322.00	
156	Ovrseas associates	190.00		0.00	190.00	0.00	0.00	0.00			190.00	
157	Glaxo Smith Kline	510,388.00		0.00	510388.00	0.00	139,170.00	139170.00			371218.00	
158	The Medical Research Council, UK	6,736.00		0.00	6736.00	0.00	1,784.00	1784.00			4952.00	
159	Biogen Idec Limited, UK	529,351.00		0.00	529351.00	0.00	66,049.00	66049.00			463302.00	
160	Global Cancer Concern India	3,647.00		0.00	3647.00	0.00	0.00	0.00			3647.00	
161	N.C.Pvt. Ltd	37,117.00		0.00	37117.00	0.00	0.00	0.00			37117.00	
162	N.C.T.	33,584.00		0.00	33584.00	0.00	0.00	0.00			33584.00	
163	NAIP		-836.00	0.00	-836.00	0.00	3,429.00	3429.00				-4265.00
164	UNIVERSITY OF CALGARY, CANADA	57,187.00		0.00	57187.00	0.00	0.00	0.00			57187.00	
165	CORVENTIS, USA	308,134.00		0.00	308134.00	0.00	0.00	0.00			308134.00	
166	BRITISH COUNCIL, UK	631,723.00		0.00	631723.00	0.00	67,000.00	67000.00			564723.00	
167	The Service de Dermatologie, France		-8,445.00	0.00	-8445.00	0.00	0.00	0.00				-8445.00
168	MERCK SERONO INTERNATIONAL S.A., SWITZERLAND	9,512.00		0.00	9512.00	0.00	32,856.00	32856.00				-23344.00
169	University of Western Australia	0.00		0.00	0.00	0.00	0.00	0.00			0.00	
170	Centre For Chronic Disease Control	410.00		0.00	410.00	0.00	0.00	0.00			410.00	
171	Lupin Limited	18,386.00		0.00	18386.00	0.00	0.00	0.00			18386.00	
172	Coloplast		-5,775.00	0.00	-5775.00	0.00	0.00	0.00				-5775.00
173	Piramal Life Sciences	46,877.00		0.00	46877.00	0.00	0.00	0.00			46877.00	

No.	Funding Agency	Credit	Debit	Reciept	Total Reciept	Expend	Estd	Expenditure	Cr.	Dr.	Credit	Debit
174	Criterium	469,046.00		0.00	469046.00	0.00	2,264.00	2264.00			466782.00	
175	M/s ARCHIMEDES DEVELOPMENT LTD., UK	47,204.00		0.00	47204.00	0.00	0.00	0.00			47204.00	
176	University of Nottingham, UK	7,136.00		0.00	7136.00	0.00	0.00	0.00			7136.00	
177	BRISTOL MEYER SQUIBB INDIA PRIVATE LIMITED	20,224.00		0.00	20224.00	0.00	5,905.00	5905.00			14319.00	
178	Brains Gate Ltd. ISRAEL	132.00		0.00	132.00	0.00	0.00	0.00			132.00	
179	Central Council for Research in Homoeopathy (CCRH), Janak Puri, New Delhi	69,744.00		0.00	69744.00	0.00	44,960.00	44960.00				24784.00
180	JIV DAYA FOUNDATION	347,530.50		0.00	347530.50	0.00	66,671.00	66671.00			280859.50	
181	QED PHARMACEUTICAL SERVICES PVT. LTD	577,043.00		0.00	577043.00	0.00	0.00	0.00			577043.00	
182	Amgen Technolgoy Private Limited	1,005,239.00		0.00	1005239.00	0.00	14,769.00	14769.00			990470.00	
183	ACE PHARMACEUTICALS BV, NETHERLAND	425,729.00		0.00	425729.00	0.00	11,142.00	11142.00			414587.00	
184	Actelion Pharmaceuticals Ltd. Switzerland	0.00		0.00	0.00	0.00	0.00	0.00			0.00	
185	Macleods Pharmaceutical Ltd.	18.00		0.00	18.00	0.00	0.00	0.00			18.00	
186	Department of Health and Human Services Centers for disease control, USA	8,984,442.00		0.00	8984442.00	0.00	1,533,456.00	1533456.00			7450986.00	
187	PHARM-OLAM INTERNATIONAL, LTD.	16,923.00		0.00	16923.00	0.00	0.00	0.00			16923.00	
188	MERK & CO., INC. USA	777,523.00		0.00	777523.00	0.00	57,695.00	57695.00			719828.00	
189	Central Scientific Instruments Organisation	135,557.00		0.00	135557.00	0.00	0.00	0.00			135557.00	
190	McMaster University, Canada	668,726.00		0.00	668726.00	0.00	0.00	0.00			668726.00	
191	Institute of Genomics & Integrative Biology	1,271,894.00		0.00	1271894.00	0.00	135,000.00	135000.00			1136894.00	
192	India Medtronic Pvt. Ltd	52,783.00		0.00	52783.00	0.00	1,080.00	1080.00			51703.00	
193	Society of American Gastrointestinal and Endoscopic Surgeons	35,501.00		0.00	35501.00	0.00	0.00	0.00			35501.00	
194	Sun Pharmaceuticals	3,384.00		0.00	3384.00	0.00	0.00	0.00			3384.00	
195	National Knowledge Commission	5,278,607.00		0.00	5278607.00	0.00	0.00	0.00			5278607.00	
196	GW Pharma Ltd. U.K.	9,261.00		0.00	9261.00	0.00	2,000.00	2000.00			7261.00	
197	Lady Tata Memorial Trust	15500		0.00	15500.00	0.00	0.00	0.00			15500.00	
198	Liver Foundation	211,677.00		0.00	211677.00	0.00	23,860.00	23860.00			187817.00	
199	EMMES Corporation, Maryland, USA	3,297.00		0.00	3297.00	0.00	0.00	0.00			3297.00	
200	Flamentera AG, Switzerland	355,439.00		0.00	355439.00	0.00	47,465.00	47465.00			307974.00	
201	The Energy and Resources Institute	7,775.00		0.00	7775.00	0.00	0.00	0.00			7775.00	
202	Morphotek Inc. USA	716,697.28		0.00	716697.28	0.00	21,378.00	21378.00			695319.28	
203	Albert David Ltd	134,147.00		0.00	134147.00	0.00	3,750.00	3750.00			130397.00	
204	Sanat Product Ltd	5,758.00		0.00	5758.00	0.00	0.00	0.00			5758.00	
205	I.C.G.E.&B	13,494.00		0.00	13494.00	0.00	0.00	0.00			13494.00	

