



# AIIMS

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## 49th ANNUAL REPORT

---

### 2004-05

ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
New Delhi-110029

# **AIIMS**

## **49th ANNUAL REPORT**

**2004–2005**



**All India Institute of Medical Sciences**

New Delhi-110029

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January 2006

Printed at Saurabh Printers Pvt. Ltd., A-16, Sector-IV, Noida (UP)

AIIMS 2004-2005



# All India Institute of Medical Sciences

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

AIIMS has comprehensive facilities for teaching, research and patient care. Medical and paramedical courses are taught at AIIMS. The institution awards its own undergraduate, postgraduate and doctorate degrees.

Teaching and research are conducted in 50 disciplines. AIIMS plays a leading role in the field of medical research, having more than 1300 research publications by its faculty and researchers in a year. AIIMS also has a College of Nursing, which awards BSc (Hons) Nursing and BSc Nursing (Post-certificate) degrees.

Twenty-five clinical departments, including six superspecialty centres, manage practically all types of disease conditions with support from pre-clinical and para-clinical departments. AIIMS also runs a 60-bedded hospital at the Comprehensive Rural Health Centre at Ballabgarh in Haryana and provides health cover to about 7.7 lakh people through the Centre for Community Medicine.

# AIIMS AT A GLANCE

## 2004–2005

### Year of establishment 1956

|                                  |      |                                    |      |
|----------------------------------|------|------------------------------------|------|
| Teaching Departments and Centres | 50   | Medical graduates                  | 2032 |
| Faculty members                  | 510  | Postgraduates                      | 5937 |
| Non-faculty staff                | 7012 | Nursing graduates                  | 1345 |
| Undergraduate students           | 533  | Publications/abstracts in journals | 1339 |
| Postgraduate students            | 839  | Books/monographs/chapters in books | 329  |

### Hospital Services

| Facility                                  | Outpatients | Admissions | Surgery | Beds    |         |
|---|-------------|------------|---------|---------|---------|
|   |             |            |         | General | Private |
| Main hospital                             | 15,46,830   | 62,235     | 83,774  | 861     | 125     |
| R.P. Centre for Ophthalmic Sciences       | 4,22,510    | 24,313     | 24,173  | 280     | 21      |
| B.R.A.I.R. Cancer Hospital                | 70,752      | 16,961     | 3,223   | 106     | —       |
| Cardiothoracic Sciences Centre            | 1,53,452    | 1,10,59    | 3,646   | 166     | 14      |
| Neurosciences Centre                      | 88,459      | 6,846      | 3,418   | 166     | 14      |
| National Drug Dependence Treatment Centre | 1,12,267    | 1,198      | —       | 50      | —       |

|                                 |          |
|---------------------------------|----------|
| Average bed occupancy           | 83.2%    |
| Average period of hospital stay | 5.2 days |
| Net death rate                  | 2.7%     |
| Infection rate (crude)          | 8.92%    |

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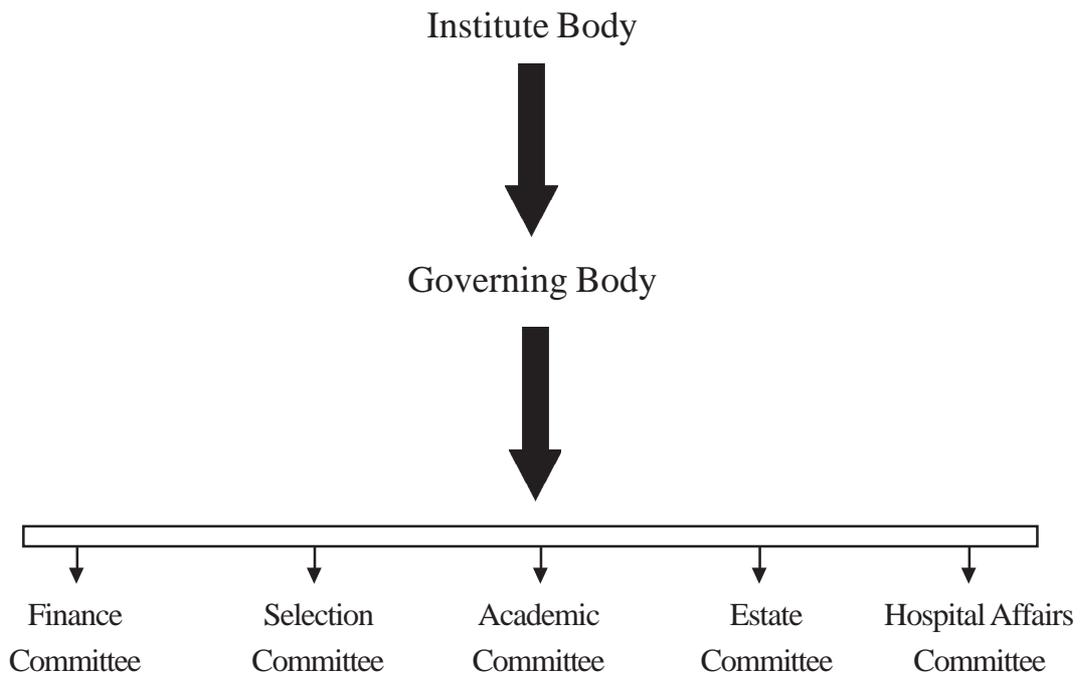
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# AIIMS

## ORGANIZATION STRUCTURE



**All India Institute of Medical Sciences  
New Delhi**

# 1. Director's Review

I am glad to present the Forty-ninth Annual Report and audited statement of accounts for the year 2004–2005.

The All India Institute of Medical Sciences (AIIMS) was established in 1956 by an Act of Parliament as an institution of national importance. This was in pursuance to the recommendations made by the Bhoré Committee in 1946.

AIIMS was entrusted to develop patterns of teaching in undergraduate and postgraduate medical education in all its branches so as to demonstrate a high standard of medical education to all medical colleges and other allied institutions in India; to bring together at one place educational facilities of the highest order for the training of personnel in all important branches of health activity; and to attain self-sufficiency in postgraduate medical education.

AIIMS is a university created by an Act of Parliament and awards its own degrees. AIIMS continues to be a leader in the field of medical education, research and patient care in keeping with the mandate from Parliament.

AIIMS is fully funded by the Government of India. However, for research activities, grants are also received from various sources including national and international agencies. The major part of the hospital services are highly subsidized for patients coming to the AIIMS hospital and are free for poor patients. Certain categories of patients are charged only the cost of consumables for treatment rendered to them.

During the 2004–2005 academic session (i.e. for the courses commencing in July 2004 and January 2005), 334 students were admitted to various postgraduate, post-doctoral and superspecialty courses, i.e. MD, MS, MDS, MHA, PhD, MCh, DM and MSc in various specialties. AIIMS provides full-time postgraduate and post-doctoral courses in 47 disciplines. This year, 157 students qualified for various postgraduate degrees and 79 for various superspecialty degrees. The postgraduate students are trained to be dedicated teachers, committed researchers and, above all, competent doctors who can fulfil these roles independently. At the annual convocation held on 25 March 2005, 380 students were awarded degrees.

This year, AIIMS admitted 50 students to the MB,BS course, 37 to the BSc Nursing (post-certificate) course, 190 to the BSc (Hons) Nursing course, 17 to the BSc (Hons) Human Biology course, 35 to the BSc (Hons) in Ophthalmic Techniques and 21 to the BSc (Hons) in Medical Technology in Radiography.

AIIMS also provides short term and long term training to doctors, undergraduate students from various organizations and State Governments, and to WHO fellows. During the year, 615 candidates received short term and long term training at AIIMS. The details are provided below:

|                              |     |
|------------------------------|-----|
| 1. Short-term training       | 464 |
| 2. Long-term training        | 10  |
| 3. WHO in-country fellowship | 53  |
| 4. WHO fellowship            | 14  |

|                      |    |
|----------------------|----|
| 5. Elective training | 18 |
| 6. Foreign nationals | 56 |

AIIMS continues to provide consultancy services to several neighbouring countries under bilateral agreements or under the aegis of international agencies.

The MB,BS course is spread over 5½ years and continues to be highly rated by peers and students. National surveys by leading media publications have ranked AIIMS the best medical college in India for the fifth consecutive year. Courses such as the paramedical courses BSc (Hons) in Nursing, Ophthalmic Techniques and Medical Technology in Radiography continue to be popular and attract students from all over India and other countries. The curricula of these courses are periodically reviewed and improved by the faculty of AIIMS.

Scheduled Caste and Scheduled Tribe candidates are given due consideration and weightage in accordance with the Government of India guidelines in all selections. During the current year, 27 candidates were selected for various undergraduate courses—11 SC/ST candidates were selected to the MB,BS course, 3 candidates were admitted to the BSc (Hons) Ophthalmic Techniques, 1 candidate was admitted to the BSc (Hons) Medical Technology in Radiography course and 12 candidates were admitted to the BSc (Hons) Nursing course.

The Institute organized a number of workshops, symposia, conferences and training programmes in collaboration with various national and international agencies during the year. Professionals from various institutions all over the country participated in these seminars and workshops and benefited. Guest and public lectures were organized by visiting experts and the faculty of AIIMS.

AIIMS is a leader in the field of medical research, with major emphasis on areas of national needs. Over 377 research projects are going on during this period. Research grants totalling Rs 34 crore (approx.) have been received from various international and national funding agencies during 2004–2005.

During the year 2004–2005, AIIMS hospital catered not only to patients from India but also from neighbouring countries such as Nepal, Bangladesh, Sri Lanka, Bhutan and other Asian countries. It has catered to over 22,66,738 outpatients, over 1,21,378 inpatients, and has conducted over 1,18,227 surgical procedures.

During the year, 13,90,613 patients attended the OPD of the Main Hospital; 1,24,630 patients attended the OPD of the Cardiothoracic Centre and 1,02,016 patients attended the Neurosciences Centre. A total of 80,104 patients were admitted to AIIMS (Main Hospital, Cardiothoracic and Neurosciences Centre). In addition 1,56,217 patients attended the Emergency Care Services at AIIMS. A total of 22,065 major and 68,773 minor operations were conducted at AIIMS (Main Hospital, Cardiothoracic and Neurosciences Centre). The Institute has kept abreast with state-of-the-art surgical procedures. The Cardiothoracic Centre, while standardizing various surgical procedures with a very high success rate, has brought down the cost of operations. Laparoscopic and endoscopic surgeries in different disciplines are gaining popularity.

The Dr B.R. Ambedkar Institute Rotary Cancer Hospital is functioning with a 104-bed capacity. This will be increased to 200 beds shortly. The expanded Dr B.R. Ambedkar IRCH has modern, up-to-date and sophisticated machinery and equipment matching international standards. It is ready to take on the

challenge of ever-increasing patient care activities as also the academic requirements related to research, teaching and scientific knowledge. Dr B.R. Ambedkar IRCH currently has 8 disciplines, namely, Medical Oncology, Radiation Oncology, Surgical Oncology, Laboratory Oncology, Medical Physics, Anaesthesiology, Radiodiagnosis, and Preventive and Community Oncology. The Dr B.R. Ambedkar IRCH attended to 70,752 patients in the OPD (new 13,434; old 57,318) and admitted 16,961 patients (short admissions 14,227; regular admissions 2734). A total of 3216 operations (429 major; 2787 minor) were conducted at the Dr B.R. Ambedkar IRCH during the year.

The Dr Rajendra Prasad Centre for Ophthalmic Sciences attended to 1,99,483 patients in the General OPD, 44,750 patients in the Emergency Service and 1,78,277 patients in Specialty Clinics (a total of 4,22,510 patients) during 2004–2005. The number of admitted patients was 24,313, and 24,173, surgical procedures were conducted during this period.

The Organ Retrieval Banking Organization, which was set up by the Ministry of Health and Family Welfare as a national facility and nodal centre for the country at AIIMS, has expanded its activities during the year. AIIMS achieved the distinction of being the first institute to have performed a combined pancreas–kidney transplantation in India and established the country’s first cadaver bone banking facility. In the endeavour of national networking, a cadaver liver was flown and successfully transplanted to a patient in Lucknow.

The Department of Dental Surgery is all set to start a full-fledged Dental College under the aegis of AIIMS. The department has been identified as the nodal centre to launch and implement the National Oral Health Policy of the Government of India. The Centre started a new postgraduate MDS course in the specialty of conservative dentistry-cum-endodontics. A new Centre for Dental Education and Research with eight floors and 20 beds is under construction.

A 50-bedded Centre for Behavioural Sciences (National Drug Dependence Treatment Centre), AIIMS, has been set up at Ghaziabad. The Centre is functional with an OPD and other services.

The construction work of the Jai Prakash Narayan Trauma Centre building has been completed and the Centre is expected to become operational in 2005–2006.

AIIMS provides telemedicine consultations to about 30 different hospitals located in different parts of the country. This is being upgraded.

Even with the ever-increasing demand for services, AIIMS hospital has been able to provide better and efficient patient care services and, with the use of innovative management techniques, the hospital is able to utilize the existing facilities to the optimum.

**Hospital indices:** The average length of stay of patients in AIIMS hospital is around 5.2 days; average bed occupancy is 83.2% and the net death rate is 2.7%, which is comparable with the health standards in developed countries.

**Hygiene and sanitation:** Use of mechanical cleaning devices and active intervention of the Hospital Infection Control Committee (HICCOM) has resulted in improvement of the general hygiene and sanitation of the hospital compound. Regular in-service trainings are being conducted by HICCOM on Hospital Infection Control for all cadres of healthcare workers (doctors, nursing staff, technical staff and group 'D' employees).

**Supply of medicines:** Medicines are supplied free of cost to all patients attending the casualty. Community-based programmes have been an integral part of the Institute's clinical and research activities. The Rural Health Centre at Ballabgarh, being run under the supervision of the Centre for Community Medicine, is a unique experiment. Besides, the Departments of Obstetrics and Gynaecology, Rehabilitation and Physical Medicine, Paediatrics and Dr Rajendra Prasad Centre for Ophthalmic Sciences organize regular camps in the rural community. Programmes for the community in Trilokpuri Block II have been a great success. The outpatient facilities for patients with ophthalmic and dental problems are drawing more and more patients.

The Centre for Community Medicine has a widely acclaimed model of rural health services at Ballabgarh in the neighbouring state of Haryana. Apart from providing comprehensive health services at the doorstep of people of 28 villages with a population of over 78,000, it also has a secondary-level care hospital at Ballabgarh, which attracts patients from afar. The project has achieved significant successes in terms of improving the health of mothers and children of the area. The zero Maternal Mortality Ratio and Crude Death Rate of 7.0, recorded for the area, are well ahead of national targets. It has been decided to connect this Centre with AIIMS through telemedicine connectivity. AIIMS will provide superspecialty medical advice to patients from rural areas, including two PHCs, without any physical movement of patients.

The Urban Health Programme and Family Health Exercise Programme also cater to the urban slums of Delhi having a population of about 60,000. A Mobile Health Clinic of CCM visits these slums 5 times a week and provides preventive, promotive and primary-level curative services. CCM also runs a Sex and Marriage Counselling Clinic (SMCC) in AIIMS hospital—a unique service of its kind.

AIIMS has established an AIDS Education and Training Cell for the prevention of HIV/AIDS. Among its various activities, this Cell operates an interactive telephone helpline called 'Shubhchintak' to answer queries of the general public on HIV/AIDS. This helpline is quite popular and is supplemented by an internet-based helpline called 'e-shubhchintak'.

### **Staff welfare**

The backlog of promotions was cleared by conducting over 300 advance DPCs, which ensured timely promotions. Over 200 staff were regularized by filling up vacancies in a special drive. For the welfare of families of the staff, 200 new toilets were constructed for type-I quarters.

## **Patient welfare**

Several new initiatives were taken during the past year with the creation of the following facilities:

**Sai vishram sadan:** This 100-bed *dharamshala* has been opened for patients and their relatives from far-off places. With this, the bed capacity of rest houses for patients at AIIMS has increased to 400.

**Railway reservation counter:** A railway reservation counter has been opened in the hospital premises for the benefit of outstation patients.

**Patient attendant waiting area:** A fully air-cooled new waiting area with colour television has been provided for attendants of patients.

AIIMS has constantly tried to demonstrate its commitment to professionalism and service to the common people at an affordable cost. Thousands of patients from all over the country come to AIIMS every day to get optimal medical care.

Professor P. Venugopal  
Director

## 2. The Institute and its Committees

### INSTITUTE BODY

(1.4.2004 to 6.2.2005)

1. **Hon'ble Smt. Sushma Swaraj** President  
Minister of Health and Family Welfare (up to 21.5.2004)  
Nirman Bhawan, New Delhi 110011
- Hon'ble Dr Anbumani Ramadoss** President  
Union Minister for Health and Family Welfare (from 14.7.2004)  
Nirman Bhawan, New Delhi 110011
2. **Shri Suresh Pachouri** Member  
Member of Parliament (Rajya Sabha) (up to 21.5.2004)  
28, Tughlak Crescent, New Delhi
3. **Shri Ramesh Chennithala** Member  
Member of Parliament (Lok Sabha)  
5, Talkatora Road, New Delhi
4. **Shri Lal Behari Tiwari** Member  
Member of Parliament (Lok Sabha) (up to 21.5.2004)  
187, North Avenue, New Delhi
5. **Professor Deepak Nayyar** Member  
Vice Chancellor (Ex-officio)  
University of Delhi, Delhi 110007
6. **Shri J.V.R. Prasada Rao** Member  
Secretary (Health) (Ex-officio)  
Ministry of Health and Family Welfare (up to 30.11.2004)  
Nirman Bhawan, New Delhi 110011
- Shri P.K. Hota** Member  
Secretary (Health) (Ex-officio)  
Ministry of Health and Family Welfare (from 1.12.2004)  
Nirman Bhawan, New Delhi 110011
7. **Dr S.P. Agarwal** Member  
Director General of Health Services (Ex-officio)  
Ministry of Health and Family Welfare  
Nirman Bhawan, New Delhi 110011
8. **Professor A. Rajasekaran** Member  
ARJUNA, 67, 1st Avenue, Indira Nagar  
Chennai 600020, Tamil Nadu

- |     |  |                  |
|-----|--|------------------|
| 9.  | <b>Professor K.K. Talwar</b><br>Head, Department of Cardiology<br>AIIMS, Ansari Nagar, New Delhi 110029  | Member           |
| 10. | <b>Dr (Mrs) Manju Sharma</b><br>Secretary to the Government of India<br>Department of Biotechnology<br>7th and 8th Floor, Block-2, CGO Complex<br>Lodhi Road, New Delhi 110003                       | Member           |
| 11. | <b>Shri S.K. Tripathi</b><br>Secretary<br>Department of Secondary Education and<br>Higher Education<br>Ministry of Human Resource Development (HRD)<br>Shastri Bhawan (Gate No. 6), New Delhi 110001 | Member           |
| 12. | <b>Professor Rajendra Tandon</b><br>B-138, Preet Vihar<br>Delhi 110092   | Member           |
| 13. | <b>Professor H.S. Shukla</b><br>7, SPG Colony<br>Lanka, Varanasi 221005<br>Uttar Pradesh   | Member           |
| 14. | <b>Professor (Mrs) V.Y. Deshpande</b><br>Head, Department of Pharmacology<br>Manipal College of Medical Sciences<br>Pokhara, Nepal   | Member           |
| 15. | <b>Professor Abraham Thomas</b><br>Principal<br>Pondicherry Institute of Medical Sciences<br>Kalpet, Pondicherry   | Member           |
| 16. | <b>Shri Anurag Goel</b><br>Additional Secretary and Financial Adviser<br>Ministry of Health and Family Welfare<br>Nirman Bhawan, New Delhi 110011  | Member           |
| 17. | <b>Professor P. Venugopal</b><br>Director, AIIMS   | Member-Secretary |

- |     |  |                        |
|-----|--|------------------------|
| 18. | <b>Shri B.P. Sharma</b><br>Joint Secretary<br>Ministry of Health and Family Welfare<br>Nirman Bhawan, New Delhi 110011 | <i>Special invitee</i> |
| 19. | <b>Dean, AIIMS</b>   | <i>Special invitee</i> |
| 20. | <b>Professor T.P. Singh</b><br>Head, Department of Biophysics<br>AIIMS, New Delhi 110029                               | <i>Special invitee</i> |

**INSTITUTE BODY**

**(7.2.2005 to 31.3.2005)**

- |    |   |                        |
|----|---|------------------------|
| 1. | <b>Hon'ble Dr Anbumani Ramadoss</b><br>Union Minister for Health and Family Welfare<br>Nirman Bhawan, New Delhi 110011                    | President              |
| 2. | <b>Professor Vijay Kumar Malhotra</b><br>Member of Parliament (Lok Sabha)<br>6, Dr Bishamber Dass Marg<br>New Delhi 110001                | Member                 |
| 3. | <b>Dr Karan Singh Yadav</b><br>Member of Parliament (Lok Sabha)<br>C-6, Block 'A', MP Flats<br>Baba Kharag Singh Marg, New Delhi          | Member                 |
| 4. | <b>Dr Akhilesh Das</b><br>Member of Parliament (Rajya Sabha)<br>11, Lodhi Estate, New Delhi   | Member                 |
| 5. | <b>Shri P.K. Hota</b><br>Secretary (Health)<br>Ministry of Health and Family Welfare<br>Nirman Bhawan, New Delhi 110011                   | Member<br>(Ex-officio) |
| 6. | <b>Professor Deepak Nayyar</b><br>Vice Chancellor<br>University of Delhi, Delhi 110007  | Member<br>(Ex-officio) |
| 7. | <b>Dr S.P. Agarwal</b><br>Director General of Health Services<br>Ministry of Health and Family Welfare<br>Nirman Bhawan, New Delhi 110011 | Member<br>(Ex-officio) |

8. **Professor A. Rajasekaran** Member  
ARJUNA, 67, Ist Avenue  
Indira Nagar, Chennai 600020
9. **Professor K.K. Talwar** Member  
Director  
Postgraduate Institute of Medical Education  
and Research (PGIMER), Chandigarh 160012
10. **Professor B.P. Chaterjee** Member  
Department of Biological Chemistry  
Indian Association for the Cultivation of Science  
Jabalpur, Kolkata 700032
11. **Shri B.S. Baswan** Member  
Secretary  
Department of Secondary and Higher Education  
Ministry of Human Resource Development (HRD)  
Shastri Bhawan (Gate No. 6)  
New Delhi 110001
12. **Shri Sanjiv Misra** Member  
Additional Secretary and Financial Adviser  
Ministry of Health and Family Welfare  
Nirman Bhawan, New Delhi 110011
13. **Dr S.S. Agarwal** Member  
Central Drug Research Institute  
Chhatar Manzil Palace  
Post Box No.173, Lucknow 226001
14. **Professor Kartar Singh** Member  
Director, Sanjay Gandhi Postgraduate Institute of  
Medical Sciences (SGPGI), Lucknow 226014
15. **Professor R. Surendran** Member  
Head, Department of Surgical Gastroenterology  
Government Stanley Hospital, Chennai
16. **Professor Nilima Arun Kshirsagar** Member  
Dean and Head  
Department of Clinical Pharmacology  
Seth G.S. Medical College and K.E.M. Hospital  
Mumbai

- |     |   |                        |
|-----|---|------------------------|
| 17. | <b>Professor P. Venugopal</b><br>Director, AIIMS  | Member-Secretary       |
| 18. | <b>Dean (Academic), AIIMS</b>   | <i>Special invitee</i> |
| 19. | <b>Professor T.P. Singh</b><br>Head, Department of Biophysics, AIIMS  | <i>Special invitee</i> |
| 20. | <b>Smt Bhavani Thyagarajan</b><br>Joint Secretary<br>Ministry of Health and Family Welfare<br>Nirman Bhawan, New Delhi 110011 | <i>Special invitee</i> |

#### **GOVERNING BODY**

**(1.4.2004 to 6.2.2005)**

- |     |  |   |
|-----|--|---|
| 1.  | Smt. Sushma Swaraj<br>Dr Anbumani Ramadoss | Chairperson (up to 21.5.2004)<br>Chairperson (from 14.7.2004) |
| 2.  | Shri J.V.R. Prasada Rao<br>Shri P.K. Hota  | Member (up to 30.11.2004)<br>Member (from 1.12.2004)          |
| 3.  | Dr S.P. Agarwal                            | Member (Ex-officio)   |
| 4.  | Shri Anurag Goel                           | Member (Ex-officio)   |
| 5.  | Professor H.S. Shukla                      | Member  |
| 6.  | Professor A. Rajasekaran                   | Member  |
| 7.  | Professor Rajendra Tandon                  | Member  |
| 8.  | Professor K.K. Talwar                      | Member  |
| 9.  | Shri Lal Behari Tiwari                     | Member (up to 21.5.2004)                                      |
| 10. | Shri Suresh Pachouri                       | Member (up to 21.5.2004)                                      |
| 11. | Professor P. Venugopal                     | Member-Secretary  |

#### **STANDING FINANCE COMMITTEE**

**(1.4.2004 to 6.2.2005)**

- |    |   |  |
|----|---|--|
| 1. | Shri J.V.R. Prasada Rao<br>Shri P.K. Hota | Chairperson (up to 31.11.2004)<br>Chairperson (from 1.12.2004) |
| 2. | Shri Anurag Goel                          | Member (Ex-officio)  |
| 3. | Dr S.P. Agarwal                           | Member   |
| 4. | Professor A. Rajasekaran                  | Member   |
| 5. | Professor H.S. Shukla                     | Member   |
| 6. | Professor Abraham Thomas                  | Member   |
| 7. | Shri Lal Behari Tiwari                    | Member (up to 21.5.2004)                                       |
| 8. | Shri Suresh Pachouri                      | Member (up to 21.5.2004)                                       |
| 9. | Professor P. Venugopal                    | Member-Secretary   |

#### **ACADEMIC COMMITTEE**

**(1.4.2004 to 6.2.2005)**

- |    |                           |             |
|----|---------------------------|-------------|
| 1. | Professor H.S. Shukla     | Chairperson |
| 2. | Professor Rajendra Tandon | Member      |
| 3. | Dr S.P. Agarwal           | Member      |

|    |                                |                  |
|----|--------------------------------|------------------|
| 4. | Professor (Mrs) V.Y. Deshpande | Member           |
| 5. | Professor K.K. Talwar          | Member           |
| 6. | Dr (Mrs) Manju Sharma          | Member           |
| 7. | Shri Ramesh Chennithala        | Member           |
| 8. | Professor A. Rajasekaran       | Member           |
| 9. | Professor P. Venugopal         | Member-Secretary |

#### **HOSPITAL AFFAIRS COMMITTEE**

**(1.4.2004 to 6.2.2005)**

|    |                                |                          |
|----|--------------------------------|--------------------------|
| 1. | Dr S.P. Agarwal                | Chairperson              |
| 2. | Professor Rajendra Tandon      | Vice-Chairperson         |
| 3. | Professor (Mrs) V.Y. Deshpande | Member                   |
| 4. | Shri Lal Behari Tiwari         | Member (up to 21.5.2004) |
| 5. | Professor H.S. Shukla          | Member                   |
| 6. | Shri Ramesh Chennithala        | Member                   |
| 7. | Professor K.K. Talwar          | Member                   |
| 8. | Shri Suresh Pachouri           | Member (up to 21.5.2004) |
| 9. | Professor P. Venugopal         | Member-Secretary         |

#### **ESTATE COMMITTEE**

**(1.4.2004 to 6.2.2005)**

|    |                                |                          |
|----|--------------------------------|--------------------------|
| 1. | Shri Ramesh Chennithala        | Chairperson              |
| 2. | Dr (Mrs) Manju Sharma          | Member                   |
| 3. | Professor A. Rajasekaran       | Member                   |
| 4. | Professor (Mrs) V.Y. Deshpande | Member                   |
| 5. | Professor K.K. Talwar          | Member                   |
| 6. | Shri Lal Behari Tiwari         | Member (up to 21.5.2004) |
| 7. | Professor Abraham Thomas       | Member                   |
| 8. | Professor Deepak Nayyar        | Member                   |
| 9. | Professor P. Venugopal         | Member-Secretary         |

#### **STANDING SELECTION COMMITTEE**

**(1.4.2004 to 6.2.2005)**

|    |                                |                          |
|----|--------------------------------|--------------------------|
| 1. | Dr S.P. Agarwal                | Chairperson              |
| 2. | Professor Rajendra Tandon      | Member                   |
| 3. | Professor K.K. Talwar          | Member                   |
| 4. | Dr (Mrs) Manju Sharma          | Member                   |
| 5. | Professor (Mrs) V.Y. Deshpande | Member                   |
| 6. | Professor Abraham Thomas       | Member                   |
| 7. | Shri S.K. Tripathi             | Member                   |
| 8. | Shri Lal Behari Tiwari         | Member (up to 21.5.2004) |
| 9. | Professor P. Venugopal         | Member-Secretary         |

### 3. Academic Section

#### **Dean**

H.K. Tewari (till 31 July 2004), Kusum Verma (1 August 2004 onwards)

#### **Sub-Dean**

Y.K. Joshi (till 7 April 2004), Nikhil Tandon (7 April 2004 onwards)

#### **Registrar**

V.P. Gupta

The Academic Section develops policy, plans and executes academic activities. It also administers intramural research projects. 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. The courses include MB,BS, BSc (Hons) in paramedical courses such as Medical Technology in Radiography and Ophthalmic Techniques, and BSc Nursing (Post-certificate) and BSc (Hons) Nursing courses.

#### **Bachelor of Medicine and Bachelor of Surgery (MB,BS)**

The pattern of education at the undergraduate level was reviewed and implemented from July 2004 onwards. The duration of the MB,BS course continues to be 5½ years, including one year of compulsory internship training. The training during this period is as follows:

|                       |                                  |
|-----------------------|----------------------------------|
| One year:             | Pre-clinical training            |
| One-and-a-half years: | Paraclinical training            |
| Two years:            | Clinical training                |
| One year:             | Rotating internship (compulsory) |

Every year 50 students are admitted to the MB,BS course. Out of 50 seats, 5 seats are reserved for foreign nationals and the screening and admission for these 5 seats is done on the recommendation of the Ministry of External Affairs, Government of India. For the remaining 45 seats (7 for Scheduled Caste, 4 for Scheduled Tribe and 34 general category candidates), students are selected on the basis of their performance in an All-India entrance examination. Further, 3% seats are reserved for orthopaedic physically handicapped candidates on horizontal basis. During the year, there were 52,898 applicants and 38,516 candidates appeared in the entrance examination for these 45 seats. The total number of undergraduate students as on 31 March 2005 was 260 including 54 interns.

*Merit scholarships* of Rs 750 per month and Rs 500 per month were awarded to 8 students who secured first and second positions in the 1st, 2nd and final MB,BS examination.

*Summer fellowships* were awarded to 29 students for research in selected areas. These students were given a stipend of Rs 500 per month. They worked under the supervision of a member of the faculty.

### **Paramedical and Nursing Education**

All activities pertaining to the admission and training of paramedical and nursing students are handled by this cell. A batch of 50 students was admitted for BSc (Hons) Nursing in August 2004. The current student strength for the nursing and paramedical courses is as follows:

| <i>Nursing courses</i>                       | <i>Number of students</i> |
|--|---------------------------|
| BSc Nursing (Post-certificate)               | 35                        |
| BSc (Hons) Nursing                           | 197                       |
| <i>Paramedical courses</i>                   |                           |
| BSc (Hons) Ophthalmic Techniques             | 28                        |
| BSc (Hons) Medical Technology in Radiography | 14                        |

### **POSTGRADUATE EDUCATION**

The Academic Section looks after all activities pertaining to admission, selection and training of postgraduate students including junior and senior residents. It also deals with all service matters relating to senior residents. It handles all activities of the PhD, DM, MCh, MD, MS, MDS, MHA, MSc and MBiotech courses in different disciplines.

The admission to all postgraduate courses is done by an All India entrance examination that is held twice a year. Foreign nationals are also admitted through an entrance examination. Postgraduate students from Nepal are admitted under a bilateral agreement between the Governments of India and Nepal.

A total of 334 students, including 14 state-sponsored and 7 foreign nationals, were admitted to the above mentioned courses during the year under review. The total number of postgraduate and doctoral students on 31 March 2005 were 839. The discipline-wise distribution of postgraduate students is given below.

A total of 236 postgraduate students MD/MS/MDS/MHA/DM/MCh/PhD/MSc/MBiotech passed out during the year 2004–2005.

| <b>PhD</b>             | <b>General</b> |
|------------------------|----------------|
| Anatomy                | 7              |
| Biochemistry           | 34             |
| Biomedical Engineering | 1              |
| Biophysics             | 11             |
| Biostatistics          | 4              |
| Biotechnology          | 14             |
| Cardiology             | 1              |
| Forensic Medicine      | 1              |
| Gastroenterology       | 5              |
| Haematology            | 4              |
| Laboratory Medicine    | 10             |

|  |    |
|--|----|
| Medical Oncology                         | 3  |
| Medical Physics                          | 2  |
| Medicine                                 | 2  |
| Microbiology                             | 31 |
| Neurology                                | 5  |
| Nuclear Magnetic Resonance               | 2  |
| Nuclear Medicine                         | 3  |
| Otorhinolaryngology (ENT)                | 2  |
| Ophthalmology                            |    |
| Ocular Pharmacology                      | 3  |
| Ocular Microbiology                      | 2  |
| Community Ophthalmology                  | 1  |
| Paediatrics                              | 7* |
| Pathology                                | 4  |
| Centre for Community Medicine            | 1  |
| Endocrinology                            | 1  |
| Paediatric Surgery                       | 1  |
| Neuro-Biochemistry                       | 2  |
| Pharmacology                             | 8  |
| Physiology                               | 16 |
| Psychiatry                               | 3  |
| Radiation Oncology                       | 3  |
| Reproductive Biology                     | 3  |
| Transplant Immunology and Immunogenetics | 7  |

**Total** **204\***

(\* including one sponsored foreign national)

| <b>DM</b>               | <b>General</b> | <b>Sponsored</b> |
|-------------------------|----------------|------------------|
| Cardiac Anaesthesiology | 6              | 3                |
| Cardiology              | 16             | 3                |
| Clinical Haematology    | 5              | 2                |
| Endocrinology           | 8              | 3                |
| Gastroenterology        | 4              | 3                |
| Haemato-Pathology       | 3              | 1                |
| Medical Oncology        | 8              | 2                |
| Neonatology             | 4              | 1                |
| Nephrology              | 5              | 3                |
| Neuro-Anaesthesiology   | 6              | —                |
| Neurology               | 13             | 3                |
| Neuroradiology          | 3              | 1                |
| Paediatric Neurology    | 2              | 2                |
| <b>Total</b>            | <b>110</b>     | <b>27</b>        |

**MCh**

|                                     |    |   |
|-------------------------------------|----|---|
| Cardiothoracic and Vascular Surgery | 16 | — |
| Gastrointestinal Surgery            | 4  | 3 |

|                    |           |           |          |
|--------------------|-----------|-----------|----------|
| Neurosurgery       |           | 16        | 2        |
| Paediatric Surgery |           | 6         | —        |
| Urology            |           | 8         | 2        |
| <b>Total</b>       | <b>57</b> | <b>50</b> | <b>7</b> |

### MD

|                                      |  |    |   |
|--------------------------------------|--|----|---|
| Anaesthesiology                      |  | 23 | — |
| Anatomy                              |  | 7  | — |
| Biochemistry                         |  | 9  | — |
| Biophysics                           |  | 6  | — |
| Community Medicine                   |  | 14 | 1 |
| Dermatology and Venereology          |  | 7  | — |
| Forensic Medicine                    |  | 6  | — |
| Hospital Administration (MHA)        |  | 4  | 5 |
| Laboratory Medicine                  |  | 5  | — |
| Medicine                             |  | 36 | — |
| Microbiology                         |  | 9  | — |
| Nuclear Medicine                     |  | 6  | — |
| Obstetrics and Gynaecology           |  | 18 | — |
| Ophthalmology                        |  | 72 | — |
| Paediatrics                          |  | 18 | 1 |
| Pathology                            |  | 12 | — |
| Pharmacology                         |  | 8  | — |
| Physical Medicine and Rehabilitation |  | 6  | — |
| Physiology                           |  | 11 | — |
| Psychiatry                           |  | 17 | 1 |
| Radiodiagnosis                       |  | 14 | 1 |
| Radiotherapy                         |  | 6  | — |

### MS

|                     |  |    |   |
|---------------------|--|----|---|
| Orthopaedics        |  | 12 | 1 |
| Otorhinolaryngology |  | 9  | — |
| Surgery             |  | 28 | 2 |

### MCh (6-year) course

|                    |  |   |   |
|--------------------|--|---|---|
| Neurosurgery       |  | 7 | — |
| Paediatric Surgery |  | 3 | — |

### MDS

|  |            |            |           |
|--|------------|------------|-----------|
| Conservative Dentistry and Endodontics |            | 2          | —         |
| Orthodontics                           |            | 6          | 1         |
| Prosthodontics                         |            | 6          | —         |
| <b>Total</b>                           | <b>400</b> | <b>387</b> | <b>13</b> |

### MSc

|              |  |   |   |
|--------------|--|---|---|
| Biochemistry |  | 7 | 2 |
| Biophysics   |  | 6 | — |

|                             |           |          |
|-----------------------------|-----------|----------|
| Biotechnology               | 19        | 1        |
| Nuclear Medicine Technology | 7         | 1        |
| Pharmacology                | 6         | —        |
| Physiology                  | 3         | —        |
| Urology Technology          | 2         | —        |
| Nursing                     |           |          |
| Oncological Nursing         | 2         | —        |
| Cardiological/CTVS Nursing  | 2         | —        |
| Nephrological Nursing       | 2         | —        |
| Neurosciences Nursing       | 2         | —        |
| Paediatric Nursing          | 2         | —        |
| Psychiatric Nursing         | 2         | 1        |
| Critical Care Nursing       | 2         | —        |
| <b>Total</b>                | <b>69</b> | <b>5</b> |

*Salaries.* The present salary of residents, as recommended by the Fifth Pay Commission, is:

|                  |  |
|------------------|--|
| Junior Residents | Rs 9,400–9,725–10,050 plus allowances as per rules.  |
| Senior Residents | Rs10,940–11,295–11,650 plus allowances as per rules. |

### **SHORT- AND LONG-TERM TRAINING PROGRAMMES**

The Section handles activities regarding training programmes of short- and long-term duration for both medical and paramedical personnel. During the year, the Institute had 464 short- and 10 long-term trainees. In addition, 14 short-term trainees under the WHO fellowship programme and 18 foreign trainees and 53 (out of 72 candidates) fellows under the WHO In-Country Fellowship (2004–2005) were imparted training in various departments. The elective posting of foreign undergraduate medical students is also handled by the section. During the year, 56 foreign undergraduate medical students underwent elective training.

### **COMMITTEE MEETINGS**

The Academic Section is responsible for arranging the meetings of the Academic Committee, Staff Council, Faculty meetings and Dean's Committee. The details of the meetings held during the year are as under:

|                    |   |  |
|--------------------|---|--|
| Academic Committee | 1 | (08.10.2004)   |
| Staff Council      | 1 | (09.11.2004)   |
| Faculty meetings   | 7 | (21.09.2004, 19.10.2004, 02.11.2004, 16.11.2004, 01.02.2005, 15.02.2005, 15.03.2005) |
| Dean's Committee   | 4 | (13.08.2004, 11.10.2004, 29.11.2004, 07.01.2005)                                     |

### **RESEARCH**

Intramural research funds are allocated to faculty members to promote interdepartmental research and for the development/acquisition of new techniques or skills not available at AIIMS. Projects are invited from all faculty members on the following basis.

1. The research grant allocated to faculty members ranges from Rs 25,000 to Rs 50,000 per annum depending on the research project.

2. Project review by specialty review groups—15 March.
3. Final Recommendations of the Research Committee—31 March.
4. Allocation of funds—15 April.

The details of intramural research conducted during the year are given below.

### Intramural research grants for the year 2004–2005

| S. No. | Name, Designation                         | Department                           | Title   | Amount (Rs) | Duration (years) |
|--------|---|--------------------------------------|---|-------------|------------------|
| 1.     | A. Srinivasan,<br>Associate Professor     | Biophysics                           | Use of domain-truncated human endothelin receptors to elucidate the structural requirements in ligand binding   | 50,000      | 1                |
| 2.     | Ashutosh Halder,<br>Assistant Professor   | Reproductive Biology                 | An investigation on chromosome mosaicism and aneuploidy on preimplantation embryos  | 50,000      | 3                |
| 3.     | G.K.Makharia,<br>Assistant Professor      | Gastroenterology and Human Nutrition | A study of role of anti-saccharomyces cerevisiae antibody (ASCA) and anti-neutrophilic cytoplasmic antibody (ANCA) in the differentiation of intestinal tuberculosis and inflammatory bowel disease | 49,000      | 2                |
| 4.     | K. Anand,<br>Associate Professor          | Centre for Community Medicine        | Evaluation of a nutritional intervention programme in rural Ballabgarh  | 30,000      | 1                |
| 5.     | Kalpana Luthra,<br>Associate Professor    | Biochemistry                         | Expression of leukocyte function associated antigen-1 (LFA-1) in normal and pre-eclamptic human placenta  | 50,000      | 2                |
| 6.     | Madhu Vajpayee,<br>Associate Professor    | Microbiology                         | To determine the role of IL-7 in peripheral homeostasis and to evaluate its relationship with CD4+ T cell level in HIV infected Indian population   | 50,000      | 3                |
| 7.     | P. Chattopadhyaya,<br>Associate Professor | Biochemistry                         | Consequence of hypoxia on CpG island methylation at interspersed repeat loci of glial tumour cell lines and its downstream effect on their transcription  | 50,000      | 3                |
| 8.     | P.K. Garg,<br>Associate Professor         | Gastroenterology                     | Role of leptin in tropical pancreatitis   | 27,500      | 1                |
| 9.     | Pushpa Dhar,<br>Associate Professor       | Anatomy                              | The effect of arsenic exposure during early postnatal period on rat cerebellum  | 15,000      | 2                |
| 10.    | Rajiv Aggarwal,<br>Assistant Professor    | Paediatrics                          | Efficacy of intramuscular vitamin K1 versus intramuscular vitamin K3 in prevention of sub clinical classic vitamin K deficiency: A randomized controlled trial                                      | 50,000      | 2                |
| 11.    | Rajiva Gupta,<br>Assistant Professor      | Medicine                             | Evaluation of antibodies against cyclic citrullinated peptide (CCP) as diagnostic and prognostic marker of rheumatoid arthritis   | 50,000      | 2                |
| 12.    | Rajnish Juneja,<br>Associate Professor    | Cardiology                           | 3D characterization of pulmonary venous and left atrial anatomy in patients with severe rheumatic mitral stenosis: Evaluating the role of haemodynamic factors and atrial fibrillation              | 50,000      | 1                |

|     |  |                                 |   |           |   |
|-----|--|---------------------------------|---|-----------|---|
| 13. | Rakesh Lodha,<br>Assistant Professor     | Paediatrics                     | Circulating vasopressin levels in children with septic shock  | 50,000    | 1 |
| 14. | Ratna Sharma,<br>Assistant Professor     | Physiology                      | Effect of prenatal auditory overstimulation with species-specific and music sounds on postnatal learning in domestic chicks                                 | 40,000    | 2 |
| 15. | Ravinder Goswami,<br>Associate Professor | Endocrinology<br>and Metabolism | Parathyroid hormone gene single nucleotide polymorphisms in patients with idiopathic hypoparathyroidism and their relation with the clinical manifestations | 50,000    | 1 |
| 16. | Renu Dhingra,<br>Assistant Professor     | Anatomy                         | Apoptosis in placental membranes in pre-eclampsia: An immuno-histochemical study  | 50,000    | 1 |
| 17. | Renu Misra,<br>Additional Professor      | Obstetrics and<br>Gynaecology   | Double-blind randomized placebo-controlled trial to investigate the effect of lycopene on lipid peroxidation and lipid profile in post-menopausal women     | 40,000    | 1 |
| 18. | Renu Saxena,<br>Professor                | Haematology                     | Evaluation of the effect of interaction of alpha-gene mutations in Delhi population   | 26,000    | 1 |
| 19. | Rima Dada,<br>Assistant Professor        | Anatomy                         | Effect of environment and lifestyle on male reproductive health   | 50,000    | 2 |
| 20. | Sandeep Seth,<br>Associate Professor     | Cardiology                      | Screening for preclinical hypertrophic cardiomyopathy (HCM) by tissue Doppler imaging. Narrow QRS: Evidence for mechanical dyssynchrony                     | 30,000    | 3 |
| 21. | Sarman Singh,<br>Additional Professor    | Laboratory<br>Medicine          | To study the genetic heterogeneity amongst the <i>Leishmania donovani</i> isolated from eastern India   | 45,000    | 3 |
| 22. | Sheffali Gulati,<br>Assistant Professor  | Paediatrics                     | Randomized placebo-controlled trial of gabapentin in children with spinal muscular atrophy  | 50,000    | 2 |
| 23. | Subrata Basu Ray,<br>Associate Professor | Anatomy                         | Effect of intrathecal nimodipine on morphine induced analgesia and tolerance in rats  | 50,000    | 1 |
| 24. | Sujay Khandpur,<br>Assistant Professor   | Dermatology<br>and Venereology  | Utility of antigen detection from epidermis of Indian patients with pemphigus vulgaris  | 50,000    | 2 |
| 25. | V.K. Iyer,<br>Assistant Professor        | Pathology                       | Post-chemotherapeutic expression of apoptotic proteins in hepatoblastoma  | 50,000    | 2 |
| 26. | Vijay L. Kumar,<br>Additional Professor  | Pharmacology                    | Expression of bcg-1 in human breast cancer  | 30,000    | 2 |
| 27. | Vineet Ahuja,<br>Assistant Professor     | Gastroenterology                | Evaluating intestinal permeability and intestinal inflammation in patients with inflammatory arthritis and non-inflammatory arthritis.                      | 50,000    | 2 |
|     |  |                                 | TOTAL   | 11,82,500 |   |

Total funds available: Rs 12,00,000

Total allocated: Rs 11,82,500

---

Balance: Rs 17,500

## ORATIONS

The Academic Section organized the following Orations during 2004–2005.

| S. No. | Name of Oration                                | Name of Orator   | Date of Oration, Time and Venue                   |
|--------|--|--|---|
| 1.     | Second Dr Urmil B.K. Kapoor Oration            | Dr Lalit Kumar, Additional Professor of Medical Oncology (Dr BRA IRCH), AIIMS, New Delhi   | Friday, 24 September 2004 at 10.30 am in LT-I     |
| 2.     | Twenty-fourth Major General Amir Chand Oration | Dr M. Gourie Devi, Senior Consultant in Neurology, Sir Ganga Ram Hospital, Rajinder Nagar, New Delhi   | Friday, 24 September 2004 at 3.00 pm in LT-I      |
| 3.     | Dr Sujoy B. Roy Oration                        | Dr M.L. Bhatia, (Retd) Department of Cardiology, AIIMS, New Delhi; Emeritus Professor, AIIMS, New Delhi                                      | Friday, 24 September 2004 at 12.00 noon in LT-II  |
| 4.     | Third Professor K.C. Kandhari Oration          | Dr B.K. Girdhar, Deputy Director, Central JALMA Institute for Leprosy, Agra  | Friday, 24 September 2004 at 4.30 pm in LT-II     |
| 5.     | Sixteenth AIIMS Silver Jubilee Oration         | Professor Joseph C. Mantil, Clinical Professor and Chief, Division of Nuclear Medicine (PET), Kettering Medical Center, Kettering, Ohio, USA | Saturday, 25 September 2004 at 12.00 noon in LT-I |
| 6.     | Fifteenth Sarveshwari Memorial Oration         | Professor Tetsuo Kanno, Professor of Neurosurgery, Fujita Health University Aichi, Japan   | Friday, 11 February 2005 at 4.00 pm in LT-II      |

## INSTITUTE DAY CELEBRATION

The Institute Day was celebrated on 25 September 2004. On this occasion, an exhibition was held at AIIMS in the Jawaharlal Auditorium Foyer (First Floor) during 25–28 September 2004 from 10.00 am to 5.00 pm. The theme of the exhibition was ‘Lifestyle-related Diseases’, which was inaugurated by the Chief Guest, Dr Anbumani Ramadoss, Hon’ble Minister of Health and Family Welfare, and President, AIIMS, New Delhi. The Chief Guest distributed Institute Medals/Awards to the outstanding students and addressed the gathering. A cultural evening was held on 25 September 2004 from 6.00 pm onwards in the Jawaharlal Auditorium.

## 4. Examination Section

**Dean (Exams)**

T.P. Singh

**Sub-Dean (Exams)**

K.K. Deepak

**Assistant Controller of Exams**

Rajesh Bharadwaj

**Administrative Officer**

K.M. Gupta

**Accounts Officer**

N.K. Bajaj

During the period under review (2004–2005), the Examination Section conducted the following Professional and Entrance Examinations:

### POSTGRADUATE AND UNDERGRADUATE EXAMINATIONS

Details of various undergraduate and postgraduate professional examinations conducted by AIIMS from 1.4.2004 to 31.3.2005.

| S. No. | Examination                                 | Dates of examination          | Number of students |        |
|--------|---|-------------------------------|--------------------|--------|
|        |   |                               | Appeared           | Absent |
|        |   | <b>MAY 2004</b>               |                    |        |
| 1.     | DM/MCh/MD/MS/MDS/MHA/<br>MSc/MBiotech       | 1, 3, 5, 7                    | 123                | —      |
| 2.     | BSc (Hons) Human Biology,<br>Phase III      | 6, 8                          | 12                 | —      |
| 3.     | BSc (Hons) Nursing, Phase I                 | 1, 3, 5, 7, 11                | 51                 | —      |
| 4.     | BSc (Hons) Nursing, Phase II                | 1, 3, 5                       | 42                 | —      |
| 5.     | BSc (Hons) Nursing, Phase III               | 6, 8                          | 44                 | —      |
| 6.     | BSc (Hons) Nursing, Phase IV                | 6, 8, 12                      | 40                 | —      |
| 7.     | BSc Nursing (Post-certificate),<br>Phase I  | 1, 3, 5, 7, 8, 11, 13, 15, 17 | 17                 | —      |
| 8.     | BSc Nursing (Post-certificate),<br>Phase II | 6, 8, 12                      | 18                 | —      |

| S. No. | Examination  | Dates of examination                        | Number of students |        |
|--------|--|---|--------------------|--------|
|        |  |   | Appeared           | Absent |
| 9.     | Second Professional MB,BS<br>(Supplementary)                                 | 1, 3, 5, 6, 7, 8                            | 7                  | —      |
| 10.    | Final Professional MB,BS<br>(Supplementary)                                  | 1, 3, 5, 6, 7, 8, 11, 12                    | 8                  | 1      |
| 11.    | BSc (Hons) Human Biology,<br>Phase II Semester II                            | 1, 3, 5, 6, 7, 8, 11, 12, 13,<br>14, 15, 17 | 15                 | 1      |
|        |  | <b>JULY 2004</b>                            |                    |        |
| 12.    | First Professional MB,BS   | 1, 2, 5, 6, 8, 9                            | 50                 | —      |
| 13.    | BSc (Hons) Medical Technology<br>in Radiography, Phase I                     | 6, 8, 10, 12                                | 6                  | —      |
| 14.    | BSc (Hons) Medical Technology<br>in Radiography, Phase II                    | 6, 10, 12                                   | 6                  | —      |
| 15.    | BSc (Hons) Medical Technology<br>in Radiography, Phase III                   | 6, 8, 10                                    | 8                  | —      |
| 16.    | BSc (Hons) Ophthalmic<br>Techniques, Phase I                                 | 6, 8, 10, 12                                | 9                  | 2      |
| 17.    | BSc (Hons) Ophthalmic<br>Techniques, Phase II                                | 6, 8, 10, 12                                | 8                  | —      |
| 18.    | BSc (Hons) Ophthalmic<br>Techniques, Phase III                               | 6, 8, 10, 12                                | 12                 | —      |
| 19.    | BSc (Hons) Speech and Hearing,<br>Phase II                                   | 1, 3, 5, 7, 9, 12, 14                       | 4                  | —      |
| 20.    | BSc (Hons) Speech and Hearing,<br>Phase III                                  | 1, 3, 5, 7                                  | 2                  | —      |
|        |  | <b>AUGUST 2004</b>                          |                    |        |
| 21.    | First Professional MB,BS<br>(Supplementary)                                  | 16, 17, 18, 19, 20, 21                      | 3                  | —      |
|        |  | <b>NOVEMBER 2004</b>                        |                    | —      |
| 22.    | BSc (Hons) Medical Technology<br>in Radiography, Phase I<br>(Supplementary)  | 1   | 1                  | —      |
| 23.    | BSc (Hons) Medical Technology<br>in Radiography, Phase II<br>(Supplementary) | 1, 2, 3                                     | 1                  | —      |

| S. No. | Examination  | Dates of examination      | Number of students |          |
|--------|--|---------------------------|--------------------|----------|
|        |  |                           | Appeared           | Absent   |
| 24.    | BSc (Hons) Speech and Hearing,<br>Phase II (Supplementary) | 1, 2, 3                   | 2                  | —        |
|        |  | <b>DECEMBER 2004</b>      |                    | —        |
| 25.    | DM/MCh/MD/MS/MDS/MHA/<br>MSc/Mbiotech                      | 1, 3, 6, 8                | 82                 | —        |
| 26.    | Second Professional MB,BS                                  | 1, 3, 6, 8, 10, 11, 13    | 54                 | 1        |
| 27.    | Final Professional MB,BS                                   | 1, 3, 6, 8, 9, 11, 13, 14 | 50                 | 1        |
| 28.    | BSc (Hons) Human Biology,<br>Phase II Semester I           | 2, 7                      | 2                  | —        |
| 29.    | BSc (Hons) Human Biology,<br>Phase III                     | 2, 7                      | 2                  | —        |
| 30.    | BSc (Hons) Nursing, Phase I<br>(Supplementary)             | 2, 7                      | 8                  | —        |
| 31.    | BSc (Hons) Nursing, Phase II<br>(Supplementary)            | 2, 7, 9                   | 6                  | —        |
| 32.    | BSc (Hons) Nursing, Phase III<br>(Supplementary)           | 2, 7                      | 6                  | —        |
| 33.    | BSc (Hons) Nursing, Phase IV<br>(Supplementary)            | 2, 7, 9                   | 6                  | —        |
| 34.    | BSc Nursing (Post-certificate),<br>Phase I Supplementary   | 2, 7                      | 1                  | —        |
| 35.    | BSc Nursing (Post-certificate),<br>Phase II Supplementary  | 2                         | 1                  | —        |
|        |  | <b>JANUARY 2005</b>       |                    | —        |
| 36.    | Final Professional MB,BS<br>(Compartmental)                | 18, 19                    | 1                  | —        |
|        |  |                           | <b>708</b>         | <b>6</b> |

|                                  |     |
|----------------------------------|-----|
| Number of examinations conducted | 36  |
| Number of students present       | 708 |
| Number of students absent        | 6   |
| Number of PhD Vivas conducted    | 39  |

## Entrance examinations for undergraduate and postgraduate courses

| S. No. | Examination  | Dates of examination | Number of students |                |
|--------|--|----------------------|--------------------|----------------|
|        |  |                      | Appeared           | Absent         |
| 1.     | MD/MS/MDS (AIIMS) July Session 2004                  | 9 May 2004           | 9,128              | 6,623          |
| 2.     | DM/MCH/MHA July Session 2004                         | 16 May 2004          | 1,240              | 907            |
| 3.     | MB,BS (AIIMS) August Session 2004                    | 1 June 2004          | 52,898             | 38,516         |
| 4.     | BSc (Hons) Nursing                                   | 13 June 2004         | 1,735              | 1,342          |
| 5.     | BSc Nursing (Post-certificate)                       | 6 June 2004          | 51                 | 28             |
| 6.     | BSc (Hons) Paramedical Courses                       | 20 June 2004         | 428                | 289            |
| 7.     | MSc and MBiotechnology                               | 11 July 2004         | 1,054              | 700            |
| 8.     | PhD July Session 2004                                | 18 July 2004         | 357                | 207            |
| 9.     | MD/MS/MCh (6 years)/MDS (AIIMS) January Session 2005 | 4 November 2004      | 14,315             | 12,870         |
| 10.    | DM/MCH/MHA January Session 2005                      | 19 December 2004     | 1,175              | 830            |
| 11.    | All India PG Entrance Exam: MD/MS/Diploma            | 9 January 2005       | 36,709             | 33,603         |
| 12.    | All India PG Entrance Exam: MDS                      | 9 January 2005       | 4,935              | 4,487          |
| 13.    | PhD January Session 2005                             | 16 January 2005      | 383                | 200            |
|        |  |                      | <b>124,408</b>     | <b>100,602</b> |

|                                    |          |
|------------------------------------|----------|
| Number of entrance exams conducted | 13       |
| Number of applicants               | 1,24,408 |
| Number of candidates appeared      | 1,00,602 |

### SIGNIFICANT EVENTS

The Examination Section has introduced an entrance examination for a new MSc Nursing course in seven subspecialties from August 2004. The Examination Section also conducted the BSc Speech and Hearing entrance examination of All India Institute of Speech and Hearing, Mysore on 12.6.2004.