No.	Funding Agency	Credit	Debit	Receipt	Total Receipt	Expend	Estd	Expenditure	Cr.	Dr.	Credit	Debit
206	IADVL	22,329.00		0.00	22329.00	0.00	0.00	0.00			22329.00	
207	Ministry of Chemical and petrochemicals	219309		0.00	219309.00	0.00	0.00	0.00			219309.00	
208	National Institute of pharmaceutical Education & Research	651035		0.00	651035.00	0.00	137,700.00	137700.00			513335.00	
209	Max Neeman International	19820		0.00	19820.00	0.00	44,142.00	44142.00			-24322.00	
210	The George Institute for International Health, Australia	115105.93		0.00	115105.93	0.00	30,787.71	30787.71			84318.22	
211	Apothecaries PvtLtd	915024		0.00	915024.00	0.00	0.00	0.00			915024.00	
212	BRNS,Mumbai	669,974.00		0.00	669974.00	0.00	0.00	0.00				669974.00
213	Centre for Chronic Diseases Control, New Delhi	233756		0.00	233756.00	0.00	78,650.00	78650.00			155106.00	
214	BRIDGES, USA	1498693		0.00	1498693.00	0.00	0.00	0.00			1498693.00	
215	DRDE(Gwallior)		-64,866.00	0.00	-64866.00	0.00	25,000.00	25000.00			-89866.00	
216	CANNectIN, Canada	470,885.00		0.00	470885.00	0.00	0.00	0.00			470885.00	
217	LG Life Sciences India Pvt. Ltd.	152335		0.00	152335.00	0.00	57,820.00	57820.00			94515.00	
218	Merck Pharmaceuticals Ltd.	4467		0.00	4467.00	0.00	0.00	0.00			4467.00	
219	Canadian Institutes of Health Research, Canada	4967		0.00	4967.00	0.00	47,800.00	47800.00			-42833.00	
220	St. Jude Medical Hong Kong	529,042.00		0.00	529042.00	0.00	26,429.00	26429.00			502613.00	
221	International Union Against Cancer (UICC)	256711		0.00	256711.00	0.00	0.00	0.00			256711.00	
222	Qiagen Inc.India	351902		0.00	351902.00	0.00	2,443.00	2443.00			349459.00	
223	Ipca laboratoris	334298		0.00	334298.00	0.00	130,125.00	130125.00			204173.00	
224	Fondazione Angelo Bianchi Bonomi, Milan-Italy	199,682.00		0.00	199682.00	0.00	30,774.00	30774.00			168908.00	
225	Zenotech	60682		0.00	60682.00	0.00	32,843.00	32843.00			27839.00	
226	Pharmacosmos A/S, Denmark	0.00		0.00	0.00	0.00	0.00	0.00				0.00
227	National Information Centre	1,017,276.00		0.00	1017276.00	0.00	26,100.00	26100.00			991176.00	
228	ROCHE Products(India) Pvt Ltd.	217,060.00		0.00	217060.00	0.00	88,722.00	88722.00			128338.00	
229	Hamilton Health Sciences Corporation, Canada	211,885.00		0.00	211885.00	0.00	142,737.00	142737.00			69148.00	
230	Smith & Nephew Health care pvt lt	92,335.00		0.00	92335.00	0.00	21,783.00	21783.00			70552.00	
231	BRISTOL MYER SQUIBB(BMS), USA			0.00	0.00	0.00	33,462.00	33462.00			-33462.00	
232	ST. Jude Medical India Pvt Ltd			0.00	0.00	0.00	4,500.00	4500.00			-4500.00	
233	Abbot health care pvt ltd.	173,346.00		0.00	173346.00	0.00	65,786.00	65786.00			107560.00	
234	Indian Heart Rhythm Society			0.00	0.00	0.00	2,190.00	2190.00			-2190.00	
235	Newcastle University, UK	102,089.00		0.00	102089.00	0.00	15,008.00	15008.00			87081.00	
236	Clinical Marketing Pvt Ltd	275,000.00		0.00	275000.00	0.00	140,000.00	140000.00			135000.00	
237	Torrent Pharmaceutical Ltd	153,956.00		0.00	153956.00	0.00	0.00	0.00			153956.00	
238	Ministry of Earth Science	78,010.00		0.00	78010.00	0.00	11,160.00	11160.00			66850.00	
239	bigtec private limited	0.00		0.00	0.00	0.00	49,960.00	49960.00			-49960.00	
240	Piramal Healthcare Ltd	0.00		0.00	0.00	0.00	52,590.00	52590.00			-52590.00	
241	Bill & Melinda Gates Foundation, USA	59,090.00		0.00	59090.00	0.00	23,951.00	23951.00			35139.00	
242	ICSSR	0.00		0.00	0.00	0.00	500.00	500.00				-500.00
243	National Commission for protection of child Rights	0.00		0.00	0.00	0.00	41,356.00	41356.00			-41356.00	

No.	Funding Agency	Credit	Debit	Reciept	Total_Reciept	Expend	Estd	Expenditure	Cr.	Dr.	Credit	Debit
244	US SCcience & Technology Forum, USA	0.00		0.00	0.00	0.00	27,302.00	27302.00			-27302.00	
245	Centre Franco-Indien Pour La Preomotion De La Recherche Advance (CEFIPRA), France	0.00		0.00	0.00	0.00	88,615.00	88615.00			-88615.00	
246	Indo-US Science & Technology Forum	0.00		0.00	0.00	0.00	155,286.00	155286.00			-155286.00	
247	NPHCE, MOH&FW	0.00		0.00	0.00	0.00	0.00	0.00			0.00	
248	Deptt of Pharmaceuticals	0.00		0.00	0.00	0.00	189,913.00	189913.00			-189913.00	
249	Path/One world Health	0.00		0.00	0.00	0.00	89,700.00	89700.00			-89700.00	
		<b>546,782,087.62</b>	<b>-4,138,161.00</b>	<b>100,421,718.71</b>	<b>643,065,645.33</b>	<b>35,284,835.00</b>	<b>25,885,549.00</b>	<b>61,170,384.71</b>			<b>583,715,513.62</b>	<b>-1,820,253.00</b>

**(Smt. Basanti Dalal)**  
**Financial Advisor**

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
RESEARCH SECTION**

**APPENDIX- A1**

<b>S.NO.</b>	<b>CODE NO.</b>	<b>NAME OF PROJECT INVESTIGATOR</b>	<b>MONTH</b>	<b>AMOUNT</b>
1	N1399	DR. A.B.DEY	FEB 2013	1,081,741
2	I684	DR. A.K.DINDA	SEP 2012	5,982
3	N1364	DR. A.K.DINDA	OCT 2012	1,431,549
4	N1364	DR. A.K.DINDA	MAR 2013	154,980
5	D221	DR. A.K.MAHAPATRA	JUN 2012	199,706
6	D221	DR. A.K.MAHAPATRA	JUL 2012	399,332
7	N1188	DR. A.MALHOTRA	AUG 2012	158,987
8	N1360	DR. A.SRINIVASAN	OCT 2012	59,240
9	I013	DR. ALKA KRIPLANI	JUN 2012	18,000
10	I724	DR. ALKA KRIPLANI	JUN 2012	22,553
11	N935	DR. Balram Bhargava	APR 2012	148,480
12	N935	DR. Balram Bhargava	MAY 2012	297,404
13	N981	DR. Balram Bhargava	AUG 2012	33,500
14	N981	DR. Balram Bhargava	DEC 2012	80,500
15	D292	DR. D.K.MITRA	FEB 2013	496,156
16	N1310	DR. D.N.RAO	JUN 2012	3,000
17	N1310	DR. D.N.RAO	AUG 2012	60,000
18	N1278	DR. S.B. RAY	MAY 2012	-486,553
19	N1278	DR. S.B. RAY	JUN 2012	518,963
20	N1192	DR. H.K.PRASAD	MAY 2012	41,420
21	N1192	DR. H.K.PRASAD	JUN 2012	157,215
22	N1192	DR. H.K.PRASAD	JUL 2012	594,264
23	N1192	DR. H.K.PRASAD	SEP 2012	29,382
24	N1192	DR. H.K.PRASAD	OCT 2012	4,080
25	N1192	DR. H.K.PRASAD	DEC 2012	336,843
26	N1192	DR. H.K.PRASAD	JAN 2013	17,618
27	N1323	DR. H.K.PRASAD	APR 2012	205,820
28	N1323	DR. H.K.PRASAD	JUL 2012	213,508
29	N1323	DR. H.K.PRASAD	JAN 2013	12,489
30	N1306	DR. J.S.TYAGI	SEP 2012	190,168
31	N1325	DR. J.S.TYAGI	APR 2012	12,720
32	N1325	DR. J.S.TYAGI	JUL 2012	21,943
33	N1325	DR. J.S.TYAGI	AUG 2012	1,562
34	N1325	DR. J.S.TYAGI	OCT 2012	618,625
35	N1325	DR. J.S.TYAGI	NOV 2012	49,292
36	N1325	DR. J.S.TYAGI	DEC 2012	8,048
37	N1339	DR. K.ANAND	AUG 2012	89,670
38	D281	DR. KALPANA LUTHRA	JAN 2013	77,902
39	N1347	DR. KALPANA LUTHRA	SEP 2012	29,381
40	N1347	DR. KALPANA LUTHRA	OCT 2012	2,006
41	N1347	DR. KALPANA LUTHRA	FEB 2013	17,286
42	N1347	DR. KALPANA LUTHRA	MAR 2013	612,241
43	N1163	DR. Kameshwar Prasad	DEC 2012	109,233

44	N958	DR. Kameshwar Prasad	SEP 2012	57,889
45	N966	DR. Kameshwar Prasad	MAY 2012	64,943
46	N968	DR. Kameshwar Prasad	OCT 2012	158,964
47	N1082	DR. KUNZANG CHOSDOL	OCT 2012	6,000
48	N1276	DR. KUNZANG CHOSDOL	MAY 2012	21,572
49	N1276	DR. KUNZANG CHOSDOL	AUG 2012	435,677
50	N1276	DR. KUNZANG CHOSDOL	MAR 2013	25,167
51	I708	DR. M.BAJPAI	AUG 2012	1,880
52	I765	DR. M.BAJPAI	JUL 2012	62,438
53	I765	DR. M.BAJPAI	SEP 2012	173,250
54	I765	DR. M.BAJPAI	FEB 2013	199,500
55	I765	DR. M.BAJPAI	MAR 2013	124,835
56	D280	DR. M.R.RAJESWARI	AUG 2012	-142,538
57	D280	DR. M.R.RAJESWARI	JAN 2013	266,192
58	D269	DR. MADHURI BEHARI	SEP 2012	16,980
59	N1239	DR. MANOJ K.SINGH	AUG 2012	20,593
60	N1239	DR. MANOJ K.SINGH	SEP 2012	6,804
61	N1239	DR. MANOJ K.SINGH	OCT 2012	95,766
62	N1239	DR. MANOJ K.SINGH	FEB 2013	15,252
63	I698	DR. NIKHIL TANDON	NOV 2012	-45,065
64	I698	DR. NIKHIL TANDON	JAN 2013	11,940
65	I617	DR. NIBHRITI DAS	NOV 2012	-658
66	D251	DR. GOVIND K MAKHARIA	JUL 2012	141,100
67	I786	DR. O.P.KHARBANDA	MAR 2013	24,096
68	I702	DR. PRAMOD GARG	MAY 2012	5,407
69	I702	DR. PRAMOD GARG	JUN 2012	470
70	I702	DR. PRAMOD GARG	OCT 2012	400
71	I747	DR. PUNIT KAUR	MAR 2013	939,040
72	I777	DR. RAJ MEHRA	JUL 2012	43,882
73	I777	DR. RAJ MEHRA	AUG 2012	3,126
74	I777	DR. RAJ MEHRA	JAN 2013	554,450
75	N1011	DR. RAJESH MALHOTRA	JUN 2012	107,000
76	N1199	DR. RAJESH MALHOTRA	JUN 2012	72,500
77	N1199	DR. RAJESH MALHOTRA	JUL 2012	84,921
78	N1298	DR. RAJESH MALHOTRA	MAY 2012	63,500
79	D296	DR. RAJESH SAGAR	AUG 2012	950
80	D296	DR. RAJESH SAGAR	SEP 2012	16,200
81	I759	DR. RAKA JAIN	MAR 2013	128,107
82	N1248	DR. RAKA JAIN	SEP 2012	108,417
83	I696	DR. RAMA CHAUDHARY	OCT 2012	-17,325
84	I758	DR. RAMA CHAUDHARY	DEC 2012	199,973
85	N1326	DR. RAMA CHAUDHARY	OCT 2012	28,803
86	N1326	DR. RAMA CHAUDHARY	MAR 2013	779,101
87	N1235	DR. RAMA JAYASUNDEAR	NOV 2012	1,450
88	D270	DR. RATNA SHARMA	JAN 2013	569,817
89	N1363	DR. S.K.KABRA	FEB 2013	17,286
90	N1363	DR. S.K.KABRA	MAR 2013	581,419