As a further step towards introduction of more checks and balances, so as to maintain complete confidentiality and integrity of the examination system, question papers for outstation centres are now kept in the safe custody of SBI branches. Moreover, to document the personal identity of the candidates and to eliminate impersonation, arrangements for taking photographs of all candidates were made and thumb impressions obtained during the examination.

The Examination Section is providing technical expertise to various universities and institutions in India and abroad for conduct of their entrance examinations.

## **Important entrance examinations conducted**

1. The All India PG entrance examination for admission to the MD/MS/Diploma/MDS courses against 50% open merit seats quota was held in 86 centres in 15 cities of India on 9.01.2005. The results were declared on 14 February and 4 March 2005.
2. The AIIMS PG entrance examination for admission to the MD/MS/MDS courses for the session starting from July 2004 was conducted at 15 centres in Delhi on 9 May 2004 and for the MD/MS/MCh (6 years)/MDS courses for the session starting from January 2005 at 28 centres in Delhi on 7 November 2004. The results were declared on 15.05.2004 and 16.11.2004, respectively. Admissions were made on the basis of counselling. Counselling was held on 11 June 2004 and 18 June 2004 for the July 2004 session, and on 10 December 2004 and 17 December 2004 for the January 2005 session. The seats that remained vacant thereafter were allotted to the candidates on 12 July 2004 and 14 January 2005 for the July 2004 and January 2005 sessions, respectively, through open selection on the basis of the merit ranking of the candidates in the entrance examinations.

The All India Institute of Medical Sciences has included three more examination centres at the metro cities of Mumbai, Kolkata and Chennai for the July 2005 session of the AIIMS PG Entrance Examination for admission to the MD/MS/MDS courses twice a year—January and July sessions.

3. Selections for various Post-doctoral (superspecialty) courses—DM/MCh and MHA—for the July 2004 and January 2005 sessions were made on a three-stage performance evaluation carried out from 16 May 2004 to 21 May 2004, and 19 December 2004 to 23 December 2004, respectively.
4. Selection of candidates for registration to the PhD programme for the sessions starting from July 2004 and January 2005 was held between 18 and 22 July 2004, and 16 and 20 January 2005, respectively. The results were declared on 22 July 2004 and 22 January 2005, respectively.
5. The entrance examination for admission to the MB,BS course of AIIMS for the August 2004 session was held in 102 centres in 9 cities of India on 1 June 2004. From August 2005, one more centre at Jammu for the MB,BS entrance examination has been introduced.
6. The BSc (Hons) Nursing entrance examination was held in Delhi and Thiruvananthapuram on 13.06.2004.
7. The BSc Nursing (Post-certificate) entrance examination was held in Delhi on 6.06.2004 followed by personal assessment of the candidates on 9.06.2004.
8. The entrance examination for admission to the August 2004 session of the MSc/MBiotechnology courses was held in Delhi on 11.07.2004. The Institute has introduced one more MSc Nursing course this year. Admission to this course was made by allotment of the course on merit through counselling held on 22.07.2004 and 26.07.2004.
9. The entrance examination for admission to the Paramedical courses—BSc (Hons) Ophthalmic Techniques, BSc (Hons) Medical Technology in Radiography—for the August 2004 session was held in Delhi on 20.06.2004. Admissions to these two courses were made by allotment of seats on merit through counselling held on 14.07.2004 and 20.07.2004, respectively.

10. The Institute conducts entrance examinations for admission to the BSc (Hons) Speech and Hearing held by the All India Institute of Speech and Hearing, Mysore.
11. The Sub-Dean (Exam) has been coordinating the evaluation of theses of postgraduate students of the B.P. Koirala Institute of Health Sciences, Dharan, Nepal.

***Participation in other events***

12. The Examination Section actively participates in the counselling for admission to the AIIMS postgraduate, BSc (Hons) Paramedical, MSc (Nursing) courses and interviews for the BSc (Nursing) Post-certificate course.

## 5. General Administration

**Deputy Director (Administration)**  
Debasish Panda, IAS (from March 2005)

### ESTABLISHMENT SECTION (DO)

**Chief Administrative Officer**  
Attar Singh

**Senior Administrative Officer**  
Vacant

**Administrative Officer**  
B.S. Ahluwalia (w.e.f. 11.01.2003) (on deputation)

**Deputy Chief Security Officer**  
Rajiv Lochan

**Stores Officer**  
S.S. Badhuria

**Estate Manager**  
S.K. Vashisht

### ENGINEERING SERVICES DEPARTMENT

**Superintending Engineer**  
Rajesh Kumar

|                            |                          |                                 |
|----------------------------|--------------------------|---------------------------------|
| <b>Executive Engineers</b> |                          |                                 |
| R.L. Malik<br>(Civil-I)    | M. Rastogi<br>(Civil-II) | B.S. Anand<br>(Airconditioning) |

The General Administration, including personnel and establishment, security, estate, matters related to the Engineering Services Department, stores, vigilance and public relations activities of AIIMS are controlled and supervised by the Deputy Director (Admn.). Various branches, headed by a senior officer, look after each area. A brief description of the activities of each branch is given below.

All matters relating to the establishment section and general administration including appointment of staff, arranging meetings of statutory committees, management of estate and property, purchase of equipment, materials and consumables, security arrangements and employees' welfare are looked after by this section. The section has 40 staff members.

The total sanctioned staff of AIIMS is 7522 (including the main hospital, all the centres and administration). This includes faculty (510), group A (274), group B (617), group C (4319) and group D (1802) staff. The following major works were undertaken during the year.

### **Augmentation of new Private Wards Facility**

An additional 27 deluxe private wards have been completed and handed over.

### **Dental Centre**

The construction work has been started at the site.

### ***In Vitro* Fertilization Facility (IVF)**

A new IVF facility is planned which will be completed in the next 6 months.

### **Other activities**

AIIMS has started implementing schemes for water harvesting in all its campuses. The Institute is also in the process of covering the *nallah* passing through its premises and permission from the MCD has already been obtained. This will divert a lot of traffic from the main institutional area and will provide access to the 12 additional superspecialty facilities proposed at AIIMS.

### **Additional toilets**

AIIMS is providing individual toilet and bath facilities in 200 type-I quarters, which previously two allottees were sharing.

### **Sai Vishram Sadan**

This *dharamshala*, with 100-bed capacity, has been opened for the patients and their relatives coming from far off places. With this, the bed capacity of rest houses in AIIMS has increased to 400.

### **Railway reservation counter**

A railway reservation counter has been started for the benefit of patients coming from outstations.

## **HORTICULTURE**

The horticulture wing of AIIMS maintains the gardens at different places in the campus throughout the year. Besides this, floral decorations were arranged for a number of institutional functions. AIIMS also participated in flower shows arranged by different organizations of Delhi.

## **MEDIA CENTRE**

### **Faculty-in-charge and Spokesperson Aarti Vij**

The Media Centre has been engaged in the important role of promotion and projection of various activities of this premier Institute. It provides a vital link between the Institute, media and public. More than 40 press briefings, press releases and public education lectures were arranged on subjects of special public interest.

The department highlights the achievements and important activities of the Institute in the media by organizing press briefings, seminars and conferences. This department also releases advertisements and press statements. The Officer-in-Charge, Media Centre is the official spokesperson for AIIMS.

The Media Centre is entrusted with protocol functions relating to the visits of VIPs, official delegations as well as foreign delegations to the Institute.

### **Important visitors**

A number of foreign delegations including high-level ministerial delegations from the USA, Canada, China, Ethiopia, Malaysia, Afghanistan, Bangladesh, Myanmar, Bhutan and other neighbouring countries visited the Institute during the year. A delegation of the White House Fellows from Washington, USA also visited the Institute. A delegation led by Mr Azim Premji also visited the Institute. The Media Centre coordinated and facilitated these visits.

### **Important media coverage**

The Media Centre organized press briefings, conferences to further enhance the positive image of AIIMS and project the achievements of the faculty and staff of AIIMS in public. Regular interaction of AIIMS faculty on various preventive, diagnostic and curative issues of diseases, including programmes on positive healthcare, was organized with most electronic channels including Aaj Tak, NDTV, Star TV, Zee TV, Sahara TV, BBC, Total TV and others. A number of activities received wide coverage in the print and electronic media during the year. Some of the activities were highlighted by the lay press under the following titles: 'Brain dead gives a new lease of life to six', 'Ray of hope for breast cancer patients', 'AIIMS analyses snake venom isolates inflammation protein', 'HIV vaccine could come from AIIMS', 'AIIMS team shows how stem cells save hearts', 'AIIMS gets bone bank; country's first', 'Global first: AIIMS pioneers stem cell injections'.

## 6. Hospital

### Medical Superintendent

R.K. Sarma

### Professor

P.C. Chaubey (on foreign assignment)

### Additional Professor

D.K. Sharma

### Associate Professors

S. Satpathy

Sanjay Arya

### GENERAL INFORMATION

|                      |     |
|----------------------|-----|
| Total number of beds | 986 |
| General ward beds    | 861 |
| Private ward beds    | 125 |

### HOSPITAL PERFORMANCE INDICES

|                                   | Current year | Past year | Comments  |
|-----------------------------------|--------------|-----------|---|
| Average length of stay (days)     | 5.2          | 5.4       | Indicates effective utilization of beds   |
| Average bed occupancy rate (%)    | 83.2         | 80.5      | Indicates fair occupancy  |
| Net death rate (%)                | 2.7          | 2.8       | Indicates a low mortality rate despite the fact that a large number of critically ill patients are admitted to the hospital |
| Combined crude infection rate (%) | 8.92         | 9.5       |   |

Please *see* Appendices I and II for details.

### Outpatient department and specialty clinics

A total of 15,46,830 patients attended the general outpatient departments and specialty clinics of the main hospital. The details of the outpatient load profile is given in Appendix III.

### Inpatient services

The hospital has maintained its tradition of services and quality of patient care in spite of the ever-increasing number of patients that come to this hospital from all over the country as well as abroad. A total of 80,140 patients were admitted during the year in the various clinical units of the hospital. Due to non-functioning of computers, some parameters such as unit-wise average length of stay, etc. could not be compiled. The state-wise and department-wise admissions are given in Appendices IV and V.

The number of surgical procedures performed during the year in different surgical disciplines is given in Appendix VI.

## **MEDICAL RECORDS**

Sh. N.K. Sharma, Chief Medical Records Officer, joined the Medical Records Section (Hosp) in November 2004 on superannuation of Sh. S.S. Rawat, Senior Medical Records Officer.

Sh. S.S. Rawat attended the Central Bureau of Health Investigation workshop of 'Key Trainer—ICD-10' in September 2004, organized by the Director General of Health Services at Nirman Bhawan, New Delhi.

Sh. N.K. Sharma attended the following workshops: (i) Central Bureau of Health Investigation workshop of 'Key Trainer—ICD-10' in November 2004 held at the National Institute of Health and Family Welfare, and (ii) in January 2005, held at the India Habitat Centre, New Delhi organized by the Director General of Health Services, Ministry of Health and Family Welfare, Nirman Bhawan, New Delhi; (iii) Basic level Computer Training and Hospital Connectivity Training Programme, organized by the NDMC for online registration of births and deaths. Sh. R.S. Khera, MRO and Ms Pooja Pandey, LDC also attended.

Sh. R.S. Khera attended the Orientation Course on 'General and Health Statistics' at Mohali.

The Casualty Death Review Committee meeting was restarted in December 2004 and, since then, a meeting is held every month.

The Clinic Committee of the Main Hospital was restarted and meetings are held at regular intervals.

During the year, a group of students of the Medical Records Degree and Diploma from Christian Medical College, Vellore and St Stephens Hospital, New Delhi visited the Medical Records Department. One student from the Indira Gandhi Institute of Medical Sciences, Patna and one student from Era's Lucknow Medical College and Hospital, Lucknow underwent short-term training in Medical Records. A group of 8 persons from the Seventh Day Adventist Hospital, Ranchi visited the Medical Records Section.

The medical records of patients admitted to the hospital are initiated from the Central Admission Office, which also functions as enquiry counter. This office works round the clock. All types of enquiries regarding patients, departments, doctors and centres are provided from this office.

Records of inpatients are kept at various places in the hospital. All efforts are made to take out the current and old case-sheets on demand by clinicians. Records are systematically classified and categorized for easy retrievability. All the inpatient records (Admission and Discharge) of the C.N. Centre (having 360 beds) are looked after by the Medical Records Section of the main hospital.

## **MEDICAL SOCIAL WELFARE UNIT**

Medical Social Welfare Services were organized in various OPDs, wards, clinics and casualty by the present strength of 1 Chief Medical Social Service Officer (acting), 2 Supervising Medical Social Service Officers, 4 Medical Social Service Officers Grade I, 3 Medical Social Service Officers Grade II and 24 part-time Social Guides under the able supervision of the Medical Superintendent.

This department provides central services in the form of guidance to patients, financial assistance from the Poor fund, exemption of levy charges to poor and indigent patients, counselling, accommodation in the *dharamshala* for outstation patients, adoption of orphans, coordination of these activities in different departments and centres, help in obtaining railway concession to specific patients.

During peak hours, this department provides guidance and counselling to patients and looks into minor grievances on the spot, which helps in the smooth running of the OPDs. Daily, about 2500 patients require guidance and counselling. To achieve this, the part-time social guides are deployed at important places such as the main Enquiry counter, X-ray counter, Emergency, Blood collection centre as well as all the OPD counters on five floors.

### **Counselling**

Over 35,000 cases were given counselling and information about their diagnosis, prognosis and treatment after discussion with the concerned doctors.

Over 6000 cases were given special counselling and case work services. Services were also offered to solve their social, emotional and psychosomatic problems which come in the way of achieving best results of treatment. Patients were also motivated and helped for regular follow-up whenever required. Over 80 home visits were also made.

### **Rehabilitation and adoption services**

Over 500 destitute/unknown/unattended/road accident patients were rehabilitated in different rehabilitation centres under the Delhi Administration and other welfare institutions as well as their homes.

Ten patients were rehabilitated by helping them to get jobs or find work avenues. Four wheelchairs, 2 tricycles, 5 sewing machines and 5 weighing machines were given to poor and needy patients. Eighteen unwed mothers were rehabilitated in other agencies till their delivery as their parents were unable to keep them at home.

Relatives of over 700 patients were informed about unknown and unattended patients. About 4500 senior citizens were provided special help in the OPDs and laboratories.

### **Financial assistance**

Over Rs 1,04,678 was given to 323 poor patients from the 'Fund for Poor Patients' provided by the hospital authorities. A large number were helped from other sources such as donations from philanthropic organizations for expensive drugs and appliances such as crutches, wheelchairs, hearing aids, etc. Help was also extended for food, travel and funeral services to a large number of cases.

Over 250 patients were given blankets and clothes. Over 15 patients were given footwear. A large number of patients were referred to the Ali Yaver Jung Institute for the hearing handicapped. Over 25 patients were given colostomy bags.

Over 500 patients were provided expensive chemotherapy drugs costing over Rs 2,75,000 with the help of the Cancer Patients Aid Association and over Rs 75,000 from other associations.

Medicines worth over Rs 20,000 were distributed to patients suffering from tuberculosis of organs other than the chest for a full course of antituberculosis medicines from a philanthropic organization—Sewa Prakalap Mahila Mandal Trust. Over 150 urograffin vials costing nearly Rs 20,000 were given to poor patients from donations.

Over 350 patients were motivated and guided to obtain the necessary financial help from the Prime Minister's and Health Minister's Discretionary Funds and various philanthropic organizations.

Food was provided to over 400 poor patients.

### **Railway concession facilities**

Over 17,000 cases suffering from cancer, tuberculosis, leprosy, etc. were helped to obtain railway concession facilities. A similar facility was also provided to deaf and dumb patients.

### **Accommodation**

Nearly 3300 patients and their attendants who came from outside Delhi were helped in obtaining accommodation in different *dharamshalas* in the vicinity of the hospital at cheap rates.

### **Exemption of levy charges**

Over 3800 indigent and poor patients were exempted from payment of different types of investigations and admission charges.

### **Referral**

About 1000 patients with pulmonary tuberculosis and other diseases were referred to different T.B. hospitals/clinics of respective areas for treatment and issuance of drugs. Over 9000 patients from the Casualty were referred to other hospitals.

### **Health education**

Demonstrations were held in the children's surgical and gynaecological wards with the help of students of Social Work and National Services Scheme workers. These focused on maintenance of personal hygiene, balanced nutrition, health and family welfare, and preoperative and postoperative care.

Festivals such as Diwali, Rose Day and Christmas were celebrated in the wards and a puppet show was organized for the entertainment of patients in the children's ward. Toys were distributed in the childrens' surgical ward on Good Friday.

### **Blood donation camp**

A blood donation camp was organized on 17.10.2004 outside the OPD Block of AIIMS; 48 units of blood were collected.

### **AIDS awareness camp**

An AIDS Awareness Camp was organized in association with the Centre for Community Medicine (CCM) in the slum near Kamal Cinema, Safdarjung Development Area, New Delhi, where over 300 persons were educated about the menace.

### **Special help**

Over 800 poor indoor patients were provided life-saving drugs/medicines worth over Rs 2 lakh from the medical stores/local purchase after proper scrutiny and work-up by Medical Social Service Officers.

### **Special assignment**

Mrs Paramjit Kukreja and Mr R.C. Mishra assessed 20 'non-related' donor cases for kidney transplantation.

Mrs Paramjit Kukreja presented over 400 cases for special grants out of which 309 persons got grants amounting to Rs 80,54,565 from the National Illness Assistance Fund (NIAF) during the year.

### **Training and teaching**

Orientation was given to visitors from various organizations. Besides this, about 50 National Services Scheme (NSS) volunteers from various schools and colleges were also given orientation in dealing with patients and hospital-related problems.

One postgraduate student of MSW from the Department of Social Work, Delhi and 2 undergraduate students from Aditi College, 2 undergraduate students from Ambedkar College, Delhi University, 6 postgraduate students from Agra University and 4 postgraduate students from Bundelkhand University were given 'On Job'/Field work training in Medical Social Services under close supervision during this period. A team of 40 students from Chennai was given on-the-job training for two days.

## **WELFARE UNIT**

### **Welfare Officer**

Preeti Ahluwalia

### **Patient Welfare**

Patient care: Rs 44,05,428 (approx.) raised as donation

| <b>Purpose</b>  | <b>Donation (Rs)</b> | <b>Donor</b>                       |
|---|----------------------|------------------------------------|
| For treatment, surgery and rehabilitation of poor and needy patients  | 15,30,240            | Shri Sai Bhakta Samaj (Regd.)      |
| undergoing treatment in the Main Hospital and Centres   | 7,27,000             | Indo Global Social Service Society |
|   | 1,84,700             | Anmol Sahara                       |
|   | 91,133               | Sewa Prakalp                       |
|   | 25,000               | Rajender Bhawan Trust              |
| Anti-cancer drugs provided free to cancer patients  | 18,05,590            | Gopal Foundation                   |
|   | 41,765               | Other donors                       |
| In addition, an amount of Rs 6,53,500 was arranged for the treatment and surgery of poor patients from the Prime Minister's National Relief Fund. |                      |                                    |

Hearing aids were presented to patients Master Vishal Singh and Shri Vinod.

In addition, assistance to patients for treatment and surgery is being provided through the National Illness Assistance Fund.

Medicines were arranged for poor and needy patients from the Hospital Poor Patient Fund. Patients were assisted for admission, exempted from levy charges and investigation charges, etc.

### ***Inauguration of Shri Sai Vishram Sadan***

Shri Sai Vishram Sadan was inaugurated by Shri Anbumani Ramadoss, Hon'ble Minister for Health and Family Welfare and President, AIIMS on 25 September 2004. Shri Sai Vishram Sadan has been constructed by the Shri Sai Bhakta Samaj. The *dharamshala*, which has 100 beds and a lift, will provide shelter to outstation attendants of patients undergoing treatment at AIIMS.

## **Employees Welfare**

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

Twenty-seven cases were dealt with for appointment on compassionate grounds. Counselling services and moral support was provided to the family members to assist them to accept the great loss they had suffered and enable them to shoulder the responsibilities that had fallen on them. Assistance for funeral expenses was also provided, if required, to the relatives of the deceased employees.

### ***Counselling services***

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

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

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

### ***Assistance for education***

Assistance for education is being provided to needy and deserving children of employees and patients. Scholarships from the Shri Sai Bhakta Samaj were given to 23 students.

## APPENDIX I

### Yearly Statistical Health Bulletin

|   |         |
|---|---------|
| 1. Total patients admitted  | 80,140  |
| a. Adults and children  | 77,803  |
| b. Newborn infants  | 2,337   |
| 2. Total number of patient care days<br>in hospital (as per daily census) | 415,931 |
| a. Adults and children  | 409,462 |
| b. Newborn infants  | 6,469   |
| 3. Daily average number of patients                                       | 1,140   |
| a. Adults and children  | 1,122   |
| b. Newborn infants  | 18      |
| 4. Average bed occupancy ratio (BOR)                                      | 83.2    |
| a. Adults and children  | 83.4    |
| b. Newborn infants  | 72.0    |
| 5. Average length of stay (ALS)   | 5.2     |
| a. Adults and children  | 5.3     |
| b. Newborn infants  | 8.8     |
| 6. Births in hospital   | 2,337   |
| a. Male babies  | 1,261   |
| b. Female babies  | 1,073   |
| c. Intersex   | 3       |
| 7. Total deaths (including newborns)                                      | 2,908   |
| a. Death under 48 hours   | 768     |
| b. Death over 48 hours  | 2,140   |
| c. Gross death rate (%)   | 3.6     |
| d. Net death rate (%)   | 2.7     |

**APPENDIX II**  
**Inpatient crude mortality statistics**

| S. No. | Department                              | Admissions    | Deaths      |                |               | Death rate (%) |            |
|--------|---|---------------|-------------|----------------|---------------|----------------|------------|
|        |   |               | Total       | Under 48 hours | Over 48 hours | Gross          | Net        |
| 1.     | Anaesthesiology                         | 785           | —           | —              | —             | —              | —          |
| 2.     | Cardiology                              | 7790          | 235         | 72             | 163           | 3.0            | 2.1        |
| 3.     | Cardiothoracic and<br>Vascular Surgery  | 3269          | 233         | 19             | 214           | 7.1            | 6.6        |
| 4.     | Dental Surgery                          | 209           | —           | —              | —             | —              | —          |
| 5.     | Dermatology                             | 3738          | 8           | 1              | 7             | 0.2            | 0.2        |
| 6.     | Endocrinology                           | 474           | 5           | 2              | 3             | 1.1            | 0.6        |
| 7.     | Gastroenterology                        | 1868          | 240         | 49             | 191           | 12.8           | 10.5       |
| 8.     | Gastrointestinal surgery                | 701           | 38          | 2              | 36            | 5.4            | 5.2        |
| 9.     | General surgery                         | 6325          | 180         | 46             | 134           | 2.8            | 2.1        |
| 10.    | Haematology                             | 5943          | 113         | 47             | 66            | 1.9            | 1.1        |
| 11.    | IRCH (Private ward)                     | 449           | 87          | 43             | 44            | 19.4           | 10.8       |
| 12.    | Medicine                                | 3519          | 575         | 180            | 395           | 16.3           | 11.8       |
| 13.    | Nephrology                              | 3394          | 147         | 46             | 101           | 4.3            | 3.0        |
| 14.    | Neuro-anaesthesia                       | 10            | —           | —              | —             | —              | —          |
| 15.    | Neurology                               | 2514          | 211         | 30             | 181           | 8.4            | 7.3        |
| 16.    | Neurosurgery                            | 4322          | 405         | 103            | 302           | 9.4            | 7.2        |
| 17.    | Newborn                                 | 2337          | 51          | 23             | 28            | 2.2            | 1.2        |
| 18.    | Nuclear medicine                        | 476           | —           | —              | —             | —              | —          |
| 19.    | Obstetrics and<br>Gynaecology           | 9364          | 22          | 4              | 18            | 0.2            | 0.2        |
| 20.    | Orthopaedics                            | 4207          | 35          | 4              | 31            | 0.8            | 0.7        |
| 21.    | Otorhinolaryngology                     | 4546          | 17          | 7              | 10            | 0.4            | 0.2        |
| 22.    | Paediatric surgery                      | 2210          | 62          | 10             | 52            | 2.8            | 2.4        |
| 23.    | Paediatrics                             | 6187          | 189         | 63             | 126           | 3.1            | 2.1        |
| 24.    | Physical Medicine and<br>Rehabilitation | 29            | —           | —              | —             | —              | —          |
| 25.    | Psychiatry                              | 377           | —           | —              | —             | —              | —          |
| 26.    | Radiotherapy                            | 188           | 36          | 15             | 21            | 19.1           | 12.1       |
| 27.    | Urology                                 | 4909          | 19          | 2              | 17            | 0.4            | 0.3        |
|        | <b>TOTAL</b>                            | <b>80,140</b> | <b>2908</b> | <b>768</b>     | <b>2140</b>   | <b>3.6</b>     | <b>2.7</b> |

## APPENDIX III

### Attendance in OPDs and Specialty Clinics

| Department                                  | New cases | Old cases | Total   |
|---|-----------|-----------|---------|
| <b>ANAESTHESIA</b>                          |           |           |         |
| <i>Specialty Clinics</i>                    |           |           |         |
| Pain  | 1,795     | 5,208     | 7,003   |
| Pre-anaesthesia                             | 7,045     | 1,349     | 8,394   |
| <b>DENTAL SURGERY</b>                       |           |           |         |
| <i>General OPD</i>                          | 29,714    | 27,234    | 56,948  |
| <i>Specialty Clinics</i>                    |           |           |         |
| Combined cleft palate                       | 81        | 346       | 427     |
| Oral prophylaxis                            | 2,112     | 7,456     | 9,568   |
| Orthodontics                                | 1,094     | 7,215     | 8,309   |
| Prosthodontics-cum-maxillofacial prosthesis | 174       | 2,569     | 4,743   |
| Restorative-cum-endodontic                  | 7,648     | 4,810     | 12,458  |
| Trigeminal Neuralgia                        | 128       | 402       | 530     |
| <b>DERMATOLOGY</b>                          |           |           |         |
| <i>General OPD</i>                          | 32,907    | 26,517    | 59,424  |
| <i>Specialty Clinics</i>                    |           |           |         |
| Allergy                                     | 445       | 870       | 1,315   |
| Dermatological surgery                      | 305       | 665       | 970     |
| Leprosy                                     | 336       | 1,742     | 2,078   |
| Pigmentation                                | 550       | 1,619     | 2,169   |
| Sexually transmitted disease                | 1,039     | 1,730     | 2,769   |
| <b>ENDOCRINOLOGY</b>                        | 9,537     | 16,215    | 25,752  |
| <b>GASTROENTEROLOGY</b>                     | 17,925    | 26,161    | 44,086  |
| <b>HAEMATOLOGY</b>                          | 4,206     | 14,121    | 18,327  |
| <b>MEDICINE</b>                             |           |           |         |
| <i>General OPD</i>                          | 67,000    | 63,389    | 130,389 |
| <i>Specialty Clinics</i>                    |           |           |         |
| Chest                                       | 1,836     | 4,011     | 5,847   |
| Geriatric                                   | 186       | 813       | 999     |
| Rheumatology                                | 233       | 5,957     | 6,190   |
| <b>NEPHROLOGY</b>                           | 5,628     | 14,357    | 19,985  |
| Renal Transplant                            | 79        | 4,536     | 4,615   |
| <b>NUCLEAR MEDICINE</b>                     | 1,644     | 2,007     | 3,651   |

## OBSETETRICS AND GYNAECOLOGY

|                          |        |        |        |
|--------------------------|--------|--------|--------|
| <i>General OPD</i>       | 32,749 | 45,511 | 78,260 |
| <i>Specialty Clinics</i> |        |        |        |
| Antenatal                | 1,059  | 5,955  | 7,014  |
| Endocrine gynaecology    | 154    | 207    | 361    |
| Family welfare           | 3,020  | 5,188  | 8,208  |
| High-risk pregnancy      | 1,741  | 9,462  | 11,203 |
| Postnatal                | 181    | 90     | 271    |

## ORTHOPAEDICS

|                          |        |         |         |
|--------------------------|--------|---------|---------|
| <i>General OPD</i>       | 81,337 | 147,112 | 228,449 |
| <i>Specialty Clinics</i> |        |         |         |
| Club foot (CTEV)         | 248    | 1,164   | 1,412   |
| Follow-up                | —      | 6,703   | 6,703   |
| Hand                     | 801    | 1,080   | 1,881   |
| Polio                    | 73     | 31      | 104     |
| Scoliosis                | 498    | 1,131   | 1,629   |
| Tuberculosis             | —      | 2       | 2       |

## OTORHINOLARYNGOLOGY AND RUAS

|                          |       |        |        |
|--------------------------|-------|--------|--------|
| <i>General OPD</i>       | 5,305 | 32,227 | 77,532 |
| <i>Specialty Clinics</i> |       |        |        |
| Audiology                | 179   | 104    | 283    |
| Hearing                  | 675   | 871    | 1,546  |
| Rhinology                | 118   | 58     | 176    |
| Speech                   | 1,340 | 851    | 2,191  |
| Vertigo                  | 109   | 107    | 216    |
| Voice                    | 461   | 573    | 1,034  |

## PAEDIATRICS

|                           |        |        |        |
|---------------------------|--------|--------|--------|
| <i>General OPD</i>        | 33,493 | 32,208 | 65,701 |
| <i>Specialty Clinics</i>  |        |        |        |
| Chest                     | 478    | 3,256  | 3,734  |
| Follow-up TB              | 235    | 1,235  | 1,470  |
| Genetic and birth defects | 1,287  | 936    | 2,223  |
| High-risk neonatal        | 232    | 1,264  | 1,496  |
| Neurology                 | 1,760  | 4,418  | 6,178  |
| Renal                     | 492    | 3,265  | 3,757  |
| Well baby                 | 658    | 19     | 577    |

## PAEDIATRIC SURGERY

|                          |       |        |        |
|--------------------------|-------|--------|--------|
| <i>General OPD</i>       | 7,486 | 10,624 | 18,110 |
| <i>Specialty Clinics</i> |       |        |        |
| Hydrocephalus            | 31    | 334    | 365    |
| Intersex                 | 33    | 33     | 66     |
| Urology                  | 268   | 2,476  | 2,744  |

|                                      |                |                |                  |
|--------------------------------------|----------------|----------------|------------------|
| PHYSICAL MEDICINE AND REHABILITATION | 12,698         | 9,570          | 22,268           |
| PSYCHIATRY                           |                |                |                  |
| <i>General OPD</i>                   | 1,227          | —              | 1,227            |
| <i>Specialty Clinics</i>             |                |                |                  |
| Child guidance                       | 428            | 205            | 633              |
| Walk-in                              | 12,783         | 22,999         | 35,782           |
| RADIOTHERAPY                         |                |                |                  |
| <i>General OPD</i>                   | 1,425          | 57,962         | 59,387           |
| <i>Specialty Clinics</i>             |                |                |                  |
| Radiotherapy in gynaecology          | 701            | 11,282         | 11,983           |
| Radiotherapy in surgery              | 1,351          | 10,606         | 11,957           |
| GENERAL SURGERY                      | 34,408         | 24,042         | 58,450           |
| UROLOGY                              | 10,004         | 19,236         | 29,240           |
| OTHERS                               |                |                |                  |
| Casualty                             | 156,217        | —              | 156,217          |
| Employees Health Scheme              | 105,871        | 70,577         | 176,448          |
| Marriage Counselling clinic          | 2,449          | 2,705          | 5,154            |
| Nutrition                            | 5,196          | 1,046          | 6,242            |
| <b>Total</b>                         | <b>756,806</b> | <b>790,024</b> | <b>1,546,830</b> |

#### APPENDIX IV

##### Region-wise distribution of inpatients

| <b>Region</b>   | <b>Number of patients</b> |
|-----------------|---------------------------|
| Delhi           | 43,271                    |
| Uttar Pradesh   | 12,863                    |
| Haryana         | 9,058                     |
| Punjab          | 689                       |
| Rajasthan       | 1,548                     |
| Bihar           | 5,840                     |
| Other states    | 6,556                     |
| Other countries | 315                       |
| <b>Total</b>    | <b>80,140</b>             |

## APPENDIX V

### Department-wise distribution of inpatients (2004–2005)

| <b>S. No.</b> | <b>Departments/Sections</b>          | <b>Numbers</b> |
|---------------|--------------------------------------|----------------|
| 1.            | Anaesthesiology                      | 785            |
| 2.            | Dental Surgery                       | 209            |
| 3.            | Dermatology                          | 3,738          |
| 4.            | Dr B.R. Ambedkar IRCH                | 449            |
| 5.            | Endocrinology                        | 474            |
| 6.            | Gastroenterology                     | 1,868          |
| 7.            | Gastrointestinal surgery             | 701            |
| 8.            | Haematology                          | 5,943          |
| 9.            | Medicine                             | 3,519          |
| 10.           | Neonatal                             | 2,337          |
| 11.           | Nephrology                           | 3,394          |
| 12.           | Nuclear Medicine                     | 476            |
| 13.           | Obstetrics and Gynaecology           | 9,364          |
| 14.           | Orthopaedics                         | 4,207          |
| 15.           | Otorhinolaryngology                  | 4,546          |
| 16.           | Paediatric Surgery                   | 2,210          |
| 17.           | Paediatrics                          | 6,187          |
| 18.           | Physical Medicine and Rehabilitation | 29             |
| 19.           | Psychiatry                           | 377            |
| 20.           | Radiotherapy                         | 188            |
| 21.           | Surgery                              | 6,325          |
| 22.           | Urology                              | 4,909          |
|               | Sub-total (MAIN)                     | 62,235         |
| 23.           | Cardiology                           | 7,790          |
| 24.           | Cardiothoracic and Vascular Surgery  | 3,269          |
| 25.           | Neurology                            | 2,514          |
| 26.           | Neurosurgery                         | 4322           |
| 27.           | Neuro-anaesthesia                    | 10             |
|               | Sub-total (CNC)                      | 17,905         |
|               | <b>GRAND TOTAL</b>                   | <b>80,140</b>  |

## APPENDIX VI

### Surgical procedures

| <b>S. No.</b> | <b>Department</b>                   | <b>Major</b>  | <b>Minor</b>  | <b>Total</b>  |
|---------------|-------------------------------------|---------------|---------------|---------------|
| 1.            | Casualty                            | 5             | 8,106         | 8,111         |
| 2.            | Dental Surgery                      | 1,831         | 8,633         | 10,464        |
| 3.            | Gastrointestinal Surgery            | 466           | 19            | 485           |
| 4.            | Gynaecology                         | 1,756         | 5,156         | 6,912         |
| 5.            | Obstetrics                          | 1,021         | 1,488         | 2,509         |
| 6.            | Orthopaedics                        | 2,439         | 1,559         | 3,998         |
| 7.            | Otorhinolaryngology                 | 1,603         | 21,770        | 23,373        |
| 8.            | Paediatric Surgery                  | 1,308         | 3,088         | 4,396         |
| 9.            | Surgery                             | 3,439         | 10,182        | 13,621        |
| 10.           | Urology                             | 1,636         | 8,269         | 9,905         |
|               | Sub-total (MAIN)                    | 15,504        | 68,270        | 83,774        |
| 11.           | Cardiothoracic and Vascular Surgery | 3,641         | 5             | 3,646         |
| 12.           | Neurosurgery                        | 2,920         | 498           | 3,418         |
|               | Sub-total (CNC)                     | 6,561         | 503           | 7,064         |
|               | <b>GRAND TOTAL</b>                  | <b>22,065</b> | <b>68,773</b> | <b>90,838</b> |

## DIVISION OF EMERGENCY MEDICINE

### Officer-in-charge

S. Bhan

### Additional Professors

Praveen Aggarwal

L.R. Murmu

### Assistant Professors

Kamran Farooque

Amit Gupta

John Ranjan Bera

Sanjay Kumar Verma

Sanjeev Kumar Bhoi

## EDUCATION

### Continuing Medical Education

The faculty of the department participated in and delivered lectures in national and international workshops and conferences during the year. The following conferences/training programmes were organized by the department:

1. Emergency Medicine Update 2004
2. Basic and Advanced Cardiac Life Support Training Programme

## RESEARCH

### Completed

1. Safety and efficacy of intramuscular nimesulide over intramuscular diclofenac sodium: Double-blind randomized controlled trial.
2. Comparative study of the efficacy and safety of diclofenac sodium and butorphanol in acute musculoskeletal pain.

## PUBLICATIONS

### Journals

1. Gupta E, Gupta A, Bhoi S. Revised National Tuberculosis Control Programme and DOTS strategy—mini review. DOTS and KNOTS? Knowing but not observing treatment short course? *Natl J Infect Dis* 2003;**2**:10–16.

### Abstracts

2. Aggarwal P, Dwivedi S, Handa R. Nebulized magnesium sulfate and salbutamol combination compared to salbutamol alone in the treatment of acute bronchial asthma. *Ann Emerg Med* 2004;**44**:S38.
3. Verma S, Bhoi S, Bera J. Comparative study of the efficacy and safety of diclofenac sodium and butorphanol in acute musculoskeletal pain. *Acad Emerg Med* 2005;**12** (Suppl. 1):83–4.

## Books

1. Aggarwal P, Murmu LR, Yadav CS. *Principles and practice of emergency medicine*. New Delhi:BI Publishers; 2005.
2. Bhoi S (ed). *Principles of emergency medicine*. Hyderabad:Paras Medical Publisher; 2005.
3. Mathew KG, Aggarwal P. *Prep manual for undergraduates—Medicine*, 2nd ed. New Delhi:Elsevier; 2004.

## Chapters in Books

1. Aggarwal P. General management of poisoning. In: Bhoi S (ed). *Principles of emergency medicine*. Hyderabad:Paras Medical Publisher; 2005:479–502.
2. Bera J. Guidelines of trauma management. In: Bhoi S (ed). *Principles of emergency medicine*. Hyderabad:Paras Medical Publisher; 2005:166–72.
3. Bera J. Plaster of paris techniques. In: Bhoi S (ed). *Principles of emergency medicine*. Hyderabad:Paras Medical Publisher; 2005:197–201.
4. Bera J. Amputation and debridement. In: Bhoi S (ed). *Principles of emergency medicine*. Hyderabad:Paras Medical Publisher; 2005:202–5.
5. Bera J. Soft tissue injuries. In: Bhoi S (ed). *Principles of emergency medicine*. Hyderabad:Paras Medical Publisher; 2005:206–11.
6. Bera J. Pelvic fracture. In: Bhoi S (ed). *Principles of emergency medicine*. Hyderabad:Paras Medical Publisher; 2005:212–16.
7. Bera J. Compartment syndrome. In: Bhoi S (ed). *Principles of emergency medicine*. Hyderabad:Paras Medical Publisher; 2005:217–19.
8. Chumber S, Agrawala S, Deo SVS, Gupta A. Peritoneum and retroperitoneum. In: Chumber S (ed). *Essentials of surgery*. New Delhi:Jaypee; 2005:994–1003.
9. Chumber S, Agrawala S, Gupta A. Abdominal wall, umbilicus, mesentery and omentum. In: Chumber S (ed). *Essentials of surgery*. New Delhi:Jaypee; 2005:985–93.
10. Farooque K. Prehospital care. In: Bhoi S (ed). *Principles of emergency medicine*. Hyderabad:Paras Medical Publisher; 2005:154–65.
11. Gupta A, Kriplani AK, Chumber S. Minimal access surgery. In: Chumber S (ed). *Essentials of surgery*. New Delhi:Jaypee; 2005:1022–48.
12. Gupta A, Handa G, Chumber S. Amputation, rehabilitation and reimplantation. In: Chumber S (ed). *Essentials of surgery*. New Delhi:Jaypee; 2005:1411–26.
13. Gupta A, Vishwanath VS, Kashyap L, Chumber S. Instruments, sutures and machines. In: Chumber S (ed). *Essentials of surgery*. New Delhi:Jaypee; 2005:1534–60.
14. Gupta A, Shivaraman ST, Kumar S. Initial assessment of a patient with trauma. In: Bhoi S (ed). *Principles of emergency medicine*. Hyderabad:Paras Medical Publisher; 2005:186–96.
15. Gupta E, Gupta A. Essential microbiological principles. In: Bhoi S (ed). *Principles of emergency medicine*. Hyderabad:Paras Medical Publisher; 2005:572–83.

16. Kumar S, Gupta A. Thoracic trauma. In: Bhoi S (ed). *Principles of emergency medicine*. Hyderabad:Paras Medical Publisher; 2005:220–51.
17. Tandon N, Chumber S, Gupta A. Thyroid. In: Chumber S (ed). *Essentials of surgery*. New Delhi:Jaypee; 2005:659–81.
18. Verma S, Gupta V. Basic cardiac life support and advanced cardiac life support. In: Bhoi S (ed). *Principles of emergency medicine*. Hyderabad:Paras Medical Publisher; 2005:7–38.

## HOSPITAL DIETETICS SERVICES

### Chief Dietician

Rekha Sharma

### Dietician

Swapna Chaturvedi

### Assistant Dieticians

R.Vasuki

Gurdeep Kaur

Taruna Bhanti

### EDUCATION

1. Dietetic short-term training for MSc Nutrition students for 6 weeks
2. Dietetic short-term training for PG Diploma Dietetic students for 3 months
3. Dietetic short-term training for BSc Nursing and Post-certificate Nursing students imparting nutrition education through lectures to medical students by the Chief Dietician
4. The Department of Dietetics runs a clinic on nutrition counselling for outdoor patients.

### Continuing Medical Education

#### *Symposiums organized and participated in*

#### **Mrs Rekha Sharma**

- Delivered a talk on 'Sugar: The next fault line of the WTO' during the Regional Congress 2004 of the World Agricultural Forum, St Louis, Missouri, USA; 16–18 May 2004.
- Participated in a workshop on 'Nutrition in the Medical Curriculum', organized by the Nutrition Foundation of India; 28–30 April 2004.
- Participated as an expert in a workshop organized on Nutrition in postmenopausal women by the Department of Science and Technology on the theme 'S & T for women'; 9–10 June 2004.
- Organized the XXXVII National Convention of the Indian Dietetics Association in coordination with the Indian Dietetics Association, Delhi Chapter at JLN Auditorium, AIIMS, New Delhi; 8–9 October 2004.
- Participated in a national seminar on the 'Importance of zinc in human health' organized by the International Life Sciences Institute (India); 25–26 October 2004.
- Participated and delivered a talk on 'Nutritional facts in the management of obesity and diabetes' on World Diabetes Day; 13 November 2004.
- Participated in an exhibition on 'Life Style Management' during the AIIMS Founders Day celebrations held in November 2004.

- Participated in a Health Awareness programme for Honorable Members of Parliament, and counselled Members of Parliament on nutrition during the Health Awareness Week—6–11 December 2004, at Parliament House Annexe, New Delhi.
- Trained WHO fellows from the Department of Physiology and Department of Community Medicine in the field of Nutrition from 4 to 12 January 2005.
- Participated in the ‘Round Table discussion on Health and nutrition information on food labels’ organized by the Confederation of Indian Industry on 15 January 2005
- Participated in an exhibition and workshop organized by the All India Women’s Education Fund Association and delivered a talk on ‘Phytoestrogens for women—a clinical trial’.
- Participated in a symposium organized by the Department of Science and Technology, Lady Irwin College, New Delhi.
- Participated and organized a diabetic diet display of 7 packed lunches and 7 evening snacks in the Diabetic Mela, coordinated by the Diabetic Self-care Foundation of India on 6 March 2005. Ms Taruna Bhanti was awarded the first prize for the diet display.

## **RESEARCH**

### **Ongoing**

1. Efficacy of soy phytoestrogens on osteoporosis and cardiovascular profile of postmenopausal women. Clinical trial. Rekha Sharma. Funded by DBT for 3 years (2003–2006). Funds: Rs 14 lakh

## **PUBLICATIONS**

### **Journals**

1. Misra A, Vikram NK, Arya S, Pandey RM, Dhingra V, Chatterjee A, *et al.* High prevalence of insulin resistance in postpubertal Asian Indian children is associated with adverse truncal body fat patterning, abdominal adiposity and excess body fat. *Int J Obes Relat Metab Disord* 2004;**28**:1217–26.

### **Abstracts and Conference Proceedings**

2. Chaturvedi S. Micronutrient deficiencies in Indian women—a review. Abstract submitted for IDA President Posters Award. In: *Scientific proceedings of the 37th Annual National Convention of Indian Dietetic Association*. New Delhi:Indian Dietetic Association; 2004:108.
3. Sharma R. Asian Indian diets, insulin resistance and diabetes. In: *Scientific proceedings of the 37th Annual National Convention of Indian Dietetic Association*. New Delhi:Indian Dietetic Association; 2004:31.
4. Shetty GK. Diet in dialysis. Diet counselling in renal patients. In: *Scientific proceedings of the 37th Annual National Convention of Indian Dietetic Association*. New Delhi:Indian Dietetic Association; 2004:81.

### **Book**

1. Sharma R, Kaur P. Nutritional considerations in geriatric care. In: Sharma OP (ed). *Textbook of geriatrics and gerontology*. New Delhi:ANB Publishers; 2004.

## **PATIENT CARE**

### **Indoor Patients' Diets**

|  |          |
|--|----------|
| Total number of diets  | 5,73,852 |
| Normal diets   | 2,80,812 |
| Semisolid  | 34,789   |
| Therapeutic diets<br>(Diabetes, Renal, GI disorders,<br>Surgical and others) | 1,79,743 |
| Enteral feeds<br>(Normal + Therapeutic)                                      | 36,869   |
| Private ward diets   | 41,612   |

### **OPD Nutrition Clinic**

|              |       |
|--------------|-------|
| New patients | 5,196 |
| Old patients | 1,046 |

## **BLOOD BANK**

### **PATIENT CARE**

#### **Blood collection in donor room**

|                                     |               |
|-------------------------------------|---------------|
| Total relative donors               | 19,020        |
| Total voluntary donors              | 9,016         |
| From donation camps                 | 7,551         |
| From AIIMS Blood Bank               | 1,404         |
| From Mobile Donation                | 61            |
| Collected from CNC                  | 390           |
| IRCH                                | 426           |
| Others                              | 835           |
| <b>Total collection</b>             | <b>29,687</b> |
| Camps organized by AIIMS Blood Bank | 104           |

#### **Routine Laboratory**

|   |        |
|---|--------|
| Total patients                            | 39,296 |
| Total ABO grouping                        | 94,427 |
| Total Rh                                  | 94,427 |
| Total OPD grouping and Rh                 | 4,243  |
| Total cross-match (Emergency and Routine) | 50,176 |
| Total donor grouping                      | 59,374 |
| Total ICT                                 | 861    |
| ICT positive                              | 133    |
| Total titre                               | 99     |
| Total A/B                                 | 35,053 |
| Total DCT                                 | 306    |
| DCT positive                              | 25     |

|  |                 |
|--|-----------------|
| Total blood issued (units)                         | 29,185          |
| Total received back (unit)                         | 633             |
| Total small units                                  | 679             |
| Total blood discarded (units)                      | 408             |
| Blood issued but not transfuse                     | Nil             |
| Total blood issued to private wards (units)        | 828             |
| Total components issued to private wards           | 864             |
| Total blood issued to outside hospital (units)     | 516             |
| Total component issued to outside hospital (units) | 623             |
| Total cross-match but not transfused               | 10,012          |
| Blood issued to IRCH                               | 2,715           |
| IRCS   | 02              |
| CNC  | 139             |
| <b>Total</b>                                       | <b>3,56,967</b> |

### **Special Procedure Laboratory**

|                            |             |
|----------------------------|-------------|
| Minor grouping             | 1700        |
| Platelet antibody          | 84          |
| Reagent cell thawing       | 720         |
| Cell freezing              | 4029        |
| DAT                        | 35          |
| Cross-matching discrepancy | 53          |
| Group discrepancy          | 16          |
| AB screening               | 10          |
| Blood thawing              | 3           |
| Blood freezing             | —           |
| <b>Total</b>               | <b>6650</b> |

**Quality control** 5044

### **Special Procedure Laboratory**

|                                  |               |
|----------------------------------|---------------|
| Platelet-rich concentrate        | 19,899        |
| Fresh-frozen plasma              | 13,749        |
| Liquid plasma                    | 12,757        |
| Cryoprecipitate                  | 770           |
| Red blood cells                  | 26,506        |
| Platelet pheresis                | 42            |
| <b>Total components prepared</b> | <b>73,723</b> |

|                           |     |
|---------------------------|-----|
| Platelet pheresis in IRCH | 462 |
| Stem cell (IRCH)          | 74  |

## **Infection Laboratory**

|               |                 |
|---------------|-----------------|
| HIV test      | 45,143          |
| HBV test      | 34,992          |
| Anti-HBc test | 34,562          |
| Anti-HBs test | 2,880           |
| HCV test      | 35,416          |
| VDRL          | 31,091          |
| <b>Total</b>  | <b>1,81,204</b> |

## **Other activities**

1. The Department of Transfusion Medicine organized innovative programmes involving doctors, technical staff and the general public for motivation of voluntary blood donation. These programmes included short plays, motivational songs, poetry and debate. The staff of the department actively participated for the cause of blood donation.
2. Motivational programmes of the Department of Transfusion Medicine were telecast on national and international channels of Doordarshan.
3. Dr Kabita Chatterjee is the co-author of the WHO-sponsored technical manual *Transfusion Medicine*.
4. Training programme started for DM (Haematology).
5. Gel card system started for cross-matching.
6. For HIV screening, P-24 antigen detection has been started.
7. Dr Poonam Coshic along with the nursing staff performed around 100 life-saving SDP procedures during the dengue outbreak in October 2003.
8. The proposal for leucodepleted red cells has been introduced for multiple-transfusion cases.
9. Dr Kabita Chatterjee has become a member of the State Blood Transfusion Council.
10. The Department of Transfusion Medicine has been co-opted as a quality control centre by WHO.

## 7. College of Nursing

### Principal

M. Vatsa

### Lecturers

M. Agarwal

A. Qureshi

S. Gupta

K.S. Bairwa (on leave)

R. Andrews

### Senior Nursing Tutor

G. Razdan

### Nursing Tutors

M. Goswami

Kiran Singh Simak

M. Sharma

Gayatri Batra

H.C. Rawat

Poonam Joshi (Joined w.e.f.  
October 2004)

Sucheta (Joined w.e.f.  
October 2004)

## EDUCATION

### Undergraduate

Forty-six students graduated from the four-year BSc (Hons) Nursing course, while 18 students graduated from the two-year BSc Nursing (Post-certificate) course.

### Postgraduate

MSc Nursing programme was launched during the year, w.e.f. August 2004, in the following seven specialties: Paediatric Nursing; Psychiatric Nursing; Cardiology Nursing; Neurosciences Nursing; Oncology Nursing; Critical Care Nursing; Nephrology. Fifteen students have joined the programme (14 Indian and 1 Nepali).

### Continuing Nursing Education (CNE)

The College of Nursing organized the following short courses/symposiums/workshops.

- Two training courses for nursing personnel of AB5 ward from 5.7.2004 to 11.7.2004 and 12.7.2004 to 18.7.2004 for implementing Quality Assurance Model in nursing in AB5 ward of AIIMS.
- Workshop on 'Quality Assurance in Nursing' sponsored by the Ministry of Health, Government of India from 14 to 23 February 2005.
- Workshop on 'Training of trainers on counselling for HIV/AIDS' from 21 to 23 March 2005 for 10 senior nursing personnel from AIIMS as a part of 'Pilot delivery of model HIV Prevention and Health Promotion Programme in India by nurses'.