91	D216	DR. S.K.PANDA	JUL 2012	79,622
92	D216	DR. S.K.PANDA	AUG 2012	192,000
93	D288	DR. S.K.PANDA	FEB 2013	582,016
94	N1341	DR. S.K.PANDA	OCT 2012	14,402
95	N1341	DR. S.K.PANDA	MAR 2013	293,385
96	I643	DR. S.K.SHARMA	MAY 2012	991,410
97	I643	DR. S.K.SHARMA	DEC 2012	-7,823
98	I643	DR. S.K.SHARMA	JAN 2013	9,605
99	I643	DR. S.K.SHARMA	FEB 2013	9,148
100	I725	DR. S.K.SHARMA	OCT 2012	39,948
101	N1357	DR. S.K.SHARMA	MAY 2012	2,455,819
102	N1357	DR. S.K.SHARMA	SEP 2012	650
103	N1357	DR. S.K.SHARMA	OCT 2012	7,500
104	N1357	DR. S.K.SHARMA	JAN 2013	4,518
105	N1357	DR. S.K.SHARMA	FEB 2013	44,000
106	D303	DR. S.S.CHAUHAN	NOV 2012	335,631
107	I736	DR. SARMAN SINGH	SEP 2012	25,809
108	I736	DR. SARMAN SINGH	OCT 2012	452,699
109	N1358	DR. SATYA N DAS	OCT 2012	468
110	N1358	DR. SATYA N DAS	FEB 2013	827,759
111	N1330	DR. SAVITA YADAV	JUL 2012	99,990
112	N1330	DR. SAVITA YADAV	OCT 2012	43,200
113	N1330	DR. SAVITA YADAV	FEB 2013	17,287
114	N1372	DR. SAVITA YADAV	OCT 2012	189,945
115	N1372	DR. SAVITA YADAV	FEB 2013	34,573
116	N1372	DR. SAVITA YADAV	MAR 2013	1,683,871
117	D022A	DR. SHASHI WADHWA	JUN 2012	178,000
118	D022A	DR. SHASHI WADHWA	SEP 2012	123,618
119	D022A	DR. SHASHI WADHWA	NOV 2012	-663,250
120	N1099	DR. SHOBHA BROOR	MAY 2012	1,724
121	N1099	DR. SHOBHA BROOR	JUL 2012	43,984
122	N1099	DR. SHOBHA BROOR	SEP 2012	2,362
123	N1207	DR. SHOBHA BROOR	JUN 2012	218,350
124	N1270	DR. SNEH ANAND	MAY 2012	143,390
125	N1272	DR. SUJATA SHARMA	NOV 2012	767,538
126	N1272	DR. SUJATA SHARMA	MAR 2013	379,846
127	I780	DR. UMESH KAPIL	OCT 2012	22,650
128	I780	DR. UMESH KAPIL	DEC 2012	106,300
129	I780	DR. UMESH KAPIL	FEB 2013	34,850
130	I782	DR. UMESH KAPIL	OCT 2012	4,150
131	N1311	DR. UMESH KAPIL	SEP 2012	29,383
132	N1311	DR. UMESH KAPIL	OCT 2012	446,775
133	I657	DR. V.K. PAUL	APR 2012	15,500
134	I657	DR. V.K. PAUL	MAY 2012	361,153
135	I657	DR. V.K. PAUL	JUN 2012	528,549
136	I657	DR. V.K. PAUL	JUL 2012	11,570
137	I657	DR. V.K. PAUL	AUG 2012	1,745

138	I657	DR. V.K. PAUL	SEP 2012	30,978
139	I657	DR. V.K. PAUL	OCT 2012	163,363
140	I657	DR. V.K. PAUL	NOV 2012	33,030
141	I657	DR. V.K. PAUL	DEC 2012	56,990
142	I657	DR. V.K. PAUL	JAN 2013	308,071
143	I657	DR. V.K. PAUL	FEB 2013	42,735
144	I657	DR. V.K. PAUL	MAR 2013	40,340
145	I661	DR. Y.K.GUPTA	MAR 2013	220,812
146	N1193	DR. Y.K.GUPTA	MAY 2012	107,933
147	N1334	DR. Y.K.GUPTA	MAR 2013	230,475
148	N999	DR. Y.K.GUPTA	JUL 2012	19,000
149	I639	DR. LALIT DAR	JUL 2012	43,884
150	I639	DR. LALIT DAR	SEP 2012	2,362
151	I639	DR. LALIT DAR	JAN 2013	12,501
152	N1348	DR. ARVIND BAGGA	JAN 2013	4,433
153	N000	SH. A.K.SHARMA	APR 2012	20,947
154	I744	DR. SEEMA KASHYAP	MAY 2012	249,951
155	I744	DR. SEEMA KASHYAP	JUN 2012	31,893
156	I744	DR. SEEMA KASHYAP	SEP 2012	10,631
157	N1291	DR. V.K.SHARMA	MAY 2012	154,463
158	N1291	DR. V.K.SHARMA	JUN 2012	647,362
159	N1291	DR. V.K.SHARMA	SEP 2012	8,549
160	N1291	DR. V.K.SHARMA	JAN 2013	190,043
161	I734	DR. SHARMISTHA DEY	MAY 2012	299,985
162	D255	DR. SUMAN JAIN	SEP 2012	5,324
163	N1211	DR. SANJEEV SINHA	AUG 2012	374,690
164	N1211	DR. SANJEEV SINHA	SEP 2012	188,475
165	I672	DR. SEEMA SEN	MAY 2012	494,752
66	I689	DR. SEEMA SEN	SEP 2012	29,383
167	I689	DR. SEEMA SEN	OCT 2012	2,005
168	I689	DR. SEEMA SEN	JAN 2013	474,498
169	I787	DR. SURENDER SINGH	OCT 2012	334,125
170	I787	DR. SURENDER SINGH	NOV 2012	199,406
171	N1021	DR. BALRAM AIRAN	APR 2012	1,876,509
172	N1021	DR. BALRAM AIRAN	MAY 2012	178,949
173	N1021	DR. BALRAM AIRAN	AUG 2012	3,299,066
174	N1021	DR. BALRAM AIRAN	OCT 2012	765,992
175	N1021	DR. BALRAM AIRAN	DEC 2012	56,994
176	N1021	DR. BALRAM AIRAN	FEB 2013	870,595
177	N1021	DR. BALRAM AIRAN	MAR 2013	156,915
178	I775	DR. J.C.BHARDWAJ	JUL 2012	43,884
179	I775	DR. J.C.BHARDWAJ	AUG 2012	3,124
180	I775	DR. J.C.BHARDWAJ	JAN 2013	231,000
181	I775	DR. J.C.BHARDWAJ	FEB 2013	672,000
182	I709	DR. S.VIVEKANANDHAN	JUL 2012	1,185
183	I709	DR. S.VIVEKANANDHAN	AUG 2012	11,970
184	I709	DR. S.VIVEKANANDHAN	NOV 2012	11,970