- Three months' Specialty Nursing Training course in Oncology from 1.3.2005; it was sponsored by WHO. Nine nursing personnel, representing eight states of India, attended the course.
- Three-month 'Clinical Training Programme' for eight nursing personnel from the Indira Gandhi Institute of Child Health (IGICH), Kabul, Afghanistan from 2.3.2005 to 31.5.2005.

The college also conducted briefing sessions for four groups of visitors from abroad and ten groups of visitors from other states of India.

## RESEARCH

### Ongoing

1. Collaboration model in Implementing Quality Assurance Programme in AIIMS—AB5 ward. Funded by WHO. Manju Vatsa.
2. Pilot delivery of model HIV Prevention and Health Promotion Programme in India by nurses. Subproject of ICOHRTA for AIDS/TB, UCLA. Manju Vatsa, AIIMS and Adey Nyamathi, School of Nursing, UCLA, USA.

## CLINICAL AND COMMUNITY SERVICES

The faculty and students participated in outdoor and indoor patient-care activities of all departments of the Institute. They organized and conducted:

- Pulse Polio Programmes in 45 centres of south Delhi organized by the Government of the NCT of Delhi in April, November, December 2004, and January and March 2005.
- Fifty health education sessions in rural areas and 100 in urban slums, and OPDs on various health issues.
- Street plays (10) and exhibitions on various health-related topics in urban slums.
- Health talks and exhibition on AIDS on the occasion of the international AIDS Day (1 December 2004) in the urban community.

## PUBLICATION

1. Vatsa M. *State of India's newborns*. A report by NNF and Save the Children/US, Ministry of Health and Family Welfare. New Delhi: National Neonatology Forum; 2004.

## AWARDS AND HONOURS

**Dr Manju Vatsa** is continuing as a member of the Faculty of Nursing at the Baba Farid University of Health Sciences, Faridkot, Punjab; Executive Board Member of the National Neonatology Forum; Member of the Indian Nursing Council and its Executive, Education and Equivalence Committee; and Chairperson for the revision of BSc Nursing curriculum for the Indian Nursing Council. She also participated as a core group member for 'Development of PhD Consortium in India' organized by the Indian Nursing Council. Dr Vatsa attended two workshops on 'Essential newborn care' as a facilitator at BIRDEM Hospital, Dhaka, Bangladesh.

**Dr M. Vatsa and Ms S. Gupta** are members of the Review Committee for scientific articles for the *Journal of Midwifery and Nursing* from 1998 till date. They participated as experts in a Workshop on

‘Development, implementation and evaluation of Quality Assurance Model for nursing practice’ organized by the Indian Nursing Council; in a two-day training programme for trainers for psychosocial counselling of tsunami survivors in Chennai organized by the Indian Nursing Council in January 2005; and in the process of revision of curriculum of BSc Nursing course for the Indian Nursing Council.

**Dr M. Vatsa and the faculty** participated as Resource Persons/Committee Members in various committees of AIIMS; Indian Nursing Council: Education Committee, Equivalence Committee, Executive Committee, General Body; Baba Farid University of Health Sciences: Faculty of Nursing; Ministry of Health and Family Welfare, Government of India; Manipal Academy of Higher Education: Member, Academic Senate; RAK College of Nursing, University of Delhi; Institute of Human Behaviour and Allied Sciences; AIIMS-CMET adjunct faculty; National Medical Library: Book Selection Committee; IGNOU, School of Health Sciences: Selection Committee, Core/expert group members; Trained Nurses’ Association of India; NEIGRIHMS, Shillong: Selection Committee; Dharamshila Cancer Hospital; DAV Management Committee: Selection Committee; Batra Hospital and Research Centre; National Institute of Nursing Education, PGI, Chandigarh: Selection Committee; Guru Gobind Singh Indraprastha University: Institutional Assessment Committee; Indian Academy of Hospital Administration; BPKIHS, Dharan, Nepal: Selection Committee. The faculty members attended 10 workshops/conferences held in India.

## 8. Research Section

As per the mandate given to the All India Institute of Medical Sciences, 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 amounting to nearly Rs 34 crore. At present, 377 extramurally funded projects are being conducted in the Institute.

This section deals with the administration of all the extramural research conducted at the AIIMS. The Research Committee constituted by the Director is as follows:

- |     |   |                  |
|-----|---|------------------|
| 1.  | Professor H.K. Tewari<br>Dean (Academic) (till July 2004)   | Chairperson      |
|     | Professor Kusum Verma<br>Dean (Academic) (from August 2004)                                       | Chairperson      |
| 2.  | Professor P.P. Kotwal<br>Department of Orthopaedics and<br>Professor-in-Charge (Research Section) | Vice-Chairperson |
| 3.  | Dr Nikhil Tandon<br>Sub-Dean (Academic)   | Member           |
| 4.  | Dr K.K. Deepak<br>Sub-Dean (Examination Section)  | Member           |
| 5.  | Deputy Director (Administration)  | Member           |
| 6.  | Professor D.K. Pawar<br>Department of Anaesthesiology (till November 2004)                        | Member           |
| 7.  | Professor R. Guleria<br>Department of Medicine  | Member           |
| 8.  | Professor G.K. Rath<br>Head, Department of Radiotherapy   | Member           |
| 9.  | Professor K.R. Sundaram<br>Head, Department of Biostatistics                                      | Member           |
| 10. | Professor J.C. Samantaray<br>Department of Microbiology (till November 2004)                      | Member           |
| 11. | Professor Shobha Broor<br>Department of Microbiology  | Member           |

|     |  |        |
|-----|--|--------|
| 12. | Professor Chitra Sarkar<br>Department of Pathology   | Member |
| 13. | Professor Subrata Sinha<br>Head, Department of Biochemistry  | Member |
| 14. | Professor N.R. Jagannathan<br>Head, Department of Nuclear Magnetic Resonance                                 | Member |
| 15. | Professor K.S. Reddy<br>Head, Department of Cardiology   | Member |
| 16. | Professor A. Malhotra<br>Head, Department of Nuclear Medicine  | Member |
| 17. | Professor Veena Kalra<br>Head, Department of Paediatrics (till November 2004)                                | Member |
| 18. | Professor N.K. Arora<br>Department of Paediatrics  | Member |
| 19. | Dr Atul Kumar<br>Professor, Dr R.P. Centre for Ophthalmic Sciences<br>(till November 2004)                   | Member |
| 20. | Dr J.S. Titiyal<br>Additional Professor, Dr R.P. Centre for Ophthalmic Sciences<br>(till November 2004)      | Member |
| 21. | Dr R.B. Vajpayee<br>Professor, Dr R.P. Centre for Ophthalmic Sciences  | Member |
| 22. | A Representative of the Indian Council of Medical Research<br>(ICMR) nominated by the Director General, ICMR | Member |
| 23. | Shri V.P. Gupta<br>Registrar   | Member |
| 24. | Financial Adviser  | Member |
| 25. | Shri S.P. Mahla<br>Finance and Chief Accounts Officer (Research Section)                                     | Member |
| 26. | Ms Nirmala Gupta<br>Assistant Administrative Officer (Research Section)                                      | Member |
| 27. | A Representative of the Society of Young Scientists  | Member |

## Ongoing projects funded by Indian agencies

| Investigator                      | Project  | Funding agency                        | Funds (Rs) |
|-----------------------------------|--|---------------------------------------|------------|
| <b>Anatomy</b>                    |  |                                       |            |
| Kiran Kucheria                    | Genomics of male infertility   | ICMR                                  | 4,83,242   |
| S.B. Ray                          | Effect of alterations in intracellular calcium concentration on ORL1 (opioid receptor like 1) opioid receptors in the rat central nervous system during morphine tolerance     | ICMR                                  | 2,42,450   |
| Shashi Wadhwa                     | Regional electron microscope facility  | DST                                   | 14,10,684  |
| Shashi Wadhwa                     | Effect of prenatal auditory stimulation on chick hippocampus   | DBT                                   | 4,96,040   |
| <b>Biochemistry</b>               |  |                                       |            |
| D.N. Rao                          | T cell signalling pathways using <i>M. leprae</i> -derived antigens in leprosy patients  | ICMR                                  | 4,24,250   |
| D.N. Rao                          | Developing epitope immunogen using different stages of <i>P. vivax</i> using in-built immunoadjuvant and delivery in microspheres  | ICMR                                  | 6,36,950   |
| D.N. Rao                          | Technological feasibility and immunological potential of multivalent single-injection microsphere vaccine incorporating diphtheria, pertussis, tetanus and hepatitis B antigen | DBT                                   | 13,16,000  |
| D.N. Rao                          | Establishment of baseline parameters of semen quality in fertile and infertile Indian men  | Ministry of Health and Family Welfare | 1,41,411   |
| D.N. Rao                          | To assess the correlation between sperm maturation and epididymal function in men with obstructive infertility after vasoepididymostomy (VEA)                                  | Ministry of Health and Family Welfare | 2,64,620   |
| D.N. Rao                          | T cell signaling pathways using <i>M. leprae</i> -derived antigens in leprosy patients   | DBT                                   | 1,63,387   |
| D.N. Rao                          | Stability studies of the proposed EGF cream on a trial batch manufactured by Glenmark Laboratories, Mumbai   | Glenmark Laboratories                 | 6,576      |
| Jyotsna Verma/<br>Nibhriti Das    | Role of cytokines, anti-dsDNA antibodies and complement regulatory proteins in systemic lupus erythematosus  | DST                                   | 1,47,130   |
| Kalpana Luthra                    | Frequency distribution of three HIV-I resistance conferring polymorphisms, SDF 3 alpha, CCR-2-641, and CCR-5 delta 32, in Asian Indians  | DST                                   | 5,42,373   |
| Kunzang Chosdol/<br>Subrata Sinha | Characterization of novel genetic alterations preferentially involved in low grade human astrocytic tumours  | DST                                   | 1,51,584   |
| M.R. Rajeswari                    | Studies on expression of <i>HMGA</i> and their interaction with DNA  | DST                                   | 5,52,752   |
| N.C. Chandra                      | A study of the temporal expression of the angiogenic modulators during pregnancy and their regulation by steroid hormones  | ICMR                                  | -24,497    |
| N.C. Chandra                      | Trophoblast biology: Intracellular signalling mechanism  | ICMR                                  | 2,98,118   |
| N.C. Chandra                      | Studies on the possible development of hyperlipomia by oral contraceptives: An <i>in vitro</i> model   | Ministry of Health and Family Welfare | 2,32,283   |

| Investigator                 | Project   | Funding agency                        | Funds (Rs) |
|------------------------------|---|---------------------------------------|------------|
| Neeru Khanna/<br>Neeta Singh | Elucidation of apoptosis signalling by S29 ribosomal protein  | DST                                   | 27,661     |
| Neeta Singh                  | Functional analysis of S29 ribosomal protein in apoptosis   | DST                                   | 5,08,807   |
| Neeta Singh                  | A study of the expression and targeting of inhibitors of apoptosis <i>in vitro</i> and <i>in vivo</i>   | ICMR                                  | 3,11,586   |
| Neeta Singh                  | Identification of differentially expressed genes in lung cancer using cDNA library subtraction  | DBT                                   | 6,82,586   |
| Neeta Singh                  | Gene expression profiling in practitioners of <i>sudarshan kriya</i>  | Ministry of Health and Family Welfare | 6,04,813   |
| Neeta Singh                  | Multicentre phase III randomized trial comparing doxorubicin and cyclophosphamide followed by docetaxel (ACT) with docetaxel, carboplatin and trastuzumab (TCH) in the adjuvant treatment of node-positive and high risk node-negative patients with operable breast cancer | Aventis Pharma                        | 1,25,860   |
| Nibhriti Das                 | Elucidation of the molecular mechanism of hypertension: Role of genetic variants of nitric oxide synthase, free radical homeostasis and cell adhesion molecules and their interplay in disease  | ICMR                                  | 8,29,077   |
| Ranju Ralhan                 | Screening of potential anticancer agents against oral cancer using nude mice  | CSIR                                  | Nil        |
| Ranju Ralhan                 | Relationship between genetic polymorphism in drug metabolizing enzymes, Cyp1a1 and Gstm1, and risk of developing oral precancer and cancer among consumers of tobacco and chewing products  | ICMR                                  | 17,71,723  |
| Ranju Ralhan                 | Role of genomic instability due to alterations of recombination factors p53 and Brca1 in the pathogenesis of breast cancer  | ICMR                                  | 6,87,545   |
| Ranju Ralhan                 | Gene expression profile analysis of human oesophageal cancer using cDNA microarrays   | ICMR                                  | 19,43,171  |
| Ranju Ralhan                 | Multicentric national programme on evaluation and validation of molecular markers in oral cancer  | DBT                                   | 1,04,628   |
| S.S. Chauhan                 | Regulation of human cathepsin L expression by 5' untranslated regions of its RNA species  | DST                                   | 6,60,478   |
| Subrata Sinha                | Expression of recombinant antibody in <i>E. coli</i> : Processes for improving binding characteristics of antibodies to hepatitis B surface antigen (HBsAg)   | DBT                                   | 10,48,371  |
| <b>Biophysics</b>            |   |                                       |            |
| A. Srinivasan                | Determination of amino acid sequences and three dimensional structure of phospholipase A2 from Indian red and black scorpions   | DST                                   | 8,56,471   |
| T.P. Singh                   | Improvement of S and T Infrastructure in Universities and Higher Education Institutions (FIST)  | DST                                   | 3,44,409   |

| Investigator                                | Project   | Funding agency                        | Funds (Rs) |
|---|---|---------------------------------------|------------|
| <b>Biotechnology</b>                        |   |                                       |            |
| H.K. Prasad                                 | Molecular basis of dysregulation of interferon generation and function in tuberculosis patients   | ICMR                                  | 7,53,143   |
| J.S. Tyagi                                  | Real-time PCR facility for infectious diseases  | DBT                                   | 22,39,679  |
| Satya N. Das                                | Evaluation of antiproliferative, apoptotic and immunomodulatory activity of some Indian systems and homeopathic anticancer drugs  | Ministry of Health and Family Welfare | 3,24,554   |
| Y.D. Sharma                                 | Establishment of user centre at AIIMS, New Delhi under BTIS: A national infrastructural facility  | DBT                                   | 12,21,822  |
| Y.D. Sharma                                 | Stage-specific gene expression in <i>vivax</i> -related malaria parasite <i>Plasmodium cynomolgi</i>  | DBT                                   | Nil        |
| <b>Centre for Community Medicine</b>        |   |                                       |            |
| Bir Singh                                   | National Service Scheme (NSS)   | Directorate of Education              | 17,309     |
| <b>Dermatology and Venereology</b>          |   |                                       |            |
| K.K.Verma                                   | Azathioprine versus corticosteroids for controlled clinical trial on <i>Parthenium</i> -induced contact dermatitis  | ICMR                                  | 3,60,760   |
| Neena Khanna                                | Evaluation of algorithms proposed by NACO for syndromic management of urethral and vaginal discharge in a tertiary care centre in northern India                              | ICMR                                  | 4,19,415   |
| Neena Khanna                                | Evaluation of ovarian function in female patients with multibacillary leprosy   | ICMR                                  | 9,94,606   |
| Neena Khanna                                | Role of <i>Parthenium hysterophorus</i> in pathogenesis and exacerbations of atopic dermatitis  | DBT                                   | 4,45,067   |
| <b>Dietetics</b>                            |   |                                       |            |
| Rekha Sharma                                | Efficacy of soy phytoestrogens on osteoporosis and cardiovascular profile of postmenopausal women   | DBT                                   | 4,48,257   |
| <b>Endocrinology and Metabolism</b>         |   |                                       |            |
| A.C. Ammini                                 | Extended multicentric trial of Vijaysar ( <i>Pterocarpus marsupium</i> ) in the management of type-2 diabetes mellitus  | ICMR                                  | 2,00,966   |
| A.C. Ammini                                 | Assessment of the prevalence of osteoporosis in adult population of India   | ICMR                                  | 17,42,041  |
| A.C. Ammini                                 | Postmenopausal evaluation and risk-reduction with lasofoxifene (Pearl)  | Pfizer                                | 24,60,882  |
| Nikhil Tandon                               | Hyperglycaemia and its effect after acute myocardial infarction on cardiovascular outcomes in patients with type 2 diabetes (HEART2D)   | Ranbaxy/Eli Lilly                     | 2,21,432   |
| <b>Gastroenterology and Human Nutrition</b> |   |                                       |            |
| Pramod Garg                                 | Role of genetic factors in tropical pancreatitis  | ICMR                                  | 5,54,919   |
| S.K. Acharya                                | Multicentric study of interferon-glycyrrhizin combination therapy and interferon-ribavirin combination therapy in the management of chronic hepatitis C (Coordinating centre) | ICMR                                  | 96,170     |

| Investigator               | Project   | Funding agency                        | Funds (Rs) |
|----------------------------|---|---------------------------------------|------------|
| S.K. Acharya               | Multicentric study of interferon–glycyrrhizin combination therapy and interferon–ribavirin combination therapy in the management of chronic hepatitis C (Study centre)  | ICMR                                  | 4,07,541   |
| S.K. Acharya               | Sequential therapy of lamivudine and interferon alpha-2b in patients with chronic hepatitis B   | Fulford (India)                       | 49,262     |
| Umesh Kapil                | Assessment of nutritional factors in breast cancer: A case–control study  | ICMR                                  | 2,27,889   |
| Vineet Ahuja               | Molecular epidemiology of <i>Helicobacter pylori</i> : Its implications in failure of eradication, recurrence of infection after successful eradication and route of re-infection in patients of peptic ulcer disease                   | DST                                   | 1,30,875   |
| Vineet Ahuja               | Comparison of the diagnostic efficacy of immunohistochemistry with histology (Warthin Starry stain) and urea-based tests (rapid urea test, C-14 urea) before and after eradication therapy for <i>H. pylori</i> in peptic ulcer disease | ICMR                                  | 2,21,691   |
| Vineet Ahuja               | Phase III clinical trial of UL 409 for <i>H. pylori</i> eradication in non-ulcer dyspepsia  | Himalaya Drug Company                 | 50,732     |
| Vineet Ahuja               | Open, randomized clinical trial comparing herbal compound amlant with ranitidine in non-ulcer dyspepsia patients  | Maharishi Ayurveda                    | 98,087     |
| Vineet Ahuja               | Prevalence, aetiological factors and treatment of malnutrition by dietary intervention in patients with chronic pancreatitis  | Alkem Laboratories                    | 58,091     |
| Y.K. Joshi                 | Clinical research unit for diseases of the liver  | Ministry of Health and Family Welfare | 4,15,831   |
| Y.K. Joshi                 | Prevalence, aetiological factors and treatment of malnutrition by dietary intervention in patients with chronic pancreatitis  | ICMR                                  | 18,419     |
| Y.K.Joshi                  | Effects of glutamine supplementation on clinical outcome and nutritional status in patients with acute myeloid leukaemia (AML)  | ICMR                                  | 5,35,227   |
| Y.K.Joshi                  | Effect of feeding mustard oil on biochemical parameters and health profile of normal healthy individuals  | Mustard Research and Promotion Centre | 1,25,661   |
| <b>Haematology</b>         |   |                                       |            |
| Renu Saxena                | Organization of proficiency testing programme   | DST                                   | 2,45,311   |
| Renu Saxena                | A study to characterize von Willebrand disease and its correlation with molecular defects   | DST                                   | 5,64,271   |
| V.P. Choudhry              | Thalassaemia awareness and screening programme for detection of thalassaemia trait  | National Thalassaemia Welfare Society | 3,93,111   |
| V.P. Choudhry              | Combination of interferon alpha-2b and cytarabine in the treatment of chronic myeloid leukaemia   | Fulford (India)                       | 2,30,848   |
| <b>Laboratory Medicine</b> |   |                                       |            |
| B.L. Jaikhani              | Reactivity of muscle nicotinic acetylcholine receptors and non-receptor antigens from different animals with myasthenic antibodies  | ICMR                                  | 4,10,740   |

| Investigator        | Project   | Funding agency                     | Funds (Rs) |
|---------------------|---|------------------------------------|------------|
| B.L. Jailkhani      | Development of Vi-conjugate vaccine for the prevention of typhoid fever   | DBT                                | 2,77,438   |
| Sarman Singh        | Baseline database collection of documentation of good manufacturing and supply practices adopted by the manufacturers of Torch ELISA kits and quality control assessment at the user level of these kits        | DST                                | 2,50,155   |
| Sarman Singh        | Expression, purification and characterization of recombinant kinesin-like protein of VL and PKDL causing Indian strains of <i>Leishmania donovani</i> and developing ELISA and other rapid test methods         | DBT                                | 5,66,850   |
| Sarman Singh        | Screening of marine product for <i>in vitro</i> anti-mycobacterial activity   | National Institute of Oceanography | 5,00,950   |
| <b>Medicine</b>     |   |                                    |            |
| A.B. Dey            | Impact of multidisciplinary intervention on health-related quality of life (QOL) in ambulatory older subjects   | ICMR                               | 2,88,124   |
| A.B. Dey            | Assessment of bone health in older Indian women   | Helpage India                      | 72,941     |
| Anoop Misra         | Double-blind, randomized, placebo-controlled clinical trial of herbal compound MA-471 on metabolic profile in diabetic patients   | Maharishi Ayurveda                 | 1,62,371   |
| Anoop Misra         | Randomized placebo-controlled trial for herbal formulation Amree Plus in patients with type 2 diabetes mellitus   | Aimil Pharmaceuticals              | 2,11,227   |
| Naval K.Vikram      | To investigate the relationship between growth hormone insulin-like growth factor axis and hypothalamo-pituitary-adrenal axis, body composition and insulin sensitivity   | DST                                | 2,75,000   |
| Randeep Guleria     | Assessment of the efficacy of hydroxychloroquine as an alternative to corticosteroids in the treatment of sarcoidosis   | DST                                | 4,90,388   |
| Randeep Guleria     | Spectrum of pulmonary infection in HIV-positive patients: Indian scenario   | National AIDS Control Organization | 15,79,701  |
| Randeep Guleria     | Design and development of personal use respiratory device for patients with respiratory failure   | Ministry of Information Technology | 13,63,820  |
| Rohini Handa        | Herbal-based preparations for degenerative disorders: Osteoarthritis (OA) and rheumatoid arthritis (RA)   | CSIR                               | 10,49,188  |
| S.K. Sharma         | A multicentre, double-blind, comparative, randomized study to evaluate the efficacy and safety and micafungin (FK 463) versus liposomal amphotericin B in the treatment of invasive candidiasis and candidaemia | Quintiles Spectral India           | 3,78,818   |
| S.K. Sharma         | Genomic and molecular studies on the immunopathogenesis of bronchial asthma   | DBT                                | 9,55,000   |
| <b>Microbiology</b> |   |                                    |            |
| Arti Kapil          | Study of Gyra mutations in <i>Salmonella typhi</i>  | DST                                | 3,61,858   |
| Arti Kapil          | Typing of extended spectrum beta-lactamases (ESBLs) produced by <i>Klebsiella pneumoniae</i> isolated from AIIMS hospital   | ICMR                               | 2,99,471   |

| Investigator   | Project  | Funding agency                               | Funds (Rs) |
|----------------|--|--|------------|
| Arti Kapil     | Rapid diagnosis of typhoid fever using latex agglutination test  | Ministry of Defence (DRDO)                   | 1,30,676   |
| Benu Dhawan    | Role of <i>Ureaplasma urealyticum</i> in prematurity and diseases in newborn   | DST  | 6,52,474   |
| Benu Dhawan    | Aerobic and anaerobic bacteriological profile of diabetic foot ulcers with special reference to methicillin-resistant <i>Staphylococcus aureus</i>           | ICMR   | 2,48,695   |
| Lalit Dar      | Congenital CMV infection in offspring of immune mothers  | ICMR   | 21,51,548  |
| Madhu Vajpayee | Health programme: Central plan scheme of national HIV/AIDS reference centre  | Ministry of Health and Family Welfare (NACO) | -29,369    |
| Madhu Vajpayee | External quality assessment programme  | National AIDS Control Organization           | 2,87,458   |
| Pradeep Seth   | <i>Env/gag/pol</i> genes expression and immune responses in animals  | DBT  | 2,02,368   |
| Pradeep Seth   | Preclinical testing in <i>Rhesus macaques</i> of an HIV-1 DNA vaccine expressing the envelope of an Indian clade C virus                                     | DBT  | 6,91,211   |
| Pradeep Seth   | Immunogenicity testing in <i>Macaca radiata</i> of HIV-1 DNA vaccine expressing the envelope and capsid antigens of Indian clade C virus                     | DBT  | 5,40,132   |
| Pradeep Seth   | Evaluation of virus specific immune response in HIV-1 subtype C infected individuals in north India  | DBT  | 7,60,718   |
| Pradeep Seth   | External quality assessment programme for HIV testing  | DBT  | Nil        |
| Pradeep Seth   | Production of GLP/GM grade vaccinogens, generation of preclinical data and human clinical trial (Phase I) with HIV-1 subtype                                 | DBT  | 4,93,357   |
| Pradeep Seth   | Screening of western Himalayan plants for anti-HIV (human immunodeficiency virus) activity   | Ministry of Health and Family Welfare        | 5,00,000   |
| Rama Chaudhary | <i>Clostridium difficile</i> : An emerging nosocomial pathogen with special reference to epidemiological typing  | ICMR   | 14,427     |
| Rama Chaudhary | Development of multiplex PCR for detection of <i>Clostridium perfringens</i> and <i>Clostridium botulinum</i> in food samples                                | ICMR   | 3,73,683   |
| Rama Chaudhary | Development of molecular techniques for the rapid diagnosis of leptospirosis   | DBT  | 26,771     |
| Shobha Broor   | A multicentric study on surveillance and molecular characterization of human viruses (HUCVs) from cases of acute gastroenteritis                             | ICMR   | 13,15,108  |
| Shobha Broor   | Genetic variability among 'g' protein of Indian RSV (respiratory syncytial virus) strains from India and studies of antibody responses to these 'g' proteins | DBT  | 12,24,795  |
| Shobha Broor   | Validation of PCR-based assays/kits at different centres for detection of food-borne pathogens   | DBT  | 3,57,147   |
| Shobha Broor   | Research programme on SAARC virus detection systems, research on biology and mechanism of pathogenesis (development of PCR test for SAARC virus)             | DBT  | 25,79,000  |

| Investigator                      | Project   | Funding agency                                      | Funds (Rs) |
|-----------------------------------|---|---|------------|
| <b>Nephrology</b>                 |   |   |            |
| S.K. Agarwal                      | Impact of isolation of hepatitis C-positive patients on incidence of HCV-positivity in haemodialysis patients                                       | ICMR  | 3,97,509   |
| <b>Nuclear Magnetic Resonance</b> |   |   |            |
| N.R. Jagannathan                  | Evaluation of the role of proton MR spectroscopy in non-invasive detection, assessment of treatment response and tumour metabolism in breast cancer | DST   | 4,57,172   |
| <b>Nuclear Medicine</b>           |   |   |            |
| G.S. Pant                         | Radiation dose to relations, attendants of patients treated with I-131 for hyperthyroidism or carcinoma thyroid                                     | Atomic Energy Regulatory Board                      | 2,50,841   |
| G.S. Pant                         | Radiation-induced chromosome aberrations and their use in biodosimetry  | Atomic Energy Regulatory Board                      | 5,42,089   |
| <b>Obstetrics and Gynaecology</b> |   |   |            |
| Suneeta Mittal                    | Human reproduction research centre  | ICMR  | 17,15,000  |
| Suneeta Mittal                    | Clinical trial with <i>pippalyadi</i> yoga  | Central Council for Research in Ayurveda and Siddha | 10,45,521  |
| Suneeta Mittal                    | Screening for reproductive tract infection including bacterial vaginosis and pregnancy outcome  | Ministry of Health and Family Welfare               | 1,07,208   |
| Suneeta Mittal                    | Case management of reproductive tract infections in India: An analysis of clinical protocol and cost at primary care clinics in New Delhi           | The Population Council                              | 17,16,858  |
| Suneeta Mittal                    | Prevention of mother-to-child transmission of HIV in Delhi  | Delhi State AIDS Control Society                    | 31,970     |
| Alka Kriplani                     | Open-label, non-comparative clinical survey of centchroman in DUB   | Hindustan Latex, Family Planning Promotion          | 89,145     |
| Alka Kriplani                     | Efficacy and safety of administration of Evanova capsules in the management of menopausal symptoms  | Charak Pharma                                       | 2,95,133   |
| Neerja Bhatla                     | A comparative study of VIA cytodiagnosis, HPV testing and colposcopy as tools for cancer screening  | DBT   | 10,41,720  |
| <b>Orthopaedics</b>               |   |   |            |
| Kanchan Mittal                    | Determination of the therapeutic range of temperature for heat therapy for Indian patients: A preliminary study                                     | ICMR  | 2,13,257   |
| Rajesh Malhotra                   | Comparison of recovery and complications and recurrence rate after endoscopic versus open carpal tunnel release                                     | ICMR  | 4,34,830   |
| S. Rastogi                        | Effect of osteocare (a herbal preparation) on the bone density and metabolism in post-menopausal women  | Himalaya Drug Company                               | 88,608     |
| <b>Otorhinolaryngology (ENT)</b>  |   |   |            |
| R.C. Deka                         | Role of intratympanic dexamethasone therapy in sudden sensorineural hearing loss  | ICMR  | 1,53,069   |
| R.C. Deka                         | Amphotericin B nasal lavage and corticosteroid nasal spray combination therapy in allergic fungal sinusitis   | ICMR  | 2,43,226   |

| Investigator                            | Project   | Funding agency                             | Funds (Rs) |
|---|---|--|------------|
| R.C. Deka                               | Development of educational and training material for rehabilitation of cochlear implantees  | Ministry of Social Justice and Empowerment | 2,05,550   |
| <b>Paediatrics</b>                      |   |  |            |
| A.K. Deorari                            | National neonatal prenatal database   | ICMR                                       | 35,9,670   |
| A.K. Deorari                            | National neonatal perinatal database  | ICMR                                       | 45,714     |
| Koninika Ray/<br>M.K.Bhan/<br>V.K. Paul | Dendritic cell dysfunction as a possible mechanism of zinc deficiency-induced imbalance in T lymphocytic response   | DST  | 4,43,041   |
| Madhulika Kabra                         | Post-marketing surveillance (PMS) study on eutropin (recombinant human growth hormone) 4 injection in patients who have short stature due to growth hormone deficiency or Turner syndrome   | LG Chemicals                               | 30,999     |
| Meenakshi Agarwal/Veena Kalra           | Mid-day meal programme: Innovations and interventions   | DST  | 2,27,948   |
| N.K. Arora                              | National Polio Certification Committee for Polio Eradication  | Ministry of Health and Family Welfare      | 8,67,700   |
| N.K. Arora                              | National Polio Certification Committee for Polio Eradication  | DBT  | 5,80,764   |
| N.K. Arora                              | Concurrent evaluation of family health awareness campaign 2002 and IndiaCLEN programme evaluation network study   | Ministry of Health and Family Welfare      | Nil        |
| Pratima Ray                             | Reactogenicity and immunogenicity of live, attenuated rotavirus vaccine candidate strains 116E and I321 in healthy adults   | DBT  | 5,55,269   |
| S.K. Kabra                              | Effectiveness of 3-day amoxycillin versus 5-day co-trimoxazole in the treatment of non-severe pneumonia in children aged 2-59 months of age: A multicentric, open-labelled trial  | ICMR                                       | 3,08,796   |
| Sampath Mukhopadhyay/<br>M.K. Bhan      | Impact of zinc on iron and copper status in children  | DST  | 7,76,000   |
| Shinjini Bhatnagar                      | <i>H. pylori</i> infection in early childhood: Characterization of isolates and determination of their ability to exert pathogenic effect in <i>in vitro</i> model  | ICMR                                       | 31,968     |
| Shinjini Bhatnagar                      | Aetiological significance of microscopic colitis in chronic diarrhoea in children and its pathogenesis  | ICMR                                       | 6,25,368   |
| Veena Kalra                             | Health education intervention among schools for prevention of taeniasis and neurocysticercosis  | DST  | 32,660     |
| Veena Kalra                             | Molecular, biological and serological detection of parameters of association of <i>Campylobacter jejuni</i> infection in children with Guillain-Barre syndrome  | DBT  | 6,93,097   |
| <b>Paediatric Surgery</b>               |   |  |            |
| Minu Bajpai                             | ACE I/D gene polymorphisms in posterior urethral valves and its correlation with transforming growth factor- $\beta$ -1, tumour necrosis factor (TNF)- $\alpha$ , soluble TNF receptor-1, interleukin-6 (IL-6), microalbuminuria, | DST  | 20,41,469  |

| Investigator                      | Project   | Funding agency                                   | Funds (Rs) |
|-----------------------------------|---|--|------------|
|                                   | angiotensin II and plasma renin activity in the early diagnosis of renal damage   |  |            |
| <b>Pathology</b>                  |   |  |            |
| A.K. Dinda                        | Development of biodegradable hydrogel for controlled drug release for the treatment of osteomyelitis: Phase II. To evaluate immunotoxicity of implantable network polymers (IPNs) hydrogels for human use | Ministry of Defence (DRDO)                       | 1,93,402   |
| A.K. Dinda                        | Genomic and molecular studies on the immunopathogenesis of bronchial asthma   | DBT  | 16,20,000  |
| Chitra Sarkar                     | Medulloblastoma in children and adults: A comparative study with special reference to clinicopathological features as well as cell proliferation, apoptosis and their regulatory proteins                 | ICMR   | 1,76,718   |
| R. Dawar                          | Childhood Hodgkin disease: Role of Epstein-Barr virus (EBV), association of cellular proliferation and apoptosis parameters in relation to the treatment outcome  | ICMR   | 6,81,843   |
| S. Dutta Gupta                    | Multicentric study of interferon-glycyrrhizin combination therapy and interferon-ribavirin combination therapy in the management of chronic hepatitis C (Histopathology Centre)                           | ICMR   | 3,02,256   |
| S.K. Panda                        | Development of non-radioactive antigen-specific reporter release cytotoxicity assay and analysis of cytotoxicity against HEV proteins   | DBT  | 20,73,000  |
| Sudha Srivastava/<br>S.K. Panda   | Structural analysis of domains of non-structural protein of hepatitis E virus   | Indian Institute of Science                      | 13,924     |
| <b>Pharmacology</b>               |   |  |            |
| D.S. Arya                         | Effects of endothelin receptor antagonism and blockade of endothelin-converting enzyme  | CSIR   | 5,21,979   |
| D.S. Arya                         | Pharmacological and molecular studies on cardioprotective potential of medicinal plants   | Ministry of Health and Family Welfare            | 4,13,238   |
| J.K. Grover                       | GACM compliance study: Epidemiological survey at AIIMS  | Group for Awareness on Compliance to Medications | 18,406     |
| Jatinder Katyal                   | Antiemetic study of ginger against cancer chemotherapy-induced emesis   | Dabur Research Foundation                        | 11,04,026  |
| S.K. Gupta                        | Studies on anti-oxidant properties of some herbal drugs   | Dabur Research Foundation                        | 1,96,881   |
| S.K. Maulik                       | Effect of fresh juice and ethyl acetate extract of <i>Celrodendron colesbrookianum</i> leaves on serum and liver transaminase activity (Post-doctoral fellowship)   | DBT  | 90,360     |
| Sanjay Kumar Banerjee/S.K. Maulik | Evaluation of antioxidant potential of lycopene in ischaemic-reperfusion injury in rat heart  | DST  | 1,39,399   |
| Sujata Joshi                      | Study of medicinal plants for the management of glaucoma  | DST  | 79,812     |
| Sujata Joshi                      | Studies on cardioprotective role of Indian medicinal plants and their molecular mechanism of action   | Ministry of Environment and Forests              | 14,242     |
| Y.K. Gupta                        | Evaluation of <i>Centella asiatica</i> and <i>Celastrus paniculatus</i> in experimental models of Alzheimer disease in rats   | ICMR   | 2,16,410   |

| Investigator                                    | Project   | Funding agency                                       | Funds (Rs) |
|---|---|--|------------|
| <b>Physiology</b>                               |   |  |            |
| Debabrata Ghosh                                 | Effect of (Ala 8,13,18)-magainin II amide on human trophoblast cells <i>in vitro</i>  | ICMR   | 4,11,696   |
| H.N. Mallick                                    | Neural mediation of penile erection during REM sleep in rats  | DST  | 2,42,799   |
| H.N. Mallick                                    | Role of the warm receptors of the preoptic area in altering sleep   | Ministry of Defence (DRDO)                           | 2,07,361   |
| K.K. Deepak                                     | Yogic relaxation in the management of ulcerative colitis  | Central Council for Research in Yoga and Naturopathy | 4,79,641   |
| R.L. Bijlani                                    | The efficacy of lifestyle changes based on the principles of yoga in the management of asthma   | Central Council for Research in Yoga and Naturopathy | 6,84,685   |
| Ratna Sharma                                    | Randomized controlled trial on the efficacy of yogic intervention in premenstrual syndrome  | ICMR   | 10,07,970  |
| <b>Reproductive Biology</b>                     |   |  |            |
| Anand Kumar                                     | Double-blind randomized clinical trial of polyherbal formulation <i>Ashokarista</i> on postmenopausal status in females                   | Ministry of Health and Family Welfare                | 3,96,528   |
| <b>Surgery</b>                                  |   |  |            |
| Anurag Srivastava                               | National household survey of drug abuse in India  | Ministry of Social Justice and Empowerment           | 79,714     |
| <b>Transfusion Medicine (Blood Bank)</b>        |   |  |            |
| R.K. Sharma                                     | Grant-in-aid under the scheme for prevention of infection and strengthening the blood banking system in the country                       | Ministry of Health and Family Welfare                | 15,96,121  |
| <b>Transplant Immunology and Immunogenetics</b> |   |  |            |
| N.K. Mehra                                      | Immunogenetics of Mycobacterial diseases: 13th International Histocompatibility Workshop and Conference                                   | ICMR   | 3,16,111   |
| N.K. Mehra                                      | Molecular analysis of cytokine gene polymorphism in leprosy   | ICMR   | 5,53,169   |
| N.K. Mehra                                      | Immunogenetic and humoral profile of diabetes mellitus in Asian Indians   | ICMR   | 7,47,130   |
| N.K. Mehra                                      | Advanced programme histocompatibility and transplantation immunology  | DBT  | 2,27,760   |
| N.K. Mehra                                      | Human genome diversity: HLA studies   | DBT  | 8,20,050   |
| N.K. Mehra                                      | Evaluation of virus-specific immune response in HIV-I subtype C infected individuals in North India                                       | DBT  | 8,14,397   |
| N.K. Mehra                                      | Evaluation of immunological and cytopathological characteristics of first degree relatives of patients of juvenile autoimmune thyroiditis | Institute of Nuclear Medicine and Allied Sciences    | 14,709     |
| <b>Cardiothoracic Sciences Centre</b>           |   |  |            |
| <b>Cardiac Anaesthesiology</b>                  |   |  |            |
| S.C. Kale                                       | Emerging biochemical markers of myocardial injury   | ICMR   | 3,14,370   |

| Investigator   | Project   | Funding agency                        | Funds (Rs) |
|--|---|---------------------------------------|------------|
|  | following coronary artery bypass grafting (CABG) with or without cardiopulmonary bypass (CPB)   |                                       |            |
| Usha Kiran   | Biochemical correlates of tension headache and its modulation by autogenic relaxation therapy   | DST                                   | 8,00,193   |
| <b>Cardiac Biochemistry</b>                              |   |                                       |            |
| Suman Vashisht   | Cellular and molecular mechanisms of alcohol-related organ damage   | ICMR                                  | 4,32,282   |
| <b>Centre for Behavioural Sciences (Psychiatry)</b>      |   |                                       |            |
| Raka Jain  | Role of nitric oxide synthesis inhibitors in modifying nicotine withdrawal in rats  | CSIR                                  | 3,77,007   |
| Surya Gupta  | The development and standardization of a comprehensive dementia assessment scale  | ICMR                                  | 1,44,332   |
| <b>Centre for Dental Education and Research</b>          |   |                                       |            |
| Hari Prakash   | Pilot project on national oral health care programme  | Ministry of Health and Family Welfare | 15,92,622  |
| <b>Dr B.R. Ambedkar Institute Rotary Cancer Hospital</b> |   |                                       |            |
| Atul Sharma  | A multicentre phase II clinical and pharmacological study of DRF-1042, a novel camptothecin analogue given orally in adult patients with refractory solid tumours   | Dr Reddy's Laboratories               | 2,01,986   |
| Lalit Kumar  | Neoadjuvant chemotherapy followed by interval debulking surgery versus upfront surgery followed by chemotherapy in patients with stage IIIC and stage IV (with pleural effusion) epithelial ovarian carcinoma: A randomized study | Dabur Research Foundation             | 2,51,430   |
| Lalit Kumar  | An open, non-comparative study to evaluate the safety of recombinant human interferon alpha 2A (intermax alpha inj.) in the treatment of chronic myelogenous leukaemia in Indian patients   | LG Chemicals                          | 85,193     |
| Madhabananda Kar/N.K. Shukla                             | <i>In vivo</i> magnetic resonance spectroscopic evaluation with pathological and radiological correlation of metabolic imaging of soft tissue tumours   | DST                                   | 2,35,990   |
| P.K. Julka   | A phase III trial of ALIMTA vs. docetaxel in patients with locally advanced or metastatic non-small cell lung cancer  | Ranbaxy/Eli Lilly                     | 4,93,704   |
| P.K. Julka   | A centrally randomized, open multi-centre study evaluating the efficacy and safety of combination therapy with intermix-alpha and vinblastine versus vinblastine monotherapy in patients with advanced renal cell carcinoma       | Sterling Synergy System               | 1,90,990   |
| P.K. Julka   | A phase II study of sequential neoadjuvant gemcitabine plus doxorubicin and gemcitabine plus cisplatin in large T2 (>3 cm) and locally advanced (T3, T4 or N2) operable breast cancer   | Ranbaxy/Eli Lilly                     | Nil        |
| P.K. Julka   | A randomized, double-blind, placebo-controlled, phase II study of oral recombinant human lactoferrin (RHLF) in combination with carboplatin and paclitaxel (C/P) in   | Reliance Clinical Research Services   | 1,46,170   |

| Investigator   | Project   | Funding agency                                       | Funds (Rs) |
|--|---|--|------------|
|  | patients with locally advanced and/or metastatic non-small-cell lung cancer (NSCLC)   |  |            |
| V. Raina   | A randomized open-label comparative multicentric study of voriconazole versus conventional amphotericin B followed by fluconazole in the treatment of candidemia in the non-neutropenic patient (Protocol No. 150-608)  | Pfizer   | 4,09,736   |
| V. Raina   | Phase 3 randomized double-blind evaluation of LY353381 with tamoxifen in women with locally advanced or metastatic breast cancer  | Ranbaxy/Eli Lilly                                    | 1,96,259   |
| Vinod Kochupillai  | Effect of breathing techniques and meditation on normal individuals and those with cancer in remission  | Central Council for Research in Yoga and Naturopathy | 5,26,259   |
| Vinod Kochupillai  | Foetal liver infusion: Further studies on the mode of action of foetal liver cells on the degeneration of adult bone marrow. An <i>in vitro</i> evaluation  | DBT  | 2,36,022   |
| <b>Neurosciences Centre</b>                              |   |  |            |
| <b>Neurobiochemistry</b>                                 |   |  |            |
| S. Vivekanandhan   | Impact of nutritional strategies and multiple antioxidant therapy of progression and management of Parkinson disease  | ICMR   | 2,22,717   |
| S. Vivekanandhan   | Molecular study on mitochondrial dysfunction in Parkinson disease   | ICMR   | 5,60,411   |
| <b>Neurology</b>   |   |  |            |
| M.V. Padma   | Open-label randomized trial to evaluate the efficiency of Ayush-56 as an add-on drug in intractable partial epilepsy  | Ministry of Health and Family Welfare                | 2,71,000   |
| Madhuri Behari   | Molecular genetic analysis of <i>Parkin</i> gene among Indians with autosomal recessive juvenile Parkinson disease (ARJP)   | ICMR   | 4,34,900   |
| Madhuri Behari   | A longitudinal study to estimate proportion of patients with dementia and cognitive decline in Parkinson disease, its clinical correlates with special reference to apolipoprotein E alleles  | ICMR   | 5,16,772   |
| Madhuri Behari   | High throughput single nucleotide polymorphism (SNP) genotyping in patients suffering from schizophrenia and Parkinson disease  | DBT  | 1,72,411   |
| Madhuri Behari   | Open-label, multicentre, randomized trial to evaluate the development of components of polycystic ovary syndrome (PCOS) in female subjects with newly diagnosed epilepsy. Initiating anti-epileptic drug treatment on either lamotrigine or valproate monotherapy | Quintiles Spectral India                             | 6,06,408   |
| <b>Dr Rajendra Prasad Centre for Ophthalmic Sciences</b> |   |  |            |
| Gita Satapathy   | Novel molecular diagnostics for eye diseases and low vision enhancement devices   | CSIR   | 9,47,954   |
| N.R. Biswas  | Ocular kinetic study of newer fluoroquinolones measured by high performance liquid chromatography (HPLC)  | DST  | 2,15,568   |

| Investigator                 | Project  | Funding agency            | Funds (Rs) |
|------------------------------|--|---------------------------|------------|
| N.R. Biswas                  | Ophthalmic drug formulations using polymeric nanoparticles as carriers   | ICMR                      | 1,41,687   |
| Nazima Nisar/<br>N.R. Biswas | Diagnostic approaches for the rapid and specific diagnosis of <i>Mycoplasma pneumoniae</i> infection in asthmatics | DST                       | 5,00,000   |
| R.B. Vajpayee                | Evaluation of topical cyclosporin in prevention of corneal graft rejection   | ICMR                      | 2,41,526   |
| Radhika Tandon               | Amniotic membrane transplantation in acute ocular burns: A randomized controlled clinical trial                    | ICMR                      | 2,75,035   |
| <b>Central Facilities</b>    |  |                           |            |
| <b>Computer Facility</b>     |  |                           |            |
| R.S. Tyagi                   | Development of telemedicine technology and its implementation  | Department of Electronics | 4,62,223   |

### Ongoing projects funded by the World Health Organization

| Investigator                         | Project  | Funds (Rs) |
|--------------------------------------|--|------------|
| <b>Anaesthesiology</b>               |  |            |
| Ravi Saxena                          | Anaesthesiology for emergency obstetric care   | 8,06,629   |
| <b>Centre for Community Medicine</b> |  |            |
| C.S. Pandav                          | Establishment of sentinel surveillance system of CVD in Indian industrial population   | Nil        |
| K. Anand                             | Community-based intervention for NCD risk factors control in urban Faridabad   | 5,56,310   |
| K. Anand                             | Reliability and validity testing of the global physical activity questionnaire (GPAQ) at Ballabgarh  | 1,54,306   |
| <b>Medicine</b>                      |  |            |
| G.C. Khilnani                        | A study of air pollution in the vicinity of Indraprastha Thermal Power Station and its health effects: A controlled study  | -15,899    |
| G.C. Khilnani                        | Assess human health risks associated with environmental exposure   | 3,64,672   |
| S.K. Sharma                          | To establish model training and demonstration DOTS centre in AIIMS   | 6,50,953   |
| <b>Obstetrics and Gynaecology</b>    |  |            |
| Suneeta Mittal                       | Pretreatment with misoprostol before vacuum aspiration of first trimester induced abortion: A multicentre, double-blind randomized controlled trial              | 7,44,642   |
| Neerja Bhatla                        | Evaluation of the comparative efficacy of single- and double-freeze technique of cryotherapy in controlling CIN lesion: A multicentre, randomized clinical trial | 16,75,441  |
| <b>Paediatrics</b>                   |  |            |
| A.K. Deorari                         | Multicentric study of clinical signs of severe illness in young infants  | 16,73,627  |
| Arvind Bagga                         | Impact of zinc supplementation on mortality and hospitalization in children aged 2 months to 23 months   | 79,04,879  |
| Pratima Ray                          | The WHO multicentre growth reference study   | 2,91,606   |
| <b>Physiology</b>                    |  |            |
| J. Sengupta                          | Physiology of the implantation window in the primate: Target-oriented approaches in pregnancy interception   | 2,10,470   |

| Investigator   | Project  | Funds (Rs) |
|--|--|------------|
| <b>Centre for Behavioural Sciences (Psychiatry)</b>      |  |            |
| Hem Raj Pal  | An international RCT of a brief intervention for illicit drug linked to the assist alcohol, smoking and substance involvement screening test | 6,00,323   |
| Rajesh Sagar   | Urbanization and mental disorders: A study of migrant population   | 4,75,917   |
| Rajesh Sagar   | Epidemiology of mental disorders: A longitudinal study   | 9,25,470   |
| Rajesh Sagar   | Disability associated with mental disorders: Their nature and evaluation   | 5,35,666   |
| S.K. Khandelwal  | Training of general practitioners for managing epilepsy and psychosis in the community   | 7,34,286   |
| <b>Centre for Dental Education and Research</b>          |  |            |
| Hari Prakash   | WHO oral health module for prevention of dental caries in schoolchildren   | 4,24,974   |
| <b>Dr B.R. Ambedkar Institute Rotary Cancer Hospital</b> |  |            |
| Tulika Seth  | Population-based screening programme for cancer of the cervix, breast and oral cavity  | 4,30,221   |

#### Ongoing projects funded by international agencies

| Investigator                         | Project  | Funding agency                     | Funds (Rs) |
|--------------------------------------|--|------------------------------------|------------|
| <b>Anaesthesiology</b>               |  |                                    |            |
| Sushma Bhatnagar                     | A comparative study between continuous extra-pleural intercostal nerve block with a mixture of bupivacaine and clonidine and epidural morphine mixed with clonidine in post-thoracotomy pain. A prospective, randomized double-blind study | Terry Fox Foundation               | 19,600     |
| <b>Biostatistics</b>                 |  |                                    |            |
| R.M. Pandey                          | Clinical Epidemiology Unit   | INCLN                              | 4,34,242   |
| <b>Biotechnology</b>                 |  |                                    |            |
| H.K. Prasad                          | Immune reactivity of specific secreted antigens of <i>M. tuberculosis</i> in tuberculosis patients and their contacts  | Indo-US                            | 34,693     |
| <b>Centre for Community Medicine</b> |  |                                    |            |
| K. Anand                             | Evaluation of safe water systems intervention project in urban slums of Dehradun and Haridwar  | USAID-IndiaCLEN                    | 13,24,134  |
| <b>Haematology</b>                   |  |                                    |            |
| Renu Saxena                          | Molecular characterization and treatment of acute lymphoblastic leukaemia on protocol MCP-943  | INCTR, USA                         | 12,58,004  |
| Renu Saxena                          | Evaluation of genotypic characterization of Indian patients with Glanzman thrombasthenia   | Indo-US                            | 6,65,473   |
| Renu Saxena                          | Molecular characterization of FXIII deficiency in Indians  | Indo-Israel Project                | Nil        |
| Renu Saxena                          | Evaluation of the role of GPx3 activity and polymorphism in the development of premature stroke  | Indo-US                            | 1,62,464   |
| <b>Medicine</b>                      |  |                                    |            |
| Naveet Wig                           | Phase I planning grant to the international clinical, operational and health services research training for AIDS/TB programmes   | National Institutes of Health, USA | 31,84,995  |

| Investigator                      | Project   | Funding agency  | Funds (Rs)  |
|-----------------------------------|---|---|-------------|
| <b>Microbiology</b>               |   |   |             |
| Rama Chaudhary                    | Prevention of infection in Indian neonates  | University and National Cancer Institute of Maryland, USA | 18,06,489   |
| <b>Nuclear Medicine</b>           |   |   |             |
| C.S. Bal                          | Comparative evaluation of ictal brain SPECT, magnetic resonance imaging (MRI) and X-ray computerized tomography (CT) of brain in the management of patients with refractory seizures    | International Atomic Energy Agency                        | 2,20,505    |
| Chetan D. Patel                   | Role of cerebral perfusion SPECT in the differential diagnosis of dementia  | International Atomic Energy Agency                        | 3,68,000    |
| Rakesh Kumar                      | Role of radionuclide technique in the management of neonatal hydronephrosis   | International Atomic Energy Agency                        | 2,45,943    |
| <b>Obstetrics and Gynaecology</b> |   |   |             |
| Vatsla Dadhwal                    | Screening for bacterial vaginosis and pregnancy outcome   | INCLN   | 60,560      |
| <b>Paediatrics</b>                |   |   |             |
| A.K. Deorari                      | Capacity building in newborn nursing in India: Developing a training programme in essential newborn nursing for district, sub-district and first-level health care facilities           | Saving Newborn Lives, USA                                 | 7,44,297    |
| A.K. Deorari                      | Promoting kangaroo mother care in India   | Saving Newborn Lives, USA                                 | 6,64,320    |
| Madhulika Kabra                   | Gene mapping of non-syndromic hearing impairment: A multicentric study  | National Institutes of Health, USA                        | 12,24,284   |
| N.K. Arora                        | IndiaCLEN programme for health intervention development and evaluation (IPHIDE)   | INCLN   | 3,12,125    |
| N.K. Arora                        | Community anti-microbial resistance extension study   | USAID-IndiaCLEN   | 4,60,431    |
| N.K. Arora                        | Evaluation of AFP surveillance and Universal Immunization Programme of India, 2003-2004   | USAID-IndiaCLEN   | 44,00,000   |
| Pratima Ray                       | The Indo-US collaboration to develop rotavirus vaccine  | National Institutes of Health, USA                        | 3,16,22,859 |
| S.K. Kabra                        | To study the effect of seasonal changes on growth of Indian children with cystic fibrosis   | Cystic Fibrosis World Wide, Jerusalem                     | 66,733      |
| S.K. Kabra                        | Randomized, blind, placebo-controlled trial of amoxicillin in the treatment of non-severe pneumonia with wheeze in children aged 2-59 months of age: A multi-centric double-blind trial | USAID-IndiaCLEN   | 4,98,218    |
| Shinjini Bhatnagar                | Institutional capacity and competence building in research and education for promotion of child health and nutrition in South Asia  | NUFU/University of Bergen                                 | 18,38,728   |
| Shinjini Bhatnagar                | Extended studies on safety and efficacy of zinc ORS compared to ORS alone in hospitalized children with severe and complicated acute diarrhoea  | NORAD   | 25,27,026   |
| <b>Pathology</b>                  |   |   |             |
| Chitra Sarkar                     | Assessment of brain tumours in northern India for SV40  | University of Maryland and National Cancer Institute      | 34,962      |

| Investigator   | Project  | Funding agency  | Funds (Rs) |
|--|--|---|------------|
| <b>Physiology</b>  |  |   |            |
| J. Sengupta  | Immunoneutralization of leukaemia inhibitory factors as an anti-implantation strategy  | Conrad, USA   | 18,27,389  |
| <b>Radiodiagnosis</b>                                    |  |   |            |
| Arun Kumar Gupta   | Dose reduction in CT while maintaining diagnostic confidence   | International Atomic Energy Agency                      | 2,43,097   |
| D.N. Srivastava  | Management of liver cancer using radionuclide methods with special emphasis on early diagnosis, intra-arterial locoregional therapy                      | International Atomic Energy Agency                      | 2,97,796   |
| Seema Mukhopadhyay                                       | Avoiding unnecessary doses to patient during interventional radiological procedures  | International Atomic Energy Agency                      | 2,31,045   |
| <b>Surgery</b>   |  |   |            |
| Anurag Srivastava  | Adjuvant tamoxifen: Longer against shorter (ATLAS) for breast cancer patients  | Atlas Trial, UK   | 30,462     |
| <b>Centre for Behavioural Sciences (Psychiatry)</b>      |  |   |            |
| S.K. Khandelwal  | Analytical studies on mental health policy and services  | International Consortium for Mental Health Policy       | 3,78,533   |
| <b>Dr B.R. Ambedkar Institute Rotary Cancer Hospital</b> |  |   |            |
| Atul Sharma  | To assess the efficacy and adverse effects of thalidomide and prednisone in hormone refractory prostate cancer   | Terry Fox Foundation                                    | 97,000     |
| B.K. Mohanti   | Aspects of radiobiology applicable to clinical radiotherapy (modification of the number of fractions per week)   | International Atomic Energy Agency                      | 3,05,430   |
| Lalit Kumar  | Resistance to imatinib in Indian leukaemic patients: Molecular mechanism   | Terry Fox Foundation                                    | 1,94,000   |
| V. Raina   | Adjuvant endocrine therapy and chemotherapy in women with early breast cancer: The adjuvant breast cancer trial (ABC Trial)                              | Institute of Cancer Research UK Co-ordination Committee | 9,07,482   |
| V. Raina   | Adjuvant tamoxifen: Long against short (ATLAS) trial   | University of Oxford                                    | 11,64,720  |
| Vinod Kochupillai  | Role of antioxidant vitamins in human lung cancer: A randomized study  | Terry Fox Foundation                                    | 65,106     |
| Vinod Kochupillai  | Detection of minimal residual disease in chronic myeloid leukaemia: Indian scenario  | Terry Fox Foundation                                    | 36,862     |
| Tulika Seth  | Common cancers: Perception of community and determinants of community behaviour  | Terry Fox Foundation                                    | 1,59,000   |
| <b>Neurosciences Centre</b>                              |  |   |            |
| <b>Neurology</b>   |  |   |            |
| M.V. Padma   | Linkage of studies on families with proband having juvenile myoclonic epilepsy and other idiopathic generalized epilepsies and other epileptic syndromes | Duke University Medical Centre                          | 1,99,224   |
| Madhuri Behari   | Open-label randomized trial to evaluate the efficiency of tobarpin batroxobin injection (DF-51) in the treatment of acute cerebral infarction            | Beijing Toshiba Pharmaceuticals                         | 3,90,715   |

| Investigator        | Project   | Funding agency                         | Funds (Rs) |
|---------------------|---|--|------------|
| <b>Neurosurgery</b> |   |  |            |
| A.K. Mahapatra      | A multinational, multicentre, open-label, active-controlled, randomized parallel group dose-finding study to evaluate the efficacy and safety of two doses of AP 12009 in adult patients with recurrent high grade glioma | Antisense Pharma GmBH, German and Siro | 15,87,617  |

### New projects funded by Indian agencies

| <b>Anatomy</b>                |   |      |           |
|-------------------------------|---|------|-----------|
| Kiran Kucheria                | Sexual and reproductive health for rural and urban women and the application of molecular genetics  | DBT  | 11,54,000 |
| Kiran Kucheria                | Genomic diversity in five ethnic groups of Rajasthani population  | DBT  | 13,10,000 |
| Kiran Kucheria                | Diagnosis and counselling of genetic disorders using cytogenetics and molecular methods   | DBT  | Nil       |
| Rani Kumar                    | Role of cell cycle regulatory genes in breast cancer patients on hormonal therapy   | DBT  | 10,49,800 |
| <b>Biochemistr</b>            |   |      |           |
| D.N. Rao                      | Developing new generation peptide-based vaccine using F1 and V antigens of <i>Yersinia pestis</i> (plague)  | DST  | 7,90,000  |
| D.N. Rao                      | To evaluate the correlation between levels of cytokines (IL-6, IL-8, IL-10) in seminal plasma in different groups of infertile men and correlation with sperm morphology functions and bacterial infection in semen | ICMR | Nil       |
| M.R. Rajeswari                | Proteomic analysis of outer membrane of <i>Acinetobacter baumannii</i> and its resistant strains  | DBT  | 13,29,000 |
| Neeta Singh                   | Development of HPV vaccine prototype  | DBT  | 25,27,000 |
| Neeta Singh                   | Development of human papillomavirus vaccine prototype/s: Molecular epidemiology of HPV types prevalent in India and identification of HPV-16 L1 and E6 variants   | DBT  | 6,97,000  |
| Ranju Ralhan                  | Functional analysis and clinical significance of novel molecular targets in cytoskeleton reorganization and locoregional spread of oral cancer using proteomics   | DBT  | 20,37,000 |
| Ranju Ralhan                  | Designing of methylation target arrays for breast cancer  | DBT  | Nil       |
| S.S. Chauhan                  | Identification and characterization human cathepsin L alternate promoter  | CSIR | 2,90,000  |
| Subrata Sinha                 | Ligand based selection from combinatorial libraries for generating recombinant antibodies to the placental (oncofoetal) isozyme of alkaline phosphatase: Characterization and validation in clinical cancers        | DBT  | 11,73,000 |
| <b>Biophysics</b>             |   |      |           |
| Nagendra Singh/<br>T.P. Singh | Posterior urethral valves: A study on the prognostic significance of ACE ID gene polymorphism in PUV and the role of molecular markers in monitoring therapy with disease-modifying agents                          | DST  | 5,00,000  |
| Punit Kaur                    | Three-dimensional structure determination of disintegrin from venom of Indian saw scale viper by X-ray  | CSIR | Nil       |

| Investigator                                | Project   | Funding agency                     | Funds (Rs)  |
|---|---|------------------------------------|-------------|
|   | diffraction method and structure and functional relationship with its complex with integrin   |                                    |             |
| Savita Yadav                                | Purification, crystallization and structure determination of disintegrin and integrin-disintegrin complex   | DST                                | 4,25,000    |
| Sujata Sharma                               | Search of a magic drug: Isolation, purification, crystallization and three-dimensional structure determination of the functional c-lobe and antimicrobial peptides of lactoferrin and their applications in antimicrobial drug discovery                      | DST                                | 4,75,000    |
| T.P. Singh                                  | Structural studies of signalling proteins expressed during involution/breast cancer and ligand design   | DST                                | Nil         |
| T.P. Singh                                  | Infrastructural support for clinical proteomics   | DBT                                | 3,70,08,000 |
| <b>Biostatistics</b>                        |   |                                    |             |
| R.M. Pandey                                 | Development of appropriate prevention and intervention strategies for non-communicable nutrition related disorders among women in post-reproductive period  | DST                                | 10,00,000   |
| <b>Biotechnology</b>                        |   |                                    |             |
| J.S. Tyagi                                  | Isolation, identification and characterization of peptides that interact with two component system proteins DEVR and RC 2027c of <i>Mycobacterium tuberculosis</i>  | CSIR                               | 9,32,000    |
| J.S. Tyagi                                  | Evaluation of devR mutant of <i>Mycobacterium tuberculosis</i> in animal model of tuberculosis and in cultured bacilli: Virulence and gene expression analysis  | DBT                                | 16,15,000   |
| Y.D. Sharma                                 | Malaria vaccine-related field studies in Jabalpur, India  | ICMR                               | Nil         |
| <b>Dermatology and Venereology</b>          |   |                                    |             |
| Neena Khanna                                | A randomized, investigator blinded, active-controlled, parallel-group study to compare the efficacy and safety of 6-week treatment with terbiafine, a new paediatric formulation, versus 6-week treatment with griseofulvin paediatric suspension in children | Novartis India                     | 1,02,508    |
| <b>Endocrinology and Metabolism</b>         |   |                                    |             |
| A.C. Ammini                                 | Effects of arzoxifene on vertebral fracture incidence and on invasive breast cancer incidence in postmenopausal women with osteoporosis or with low bone density  | Quintiles Spectral India           | 12,00,694   |
| Nikhil Tandon                               | Gmimipiride versus metformin as monotherapy in paediatric subjects with type 2 diabetes mellitus: A single-blind comparison study   | Aventis Pharma India               | 23,693      |
| R. Goswami                                  | Diabetes mellitus and vulvovaginal candidiasis: Prevalence of infection and its rational management   | ICMR                               | 3,56,680    |
| R. Goswami                                  | Vitamin D status of subjects residing in rural north India  | Vulimiri Ramalingaswami Foundation | 2,90,000    |
| <b>Gastroenterology and Human Nutrition</b> |   |                                    |             |
| S.K. Acharya                                | Advanced centre for liver diseases  | ICMR                               | 45,45,641   |
| S.K. Acharya                                | Randomized controlled trial of pegylated interferon (PEG-IFN) monotherapy and combination of PEG-IFN with lamivudine among patients with chronic hepatitis B  | Fulford (India)                    | 8,00,000    |

| Investigator                    | Project   | Funding agency                     | Funds (Rs) |
|---------------------------------|---|------------------------------------|------------|
| Umesh Kapil                     | Prevalence of obesity and associated diseases amongst well to do adolescent children in the national capital territory of Delhi   | ICMR                               | 3,53,711   |
| Umesh Kapil                     | Epidemiology of gallbladder cancer with special reference to nutritional risk factors   | ICMR                               | 2,23,694   |
| Vineet Ahuja                    | Curcumin for the treatment of ulcerative colitis  | Himalaya Drug Company              | 1,60,000   |
| <b>Gastrointestinal Surgery</b> |   |                                    |            |
| Peush Sahni                     | Design and development of syringe pump and online peristaltic pump for drug delivery  | Ministry of Information Technology | 9,80,000   |
| <b>Haematology</b>              |   |                                    |            |
| Renu Saxena                     | Organization of proficiency testing programme for testing haemogram   | DST                                | Nil        |
| Renu Saxena                     | Haemostatic and molecular defects predisposing to acute non-embolic stroke in children and young Indians  | ICMR                               | 63,849     |
| Renu Saxena                     | Characterization of mutations underlying haemophilia A and B  | DBT                                | 10,44,000  |
| <b>Laboratory Medicine</b>      |   |                                    |            |
| B.L. Jaiikhani                  | Development of rapid diagnostic test for detection of auto antibodies in myasthenia gravis by plate and dot-blot ELISA  | ICMR                               | 1,91,021   |
| B.L. Jaiikhani                  | Recovery and stability of routine chemistry analytes and enzymes from serum/whole blood spotted on filter paper   | ICMR                               | 98,331     |
| B.L. Jaiikhani                  | Optimization of carbohydrate protein conjugates as vaccine for the prevention of enteric fever  | DBT                                | 19,04,000  |
| M. Irshad                       | Prevalence and significance of transfusion transmitted virus (TTV) in various forms of liver diseases   | ICMR                               | 4,00,649   |
| Sarman Singh                    | Evaluation of toxicity and anti-leishmanial efficacy of liposomal amphotericin B (KALSOMETM) in mouse model   | DST                                | 1,33,845   |
| Sarman Singh                    | Rapid and accurate diagnosis of tuberculosis using a novel set of primers directly from clinical samples  | ICMR                               | 2,49,847   |
| Sarman Singh                    | Comparative evaluation of various <i>in vitro</i> methods for diagnosing pulmonary and extra-pulmonary tuberculosis   | Biomerieux India                   | 82,029     |
| <b>Medicine</b>                 |   |                                    |            |
| A.B. Dey                        | Determinants of the functional status of the older Indian   | ICMR                               | 3,91,737   |
| Anoop Misra                     | Evaluation of efficacy and safety of Wosulin biphasic (human insulin biphasic, regular/NPH rDNA origin) for control of hyperglycaemia in subjects with type 2 diabetes mellitus: Phase IV study | Wockhardt, Mumbai                  | 1,00,000   |
| Ashok Kumar                     | Methotrexate in rheumatoid arthritis: Pharmacogenetics and clinico-immunological correlates   | DBT                                | 10,83,000  |
| R. Handa                        | Prevalence of osteoporosis In Indian patients with rheumatoid arthritis   | Bone and Joint Decade India        | Nil        |
| S.K. Sharma                     | Efficacy and safety of immunomodulator <i>Mycobacterium w</i> , mw as an adjunct therapy in pulmonary tuberculosis  | DBT                                | 25,00,000  |

| Investigator                      | Project   | Funding agency             | Funds (Rs)  |
|-----------------------------------|---|----------------------------|-------------|
| <b>Microbiology</b>               |   |                            |             |
| Arti Kapil                        | Study of carbapenemase production amongst nosocomial isolates of Gram-negative bacteria in a tertiary care hospital   | ICMR                       | 2,46,496    |
| B.K. Das                          | Study of <i>Haemophilis influenzae</i> isolates from invasive and non-invasive disease  | DST                        | 7,50,000    |
| B.R. Mirdha                       | DNA amplification study by polymerase chain reaction (PCR) to detect sub-clinical <i>Pneumocystis carinii</i> infection and colonization in at-risk patients with or without respiratory symptoms                         | DST                        | 8,50,000    |
| Madhu Vajpayee                    | Evaluation of cytokine profile and Th 1/Th 2 shift in HIV infected Indian patients  | ICMR                       | 3,29,500    |
| Rama Chaudhary                    | Cloning and expression of <i>Mycoplasma pneumoniae</i> P1 gene and its fragments to study their role in cytoadherence   | ICMR                       | 5,29,746    |
| Rama Chaudhary                    | Development of multiplex real-time quantitative PCR assay to detect <i>Chlamydia pneumoniae</i> , <i>Legionella pneumophila</i> and <i>Mycoplasma pneumoniae</i> in community-acquired pneumonia                          | DBT                        | 16,52,000   |
| Shobha Broor                      | Multisite monitoring of human influenza viruses in India  | ICMR                       | 2,18,100    |
| <b>Nuclear Magnetic Resonance</b> |   |                            |             |
| N.R. Jagannathan                  | Upgradation of the existing animal MR scanner for biomedical research   | DST                        | 3,32,00,000 |
| <b>Nuclear Medicine</b>           |   |                            |             |
| G.S. Pant                         | Incidence of micronuclei in differentiated thyroid cancer patients treated with low dose of I-131 for remnant ablation  | ICMR                       | 61,580      |
| <b>Obstetrics and Gynaecology</b> |   |                            |             |
| Deepika Deka                      | IV immunoglobulins for the treatment of recurrent abortions   | Bharat Serums and Vaccines | Nil         |
| Neerja Bhatla                     | Development of HPV candidate vaccine/s preparation of clinical trial site/cohort for vaccine testing  | DBT                        | Nil         |
| <b>Orthopaedics</b>               |   |                            |             |
| A. Jayaswal                       | Role of free radical scavengers and the effects of antioxidants on their levels in patients with ankylosing spondylitis: To investigate the possible role of antioxidants as therapeutic agents in ankylosing spondylitis | ICMR                       | 3,15,880    |
| <b>Paediatrics</b>                |   |                            |             |
| Arvind Bagga                      | An open-label long term study to evaluate the safety of eplerenone in the treatment of hypertension in children   | Pfizer                     | 2,55,741    |
| Madhulika Kabra                   | An integrated approach for mutation analysis and identification of new gene (S) for X-linked mental retardation   | DBT                        | 4,53,000    |
| Pratima Ray                       | Cloning and expression of NSP4 enterotoxin of rotavirus in <i>E. coli</i> and evaluation of NSP4 specific immune responses during natural rotavirus infection in children   | DST                        | 6,50,000    |

| Investigator                                | Project   | Funding agency                             | Funds (Rs) |
|---|---|--|------------|
| Shinjini Bhatnagar                          | Zinc as an immunomodulator in the treatment of possible serious bacterial infections in infants more than 7 days and up to 2 months of age  | DBT  | 33,46,000  |
| <b>Paediatric Surgery</b>                   |   |  |            |
| Minu Bajpai                                 | Study of angiotensin-converting enzyme insertion/deletion gene polymorphism in vesicoureteric reflux and its correlation with molecular markers of renin-angiotensin system activity in the early diagnosis of renal damage | DBT  | 13,48,000  |
| <b>Pathology</b>                            |   |  |            |
| Chitra Sarkar                               | Myopathic disorders: A comparative clinicopathological and <i>in vitro</i> proton magnetic resonance spectroscopy study on muscle biopsies  | ICMR                                       | 5,30,900   |
| Kusum Verma                                 | Health systems reforms and ethics: Private practitioners in poor neighbourhoods in urban India, Indonesia and Thailand – A multidisciplinary comparative study  | DANIDA Research Council                    | 4,10,000   |
| S.K. Panda                                  | To study site of replication of hepatitis E virus (HEV) by localizing the viral replicase (RdRq) into the subcellular compartments by transfection studies using HepG2/Huh 7 cells and a fusion reporter construct          | DST  | 7,00,000   |
| S.K. Panda                                  | Development of non-radioactive antigen specific reporter release cytotoxicity assay and analysis of cytotoxicity against HEV proteins   | DBT  | 20,73,000  |
| S.K. Panda                                  | Development of small interfering RNAs (siRNAs) for inhibition of hepatitis E virus (HEV) replication and transcription  | DBT  | 19,04,000  |
| <b>Pharmacology</b>                         |   |  |            |
| Ch.V. Rao/Kamal Kishore                     | Development of herbal formulation(s) used in treatment of neurodegenerative diseases like Alzheimer   | DBT  | 1,10,800   |
| D.S. Arya                                   | Pharmacological and molecular studies on cardioprotective potential of medicinal plants   | CSIR                                       | 47,000     |
| S.K. Maulik                                 | Clinical trial of a standardized preparation of <i>Terminalia arjuna</i> in patients with left ventricular dysfunction  | DBT  | 11,97,000  |
| S.K. Maulik                                 | Experimental study of antihyperlipidaemic and hypolipidaemic effects of a polyherbal preparation  | Dabur Research Foundation                  | 77,616     |
| <b>Physical Medicine and Rehabilitation</b> |   |  |            |
| Gita Handa                                  | Prospective evaluation of neurogenic bowel and bladder disorders in children with cerebral palsy  | Ministry of Social Justice and Empowerment | 1,27,584   |
| <b>Physiology</b>                           |   |  |            |
| K.K. Deepak                                 | Development of digital ECG amplifier an essential hardware for the autonomic function tests (heart rate variability)  | DST  | 6,00,000   |
| K.K. Deepak                                 | The development and clinical evaluation of artificial intelligence-based biomedical instruments   | DST  | 2,70,000   |
| K.K. Deepak                                 | A psychophilosophical study: Application of <i>astang</i> yoga as a tool in treatment of psychosomatic disorder   | Indian Council of Philosophical Research   | 40,500     |

| Investigator   | Project   | Funding agency                     | Funds (Rs) |
|--|---|------------------------------------|------------|
| K.K. Deepak  | Multicentric trial of integrated software for quantification of autonomic tone  | Ministry of Information Technology | 15,58,000  |
| <b>Surgery</b>   |   |                                    |            |
| Sandeep Guleria  | Evaluation of efficacy and tolerability of tacrolimus in patients undergoing renal transplantation  | Panacea Biotech                    | 1,74,000   |
| <b>Cardiothoracic Sciences Centre</b>                    |   |                                    |            |
| <b>Cardiac Biochemistry</b>                              |   |                                    |            |
| R. Lakshmy   | LDL particle heterogeneity and its association with other established risk factors for CHD in an industrial population: Role of the <i>CETP</i> gene  | ICMR                               | 2,57,552   |
| R. Lakshmy   | Association between low birth weight and autoimmune markers of diabetes in a young Delhi cohort   | ICMR                               | 7,26,037   |
| <b>Cardiology</b>  |   |                                    |            |
| G. Karthikeyan   | Comparison of plasma homocysteine levels in patients with mitral stenosis with and without left atrial thrombus   | ICMR                               | 1,15,617   |
| G. Karthikeyan   | Role of homocysteine in coronary artery disease: Genetic and epigenetic studies   | DBT                                | 6,15,000   |
| <b>Centre for Behavioural Sciences (Psychiatry)</b>      |   |                                    |            |
| Manju Mehta  | Risk factors of substance use and abuse in offspring of substance abuse patients  | ICMR                               | 1,78,868   |
| <b>Dr B.R. Ambedkar Institute Rotary Cancer Hospital</b> |   |                                    |            |
| Vinod Kochupillai  | Evaluation of the thermal camera lesions or cancers in early stages and to study the effect of <i>pranayam</i> and <i>sudarshan kriya</i> (breathing processes) in reversing pre-cancerous lesions  | DST                                | 9,78,600   |
| Lalit Kumar  | An evaluation of safety and efficacy of IPL-PO2 (interferon alfa 2b) in the treatment of chronic myeloid leukemia. A prospective, non-comparative, open label, multicentric study   | INTAS Pharmaceuticals              | 52,711     |
| <b>Neurosciences Centre</b>                              |   |                                    |            |
| <b>Neurology</b>   |   |                                    |            |
| Madhuri Behari   | Phase III, double-blind, placebo-controlled India study to determine the efficacy and safety of a low (50–100 mg/day) and high (150–200 mg/day) dose range of safinamide, as add-on therapy in patients with early idiopathic Parkinson disease treated with a stable dose of a single dopamine agonist | Quintiles Spectral, India          | 56,940     |
| <b>Dr Rajendra Prasad Centre for Ophthalmic Sciences</b> |   |                                    |            |
| Niranjan Nayak   | Standardization of antifungal susceptibility testing for filamentous fungi and characterization of drug-sensitive and drug-resistant fungal isolates in mycotic keratitis   | ICMR                               | 60,933     |
| Rohit Saxena   | Study on the prevalence, therapeutic option and outcome measures of amblyopia   | DST                                | Nil        |

## New projects funded by the World Health Organization

| Investigator                         | Project  | Funds (Rs) |
|--------------------------------------|--|------------|
| <b>Biotechnology</b>                 |  |            |
| J.S. Tyagi                           | Multicentric evaluation of a sensitive smear microscopy technique for detection of acid-fast bacilli in sputum   | 28,12,390  |
| <b>Centre for Community Medicine</b> |  |            |
| K.Anand                              | Sentinel health monitoring centres in India: Risk factor surveillance for non-communicable disease   | 74,600     |
| <b>Obstetrics and Gynaecology</b>    |  |            |
| Suneeta Mittal                       | Comparison of two mifepristone doses and two intervals of misoprostol administration for termination of early pregnancy: A multinational randomized controlled trial | 7,41,614   |
| <b>Otorhinolaryngology</b>           |  |            |
| R.C. Deka                            | Assessment of aetiological factors for conductive hearing impairment in rural population   | 2,18,900   |
| <b>Neurosciences Centre</b>          |  |            |
| <b>Neurology</b>                     |  |            |
| Manjari Tripathi                     | A prospective study in Indian women: How pregnancy and epilepsy interact to produce psychological and mental health morbidity  | 94,500     |

## New projects funded by international agencies

|                                      |  |  |           |
|--------------------------------------|--|--|-----------|
| <b>Biostatistics</b>                 |  |  |           |
| K.R. Sundaram                        | Mainstreaming HIV/AIDS concerns in ongoing drug demand reduction programmes in South Asia  | United Nations Office on Drugs and Crime   | Nil       |
| <b>Centre for Community Medicine</b> |  |  |           |
| K. Anand                             | Strengthening health services in rural areas using information technology: Development of a replicable model for India                     | Media Lab Asia                             | 4,71,950  |
| K. Anand                             | Effect of consumption of iron and vitamin A fortified lozenges on the iron status of children aged 3–6 years in rural Haryana, north India | The Micronutrient Initiative, Asia         | 10,02,251 |
| <b>Medicine</b>                      |  |  |           |
| Anoop Misra                          | A population based study of type 2 diabetes and metabolic correlates of cardiovascular risk factors among Asian Indians                    | Texas A&M Research Foundation (TAMRF), USA | 20,78,675 |
| S.K. Sharma                          | Evaluation of management strategy for pulmonary embolism   | International Atomic Energy Agency         | Nil       |
| <b>Microbiology</b>                  |  |  |           |
| Shobha Broor                         | Metapneumovirus infection of children in India   | University of Alabama, Bringham, USA       | 24,80,625 |
| <b>Paediatrics</b>                   |  |  |           |
| Arvind Bagga                         | Impact of zinc supplementation in low-birth weight infants on severe morbidity and zinc status: A randomized controlled trial              | KLPF, USA                                  | 16,10,000 |

| <b>Investigator</b>                                      | <b>Project</b>  | <b>Funding agency</b> | <b>Funds (Rs)</b> |
|--|---|-----------------------|-------------------|
| Shinjini Bhatnagar                                       | Specific targeted research or innovation project  | University of Bergan  | Nil               |
| <b>Dr B.R. Ambedkar Institute Rotary Cancer Hospital</b> |   |                       |                   |
| Tulika Seth  | Training in low cost cancer screening methods for medical health workers: A pilot study   | Terry Fox Foundation  | 1,94,000          |
| S.V.S. Deo   | Detection of bone marrow micrometastases in breast cancer patients using monoclonal antibodies against cytokeratin—incidence and clinical correlation | Terry Fox Foundation  | 97,000            |

## 9.1 Anaesthesiology

### Professor and Head

Chandralekha

### Professors

T.S. Jayalakshmi  
R.K. Batra

M.K. Arora  
Ravi Saksena

D.K. Pawar  
G.P. Dureja

### Additional Professors

S. Rajeshwari  
A. Trikha

Maya Dehran  
L. Kashyap\*

D.R. Shende (RPC)  
G. Prasad

### Associate Professor

V.K. Mohan

### Assistant Professors

A.P. Bhalla  
V. Darlong

V. Rewari  
Anjolie Chhabra (ad hoc)

R. Sunder

\*Dr Lokesh Kashyap is on an assignment for two years.

## EDUCATION

### Undergraduate and Postgraduate

Academic activities of undergraduates, postgraduates and paramedical staff (BSc Nursing, MSc Nursing students) are continuing as before.

### Short- and long-term training

- Training of doctors and technicians from India and abroad was conducted in various aspects of anaesthesia, ICU, management in emergency situations and Pain Medicine.
  - Two doctors were trained in Pain Medicine, 19 doctors received ICU training and 14 doctors were trained in anaesthesia.
- VVIP training programme for CPR was conducted by the department.

### Continuing Medical Education

The faculty of the department participated in and delivered 16 lectures in CME programmes, symposia, workshops, seminars, and national and international conferences.

## **RESEARCH**

### **Funded Projects**

#### ***Ongoing***

1. Effect of glutamine supplementation in critically ill patients. Chandralekha. Funded by CSIR for 3 years. Funds: Rs 10,000 p.a.
2. Evaluation of efficacy of linezolid/vancomycin/dicloxacillin in treating catheter-related gram-positive bloodstream infection. T.S. Jayalakshmi. Funded by Pfizer for 2 years. Funds: Rs 25 lakh.
3. Role of transforminal steroid injection in the diagnosis and management of Failed Back Surgery Syndrome. G.P. Dureja. Funded by ICMR for 3 years. Funds: Rs 10,000 p.a.

### **Departmental Projects**

#### ***Completed***

1. Comparison of conventional general anaesthesia versus propofol-based total intravenous anaesthesia in vitreoretinal surgery in children.
2. Safety and efficacy of ProSeal LMA with low-flow anaesthesia in laparoscopic cholecystectomy.
3. Feasibility of epidural catheter placement and efficacy of epidural morphine through caudal route as compared to lumbar route for postoperative pain relief in children.
4. Effect of adding midazolam to patient controlled epidural analgesia with morphine and bupivacaine combination on postoperative analgesia in patients undergoing thoracotomy.
5. Comparison of pain management in children by morphine through lumbar and caudal epidural catheter.
6. Colonization after tunnelling of caudal epidural catheter.
7. Postoperative pain management by a parent-assessed pain score and parent-administered drug regime in children after administration of caudal bupivacaine and ketamine.
8. To evaluate the efficacy of oral clonidine in children undergoing surgery under spinal anaesthesia.
9. Evaluation of shunt and ventilation-perfusion inequality by non-invasive method in anterior approaches to thoracic and thoracolumbar spine—a comparison between thoracotomy and thoracoscopy (VATS).
10. Patient controlled epidural analgesia for postoperative pain after upper abdominal surgery, morphine versus combination of morphine and midazolam.
11. Trigeminal neuralgia—comparative evaluation of cervical sympathetic blockade by nociceptive reflex and endogenous opioid level estimation.
12. To compare the efficacy of pethidine and ketoprofen as adjuvant to lidocaine in intravenous regional analgesia (IVRA) for relieving intraoperative tourniquet pain and postoperative analgesia.

### ***Ongoing***

1. Evaluation of patient comfort and acceptance of awake tracheal intubation.
2. To study the effect of dexamethasone on postoperative pain in day-care laparoscopic operative gynaecological surgery. A dose–response study.
3. Comparison of the efficacy and safety of patient controlled analgesia using a combination of morphine, fentanyl or sufentanyl with bupivacaine in thoracic or upper abdominal surgery.
4. Management of upper limb complex regional pain syndrome (CRPS) type 1: Evaluation of continuous infraclavicular brachial plexus block vs continuous stellate ganglion block with bupivacaine.
5. Comparison of bupivacaine with fentanyl and bupivacaine with butorphanol in labour analgesia with patient controlled analgesia.
6. Effect of addition of low-dose ketamine to fentanyl and bupivacaine mixture for patient controlled epidural analgesia (PCEA) for postoperative pain relief for upper abdominal surgery.
7. To evaluate the effect of bispectral index monitoring in patients undergoing thoracic surgery.
8. Evaluation of depth of sedation using BIS and other clinical parameters.
9. Comparison of halothane, isoflurane and sevoflurane using low-flow anaesthesia in children.

### **Collaborative Projects**

#### ***Completed***

1. To evaluate the feasibility and utility of conscious pain mapping using 5 mm laparoscope in women with chronic pelvic pain (with Obstetrics and Gynaecology).

#### ***Ongoing***

1. Evaluation of electro-acupuncture in idiopathic infantile nystagmus (with Ophthalmology).
2. Evaluation of CT-guided coeliac plexus block with a neurolytic agent in the management of chronic pancreatitis (with Gastrointestinal Surgery).
3. Evaluation of opioid sparing effect of parecoxib in laparoscopic cholecystectomy (with General Surgery).
4. Evaluation of single stage adjustable strabismus surgery (SSASS) under topical anaesthesia with intravenous midazolam and fentanyl (with Ophthalmology).
5. Ambulatory laparoscopic hernia repair and its feasibility as a day-care procedure (with General Surgery).
6. To compare the efficacy of butorphanol and parecoxib as adjuvant to lidocaine in total intravenous anaesthesia (with Orthopaedics).

7. Comparison between CSE and epidural analgesia for day-care knee arthroscopic surgery (with Orthopaedics).

## **PUBLICATIONS**

### **Journals**

1. Chhabra A, Pandey R, Khandelwal M, Subramaniam R, Gupta S. Anesthetic techniques and postoperative emesis in pediatric strabismus surgery. *Reg Anesth Pain Med* 2005;**30**:43–7.
2. Darlong V, Krishnan S, Pawar DK, Bhardwaj N. Pulmonary oedema after pneumatic tourniquet application. *J Anaesth Clin Pharmacol* 2004;**20**:303–6.
3. Darlong V, Shende D, Subramanyam MS, Sunder R, Naik A. Oral ketamine or midazolam or low dose combination for premedication in children. *Anaesth Intensive Care* 2004;**32**:246–9.
4. Dureja GP. Should lignocaine for spinal anaesthesia be abandoned. *J Anaesth Clin Pharmacol* 2004;**20**:221–2.
5. Ghai B, Dureja GP. Complex regional pain syndrome: A review. *J Postgrad Med* 2004;**50**:300–7.
6. Mathew PJ, Madan R, Subramaniam R, Bhatia A, Mala CG, Soodan A, *et al*. Efficacy of low-dose dexamethasone for preventing postoperative nausea and vomiting following strabismus repair in children. *Anaesth Intensive Care* 2004;**32**:372–6.
7. Pawar DK, Marraro GA. One lung ventilation in infants and children: Experience with Marraro double lumen tube. *Paediatr Anaesth* 2005;**15**:204–8.
8. Pawar DK. Regional anesthesia in paediatric patients. *Indian J Anaesthesia* 2004;**48**:394–9.
9. Soodan A, Pawar DK, Subramaniam S. Anaesthesia for removal of inhaled foreign bodies in children. *Paediatr Anaesth* 2004;**14**:947–52.

### **Books/Manual**

1. Jayalakshmi TS. *AIIMS hospital infection control manual*. New Delhi: All India Institute of Medical Sciences; 2004.

### **Chapters in Books**

1. Pawar DK. Neonatal resuscitation. In: Bhoi S, Goel A (eds). *Principles of emergency medicine*. 1st ed. Hyderabad: Paras Publications; 2005:615–22.
2. Rajeshwari S. Care of terminally ill patients. In: Chumber S (ed). *Textbook of surgery*. 1st ed. New Delhi: Jaypee Publication; 2004:1534–60.
3. Rajeshwari S. Principles of anaesthesia. In: Chumber S (ed). *Textbook of surgery*. 1st edition. New Delhi: Jaypee Publication; 2004:203–32.

## **PATIENT CARE**

The following facilities are available in the department:

1. Pre-anaesthesia clinic (PAC), 3 days in a week (Monday/Wednesday/Friday), 2–5 pm.
2. Pain clinic, 3 days in a week (Monday/Wednesday/Friday), 2–5 pm.
3. Interventional pain management procedures in the operation theatre on Thursdays.

### **Main operation theatre**

The working hours of the operation theatre were increased from 2.30 pm as the closing time to 5 pm, but the closing time is 12.30 pm on Saturday.

#### **Total number of operations done 8542**

|                           |      |
|---------------------------|------|
| General surgery           | 2712 |
| Gastrointestinal surgery  | 351  |
| Urology                   | 1541 |
| Otorhinolaryngology (ENT) | 1143 |
| Gynaecology               | 1199 |
| Paediatric surgery        | 1456 |
| Dental surgery            | 140  |

#### **Interventional pain management procedures 559**

### **Peripheral operation theatres**

|  |      |
|--|------|
| Maternity                              | 1746 |
| Orthopaedic surgery                    | 2152 |
| Dr R.P. Centre for Ophthalmic Sciences | 5624 |
| Total modified ECTs (Psychiatry OPD)   | 532  |

### **Radiological procedures done under GA in peripheral areas**

|                |     |
|----------------|-----|
| Total CECT/MRI | 744 |
|----------------|-----|

#### **Paediatric ultrasound/sonography under GA 149**

### **AB8/ICU**

|  |     |
|--|-----|
| Total number of patients admitted in AB8 ICU | 277 |
| Discharged                                   | 200 |

### **AB8 emergency duty**

|  |      |
|--|------|
| Total emergency cases  | 455  |
| Emergency calls from different wards, and peripheral ICUs and casualty | 1289 |

### **Total number of patients attending the OPD clinics**

|                            |      |
|----------------------------|------|
| Pre-anaesthesia clinic OPD | 8793 |
| Pain clinic OPD            | 7400 |

Dr G.P. Dureja organized monthly clinics at the Spastic Society of North India, New Delhi for the management of cerebral palsy in children.

### **Voluntary community service**

Professor Chandralekha has been nominated as a governing council member of the CSR women's organization.

Dr Maya provided voluntary services at the Bhatti Centre in Radha Soami Satsang, New Delhi for 17 days. She also provided voluntary medical service at the OPD of the dispensary at Bhatti Centre on all Sundays of the year except on the emergency-call days in AIIMS.

### **Difference in the number of operations/procedures done from 2003–04 to 2004–05**

| <b>Division of different specialty operation</b> | <b>No. of procedures</b> |                | <b>Difference</b> |
|--|--------------------------|----------------|-------------------|
|  | <b>2003–04</b>           | <b>2004–05</b> |                   |
| General surgery                                  | 1976                     | 2712           | +739              |
| GI surgery                                       | 306                      | 351            | +45               |
| Urology  | 1264                     | 1541           | +277              |
| ENT  | 1066                     | 1143           | +77               |
| Gynaecology                                      | 959                      | 1199           | +240              |
| Paediatric surgery                               | 1553                     | 1456           | -97               |
| Dental surgery                                   | 139                      | 140            | +1                |
| Interventional pain management                   | 365                      | 559            | +194              |
| <b>Peripheral OTs</b>                            |                          |                |                   |
| Maternity  | 1371                     | 1746           | +375              |
| Orthopaedic surgery                              | 2132                     | 2152           | +20               |
| RPC OT   | 5285                     | 5624           | +339              |
| Modified ECTs                                    | 574                      | 532            | -42               |
| <b>Radiological procedures</b>                   |                          |                |                   |
| CECT   | 32                       | 703            | +671              |
| MRI  | 32                       | 41             | +9                |
| Paediatric RPC ultrasonography                   | 258                      | 149            | -109              |
| <b>Total</b>                                     |                          |                | <b>+2648</b>      |

### **AWARDS AND HONOURS**

**Professor Chandralekha** has been nominated as a member of BIS and appointed the Chairperson of Anaesthetic and Allied Equipment Sectional Committee. She has also been nominated as an expert member of the subcommittee to follow standard trauma protocols by all medical doctors registered with the Medical Council of India.

**Dr Dilip Pawar** has been nominated as the Chairman of the Committee of Pain Relief, World Federation Society of Anaesthesiologists for 2004–08 and Visiting Professor at the University of Avilangga, Surabaya and University of Jakarta, Indonesia in July 2004.

**Dr G.P. Dureja** has been nominated as the Director of the Asian and Oceanic Society of Regional Anaesthesia and Pain Medicine (AOSRA-PM). He is also the President-Elect of the Research Society of Anaesthesiology and Clinical Pharmacology. Dr Dureja has been nominated as the Editor of an international journal, *Pain Practice* published by the World Institute of Pain, USA. He was also nominated as Editor of a multispecialty journal, *Hospital Today*, and Editor/Board Member of the *Indian Journal of Pain* and *Journal of Anaesthesiology and Clinical Pharmacology*.

### **VISITING SCIENTISTS**

The department had three overseas visitors during this academic year.

1. Anke Schuurhuis from the Netherlands from 8.11.2004 to 9.11.2004.
2. Alan Finley from the Dalhousie University, Canada on 6.2.2004.
3. Gerald Gorasky from the University of Calgary, Canada on 6.2.2004.

## 9.2 Anatomy

### Professor and Head

Kiran Kucheria

### Professors

Rani Kumar  
Raj D. Mehra

U. Sabherwal  
M.L. Ajmani (superannuated in July 2004)

Shashi Wadhwa

### Additional Professor

T.S. Roy

### Associate Professors

A. Shariff  
T.K. Das (Electron Microscopy)

Pushpa Dhar

S.B. Ray

### Assistant Professors

Rima Dada  
T.C. Nag  
(Electron Microscopy)

Arundhathi Sharma (Genetics)  
Ritu Seghal

Renu Dhingra

## EDUCATION

Developed a web-based atlas of 'Cross-sectional anatomy' using images from the National Library of Medicine, USA for undergraduate and postgraduate students.

### Undergraduate

Two undergraduate and 2 BSc (Human Biology) students from AIIMS received short-term training. Four KVPY students took training in various anatomical techniques and genetics.

### Postgraduate

Four postgraduate students, 2 MSc Neurosciences students from Jiwaji University, Gwalior received training in Neurobiological, Histochemistry and Neurohistochemistry techniques.

### Short- and long-term training

Four WHO In-Country Fellows, 1 Assistant Professor from Dharan, Nepal received short-term training.

A Neuroanatomy and Developmental Neuroanatomy course was organized for students of DM Paediatric Neurology and Neonatology postgraduates.

## **Continuing Medical Education**

The department organized the 4th Hands-on Workshop on ‘Prenatal and postnatal diagnosis of genetic disorders using molecular methods’ from 17 to 31 January 2005.

The departmental faculty served as adjunct faculty and resource persons for workshops in ‘Audio-visual media in medical education’ organized by CMET.

Faculty members delivered a series of lectures for students of MSc Neurosciences and Human Genetics at Jiwaji University, Gwalior and National Brain Research Centre (NBRC), Gurgaon.

## **National and International Conferences**

The faculty participated and delivered 41 lectures in various workshops and CMEs, and participated in 23 national and international conferences and delivered plenary/guest lectures, exhibited posters and chaired scientific sessions during the year under review.

### ***Professor Kiran Kucheria***

- ‘Genetics of male infertility’; CME on Recent advances in anatomy and the 2nd Annual Meeting of the North India Anatomists Federation, Rohtak; 2 October 2004.
- ‘Genetic analysis prior to ICSI—is it necessary?’; Workshop and CME on Assisted reproductive technologies in infertility, Delhi Cantt.; 29–31 October 2004.
- ‘Post-BMT FISH’; Haemopoietic stem cell transplantation 2004 workshop, AIIMS; New Delhi; 5–6 November 2004.
- ‘Genetics of acquired and congenital disorders—an Indian study’; Indian perspectives of genetic disorders, Chandigarh; 15 January 2005.
- Post-genomic era: Emergence of molecular medicine, Chandigarh; 14–15 February 2005.
- ‘Molecular markers in the diagnosis, prognosis and treatment of leukaemia with special reference to its availability in India’; CME and Workshop on Molecular Cytogenetics and CME on Newer upcoming technologies in genetics and cancer for diagnosis, prognosis and treatment of cancer, Indraprastha Apollo Hospital, New Delhi; 15 February 2005.
- Plenary/Guest lecture/Chaired session: Cytogenetics and molecular anomalies in chronic myeloid leukaemia (CML) patients at diagnosis and during therapy; International Conference on Human Genome Update, Hyderabad; 28–30 August 2004.
- ‘Conventional and molecular cytogenetics in leukaemias at diagnosis and during therapy’; National Conference on Recent trends in radiation biology and cancer research, Bikaner; 17–19 October 2004.
- ‘Recent advances in diagnosis and management of cancers—a genetic approach’; 24th Annual Conference of the Indian Association for Cancer Research, Noida; 9–12 February 2005.
- Participated in the Workshop on Biomedical Ethics, New Delhi; 18–19 March 2005.
- Participated in the XXXth Annual Conference of the Indian Society of Human Genetics, Hyderabad; 20–23 February 2005.

***Professor Shashi Wadhwa***

- Guest lecture/chaired session: Basic mechanisms of neural tube defects and brain malformations; CME and 2nd Annual Meeting of NIAF-2004, PGIMS, Rohtak; 2 October 2004.
- Four invited lectures for MSc Neurosciences students in the Department of Neuroscience, School of Life Sciences, Jiwaji University, Gwalior; 21–22 March 2005.
- Invited talk/chaired session: Symposium on ‘Emerging concepts in brain function’; 2nd Annual Meeting of the Society of Neurochemistry, Bangalore; 4–5 March 2005.

***Professor Raj D. Mehra***

- Resource Faculty for DBT-BHU sponsored workshop on ‘Techniques in neurobiology’, Varanasi; February–March 2005.
- Invited lecture on ‘Immune regulation and hippocampus’; JALMA, Agra; May 2004.
- Invited lecture on ‘Memory and immune regulation: Implications of oestrogen therapy’; Shree Lord Venkateshwar Institute of Medical Sciences, Tirupati; December 2004.
- Invited lecture on ‘An insight into the role of oestrogen in hippocampus’; XXIIth Conference of the Indian Academy of Neurosciences, Gwalior; January 2005.

***Dr Rima Dada***

- Lecture on ‘Genetic analysis necessary prior to ICSI’; Workshop-cum-CME on Assisted reproductive technologies in infertility, Department of Obstetrics and Gynaecology, ART Centre, Delhi; 29–31 October 2004.
- Three lectures during the 4th DBT Workshop on ‘Prenatal and postnatal diagnosis of genetic disorders using molecular methods, New Delhi; 17–31 January 2005.

***Dr Arundhati Sharma***

- Three lectures during the 4th DBT Workshop on ‘Prenatal and postnatal diagnosis of genetic disorders using molecular methods’, New Delhi; 17–31 January 2005.

***Professor Usha Sabherwal***

- Invited lecture on ‘Confocal microscopy’; XXth National Training Programme in Electron Microscopy for Scientific Investigators organized by E.M. Facility, AIIMS; 22–31 December 2004.

***Dr S.B. Ray***

- Invited lecture on ‘Opioid receptors in spinal cord: Implications in pain relief and development’; 2nd Annual Conference of the North India Anatomists Federation’, Rohtak; October 2004.
- Lectures for MSc Neurosciences students, Jiwaji University, Gwalior.
- Presentation on ‘Nimodipine attenuates morphine-induced tolerance and dependence’; International Neuroscience Conference, Hyderabad; May 2004.
- Presentation on ‘Analgesic effect of loperamide as compared to morphine after intrathecal administration in rat’; 52nd National Conference of the Anatomical Society of India’, Hyderabad; December 2004.

- Presentation at the Annual Conference of the Indian Academy of Neurosciences, Gwalior; January 2005.

### ***Dr Pushpa Dhar***

- Presentation at the 52nd National Conference of Anatomical Society of India, Hyderabad; December 2004.
- Presentation at the National Symposium on 'Med Biotech 2005', Patiala; February 2005.
- Poster presentation at the Gordon Research Conference, USA; July 2004.
- Presentation at the International Symposium on 'Current trends in neuromuscular disorders', Delhi; March 2005.

### ***Dr Renu Dhingra***

- Lecture on 'Plastination'. In CME of 2nd Annual Meeting of NIAF, PGIMS, Rohtak; 2 October 2004.

## **RESEARCH**

### **Funded Projects**

#### ***Completed***

1. Cytogenetic and molecular study of chronic myeloid leukaemia (CML). K. Kucheria. Funded by the Council for Scientific and Industrial Research (CSIR) for 4 years (February 2001–March 2005). Funds: Fellowship and Contingency of Rs 10,000.
2. Effects of *in vitro* continuous gestational nicotine exposure on development of brain during prenatal period. T.S. Roy. Funded by the Ministry of Health and Family Welfare and ICMR for 3 years (2001–2004). Funds: Rs 21.49 lakh.
3. Effect of intrathecal nimodipine on morphine-induced analgesia and tolerance. S.B. Ray. Funded by the All India Institute of Medical Sciences for 1 year (2004–2005). Funds: Rs 50,000.

#### ***Ongoing***

1. Genomics of male infertility. K. Kucheria. Funded by the Indian Council of Medical Research for 3 years (2003–2006). Funds: Rs 19 lakh.
2. Sexual and reproductive health for rural and urban women with application of molecular genetics. K. Kucheria. Funded by DBT for 3 years (2004–2006). Funds: Rs 25.62 lakh.
3. Genomic diversity in five ethnic groups of Rajasthani population. K. Kucheria. Funded by DBT for 3 years (2004–2007). Funds: Rs 25.71 lakh.
4. Aneuploidies leading to mental retardation and foetal loss. K. Kucheria. Funded by DBT for 3 years (2005–2008). Funds: Rs 50.12 lakh.
5. Diagnosis and counselling of genetic disorders using cytogenetics and molecular methods. K. Kucheria. Funded by DBT for 3 years (2005–2008). Funds: Rs 26.73 lakh.
6. Role of cell cycle regulatory genes in breast cancer patients on hormonal therapy. Rani Kumar. Funded by DBT for 3 years (2004–2007). Funds: Rs 21 lakh.

7. Effect of prenatal sound stimulation on chick hippocampus. Shashi Wadhwa. Funded by DBT for 3 years (2003–2006). Funds: Rs 17.85 lakh.
8. Studies on immuno-expression of anti-apoptotic and transcription marker molecules in ovariectomized rat hippocampus. Raj D. Mehra. Funded by ICMR for 3 years (2004–2007). Funds: Rs 3.65 lakh.
9. The effect of arsenic exposure during early postnatal period on rat cerebellum. Pushpa Dhar. Funded by AIIMS for 3 years (2002–2005). Funds: Rs 65,000.
10. Effect of alterations in intracellular calcium ion concentration on ORL1 opioid receptors in the rat nervous system during morphine tolerance. S.B. Ray. Funded by ICMR for 3 years (2003–2006). Funds: Rs 6.17 lakh.
11. Apoptosis in placental membranes in pre-eclampsia: An immunohistochemical study. Renu Dhingra. Funded by AIIMS for 1 year (2005–2006). Funds: Rs 75,000.

### **Departmental Projects**

1. Immunological studies on human autistic patients.
2. Oestrogen hormone interactions in adult female rat hippocampus.
3. Development of the human cochlear nerve during prenatal period.
4. Development of the human auditory system.
5. Plasticity of enteric nervous system.
6. Producing digital resource materials in anatomical sciences in the Department of Anatomy.
7. Effects of arsenic exposure during early postnatal period on the rat hippocampus.
8. Effect of environment and life style on male reproductive health.
9. Mutation screening for *BRCA1* and *BRCA2* in high-risk breast cancer families.
10. Apoptosis in placental membranes in pre-eclampsia, an immunohistochemical study.
11. Effect of cartap hydrochloride on cultured human lymphocytes.
12. Mitochondrial genome and Y chromosome analysis in male infertility.
13. Genomic diversity in Rajasthani population.
14. Role of glutathione-5-transferase gene deletion in breast cancer and its prognostic significance.
15. Aetiopathogenesis of childhood aplastic anaemia.

### **Collaborative Projects**

#### ***Completed***

1. Effects of prenatal chlorpyrifos exposure on developing rat hippocampus.

## **Ongoing**

1. An immunohistochemical study on the expression of different voltage-gated calcium ion channels in the rat nervous system after morphine tolerance (with Neuroscience Centre, Jiwaji University, Gwalior).

## **PUBLICATIONS**

### **Journals**

1. Alladi PA, Roy TS, Singh N, Wadhwa S. Developmentally regulated expression of c-Fos and c-Jun in the brainstem auditory nuclei of *Gallus domesticus* is modified by prenatal auditory enrichment. *J Neurobiol* 2005;**62**:92–105.
2. Chaudhury A, Shariff A, Srinivas M, Sabherwal U. Changes in nitrenergic innervation of defunctionalized rat colon after diversion colostomy. *Neurogastroenterol Motil* 2004;**16**:475–87.
3. Dada R, Gupta NP, Kucheria K. Yq microdeletions—azoospermia factor candidate genes and spermatogenic arrest. *J Biomol Tech* 2004;**15**:176–83.
4. Dhar P, Ajmani ML. Major anomalies of the left renal vein and inferior vena cava. *Int Med J* 2004;**3**:1–13.
5. Dhar P, Jaitly M, Kalaivani M, Mehra RD. Morphological and histochemical evidence of impaired oxidative metabolism activity in rat spinal cord following arsenic ingestion. *Neurotoxicology* 2005;**26**:309–20.
6. Dhar P. Body donation—a need based problem. *Eubios J Asian Int Bioeth* 2005;**15**:10–12.
7. Dhingra R, Talwar KK, Chopra P, Kumar R. An experimental design for induction of non-specific aortoarteritis. *Indian Heart J* 2005;**57**:143–50.
8. Jain S, Sharma R, Wadhwa S. Effect of prenatal species-specific and music stimulation on the postnatal auditory preference of domestic chick. *Indian J Physiol Pharmacol* 2004;**48**:174–83.
9. Paul S, Sehgal R, Khatri K. Anatomical variations in the labral attachment of the long head of biceps brachii. *J Anat Soc India* 2004;**3**:49–51.
10. Ray SB, Gupta YK, Wadhwa S. Expression of opioid receptor-like 1 and mu opioid receptors in the spinal cord of morphine tolerant mice. *Indian J Med Res* 2005;**121**:194–202.
11. Ray SB, Rai A, Roy TS. Unusual insertion of coracobrachialis muscle to the brachial fascia associated with high division of the brachial artery. *Clin Anat* 2004;**17**:672–8.
12. Ray SB, Wadhwa S. Expression of mu-opioid receptors in developing rat spinal cord: An autoradiographic study. *Indian J Exp Biol* 2004;**42**:533–7.
13. Roy TS, Sharma S. Axillary vein perforation by the medial cutaneous nerve of the forearm. *Clin Anat* 2004;**17**:300–2.
14. Roy TS, Sharma V, Seidler FJ, Slotkin TA. Quantitative morphological assessment reveals neuronal and glial deficits in hippocampus after a brief subtoxic exposure to chlorpyrifos in neonatal rats. *Dev Brain Res* 2005;**155**:71–80.

15. Sivakumaran TA, Shen P, Wall DP, Do BH, Kucheria K, Oefner PJ. Conservation of the *RBI* gene in human and primates. *Hum Mutat* 2005;**25**:396–409.
16. Talwar GP, Raina K, Gupta JC, Ray R, Wadhwa S, Ali MM. A recombinant luteinising-hormone-releasing-hormone immunogen bioeffective in causing prostatic atrophy. *Vaccine* 2004;**22**:3713–21.
17. Talwar R, Choudhry VP, Kucheria K. Differentiation of fanconi anemia from ‘idiopathic’ aplastic anemia by induced chromosomal breakage study using mitomycin-C (MMC). *Indian Pediatr* 2004;**41**:473–7.