185	I709	DR. S.VIVEKANANDHAN	JAN 2013	800
186	N1321	DR. RITU GUPTA	JUL 2012	21,941
187	N1321	DR. RITU GUPTA	AUG 2012	1,563
188	N1321	DR. RITU GUPTA	OCT 2012	14,402
189	I647	DR. SUJATA MOHANTY	MAY 2012	6,408
190	I647	DR. SUJATA MOHANTY	JUN 2012	8,655
191	I647	DR. SUJATA MOHANTY	SEP 2012	-515
192	I647	DR. SUJATA MOHANTY	DEC 2012	16,141
193	I738	DR. SUJATA MOHANTY	MAY 2012	29,813
194	I738	DR. SUJATA MOHANTY	JUL 2012	49,947
195	I738	DR. SUJATA MOHANTY	AUG 2012	199,500
196	I778	DR. SUJATA MOHANTY	OCT 2012	14,401
197	N1264	DR. RAVINDER GOSWAMI	SEP 2012	6,538
198	D287	DR. DEEPAK AGRAWAL	SEP 2012	792,071
199	D287	DR. DEEPAK AGRAWAL	OCT 2012	393,435
200	D287	DR. DEEPAK AGRAWAL	MAR 2013	130,309
201	I720	DR. TANUJ DADA	JUL 2012	5,382
202	I720	DR. TANUJ DADA	AUG 2012	2,710
203	I720	DR. TANUJ DADA	NOV 2012	1,711,348
204	N1349	DR. DEEPAK KUMAR GUPTA	OCT 2012	67,400
205	N867	DR. DEEPAK KUMAR GUPTA	SEP 2012	10,125
206	N1356	DR. VANDANA JAIN	NOV 2012	46,562
207	N1356	DR. VANDANA JAIN	MAR 2013	1,486
208	N1204	DR. RAJESH KHADGAWAT	JUL 2012	107,859
209	N986	DR. RAJESH KHADGAWAT	JUL 2012	75,410
210	I779	DR. ASHISH SURI	OCT 2012	1,476,561
211	I779	DR. ASHISH SURI	FEB 2013	7,073,574
212	I779	DR. ASHISH SURI	MAR 2013	4,278,992
213	N1274	DR. P. SARAT CHANDRA	APR 2012	45,021
214	N1274	DR. P. SARAT CHANDRA	MAY 2012	78,688
215	N1274	DR. P. SARAT CHANDRA	AUG 2012	9,372,140
216	N1274	DR. P. SARAT CHANDRA	DEC 2012	19,425
217	N1274	DR. P. SARAT CHANDRA	MAR 2013	839,606
218	D284	DR. VEENA JAIN	SEP 2012	169,170
219	D284	DR. VEENA JAIN	MAR 2013	60,100
220	I764	DR. ALPANA SHARMA	NOV 2012	28,669
221	I764	DR. ALPANA SHARMA	MAR 2013	15,706
222	N1268	DR. ALPANA SHARMA	MAY 2012	21,575
223	N1268	DR. ALPANA SHARMA	SEP 2012	5,686
224	N1268	DR. ALPANA SHARMA	JAN 2013	31,733
225	N1268	DR. ALPANA SHARMA	FEB 2013	1,031,490
226	N1216	DR. T.K.DAS	JAN 2013	352,078
227	I688	DR. SOMESH GUPTA	AUG 2012	64,687
228	I807	DR. RAKESH YADAV	SEP 2012	150,000
229	I807	DR. RAKESH YADAV	FEB 2013	17,286
230	N1100	DR. SANJAY K. RAI	MAY 2012	19,848
231	I789	DR. ALOK THAKAR	FEB 2013	99,000

232	I789	DR. ALOK THAKAR	MAR 2013	15,707
233	N1265	DR. PARTHAPRASAS CHATTOPATHYAY	JAN 2013	4,735
234	N1140	DR. RAJEEV KUMAR	JUN 2012	47,000
235	N1183	Dr. Ajay Logani	JUN 2012	183,750
236	N1284	Dr. Sumit Sinha	MAY 2012	53,609
237	N1315	Dr. Sumit Sinha	SEP 2012	650
238	N1315	Dr. Sumit Sinha	NOV 2012	1,950
239	N1361	Dr. Jagriti Bhatia	FEB 2013	1,746,657
240	D293	Dr. Ritu Gupta	JUL 2012	21,941
241	D293	Dr. Ritu Gupta	AUG 2012	1,563
242	D293	Dr. Ritu Gupta	NOV 2012	28,669
243	D293	Dr. Ritu Gupta	MAR 2013	443,408
244	N1350	Dr. Uma Sharma	SEP 2012	248,346
245	N1350	Dr. Uma Sharma	OCT 2012	410,925
246	N1350	Dr. Uma Sharma	MAR 2013	199,478
247	I785	Dr. Rakesh Kumar	SEP 2012	29,383
248	I785	Dr. Rakesh Kumar	OCT 2012	2,005
249	N1394	Dr. SUDIP SEN	FEB 2013	99,892
250	N1394	Dr. SUDIP SEN	MAR 2013	270,075
			<b>TOTAL</b>	<b>71,341,337</b>

**(Smt. Basanti Dalal)**  
**Financial Advisor**

**Appendix B**  
**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**LIST OF SUNDRY DEBTORS (SCHEME CELL)**

<b>S.No.</b>	<b>Funding Agency</b>	<b>Debit</b>
1	U.G.C.	1519681
2	Rajiv Gandhi Foundation	989
3	INCLIN	118368
4	Institute of Cancer Research UK co-ordination Committee	7209
5	Central Council for Research in Yoga and Naturepathy	61196
6	Sarabhai Chemicals	4868
7	SRB-Clinical Pharmacology	3154100
8	I.C.C.S.R.	74861
9	Indian Institute of Technology	347595
10	Ministry of Communication and Information & Technology	66833
11	Zydas Healthcare Ltd.	398
12	Federation of Obsteric & Gynaecological	276
13	Aimil Pharmaceutical India Ltd.	331
14	INCTR USA	108067
15	Emcure Pharmaceutical Ltd.	6380
16	Bharat Biotech International Ltd.	668
17	Helpage India	304978
18	Hindustan Latex Family Planning Promotion	7020
19	Saving Newborn Lives, USA	10898
20	The Micronutrient Initiative, Asia	4702
21	Vulimini Ramalingaswami Foundation	6508
22	Media Lab Asia	11301
23	University of Warwick, U.K.	1061
24	Bharat Serums and Vaccines Ltd.	10000
25	Directorate General of Health Services	57267
26	Institute De Recherches Internationales Servier (IRIS), France	2034
27	Eli Lilly	199733
28	Antisense Pharma Gmbh, Germany	11740
29	AYUSH, Ministry of Health & Family Welfare	9485
30	Relisys Medical Devices Ltd.	3433
31	PPD Pharmaceutical Development India Pvt. Ltd.	22668
32	M/s Aspreva Pharmaceutical Corporation, Canada	41266
33	M/s Markansas Research Division	4745
34	Threshold Pharmaceuticals, USA	3136
35	NAIP	59810
36	The Service de Dermatologie, France	8445
37	Merck Serono International S.A., Switzerland	207315
38	Coloplast	5775
39	Central Council for Research in Homeopathy (CCRH), Janak Puri, New Delhi	76017
40	BRNS, Mumbai	610439
41	Pharmacosmos A/S, Denmark	9000
42	ICSSR	79411
	<b>Total</b>	<b>7240007</b>

**(Smt. Basanti Dalal)**  
**Financial Advisor**

**Appendix-C**  
**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
**STATEMENT SHOWING THE DONATIONS & INVESTMENT AS ON 31-03-13**