### Abstracts

18. Arora L, Dada R. Aberrant renal artery and additional renal vein. *J Anat Soc India* 2005;**54**:48 (Abst.111).
19. Arora L, Dada R. Anatomy of thoracodorsal artery supplying the latissimus dorsi muscle. *J Anat Soc India* 2005;**54**:48 (Abst.107).
20. Dada R, Gupta NP, Kucheria K. Yq microdeletions AZF candidate genes and spermatogenic arrest. *J Biomol Tech* 2004;**15**:13.
21. Dada R, Gupta NP, Kucheria K. Endocrinological, clinical, cytogenetic and molecular analysis in variant Klinefelter cases and delayed puberty. *J Biomol Tech* 2004;**15**:13.
22. Dada R, Kumar R, Jena M, Kucheria K. Chromosomal aberrations and its association with reproductive failure. *J Anat Soc India* 2005;**54**:43 (Abst.77).
23. Dada R, Kumar R, Jena M, Kucheria K. Klinefelter’s syndrome and its variants. *J Anat Soc India* 2005;**54**:44 (Abst.82).
24. Dhar P, Mohari N, Mehra RD. Early postnatal exposure to sodium arsenite influences cerebellar development in rats. *FASEB Journal* 2005;**19**:A794.
25. Dhar P, Mohari N, Mehra RD. Effect of sodium arsenite on purkinje cells of rat cerebellum—a histomorphometric study. *J Anat Soc India* 2005;**54**:44.
26. Dixit S, Sharma K, Mehra RD. Alteration in expression of presynaptic protein synaptophysin in female rat hippocampus following 17- $\beta$  estradiol administration. *Ann Neurosci* 2005;**13**:31–2.
27. Kucheria K, Talwar R. Recent advances in diagnosis and management of cancers—a genetic approach. *Indian J Med Res* 2005;**121** (Suppl.):14–15 (Abstract PO-19).
28. Kucheria K. Recent advances in prenatal diagnosis of aneuploidies. *Int J Hum Genet* 2004;**Suppl. 1**:9–10.
29. Mehra RD. An insight into the role of estrogen in hippocampus. *Ann Neurosci* 2005;**13**:10.
30. Mohari N, Dhar P, Mehra RD. Effects of arsenic exposure on myelination and morphogenesis of rat cerebellum. *Ann Neurosci* 2005;**13**:23–4.
31. Sharma K, Kataria S, Vij U, Nyaksas C, Mehra RD. Differential cellular pattern of estrogen alpha and beta subtypes in rat brain. *J Anat Soc India* 2005;**54**:44 (Abst.82).

32. Sharma K, Mehra RD. Agonistic activity of tamoxifen on ovariectomized rat hippocampus. *Ann Neurosci* 2005;**13**:26.
33. Sharma K, Mehra RD. Estrogen-like activity of tamoxifen ovariectomized rat hippocampus. *J Anat Soc India* 2005;**54**:56 (Abst.167).
34. Vij U, Kumar A, Sharma K, Mehra RD. Decidual tissue-biotransformation of ovarian steroid under the influence of mifepristone. *Indian J Physiol Pharmacol* 2004;**48** (Suppl. 1):130–1.

### Books

1. Kucheria K. *Fourth hands-on workshop manual, prenatal and postnatal diagnosis of genetic disorders using molecular methods*. New Delhi: AIIMS; 2004:170 pp.

### Chapters in Books

1. Dada R, Kucheria K. Effect of environment, disease and therapy on male reproductive function. In: Ansari A, Joshi SC (eds). *Advances in reproductive toxicology*. Jaipur: Pointer Publisher; 2005:192–206.
2. Dada R, Kucheria K. Genetic analysis prior to ICSI. Is it necessary? In: *Manual of CME on assisted reproductive technologies in infertility*. 2004:29–30.
3. Kucheria K, Gupta NP, Dada R. Reproductive health—understanding of male infertility using state of art technology. In: Reddy PP, Manohara Chary C, Jyothy A (eds). *Trends in cytology and genetics*. Hyderabad: Osmania University; 2004:122–36.
4. Kucheria K. Conventional and molecular cytogenetics in leukemias at diagnosis and during therapy. In: Purohit RK (ed). *Recent trends in radiation biology and cancer research*. Bikaner: Dungar College; 2005:9–11.

### PATIENT CARE

|                       |     |
|-----------------------|-----|
| Chromosomal analysis  | 300 |
| Bone marrow           | 38  |
| Semen analysis        | 170 |
| FISH analysis (CML)   | 20  |
| Amniotic fluid/CVS/CB | 20  |
| PCR analysis          | 79  |
| Fluoride estimation   | 123 |
| Embalming             | 391 |

### Community health

Three awareness camps were organized at Ladnun, Rajasthan under the DBT Project entitled ‘Sexual and reproductive health for rural and urban women with application of molecular genetics’.

### AWARDS AND HONOURS

**Professor K. Kucheria** was elected Vice President, Indian Society of Human Genetics (2 years); nominated as a referee for the *British Journal of Haematology*, *Iranian Journal of Biotechnology* and

*Asian Journal of Andrology*, 2004; Member of the Rajasthan Biotechnology Advisory Board; Member of the DBT Task Force for Human Genetics and Genomic Analysis.

**Professor Usha Sabherwal** was awarded the Dr S.P. Jain Oration at the 52nd Annual Meeting of the Anatomical Society of India.

**Professor Shashi Wadhwa** was elected President of the Indian Academy of Neurosciences for 2005–2006; nominated Member of the Peer Review Committee of DBT for NBRC and Research Advisory Committee of NBRC; nominated Member of the CSIR Committee for Travel Grants; Member of the New York Academy of Science.

**Dr T.S. Roy** was nominated Vice President of the Indian Academy of Neurosciences, 2004–2005, a Life Member of the Society for Neurosciences, and became a Founder Member of the Asia-Oceania Pancreatic Club, India.

**Dr S.B. Ray** became a Member of the International Association for Study of Pain.

**Dr Pushpa Dhar** was nominated Vice President of the All India Bioethics Association; Executive Council Member of the Anatomical Society of India (2004–2005).

**Dr Rima Dada** was awarded the Shakuntala Amir Chand Award by the Indian Council of Medical Research for outstanding contribution to biomedical research in the genetics of infertility for the year 2003.

#### **Awards received by students**

**Rashmi Talwar**, a PhD student, was given the Dr A.V. Tilak Award for the Best Poster presentation at the Second Indian Aging Congress—2004.

**Dr Bappaditya Ray** received the Best Paper Award at the Annual Meeting of the Electron Microscopic Society of India, Delhi.

#### **SIGNIFICANT EVENTS**

**Professor K. Kucheria** was Member of the Selection Committee, NIMHANS, Bangalore; an Expert in the Selection Committee of the Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow; an Expert for the National Consensus for Expanding Access to Emergency Contraception, AIIMS, New Delhi; Guest Faculty in a Workshop on ‘Application of advanced molecular methods for diagnosis of human genetic diseases’, Teheran, Iran, 13–16 September 2004; Guest of Honour during the National AIDS Awareness Day, Jamia Hamdard, New Delhi, 1 December 2004.

**Professor Rani Kumar** was an International Consultant for Academic Matters for Gulf Medical College, Ajman; invited to attend a meeting of the Editorial Board for the Magazine *Health*—a publication of the Gulf Medical College, Ajman, UAE.

**Professor Shashi Wadhwa** attended the Scientific Advisory Committee meeting of the National Brain Research Centre, and the meeting of the Board of Studies of NBRC at Manesar, Gurgaon. She was an External Expert in the Advisory Committee of the Neurosciences Centre, Jiwaji University, Gwalior; was nominated as Member of the AIIMS Library Committee; Member of Selection Committee for Medicine—2005 of the Indian Academy of Sciences, Bangalore; on the editorial committee of the *Journal of Biosciences*; and a member of the Institutional Animal Ethics Committee of AIIMS.

**Professor Raj Mehra** presided over the ‘Biotechnology Day’ celebrations organized by JALMA, Agra; was invited as a speaker in the International Immunology Symposium, Shanghai Institute of Immunology, Shanghai, China.

**Dr Rima Dada** was invited as an Expert by the National Institute of Health and Family Welfare for screening of projects to be submitted to external funding agencies; was a Resource Scientist in the Fourth DBT Workshop on ‘Prenatal and postnatal diagnosis of genetic disorders using molecular methods’, AIIMS, New Delhi, 17–31 January 2005.

**Dr Arundhati Sharma** was a Resource Scientist at the Fourth DBT Workshop on ‘Prenatal and postnatal diagnosis of genetic disorders using molecular methods’, AIIMS, New Delhi, 17–31 January 2005.

**Dr Ritu Sehgal** became a life member of the Association of Gerontology (India).

The Genetics Division has been recognized and approved as a Training Centre for Molecular Techniques by the Department of Biotechnology, Government of India.

## 9.3 Biochemistry

### Professor and Head

Subrata Sinha

### Professors

Neeta Singh

D.N. Rao

### Additional Professors

Nibhriti Das

Ranju Ralhan

S.S. Chauhan

M.R. Rajeswari

### Associate Professors

P.P. Chattopadhyay

Kalpana Luthra

### Assistant Professors

Alpana Sharma

Kunzang Chosdol

N.C. Chandra

## EDUCATION

### Undergraduate

The undergraduate teaching programmes of the department include MB,BS (two semesters), BSc (Post-certificate) Nursing (one semester) and BSc (Hons) Nursing (one semester). The MB,BS teaching programme has been updated to include more comprehensive course objectives and a wider array of topics for small group discussions to improve the analytical skills of the students.

### Postgraduate

These include MSc (two years) and MD. The department also has 20 PhD students.

### Short-term training

Summer training in research was provided to MB,BS and BSc (Human Biology) students from AIIMS. They also conducted projects for the KVPY Scheme of the DST. Eleven students from India received short-term training. The department also trained 1 MD and 2 MSc students from Dr B.P. Koirala Institute for Health Sciences, Dharan, Nepal.

### Continuing Medical Education

Dr Nibhriti Das and Dr Kalpana Luthra are adjunct faculty of CMET. Dr Kalpana Luthra actively participated in organizing and conducting a CMET workshop on 'Teaching, learning and assessment' in April 2004. She also coordinated a departmental session to orient 2 WHO fellows from Myanmar on behalf of CMET on 20 November 2004.

## **National and International Conferences**

**Dr Subrata Sinha** delivered an invited talk at the 12th Annual Conference of the Association of Medical Biochemists of India, 7 November 2004 at Raipur and at the 31st Annual Conference of the Indian Immunology Society, 15–18 December 2004 at Chennai. He gave a plenary lecture at the ‘International Symposium on Molecular Medicine’, 14 February 2005 at Chandigarh, and chaired sessions and participated in a panel discussion at the ‘Symposium on Gene Therapy—Strategies, vector development and targeting’, 15 February 2005 at Mumbai and at the 24th Annual Convention of Cancer Research on 9 February 2005 at Noida.

**Dr Neeta Singh** gave invited talks at the National Symposium on Antioxidants and Trace Elements in Medicine and Dentistry held at Udaipur, 17–18 April 2004; International meeting on cervical cancer held at NCBS, Bangalore, 8–9 November 2004; 41st Annual Convention of Chemists 2004 held at the Department of Chemistry, University of Delhi, 23–27 December 2004; International Conference on Antioxidants and Free Radicals in Health—Nutrition and Radioprotectors and IV Annual Conference of the Society for Free Radical Research in India (SFRR) held at St John’s Medical College, Bangalore, 10–12 January 2005; International Symposium on Diet in Causation and Prevention of Cancer and the XXX Annual Conference of the Environmental Mutagen Society of India held at ITRC, Lucknow, 17–19 March 2005; the UGC-sponsored National Seminar on ‘Chemistry in life’ held at Miranda House, Delhi University, 18–20 January 2005; at King George’s Medical University, Lucknow, 18 March 2005; Gynaecological combined Grand Round on 23 November 2004 at the IRCH, AIIMS on 17 January 2005.

**Dr D.N. Rao** organized the Dr Yellapragada Subbrow Oration Lecture by Dr R.A. Mashelkar. He delivered a talk and chaired a session during the XXIV Indian Immunology Society Conference held at Chennai, the National Biotechnology Conference held at Nagarjuna University, Guntur (AP) and was guest of honour during the Bioinformatics Conference at Aligarh Muslim University, Aligarh.

**Dr Ranju Ralhan** delivered talks at the following conferences: ‘Prenatal and postnatal diagnosis of genetic disorders using molecular methods’, AIIMS, New Delhi, January 2005; Guha Research Conference, Kodaikanal, Tamil Nadu, December 2004; DNA Repair Conference, Germany, September 2004; FDI Annual World Dental Congress, New Delhi, September 2004; National Centre for Cell Science, Pune, July 2004; Indo-Tunisian Workshop on ‘Biotechnology in medicine’, New Delhi, June 2004.

**Dr M.R. Rajeswari** was an invited speaker at the ‘Chemistry–biology interface: Synergistic new frontiers’, organized by Dr B.R. Ambedkar Centre for Biomedical Research, Delhi University, November 2004 and at the ‘Frontiers bioinformatics tools in genome and proteome analyses’ held in March 2005 at the Department of Bioinformatics, OUAT, Bhubaneswar. She was also the Co-chairperson of the technical session on ‘Drug designing and molecular modelling’.

**Dr P.P. Chattopadhyay** delivered an invited lecture at the Symposium on ‘Gene therapy—strategies, vector development and targeting’ on 15 February 2005 at Mumbai.

**Dr Kalpana Luthra** delivered an invited talk at an update on ‘HIV–TB nexus’, organized by the Department of Biotechnology, AIIMS under the AITRP joint meeting, January 2005.

## RESEARCH

### Funded Projects

#### *Completed*

1. Multicentric National Programme on evaluation and validation of molecular markers in oral cancer. Ranju Ralhan (Coordinator). Funded by DBT for 3 years (2001–2004). Funds: 20.66 lakh.
2. Consequence of hypoxia on CpG island methylation at interspersed repeat loci of glial tumour cell lines and its downstream effect on their transcription. P.P. Chattopadhyay. Funded by AIIMS for 3 years. Funds: Rs 1.50 lakh.
3. Immunocytochemical detection of chemokine receptor CXCR4 in human placenta: Implication of chemokines in embryo implantation. K. Luthra. Funded by AIIMS for 3 years (2000–2003). Funds: Rs 1.20 lakh.
4. Signalling mechanisms for the regulation of low density lipoprotein receptor (LDLR) gene transcription on cholesterol/LDL endocytosis by human trophoblast cells. N.C. Chandra. Funded by AIIMS for 2 years (2002–2004). Funds: Rs 1 lakh.
5. Trophoblast biology: Intracellular signalling mechanism. N.C. Chandra. Funded by ICMR for 2 years (2002–2004). Funds: Rs 6.5 lakh.

#### *Ongoing*

1. Ligand-based selection from combinatorial libraries for generating recombinant antibodies to the placental (oncofoetal) isozyme of alkaline phosphatase: Characterization and validation in clinical cancer. Subrata Sinha. Funded by DBT for 3 years (2005–2008). Funds: Rs 25.63 lakh.
2. Expression of recombinant antibody in *E. coli*: Processes for improving binding characteristics of antibodies to hepatitis B surface antigen (HbsAg). Subrata Sinha. Funded by DBT for 4 years (2002–2006). Funds: Rs 39 lakh.
3. Response of glioblastoma cell lines to chemotherapeutic agents with respect to molecular indicators of genomic instability in normoxic and hypoxic conditions. Subrata Sinha. Funded by ICMR for 3 years (2003–2006). Funds: SRF Fellowship + Contingency.
4. A study of the expression of I-L13 and I-L4 receptors in primary meningeal tumours. Subrata Sinha. Funded by ICMR for 3 years (2005–2008). Funds: SRF Fellowship + Contingency.
5. A study of expression and targeting of inhibitor(s) of apoptosis—*in vitro* and *in vivo* study. Neeta Singh. Funded by ICMR for 3 years (2002–2005). Funds: Rs 8.82 lakh.
6. Identification of differentially expressed genes in lung cancer using cDNA library subtraction. Neeta Singh. Funded by DBT for 3 years (2003–2006). Funds: Rs 28.22 lakh.
7. Functional analysis of S29 ribosomal protein apoptosis. Neeta Singh. Funded by DST for 3 years (2003–2006). Funds: Rs 18.24 lakh.
8. Gene expression profiling in the practitioners of *sudarshan kriya*. Neeta Singh. Funded by the Ministry of Health and Family Welfare for 3 years (2003–2006). Funds: Rs 22 lakh.
9. Development of a human papillomavirus vaccine prototype. Neeta Singh. Funded by DBT for 2 years. Funds: Rs 36.49 lakh.

10. Molecular epidemiology of HPV types prevalent in India and identification of HPV-16 L1 and E6 variants in cervical cancer. Neeta Singh. Funded by DBT for 2 years. Funds: Rs 13.94 lakh.
11. Developing cocktail vaccine for all the stages of *P. vivax*. D.N. Rao. Funded by ICMR for 2 years (2004–2006). Funds: Rs 10 lakh.
12. Developing new generation peptide-based vaccine using F1 and V antigen of *Y. pestis*. D.N. Rao. Funded by DST for 3 years (2004–2007). Funds: Rs 22 lakh.
13. Technological feasibility and immunological potential of a single injection, acellular pertussis vaccine incorporating PT and FHA in microsphere. D.N. Rao. Funded by DBT for 3 years (2004–2007). Funds: Rs 40 lakh.
14. Elucidation of the molecular mechanism of hypertension: Role of genetic variants of nitric oxide synthase, free radical homeostasis and cell adhesion molecules and their interplay in the disease. Nibhriti Das. Funded by ICMR for 3 years (2002–2005). Funds: Rs 21 lakh.
15. Functional analysis and clinical significance of novel molecular targets in cytoskeletal reorganization and locoregional spread of oral cancer using proteomics. Ranju Ralhan. Funded by DBT for 3 years (2005–2008). Funds: Rs 38 lakh.
16. Designing of methylation target arrays for breast cancer. Ranju Ralhan. Funded by DBT for 1 year (2005–2006). Funds: Rs 22.16 lakh.
17. Relationship between polymorphisms in drug metabolizing enzymes, CYP1A1 and GSTM1 and the risk of developing oral precancer and cancer among consumers of tobacco and chewing products. Ranju Ralhan. Funded by ICMR Task Force for 5 years (2002–2007). Funds: Rs 155 lakh.
18. Gene expression profile analysis of human oesophageal cancer using cDNA microarrays. Ranju Ralhan. Funded by ICMR Task Force for 3 years (2002–2005). Funds: Rs 34 lakh.
19. Role of genomic instability due to alterations of recombination factors p53 and BRCA1 in the pathogenesis of breast cancer. Ranju Ralhan. Funded by Indo-German Project for 3 years (2002–2005). Funds: Rs 33 lakh.
20. Regulation of human cathepsin L expressed by 5' untranslated regions of its mRNA species. Shyam S. Chauhan. Funded by DST for 4 years (2001–2005). Funds: Rs 18.75 lakh.
21. Identification and characterization of human cathepsin L alternate promotor. Shyam S. Chauhan. Funded by CSIR for 3 years (2004–2007). Funds: Rs 6.90 lakh.
22. Studies on expression of HMGA proteins in tumour growth and their interaction with DNA. M.R. Rajeswari. Funded by DST for 3 years (2003–2006). Funds: Rs 18.07 lakh.
23. Proteomic analysis of outer membrane of *Acinetobacter baumannii* and its resistant strains. M.R. Rajeswari. Funded by DBT for 3 years (2005–2008). Funds: Rs 17.39 lakh.
24. Determination of *N-myc* gene amplification by PCR in neuroblastoma and tumour surveillance by detecting tyrosine hydroxylase using RT-PCR. P. Chattopadhyay, Co-PI; Collaboration with Professor D.K. Gupta, Department of Paediatric Surgery. Funded by DBT for 3 years. Funds: Rs 18 lakh.
25. Frequency distribution of three HIV-1 resistance conferring polymorphisms SDF-3' A, CCR2-64 I, and CCR5-delta 32 in Asian Indians. K. Luthra. Funded by DST for 3 years (2003–2006). Funds: Rs 19.50 lakh.

26. Expression of leucocyte function associated antigen-1 (LFA-1) in normal and pre-eclamptic human placenta. K. Luthra. Funded by AIIMS for 2 years (2004–2006). Funds: Rs 1 lakh.
27. Characterization of novel genetic alterations preferentially involved in low-grade human astrocytic tumours. Kunzang Chosdol. Funded by DST for 3 years (2003–2006). Funds: Rs 10 lakh.
28. Studies on the possible development of hyperlipaemia by oral contraceptives: An *in vitro* model. N.C. Chandra. Funded by the Ministry of Health and Family Welfare for 3 years (2003–2006). Funds: Rs 10.27 lakh.
29. Effect of breathing techniques and meditation on normal individuals and those with cancer in remission. Vinod Kochupillai (PI) and Neeta Singh (Co-PI). Funded by CCRYN for 5 years (2000–2005). Funds: Rs 23 lakh.
30. Development of HPV candidate vaccine/s: Preparation of clinical trial site/cohort for vaccine testing. Neerja Bhatla (PI) and Neeta Singh (Co-PI). Funded by DBT for 3 years (2005–2008). Funds: Rs 84.98 lakh.
31. Culture of limbal stem cells for ocular surface reconstruction in stem cell deficiency disorders. Radhika Tandon (PI) and Neeta Singh, Lalit Kumar, R.B. Vajpayee (Co-PIs). Funded by DBT for 3 years (2005–2008). Funds: Rs 27.1 lakh.

### **Departmental Projects**

1. A study of the expression and targeting of inhibitor(s) of apoptosis proteins (IAPs) and an analysis of their expression in head and neck cancer.
2. Evaluation of molecular markers and anticancer agents in lung cancer.
3. Role of mitochondria in apoptosis.
4. HPV and molecular genetics of cervical cancer.
5. Molecular and biological factors in the pathogenesis of ovarian cancer.
6. A study of apoptosis- and proliferation-related proteins in cervical cancer.
7. Effect of benzamide riboside and ATP analogues on apoptotic signalling pathways.
8. Molecular pathogenesis of human cervical cancer.
9. Molecular detection and genotyping of HPV in cervical cancer—a population-based study.
10. Paraoxonase and its gene variants in relation to coronary artery disease.
11. Complement regulatory proteins in relation to the pathophysiology of SLE.
12. Effect of omega-3 and omega-6 fatty acids on macrophage cell signalling: Significance in the complement-dependent and -independent host *Mtb* interactions.
13. CR1 polymorphism in relation to the severe form of malaria in Indian subjects.
14. Leucocyte CR1: Its expression, modulation and significance in the pathophysiology of SLE.

## Collaborative Projects

### Ongoing

1. Prevalence of alteration at microsatellite loci on 1p and 19q in primary human gliomas (with Pathology, Neurosurgery).
2. Fine mapping of alterations in chromosome 17 in gliomas and their implications for the tumour phenotype (with Pathology, Neurosurgery).
3. Use of DNA fingerprinting technology to identify altered genetic regions in gliomas (with Pathology, Neurosurgery).
4. Evaluation of different strategies for management of ocular diseases due to stem cell deficiency disorders (with Ophthalmology).
5. Evaluation of nephrotoxicity by urinary biomarkers (with Pathology).
6. MRI studies on murine breast and skin tumours (with NMR).
7. Histopathological investigations on murine skin and liver tumours (with Pathology).
8. Isolation and analysis of the outer membrane proteins of *Acinetobacter baumannii* (with Microbiology).
9. Structural studies on the immobilized trypsin and chymotrypsin (with Department of Chemistry, Indian Institute of Technology, Delhi).
10. Structural investigations on the native and mutated outer membrane protein from *Acinetobacter baumannii* (with Department of Bioinformatics, JNU).
11. Utility of antigen detection from the epidermis of Indian patients in pemphigus vulgaris (with Dermatology and Venereology).
12. A prospective study of oxidative stress markers and antioxidant levels in patients with pre-eclampsia (with Obstetrics and Gynaecology).
13. Evaluation of prognostic markers in patients of multiple myeloma (with Medical Oncology, Dr B.R. Ambedkar IRCH, AIIMS).
14. Impact of CYP2C19 polymorphisms on eradication of *Helicobacter pylori* (with Gastroenterology).

## PUBLICATIONS

### Journals

1. Alladi PA, Roy TS, Singh N, Wadhwa S. Developmentally regulated expression of c-Fos and c-Jun in the brain stem auditory nuclei of *Gallus domesticus* is modified by prenatal auditory enrichment. *J Neurobiol* 2005;**62**:92–105.
2. Arora S, Kaur J, Sharma C, Mathur M, Bahadur S, Shukla NK, Deo SV, Ralhan R. Stromelysin 3, Ets-1, and vascular endothelial growth factor expression in oral precancerous and cancerous lesions: Correlation with microvessel density, progression, and prognosis. *Clin Cancer Res* 2005;**11**:2272–84.
3. Arora S, Matta A, Shukla NK, Deo SV, Ralhan R. Identification of differentially expressed genes in oral squamous cell carcinoma. *Mol Carcinog* 2005;**42**:97–108.

4. Arora V, Verma J, Dutta R, Marwah V, Kumar A, Das N. Reduced complement receptor 1 (CR1, CD35) transcription in systemic lupus erythematosus. *Mol Immunol* 2004;**41**:449–56.
5. Datta K, Shah P, Srivastava T, Mathur SG, Chattopadhyay P, Sinha S. Sensitizing glioma cells to cisplatin by abrogating the p53 response with antisense oligonucleotides. *Cancer Gene Ther* 2004;**11**:525–31.
6. Ghosh I, Chowdhury AR, Rajeswari MR, Datta K. Differential expression of hyaluronic acid binding protein 1 (HABP1)/P32/C1QBP during progression of epidermal carcinoma. *Mol Cell Biochem* 2004;**267**:133–9.
7. Kaur J, Chakravarti N, Mathur M, Srivastava A, Ralhan R. Alterations in expression of retinoid receptor beta and p53 in oral submucous fibrosis. *Oral Dis* 2004;**10**:201–6.
8. Khanna N, Jayaraman HN, Singh N. Benzamide riboside induced mitochondrial mediated apoptosis in human cancer H520 cells. *Life Sci* 2004;**75**:179–90.
9. Kumar A, Kaur J, Chattopadhyay TK, Mathur M, Ralhan R. Differential expression of retinoic acid receptors in normal and malignant esophageal tissues. *J Exp Ther Oncol* 2004;**4**:1–8.
10. Kumar A, Kumar S, Dinda AK, Luthra K. Differential expression of CXCR4 receptor in early and term human placenta. *Placenta* 2004;**25**:347–51.
11. Medha R, Sharma A. Bioinformatics and its implications in clinical medicine: A review. *Int Med J* 2004;**11**:125–9.
12. Misra A, Vikram NK, Arya S, Pandey RM, Dhingra V, Chatterjee A, Dwivedi M, Sharma R, Luthra K, Guleria R, Talwar KK. High prevalence of insulin resistance in postpubertal Asian Indian children is associated with adverse truncal body fat patterning, abdominal adiposity and excess body fat. *Int J Obes Relat Metab Disord* 2004;**28**:1217–26.
13. Srivastava K, Biswas UK, Narang R, Varghese JJ, Das N. Prevalence of eNOS Glu298Asp polymorphism in healthy volunteers from a region of northern India. *Community Genet* 2005;**8**:180–3.
14. Sarkar C, Sinha S, Sharma MC, Kumar R, Mehta VS. Supratentorial glioblastoma in adults: Identification of subsets and their clinical correlation. *Brain Tumor Pathol* 2004;**21**:7–12.
15. Sharma A, Medha R, Mehndiratta PL, Saxena A. Increased levels of IL-4, 5 and 10 and decreased levels of IL-2 and IFN-gamma in lymphatic filariasis. *Biomed Res* 2005;**16**:33–9.
16. Sharma H, Sen S, Mathur M, Bahadur S, Singh N. Combined evaluation of expression of telomerase, survivin, and anti-apoptotic *Bcl-2* family members in relation to loss of differentiation and apoptosis in human head and neck cancers. *Head Neck* 2004;**26**:733–40.
17. Sharma R, Chattopadhyay TK, Mathur M, Ralhan R. Prognostic significance of stromelysin-3 and tissue inhibitor of matrix metalloproteinase-2 in esophageal cancer. *Oncology* 2004;**67**:300–9.
18. Singh A, Sharma H, Salhan S, Gupta SD, Bhatla N, Jain SK, Singh N. Evaluation of expression of apoptosis-related proteins and their correlation with HPV, telomerase activity, and apoptotic index in cervical cancer. *Pathobiology* 2004;**71**:314–22.
19. Singh N. Comments on Prakash J, Gupta SK. Natural products for chemoprevention. *Indian J Med Pediatr Oncol* 2004;**25**:52–3.

20. Singh N. HPV and cervical cancer—prospects for prevention through vaccination. *Indian J Med Pediatr Oncol* 2005;**26**:16–19.
21. Sud N, Sharma R, Ray R, Chattopadhyay TK, Ralhan R. Differential expression of beta-mannosidase in human esophageal cancer. *Int J Cancer* 2004;**112**:905–7.
22. Verma J, Arora V, Marwaha V, Kumar A, Das N. Association of leukocyte *CR1* gene transcription with the disease severity and renal involvement in systemic lupus erythematosus. *Lupus* 2005;**14**: 273–9.
23. Vikram NK, Misra A, Pandey RM, Dwivedi M, Luthra K. Adiponectin, insulin resistance, and C-reactive protein in postpubertal Asian Indian adolescents. *Metabolism* 2004;**53**:1336–41.

### Abstracts

24. Chhabra S, Narang R, Lakshmy R, Vasisht S, Agarwal DP, Srivastava LM, *et al.* Polymorphisms of apolipoprotein *A1-C3* genes in the risk assessment of coronary artery disease. *Clin Biochemist Rev* 2004; Suppl:S-68.
25. Dasgupta S, Sharma H, Datta P, Dinda AK, Bhatla N, Jain SK, Singh N. Assessment of the expression of apoptosis and proliferation related proteins in cervical cancer. *Indian J Med Res* 2005;**121** (Suppl.):115.
26. Sharma A, Medha R, Saxena A, Sharma M. Cytokine profile in advanced cancer cervix patients under neoadjuvant chemoradiation. *Indian J Med Res* 2005;**121** (Suppl.):165.
27. Sharma H, Singh A, Jain SK, Singh N. Detection of mitochondrial DNA mutations in cervical cancer tissues. *Indian J Med Res* 2005;**121** (Suppl.):78.

### Chapters in Books

1. Arora S, Bakshi R, Chauhan SS. Recombinant DNA technology. In: Das SN (ed). *Essentials of biotechnology*. Delhi: Peepee Publishers; 2005:379–89.
2. Chosdol K, Sinha S. Iron metabolism. In: Srivastava LM (ed). *Concepts of biochemistry for medical students*. New Delhi: CBS Publishers and Distributors; 2004:461–70.
3. Chosdol K, Sinha S. Trace elements: Functional aspects. In: Srivastava (ed). *Concepts of biochemistry for medical students*. New Delhi: CBS Publishers and Distributors; 2004:471–8.
4. Singh N. Fat-soluble vitamins (vitamins A, E, K). In: Srivastava LM (ed). *Concepts of biochemistry for medical students*. New Delhi: CBS Publishers; 2004:393–402.

### PATIENT CARE

Specialized immunodiagnostic laboratory investigations for quantitative serum analysis for the following tumour markers were carried out by the department:

|          |             |
|----------|-------------|
| PSA      | 450 samples |
| Beta hCG | 400 samples |

## AWARDS AND HONOURS

Dr D.N. Rao was the recipient of the Hari Om Ashram Alembic Research Award by the MCI. Dr Ranju Ralhan was elected Fellow of the National Academy of Medical Sciences and is a Founding Fellow of the International Academy of Oral Oncologists. Dr Neeta Singh is Secretary of the Indian Association for Cancer Research (Delhi Chapter). Dr Ralhan is Joint Secretary of the Indian Association for Cancer Research.

## SIGNIFICANT EVENTS

**Dr Subrata Sinha** is a member of the following: Academic Council, Jawaharlal Nehru University (2003–05); Scientific Advisory Committee of the Institute of Cytology and Preventive Oncology, Delhi, 2001 till date; Project Review Committee, for Cancer and Cell and Molecular Biology, ICMR; Special Technical Committee (2000 till date), Task Force on Biotech Process and Product Development, DBT; Institutional Biosafety Committee and Ethical Committee of the National Institute of Immunology (2000 till date); Special Committee, Centre for Molecular Medicine and Centre for Biotechnology (2001 till date).

**Dr Neeta Singh** was invited as a committee member for making specific guidelines and checklists for assessors for accreditation of clinical laboratories for flowcytometry at Hyderabad in April 2004; conducted inspections for the MCI; attended a short-term training programme on Biotechnology and Intellectual Property Rights for scientists, Bangalore, 7–12 March 2005. She is a member of the National Academy of Medical Sciences, American Association for Cancer Research (AACR), International Union Against Cancer (UICC), Indian Society of Cell Biologists, Indian Women Scientists Association, Indian Society of Lung Cancer and Indian Society for Free Radicals Research in India.

**Dr Ranju Ralhan** is a member of the Scientific Advisory Group for Preamble for Monographs on the evaluation of carcinogenic risks to humans, 2005, International Agency for Research in Cancer (IARC, WHO); Working Group Member for Monograph on the evaluation of carcinogenic risks to humans, Volume 89, 2004, Smokeless tobacco and some related nitrosamines, International Agency for Research in Cancer (IARC, WHO); Working Group Member for Monograph on the evaluation of carcinogenic risks to humans, Volume 85, 2004, Betel quid, areca-nut chewing and some related nitrosamines, International Agency for Research in Cancer (IARC, WHO). She is member of the Project Advisory Committee, National Cancer Control Programme, Ministry of Health and Family Welfare, Statutory Warning for Health Hazards of Tobacco, Ministry of Health and Family Welfare, Project Advisory Committee and Expert Group of the Indian Council of Medical Research (NCD-Cancer), Project Advisory Committee, Ophthalmology and for the Environment, ICMR.

**Dr M.R. Rajeswari** reviewed research proposals submitted for funding to the DST and Indian Council for Medical Research. She is a member of the Research Advisory Committee, NMR Research Committee, AIIMS; and the Project Review Committee, ICMR. She was invited as External Examiner for the All India Entrance Examination for the Junior Research Fellowship of CSIR-NET (evaluations and paper setting).

## 9.4 Biomedical Engineering

### Professor and Head

Harpal Singh

### Professors

Dinesh Mohan

S.N. Tandon

Sneh Anand

A.R. Ray

### Associate Professors

R.K. Saxena

Veena Koul

### Principal Scientific Officer

Nivedita Karmakar Gohil

### Senior Design Engineer

S.M.K. Rahman

## EDUCATION

PhD Programme

### Continuing Medical Education

#### *Conference*

The Eighth National Conference on Biomechanics was held at the Indian Institute of Technology, Delhi between 19 and 21 November 2004. It was organized by the Centre for Biomedical Engineering, IIT, Delhi.

#### *Lectures delivered*

### Professor Dinesh Mohan

- Keynote address on ‘Road safety around the world: Folklore vs science’; 13th International Conference on Safe Communities, Czech Republic; June 2004.
- Presentation at HUDCO Workshop—International Workshop on Urban Renewal; Heritage village, Manesar; 17–19 February 2004.
- Session chaired in a lecture series on ‘Spine intervention: Full spectrum from intradiscal ozonucleolysis to full disc replacement’, India Habitat Centre; 24 April 2004.
- Presentation on ‘Effectiveness of mandatory seat belt laws in Delhi’; 7th World Conference on Injury Prevention and Safety Promotion, Austria; 6–9 June 2004.
- Presentation on ‘Options for improving road safety’; National Seminar and Exposition on Strategies for Cleaner and Safer Vehicles, Hotel Taj Mahal Palace, Mumbai; 7–8 May 2004.

- Seminar and Technical Visits on ‘Alternative energy-driven vehicles’; Auto Expo 2004, New Delhi; 18–21 January 2004.
- Presentation on ‘Developing standards for barrier-free transport in Indian context’; National Seminar on Barrier Free Environment, Hotel Hyatt, Kolkata; 5–6 February 2004.
- Presentation on ‘Development and planning challenges’; 23rd Annual Seminar on Delhi Vision 2025—Issues and Challenges, SCOPE Complex, Lodi Road, New Delhi; 22 February 2004.

## **RESEARCH**

### **Funded Projects**

#### ***Completed***

1. Development of non-thrombogenic polymeric material (RPO1320). Alok Ranjan Ray. Funded by the Life Sciences Research Board, DRDO up to March 2005. Funds: Rs 19.35 lakh.
2. Technology development for sol-gel based fiber optic immunosensor for measurement of myoglobin and other blood proteins (RPO1357). Nivedita K. Gohil. Funded by the Department of Science and Technology (DST) up to June 2004. Funds: Rs 12 lakh.
3. Failed Implant Testing and Research Engineering Laboratory (FITREL) (RPO1654). R.K. Saxena. Funded by the World Health Organization up to August 2005. Funds: Rs 11.34 lakh.
4. Optimized electrical parameters for electrically enhanced transdermal drug delivery instrument (RPO1296). Sneh Anand. Funded by the Department of Science and Technology (DST) up to December 2004. Funds: Rs 28,37,160.

#### ***Ongoing***

1. Development of blood-compatible polymeric biomaterials for medical devices (RP01621). Alok Ranjan Ray. Funded by the Ministry of Human Resource Development up to August 2007. Funds: Rs 12 lakh.
2. Development of biocompatible adhesive (RPO1734). Alok Ranjan Ray. Funded by the Department of Science and Technology (DST) up to March 2007. Funds: Rs 18.825 lakh.
3. Development of artificial bone materials (RPO1721). Alok Ranjan Ray. Funded by the Indian Council of Medical Research up to February 2008. Funds: Rs 4,37,157.
4. Sustainable urban transport in less motorized countries: Research and training (RPO1507). Dinesh Mohan. Funded by the Volvo Research Foundation up to February 2008. Funds: Rs 403,09,246.
5. Development of polymer matrices from renewable resources for enzyme-linked immunosorbent assay (RPO1653). Harpal Singh. Funded by the Department of Science and Technology (DST) up to March 2007. Funds: Rs 26 lakh.
6. Iodine release from polymeric carriers for disinfection of drinking water (RPO1610). Harpal Singh. Funded by the Department of Science and Technology (DST) up to February 2006. Funds: Rs 4.98 lakh.
7. Analysis and optimization of physiotherapeutic regimen employed in the management of osteoarthritis (RPO1546). R.K. Saxena. Funded by the Ministry of Human Resource Development up to September 2006. Funds: Rs 10 lakh.

8. Pathophysical, biomechanical and metallurgical study of orthopaedic implants (RPO1604). R.K. Saxena. Funded by the Indian Council of Medical Research up to December 2006. Funds: Rs 7,17,915.
9. Development of adaptive neuro-fuzzy controller for anaesthesia (RPO1449). Sneha Anand. Funded by the Department of Science and Technology (DST) up to September 2005. Funds: Rs 16,15,006.
10. Smart macromolecular therapeutics: Design synthesis and evaluation of tailor-made anticancer drug conjugates and local hyperthermia for selective lysis of cancer cell (RPO1713). Veena Koul. Life Sciences Research Board, GOI, DRDO up to December 2007. Funds: Rs 17,62,200.

## **Departmental Projects**

### ***Ongoing***

1. Studies on haeme protein mimetic materials.
2. Synergistic approach to deliver drugs using a combination of chemical and electrical parameters.
3. Non-invasive diagnosis of knee osteoarthritis.
4. Microwave resonant therapy for thyroiditis.
5. Development of radiation-induced grafted polypropylene sutures.
6. Synthesis of bone substituted materials.
7. Synthesis and characterization of pH-sensitive polymer for biomedical applications.
8. Effect of cyclic mechanical stresses on weight-bearing synovial joint articular cartilage chondrocytes: A tissue culture study.
9. Sol-gel based sensor.
10. Development of biodegradable polymer matrices from renewable resources for ELISA.
11. Development and pharmaceutical evaluation of polymer-based transdermal preparation for local vasodilator action.
12. Studies on three-dimensional animal cell culture on polymeric scaffolds.
13. Development of synthetic extracellular matrices for tissue engineering.
14. Intranasal vaccine delivery.
15. Development of iodine-containing antimicrobial polymers for water disinfection and biomedical applications.
16. Intelligent telemedicine system.
17. Biosignal processing.
18. Smart macromolecules loaded with drug conjugates for cancer targeting.
19. Synthesis and development of biodegradable polymers for biomedical applications.
20. Electrical and chemical enhancement for transdermal permeation of bioactive agents.
21. Development of simultaneous immunoassay for thyroid hormones.

22. Pulmonary function assessment through non-invasive techniques: Effects of exposure to air pollution.
23. Estimation and control of depth of anaesthesia.
24. Neurophysiological correlates of volitional actions for brain–computer interface systems.

## **Collaborative Projects**

### ***Ongoing***

1. Polymeric hydrogel-based insulin drug delivery system (with INMAS).
2. Iron profile in haematological disorders (with AIIMS).
3. Development of RNA and DNA biosensor (with NPL).
4. Development of simultaneous immunoassay for thyroid hormones (with NIHFWS).
5. Estimation of acetylcholine esterase acetylcholine by development of testing systems (with NIHFWS).

## **PUBLICATIONS**

### **Journals**

1. Burugapalli K, Koul V, Dinda AK. Effect of composition of interpenetrating polymer network hydrogels based on poly (acrylic acid) and gelatin on tissue response: A quantitative *in vivo* study. *J Biomed Mater Res A* 2004;**68**:210–18.
2. Changez M, Koul V, Krishna B, Dinda AK, Choudhary V. Studies on biodegradation and release of gentamicin sulphate from interpenetrating network hydrogels based on poly (acrylic acid) and gelatin: *In vitro* and *in vivo*. *Biomaterials* 2004;**25**:139–46.
3. Dhiman HK, Ray AR, Panda AK. Characterization and evaluation of chitosan matrix for the *in vitro* growth of MCF-7 breast cancer cell lines. *Biomaterials* 2004;**25**:5147–54.
4. Gawade T, Mukharjee S, Mohan D. Wheel lift-off and ride comfort of three-wheeled vehicle over bump. *J Institution Engineers (India)* 2004;**85**:78–87.
5. Jain R, Gupta B, Anjum N, Revagade N, Singh H. Preparation of antimicrobial sutures by preirradiation grafting of acrylonitrile onto polypropylene II: Mechanical, physical and thermal properties. *J Appl Polymer Sci* 2004;**93**:1224.
6. Mohan D, Kumar A, Patel R, Varghese M. Development of safer fodder-cutter machines: A case study from north India. *Safety Science* 2004;**42**:43–55.
7. Mohan D. Road traffic deaths and injuries in India: Time for action. *Natl Med J India* 2004;**17**:63–6.
8. Mohan D. Role of traffic calming and speed reduction in road safety. *J Transport Infrastructure* 2004;**11**:64–74.
9. Mya MM, Saxena RK, Roy A, Rao DN. Determination of immunoreactivity of *Plasmodium falciparum* antigens, serum dilutions and biomaterials. *Indian J Clin Biochem* 2004;**19**:88–92.

10. Mya MM, Saxena RK, Roy AR. Seroepidemiological study of *Plasmodium falciparum* antigens for detection of malaria. *Indian J Biotechnol* 2005;**4**:100–5.
11. Mya MM, Saxena RK, Roy AR. Seroepidemiological study of prevalence of malaria in village Solana (UP), India. *African J Clin Exp Microbiol* 2004;**5**:2–14.
12. Pal JK, Singh H, Ghosh AK. Modification of LLDPE using styrene-maleic anhydride co-polymer: Study of its properties and its environment degradability. *J Appl Polymer Sci* 2004;**92**:102–8.
13. Vigneshwaran N, Bijukumar G, Karmakar N, Anand S, Misra A. Auto fluorescence characterization of advanced glycation end products of hemoglobin. *Spectrochemical Acta Part A* 2005;**61**:163–70.

## Books

1. Badami MG, Tiwari G, Mohan D. Access and mobility for the urban poor in India: Bridging the gap between policy and needs. In: *Proceedings of the Forum on Sustainable Urban Infrastructure and Service Delivery for the Urban Poor: Regional Focus*. Asia Comparative Urban Studies Project. Washington, DC: Woodrow Wilson Centre; 2004.

## AWARD AND HONOURS

**Professor Dinesh Mohan** was a Member of the Editorial Board of *Safety Science*, Elsevier; *Occupational Ergonomics*; *Traffic Injury Prevention*; *Crash Prevention*; *Injury Control and Safety Promotion*; *African Safety Promotion: A Journal of Injury and Violence Prevention*. He was also a Member of the International Society for Child and Adolescent Injury Prevention; WHO Expert Advisory Panel on Injury and Violence Prevention and Control; American Society of Biomechanics; and American Society of Mechanical Engineers.

**Professor Harpal Singh** was a Member of Surgical Dressings, Bureau of Indian Standards, New Delhi; Standing Committee to Review Life-saving Drugs.

**Professor A.R. Ray** was the Vice President of the Society for Biomaterials and Artificial Organs. He was also a Member of MHRD's Grants-in-aid Committee for Education in Human Values; DST's PAC on Biomedical Engineering; ICMR's PAC on Non-communicable Diseases; TIFAC's Review Committee on Home-grown Technology; Board of Research Studies, Faculty of Sciences, Jamia Hamdard; Council of Academic Affairs (Life Sciences), M.D. University; Research Advisory Committee of Shriram Institute for Industrial Research.

## SIGNIFICANT EVENTS

**Professor Dinesh Mohan** was a Member of the Consultative group on urban infrastructure; Committee of Academics to review the implications of the Private Universities Bill, 1995; Levy of Goods Tax-Constitution Committee; Programme Advisory Committee for Research and Development in Automotive Sector; Joint Programme Advisory Committee for Doordarshan Kendra; Research Council of National Environmental Engineering Research Institute; Traffic Engineering (H2) Committee of the Indian Road Congress; Working Group for formulating Action Plan for Capacity Building in Operationalization of Clean Development Mechanism in India; National Rural Road Development Agency, Ministry of Rural Development, Government of India.

## **VISITING SCIENTISTS**

1. Mr Alain Beaudet (MD, PhD), Director General, Health and Research Foundation, Quebec, Canada visited the Centre for Biomedical Engineering on 1 November 2004 to discuss research and development activities in Biomedical Engineering.
2. Mr Mohammad Asif Hussain (PhD), Research Assistant and Professor, Departments of Bioengineering and Orthodontics, University of Illinois at Chicago, delivered a lecture on ‘Characterization of cells and biomaterials (hydrogels and nanofibers) for nanomechanical properties’ in March 2005 at the Centre for Biomedical Engineering.

## 9.5 Biophysics

### Professor and Head

Tej P. Singh

### Emeritus Professor

R.K. Mishra

### Professor

Gita Subba Rao

### Associate Professors

Krishna Dalal

A. Srinivasan

Punit Kaur

### Assistant Professors

Savita Yadav

Sujata Sharma

### Scientist

Sharmistha Dey

## EDUCATION

The faculty of the department participated in and delivered 31 lectures in continuing medical education programmes, symposia, and national and international conferences during the year.

## RESEARCH

### Funded Projects

#### *Completed*

1. Structural studies of native ragi bifunctional inhibitor and its binary and ternary complexes with  $\alpha$ -amylase and trypsin. T.P. Singh. Funded by DST for 3 years (2001–2004). Funds: Rs 10.5 lakh.
2. Structure-based design of specific phospholipase A<sub>2</sub> inhibitors for biomedical applications. T.P. Singh. Funded by DST-DAAD for 3 years (2001–2004). Funds: Rs 5 lakh.
3. Computer-aided study of interaction of integrase inhibitors with integrase. Gita Subba Rao. Funded by the Ministry of Health for 3 years (2001–2004). Funds: Rs 5 lakh.
4. The design, synthesis and laboratory testing of anti-AIDS drugs. Gita Subba Rao. Funded by the Ministry of Health for 3 years (2001–2004). Funds: Rs 13 lakh.
5. Domain swapping in human endothelin receptors A and B and its pharmacological implications. A. Srinivasan. Funded by AIIMS for 1 year (2003–2004). Funds: Rs 0.5 lakh.
6. Determination of amino acid sequences and three-dimensional structures of phospholipase A<sub>2</sub>s and toxins from Indian red and black scorpions. A. Srinivasan. Funded by DST for 3 years (2001–2004). Funds: Rs 25.7 lakh.

7. Isolation and purification of a metalloproteinase from venom of Indian cobra, its crystallization and three-dimensional structure determination. S. Sharma. Funded by DST for 2 years (2004–2006). Funds: Rs 10 lakh.

### ***Ongoing***

1. Protein structure determination and structure-based new drug discovery. T.P. Singh. Funded by DST-FIST programme for 5 years (2002–2007). Funds: Rs 135 lakh.
2. Structural and protein engineering studies on lactoferrins from different species. T.P. Singh. Funded by DBT for 3 years (2002–2005). Funds: Rs 34 lakh.
3. Structural studies of signalling proteins expressed during involution/breast cancer and ligand design. T.P. Singh. Funded by DBT for 3 years (2005–2008). Funds: Rs 38.5 lakh.
4. Structure-based rational drug design: Structure determination of signalling proteins involved in the progression of breast cancer and design of specific inhibitors. T.P. Singh. Funded by DST for 3 years (2005–2008). Funds: Rs 38.5 lakh.
5. Proteomics of human body fluids—structural characterization of proteins and target identification for diagnosis and drug discovery. T.P. Singh, A. Srinivasan, P. Kaur, S. Yadav, S. Sharma and S. Dey. Funded by DBT for 3 years (2005–2008). Funds: Rs 450 lakh.
6. Three-dimensional structure determination of disintegrin from venom of Indian saw-scaled lizard by X-ray diffraction method, and structure and function relationship with its complex with integrin. P. Kaur. Funded by CSIR for 3 years (2005–2008). Funds: Rs 4.5 lakh.
7. Search of a magic drug: Isolation, purification, crystallization and three-dimensional structure determination of the functional C-lobe and antimicrobial peptides of lactoferrin and their applications in antimicrobial drug discovery. S. Sharma. Funded by DST for 3 years (2003–2006). Funds: Rs 8.5 lakh.
8. Structural studies on disintegrin from snake venom and its complexes with integrins. S. Yadav. Funded by DST for 2 years (2004–2006). Funds: Rs 8 lakh.
9. Structure-based rational drug design: Development of specific anti-inflammatory agents using phospholipase A<sub>2</sub> and cyclooxygenase-2 as target enzymes. Sharmistha Dey. Funded by CSIR for 3 years (2005–2007). Funds: Rs 4.5 lakh.
10. Structure-based rational drug design against inflammation, arthritis and rheumatism using phospholipase A<sub>2</sub>, cyclooxygenase-2 and lipoxygenase as target molecules. N. Singh. Funded by DST for 3 years (2005–2008). Funds: Rs 12 lakh.
11. Cloning, expression and structural investigations on human endothelin receptors A and B. J. Nautiyal. Funded by DST for 3 years (2005–2008). Funds: Rs 10.5 lakh.

### **Departmental Projects**

#### ***Ongoing***

1. Structural and stability studies on antimicrobial lactoperoxidase.
2. Purification, crystallization and structure determination of prostate-specific antigen from human seminal plasma.

3. Structure-based design of inhibitors of protein tyrosine phosphatase 1B, a new target for obesity and type 2 diabetes.
4. Three-dimensional structure determination of cobra venom factor and its three independent subunits from the venom of Indian cobra by X-ray diffraction method, and its structural and functional relationship with complement protein C3.
5. Structure–function relationship of Alzheimer-related proteins.

## Collaborative Projects

### Ongoing

1. Functional analysis and clinical significance of novel molecular targets in cytoskeleton reorganization and locoregional spread of oral cancer using proteomics (with Biochemistry and IRCH).
2. Identifying proteomic mass fingerprints predictive of disease flares in systemic lupus erythematosus (with Medicine).
3. Proteomics of hepatitis virus infections (with Gastroenterology and Pathology).
4. Proteomics of human body fluids and tissues: Structural characterization of proteins and target identification for new drug discovery (with Pharmacology).
5. Proteomic mass fingerprinting of patients with gallstone disease and gallbladder cancer: Putative pathogenic links (with Gastroenterology).
6. Proteomics in muscular dystrophies (with Neurology).

## PUBLICATIONS

### Journals

1. Ansari MS, Gupta NP, Seth A, Hemal AK, Dogra PN, Singh TP. Stone fragility: Its therapeutic implications in shock wave lithotripsy of upper urinary tract stones. *Int Urol Nephrol* 2003;**35**:387–92.
2. Dey S, Vijayaraghavan R, Goel VK, Kumar S, Kumar P, Singh TP. Design rules for peptides with  $\alpha,\beta$ -dehydro-residues: Synthesis of a model peptide Boc-Ile- $\Delta$ Ala-OCH<sub>3</sub> and its crystal structures obtained from two different solvents. *J Mol Struct* 2004;**737**:109–16.
3. Goel VK, Dey S, Singh TP. Design of peptides with  $\alpha,\beta$ -dehydro-residues: Synthesis and crystal structure of a tripeptide N-benzyloxycarbonyl- $\Delta$ Val- $\Delta$ Phe-L-Ala-OCH<sub>3</sub>. *J Mol Struct* 2005;**738**:189–92.
4. Goel VK, Somvanshi RK, Dey S, Singh TP. Design of peptides with  $\alpha,\beta$ -dehydro-residues: Syntheses and crystal structures of (i) N-tertiarybutyloxycarbonyl-L-Ala- $\Delta$ Phe-L-Ala-OCH<sub>3</sub> and (ii) N-tertiary-butylloxycarbonyl-L-Leu- $\Delta$ Phe-L-Leu-OCH<sub>3</sub>. *Struct Chem* 2005;**16**:385–9.
5. Jabeen T, Sharma S, Singh N, Bhushan A, Singh TP. Structure of the zinc-saturated C-terminal lobe of bovine lactoferrin at 2.0 Å resolution. *Acta Crystallogr* 2005;**D61**:1107–15.
6. Jabeen T, Sharma S, Singh N, Singh RK, Kaur P, Paramasivam M, *et al.* Crystal structure of a calcium-induced dimer of two isoforms of cobra phospholipase A2 at 1.6 Å resolution. *Proteins: Struct Funct Bioinformatics* 2005;**59**:856–63.

7. Jabeen T, Sharma S, Singh N, Singh RK, Verma AK, Paramasivam M, *et al.* Structure of the zinc-induced heterodimer of two calcium-free isoforms of phospholipase A<sub>2</sub> from *Naja naja sagittifera* at 2.7 Å resolution. *Acta Crystallogr* 2005;**D61**:302–8.
8. Mikeska R, Wacker R, Arni R, Singh TP, Mikhailov A, Gabdoulkhakov AG, *et al.* Mistletoe lectin I in complex with galactose and lactose reveals distinct sugar-binding properties. *Acta Crystallogr* 2005; **F61**:17–25.
9. Mishra V, Bilgrami S, Sharma RS, Kaur P, Yadav S, Krauspanhaar R, *et al.* Crystal structure of the Himalayan mistletoe ribosome inactivating protein reveals the presence of a natural inhibitor and a new functionally active sugar-binding site. *J Biol Chem* 2005;**280**:20712–21.
10. Mishra V, Ethayathullah AS, Sharma RS, Yadav S, Krauspanhaar R, Betzel Ch, *et al.* Structure of a novel ribosome inactivating protein from a hemi-parasitic plant inhabiting north-western Himalayas. *Acta Crystallogr* 2004;**D60**:2295–304.
11. Mishra V, Sharma RS, Paramasivam M, Bilgrami S, Yadav S, Srinivasan A, *et al.* cDNA cloning and characterization of a ribosome inactivating protein of a hemi-parasitic plant (*Viscum album L.*) from north-western Himalayas (India). *Plant Science* 2005;**168**:615–25.
12. Mishra V, Sharma RS, Yadav S, Babu CR, Singh TP. Purification and characterization of four isoforms of Himalayan mistletoe ribosome-inactivating protein from *Viscum album* having unique sugar affinity. *Arch Biochem Biophys* 2004;**423**:288–301.
13. Saravanan K, Paramasivam M, Dey S, Singh TP, Srinivasan A. Biotinyl endothelin-1 binding to endothelin receptor and its applications. *J Cardiovasc Pharmacol* 2004;**44**:287–93.
14. Singh G, Gourinath S, Sarvanan K, Sharma S, Bhanumathi S, Betzel Ch, *et al.* Crystal structure of a carbohydrate induced homodimer of phospholipase A<sub>2</sub> from *Bangarus caeruleus* at 2.1 Å resolution. *J Struct Biol* 2005;**149**:264–72.
15. Singh G, Gourinath S, Sarvanan K, Sharma S, Bhanumathi S, Betzel Ch, *et al.* Sequence-induced trimerization of phospholipase A<sub>2</sub>: Structure of a trimeric isoform of PLA<sub>2</sub> from common krait (*Bangarus caeruleus*) at 2.5 Å resolution. *Acta Crystallogr* 2005;**F61**:8–13.
16. Singh G, Jasti J, Saravanan K, Sharma S, Kaur P, Srinivasan A, *et al.* Crystal structure of the complex formed between a group I phospholipase A<sub>2</sub> and a naturally occurring fatty acid at 2.7 Å resolution. *Protein Sci* 2005;**14**:395–400.
17. Singh N, Jabeen T, Sharma S, Roy I, Gupta MN, Bilgrami S, *et al.* Detection of native peptides as potent inhibitors of enzymes. Crystal structure of the complex formed between treated bovine alpha-chymotrypsin and an autocatalytically produced fragment, Ile-Val-Asn-Gly-Glu-Glu-Ala-Val-Pro-Gly-Ser-Trp-Pro-Trp, at 2.2 angstroms resolution. *FEBS J* 2005;**272**:562–72.
18. Singh N, Jabeen T, Somvanshi RK, Sharma S, Dey S, Singh TP. Phospholipase A<sub>2</sub> as a target protein for nonsteroidal anti-inflammatory drugs (NSAIDS): Crystal structure of the complex formed between phospholipase A<sub>2</sub> and oxyphenbutazone at 1.6 Å resolution. *Biochemistry* 2004;**43**:14577–83.
19. Singh RK, Ethayathulla AS, Jabeen T, Sharma S, Kaur P, Singh TP. Aspirin induces its anti-inflammatory effects through its specific binding to phospholipase A<sub>2</sub>: Crystal structure of the complex formed between phospholipase A<sub>2</sub> and aspirin at 1.9 Å resolution. *J Drug Target* 2005;**13**:113–19.

## Chapters in Books

1. Betzel Ch, Singh TP, Genov N. Phospholipase A<sub>2</sub>. In: Messerschmidt A, Bode W, Cygler M (eds). *Handbook of metalloproteins, Vol. 3*. Chichester: John Wiley; 2004:36–51.

## PATIENT CARE

The following services are provided by the department for patient care:

1. Characterization and analysis of kidney gallstones using X-ray diffraction techniques. More than 61 stones have been analysed by this technique in the current year.
2. Protein N-terminal sequencing.
3. Characterization of biomolecules using MALDI-TOF.
4. Receptor–ligand binding studies—Biocore.
5. Peptide synthesis.
6. X-ray intensity data collection for small molecules.
7. X-ray intensity data collection for macromolecules.

## AWARDS AND HONOURS

**Dr T.P. Singh** delivered the first endowment lecture of the Indian Physical Society at Kolkata in 2005. He also delivered the Platinum Jubilee lecture in the 92nd Science Congress at Ahmedabad. He gave a Plenary lecture in the 4th Asian Crystallographic Congress in Hong Kong on 30 June 2005. Dr Singh has been appointed as a member of the Board of Governors of the Indian Institute of Technology, Kharagpur. He has been nominated to the Research Councils of the Centre for Cellular and Molecular Biology, Hyderabad and Indian Toxicology Research Centre, Lucknow. He has also been nominated to the Special Committees of the Centre of Biotechnology, Centre for Molecular Medicine and School of Environmental Sciences at the Jawaharlal Nehru University, New Delhi. He has also been made a member of the Academic Committees of the Central Drug Research Institute, Lucknow, Institute of Microbial Technology, Chandigarh and Nuclear Science Centre, New Delhi.

**Dr G. Subba Rao** was elected as the fellow of the National Academy of Medical Sciences (India).

**Dr Savita Yadav** received the Best Poster Presentation Award at the 92nd Indian Science Congress held at Ahmedabad from 3 to 7 January 2005.

## SIGNIFICANT EVENTS

The department is involved in the Clinical Proteomics Programme supported by DBT under its FIST Programme. The department contributed the largest number of protein structure coordinate sets to the protein data bank (PDB) from Asia-Australia region.

## VISITING SCIENTISTS

Dr Jonathan Moss, Australia; Dr V. Renugopalakrishnan, USA; Dr D. Velmurugan, Chennai; Dr S. Mande, Hyderabad; Dr V. Kumar, Mumbai; Dr K.L. Khanduja, Chandigarh; Dr M. Vijayan, Bangalore; Dr J.K. Datagupta, Kolkata; Dr Ch. Betzel, Germany; Dr Y. Yathindra, Chennai; Dr R. Barthwal, Roorkee.

## 9.6 Biostatistics

### Professor and Head

K.R. Sundaram

### Additional Professors

S.N. Dwivedi

R.M. Pandey

### Assistant Professor

V. Sreenivas

### Scientists

Rajvir Singh

M. Kalaivani

## EDUCATION

### Undergraduate and Postgraduate

The department was actively involved in teaching of Biostatistics and Research and Epidemiological Methods in the undergraduate and paramedical courses, viz. MB,BS, BSc (Hons) in Medical Technology in Radiology and Post-certificate course in Nursing, and to the postgraduate students of Community Medicine, M-Biotechnology and Nursing.

### Short-term training

Short-term training (3 months) was given to an MSc student from the School of Studies in Statistics, Vikram University, Ujjain (MP).

### Continuing Medical Education

The Department of Biostatistics organized a series of evening lectures (16 lectures) on 'Biostatistics and research methodologies' for the Residents and Research Scholars during February–March 2005. The department also organized a series of seminars on 'Biostatistical and epidemiological methods' and Journal club presentations on topics related to medical and health research for the benefit of the faculty, scientists and students.

### *Lectures delivered*

#### **Professor K.R. Sundaram**

- 'Importance of biostatistics in biomedical research' and 'Logic of statistical inference in biomedical research'; Workshop on 'Research methodology and statistical methods in biomedical research', Industrial Toxicology Research Centre, Lucknow; 26–28 July 2004.
- 'Biostatistics in homeopathic research'; Re-orientation programme for homeopathy researchers, Nehru Homeopathic Medical College and Hospital, New Delhi; 23 February 2005.

### **Dr S.N. Dwivedi**

- Invited talks on ‘Analysis of qualitative data’ and ‘Non-parametric tests’; Training programme on ‘Application of statistical methods in social science research’, Gauhati University, Guwahati; 22–26 June 2004.
- Invited talks on ‘Research methodological issues in vitamin A deficiency disorders, iron deficiency anaemia and iodine deficiency disorders’ and ‘Research methodology for assessment of IDA in a district’; National workshop on ‘Methodologies for assessment of vitamin A deficiency, iron deficiency anaemia and iodine deficiency disorders’, AIIMS, New Delhi; 13–15 September 2004.
- Invited talk on ‘Multiple comparison in genomic research’; Continuing Education Programme on Bioinformatics for the DRDO Scientists, New Delhi; 1–5 November 2004.
- Invited talk on ‘Research methods used in studies on HIV/AIDS’; Workshop on ‘Acquired immunodeficiency syndrome (AIDS) in northeastern region’, R.K. Mission Hospital, Itanagar; 3–5 November 2004.
- Invited talk on ‘Statistical considerations in clinical research: An overview’; Training workshop on ‘Research methodology for researchers in Ayurveda and Siddha under WHO Biennium 2004–2005’, Central Council for Research in Ayurveda and Siddha, New Delhi; January 2005.
- Invited talks on ‘Research methodology’ and ‘Non-parametric tests’; Training course on ‘Computer application and data processing in social science research’, Manipur University, Imphal; 24–28 March 2005.
- Guest lecture on ‘Sampling considerations in surveillance’; Training course on ‘HIV/AIDS surveillance and awareness’, National Institute of Health and Family Welfare, New Delhi; 27 September–15 October 2004.
- Guest lecture on ‘An overview of statistical analysis’; Short course on ‘Epidemiological and biomedical data analysis using statistical software under the RCH Programme’, National Institute of Health and Family Welfare, New Delhi; 11–15 October 2004.
- Guest lecture on ‘Hospital statistics’; Training course on ‘Hospital Information System’, National Institute of Health and Family Welfare, New Delhi; 27–31 December 2004.
- Dr Dwivedi delivered two lectures under the training programme for postgraduate students of the Kurukshetra University organized by the Institute for Research in Medical Statistics, New Delhi, 10–18 January 2005. He also delivered 14 lectures on Biostatistics and related fields as Visiting Professor at the Department of Statistics, Maharaja Sayajirao University of Baroda, Vadodara, 9–15 March 2005.

### **Dr R.M. Pandey**

- Delivered series of lectures in the workshops on ‘Research methodology and statistical methods in biomedical research’, ITRC (CSIR), 26–28 July 2004; and ‘Clinical epidemiology and research methodology’, B.P. Koirala Institute of Health Sciences, Dharan, Nepal, 20–31 December 2004.
- ‘Statistical methods in non-communicable diseases’; NIH-funded workshop on ‘Epidemiology of non-communicable diseases’, M.V. Diabetic Research Foundation, Chennai; 11–13 March 2005.

### **Dr V. Sreenivas**

- Delivered two lectures on Biostatistics during the reorientation programme for the teaching faculty, senior medical officers and research staff of the Homoeopathic Wing of the Directorate of ISM and Homeopathy, Nehru Homeopathy College, New Delhi, February 2005.

### **Dr Rajvir Singh**

- ‘Introduction to statistical packages’; National Institute of Health and Family Welfare, New Delhi.
- ‘Data collection, data analysis and hands-on computer training of statistical packages’; Central Council for Research in Ayurveda and Siddha, New Delhi; February 2005.

### **National and International Conferences**

#### ***Lectures delivered***

### **Dr S.N. Dwivedi**

- ‘Morbidity conditions among tribes in Madhya Pradesh and Chhattisgarh’; national seminar on ‘Tribal demography, health and development in India’, Raipur, Chhattisgarh, 25–26 February 2005.

### **Professor K.R. Sundaram**

- Delivered lectures on ‘Statistician as teacher in biostatistics’, ‘Reviewing articles in medical journals with respect to statistical designing and analysis’ and ‘Statistical methods in screening and diagnostic tests’; ISMS Pre-conference Workshop; JIPMER, Pondicherry; 19–20 January 2005.

## **RESEARCH**

### **Funded Projects**

#### ***Completed***

1. Some epidemiological models for contraceptive adoption in India and their comparisons. S.N. Dwivedi. Funded by AIIMS for 3 years (2001–2004). Funds: Rs 25,000.

#### ***Ongoing***

1. Development of software for the database in drug abuse and HIV/AIDS, and the development of national and regional database set-up in drug abuse and HIV/AIDS. K.R. Sundaram. Funded by UNODC ROSA for 3 years. Funds: Rs 7,40,131 for Phase-I and Rs 9,94,400 for Phase-II.
2. An analytical perspective of missing data analysis in clinical trial of thyroid cancer. S.N. Dwivedi. Funded by ICMR for 2 years (2004–2006). Funds: SRF.
3. Some epidemiological studies on unwanted pregnancy. S.N. Dwivedi. Funded by ICMR for 2 years (2004–2006). Funds: SRF.
4. Development of appropriate prevention and intervention strategies for non-communicable nutrition-related disorders. R.M. Pandey. Funded by the Department of Science and Technology for 2 years (2005–2007). Funds: Rs 19,39,520.

## **Collaborative Projects**

### ***Completed***

1. A multivariate risk factor case–control study for CHD in an urban area in Delhi (with Delhi University).

### ***Ongoing***

1. Establishing norms of Exner comprehensive system for scoring Rorschach inkblot test in the Indian context (with Psychiatry).
2. Effect of glutamine supplementation on the structure and function of intestine in the patients with IBD (with Gastroenterology and HNU).
3. Comparison of indigenously developed impedance cardiography and thermodilutions method for measurement of cardiac output (with Pharmacology).
4. Psychological aspects and family factors among adolescents with substance use disorders: A descriptive study of users and non-users (with Psychiatry).
5. Biostatistical aspects of randomized controlled clinical trial on remnant ablation in differentiated thyroid cancer (with Nuclear Medicine).
6. Biostatistical aspects in case–control studies on unintended pregnancies (with Obstetrics and Gynaecology).
7. An appraisal of some biostatistical methods in cancer epidemiology (with IRCH).

## **PUBLICATIONS**

### **Journals**

1. Aggarwal P, Pandey RM, Seth P. Augmentation of HIV-1 subtype C vaccine constructs induced immune response in mice by CpG motif 1826-ODN. *Viral Immunol* 2005;**18**:213–23.
2. Amatya R, Vajpayee M, Kaushik S, Kanswal S, Pandey RM, Seth P. Lymphocyte immunophenotype reference ranges in healthy Indian adults: Implications for management of HIV/AIDS in India. *Clin Immunol* 2004;**112**:290–5.
3. Bal CS, Kumar A, Chandra P, Dwivedi SN, Mukhopadhyaya S. Is chest X-ray or high-resolution computed tomography scan of the chest sufficient investigation to detect pulmonary metastasis in pediatric differentiated thyroid cancer? *Indian J Community Med* 2004;**14**:217–25.
4. Bhatia M, Kumar A, Kumar N, Pandey RM, Kochupillai V. Electrophysiologic evaluation of sudarshan kriya: An EEG, BAER, P300 study. *Indian J Physiol Pharmacol* 2003;**47**:157–63.
5. Bhatia M, Prasad K, Pandey RM. Inter-observer and intra-observer reliability of a sleep questionnaire in Indian population. *J Assoc Physicians India* 2004;**52**:464–6.
6. Bhatla N, Mukhopadhyay A, Joshi S, Kumar A, Kriplani A, Pandey RM, *et al.* Visual inspection for cervical cancer screening: Evaluation by doctor versus paramedical worker. *Indian J Cancer* 2004;**41**:32–6.
7. Chaudhary A, Ahuja V, Bal CS, Das B, Pandey RM, Sharma MP. Rank order of success favors

- longer duration of imidazole-based therapy for *Helicobacter pylori* in duodenal ulcer disease: A randomized pilot study. *Helicobacter* 2004;**9**:124–9.
8. Chodhury UK, Airan B, Mishra PK, Kothari SS, Ganpathy SK, Ray R, Singh R, Venugopal P. Histological and morphometry of the radial artery conduits: Basic study and clinical application. *Ann Thoracic Surg* 2004;**78**:1614–21.
  9. Dogra PN, Biswas NR, Ravi AK, Mani K, Kumar V. Comparative evaluation of prostina and terazosin in the treatment of benign prostatic hyperplasia. *J Indian Med Assoc* 2005;**103**:108–10, 112.
  10. Dwivedi SN, Rajaram S. Some factors associated with number of children ever born in Uttar Pradesh: A comparative results under multiple regression analysis and multilevel analysis. *Indian J Community Health* 2004;**29**:72–6.
  11. Dwivedi SN. Methods for meta-analysis in medical research. *Int Soc Clin Biostat News* 2004;**37**:24–5.
  12. Goswami A, Reddaiah VP, Kapoor SK, Singh B, Dwivedi SN, Kumar G, *et al.* Self-rated health status of the aged in a rural area. *HelpAge India Res Develop J* 2004;**10**:7–16.
  13. Gupta M, Gupta YK, Agarwal S, Aneja S, Kalaivani M, Kohli K. Effects of add-on melatonin administration on antioxidant enzymes in children with epilepsy taking carbamazepine monotherapy: A randomized, double-blind, placebo-controlled trial. *Epilepsia* 2004;**45**:1636–9.
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41. Vajpayee M, Kanswal S, Seth P, Wig N, Pandey RM. Tuberculosis infection in HIV-infected Indian patients. *AIDS Patient Care STDS* 2004;**18**:209–13.
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### Chapters in Books

1. Dwivedi SN. Community effects in data analysis: Use of multilevel analysis. In: Nath DC, Das KK (eds). *Statistical thinking: Methods and applications*. Guwahati: Capital Publishing Company; 2004:76–80.
2. Pathak P, Kapil U, Singh P, Raghuvanshi RS, Dwivedi SN. Prevalence of micronutrient deficiency disorders amongst pregnant mothers in a rural block of Uttar Pradesh: A pilot study. In: Toteja GS, Singh P (eds). *Child health and nutrition*. New Delhi: ICMR; 2004:20–4.

### AWARDS AND HONOURS

**Professor K.R. Sundaram** continued to be the President of the Indian Society for Medical Statistics for the year 2004. He also continued to be the Chairman of the Committee on Education and Training of the Indian Society for Medical Statistics; Statistical Consultant to the *National Medical Journal of India*, *Indian Journal of Paediatrics*, *Indian Journal of Medical Research* and *Indian Heart Journal*; and Member of the International Biometric Society.

**Dr S.N. Dwivedi** was conferred Membership of the International Union for Scientific Study of Population (IUSSP), France. He continued as Member of the International Society for Clinical Biostatistics, Geneva; International Statistical Institute, Netherlands; International Epidemiological Association, USA; International Clinical Epidemiology Network, USA. He also continued as Convener of the Nomination

Committee of the Indian Society for Medical Statistics for three years, w.e.f. January 2002; and Member of the Training Programme Committee of the Indian Society for Medical Statistics. He was elected for the 5th term as Executive Council Member of the International Biometric Society (Indian region) for 2005–2006; and as a correspondent from the Indian region for the *Biometric Bulletin* of the International Biometric Society. He was Reviewer of the *National Medical Journal of India* and *Assam Statistical Review*; and continued as (i) Reviewer of the *Indian Journal of Medical Research*, (ii) Member of the Editorial Board of the *Indian Journal of Chest Diseases and Allied Sciences*, (iii) Reviewer of *Demography India*, and (iv) Reviewer of the International Society for Clinical Biostatistics.

**Dr Rajvir Singh** was a Reviewer of the *Indian Journal of Medical Research*. He was Statistical Consultant for the *Indian Journal of Medical and Pediatric Oncology*, BHIRCH, AIIMS; and *Indian Journal of Thoracic and Cardiovascular Surgery*, Department of CTVS, AIIMS.

## SIGNIFICANT EVENTS

**Professor K.R. Sundaram** delivered the Presidential address on ‘Does statistics reveal or conceal? Are statistics lies? Is statistics a boon or a bane?’ in the 22nd Annual Conference of the Indian Society for Medical Statistics (ISMS), JIPMER, Pondicherry, 21–23 January 2005. He also delivered the inaugural address in the Workshop on ‘Research methodology and statistical methods in biomedical research’, Industrial Toxicology Research Centre, Lucknow, 26–28 July 2004. He continued to be a member of the Scientific Advisory Committee of the Institute for Research in Medical Statistics, Indian Council of Medical Research, New Delhi; and Statistical Consultant to the Nutrition Foundation of India. He was nominated as a Member of the Scientific Advisory Committee, Centre for Research in Medical Entomology, ICMR, Madurai; Examiner in Biostatistics and Research Methods of the National Institute for Mental Health and Neurosciences, Bangalore; Chairman of the AIIMS Research Projects in Community Health; Member of the PG level Education Programme of the Central Council of Homeopathy, India.

Professor Sundaram attended the 8th International Epidemiological Association Conference and the South-East Asia Regional Scientific meeting held at MLB Medical College, Jhansi, 5–8 December 2004; conducted and chaired the Workshop on ‘Teaching biostatistics to the medical students’, International Conference on ‘Mathematics, Statistics and related fields’ held at Honolulu, Hawaii (USA), 9–11 January 2005; and presented a paper on ‘Comparison of probit transformation and Spearman–Kärber methods in estimating median/mean age at which chest circumference overtakes head circumference and its utility in the nutritional classification in children’, 22nd International Conference on Statistical Physics held at the Indian Institute of Science, Bangalore, 4–9 July 2005. He attended the 16th Scientific Advisory Committee meeting of the Centre for Research in Medical Entomology of ICMR at CRME, Madurai, 26–27 December 2004; conducted the PhD (Biostatistics) Viva Examination of a candidate at the National Institute of Mental Health and Neuro Sciences, Bangalore, 28 January 2005. He was invited by the Hamad Medical Corporation of the Qatar Government, Doha, 27 February–17 March 2005 to help them in their research activities and to create a data-base of patients’ data. He visited Male, Maldives (8–9 May 2005); Colombo, Sri Lanka (10–12 May 2005); Dhaka, Bangladesh (21–23 May 2005) and Kathmandu, Nepal (24–27 May 2005) to present the data-base software on drug abuse and HIV/AIDS under the UNODC, ROSA AIIMS Project on ‘Regional and national data-base on drug abuse and HIV/AIDS for South Asian countries’.

**Dr S.N. Dwivedi** was Member of the Technical Committee of ICMR regarding publication of Technical Report on ‘Population-based long-term epidemiological studies’ carried out at Bhopal by ICMR; Advisory

Committee for the study on ‘Analysis of India’s District Household Survey (DHS) under the RCH Programme’, Institute for Research in Medical Statistics, ICMR, New Delhi; Local Advisory Committee of DST-funded research project ‘Baseline database collection and documentation of good manufacturing and supply practices adopted by the manufacturer of TORCH/ELISA kits and quality control assessment at the user level of these kits’; Review Board of the publication of proceedings of the 20th Annual Conference of the Indian Society for Medical Statistics, IRMS-AIIMS, New Delhi. He continued as Member of the Review Group on ‘Endosulphan’ to examine the reported illnesses in the Kasaragod district of Kerala allegedly produced by aerial spraying of endosulphan for the Ministry of Agriculture, Government of India; Project Advisory Committee of a multicentric task force study on ‘Feasibility of using misoprostol at the peripheral level for prevention of postpartum haemorrhage (PPH)—a pilot study’, Division of RHN, ICMR. Dr Dwivedi made paper presentations on ‘Some hierarchical models for epidemiological understanding of current contraceptive adoption in India’ (Dwivedi SN, Singh R) during the 22nd International Biometric Conference, Cairns, Australia, 11–16 July 2004; and ‘Determinants of unwanted and mistimed pregnancy through case–control analysis’ (Dwivedi SN, Begum S) during the 22nd Annual Conference of the Indian Society for Medical Statistics, Pondicherry, 17–19 January 2005. He was invited to attend the 8th South-East Asia Regional Scientific Meeting of the International Epidemiological Association held at Jhansi, 5–8 December 2004, and to act as a discussant of poster presentations. He was also invited to attend the International Conference on ‘Community care and support for persons living with HIV/AIDS: Challenges for new millennium’ held at Mumbai, 8–9 December 2004. He reviewed a study entitled ‘Dose–response modelling in epidemiological studies’ submitted for Indo-Foreign collaboration and funding from NIH, USA; and the Booklet of Biostatistics for the MPS correspondence course of the International Institute for Population Sciences, Mumbai.

**Dr Rajvir Singh** was a Visiting Scientist at the Hamad Medical Corporation, Doha, Qatar from 30 October 2004 to 5 November 2004. He presented papers on ‘Validation of Cox PH model through bootstrapping technique’ at the XXIIInd International Biometric Conference (IBC-2004), Cairns, Australia, July 2004; and ‘Validation of model for child survival developed using Cox Proportional Hazard Model’ at the XXIVth Annual Conference of the Indian Society for Medical Statistics (ISMS), JIPMER, Pondicherry, 21–23 January 2005.

**Ms M. Kalaivani** presented a paper on ‘Centile curves using LMS method’ at the XXIVth Annual Conference of the Indian Society for Medical Statistics (ISMS), JIPMER, Pondicherry, 21–23 January 2005.

## 9.7 Biotechnology

### Professor and Head

Y.D. Sharma

### Professors

J.S. Tyagi

H.K. Prasad

### Additional Professor

S.N. Das

### Assistant Professor

Anushree Gupta

### EDUCATION

A series of seminars was organized. Eminent scientists were invited to deliver lectures between 22 March and 8 April 2005 on frontline topics related to Biotechnology, Intellectual property rights, Genetics, Immunology, Animal and Human Ethics, Nuclear Medicine, Functional Genomics, Proteomics, Discovering anti-tuberculosis drugs, etc.

### Short-term training

Faculty of the department provided training to MD students from the Departments of Laboratory Medicine and Haematology of AIIMS, MB,BS students of AIIMS, BSc students of Biotechnology of CCS University, Meerut. Students under the KVPY programme from ICMR, Science Talent of the DBT Programme and MSc Biotechnology students from various universities were exposed to departmental activities. Ms Vineeta Sivas from the Institute of Applied Medicine and Research, Ghaziabad undertook 2 months' training in the department.

### Long-term training

Dr Anju Bansal of the Department of Pathology, Safdarjung Hospital, New Delhi underwent a 1-year Post-MD/MS training from January to December 2004. She carried out a research project entitled 'Standardization of techniques for study of immunologically relevant molecules in cancer patients with reference to *in situ* PCR, two-colour immunohistochemistry and three-colour flowcytometry'.

Dr P.C. Ray, Professor, Department of Biochemistry, Maulana Azad Medical College, New Delhi worked on a project entitled 'PCR based diagnosis of mycobacterial skin infections' under the WHO in-country fellowship programme.

Dr V.P. Mathur of ESI Hospital, Okhla, New Delhi worked on a project entitled 'Identification of *Plasmodium* species in clinical blood samples collected from various regions in and around Delhi' under the WHO in-country fellowship programme.

Dr Neera Sharma of the Department of Biochemistry, Dr R.M.L. Hospital, New Delhi worked on a project entitled 'Improved laboratory diagnosis of tuberculosis meningitis (TBM) by PCR' under the WHO in-country fellowship programme.

## **Continuing Medical Education**

The department organized a workshop on 'Update on HIV–TB nexus' at the AIIMS–NYUSOM–AITRP Joint Meeting on 12 January 2005. The workshop was held in joint scientific collaboration with the AIDS International Training and Research Programme (AITRP) funded by the Fogarty International Center of the NIH, USA. Faculty and scientists from AIIMS and New York University participated in the workshop.

## **National and International Conferences**

### ***Lectured delivered***

#### **Dr Y.D. Sharma**

- 'Cerebral malaria'; Indo-US workshop on 'Malaria', RMRCT, Jabalpur; October 2004.
- 'Molecular epidemiology of drug-resistant malaria'; International Conference on 'Applied biomedical sciences', Bundelkhand University, Jhansi; January 2005.
- 'Strain variation and drug-resistant malaria in India'; Biotechnology Department of Jiwaji University, Gwalior; January 2005.
- 'Molecular markers for evaluation of drug-resistant malaria'; DRDE, Gwalior; March 2005.

#### **Dr J.S. Tyagi**

- 'Diagnosis of TB'; Update on HIV–TB nexus, AIIMS; January 2005. Panel discussant on 'Tubercular ascites'; 4th AIIMS–PGI Joint Conference on 'Current perspective in liver disease' (CPLD-2004); November 2004.
- 'Two-component signal transduction systems of *Mycobacterium tuberculosis*' and session chairperson at AIDS in India: A regional workshop—Symposium on research, trials and treatment, Bangalore; August 2004.
- 'Two-component signal transduction systems of *M. tuberculosis* and their role in pathogenesis' and session chairperson at the International Symposium on 'Emerging trends in tuberculosis research', International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi; November 2004.
- WHO Adviser at the 35th Union World Conference on Lung Health held at Paris; October 2004.
- 'Two-component signal transduction systems of *Mycobacterium tuberculosis* and their role in adaptation within host'; 31st Annual Conference of the Indian Immunology Society, Anna University, Chennai; December 2004.
- 'Improved laboratory diagnosis of TB by universal sample processing (USP) technology' and session chairperson at the International Training and Research in Emerging Infectious Diseases, Asian Regional Workshop on 'Intracellular pathogens', New Delhi; March 2005.

#### **Dr H.K. Prasad**

- 'Bovine tuberculosis–zoonosis'; International Symposium on 'Emerging trends in tuberculosis research', International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi; November 2004.

- ‘Emerging trends in immunology of infectious diseases’; 31st Annual Conference of the Indian Immunology Society, Chennai; December 2004.
- ‘Overview of the molecular biology approaches used in the Department of Biotechnology for study of malaria and tuberculosis’; Indo-German Science Forum workshop on Molecular biology of infectious diseases, New Delhi; October 2004.
- ‘Approaches for identification of closely related human mycobacterial pathogens’; Indo-German Discussion Meeting on ‘Immune system in health and disease’, New Delhi; February 2005.

### **Dr S.N. Das**

- Invited lecture on ‘Molecular pathways in human carcinogenesis: Impact of environmental factors, race and ethnicity’; International Symposium on ‘Diet in causation and prevention of cancer’ and XXX Annual Conference of the Environmental Mutagen Society of India, Lucknow; March 2005.

## **RESEARCH**

### **Funded Projects**

#### ***Ongoing***

1. Malaria vaccine-related field studies in Jabalpur. Y.D. Sharma. Funded by ICMR for 1 year (March 2005–February 2006). Funds: Rs 22.35 lakh.
2. Postgraduate training programme in Biotechnology with special application to Biomedicine. Y.D. Sharma. Funded by DBT for 9 years (1998–2007). Funds: Rs 8 lakh per year.
3. Post MD/MS long-term training programme in Medical Biotechnology for in-service candidates. Y.D. Sharma. Funded by DBT for 9 years (1998–2007). Funds: Rs 4 lakh per year.
4. Biotechnology Informatics System. Y.D. Sharma. Funded by DBT for 9 years (1998–2007). Funds: Rs 4 lakh per year.
5. Evaluation of devR mutant of *Mycobacterium tuberculosis* in animal model of tuberculosis and in cultured bacilli: Virulence and gene expression analysis. J.S. Tyagi. Funded by DBT for 3 years (2005–2008). Funds: Rs 50.37 lakh.
6. Isolation, identification and characterization of peptides that interact with two-component system proteins DevR, DevS and Rv2027c of *Mycobacterium tuberculosis*. J.S. Tyagi. Funded by CSIR for 3 years (2004–2007). Funds: Rs 17.96 lakh.
7. Multicentric evaluation of a smear microscopy technique for the detection of acid-fast bacilli in sputum specimens. J.S. Tyagi. Funded by WHO for 1 year (2005–2006). Funds: US\$ 64,418.
8. Molecular basis of dysregulation of interferon- $\gamma$  generation and function in tuberculosis patients. H.K. Prasad. Funded by ICMR for 3 years (2003–2006). Funds: Rs 40 lakh.
9. Evaluation of antiproliferative, apoptotic and immunomodulatory activity of some Indian system and homeopathic anticancer drugs. Satya N. Das. Funded by the Ministry of Health and Family Welfare, Department of ISM and H, Government of India for 3 years (April 2002–March 2005). Funds: Rs 22 lakh.

## Departmental Projects

1. Innate immunity to *Mycobacterium tuberculosis*.
2. Humans' immune response to *Mycobacterium tuberculosis*.
3. Further characterization of the HLP protein of mycobacteria.
4. PCR-based diagnosis of tuberculosis in humans and cattle.

## Collaborative Projects

1. NFkB signalling, and *TNF* and *TNFR* gene polymorphism in oral cancer (with ENT).
2. *BRCA1* and *BRCA2* gene mutations in breast cancer patients (with Dr B.R. Ambedkar IRCH).
3. *CTLA4* gene polymorphism in type 1 diabetic patients (with Endocrinology).

## PUBLICATIONS

### Journals

1. Jalla S, Sazawal S, Deb S, Black R, Das SN, Sarkar A, *et al.* Enumeration of lymphocyte subsets using flowcytometry: Effect of storage before and after staining in a developing country setting. *Indian J Clin Biochem* 2004;**19**:95–9.
2. Malhotra V, Sharma D, Ramanathan VD, Shakila H, Saini DK, Chakravorty S, *et al.* Disruption of response regulator gene, *devR*, leads to attenuation in virulence of *Mycobacterium tuberculosis*. *FEMS Microbiol Lett* 2004;**231**:237–45.
3. Prabhakar S, Mishra A, Singhal A, Katoch VM, Thakral SS, Tyagi JS, *et al.* Use of the *hupB* gene encoding a histone-like protein of *Mycobacterium tuberculosis* as a target for detection and differentiation of *M. tuberculosis* and *M. bovis*. *J Clin Microbiol* 2004;**42**:2724–32.
4. Rathore S, Singhal A, Prasad HK. Trends in tuberculosis research. *Natl Med J India* 2005;**18**:3–6.
5. Rawat DS, Sharma I, Jalah R, Lomash S, Kothekar V, Pasha ST, Sharma YD. Identification, expression, modeled structure and serological characterization of *Plasmodium vivax* histone 2B. *Gene* 2004;**337**:25–35.
6. Saini DK, Malhotra V, Dey D, Pant N, Das TK, Tyagi JS. DevR–DevS is a bonafide two-component system of *Mycobacterium tuberculosis* that is hypoxia-responsive in the absence of the DNA-binding domain of DevR. *Microbiology* 2004;**150** (Pt 4):865–75.
7. Saini DK, Malhotra V, Tyagi JS. Cross-talk between DevS sensor kinase homologue, Rv2027c, and DevR response regulator of *Mycobacterium tuberculosis*. *FEBS Lett* 2004;**565**:75–80.
8. Saxena RK, Choudhry V, Nath I, Das SN, Paranjpe RS, Babu G, *et al.* Normal ranges of some select lymphocyte sub-populations in peripheral blood of normal healthy Indians. *Curr Sci* 2004;**66**:969–75.
9. Sharma YD. Genetic alteration in drug resistance markers of *Plasmodium falciparum*. *Indian J Med Res* 2005;**121**:13–22.
10. Tyagi JS. T. A. Venkitasubramanian (1924–2003). *Curr Sci* 2004;**87**:1303.

11. Valarmathi MT, Sawhney M, Deo SS, Shukla NK, Das SN. Novel germline mutations in the *BRCA1* and *BRCA2* genes in Indian breast and breast–ovarian cancer families. *Hum Mutat* 2004;**23**:205.

### Abstracts

12. Singh SK, Valarmathi TM, Shukla NK, Das SN. *BRCA1* and *BRCA2* gene mutations in Indian breast cancer families. *Indian J Med Res* 2005;**121** (Suppl.):155–6.

### Books

1. Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004.

### Chapters in Books

1. Das SN. Antibody structure, function, genetics and antibody engineering. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:128–50.
2. Das SN. Antigen–antibody interactions. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:151–71.
3. Das SN. Antigens, immunization strategies. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:105–13.
4. Das SN. Autoimmunity. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:215–22.
5. Das SN. Basic tools in bioinformatics. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:424–35.
6. Das SN. Biology of B-lymphocytes and generation of humoral immunity. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:172–9.
7. Das SN. Biology of T-lymphocytes and generation of cellular immunity. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:180–94.
8. Das SN. Chemokine and chemokine receptors. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:205–14.
9. Das SN. Cytokines and cytokine receptors. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:195–204.
10. Das SN. Good laboratory practices. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:393–407.
11. Das SN. Infection, immunity and strategies for vaccine development. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:251–69.
12. Das SN. Innate immunity. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:93–104.
13. Das SN. MHC structure, genomic organization, antigen processing and presentation. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:114–27.
14. Das SN. Overview of the immune system. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:85–92.

15. Das SN. Regulation of gene expression. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:363–78.
16. Das SN. Transplantation immunity. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:223–34.
17. Das SN. Tumour immunity. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:235–50.
18. Gupta A. Applications of biotechnology. In: Das A (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:408–23.
19. Gupta A. DNA replication and repair. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:273–307.
20. Gupta A. Transcription. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:308–334.
21. Gupta A. Translation. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:335–62.
22. Jalah R, Das SN. Enzymes and mechanisms of enzyme action. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:26–41.
23. Jalah R, Das SN. Nucleic acids. In: Das SN (ed). *Essentials of biotechnology for students*. New Delhi: Peepee Publishers; 2004:67–81.
24. Kapuria V, Das SN. *TNF- $\alpha$*  and *TNFRII* gene polymorphisms in normal Indians. In: Skamene E (ed). *Immunology*. Bologna, Italy: Medimond Publishers; 2004:15–20.

## **PATIENT CARE**

PCR-based detection of malaria parasite species was performed on the samples received from AIIMS hospital and Malaria Centre field stations.

Diagnostic services for TB were provided to over 100 patients using a multipurpose test developed in Dr Tyagi's laboratory. The test is based on the use of conventional techniques that include smear microscopy and culture together with a molecular technique for PCR.

## **Patents**

1. A simple and fast process for evaluating *Mycobacterium tuberculosis* promoters under hypoxic and aerobic conditions and identifying antitubercular compounds. Date of filing: 9 August 2004, Patent application no.: 981/DEL/2003, Applicant: ICMR, Legal representative: K & S Partners, New Delhi 110062, Inventors: Jaya Sivaswami Tyagi, Gargi Bagchi, Mayuri, Neetu Kumara, Kohinoor Kaur, Deepak Kumar Saini, Anil Kumar Tyagi.
2. International application # PCT/N03/00302 dated 9.9.2003 on 'The characterization of *hupB* gene encoding histone-like protein of *Mycobacterium tuberculosis*' filed in the name of DBT and AIIMS.

## AWARDS AND HONOURS

**Professor Y.D. Sharma** is a member of the Advisory Committee for Shanti Swarup Bhatnagar Prize in Medical Sciences. He is an appointed member of the Rajasthan Government State Biotechnology Advisory Board. He is also a member of the DBT Task Force Committee on Human Resources Development and of the Selection Committee for DBT overseas associateship. He continued to be the Chairman of the Research Advisory Committee on Parasite Biology of the Malaria Research Centre, Delhi; Member of the Science Advisory Committee of MRC, Delhi, DBT's expert committee for selection of pre-doctoral fellow for the ICGEB at Italy; Member, Research Advisory Panel of DIPAS (DRDO), Academic Committee of Guru Nanak Dev University, Amritsar; Member, Board of Studies in Biotechnology at Jawaharlal Nehru University; Expert member, Board of PG studies in Biotechnology, Kurukshetra University; Expert member for the Teaching Advisory Committee of Devi Ahilya University, Indore; Member of the Editorial Board of the *Indian Journal of Malariology*; Member of the International reviewers' panel of *Medical Science Monitor*; Member of the Editorial Board of *Biotechnology*; Member, NML Book Selection Committee; Member, Research Committees of AIIMS; Member, Recombinant DNA Biosafety Committee of AIIMS; Member, Selection Committee for Scientists for ICMR; Indian Veterinary Research Institute, Bareilly; Professor at Pondicherry University, Pondicherry, Guru Ghasi Das University, Bilaspur, Ch. Devi Lal University, Sirsa; Expert member for DBT Jaivigyan S&T Mission, Indo-foreign collaboration programme of DBT; Expert member for JRF examination of DBT; Member, Recombinant Drug Advisory Panel of the Ministry of Health and Family Welfare.

**Dr J.S. Tyagi** is a member of the Special Committee of the School of Life Sciences and Special Centre for Molecular Medicine, Jawaharlal Nehru University, New Delhi.

**Dr H.K. Prasad** is coordinator for the AIDS International Training and Research Programme (ATRIP); 1 individual has availed of the fellowship. Dr Prasad was a Member of the Expert Group of the Technical Committee meeting at the Central JALMA Institute for Leprosy and Other Mycobacterial Diseases, Taj Ganj, Agra; the National Research Development Corporation, New Delhi and the Department of Biotechnology, Ministry of Science and Technology, CGO Complex, Lodi Road, New Delhi. He was a special invitee at the first PRC meeting of the project entitled 'Development of inactivated vaccine using native isolate of MAP against Johnne's disease in goats and sheep' of the Central Institute for Research on Goats (ICAR), Makhdoom, P.O. Forah, Mathura (UP). Dr H.K. Prasad is a Member of the Fellowship Screening Committee of the ICMR, DBT, ICGEB; Member of the Sub-Committee on tuberculosis vaccines under the National Jai Vigyan Science and Technology Mission on the 'Development of new-generation vaccines' of the Department of Biotechnology, Ministry of Science and Technology, CGO Complex, Lodi Road, New Delhi. He is a member of the Scientific Advisory Committee of the 31st Annual Conference of the Indian Immunology Society, 2004 at Chennai and the International Symposium on Emerging Trends in Tuberculosis, organized by the International Center for Genetic Engineering and Biotechnology (ICGEB).

**Dr S.N. Das** has been elected as Joint Secretary of the Indian Immunology Society for 2004–2006.

## VISITING SCIENTISTS

1. Dr V. Udhaya Kumar, CDC, Atlanta, USA, 23 July 2004.
2. Dr Suman Laal, Assistant Professor, Department of Pathology, VA Medical Center, New York, 17 February 2005.

3. Professor Nirbhay Kumar, Johns Hopkins University, Maryland, USA, 12 April 2005.

## **OTHER ACTIVITIES**

### **Bioinformatics Centre**

The department has a bioinformatics centre which provides database services, 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 as well as neighbouring institutes. A 64 kbps leased line for internet taken from VSNL is also functional in the department.

## 9.8 Centre for Community Medicine

### Professor and Head

V.P. Reddaiah

### Professors

S.K. Kapoor  
(superannuated on 30.11.2004)

C.S. Pandav

B. Singh  
(on sabbatical)

### Additional Professors

S. Kant

K. Goswami

### Associate Professor

K. Anand

### Assistant Professors

S. Rai

P. Mishra

B. Nongkynrih

## EDUCATION

The education programmes for undergraduates, postgraduates, nursing and BSc Human Biology students remain unchanged.

### Undergraduate

In rural areas, the programme remains the same. Undergraduates undergo a residential posting for 5 weeks in Semester VII.

### Internship

The programme remains unchanged. Interns are posted for 6 weeks in either Dayalpur or Chhainsa primary health centre. It is a residential posting. Activities in both the areas are the same.

### Postgraduate

Postgraduates in Community Medicine are posted in rural areas for 18 months. This gives them adequate time to gain the necessary experience both at referral hospital and primary health centres. They are encouraged to take active part in decision-making. With the help of the computer facility, postgraduate students are encouraged to use computers for data analysis. Besides this, they conduct different field-based exercises during the posting. The regular teaching exercises include seminars, family and case presentations, etc.

### Short-term training

Four foreign undergraduate students came from the USA for short-term training in Community Medicine.

## **Continuing Medical Education**

Two WHO In-country Fellowship Programmes were coordinated by the Centre for Community Medicine from 1 December 2004 to 31 March 2005 in which 25 faculty members from 14 departments participated.

- Group I: WHO Fellowship in NCD Risk Factor Surveillance from 1 December 2004 to 28 February 2005. Participants: 4.
- Group II: WHO Fellowship for Integrated NCD Prevention Group from 1 December 2004 to 31 March 2005. Participants: 8.

## **RESEARCH**

### **Funded Projects**

#### ***Completed***

1. Non-communicable diseases surveillance using WHO STEPwise approach being conducted in rural/urban/slum areas of Ballabgarh. K. Anand. Funded by WHO for 14 months (April 2003–June 2004). Funds: Rs 7.4 lakh.
2. Reliability testing and validation of Global Physical Activity Questionnaire (GPAQ) and International Physical Activity Questionnaire (IPAQ). S.K. Kapoor. Funded by WHO for 6 months (January–June 2004). Funds: Rs 2.3 lakh.
3. Evaluation of Universal Immunization Programme in India, 2004–2005. Sanjay Rai. Funded by IndiaCLEN Program Evaluation Network, Clinical Epidemiological Unit, AIIMS (June–December 2004).
4. Tracking progress towards sustaining elimination of IDD with State Governments of Orissa and Rajasthan. C.S. Pandav.

#### ***Ongoing***

1. Demonstration project on community-based intervention for NCD. S.K. Kapoor/K. Anand. Funded by WHO till June 2005. Funds: Rs 7.5 lakh.
2. NCD surveillance STEP-3. K. Anand. Funded by WHO/ICMR till December 2005. Funds: Rs 4.3 lakh.
3. Strengthening rural services using IT. K. Anand. Funded by Media Lab Asia, MIT till May 2006. Funds: Rs 24.6 lakh.
4. Effectiveness of iron and vitamin A fortified candies in decreasing anaemia. K. Anand. Funded by the Micronutrient Initiative (MI) till June 2005. Funds: Rs 13.5 lakh.
5. Evaluation of safe water systems intervention project in slums of Uttaranchal. K. Anand. Funded by IndiaCLEN/USAID till June 2007. Funds: Rs 46.6 lakh.

### **Departmental Projects**

#### ***Completed***

1. Evaluation of a nutritional intervention programme in rural Ballabgarh.

## Collaborative Projects

1. Comparative evaluation of single versus double freeze cryotherapy in the management of cervical intraepithelial neoplasia. Funded by WHO till April 2005 (with Obstetrics and Gynaecology).
2. Effectiveness of 3-day amoxycillin versus 5-day co-trimoxazole in the treatment of non-severe pneumonia in children 2–59 months of age. Funded by ICMR (with Paediatrics).
3. Case management of reproductive tract infections in India: An analysis of clinical protocols and cost (with Obstetrics and Gynaecology).

## PUBLICATIONS

### Journals

1. Agarwal N, Reddaiah VP. Epidemiology of dog bites: A community-based study in India. *Trop Doct* 2004;**34**:76–8.
2. Anand K, Patro B, Paul E, Kapoor SK. Management of sick children by health workers in Ballabgarh: Lessons for implementation of IMCI in India. *J Trop Pediatr* 2004;**50**:41–7.
3. Anand K, Sahariah SA, Kapoor SK. Cost of epilepsy in patients attending a secondary level hospital in India. *Epilepsia* 2004;**45**:289–91.
4. Anand K, Sankar R, Kapoor SK. Cost of syrup versus capsule form of vitamin A supplementation. *Indian Pediatr* 2004;**41**:377–84.
5. Bardia A, Paul E, Kapoor SK, Anand K. Declining sex ratio: Role of society, technology and government regulation in Faridabad district, Haryana. *Natl Med J India* 2004;**17**:207–11.
6. Baridalyne N, Reddaiah VP. Menstruation: Knowledge, beliefs and practices of women in reproductive age group residing in an urban resettlement colony of Delhi. *Health and Population. Perspectives and Issues* 2004;**27**:9–16.
7. Bhatia V, Swamy HM, Rai SK, Gulati S, Verma A, Parashar A, *et al.* Immunization status in children. *Indian J Pediatr* 2004;**71**:313–15.
8. DeCosta A, D’Souza N, Krishnan S, Chhabra MS, Shihaam I, Goswami K. Community based trials and informed consent in rural north India. *J Med Ethics* 2004;**30**:318–23.
9. Goswami A, Reddaiah VP, Kapoor SK, Singh B, Dwivedi SN, Kumar G, *et al.* Self-rated health status of the aged in rural area. *HelpAge India Res Develop J* 2004;**10**:7–16.

## PATIENT CARE

This has been divided into six broad categories.

1. Comprehensive Rural Health Services (CRHS) Project, Ballabgarh
2. Urban Health Programme
3. Sex and Marriage Counselling Clinic
4. AIIMS Delhi Mid-Town Rotary Hospital, Trilokpuri
5. AIDS Education and Training Cell
6. National Service Scheme Unit, AIIMS

## **CRHS Project, Ballabgarh**

This has two components: (i) Referral Hospital, Ballabgarh; and (ii) Community Health Services.

### ***Referral Hospital, Ballabgarh***

#### **Outpatients**

The following outpatient departments are run:

- General OPD for adults
- Child Welfare Centre for children
- Ophthalmology (daily)
- ENT (twice a week)
- Dental (daily)
- Obstetrics and Gynaecology (daily)
- Epilepsy Clinic (once a week)
- Rehabilitation (two days a week)
- Psychiatry (once a week)
- ANC Clinic (thrice a week)
- Nutrition Rehabilitation Clinic (once a week)
- Paediatric Surgery OPD-cum-surgery (once a week)
- NCD Clinic (once a week)

#### **OPD load**

- New patients 73,723
- ANC registration 5,168

#### **Inpatients**

The number of beds has remained unchanged at 50.

- Total number of admissions including hospital births 4977
- Number of hospital births 1501
- Bed occupancy rate 57.3%  
(including newborns) 41.9%  
(excluding newborns)
- Average duration of stay 2.1 days
- Admissions
  - Via emergency 2896
  - Via OPD 580
  - Newborn 1501

## Distribution of inpatients by specialty

| Specialty                  | Number      | Percentage   |
|----------------------------|-------------|--------------|
| Medicine                   | 686         | 13.8         |
| Surgery                    | 162         | 3.3          |
| Obstetrics and Gynaecology | 1925        | 38.6         |
| Paediatrics                | 702         | 14.1         |
| Ophthalmology              | 1           | 0            |
| Newborn                    | 1501        | 30.2         |
| <b>Total</b>               | <b>4977</b> | <b>100.0</b> |

## Casualty

- Number of patients registered 14,414
- Number of medicolegal cases 2,668

## Diagnostic tests performed

- Laboratory investigations (including malaria slides) 74,780
- X-rays (total) 6,321
- Malaria slides 2,030
  - Malaria cases 12
    - P. vivax* 10
    - P. falciparum* 2

## Total number of surgical procedures performed (by specialty)

| Procedure                  | Number of cases | Percentage   |
|----------------------------|-----------------|--------------|
| General Surgery            | 651             | 52.2         |
| Obstetrics and Gynaecology | 589             | 47.3         |
| Ophthalmology              | 6               | 0.5          |
| <b>Total</b>               | <b>1246</b>     | <b>100.0</b> |

## Total number of surgical procedures (sex-wise)

| Gender       | Adults      |              | Children   |              | Total       |              |
|--------------|-------------|--------------|------------|--------------|-------------|--------------|
|              | <i>n</i>    | %            | <i>n</i>   | %            | <i>n</i>    | %            |
| Male         | 225         | 20.5         | 117        | 80.1         | 342         | 27.4         |
| Female       | 875         | 79.5         | 29         | 19.9         | 904         | 72.6         |
| <b>Total</b> | <b>1100</b> | <b>100.0</b> | <b>146</b> | <b>100.0</b> | <b>1246</b> | <b>100.0</b> |

## Revised National Tuberculosis Control Programme (RNTCP)

Ballabgarh hospital is a treatment unit under the RNTCP and has 4 microscopy centres under it. The total number of cases treated at the Ballabgarh Treatment Unit was 999 in 2004. Of these, 367 were diagnosed at the microscopy centre of Ballabgarh.

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

|                                 |      |
|---------------------------------|------|
| Category I                      | 160  |
| Category II                     | 84   |
| Category III                    | 123  |
| Total                           | 367  |
| Sputum examination of new cases | 2260 |

### Community Health Services

#### Intensive Field Practice Area (IFPA)

This comprises the two primary health centres—Dayalpur and Chhainsa. Outpatient, domiciliary and referral services are being provided.

#### 1. Indices

|  |        |
|--|--------|
| • Population                                   | 80,252 |
| • Birth rate per 1000 population               | 25.4   |
| • Death rate per 1000 population               | 6.6    |
| • Neonatal mortality rate per 1000 live-births | 23.6   |
| • Infant mortality rate per 1000 live-births   | 54.5   |
| • Maternal mortality rate per 1000 live-births | 0.0    |

#### 2. Load of OPD patients at various centres in IFPA

| PHC      | New cases | Repeat visits | Total  |
|----------|-----------|---------------|--------|
| Dayalpur | 11,818    | 10,142        | 21,960 |
| Chhainsa | 11,810    | 9,570         | 21,380 |

### Family Welfare and Maternal and Child Health

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

|  |       |
|--|-------|
| • Total antenatal cases (new registration)                             | 2363  |
| • Total antenatal cases carried over last year                         | 1050  |
| • Pregnant women receiving antenatal care                              | 95%   |
| • Complete TT coverage of registered cases                             | 73.1% |
| • Deliveries conducted by staff or hospital                            | 580   |
| • Eligible couple protection rate                                      | 53.9% |
| • Total number of persons who accepted family planning methods in 2004 | 2440  |

|             |      |
|-------------|------|
| —Tubectomy  | 480  |
| —Vasectomy  | 4    |
| —CC users   | 1142 |
| —IUD        | 318  |
| —Oral pills | 496  |

### Expanded Programme on Immunization

Coverage at 12–23 months of age

|                               |       |
|-------------------------------|-------|
| BCG                           | 99.2% |
| OPV (3 doses)                 | 99.1% |
| DPT (3 doses)                 | 99.1% |
| Measles                       | 98.8% |
| Complete primary immunization | 98.7% |

Beside this, oral polio vaccine was also given under the Intensified Pulse Polio Programme on 4.04.04, 23.05.04, 10.10.04, 21.11.04, 9.01.05 and 20.02.05. The coverage was 99.9%. Each polio programme lasted for 4 days.