<b><u>S.NO.</u></b>	<b><u>PARTICUALRS &amp; MODE OF NYESTMENT</u></b>	<b><u>AMOUNT OF DONATION</u></b>	<b><u>AMOUNT OF INVESTMENT</u></b>
1	AIIMS ROTARY CANCER HOSPITAL	700000	700000
2	MISC. DONATION - HEAMOTOLOGY UNDER Dr. A.K. SARAYA	8000	8000
3	ANNONYMOUS DONORS	70000	70000
4	DR. B.B. DIXIT LIB.	10000	13700
5	CHACHAMA DONORS	150000	199600
6	MJ. GENERAL S.L. BHATIA	10000	9800
7	MJ. GENERAL AMIR CHAND	150000 100000	149660 100000
8	SARUP CHAND HANS RAJ	20000	19500
9	RAJ KUMARI AMRIT KAUR	25000	25000
10	KATHERINE SORAL FREYMAN	5000	5000
11	DR. S.L. KALRA	6000	5800
12	R.L. RAJGARHIA	600000	600000
13	SMT. PRAKASH WATI DONATION	13800	13800
14	SMT. KRIPAL KAUR (UNIT TRUST)	6000	5908
15	LALA KHUSHI RAM	247753	247753
16	S.P. VIRMANI (FIXED DEPOSIT)	1500	1500
17	EAST INDIA COMMERCIAL PVT. LTD CALCUTTA (FIXED DEPOSIT) SRB	3200000	2800000
18	DR. KANTI KAPILA (UNIT TRUST)	10079	10002
19	DR. V. RAMALINGASWAMI (UNTI TRUST)	8000	7996
20	SR. S. SABHARWAL (UNIT TRUST)	10000	9951
21	DR. N.H. KASWANI (UNIT	10000	9990

	TRUST)		
22	DR. V. HINGORANI	15000	15000
23	KUMUDINI KRISHNA MOORTHY	15000	15000
24	G.D. RADHAKRISHNA (SARWESHWARI MEMORIAL ORATION, UNIT TRUST)	20000	19987
25	P.L. TANDON (FIXED DEPOSIT)	15000	15000
26	XV INTERNATIONAL CONGRESS OF PEADIATRICS (UNIT TRUST)	40000	40000
27	RAM LOBHAYA DONATION (FIXED DEPOSIT)	15000	15000
28	SUBHASH MEMORIAL FOUNDATION (V.L. TELEKAR DONATION)	10101	10101
29	SMT. INDIRA SATYANAND	10000	10000
30	SH. K.V. SUBA RAO	10000	10000
31	NEWZELAND HIGH COMMISSION	10000	10000
32	AKHILESH MITTAL (SUMITH MOHAN SADAN DAYAL TRUST)	20000	20000
33	PREMALATA KAPOOR	10000	10000
34	DWARKA PRASAD TRUST	50000	50000
35	LATE. SH. D.R. BAHRI	15000	15000
36	SEWA RAM	15000	15000
37	FACULTY BENEVELENT FUND	60065	60065
38	V.RANGA MEMORIAL TRUST	50000	50000
39	SH. DORABJI TRUST	10000	10000
40	CORPUS FUND	30000	30000
41	AIIMSONIANS	10000	10000
42	SARLA ATAM PRAKASH	15000	15000
43	K.L. WIG RESEARCH FOUNDATION	100000	100000

44	V.K. MITTAL	130000	130000
45	SNEH LATA SONI	15000	15000
46	AIIMSONIAN OF AMERICA	129850 151630 126471	129850 151630 126471
47	SMT. LEELA WATI SALWAN	15000	15000
48	DR. D.K. GUPTA	100000	100000
49	J.R. CHAWLA	15000	15000
50	URMIL SHARMA IN R/O SHYAM SHARMA	15000	15000
51	SMT. SUSHILA WATI MALHOTRA	500000	500000
52	BASANTI KUMARI	100000	100000
53	ORTHOPAEDICS FUND	250000	250000
54	DR. S.B. ROY	125000	125000
55	MR. R.V. KANDHARI	100000	100000
56	DR. B.K. KAPOOR	125000	125000
57	SMT.SAVITRI UGGARSEAN	100000	100000
58	VIMAL LAUMAS	200000	200000
59	MRS. PRAMADA BAJAJ	200000	200000
60	DR. V. RAMALINGASWAMI	100000	100000
61	DR. N.C. NAYAK	100000	100000
62	DR. H.D. TANDON	100000	100000
63	PROF. N. GOPINATH (CTVS)	1200000	1200000
64	PROF. L.K. BHUTANI ORATION	500000	500000
65	BINEY ROHTAGI & SMT. SHAKUNTALA	36000	-
66	Dr. K.L. WIG (SBI)	36990	37000
68	ZENITH FINANCE & CO. (SBI)	17000	17000
68	KAMANI CHARITY TRUST (SBI)	15000	15000
69	SMT. KAUSHALYA THAPAR (UNTI TRUST)	12000	12017

70	SMT. BRIJ RANI SAWHENY (UNIT TRUST)	22501	22472
71	KAMLA B.K. ANAND	100000	100000
72	SH. G.D JHANGINI	25500	25602
73	DR. B.K. ANAND (UNIT TRUST)	5000	4995
74	R.S. NANDA	78274	78274
75	Prof. P.N. TONDON & A.K. BANERJEE	500000	500000
76	GPF INVESTMENT		3356881899
77	NPS INVESTMENT		150000000
	<b>TOTAL</b>	<b>11152514</b>	<b>3517650323</b>

**(Smt. Basanti Dalal)**  
**Financial Advisor**

## Appendix-D

### ALL INDIA INSTITUTE OF MEDICAL SCINECES

#### Details of Misc. Donations as on 31.3.2013

<u>S.NO.</u>	<u>DEPARTMENT</u>	<u>OP. BAL.</u> <u>AS ON</u> <u>1/4/2012</u>	<u>GRANT</u>	<u>TOTAL</u>	<u>EXPD.</u>	<u>CL. BAL AS</u> <u>ON 31-03-2013</u>
1	R & AL	19475		19475		19475
2	PSYCHIATRY	28495		28495		28495
3	HEAMATOLOGY	12380		12380		12380
4	ORTHO	65586		65586		65586
5	IMMUNOLOGY	824		824		824
6	PAED SURGERY	32041		32041		32041
7	INSTT. MISC.	137338		137338		137338
8	DERMATOLOGY	15974		15974		15974
9	IRCH DR. V. KOCHUPILLAI	10460		10460		10460
10	LEPROSY PATIENT	115785		115785		115785
11	IRCH DR. A.K. BASU	17651		17651		17651
12	CN CENTRE	20418		20418		20418
13	BB DIXIT LIB	3324		3324		3324
14	EMP. WELFARE FUND	125139		125139		125139
15	PMR POOR FUND	34199		34199		34199
16	SURGERY	501		501		501
17	K.L. WIG CEMET	12021		12021		12021
18	N/ MEDICINE	19571		19571		19571
19	CEU	30000		30000		30000
20	DR. NK MEHRA	597235		597235		597235
21	I.C.G.E.B. DR. T.P SINGH	444630		444630		444630
22	DR. VEENA KALRA	74682		74682		74682
23	LEVER CLINIC - GASTRO	2865		2865		2865
24	DR. N.P. GUPTA -UROLOGY	4982		4982		4982
25	DR. N. KOCHUPILLAI-POOR PATIENT	120000		120000		120000
26	PEAD. GENETICS	687547	3148775	3836322	3104625	731697
27	MRS. USHA SHARMA	176600		176600		176600
28	MISC. RECEIPT	145540		145540		145540
		<b><u>2955263</u></b>	<b><u>3148775</u></b>	<b><u>6104038</u></b>	<b><u>3104625</u></b>	<b><u>2999413</u></b>