### National Programmes

#### 1. Malaria

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

|                                  |        |
|----------------------------------|--------|
| Total number of slides collected | 10,040 |
| Total number of positive cases   | 39     |

#### *Indices*

|                                  |                     |
|----------------------------------|---------------------|
| • Annual blood examination rate  | 12.5%               |
| • Annual parasite incidence rate | 3.9/1000 population |
| • Slide positivity rate          | 0.39%               |

#### 2. 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 1 | 72  |
| Category 2 | 28  |
| Category 3 | 25  |
| Total      | 125 |

### Urban Health Programme

|  |        |
|--|--------|
| Total number of patients seen at Ambedkar Nagar                          | 19,396 |
| Total number of referrals  | 826    |
| Total number of health talks given on different topics at Ambedkar Nagar | 115    |

|                                 |                   |
|---------------------------------|-------------------|
| Immunizations                   |                   |
| 0 dose OPV                      | 172               |
| BCG                             | 476               |
| DPT I                           | 550               |
| DPT II                          | 543               |
| DPT III                         | 536               |
| DPT B                           | 378               |
| OPV I                           | 550               |
| OPV II                          | 543               |
| OPV III                         | 536               |
| OPV B                           | 378               |
| DT I + OPV                      | 67                |
| DT II + OPV                     | 22                |
| DT (Booster) + OPV              | 154               |
| Measles                         | 482               |
| MMR                             | 500               |
| TT I (Antenatal)                | 201               |
| TT II (Antenatal)               | 106               |
| TT (Booster)                    | 63                |
| TT (Others)—above 6 years       | 133               |
| Hepatitis B                     |                   |
| I dose                          | 665               |
| II dose                         | 643               |
| III dose                        | 588               |
| Typhoid (January to March 2005) | 426               |
| Vitamin A                       |                   |
| I dose–II dose                  | 567               |
| Folifer (Adult)                 | 1192 x 30 tablets |
| Folifer (Paediatric)            | 409 x 30 tablets  |

### **AIDS Education and Training Cell**

Professor V.P. Reddaiah is the Chairperson and Dr Bir Singh the Coordinator of this Cell. The following activities were organized by the Cell.

1. The telephone helpline on HIV/AIDS and contraception ‘Shubchintak’ continued to be operated with usual popularity, attracting good number of calls.
2. The internet-based helpline (e\_shubchintak) on HIV/AIDS and contraception continued to be operated with usual popularity. It received 3–5 requisitions/day for IEC materials apart from queries on HIV/AIDS, sexual problems, STDs, contraception, etc.
3. The Cell produced and disseminated educational material on HIV/AIDS to the general public in 2004–2005 also.
4. Sixty-five new patients were given counselling personally apart from old patients.
5. HIV/AIDS Orientation Training Programme for Programme Officers of NSS under University Talk AIDS (UTA) was conducted during 9–11 September 2004.

6. A health talk-cum-exhibition on 'HIV/AIDS awareness' was organized in the community on World AIDS Day (1 December 2004).
7. S. Shyam delivered a lecture on HIV/AIDS at Rajdhani College on 28 January 2005.
8. The third edition of the book entitled '*All you wanted to know about HIV/AIDS*', written by V.P. Reddaiah and Bir Singh, was published.

### **National Service Scheme Unit, AIIMS**

#### ***Special health activities of the unit***

1. Conducted a Pulse Polio Immunization Awareness Campaign in Dr Ambedkar Nagar from 1 to 3 April 2004.
2. Organized an exhibition on the World Health Day on 'Road safety is no accident' at Dr Ambedkar Nagar on 7 April 2004.
3. Conducted a Pulse Polio Immunization Awareness Campaign in Dr Ambedkar Nagar from 18 to 22 May 2004.
4. Organized an exhibition on 'World No Tobacco Day' at Dr Ambedkar Nagar (85 participants) on 31 May 2004.
5. Observed 'International Day against Drug Abuse' at Dr Ambedkar Nagar (90 participants) on 26 June 2004.
6. Conducted a Pulse Polio Immunization Awareness Campaign in Dr Ambedkar Nagar from 28 June to 3 July 2004.
7. Held 'World Population Day' exhibition at Dr Ambedkar Nagar (120 participants), 11 July 2004.
8. Observed 'National ORS Day' at Dr Ambedkar Nagar (80 participants) on 29 July 2004.
9. Observed 'breastfeeding week' at Dr Ambedkar Nagar from 2 to 7 August 2004.
10. NSS students participated in regional level poster competition at Jamia University, New Delhi on 4 August 2004.
11. Conducted an intervention programme on current local health problems (role play) at Dr Ambedkar Nagar under FHAS programme Batch I on 6 September 2004.
12. Conducted an orientation training programme on HIV/AIDS for NSS Programme Officers of various universities at Jamia University, New Delhi from 9 to 11 September 2004.
13. Conducted an intervention programme on current local health problems (role play) at Dr Ambedkar Nagar under FHAS programme Batch II on 13 September 2004.
14. Conducted a Pulse Polio Immunization Awareness Campaign in Dr Ambedkar Nagar from 4 to 9 October 2004.
15. Conducted a Pulse Polio Immunization Awareness Campaign in Dr Ambedkar Nagar from 15 to 20 November 2004.
16. Organized an exhibition on 'World AIDS Day' at Dr Ambedkar Nagar (160 participants) on 2 December 2004.
17. Conducted a Pulse Polio Immunization Awareness Campaign in Dr Ambedkar Nagar from 3 to 8 January 2005.

18. Organized an exhibition on 'World Leprosy Day' at Dr Ambedkar Nagar (120 participants) on 31 January 2005.
19. Conducted a Pulse Polio Immunization Awareness Campaign in Dr Ambedkar Nagar from 21 to 26 February 2005.
20. Held an exhibition on 'World TB Day' at Dr Ambedkar Nagar (120 participants) on 24 March 2005.
21. Conducted 11 film shows under various teaching and training programmes.
22. Made 21 posters on different topics (Road safety, Tobacco, Population problems, Non-communicable diseases, Leprosy) for various exhibitions.
23. Performed 5 role-plays in the community on Alcoholism, Drug-addiction, Family Planning, Polio, Mother and Child Health and Gender Bias.

### ***Family planning acceptors***

|                          |           |
|--------------------------|-----------|
| Nirodh                   | 4560      |
| Oral contraceptive pills | 90 cycles |

### ***Laboratory services***

|   |     |
|---|-----|
| Blood smear for malarial parasite         | 475 |
| Haemoglobin                               | 697 |
| Sputum for acid-fast bacilli              | 170 |
| Urine routine and microscopic examination | 361 |
| Urine pregnancy test                      | 55  |

### **Sex and Marriage Counselling Clinic**

|                |      |
|----------------|------|
| New patients   | 2449 |
| Old patients   | 2705 |
| Total patients | 5154 |

### ***Investigations***

|                  |      |
|------------------|------|
| Hormone analysis | 676  |
| Blood sugar      | 354  |
| Semen analysis   | 1118 |
| C/S, VDRL, HIV   | 455  |
| Urine (R/M)      | 287  |
| Hb               | 31   |

### **AWARDS AND HONOURS**

**Professor C.S. Pandav** was appointed the Vice President of the Indian Public Health Association (IPHA-North Region) in 2005. He delivered the Dr D.N. Pai Oration during the 32nd Annual National Conference of the Indian Association of Preventive and Social Medicine, and the 12th Annual Conference of the Maharashtra Chapter of IAPSM from 17 to 19 February 2005 at the Pravara Institute of Medical Sciences, Loni.

## SIGNIFICANT EVENTS

**Professor V.P. Reddaiah** chaired a session on ‘Reducing maternal mortality and morbidity in community’ held at the University College of Medical Sciences, New Delhi, 30 October 2004.

**Professor C.S. Pandav** attended the Protocol Development Workshop on ‘Rural private medical practitioners’, Lucknow, 2–4 April 2004; was an external examiner for MPhil Examination in Clinical Epidemiology at Thiruvananthapuram from 12 to 13 April 2004; participated in the meeting of the Nutrition Research Curriculum Action Network by WHO-SEARO, Manesar, Gurgaon from 26 to 28 May 2004; attended the launch programme of ‘New ORS’ organized by the Ministry of Health and Family Welfare, Government of India at Vigyan Bhawan, New Delhi on 2 June 2004; participated in the Ninth Meeting of the Health Secretaries of countries of SEAR, WHO-SEARO, New Delhi, 22–23 July 2004; attended the Expert Group Meeting for celebration of the Global IDD Prevention Day and other related issues held at Nirman Bhawan, New Delhi on 23 July 2004; participated in the XVth IndiaCLEN Annual Meeting at Nagpur from 14 to 16 September 2004; participated in the 8th International Epidemiological Association (IEA) Regional Scientific Meeting at Jhansi from 5 to 8 December 2004; participated in the National Conference of Indian Public Health Association at Lucknow from 11 to 13 February 2005; conducted a workshop on ‘NCD risk factor surveys’ for Asia-Oceania group of INDEPTH at Hotel Hill View, Surajkund from 21 to 23 March 2004; attended Iodine Deficiency Disorders (IDD) Meeting in Bhopal on 29 March 2005; attended the Annual ICCIDD Director’s Meeting at Lima, Peru from 3 to 7 May 2004; attended the Verification of Progress in IDD Elimination in Turkmenistan from 4 to 12 October 2004; attended the Technical Consultation on ‘Iodine deficiency in pregnant women and infants’ organized by WHO-HQ, Geneva, 24–26 January 2005. Curatore for the *International Journal for Vitamin and Nutrition Research*. He was nominated as Member of the Expert Committee for the Scheme ‘Science and technology for women’ by the Department of Science and Technology, 2004; and the Advisory Committee of the Advanced Centre for Nutrition Policy Research at the Nutrition Foundation of India (NFI), 2005.

**Dr K. Anand** was nominated as a member of the Core group on IT in primary health care by Media Lab Asia, Ministry of Information Technology and Communications; provided technical consultation to the Micronutrient Initiative for a community-based trial of micronutrient-fortified premix for *kichri* in ICDS users in West Bengal; nominated as a member of working group to prepare a plan for surveillance of risk factors for NCDs under Integrated Disease Surveillance Project (IDSP) constituted by MoH&FW, GOI; did a short-term assignment with WHO/SEARO from October to December 2004 in NCD surveillance; attended the Annual General Meeting of INDEPTH at Hanoi, Viet Nam in May 2004; attended the Asia-Oceania INDEPTH Meeting in Jog, Jakarta in August 2004; attended the WHO-SEARO Planning Workshop for ‘Setting up NCD info base in SEAR countries’ in November 2004; conducted a workshop on ‘NCD risk factor surveys’ for the Asia-Oceania group of INDEPTH.

**Dr Sanjay K. Rai** attended a workshop on ‘Developing operational research projects on micronutrient malnutrition control in India’ organized by IndiaCLEN Micronutrients Health Initiative, Clinical Epidemiological Unit, AIIMS, New Delhi from 26 to 28 March 2004; attended Protocol Development Workshop on ‘Rural private medical practitioners’; participated as resource person and participant (delivered a lecture on ‘Consent procedures, ethical and political issues’) at the King George’s Medical University (KGMU), Lucknow from 2 to 4 April 2004, organized by Clinical Epidemiological Unit, KGMU; attended a workshop on ‘Nutrition in the medical curriculum’ organized by the Nutrition Foundation of India and Centre for Research on Nutrition Support System with technical support from

MCI, Ministry of Health and Family Welfare, ICMR, NAMS and Department of Biotechnology at the India International Centre, New Delhi from 28 to 30 April 2004; attended a workshop on National Protocol Finalization 'AFP Surveillance and Universal Immunization Programme' organized by IndiaCLEN, Clinical Epidemiological Unit, AIIMS, New Delhi from 18 to 20 June 2004 at Surajkund, Faridabad; delivered a lecture on 'HIV/AIDS, reproductive health and STDs' on 24 September 2004 at Maitreyi College, New Delhi; training workshop on 'HIV/AIDS for peer educators under UTA' sponsored by NSS Regional Centre, Ministry of Youth Affairs and Sports, New Delhi; participated as an expert in the panel discussion on CME on Rabies at Dr S.T.M. Forest Hospital, Haldwani (Nainital) on 19 November 2004; Central Coordinating Team (CCT) Member, Clinical Epidemiological Unit, AIIMS, New Delhi; unanimously elected as the 'Central Council Member' of the Indian Public Health Association (North Zone). 'UIP assessment review in six states (Bihar, UP, MP, Jharkhand, Orissa and Rajasthan) of India', jointly undertaken by the Government of India, WHO, UNICEF from 25 August to 9 September 2004.

**ACADEMIC, ADMINISTRATION, FINANCE, ENGINEERING, LIBRARY, CENTRAL FACILITIES, ETC.**

At the Ballabgarh Project all the faculty members are involved in activities such as academic, administration, finance and library and are assisted by the secretarial, library and other office staff.

## 9.9 Dermatology and Venereology

### Professor and Head

V.K. Sharma

### Professors

Neena Khanna

K.K. Verma

### Additional Professor

M. Ramam

### Associate Professors

Binod K. Khaitan

### Assistant Professors

Sujay Khandpur

G. Sethuraman

### EDUCATION

#### Short- and long-term training

- Short-term training (1, 3, 6 months) of Indian and foreign students in Dermatology, Venereology and Leprology. Total students: 17.
- Fellowship in Contact Dermatitis—2

#### National and International Conferences

##### *Professor V.K. Sharma*

- ‘Evolution of clinical pattern of *Parthenium* dermatitis: A study of 74 cases’; 16th annual meeting of the American Society of Contact Dermatitis, New Orleans, USA; 17 February 2005.
- ‘Clinical profile of drug reactions’; Department of Dermatology, South Western University, Dallas, Texas, USA; 24 February 2005.
- ‘Alopecia areata and its management’; Department of Dermatology, South Western University, Dallas, Texas, USA; 24 February 2005.
- ‘Clinical profile and management of alopecia areata and diagnosis and management of drug reaction’; Department of Dermatology, Boston University, Boston, USA; 28 February 2005.
- ‘Classification and treatment of leprosy and alopecia areata’; Department of Dermatology, UCSF, San Francisco, USA; 1–3 March 2005.
- ‘Recent advances in STD’; 30th Regional (North India) IADVL conference, Shimla; 2–3 October 2004.
- ‘Occupational skin disease in unorganized sector’; Health, Occupation and Environment in Unorganized Sector—Problems and Roadmaps, Lucknow; 1–3 November 2004.

- ‘Guidelines for management of HIV-positive patients in STD clinics’; 28th National Conference of Indian Association for the Study of Sexually Transmitted Diseases and AIDS (IASSTD & AIDS), Jabalpur; 2–4 November 2004.
- ‘Newer trends in the management of hair disorders’; Ist Derma CME-2004, Government Medical College, Chandigarh; 20 November 2004.
- ‘Efficacy of pulsed dye laser in unilateral nevoid telangiectasia in skin type III and IV’ (V.K. Sharma, Sujay Khandpur); Biennial Conference of Association of Cutaneous Surgeons of India—Skin Edge 2004; 26–28 November 2004.
- ‘Medical management of vitiligo’; Cosmederm 2005, Mumbai; 8–10 February 2005.
- ‘Treatment of difficult psoriasis’; First International Conference of Dermatology at Kathmandu, Nepal; 5–7 November 2004.
- ‘Recent advances in management of melasma’; First Conference of the Asian Society for Pigment Cell Research (ASPCR 2005), Ashok Hotel, New Delhi; 1–2 February 2005.

***Dr Binod K. Khaitan***

- ‘Vasculitides’ (Binod K. Khaitan, R. Handa); 7th National CME on Dermatopathology, AIIMS, New Delhi; 20–21 December 2004.
- ‘Sexually transmitted diseases’ (Binod K. Khaitan, Trilokraj Tejasvi, Naveet Wig); Talk organized for rural doctors at Arpana Hospital by International Medical Sciences Academy; 29 February 2004.
- ‘What’s new in Dermatology?’; Tenth Annual Conference of IADVL MP State branch, Khandwa; 20–21 November 2004.
- ‘Tacrolimus—its role beyond atopic dermatitis in dermatology’; Pediatric Dermatology CME organized by the Society for Pediatric Dermatology (Delhi); 27 March 2005.
- ‘Diagnostic clinical features of pentazocine-induced ulcers’ (H.R.Y. Prasad, Binod K. Khaitan, M. Ramam, V.K. Sharma, R.K. Pandhi, Saurabh Agarwal, Anju Dhawan, Raka Jain, Manoj K. Singh.); IXth International Congress of Dermatology, Beijing, China; May 2004.
- ‘Evaluation of efficacy of fixed duration (12 weeks) multidrug therapy with newer antileprosy bactericidal drugs in multibacillary leprosy’ (Binod K. Khaitan, T. Tejasvi, R.K. Pandhi, N. Khanna, M.K. Singh.); African Leprosy Congress, Midrand, Johannesburg, South Africa; 31 January–3 February 2005.

***Dr G. Sethuraman***

- ‘An Indian child with Kindler syndrome resulting from a homozygous non-sense mutation (C468X) in the *KIND1* gene’ (G. Sethuraman, H. Fassih, G.H.S. Ashton, A. Bansal, B.K. Khaitan, M. Kabra, G.K. Makharia, V.K. Sharma, J.A. McGrath.); 63rd Annual Conference of the American Academy of Dermatology, New Orleans, USA; March 2005.

***Dr Sujay Khandpur***

- ‘Evaluation of ELISA test as diagnostic tool for pemphigus vulgaris’ (Sujay Khandpur, V.K. Sharma.); First International Conference of Dermatology at Kathmandu, Nepal; 5–7 November 2004.

- ‘Pulsed dye laser for treatment of unusual dermatoses’ (Sujay Khandpur, V.K. Sharma.); 33rd National Conference of the Indian Association of Dermatologists, Venereologists and Leprologists and 4th South Asian Regional Conference of Dermatology, Venereology and Leprology; 3–5 February 2005.
- ‘Congenital infiltrating lipomatosis of face’ (Sujay Khandpur, V.K. Sharma.); 33rd National Conference of the Indian Association of Dermatologists, Venereologists and Leprologists and 4th South Asian Regional Conference of Dermatology, Venereology and Leprology; 3–5 February 2005.
- ‘The first case of ichthyosis follicularis, alopecia and photophobia (IFAP) syndrome from India’ (Sujay Khandpur, R. Bhatt, M. Ramam.); 33rd National Conference of the Indian Association of Dermatologists, Venereologists and Leprologists and 4th South Asian Regional Conference of Dermatology, Venereology and Leprology; 3–5 February 2005.
- ‘Systemic immunomodulators in dermatology’; Glaxo forum; 8 November 2004.

## RESEARCH

### Funded Projects

#### *Completed*

1. Naturalistic, open-label, multicentre study of long-term management in patients  $\geq 3$  months of age with mild or moderate atopic dermatitis using pimecrolimus cream 1%. Neena Khanna. Funded by Novartis for 9 months. Funds: Rs 1,20,000.
2. Revalidation of syndromic approach for the management of genital ulcer disease in a tertiary care centre in northern areas. Neena Khanna. Funded by ICMR for 3 years. Individual fellowship.

#### *Ongoing*

1. Study of involvement of sweat and sebaceous glands in alopecia areata. V.K. Sharma. Funded by AIIMS for 1 year. Funds: Rs 50,000.
2. A randomized, investigator-blinded, active-controlled, parallel-group study to compare the efficacy and safety of 6-week treatment with terbinafine new paediatric formulation versus 6-week treatment with griseofulvin paediatric suspension in children with Tinea capitis. Neena Khanna. Funded by Novartis for 15 months. Funds: Rs 3,62,004.
3. Evaluation of ovarian function in female patients with multibacillary leprosy. Neena Khanna. Funded by ICMR for 36 months. Funds: Rs 16,83,370.
4. Role of *Parthenium hysterophorus* in pathogenesis and exacerbations of atopic dermatitis. Neena Khanna. Funded by DBT for 3 years. Funds: Rs 14,34,330.
5. Evaluation of algorithms proposed by NACO for syndromic management of urethral and vaginal discharge in a tertiary care centre in northern India. Neena Khanna. Funded by ICMR for 3 years. Funds: Rs 13,63,966.
6. Restoration of T cell response and cytokine profile of leprosy patients. Neena Khanna. Funded by DBT.
7. Expression of co-stimulatory molecules in peripheral blood-derived monocytes, macrophages and T cells in leprosy patients. Neena Khanna. Funded by DBT.

8. T cell signalling pathways using *M. leprae* derived antigens in leprosy patients. Neena Khanna. Funded by CSIR.
9. Azathioprine versus corticosteroids for the treatment of *Parthenium* dermatitis. Kaushal K. Verma. Funded by ICMR for 3 years. Funds: Rs 11.25 lakh.
10. Utility of antigen detection from the epidermis of Indian patients in pemphigus vulgaris. Sujay Khandpur. Funded by AIIMS for 2 years. Funds: Rs 1 lakh.

## **Departmental Projects**

### ***Completed***

1. Evaluation of cyclophosphamide pulse in treatment of pemphigus.
2. Desmoglein 1 and 3 antibodies in pemphigus.
3. Evaluation of methotrexate in treatment of scleroderma.
4. Narrow band UVB in treatment of psoriasis; PUVA therapy in treatment of psoriasis.
5. A modified 2-step regimen for the treatment of actinomycetomas.
6. A prospective study of the time course of response to therapy in cutaneous tuberculosis.
7. Dexamethasone–cyclophosphamide pulse therapy in pemphigus.
8. A comparative randomized study of the efficacy and side-effects of betamethasone oral mini-pulse therapy vs topical triamcinolone acetonide (0.1%) oral paste in patients with oral lichen planus.
9. Evaluation of efficacy of fixed duration (12 weeks) multidrug therapy with newer antileprosy bactericidal drugs in multibacillary leprosy.
10. A comparative study of two diagnostic methods for microscopy of pityriasis versicolor and superficial dermatophytosis of glabrous skin.
11. Evaluation of itraconazole pulse therapy in eruptive lichen planus.
12. Comparison of punch versus split skin grafting in chronic stable vitiligo.

### ***Ongoing***

1. Methotrexate in the treatment of *Parthenium* dermatitis.
2. Sepsis in dermatology ward.
3. Effects of epilation by waxing on the skin.
4. Treatment of paraesthesia in leprosy—a comparative trial of amitriptyline, gabapentin and a multivitamin preparation.
5. Perimenstrual eruptions in females.
6. Use of methotrexate in controlling pemphigus group of disorders.
7. Comparison of the cost-effectiveness of PUVA versus PUVAsol in psoriasis.
8. Randomized clinical trial of azathioprine weekly pulse versus daily azathioprine for the treatment of *Parthenium* dermatitis.

9. Effectiveness of CO<sub>2</sub> laser in benign vascular lesions.
10. CO<sub>2</sub> laser as a therapeutic modality for the treatment of epidermal and sebaceous naevi.
11. Evaluation of CO<sub>2</sub> laserabrasion as a therapeutic modality in extensive facial angiofibromas in tuberous sclerosis.
12. Azathioprine as a corticosteroid-sparing agent in the treatment of airborne contact dermatitis.
13. To evaluate the role of immunosuppressive drugs for the treatment of chronic urticaria.
14. Effectiveness of CO<sub>2</sub> laser for the treatment of keloids.
15. Long-term safety and toxicity of azathioprine in patients of airborne contact dermatitis.
16. Azathioprine in the management of recurrent ENL.
17. Evaluation of patients with multiple drug hypersensitivity.
18. A descriptive study of tuberculids.
19. Role of sclerotherapy in vascular malformations.

### **Collaborative Projects**

1. Dermatological complications in renal transplant recipient patients—A follow up study (with Nephrology).
2. Role of electron beam radiation therapy for the treatment of mycosis fungoides (with Radiation Oncology).
3. Evaluation of topical cyclosporin in ocular involvement in Stevens–Johnson syndrome (with Ophthalmology, Dr R.P. Centre) (Funded by ICMR).

### **PUBLICATIONS**

#### **Journals**

1. Gupta R, Khaitan BK, Sharma SK. Systemic cutaneous amyloidosis. *J Assoc Physicians India* 2005;**53**:119.
2. Jaryal AK, Khandpur S, Kulshreshtha P, Yadav RK, Deepak KK. Autonomic function in hyperhidrosis and hypohidrosis. *Indian J Physiol Pharmacol* 2004;**48**:239.
3. Khaitan BK, Mittal R, Verma KK. Extensive alopecia areata treated with betamethasone oral mini-pulse therapy: An open uncontrolled study. *Indian J Dermatol Venereol Leprol* 2004;**70**:350–3.
4. Khandpur S, Malhotra AK, Deepak KK, Verma KK. Neurofibromatosis I with unusual hypopigmentation masquerading as leprosy. *J Assoc Physicians India* 2004;**52**:1001–3.
5. Khandpur S, Ramam M, Sharma VK, Salotra P, Singh MK, Malhotra A. Nerve involvement in Indian post kala-azar dermal leishmaniasis. *Acta Derm Venereol* 2004;**84**:245–6.
6. Khandpur S, Sharma VK, Manchanda Y. Comparison of minipunch grafting versus split-skin grafting in chronic stable vitiligo. *Dermatol Surg* 2005;**31**:436–41.
7. Khandpur S, Sharma VK, Sumanth K. Topical immunomodulators in dermatology. *J Postgrad Med* 2004;**50**:131–9.

8. Khandpur S, Sharma VK. Neurofibromatosis type I: A pigmentary anomaly. *Indian J Dermatol* 2004;**49**:145–8.
9. Khanna N, Sirka C, Gupta S, Singh M. Lipodystrophy following hepatitis infection: A causative relationship? *J Eur Acad Dermatol Venereol* 2004;**18**:345–6.
10. Manchanda Y, Sharma VK, Das S, Rao S. Lipoatrophic panniculitis treated with antimalarials. *J Dermatol* 2004;**31**:347–9.
11. Prasad HRY, Khaitan BK, Ramam M, Sharma VK, Pandhi RK, Agarwal S, *et al*. Diagnostic clinical features of pentazocine induced ulcers. *Int J Dermatol* May 2004 doi:10.1111/j.1365-4632.2004.02291.x
12. Prasad HRY, Sharma VK. Adapalene in treatment of acne vulgaris. *Indian J Dermatol* 2004;**49**:69–72.
13. Prasad HRY, Srivastava P, Verma KK. Diapers and skin care: Merits and demerits. *Indian J Pediatr* 2004;**71**:907–8.
14. Ramam M, Mittal R, Ramesh V. How soon does cutaneous tuberculosis respond to treatment? Implications for a therapeutic test of diagnosis. *Int J Dermatol* 2005;**44**:121–4.
15. Ramam M, Srivastava P. Dapsone hypersensitivity or viral exanthem? *Acta Derm Venereol* 2004;**84**:334–5; author reply 335–6.
16. Ramam M. Response by Dr Ramam. *Indian J Dermatol Venereol Leprol* 2004;**70**:248–9.
17. Rathi SK, Pandhi RK, Chopra P, Khanna N. Lesional T-cell subset in post-kala-azar dermal leishmaniasis. *Int J Dermatol* 2005;**44**:12–13.
18. Sharma VK, Dutta B, Ramam M. Hydroxyurea as an alternative therapy for psoriasis. *Indian J Dermatol Venereol Leprol* 2004;**70**:13–17.
19. Sharma VK, Khandpur S, Khanna N. An interesting case of unilateral angiofibromas successfully treated with pulsed dye laser. *J Eur Acad Dermatol Venereol* 2004;**18**:641–2.
20. Sharma VK, Khandpur S. Changing patterns of sexually transmitted infections in India. *Natl Med J India* 2004;**17**:310–19.
21. Sharma VK, Sethuraman G, Garg T, Verma KK, Ramam M. Patch testing with the Indian standard series in New Delhi. *Contact Dermatitis* 2004;**51**:319–21.
22. Sharma VK, Sethuraman G, Tejasvi T. Comparison of patch test contact sensitivity to acetone and aqueous extracts of *Parthenium hysterophorus* in patients with airborne contact dermatitis. *Contact Dermatitis* 2004;**50**:230–2.
23. Sinha AK, Singh MK, Dinda AK, Ramam M. Morphometric study of lymphoid cells in mycosis fungoides and its simulators. *Indian J Pathol Microbiol* 2003;**46**:28–33.
24. Uppal G, Raina V, Sharma A, Anand M, Kumar R, Khaitan BK, *et al*. Use of simple hematological, biochemical and clinical parameters to monitor response of multiple myeloma patients on high dose thalidomide therapy. *Indian J Cancer* 2005;**42**:46–50.
25. Verma KK, Manchanda Y, Dwivedi SN. Failure of titre of contact hypersensitivity to correlate with clinical severity and therapeutic response in contact dermatitis caused by parthenium. *Indian J Dermatol Venereol Leprol* 2004;**70**:210–13.

## Books

1. Khanna N. *Illustrated synopsis of dermatology and sexually transmitted diseases*. 1st ed. New Delhi: Peepee Publishers; 2005.
2. Pasricha JS, Khaitan BK, Misra RS, Ramesh V, Ramam M, Khandpur S, *et al.* (eds). *Current literature dermatology 2002–2003*. New Delhi: Indian Association of Dermatology, Venereology and Leprology, Delhi State Branch; 2004.

## Chapters in Books

1. Khaitan BK, Datta Gupta S, D'Souza P. Fungal infections. In: Singh MK (ed). *Diagnostic dermatopathology—a manual*. Delhi: Academia Publishers; 2005:30–44.
2. Khaitan BK, Prabhu SC, Chumber S. In: Chumber S (ed). *Essentials of surgery*. New Delhi: Jaypee; 2005:513–36.
3. Khandpur S. Gonococcal infections. In: Kumar B (ed). *Textbook of sexually transmitted diseases*. New Delhi: Elsevier; 2005:318–47.
4. Khandpur S. Lymphogranuloma venereum. In: Kumar B (ed). *Textbook of sexually transmitted diseases*. New Delhi: Elsevier; 2005:361–86.
5. Verma KK, Parida DK. Radiation treatment of cutaneous lymphomas (Mycosis fungoides)—The Indian experience. In: Pannizon RG, Cooper JS (eds). *Radiation treatment and radiation reactions in dermatology*. Berlin, Heidelberg, New York: Springer-Verlag; 2004:109–20.

## PATIENT CARE

- Leprosy clinic
- Dermatosurgery clinic
- Psoriasis and pigmentation clinic
- Allergy clinic
- Facilities for patch and photopatch testing
- CO<sub>2</sub> laser
- Psoralen ultraviolet A (PUVA) and narrow band ultraviolet B (nbUVB) facilities

## AWARDS AND HONOURS

**Dr V.K. Sharma**, Member Advisory Editorial Board of the *American Journal of Contact Dermatitis*. Elected President, Contact and Occupational Dermatoses Forum of India (CODFI).

**Dr Kaushal K. Verma**, awarded Dermatology Excellence Award for the year 2003–2004 by a panel of eminent dermatologists of India.

**Dr M. Ramam**, Member of the Editorial Board, *Indian Journal of Dermatology, Venereology and Leprology*; Joint Secretary, Dermatopathology Society of India; received the First Dr B.N. Prasad Memorial Award 2004.

**Dr Sujay Khandpur**, Dr Bhanu Patel Memorial award for best poster presentation at 33rd National Conference of IADVL and 4th South Asian Regional Conference of Dermatology, Venereology and Leprology on 3–5 February 2005. Biodata entered in Marquis Who's Who of the World in Medicine and Healthcare for 2004–05.

## **SIGNIFICANT EVENTS**

**Dr V.K. Sharma** was an Expert in the Selection Committee meeting at BHU, Banaras, 21 April 2004; Expert in the Selection Committee meeting for Chhattisgarh Institute of Medical Sciences of Guru Ghasidas University, Bilaspur, 2 April 2004; Expert for Punjab Service Commission at Patiala, 9–10 September 2004.

## **VISITING SCIENTIST**

Dr M. Ramam, Visiting Professor in Dermatopathology, University College of San Francisco, USA, 2004–05.

## 9.10 Endocrinology and Metabolism

### Professor and Head

A.C. Ammini

### Additional Professors

Nandita Gupta

Nikhil Tandon

### Associate Professor

Ravinder Goswami

### Assistant Professors

Viveka P. Jyotsna

Rajesh Khadgavat

### EDUCATION

#### Undergraduate

Lectures on Endocrinology were delivered by the faculty members as scheduled in the teaching programme.

#### Postgraduate

Journal clubs and seminars were organized every week.

- Radiology–Endocrinology meet every Friday (3.00 to 4.00 pm)
- Pathology–Endocrinology meet second Saturday of every month (11.00 am to 12.00 noon)
- Nuclear Medicine–Endocrinology meet was started this year every Wednesday (3.00 to 4.00 pm)

One candidate completed DM and three new candidates joined during this year. One PhD candidate also joined.

#### Paramedical teaching

Classes of BSc (Hons) Nursing students were conducted by the faculty members as scheduled.

#### Short- and long-term training

The department conducted six months' training in Endocrinology for WHO fellows from different parts of the country. Six doctors received the training this year.

#### Continuing Medical Education

Many lectures were delivered by the faculty in CME programmes at national and international conferences.

## **National and International Conferences**

Many lectures/invited talks were delivered by the departmental faculty in national and international conferences.

## **RESEARCH**

### **Funded Projects**

#### ***Ongoing***

1. Assessment of prevalence of osteoporosis in adult population in India. A.C. Ammini. Funded by ICMR as a Task Force Project for 3 years (2002–2005). Funds: Rs 40 lakh.
2. Genetics of type 2 diabetes mellitus. Nikhil Tandon. Funded by Genomed NPIL-Institute of Genomics and Integrative Biology, CSIR for 3 years (2002–2005).
3. ADVANCE. Nikhil Tandon. Funded by the Institute of International Health, Sydney, Australia for 5 years (2001–2006). Funds: Rs 40 lakh.
4. Diabetes mellitus and vulvovaginal candidiasis: Prevalence of infection and its rational treatment. R. Goswami. Funded by ICMR for 2 years (2004–2006). Funds: Rs 6.33 lakh.
5. HEART2D: A clinical trial evaluating two different approaches for glycaemic control in diabetics with acute myocardial infarction. Nikhil Tandon. Funded by Eli Lilly Ltd for 4 years (2004–2008). Funds: Rs 10 lakh.
6. Postmenopausal evaluation and risk reduction with lasofoxifene. A.C. Ammini. Funded by Pfizer for 5 years. Funds: Rs 40 lakh.
7. Assessment of familial aggregation of autoimmune thyroiditis in first-degree relatives of patients with juvenile autoimmune thyroid disease. Nikhil Tandon. Funded by INMAS, DRDO, Ministry of Defence for 1 year. Funds: Rs 5 lakh.
8. Assessment of vitamin D status in schoolchildren from different socioeconomic groups in north India. Nikhil Tandon. Funded by INMAS, DRDO, Ministry of Defence for 1 year. Funds: Rs 5 lakh.
9. Immunogenetic and humoral profile of diabetes mellitus in Asian Indians. Nikhil Tandon. Funded by INSERM-ICMR programme of the ICMR for 3 years (2002–2005). Funds: Rs 29 lakh.
10. Dual energy X-ray absorptiometry (DEXA) assessment of BMD in healthy adolescent Delhi schoolchildren. Nikhil Tandon. Funded by INMAS, DRDO for 2 years (2003–2005). Funds: Rs 5 lakh.
11. Parathyroid hormone gene single nucleotide polymorphisms in patients with idiopathic hypoparathyroidism and their relation with the clinical manifestations. R. Goswami. Funded by AIIMS for 1 year. Funds: Rs 50,000.
12. Efficacy of soy phytoestrogens on osteoporosis and cardiovascular profiles of postmenopausal women. Nikhil Tandon. Funded by DBT for 3 years. Funds: Rs 14 lakh.
13. A multicentre, randomized, double-blind, active controlled study to compare the effect of 24 weeks' treatment with combination therapy of LAF237 and pioglitazone to LAF237 monotherapy or pioglitazone monotherapy in drug-naïve patients with type 2 diabetes. Nikhil Tandon. Funded by Novartis Pharma Ltd for 1 year. Funds: Rs 5 lakh.

14. Impact of nutrition on bone mineral health of adolescent schoolgirls of Delhi. Nikhil Tandon. Funded by INMAS, DRDO, Ministry of Defence, Government of India for 1 year. Funds: Rs 9.50 lakh.
15. Bone mineral metabolism: Establishment of national norms and impact of fluorosis on bone mineral health in children. Nikhil Tandon. Funded by DRDO, R&D Headquarters for 5 years. Funds: Rs 125.5 lakh.
16. Evaluation and treatment of childhood obesity and its associated co-morbid conditions. Nikhil Tandon. Funded by INMAS, DRDO for 2 years. Funds: Rs 9.50 lakh.
17. Reduction in the occurrence of center threatening diabetic macular oedema (B7A-MC-MBDL). Nikhil Tandon. Funded by Eli Lilly Ltd for 2 years. Funds: Rs 5 lakh.
18. To redefine T3, T4 and TSH referral range in disease-free paediatric population after iodization programme in India. Nikhil Tandon. Funded by DRDO, R&D Headquarters for 5 years. Funds: Rs 53 lakh.
19. Foetal and childhood growth, and the effect of lifestyle interventions on CHD risk factors in young Indian adults. Nikhil Tandon. Funded by the British Heart Foundation for 3 years. Funds: £180,000 (approximately Rs 141,44,400).
20. Association between low birth weight and autoimmune markers of diabetes in a young Delhi cohort. Nikhil Tandon. Funded by the Indian Council of Medical Research for 1 year. Funds: Rs 15 lakh.

## **PUBLICATIONS**

### **Journals**

1. Biswas K, Kapoor A, Karak AK, Kriplani A, Gupta DK, Kucheria K, Ammini A. Imaging in intersex disorders. *J Pediatr Endocrinol Metab* 2004;**17**:841–5.
2. Dandona L, Tandon N, Sahni P. Academic medicine and health improvements in India. *Natl Med J India* 2005;**18**:53–8.
3. Ganie MA, Khurana ML, Eunice M, Gupta N, Gulati M, Dwivedi SN, *et al.* Comparison of efficacy of spironolactone with metformin in the management of polycystic ovary syndrome: An open-labeled study. *J Clin Endocrinol Metab* 2004;**89**:275–62. Erratum in: *J Clin Endocrinol Metab* 2004;**89**:4655.
4. Goswami R, Mohapatra T, Gupta N, Rani R, Tomar N, Dikshit A, *et al.* Parathyroid hormone gene polymorphism and sporadic idiopathic hypoparathyroidism. *J Clin Endocrinol Metab* 2004;**89**:4840–5.
5. Goyal RO, Sagar R, Ammini AC, Khurana ML, Alias AG. Negative correlation between negative symptoms of schizophrenia and testosterone levels. *Ann N Y Acad Sci* 2004;**1032**:29–4.
6. Guleria S, Aggarwal S, Bansal VK, Varma MC, Kashyap L, Tandon N, *et al.* The first successful simultaneous pancreas–kidney transplant in India. *Natl Med J India* 2005;**18**:18–19.
7. Kumar N, Ammini AC, Tandon N, Goswami R, Kumar D, Singh A. Ethnic variation of host and risk factors in silent epidemic of osteoporosis. *Orthopedics Today* 2004;**6**:240–4.
8. Mahajan SD, Singh S, Gupta N, Kochupillai N. Effect of maternal malnutrition and anemia on the endocrine regulation of fetal growth. *Endocr Res* 2004;**39**:189–203.

9. Miglani S, Goswami R, Tandon N, Dudha A, Kochupillai N. Glycaemic control and microvascular complication among patients with youth onset diabetes in India using differing types of insulin and methods of glucose monitoring. *Diabetes Res Clin Pract* 2004;**65**:183–5.
10. Nayak A, Sharma SG, Tandon N, Ray R. Phosphaturic mesenchymal tumour: A case report. *Indian J Pathol Microbiol* 2004;**47**:530–3.
11. Rani R, Sood A, Goswami R. Molecular basis of predisposition to develop type 1 diabetes mellitus in north Indians. *Tissue Antigens* 2004;**64**:145–55.
12. Shukla G, Bhatia M, Vivekanandhan S, Gupta N, Tripathi M, Srivastava A, *et al*. Serum prolactin levels for differentiation of nonepileptic versus true seizures: Limited utility. *Epilepsy Behav* 2004;**5**:517–21.
13. Singh BM, Ammini AC, Kriplani A. Ovarian cyst in juvenile hypothyroidism. *Arch Gynecol Obstet* 2005;**271**:262–3.
14. Singh D, Kumar L, Sharma A, Vijayaraghavan M, Thulkar S, Tandon N. Adrenal involvement in non-Hodgkin's lymphoma: Four cases and review of literature. *Leuk Lymphoma* 2004;**45**:789–94.
15. Yadav SP, Vats V, Ammini AC, Grover JK. *Brassica juncea* (Raj) significantly prevented the development of insulin resistance in rats fed fructose-enriched diet. *J Ethnopharmacol* 2004;**93**:113–16.

## Chapters in Books

1. Tandon N, Chumber S, Gupta A. Thyroid. In: Chumber S (ed). *Essentials of surgery*. New Delhi: Jaypee Publications; 2004:659–81.
2. Tandon N, Chumber S, Dewenda N. Parathyroids. In: Chumber S (ed). *Essentials of surgery*. New Delhi: Jaypee Publications; 2004:682–703.
3. Tandon N, Chumber S, Vishwanath VS. Adrenal gland. In: Chumber S (ed). *Essentials of surgery*. New Delhi: Jaypee Publications; 2004:692–703.
4. Tandon N, Chumber S, Vishwanath VS. Multiple endocrine neoplasia. In: Chumber S (ed). *Essentials of surgery*. New Delhi: Jaypee Publications; 2004:704–9.

## PATIENT CARE

### Special laboratory facilities

#### *Service laboratory for radioimmunoassay of hormones for patient care (payment-based facility)*

| Hormone assays  | Number of samples assayed (2004–2005) |
|-----------------|---------------------------------------|
| 1. T4           | 5185                                  |
| 2. TSH          | 6772                                  |
| 3. TPO          | 845                                   |
| 4. LH           | 1547                                  |
| 5. FSH          | 1229                                  |
| 6. PRL          | 1067                                  |
| 7. Testosterone | 840                                   |
| 8. Cortisol     | 1747                                  |

|                       |     |
|-----------------------|-----|
| 9. 17-OH progesterone | 244 |
| 10. DHEAS             | 115 |
| 11. ACTH              | 219 |

**New assays added this year**

|                    |     |
|--------------------|-----|
| 1. 25-OH Vitamin D | 745 |
| 2. PTH             | 772 |

**Other assays done for research**

|                 |     |
|-----------------|-----|
| 1. GAD antibody | 200 |
| 2. IA2 antibody | 200 |
| 3. Vitamin B-12 | 100 |

*Investigations done in the metabolic laboratory for patient care (2004–2005)*

| <b>Investigation</b> | <b>Number of samples</b> |
|----------------------|--------------------------|
| Blood sugar          | 12,165                   |
| Glycated haemoglobin | 4,580                    |
| Urinary creatinine   | 1,215                    |
| Urinary albumin      | 1,215                    |
| Urine pH             | 220                      |
| Osmolality           | 270                      |
| Calcium              | 205                      |
| Phosphorus           | 205                      |
| Alkaline phosphatase | 205                      |

**SIGNIFICANT EVENTS**

**Dr Nikhil Tandon** was appointed Sub-Dean (Academic) and also Member, Ethics Committee (AIIMS). He was appointed on the National Organizing Committee of the first Indo-US Frontiers of Science Programme for Young Scientists. He gave more than 30 talks in various national and international conferences, and CME programmes. He also organized the Partnership Meeting of the International Osteoporosis Foundation with the Indian Society for Bone and Mineral Research in Delhi in March 2005.

## 9.11 Forensic Medicine

### Professor and Head

T.D. Dogra

### Additional Professors

R.K. Sharma

O.P. Murty

D.N. Bhardwaj  
(on long leave)

### Assistant Professors

S.K. Gupta

Millo Tabin

### Scientist II

Anupama Raina

## EDUCATION

The department is actively engaged in undergraduate and postgraduate teaching. There are five postgraduate (MD) students and three PhD students in the department. The department is also imparting training in DNA fingerprinting and Toxicology to BSc/MSc students from other universities.

### Continuing Medical Education

The department co-organized the Vth National Conference of ICFMT with the Department of Forensic Medicine, Vardhman Medical College, New Delhi.

The departmental faculty participated in training programmes organized by the Academy of CBI and NICFS, New Delhi. Lectures and demonstrations were held for CBI officials, police officers, judicial officers, medical officers, forensic science experts, etc. from all over the country.

## RESEARCH

### Departmental Projects

#### *Completed*

1. Effect of acute and chronic exposure of arsenic on oxidative stress-related parameters in rats.
2. Effect of acute and subchronic exposure of diamethoate on oxidative stress-related parameters in rats.

#### *Ongoing*

1. Effect of storage on isolation of DNA from seminal stains on different kinds of fabrics.
2. Auditing of medicolegal work.
3. Comprehensive study of unnatural deaths among the elderly in South Delhi.
4. Comprehensive study of fire-arms related deaths.

## PUBLICATIONS

### Journals

1. Bhardwaj DN, Rautji R, Lalwani S. Death in children: A ten year retrospective study of legal autopsies in south Delhi. *Indian Med Gaz* 2004;**138**:355–8.
2. Bhardwaj DN, Rautji R, Sharma RK, Dogra TD. Suicide by a transvestite or sexual asphyxia: A case report. *Med Sci Law* 2004;**44**:173–5.
3. Bhardwaj DN, Singh B. Preservation of exhibits in medico-legal cases in casualty. *J Acad Hosp Adm* 2003;**15**:39–40.
4. Bhardwaj DN. Corporate responsibility and environmental pollution. *Indian Med J* 2004;**98**:223.
5. Bhardwaj DN. Medico-legal interpretation of injuries. *Indian Med J* 2004;**98**:292–3.
6. Bhardwaj DN. Paediatric hanging death in south Delhi. Report of 4 cases. *Indian Med J* 2004;**98**:268–9.
7. Bhardwaj DN. Suicides and Indian criminal law. *Indian Practitioner* 2004;**57**:529–30.
8. Bhardwaj DN. The application of DNA profiling in medico-legal cases. *Indian J Clin Pract* 2004;**15**:60–1.
9. Bhardwaj DN. Video conferencing allowed for evidence; a landmark apex court judgement. *Indian Med J* 2004;**98**:124.
10. Dogra TD, Lalwani S, Vij A, Vyas M, Venugopal P. Organ retrieval in medicolegal cases. *J Acad Hosp Adm* 2004;**16**:53–6.
11. Girdhar S, Leenaars AA, Dogra TD, Leenaars L, Kumar G. Suicide notes in India: What do they tell us? *Arch Suicide Res* 2004;**8**:179–85.
12. Gupta S. The prudent practices of medicine—a review. *Antiseptic* 2004;**8**:299–305.
13. Lalwani S, Dogra TD, Bhardwaj DN, Sharma RK, Murty OP, Vij A. Study of arsenic level in ground water of Delhi using atomic absorption spectrophotometer and hydride generator accessory. *Indian J Clin Biochem* 2004;**19**:152–7.
14. Lalwani S, Dogra TD, Kumar R. Age estimation format. *J Acad Hosp Adm* 2004;**16**:63–4.
15. Lalwani S, Sharma GA, Kabra SK, Girdhar S, Dogra TD. Suicide among children and adolescents in south Delhi (1991–2000). *Indian J Pediatr* 2004;**71**:701–3.
16. Lalwani S, Sharma GAS, Rautji R, Bhardwaj DN, Dogra TD. Pattern of violent asphyxial deaths in south Delhi: A retrospective study. *Indian Med Gaz* 2004;**138**:258–61.
17. Lalwani S, Sharma GASK, Rauji R, Millo T. Suicide among young and middle aged adults. *Indian J Prev Soc Med* 2004;**35**:173–8.
18. Rautji R, Behera C, Kulshrestha P, Agnihotri A, Bhardwaj DN, Dogra TD. An unusual suicide with a safety razor blade: A case report. *Forensic Sci Int* 2004;**142**:33–5.
19. Rautji R, Girdhar S, Lalwani S, Dogra TD. A fatal impaling injury in a road traffic accident: A case report. *Med Sci Law* 2004;**44**:176–8.
20. Rautji R, Rudra A, Bhardwaj DN. The moment of death: An overview. *Indian Practitioner* 2004;**57**:386–90.

21. Sharma SK, Bhardwaj DN, Jayan MG, Gupta S, Dogra TD. Suicidal electrocution—report of two cases. *Indian Med Gaz* 2004;**138**:223–5.
22. Sharma Y, Bashir S, Irshad M, Gupta SD, Dogra TD. Effects of acute dimethoate administration on antioxidant status of liver and brain of experimental rats. *Toxicology* 2005;**206**:49–57.

### **Chapters in Books**

1. Dogra TD, Lalwani S. Physician assisted suicide: Legal and ethics issues. In: Pande JN, Bajaj JS (eds). *CME-Monograph: Ethics in clinical practice*. Series VI. New Delhi: National Academy of Medical Sciences; 2004:17–28.

### **PATIENT CARE**

#### **Casualty services**

The department continued to provide round-the-clock coverage to the casualty in medicolegal cases, e.g. injury, sexual offences, poisoning and other complicated medicolegal cases. The department is also attending all the calls pertaining to medical examination in police and judicial custody.

#### **Medicolegal postmortems performed 1511**

The department provided consultation services to the CBI, crime branch and other central and state investigating agencies in complicated medicolegal postmortem cases conducted at other centres of the country and also participated in board postmortems.

#### **Court attendance by members of the department 1740**

Doctors of the department also attended court on behalf of the Director, Medical Superintendent, other doctors who have left AIIMS as directed by the court. About 900 such summons were attended by the department.

#### **Clinical forensic medicine**

The department examined cases of age estimation, medical examination, marriage disputes, potency, DNA fingerprinting, etc. referred by the court, CBI and other investigating agencies. Fifty-four such cases were dealt with in 2004–2005.

#### **DNA fingerprinting**

The department has developed DNA fingerprinting facility and is providing training to candidates sponsored by various universities. It is performing DNA fingerprinting test in selected medicolegal cases. Eighty-seven different samples have been analysed in 11 such cases.

#### **Medical toxicology**

Tests for various poisons, e.g. heavy metals opiates, benzodiazepines and alcohol were done. Sixty-one such samples were analysed in 2004–2005.

#### **Community service**

The department participated in training programmes organized by the Academy of CBI and NICFS.

## 9.12 Gastroenterology and Human Nutrition

### **Professor and Head**

S.K. Acharya

### **Professors**

Y.K. Joshi

Umesh Kapil

### **Additional Professor**

Anoop Saraya

### **Associate Professor**

Pramod Garg

### **Assistant Professors**

Vineet Ahuja

Govind K. Makharia

### **EDUCATION**

Undergraduate, postgraduate and paramedical training programmes remained the same. However, the number of positions for DM (Gastroenterology) programme has been increased from 6 to 12. Further, three PhD candidates were registered in the department.

#### **Short- and long-term training**

Four candidates underwent short-term training during 2004–05; each was trained for 3 months. Seven DM candidates and 4 PhD candidates underwent long-term training.

#### **Continuing Medical Education**

The department organized a CME programme on liver disease entitled ‘Current perspectives in liver disease (CPLD)’ on 6 November 2004 jointly with PGIMER, Chandigarh.

Human Nutrition organized a CME programme entitled ‘National Workshop on Methodologies for Assessment of Vitamin A Deficiency, Iron Deficiency, Iodine Deficiency Disorders’ from 13 to 15 September 2004.

#### ***Lectures delivered***

The departmental faculty delivered 9 lectures during CME programmes conducted throughout the country.

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

The departmental faculty delivered 14 guest lectures in national and international conferences.

## RESEARCH

### Funded Projects

#### *Completed*

1. Multicentric randomized double-blind trial of interferon + ribavirin vs interferon + glycyrrhizin for 6 months among naïve patients with CH-C. S.K. Acharya. Funded by ICMR for 5 years. Funds: Rs 45 lakh.
2. Open labelled trial of interferon + ribavirin for 3 months in patients with CH-C. S.K. Acharya. Funded by ICMR for 3 years. Funds: Rs 15 lakh.
3. Clinical coordinating centre for above studies. S.K. Acharya. Funded by ICMR for 3 years. Funds: Rs 15 lakh.
4. Therapy for north Indian patients with CH-C. S.K. Acharya. Funded by Fulford for 5 years. Funds: Rs 20 lakh.
5. Effect of feeding mustard oil on biochemical parameters and health profile of normal healthy individuals. Y.K. Joshi. Funded by NDDB/MRPC for 4 years (1 August 2000–31 April 2004). Funds: Rs 10.50 lakh.
6. Assessment of nutritional factors in breast cancer: A case–control study. Umesh Kapil. Funded by ICMR for 3 years. Funds: Rs 13 lakh.
7. Evaluating the efficacy of UL 409 in eradication of *H. pylori*. Vineet Ahuja. Funded by Himalaya Drug Company for 3 years (2002–2004). Funds: Rs 2.5 lakh.
8. Randomized trial of Amalant with ranitidine in the treatment of non-ulcer dyspepsia. Vineet Ahuja. Funded by Maharshi Ayurvedic Ltd for 5 years (2001–2005). Funds: Rs 3.5 lakh.

#### *Ongoing*

1. Randomized trial of pegylated interferon (PEG-IFN) vs lamivudine followed by PEG-IFN for 1 year among patients with CH-B. S.K. Acharya. Funded by Fulford, India for 4 years. Funds: Rs 24 lakh.
2. Double-blind, placebo-controlled randomized trial of L-ornithine-L-aspartate among patients with acute liver failure. S.K. Acharya. Funded by Intas Pharmaceutical for 3 years. Funds: Nil (company supplies the drugs and placebo).
3. Effect of glutamine supplementation on the clinical outcome and nutritional status in patients of acute myeloid leukaemia (AML). Y.K. Joshi. Funded by ICMR for 30 months. Funds: Rs 9,20,520.
4. Prevalence of obesity and associated diseases amongst children 5–18 years of age in the National Capital Territory of Delhi. Umesh Kapil. Funded by ICMR for 2 years. Funds: Rs 12 lakh.
5. Epidemiology of gallbladder cancer with special reference to nutritional risk factors. Umesh Kapil. Funded by ICMR for 3 years. Funds: Rs 10,66,264.
6. Effect of antioxidant supplementation on pain, antioxidant profile and oxidative stress in chronic pancreatitis. Anoop Saraya. Funded by ICMR for 3 years. Funds: Rs 3 lakh.
7. Role of genetic mutations in the chronic pancreatitis. Pramod Garg, Madhulika Kabra. Funded by ICMR for 3 years. Funds: Rs 12 lakh.