**(Smt. Basanti Dalal)**  
**Financial Advisor)**

**APPENDIX - E**

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**

**Details of Misc. Deposits as on 31.3.2013**

**2012-2013**

<b>S.NO.</b>	<b>NAME OF THE DEPARTMENT</b>	<b>AMOUNT</b>
1	Controller of Printing & Stationary	16076
2	C.P.W.D. Shimla	70432
3	C.P.W.D.	7096
4	Delhi Municipal Corporation	33750
5	Indian Institute of Technology	4250
6	N.D.M.C.	173242
7	P. & T. Circle Division	12796
8	Indian Telephone Industries	13344
<b>TOTAL</b>		<b>330986</b>

**(Smt. Basanti Dalal)**  
**Financial Advisor**

**APPENDIX - F**

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**

**Details of GPF Investment**

**2012-2013**

Opening Balance of Investment as on 1.4.2012	3062169399
Investment during 2012-13	954712500
Add Closing Cash Book Balance	94780742
	4111662641
Investment matured during 2012-13	660000000
	<u>3451662641</u>

**Details of NPS Investment**

**2012-2013**

Opening Balance of Investment as on 1.4.2012	500000000
Investment during 2012-13	645000000
	<u>1145000000</u>
Investment matured during 2012-13	995000000
	<u>150000000</u>
Closing Cash Book Balance as on 31.3.2013	7613109
	<u>157613109</u>

**(Smt. Basanti Dalal)**  
**Financial Advisor**

<b>ALL INDIA INSTITUTE OF MEDICAL SCIENCES</b>			
<b>G.P.F. SECTION</b>		<b>APPENDIX - F 1</b>	
<b>Receipts and payments of General Provident Funds of AIIMS for the year ending 31st March,2013</b>			
<b>Receipts</b>	<b>Amount</b>	<b>Payments</b>	
Cash book Opening Balance	61154988	Withdrawal	551461719
Receipt (Sub/Rec )	641277912	Investment during the year 2012-13	954712500
Add Interest Received	238522061	Cash book closing Balance	94780742
Add Invest Maturity	660000000		
<b>Total</b>	<b>1600954961</b>	<b>Total</b>	<b>1600954961</b>
<b>Balance Sheet of General Provident Funds of the AIIMS as on 31st March ,2013</b>			
<b>Liabilities</b>	<b>Amount</b>	<b>Assests</b>	<b>Amount</b>
General Provident		Investment	
Opening Balance	3123324387	Opening Balance	3062169399
Add Receipt during the year 2012-13	641277912	Add Investment during the year 2012-13	954712500
Add Interest received	238522061	Add cash Book Closing Balance	94780742
	4003124360		4111662641
Less Withdrawal	551461719	Less maturity	660000000
<b>Total</b>	<b>3451662641</b>	<b>Total</b>	<b>3451662641</b>
<b>Month</b>	<b>Receipts</b>	<b>Payments</b>	
April	51635038	43676088	
May	53153910	60037021	
June	51965409	50607565	
July	52995954	40254659	
August	51681063	54815637	
September	54883927	42607170	
October	53051273	38817691	
November	53290093	54830715	
December	53379995	55333319	
January	54473823	40755093	
February	55239629	38649684	
March	55527798	31077077	
	<b>641277912</b>	<b>551461719</b>	
Total Subscription Deposit		<b>641277912</b>	
Total Previous Balance		<b>3123324387</b>	
Total Interest Paid		<b>277621436</b>	
Total Net		<b>4042223735</b>	
Total Withdrawal		<b>551461719</b>	
<b>Grand Total</b>		<b>3490762016</b>	

**(Smt. Basanti Dalal)**  
**Financial Advisor**

## 13.2 Audit Report

### Separate Audit Report of the Comptroller & Auditor General of India on the Accounts of All India Institute of Medical Sciences (AIIMS) for the year ended 31 March 2013

We have audited the attached Balance Sheet of All India Institute of Medical Sciences (AIIMS) as at 31 March 2013, the Income & Expenditure Account and Receipts & Payments Account for the year ended on that date under Section 19 (2) of the Comptroller and Auditor General's (Duties, Powers & Conditions of Service) Act, 1971 read with section 18 (2) of the AIIMS Act 1956. These financial statements are the responsibility of the AIIMS' management. Our responsibility is to express an opinion on these financial statements based on our audit.

2. This Separate Audit Report contains the comments of the Comptroller and Auditor General of India on the accounting treatment only with regard to classification, conformity with the best accounting practices, accounting standards and disclosure norms, etc. Audit observations on financial transactions with regard to compliance with the Law, Rules & Regulations (Propriety and Regularity) and efficiency-cum-performance aspects, etc., if any, are reported through Inspection Reports/Comptroller and Auditor Generals' Audit Reports separately.

3. We have conducted our audit in accordance with auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements. An audit includes examining, on a test basis, evidences supporting the amounts and disclosure in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.

4. Based on our audit, we report that:

- i We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit;
- ii The Balance Sheet, Income & Expenditure Account and Receipts & Payments Account dealt with by this report have not been drawn up in the format approved by the Ministry of Finance.
- iii In our opinion, proper books of accounts on double entry system of accounting and other relevant records have been maintained by the AIIMS in so far as it appears from our examination of such books.
- iv We further report that :

#### **A Balance Sheet**

##### **A.1 Liabilities**

**A.1.1 Overstatement of liability - Rs 5.81 crore:** As per 'Appendix A' of the Annual Accounts (Research Section), there was a liability of Rs 48.08 crore as on 31 March 2013 on account of funds received from various agencies for research projects. This liability included an amount of Rs 5.52 crore accumulated over the years on account of administrative charges recovered from research projects. This amount being levied as administrative charges of AIIMS on the projects of other agencies was the income of AIIMS and there was no liability of AIIMS for this amount. But its depiction as liability resulted in overstatement of liability and understatement of income.

Similarly, R.P. Centre for Ophthalmic Sciences showed a liability of Rs 0.29 crore accumulated over the years on account of administrative charges recovered from research projects, which should have been treated as income of the year.

**A.1.2 Understatement of liability under GPF - Rs 3.91 crore:** As per Appendix F-1 of the Accounts, liability under GPF was of Rs 349.08 Crore. However, in the Balance Sheet this was shown as Rs 345.17 crore resulting in understatement of liability by Rs 3.91 crore.

#### **B. Income & Expenditure Account**

##### **B.1 Income**

**B.1.1 Understatement of income - Patient Treatment Account:** Funds received from various Departments/Organisations for treatment of their patients are deposited in Patient Treatment Account and the balance amount remaining unutilized is refunded to the concerned Department/Organisation at the end of the treatment. The fund under this head earns interest during the treatment period of the patient which is non refundable and as such is an income to the Institute.

AIIMS had earned interest of Rs 1.50 crore but this had not been included as income in the Accounts resulting in understatement of Income and overstatement of Liability by the like amount.

### **C. General**

**C.1** The unspent balance (I & E A/c) as on 31.03.13 in the accounts of National Drug Dependence Treatment Centre (NDDTC) of AIIMS was Rs 0.41 crore which was depicted as excess of income over expenditure instead of depicting it as liability. Further, NDDTC has shown unspent balance Rs 0.36 crore in its utilization certificate, but no liability for the same has been depicted in balance sheet.

**C.2** AIIMS had capitalized the entire amount of Rs 261 crore received as capital grant from the Ministry of Health and Family Welfare under head 'Capital Grants from Government of India', irrespective of status of their utilization. The liability of unspent balance of Rs 49.92 crore, for which revalidation was sought during 2013-14, was not shown separately.

Similarly, the entire amount of grant received for creation of capital assets under Oversight Committee amounting to Rs 51.80 crore was also capitalised under head 'Oversight Committee' despite the fact that unspent balance of Rs 69.09 crore was available under this head (a total of Rs 131.26 crore was available under this head during 2012-13 which included unspent balance of 2011-12 amounting to Rs 79.46 crore). No separate liability for unspent balance was shown either in 2011-12 or 2012-13.

### **D. Grants in aid**

The Institute is mainly financed from the grants of Government of India. During the year 2012-13 the institute received grants of Rs 1355.72 crore {Plan Rs 470.00 crore and Non-Plan Rs 788.70 crore, Oversight Committee (Plan) Rs 85.10 crore and Rs 11.92 crore (Plan) for National Drug Dependence Treatment Centre (NDDTC)}. It also had its own income of Rs 128.46 crore. The total plan expenditure was Rs 424.81 crore. The total non-plan expenditure was Rs 899.44 crore. The Institute received grants for various schemes for Rs 68.37 crore and incurred an expenditure of Rs 77.35 crore.

**E. Management letter:** Deficiencies which have not been included in the Audit Report have been brought to the notice of the Director, AIIMS, through a management letter issued separately for remedial/corrective action.

v. Subject to our observations in the preceding paragraphs, we report that the Balance Sheet, Income and Expenditure Account and Receipts and Payments Account dealt with by this report are in agreement with the books of accounts.

vi. In our opinion and to the best of our information and according to the explanations given to us, the said financial statements read together with the Accounting Policies and Notes on Accounts, and subject to the significant matters stated above and other matters mentioned in Annexure to this Audit Report give a true and fair view in conformity with accounting principles generally accepted in India;

a. In so far as it relates to the Balance Sheet, of the state of affairs of the All India Institute of Medical Sciences as at 31 March 2013; and

b. In so far as it relates to Income and Expenditure Account of the surplus for the year ended on that date For and on behalf of the Comptroller and Auditor General of India

Date:31.10.2013  
Place: New Delhi

Director General of Audit (Central Expenditure)

## **Annexure to Audit Report**

### **1. Adequacy of internal audit system**

The Institute did not have any internal audit manual.

The internal audit system of the Institute was not adequate. During 2012-13, only 35 units were audited, which was 25% of the total units, were audited by the internal audit wing of the Institute.

### **2. Adequacy of Internal Control System**

The internal control system of the Institute was adequate

### **3. System of physical verification of fixed assets**

The physical verification of fixed assets had not been conducted during 2012-13 and as such, the actual existence of fixed assets included in the accounts could not be assured.

### **4. System of physical verification of inventory**

The physical verification of stationery, books and publications and consumable items was conducted for the year 2012-13.

### **5. Regularity in payment of statutory dues**

As per the accounts, no statutory dues over six months were outstanding.

## **Replies to Separate Audit Report of the Comptroller & Auditor General of India on the Accounts of AIIMS for the year ending 31 March 2013**

### **A.1.1 Overstatement of liability - Rs 5.81 crore**

As per the policy of the Institute, Administrative charges recovered from various projects shall not be treated as Institute's receipt/income. All project grants received in the Institute are covered under the Head 'Earmarked Fund'/'Endowment Funds'. The Project accounts are separate from the Main Accounts of the Institute. So far as Institute's Main Account is concerned, in these accounts, income & expenditure account is prepared whereas in Project Accounts, no Income and Expenditure account is prepared as it does not generate any income/revenue for the Institute. Further this policy is being followed from last 20 years in the Institute.

Accordingly the unspent balance including administrative charges of Rs 48.08 crore and Rs 0.29 crore in respect of Research Section and R.P. Centre for Ophthalmic Sciences respectively are correctly shown as liability in the Balance Sheet for the Financial Year 2012-13.

### **A.1.2 Understatement of liability under GPF - Rs 3.91 crore**

The separate Receipt & Payment account has been prepared for GPF and transactions have not been routed through AIIMS (main) account. However, the understated liability of Rs 3.91 crore will be corrected in the current year accounts (Financial Year 2013-14). The observation has been noted for compliance in future.

### **B.1.1 Understatement of income - Patient Treatment Account**

It is submitted that the interest amounting to Rs 1.50 crore earned up to 2012-13 in AIIMS Patients Treatment Accounts has already been transferred to the Institute's Main Account in June 2013 (Copy enclosed as 'Annexure A'). The interest for the year 2013-14 will be transferred to AIIMS's Main account in due course. The point raised by the Audit has also been noted for compliance in future.

**C.1** The observation has been noted for compliance in future.

**C.2** The amount received under the head creation of capital assets is incurred only on capital nature of items. The liability of unspent balance will be shown separately in the accounts of the financial year 2013-14. The observation has been noted for compliance in future.

### **D Grants in aid**

Factual facts, hence no comments

## **Annexure to Audit Report**

### **1. Adequacy of internal audit system:**

The Internal Audit Manual has been prepared and will be implemented from the current financial year 2013-14 for internal audit of the Institute. Further target of internal audit of 35 auditee units have been achieved by internal audit wing of the institute despite shortage of manpower.

**2. Adequacy of Internal Control System:** No comments

### **3. System of physical verification of fixed assets:**

The physical verification of the fixed assets for the financial year 2012-13 is being conducted during the current financial year 2013-14.

**4. System of physical verification of inventory:** The physical verification of stationery, books and publications and consumable items was conducted for the year 2012-13.

**5. Regularity in payment of statutory dues:** No comments