8. Role of leptin in tropical pancreatitis. Pramod Garg, Anoop Misra. Funded by AIIMS for 1 year. Funds: Rs 27,500.
9. Prevalence, aetiological factors and treatment of malnutrition by dietary intervention in patients with chronic pancreatitis. Y.K. Joshi, Pramod Garg, Namrata Singh. Funded by ICMR for 3 years. Funds: Rs 10.80 lakh.
10. Molecular epidemiology of *Helicobacter pylori*: Its implications in failure of eradication, recurrence of infection after successful eradication and route of reinfection in patients of peptic ulcer disease. Vineet Ahuja. Funded by the Department of Science and Technology for 3 years (2003–2005). Funds: Rs 8.1 lakh.
11. Comparison of the diagnostic efficacy of immunohistochemistry with histology (Warthin Starry stain) and urease-based tests (rapid urease test, C14 urea breath test) before and after eradication of *Helicobacter pylori* in peptic ulcer disease. Vineet Ahuja. Funded by ICMR for 2 years (2004–2005). Funds: Rs 5,58,624.
12. Efficacy of curcumin and its effect on cytokine profile in rectal biopsies of patients with ulcerative colitis. Vineet Ahuja. Funded by Himalaya Drugs for 3 years (2004–2006). Funds: Rs 4.1 lakh.
13. Standardization and validation of non-invasive tests of intestinal permeability. Vineet Ahuja. Funded by AIIMS for 2 years. Funds: Rs 1 lakh.
14. Standardization and validation of faecal calprotectin test as a non-invasive marker of intestinal inflammation. Vineet Ahuja. Funded by AIIMS for 2 years. Funds: Rs 1 lakh.
15. A study of the role of anti-*Saccharomyces cerevisiae* antibody (ASCA) and anti-neutrophilic cytoplasmic antibody (ANCA) in differentiation of intestinal tuberculosis and inflammatory bowel disease. Govind K. Makharia. Funded by AIIMS for 2 years. Funds: Rs 98,000.
16. Autonomic and immune functions in inflammatory bowel disease: Effect of yogic intervention. Govind K. Makharia. Funded by the Central Council for Research in Yoga and Naturopathy for 3 years (2003–2005). Funds: Rs 8 lakh.
17. Effect of glutamine on the structure and function of intestine in patients with inflammatory bowel disease. Y.K. Joshi. Funded by ICMR for 3 years. Funds: Rs 16 lakh.

## **Departmental Projects**

### ***Completed***

1. Hepatitis E virus superinfection in cirrhosis causes decompensation and increases mortality.
2. Arterial ammonia in acute liver failure can predict severity and mortality.
3. Efficacy of interferon alpha 2b and lamivudine among similar patients with CH-B.
4. HBV genotypes among various HBV-related liver diseases.
5. Aetiology of idiopathic recurrent acute pancreatitis.
6. Clinical profile and outcome of patients with post-ERCP acute pancreatitis.
7. Cytochrome CYP2C19 polymorphisms in patients on proton pump inhibitors.
8. Prevalence of gastroesophageal disease in adult urban community in north India.

### ***Ongoing***

1. Randomized trial of IV somatostatin and nitroglycerine vs IV somatostatin among cirrhotic patients with acute variceal bleeding.
2. Coagulation abnormality and results of angioplasty among patients with HVOTO.
3. Randomized controlled trial of molecular adsorbent recycling system (MARS) in patients with acute liver failure.
4. Ammonia kinetics in acute liver failure.
5. Dynamics of sepsis in acute liver failure.
6. Seizures in acute liver failure.
7. Efficacy of daily and weekly iron–folic acid supplementation in correction of iron deficiency anaemia amongst 3–5-year-old children.
8. Coagulation profile in acute pancreatitis.
9. Oxidative stress in acute pancreatitis.
10. Role of anti-oxidants supplementation in the treatment of severe acute pancreatitis.
11. Effect of enteral nutrition on gut permeability in severe acute pancreatitis
12. Effect of transdermal glyceryl trinitrite or pericoxib (valdecoxib) in the prevention of post-ERCP pancreatitis.
13. Role of anti-oxidants for pain relief in patients with chronic pancreatitis.
14. Prevalence of bactobilia in patients with malignant biliary obstruction and its influence on endoscopic biliary drainage.
15. Evaluation of endoscopic balloon dilatation as the first-line therapeutic modality in benign gastric outlet obstruction.
16. A randomized controlled factorial trial evaluating long term therapy for *H. pylori* eradication in peptic ulcer disease.
17. Incidence and spectrum of bacterial, viral, fungal and protozoal infection in inflammatory bowel disease.
18. Differentiation of Crohn disease from intestinal tuberculosis in India.
19. Variations in presentation of coeliac disease in adults.
20. Anorectal manometry in patients with irritable bowel syndrome.

### **Collaborative Projects**

#### ***Completed***

1. Incidence and prevalence of primary liver cell cancer among patients with cirrhosis of the liver (with Radiology).
2. Development of an IgM anti-hepatitis E virus ELISA kit (with Pathology).

3. Occult hepatitis B virus infection in India (with Pathology).
4. A case-control study for differences among hepatitis B virus infection of genotypes A (subtypes Aa and Ae) and D (with Nagoya, Japan).
5. Efficacy of laparoscopic cardiomyotomy in patients with achalasia cardia (with Surgery Unit 3).
6. Randomized trial of endoscopic stenting versus cholecystojejunostomy in patients with periampullary cancer with obstructive jaundice (with Gastrointestinal Surgery).
7. Role of CT colography versus colonoscopy in the evaluation of suspected IC tuberculosis (with Radiology).
8. Usefulness of EUS in the preoperative staging of lower-end bile duct malignant tumours (with Gastrointestinal Surgery).

### **Ongoing**

1. Randomized trial of percutaneous acetic acid injection and radiofrequency ablation among patients with HCCs (with Radiology).
2. Non-alcoholic fatty liver disease in India (with Pathology).
3. Viral kinetics in chronic HBV infection (with Pathology).
4. Viral load and genotype in Indian patients with chronic HCV infection (with Pathology).
5. HbeAg negative chronic hepatitis B: Magnitude, natural course and therapeutic response (with Pathology).
6. Comparison of endoscopic stenting and percutaneous biliary drainage in patients with cancer of the gallbladder (with Gastrointestinal Surgery and Radiology).
7. Role of endotherapy and ESWL in the treatment of chronic pancreatitis (with Urology).
8. A genomic comparison of strains of *Entamoeba histolytica* isolated from amoebic liver abscess and stool specimens (with School of Environmental Sciences, JNU).
9. Prevalence of secondary bacterial infection in untreated amoebic liver abscess (with School of Environmental Sciences, JNU).
10. Detection of pathogenic mycobacteria and anti-HupB antibodies in inflammatory and non-inflammatory intestinal diseases (with Biotechnology).
11. A study of emerging parasitic agents (intestinal coccidia and microsporidia) in the aetiology of malabsorption syndrome (with Microbiology).
12. Magnetic resonance spectroscopy in differentiation of intestinal tuberculosis from inflammatory bowel disease (with NMR).
13. Reintroduction of antitubercular drugs in ATT-induced hepatitis: A randomized controlled trial (with Medicine).
14. A study of autonomic function in patients with inflammatory bowel disease (with Physiology).
15. Prevalence of osteoporosis and osteopenia in patients with inflammatory bowel disease (with Endocrinology and Metabolism).

## PUBLICATIONS

### Journals

1. Ahuja V, Bhatia V, Dattagupta S, Raizada A, Sharma MP. Efficacy and tolerability of rifampicin-based rescue therapy for *Helicobacter pylori* eradication failure in peptic ulcer disease. *Dig Dis Sci* 2005;**50**:630–3.
2. Ahuja V. Crohn's disease and mycobacteria: 'The Thomson brothers' or 'back to the future'. *Trop Gastroenterol* 2004;**25**:151–5.
3. Ahuja V. Gazing through the crystal ball: *Helicobacter pylori*. *Trop Gastroenterol* 2004;**25**:57–9.
4. Batra Y, Dutta AK, Acharya SK. Molecular adsorbent and re-circulating system. *Trop Gastroenterol* 2004;**25**:60–4.
5. Batra Y, Pal S, Dutta U, Desai P, Garg PK, Makharia G, et al. Gallbladder cancer in India: A dismal picture. *J Gastroenterol Hepatol* 2005;**20**:309–14.
6. Bhardwaj P, Thareja S, Prakash S, Saraya A. Micronutrient antioxidant intake in patients with chronic pancreatitis. *Trop Gastroenterol* 2004;**25**:69–72.
7. Bhatia S, Pramod GK. Treatment of gastroesophageal reflux disease: Pills, knife or scope. *Trop Gastroenterol* 2004;**25**:49–51.
8. Bhatia V, Ahuja V, Das B, Bal C, Sharma MP. Use of imidazole-based eradication regimens for *Helicobacter pylori* should be abandoned in north India regardless of *in vitro* antibiotic sensitivity. *J Gastroenterol Hepatol* 2004;**19**:619–25.
9. Bhatia V, Batra Y, Acharya SK. Prophylactic phenytoin does not improve cerebral edema or survival in acute liver failure—a controlled clinical trial. *J Hepatol* 2004;**4**:89–96.
10. Chaudhary A, Ahuja V, Bal CS, Das B, Pandey RM, Sharma MP. Rank order of success favors longer duration of imidazole-based therapy for *Helicobacter pylori* in duodenal ulcer disease: A randomized pilot study. *Helicobacter* 2004;**9**:124–9.
11. Chaudhuri V, Tayal R, Nayak B, Acharya SK, Panda SK. Occult hepatitis B virus infection in chronic liver disease: Full length genome and analysis of mutant surface promoter. *Gastroenterology* 2004;**127**:1356–71.
12. Garg PK, Madan K, Pande GK, Khanna S, Sathyanarayan G, Bohidar NP, et al. Association of extent and infection of pancreatic necrosis with organ failure and death in acute necrotizing pancreatitis. *Clin Gastroenterol Hepatol* 2005;**3**:159–66.
13. Garg PK, Tandon RK, Ahuja V, Makharia GK, Batra Y. Predictors of unsuccessful mechanical lithotripsy and endoscopic clearance of large bile duct stones. *Gastrointest Endosc* 2004;**59**:601–5.
14. Garg PK, Tandon RK. Survey on chronic pancreatitis in the Asia-Pacific region. *J Gastroenterol Hepatol* 2004;**19**:998–1004.

15. Hazari S, Panda SK, Gupta SD, Batra Y, Singh R, Acharya SK. Treatment of hepatitis C virus infection in patients of northern India. *J Gastroenterol Hepatol* 2004;**19**:1058–65.
16. Kapil U, Goindi G. Vitamin A supplementation to children in India: From controversies to consensus. *J Trop Pediatr* 2004;**50**:311–12.
17. Kapil U, Sethi V, Goindi G, Pathak P, Singh P. Elimination of iodine deficiency disorders in Delhi. *Indian J Pediatr* 2004;**71**:211–12.
18. Kapil U, Sethi V. Prevalence of undernutrition amongst children (6–9 years) in Delhi. *Indian Pediatr* 2004;**41**:628–9.
19. Kapil U, Singh P, Bahadur S, Shukla NK, Dwivedi S, Pathak P, *et al.* Association of vitamin A, vitamin C and zinc with laryngeal cancer. *Indian J Cancer* 2003;**40**:67–70.
20. Kapil U, Singh P, Dwivedi SN, Pathak P. Profile of iodine content of salt and urinary iodine excretion levels in selected districts of Tamil Nadu. *Indian J Pediatr* 2004;**71**:785–7.
21. Kapil U, Singh P, Pathak P. Current status of iodine nutriture and iodine content of salt in Andhra Pradesh. *Indian Pediatr* 2004;**41**:165–9.
22. Kapil U, Singh P. Combating iodine deficiency in National Capital Territory of Delhi, India—lessons learnt. *J Trop Pediatr* 2005;**51**:62–3.
23. Kapil U, Singh P. Current status of urinary iodine excretion levels in 116 districts of India. *J Trop Pediatr* 2004;**50**:245–7.
24. Kapil U, Suri S. Is iron deficiency anaemia linked with higher lead levels in India? A public health concern. *Indian Pediatr* 2004;**41**:1275.
25. Kapil U. Impact of single/multiple micronutrient supplementation on child health. *Indian J Pediatr* 2004;**71**:983–4.
26. Kapoor S, Singh RK, Makharia GK, Chattopadhyay TK. Aortoesophageal fistula following ingestion of a NSAID: Successfully salvaged by surgery. *Indian J Thorac Cardiovasc Surg* 2004;**20**:204–6.
27. Khan M, Dong JJ, Acharya SK, Ahdorj YD, Abbas Z, SM Jafri W, *et al.* Hepatology issues in Asia: Perspectives from regional leaders. *J Gastroenterol Hepatol* 2004;**18** (Suppl.):S419–S430.
28. Madan K, Ahuja V, Gupta SD, Bal C, Kapoor A, Sharma MP. Impact of 24-h esophageal pH monitoring on the diagnosis of gastroesophageal reflux disease: Defining the gold standard. *J Gastroenterol Hepatol* 2005;**20**:30–7.
29. Madan K, Ahuja V, Kashyap PC, Sharma MP. Comparison of efficacy of pantoprazole alone versus pantoprazole plus mosapride in therapy of gastroesophageal reflux disease: A randomized trial. *Dis Esophagus* 2004;**17**:274–8.
30. Madan K, Batra Y, Panda SK, Dattagupta S, Hazari S, Jha JK, Acharya SK. Role of polymerase chain reaction and liver biopsy in the evaluation of patients with asymptomatic transaminitis: Implications in diagnostic approach. *J Gastroenterol Hepatol* 2004;**19**:1291–9.
31. Makharia GK, Thapa BR, Poddar U, Narasimhan KL, Girish CS, Vaiphei K, *et al.* Pseudoxanthoma elasticum: A rare cause of recurrent gastrointestinal bleeding in a child. *Indian J Gastroenterol* 2004;**23**:231–2.

32. Pandey SK, Ahuja V, Joshi YK, Sharma MP. A randomized trial of oral refeeding compared with jejunal tube refeeding in acute pancreatitis. *Indian J Gastroenterol* 2004;**23**:53–5.
33. Pathak P, Kapil U, Kapoor SK, Dwivedi SN, Singh R. Magnitude of zinc deficiency among nulliparous nonpregnant women in a rural community of Haryana state, India. *Food Nutr Bull* 2003;**24**:368–71.
34. Pathak P, Kapil U, Kapoor SK, Saxena R, Kumar A, Gupta N, *et al.* Prevalence of multiple micronutrient deficiencies amongst pregnant women in a rural area of Haryana. *Indian J Pediatr* 2004;**71**:1007–14.
35. Pathak P, Kapil U. Role of trace elements zinc, copper and magnesium during pregnancy and its outcome. *Indian J Pediatr* 2004;**71**:1003–5.
36. Pathak P, Saxena R, Kapoor SK, Dwivedi SN, Singh R, Kapil U. Status of serum ferritin and folate levels amongst young women in a rural community of Haryana, India. *Nepal Med Coll J* 2004;**6**:13–16.
37. Sathyanarayana G, Saraya A. Ulcerative colitis and pregnancy. *Trop Gastroenterol* 2004;**25**:4–8.
38. Sethi V, Kapil U. Iodine deficiency and development of brain. *Indian J Pediatr* 2004;**71**:325–9.
39. Sharma SK, Makharia GK, Banga A. A young man with rectal polyps. *Lancet Infect Dis* 2004;**4**:556.
40. Singh N, Saraya A. Nutrition support in acute pancreatitis. *Trop Gastroenterol* 2004;**25**:108–12.
41. Singh P, Kapil U, Dey AB. Prevalence of overweight and obesity amongst elderly patients attending a geriatric clinic in a tertiary care hospital in Delhi, India. *Indian J Med Sci* 2004;**58**:162–3.
42. Sugauchi F, Kumada H, Acharya SA, Shrestha SM, Gamutan MT, Khan M, *et al.* Epidemiological and sequence differences between two subtypes (Ae and Aa) of hepatitis B virus genotype A. *J Gen Virol* 2004;**85**:811–20.
43. Tanaka Y, Hasegawa L, Kato T, Oreto E, Hirashima N, Acharya SK, *et al.* A case–control study for differences among hepatitis B virus infections of genotypes A (subtypes Aa and Ae) and D. *Hepatology* 2004;**40**:747–55.
44. Tandon RK, Garg PK. Tropical pancreatitis. *Dig Dis* 2004;**22**:258–66.

### Abstracts

45. Bhardwaj P, Saraya A, Prakash S. Patients with chronic pancreatitis have increased oxidative stress and low total antioxidant capacity. *Indian J Gastroenterol* 2004; **23** (Suppl. 2):A74.
46. Chakraborty S, Saraya A, Batra Y, Ahuja V. Pancreatic pseudocysts can be managed effectively by non-surgical management: Our experience. *Indian J Gastroenterol* 2004; **23** (Suppl. 2):A70.
47. Kumar A, Singh N, Prakash S, Saraya A, Joshi YK. Early enteral nutrition in severe acute pancreatitis. A prospective randomized controlled trial comparing nasojejunal and nasogastric routes. *Indian J Gastroenterol* 2004; **23** (Suppl. 2):A106.

48. Parshad R, Saraya A, Bal S, Rathore J. Laparoscopic heller myotomy for achalasia cardia. *Indian J Gastroenterol* 2004; **23** (Suppl. 2):A48.
49. Saraya A, Bhardwaj P, Thareja S, Prakash S, Acharya SK. Oxidative stress and antioxidant status in patients with alcoholic liver disease. *Indian J Gastroenterol* 2004; **23** (Suppl. 2):A45.
50. Prakash S, Joshi YK. Assessment of micronutrient, antioxidants, total antioxidant capacity and lipid peroxidation level in liver cirrhosis. *Asia Pac J Clin Nutr* 2004;**13** (Suppl.):S110.

### Books

1. Tandon R, Acharya SK. *Clinical approach to jaundice*. New Delhi: Byword Viva Publishers; 2004.

### Chapters in Books

1. Acharya SK, Batra Y. Hepatitis B virus genotypes: Clinical implications. In: Gupta SB (ed). *Medicine update*. Mumbai:API; 2005:427–31.
2. Acharya SK, Batra Y. Management of chronic hepatitis due to hepatitis B virus infection. In: Sarin SK, Sood OP (eds). *Hepatitis B and C infection*. New Delhi:Ranbaxy Science Foundation; 2004:135–40.
3. Acharya SK. Liver failure. In: Tandon RK, Acharya SK (eds). *Clinical approach to jaundice*. New Delhi:Byword Viva Publishers; 2004:305–16.
4. Saraya A. The pancreas. In: Chumber S (ed). *Essentials of surgery*. New Delhi:Jaypee Brothers Medical Publishers; 2004:959–74.

### PATIENT CARE

- Molecular adsorbent recycling system (MARS): Liver dialysis for acute liver failure was added to the services.
- Diagnostic tests: In collaboration with the Department of Pathology, all molecular diagnostic services such as genotyping and viral quantitation of HBV, HCV and HEV are provided to patients in liver clinic.
- A specialized ICU with 6 beds for Gastroenterology was started.
- A new specialty clinic—Intestinal Diseases Clinic—was started.

### Special clinics

| Name of the clinic     | New cases | Old cases |
|------------------------|-----------|-----------|
| Liver                  | 1240      | 9400      |
| Gallstone and Pancreas | 850       | 1750      |
| Ulcer                  | 850       | 1700      |
| IBD                    | 195       |           |

**Routine clinic**

|           |        |
|-----------|--------|
| New cases | 17,925 |
| Old cases | 26,150 |

**Procedures**

|               |        |
|---------------|--------|
| Endoscopy     | 10,431 |
| Colonoscopy   | 1,328  |
| EVL and EST   | 2,121  |
| ERCP          | 1,000  |
| Ultrasound    | 4,035  |
| Sigmoidoscopy | 1,810  |
| GI manometry  | 50     |

**Tests undertaken in the department**

|  |      |
|--|------|
| 1. Total protein                                     | 392  |
| 2. Albumin   | 392  |
| 3. Total bilirubin                                   | 392  |
| 4. Direct bilirubin                                  | 392  |
| 5. Alkaline phosphatase                              | 392  |
| 6. SGOT  | 392  |
| 7. SGPT  | 392  |
| 8. Adenosine deaminase                               | 12   |
| 9. HbsAg   | 35   |
| 10. Serum aeruloplasmin                              | 35   |
| 11. Serum copper                                     | 35   |
| 12. Urinary copper                                   | 35   |
| 13. Total cholesterol                                | 1500 |
| 14. HDL  | 1500 |
| 15. Na <sup>+</sup> K <sup>+</sup> ATPase            | 1500 |
| 16. Serum fibrinogen                                 | 1500 |
| 17. Erythrocyte morphology                           | 1500 |
| 18. Serum superoxide dismutase                       | 50   |
| 19. Total antioxidant capacity                       | 50   |
| 20. Total GSH  | 50   |
| 21. MDA  | 50   |
| 22. Serum vitamin E                                  | 50   |
| 23. Serum vitamin C                                  | 50   |
| 24. Serum vitamin A                                  | 50   |
| 25. Haemoglobin                                      | 1500 |
| 26. Membrana protein                                 | 1500 |
| 27. Triglyceride                                     | 1500 |
| 28. D-xylose   | 590  |
| 29. Faecal fat estimation                            | 140  |
| 30. Faecal chymotrypsin                              | 108  |
| 31. Hydrogen breath test (w.e.f. September 2004)     | 46   |
| 32. Faecal elastase ELISA 1 plate (January 2005)     | 96   |
| 33. Faecal calprotectin ELISA 1 plate (January 2005) | 96   |

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Dr S.K. Acharya** was confirmed as Editor of *Tropical Gastroenterology*; invited as Editor of the *Journal of Gastroenterology and Hepatology*; continued to be the President of the Indian National Association for the study of liver; elected as a fellow to the National Academy of Sciences, Allahabad and given FnASc honorary degree; appointed as 'Honorary Consultant' to the Armed Forces Medical Services for 3 years, w.e.f. 18.10.2004.

He was awarded the ISG-Win-Medicare Plenary Session Award in 2004 for the best scientific paper presented at the Plenary Session of the 45th Annual Conference of the Indian Society of Gastroenterology, Jaipur, 1–5 October 2004.

**Dr Umesh Kapil** was conferred fellowship of the National Academy of Medical Sciences, New Delhi, FAMS.

He was a member of the National Breastfeeding Committee, Department of Women and Child Development, Ministry of Human Resource Development, Government of India; Indian Council of Medical Taskforce on Iodine Deficiency Disorders; Indian Council of Medical Taskforce on Vitamin A and Iron Deficiency Anaemia; Taskforce on Biotechnological Approaches to Food Safety and Agriculture; Steering Committee of the National Nutrition Monitoring Bureau, Indian Council of Medical Research, New Delhi; Scientific Advisory Committee of the Desert Medical Research Centre, Jodhpur, Indian Council of Medical Research. He was an invited participant at the XXII IVACG Meeting and 2004 INACG Symposium, Lima, Peru, 2004. Dr Kapil participated in the International Research Conference on Food, Nutrition and Cancer, USA, 2004.

**Dr Anoop Saraya** has been nominated as consultant to the ICMR and is actively involved in the project entitled 'Developing capacity building for health care among primitive tribes'.

**Dr Pramod Garg** was elected as a member of the Governing Council of the Indian Society of Gastroenterology; and member of the Editorial Board of the *Journal of Gastroenterology and Hepatology*.

**Dr Vineet Ahuja** was awarded the Plenary Paper Award in the 5th Western Pacific Helicobacter Congress held at Kobe, Japan, 17–19 November 2004; invited to be a member of the Editorial Board of the *Journal of Gastroenterology and Hepatology*; and awarded the Free Paper Session Award and Best Poster Award during the Annual Conference of the Indian Society of Gastroenterology, Jaipur, October 2004.

The department was designated as the main clinical coordinating centre for the nationwide multicentric therapeutic trial on CH-C conducted by ICMR.

## VISITING SCIENTISTS

1. Professor Patrick Kamath, Department of Medicine, Mayo Clinic, Rochester, USA visited the department and participated in academic deliberation on 10 December 2004.
2. Dr David Mutimer, Consultant Hepatologist, Queen Elizabeth Hospital, Edgbaston, Birmingham, UK visited the department on 27 February 2004.
3. Professor Elwyn Elias, Department of Medicine, University of Birmingham, UK visited the department in April 2004.
4. Professor David Whitcomb, University of Pittsburgh, USA visited the department on 22 December 2004.

## 9.13 Gastrointestinal Surgery

### **Professor and Head**

Tushar K. Chattopadhyay

### **Additional Professors**

Peush Sahni

Girish K. Pande (on leave)

### **Assistant Professor**

Sujoy Pal (ad hoc)

## **EDUCATION**

### **Undergraduate and Postgraduate**

The department faculty is involved in the didactic teaching programme for undergraduates, surgical postgraduates and postdoctoral trainees. The department offers a 3-year superspecialty training in gastrointestinal surgery leading to an award of MCh in Gastrointestinal Surgery.

### **Long-term training**

One trainee sponsored by the State Medical Services of Orissa for 2 years joined the department.

### **Continuing Medical Education**

#### ***Conferences, seminars and workshops***

The 17th Annual Conference of the Indian Association of Surgical Gastroenterology (IASGCON 2004) was organized by the Department of Surgical Gastroenterology, Amrita Institute of Medical Sciences, Cochin in September 2004. Professor T.K. Chattopadhyay was the President, IASG and member of the Organizing Committee.

#### ***Lectures delivered***

The faculty delivered 14 CME lectures at various regional medical fora of the country.

### **National and International Conferences**

Professor T.K. Chattopadhyay delivered guest lectures at a CME on oesophageal disorders and participated in a Clinical Grand Round organized by the Department of Surgery, Creighton University Medical Center at Omaha, USA in September 2004.

## **RESEARCH**

### **Funded Projects**

#### ***Ongoing***

1. Design development and commercialization of an indigenous syringe pump. Peush Sahni. Funded by the Department of Information Technology, Government of India for 30 months. Funds: Rs 28 lakh.

### **Departmental Projects**

#### ***Completed***

1. Study of enteral erythromycin on gastric emptying after classical Whipple pancreatoduodenectomy.
2. Randomized controlled trial of adjuvant chemoradiotherapy versus radiotherapy for periampullary and pancreatic cancer following a Whipple pancreatoduodenectomy.
3. Quality of life after transhiatal oesophagectomy for carcinoma oesophagus: An early prospective and late retrospective study.
4. CT cholangiography for evaluation of hilar biliary obstruction.
5. The role of endoscopic ultrasound for evaluation of periampullary tumours.
6. A prospective study of a new stapled technique of oesophagogastric anastomosis following transhiatal oesophagectomy.
7. The influence of perioperative famotidine on tumour infiltrating lymphocytes in colon carcinoma.

#### ***Ongoing***

1. Prospective evaluation of choledochoscopy for various biliary tract disorders.
2. Prospective evaluation of the role of intraoperative enteroscopy in the management of obscure gastrointestinal bleeding.
3. Thromboelastography to detect covert coagulation abnormalities in patients with portal hypertension.
4. A prospective randomized study to compare hand-sewn and stapled oesophagogastric anastomoses following transhiatal oesophagectomy.
5. A prospective study of neoadjuvant chemoradiotherapy for patients with adenocarcinoma of the gastro-oesophageal junction.
6. A prospective randomized study comparing substernal and posterior mediastinal routes of gastric transposition following oesophagectomy.
7. A prospective study of quality of life following PTBD/stenting in patients with malignant hilar blocks deemed unresectable.
8. A study on quality of life following lateral pancreateojejunostomy for patients with chronic pancreatitis.
9. Study of gastric emptying following classical Whipple pancreatoduodenectomy and pylorus-preserving pancreatoduodenectomy using scintigraphic techniques.

10. A prospective study of the quality of life following endoscopic oesophageal stenting for inoperable patients with oesophageal carcinoma.

### **Collaborative Projects**

1. A randomized controlled trial on proximal lienorenal shunt vs sequential EVL and endoscopic sclerotherapy for patients with extrahepatic portal venous obstruction (with Gastroenterology).
2. Role of neoadjuvant chemoradiotherapy in adenocarcinoma of GE junction (with Radiotherapy).
3. Prospective study on the effect of lienorenal shunt on the pericholedochal collaterals causing portal hypertensive biliopathy (with Gastroenterology).
4. The role of adjuvant radiotherapy and chemoradiotherapy in patients with carcinoma of the pancreas (with Radiotherapy, IRCH).
5. A randomized controlled clinical trial of preoperative cholecystojejunostomy vs endoscopic stenting in surgical obstructive jaundice due to periampullary carcinoma (with Gastroenterology).
6. The role of endoscopic ultrasound for evaluation of periampullary tumours (with Gastroenterology).

### **PUBLICATIONS**

#### **Journals**

1. Baskaran V, Vij U, Sahni P, Tandon RK, Nundy S. Do the progesterone receptors have a role to play in gallbladder cancer? *Int J Gastrointest Cancer* 2005;**35**:61–8.
2. Batra Y, Pal S, Dutta U, Desai P, Garg PK, Makharia G, *et al.* Gallbladder cancer in India: A dismal picture. *J Gastroenterol Hepatol* 2005;**20**:309–14.
3. Garg PK, Madan K, Pande GK, Khanna S, Sathyanarayan G, Bohidar NP, *et al.* Association of extent and infection of pancreatic necrosis with organ failure and death in acute necrotizing pancreatitis. *Clin Gastroenterol Hepatol* 2005;**3**:159–66.
4. Kapoor S, Rao P, Pal S, Chattopadhyay TK. Hemosuccus pancreaticus: An uncommon cause of gastrointestinal hemorrhage. A case report. *JOP* 2004;**10**:373–6.
5. Kapoor S, Tevatia MS, Dattagupta S, Chattopadhyay TK. Primary hepatic nerve sheath tumor. *Liver Int* 2005;**25**:458–9.
6. Kumar A, Kaur J, Chattopadhyay TK, Mathur M, Ralhan R. Differential expression of retinoic acid receptors in normal and malignant esophageal tissues. *J Exp Ther Oncol* 2004;**4**:1–8.
7. Rao ND, Gulati MS, Paul SB, Pande GK, Sahni P, Chattopadhyay TK. Three-dimensional helical computed tomography cholangiography with minimum intensity projection in gallbladder carcinoma patients with obstructive jaundice: Comparison with magnetic resonance cholangiography and percutaneous transhepatic cholangiography. *J Gastroenterol Hepatol* 2005;**20**:304–8.

8. Rao YG, Pande GK, Sahni P, Chattopadhyay TK. Gastroduodenal tuberculosis management guidelines, based on a large experience and a review of the literature. *Can J Surg* 2004;**47**:364–8.

### Abstracts

9. Pal S, Radhakrishna P, Sahni P, Pande GK, Nundy S, Chattopadhyay TK. Prophylactic surgery in non-cirrhotic portal fibrosis: Are they worthwhile? (APASL\Abstract\92). *J Gastroenterol Hepatol* 2004;**19** (Suppl.): A730–A731.
10. Pal S, Radhakrishna P, Sahni P, Pande GK, Nundy S, Chattopadhyay TK. Prophylactic operations in portal hypertension due to extrahepatic portal venous obstruction in India: Lessons learnt over two decades of experience. (APASL\Abstract\100). *J Gastroenterol Hepatol* 2004;**19** (Suppl.):A733.
11. Singh RK, Pal S, Sahni P, Acharya SK, Chattopadhyay TK. Obstructive jaundice due to portal biliopathy—our experience with shunt surgery. (APASL\Abstract\42). *J Gastroenterol Hepatol* 2004;**19** (Suppl.):A691.

### Books

1. Chattopadhyay TK, Sahni P (eds). *GI Surgery Annual 2004, Vol. II*. New Delhi: Indian Association of Surgical Gastroenterology; 2004.

### Chapters in Books

1. Aggarwala S, Chumber S, Pal S, Pande GK. Anal canal and minor anorectal conditions. In: Chumber S (ed). *Essentials of surgery*. 1st ed. Delhi: Jaypee Publishers; 2005:838–67.
2. Chattopadhyay TK. Advances in gastrointestinal surgery. In: Chattopadhyay TK, Sahni P (eds). *GI Surgery Annual 2004, Vol. II*. New Delhi: Indian Association of Surgical Gastroenterology; 2004:187–243.
3. Chumber S, Pande GK, Sharma A, Aggarwala S. Appendix. In: Chumber S (ed). *Essentials of surgery*. 1st ed. Delhi: Jaypee Publishers; 2005:879–90.
4. Pal S, Aggarwala S, Chumber S. Gallbladder and biliary tree. In: Chumber S (ed). *Essentials of surgery*. 1st ed. Delhi: Jaypee Publishers; 2005:930–58.
5. Pal S, Aggarwala S, Chumber S. Liver. In: Chumber S (ed). *Essentials of surgery*. 1st ed. Delhi: Jaypee Publishers; 2005:891–918.
6. Pal S, Pande GK, Aggarwala S, Chumber S. Colon and rectum. In: Chumber S (ed). *Essentials of surgery*. 1st ed. Delhi: Jaypee Publishers; 2005:838–67.
7. Pal S, Pande GK, Aggarwala S, Chumber S. Esophagus. In: Chumber S (ed). *Essentials of surgery*. 1st ed. Delhi: Jaypee Publishers; 2005:734–63.
8. Pal S, Pande GK, Aggarwala S, Chumber S. Stomach and duodenum. In: Chumber S (ed). *Essentials of surgery*. 1st ed. Delhi: Jaypee Publishers; 2005:763–99.
9. Pande GK, Aggarwala S, Chumber S. Small intestine. In: Chumber S (ed). *Essentials of surgery*. 1st ed. Delhi: Jaypee Publishers; 2005:800–37.

10. Singh RK, Kapoor S, Pal S. Liver trauma. In: Chattopadhyay TK, Sahni P (eds). *GI Surgery Annual 2004, Vol. 11*. New Delhi: Indian Association of Surgical Gastroenterology; 2004:97–123.

## **PATIENT CARE**

### **OPD and specialty clinics**

Please *see* Chapter 6, Appendix III.

Total number of new patients seen: 1410

Total number of old patients seen: 4029

### **Special laboratory facilities**

- Anal manometry
- Oesophageal manometry
- 24-hour ambulatory oesophageal pH monitoring

### **Inpatients**

Please *see* Chapter 6, Appendix V.

Total number of inpatient admissions (January 2004–December 2004): 591

### **Surgical procedures**

Please *see* Chapter 6, Appendix VI.

|                            |     |
|----------------------------|-----|
| Total operations performed | 471 |
| Elective operations        | 371 |
| Emergency operations       | 100 |

### ***Number of operations performed (Special interest areas)***

|                                  |     |
|----------------------------------|-----|
| Surgical jaundice                | 146 |
| Portal hypertension              | 60  |
| Oesophageal cancer               | 45  |
| Carcinoma gallbladder            | 30  |
| Ulcerative colitis               | 33  |
| Upper GI haemorrhage             | 14  |
| Lower GI haemorrhage             | 11  |
| Acute pancreatitis               | 4   |
| Chronic pancreatitis             | 9   |
| Liver resections                 | 11  |
| Orthotopic liver transplantation | 1   |
| Cadaveric liver retrievals       | 2   |

## **AWARDS AND HONOURS**

**Professor T.K. Chattopadhyay** was President (till September 2004) and is presently the Past President, Indian Association of Surgical Gastroenterology.

**Dr Peush Sahni** holds the office of President, World Association of Medical Editors. He is also the Editor of the *National Medical Journal of India*.

#### **VISITING SCIENTISTS**

1. Dr Sumit Mittal, Assistant Professor, Department of Surgery, Creighton University Medical Center, Omaha, Nebraska, USA.
2. Dr Patrick S. Kamath, Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN, USA.
3. Dr Dave Mutimer, Hepatology Service, Queen Elizabeth Hospital, Birmingham, UK.
4. Dr D.C. Whitcomb, Professor of Medicine and Chief, Division of Gastroenterology, Hepatology and Nutrition, University of Pittsburgh, UPMC Presbyterian, Pittsburgh, USA.

## 9.14 Haematology

### Professor and Head

V.P. Choudhry

### Professors

R. Saxena

Rajat Kumar

### Additional Professor

H.P. Pati

### Assistant Professors

S. Tyagi

M. Mahapatra

## EDUCATION

### Undergraduate and Postgraduate

The faculty is taking undergraduate classes in Haematology in the form of didactic lectures, case studies and ward rounds.

The department is running a DM course in Clinical Haematology and Haematopathology. Presently, nine residents are undergoing training in Clinical Haematology and four in Haematopathology. DM residents are being posted to HLA, Biotechnology, Genetics division, Transfusion Medicine department, etc. for their training. Six students are registered for PhD and are working on molecular genetics of haemostasis and leukaemias. Two of them have been awarded PhD in the current year.

In collaboration with the Departments of Radiology and Pathology, radiology and haematopathology conferences are being held once a week. Interdepartmental symposia are being organized regularly with the Department of Medical Oncology. The department is organizing weekly and monthly conferences/clinics for the postgraduates of the Departments of Paediatrics and Pathology. Faculty from other departments are being invited regularly to give lectures.

### Short- and long-term training

The department has provided training in the field of Haematology to seven doctors from other institutions for periods of 1 to 6 months. Nineteen students undertook short-term training varying from 1 to 6 months during the year.

### Continuing Medical Education

#### *Conferences, seminars, workshops*

- National Haematology Update IV, JL Auditorium, 26–27 February 2005.
- Wet workshop on Quality Control organized at AIIMS, New Delhi, February 2005.
- Wet workshop on Haemostasis organized at AIIMS, New Delhi, February 2005.

- 3rd workshop on Prenatal and Postnatal Diagnosis of Genetic Disorders organized at AIIMS in collaboration with the Department of Anatomy, January 2005.
- Annual Conference of the Delhi Society of Haematology, August 2004.
- Haematological disorders in obstetrics in collaboration with the Department of Obstetrics and Gynaecology, 3 October 2004.

### ***Lectures delivered***

#### **Dr V.P. Choudhry**

- ‘Management of thalassaemia intermedia’; Thalassaemia Programme on Thalassaemia Care, Kalawati Saran Children Hospital; April 2004.
- ‘Management of haemophilia’; CME at Bombay Hospital; April 2004.
- ‘Congenital bone marrow failure syndrome’; CME at Bombay Hospital; April 2004.
- ‘Haemoglobinopathies in India and their future perspectives’ at the Institute of Haematology and Transfusion Medicine, Kolkata; May 2004.
- ‘Chelation therapy in thalassaemia’; Symposium on Thalassaemia; May 2004.
- ‘Current management of thalassaemia’; Tapovan Blood Bank and Tapovan Trust, Shri Ganga Nagar; June 2004.
- ‘National perspectives and future in thalassaemia’; IV Haematology Update, AIIMS, New Delhi; February 2005.
- ‘Clinical presentations and therapeutic options in haemophilia’; IV Haematology Update, AIIMS, New Delhi; February 2005.
- ‘Nutritional anaemia in pregnancy’; Symposium on Haematological Disorders in Obstetrics Practice; October 2004.

#### **Dr R. Saxena**

- ‘Haematological parameters in anaemia during pregnancy’; Update on Gynaecology, AIIMS; March 2005.
- ‘Measurement of haematological parameters affected by nutritional deficiency’; Workshop on Nutrition Research for Capacity Building of Young Scientist Especially for North-East Region, Umiam, Meghalaya; 14–17 February 2005.
- ‘Quality control and quality assurance programme’; Workshop on Nutrition Research for Capacity Building of Young Scientist Especially for North-East Region, Umiam, Meghalaya; 14–17 February 2005.
- ‘Quality control in haematological parameters’; KEM, Mumbai; February 2005.
- ‘Thromboembolic disease diagnosis: What, when and how much to investigate’; National Haematology Update IV; February 2005.
- ‘Internal quality control’; Wet workshop on Quality Control, AIIMS February 2005.
- ‘Prenatal diagnosis and carrier detection in haemophilia A’; Workshop in Army Hospital Research and Referral; January 2005.

- ‘Carrier detection and prenatal diagnosis in haemophilia A’; 4th Workshop on Prenatal and Postnatal Diagnosis of Genetic Disorders using Molecular Methods; January 2005.
- ‘Molecular techniques in haematology’; Update in Haematology, LTM Mumbai; August 2004.
- ‘IDA: Indicators for assessment in community and their QC’; National Workshop on Methodologies for Assessment of Vitamin A Deficiency, Iron Deficiency Anaemia and Iodine Deficiency Disorders; August 2004.
- ‘Haemophilia—the disorder’; Workshop on Haemophilia Care and Management, S.N. Medical College, Agra; 28 August 2004.
- ‘Carrier detection and prenatal diagnosis of haemophilia and von Willebrand disease’; Xth National CME on Haematology and Haemato-Oncology, Mumbai; 23–25 April 2004.
- ‘Molecular diagnosis and carrier detection in haemophilia’; National Workshop-cum-Symposium on Recent Developments in Haematology: An Indian Perspective, Kolkata; 6 June 2004.

#### **Dr Rajat Kumar**

- Guest lecture on ‘Approach to a patient with pancytopenia’; Medicine Update 2004, Maulana Azad Medical College, New Delhi; 16 December 2004.
- ‘Haematopoietic growth factors: Expanding vistas’; National Medicine Update 2004, Navy Hospital Asvini; 7 November 2004.
- Guest lecture on ‘Investigations and diagnosis in obstetric coagulopathy’; CME on Obstetric Emergencies and Procedures, Lady Hardinge Medical College, New Delhi; 5 September 2004.
- ‘Cord blood transplantation: Indications, limitations and Indian scenario’; Xth National CME in Haematology, Mumbai; 24 April 2004.
- ‘Fever in neutropenic patients: What is new?’; Xth National CME in Haematology, Mumbai; 24 April 2004.
- ‘Haematological malignancies during pregnancy’; Symposium on Haematological Disorders in Obstetrics Practice; October 2004.

#### **Dr H. Pati**

- ‘Pitfalls in diagnosis of haemolytic anaemias’; National Haematology Update, AIIMS; 26–27 February 2005.

#### **Dr Seema Tyagi**

- ‘Myelodysplastic syndrome: Classification and diagnosis’; National Haematology Update IV; February 2005.
- ‘Preanalytic variables in haematology’; Workshop on Quality Assessment in Haemogram, National Haematology Update IV; February 2005.

#### **Dr M. Mahapatra**

- ‘Splenomegaly: Diagnostic assessment’; National Haematology Update, AIIMS; 26–27 February 2005.

## **National and International Conferences**

### ***Lectures delivered***

#### **Dr V.P. Choudhry**

- ‘Immune thrombocytopenic purpura’; 45th Annual ISHTM Conference, CMC, Vellore; November 2004.
- ‘Transfusion therapy in thalassaemia’; 3rd International Conference on Thalassaemia, New Delhi; November 2004.
- ‘Myelodysplastic syndrome in India’; 45th Annual ISHTM Conference, CMC, Vellore; November 2004.

#### **Dr R. Saxena**

- ‘Quality assessment of haemogram in automated counters’; ISHTM, Vellore; November 2004.
- Presentation of a case for the CPC Scientific Committee of Diamond APICON 60th Annual Conference of the Association of Physicians of India, Mumbai; January 2005.

#### **Dr Rajat Kumar**

- ‘Management of PNH’; 45th Annual Conference of the Indian Society of Haematology and Transfusion Medicine, Vellore; 19 November 2004.
- ‘Pancytopenic patient’; XV Annual CME of the Association of Physicians of India-Delhi State Chapter; 9 October 2004.
- Presentation of case for the CPC during Diamond APICON 60th Annual Conference of the Association of Physicians of India, Mumbai; January 2005.

## **RESEARCH**

### **Funded Projects**

#### ***Completed***

1. Evaluation of the effect of interaction of alpha gene mutation in beta thalassaemia patients in Delhi population. R. Saxena. Funded by AIIMS for 3 years (2002–2004). Funds: Rs 0.6 lakh.

#### ***Ongoing***

1. Elucidation of molecular genetics of acute leukaemia. R. Saxena. Funded by ICMR for 3 years (2005–2007). Funds: Rs 5.5 lakh.
2. Quality assessment in haemogram. R. Saxena. Funded by NABL DST for 3 years (2003–2005). Funds: Rs 1.5 lakh/year.
3. Sub-characterization of vWD in Indians. R. Saxena. Funded by DST for 3 years (2003–2006). Funds: Rs 17 lakh.
4. Characterization of mutations underlying haemophilia A and B. R. Saxena. Funded by DBT for 3 years (2004–2007). Funds: Rs 21.46 lakh.

5. Molecular characterization and treatment of acute lymphoid leukaemia on protocol-modified MCP 841. International Network for Cancer Treatment and Research. R. Saxena. Funded by INCTR for 3 years (from 2001 onwards). Funds: Rs 4.5 lakh per year.
6. Role of TAFI in pathogenesis of young Indian stroke. R. Saxena. Funded by ICMR-INSERM for 3 years (2004–2006). Funds: Rs 5 lakh.
7. Thalassaemia screening programme. V.P. Choudhry. Funded by NTWS for 6 years (from 2001 onwards). Funds: Rs 2.2 lakh per year.

### Departmental Projects

1. Eosin-5-maleimide flow cytometric test in diagnosis of hereditary spherocytosis.
2. Treatment with cyclosporin A or dapsone as a single-agent therapy in chronic refractory idiopathic thrombocytopenic purpura.
3. Role of RT-PCR in diagnosis and prognosis of acute myeloid leukaemia.
4. Evaluation of effect of wheatgrass therapy on transfusion requirement in thalassaemia major and intermedia.
5. Abdominal infections in immunocompromised hosts: A radiological, microbiological and clinical correlation.
6. Comparative study of imatinib alone or in combination with cytarabine in chronic myeloid leukaemia.
7. Role of *Helicobacter pylori* in the aetiopathogenesis of idiopathic thrombocytopenic purpura.
8. Ultrastructural characteristics of blasts in acute leukaemias and their correlation with cytochemical and immunophenotypical markers.

### PUBLICATIONS

#### Journals

1. Ahmed RP, Biswas A, Kannan M, Bhattacharya M, Geisen C, Seifried E, Oldenburg J, Saxena R. First report of a FVII-deficient Indian patient carrying double heterozygous mutations in the *FVII* gene. *Thromb Res* 2005;**115**:535–6.
2. Ahmed RP, Gupta PK, Kannan M, Suresh K, Kashyap R, Choudhry VP, *et al.* Hemophilia A: Role of FVIIIc/vWF Ag in assisting linkage analysis for carrier detection. *Clin Appl Thromb Hemost* 2004;**10**:127–31.
3. Ahmed RP, Ivaskevicius V, Kannan M, Seifried E, Oldenburg J, Saxena R. Identification of 32 novel mutations in the factor VIII gene in Indian patients with hemophilia A. *Haematologica* 2005;**90**:283–4.
4. Batra VV, Karan AS, Saxena R. Erythroleukemia: A clinico-hematological review of four cases. *Indian Pediatr* 2004;**41**:587–90.
5. Bhattacharyya J, Kumar R, Tyagi S, Kishore J, Mahapatra M, Choudhry VP. Human parvovirus B19-induced acquired pure amegakaryocytic thrombocytopenia. *Br J Haematol* 2005;**128**:128–9.
6. Bhattacharyya M, Makharia G, Kannan M, Ahmed RP, Gupta PK, Saxena R. Inherited prothrombotic defects in Budd-Chiari syndrome and portal vein thrombosis: A study from north India. *Am J Clin Pathol* 2004;**121**:844–7.

7. Chatterjee T, Dixit A, Mohapatra M, Tyagi S, Gupta PK, Mishra P, *et al*. Clinical, haematological and histomorphological profile of adult myelodysplastic syndrome. Study of 96 cases in a single institute. *Eur J Haematol* 2004;**73**:93–7.
8. Dixit A, Chatterjee TC, Papneja M, Mishra P, Mahapatra M, Pati HP, *et al*. Sickle beta-thalassemia presenting as orbital compression syndrome. *Ann Hematol* 2004; **83**:536–40. Epub 2004 Feb 18.
9. Gupta PK, Ahmed R, Kannan M, Chatterjee T, Choudhry VP, Saxena R. Platelet factor 3 availability test: An effective screening test for types 1 and 2 von Willebrand disease. *Ann Hematol* 2004;**83**:489–90. Epub 2004 Mar 30.
10. Gupta PK, Ahmed RP, Bhattacharyya M, Kannan M, Biswas A, Kalra V, Saxena R. Protein C system defects in Indian children with thrombosis. *Ann Hematol* 2005;**84**:85–8. Epub 2004 Sep 23.
11. Gupta PK, Kannan M, Saxena R. Carrier detection in severe von Willebrand's disease. *Ann Hematol* 2004;**83**:625–7.
12. Mishra P, Chatterjee T, Dixit A, Choudhry VP, Kumar R, Saxena R. Secondary severe factor X deficiency associated with antiphospholipid syndrome. *Am J Hematol* 2004;**76**:311.
13. Mishra P, Dixit A, Chatterjee T, Bhattacharya M, Bhattacharya J, Dutta P, Mahapatra M, Pati HP, Choudhry VP, Saxena R. Disseminated intravascular coagulation as an unusual presentation of Kala-azar: Report of two cases. *Scand J Infect Dis* 2004;**36**:519–21.
14. Mishra PP, Mahapatra M, Choudhry VP, Saxena R, Pati H, Dixit A, *et al*. Synchronous occurrence of breast carcinoma and acute myeloid leukemia: Case report and review of the literature. *Ann Hematol* 2004;**83**:541–3. Epub 2004 Feb 13.
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### Chapters in Books

1. Chatterjee T, Tyagi S, Mahapatra M, Pati HP, Kumar R, Choudhry VP, Saxena R. Primary myelodysplastic syndrome in children: Clinical, haematological and histomorphology profile. In: Agarwal MB (ed). *Haematology today*. Mumbai: Xth National CME in Haematology and Haemato-Oncology; 2005:193–204.
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5. Kumar R. Cord blood transplantation: Indications, limitations and Indian scenario. In: Agarwal MB (ed). *Haematology today*. Mumbai: Xth National CME in Haematology and Haemato-Oncology; 2004:461–76.
6. Kumar R. Fever in neutropenic patients: What is new? In: Agarwal MB (ed). *Haematology today*. Mumbai: Xth National CME in Haematology and Haemato-Oncology; 2004:255–73.
7. Saxena R, Kannan M, Ahmed RPH, Gupta PK. Haemophilia A and vWD: Carrier detection. In: Agarwal MB (ed). *Haematology today*. Mumbai: Xth National CME in Haematology and Haemato-Oncology; 2005:215–26.

## **PATIENT CARE**

### **Laboratory investigations**

|                             |        |
|-----------------------------|--------|
| 1. Haemogram                | 30,147 |
| 2. Bone marrow              | 1,943  |
| 3. Reticulocyte count       | 2,155  |
| 4. Bone biopsy              | 901    |
| 5. Coagulation screening    | 2,430  |
| 6. Factor assays            | 198    |
| 7. Lupus anticoagulants     | 1,180  |
| 8. PFT                      | 390    |
| 9. Fibrinogen               | 180    |
| 10. D-Dimer                 | 280    |
| 11. Inhibitor screening     | 66     |
| 12. Screening assay         | 3      |
| 13. INR                     | 840    |
| 14. Proglobal C             | 496    |
| 15. Protein C               | 178    |
| 16. Protein S               | 185    |
| 17. APCR                    | 185    |
| 18. Beta 2 glycoprotein     | 298    |
| 19. VWD                     | 180    |
| 20. Serum homocystein       | 106    |
| 21. Factor V Leiden         | 51     |
| 22. MTHFR                   | 24     |
| 23. P21020                  | 3      |
| 24. Inversion               | 17     |
| 25. Linkage                 | 13     |
| 26. Alpha thalassaemia      | 66     |
| 27. Cytochemistry and APAAP | 2,121  |
| 28. HPLC                    | 1,275  |
| 29. HB electrophoresis      | 1,275  |
| 30. Sickling test           | 1,275  |
| 31. Serum iron studies      | 1,369  |
| 32. G6PD screening          | 459    |
| 33. Coomb's (Gel card)      | 397    |
| 34. PNH (Gel card)          | 80     |

|                        |     |
|------------------------|-----|
| 35. PNH (Manual)       | 235 |
| 36. Plasma HB          | 101 |
| 37. Urine haemosiderin | 148 |
| 38. Osmetic fragility  | 218 |
| 39. Methaemoglobin     | 9   |
| 40. Heinz bodies       | 15  |
| 41. Cold agglutinin    | 1   |
| 42. Cryoglobulin       | 5   |
| 43. RTPCR              | 500 |

#### Yearly census from April 2004 to March 2005—Day-care centre

| Month        | Total admissions | Total BT    | Total procedures | Bone biopsy/<br>bone marrow aspirate | Chemotherapy (intrathecal + others) |
|--------------|------------------|-------------|------------------|--------------------------------------|-------------------------------------|
| April        | 384              | 279         | 105              | 74                                   | 31                                  |
| May          | 397              | 293         | 104              | 64                                   | 40                                  |
| June         | 416              | 273         | 143              | 78                                   | 65                                  |
| July         | 491              | 341         | 150              | 95                                   | 55                                  |
| August       | 486              | 346         | 140              | 62                                   | 78                                  |
| September    | 445              | 291         | 154              | 82                                   | 72                                  |
| October      | 451              | 287         | 164              | 76                                   | 88                                  |
| November     | 412              | 270         | 162              | 58                                   | 84                                  |
| December     | 362              | 206         | 156              | 60                                   | 96                                  |
| January      | 410              | 282         | 128              | 71                                   | 57                                  |
| February     | 502              | 379         | 123              | 66                                   | 57                                  |
| March        | 455              | 285         | 170              | 84                                   | 86                                  |
| <b>Total</b> | <b>5211</b>      | <b>3532</b> | <b>1699</b>      | <b>870</b>                           | <b>809</b>                          |

#### Census of Haematology OPD—April 2004 to March 2005

|           | Male | Female | Total  |
|-----------|------|--------|--------|
| Old cases | 9068 | 5490   | 14,558 |
| New cases | 2050 | 1206   | 3,256  |

#### Break-up of cases

| Name of OPD             | Cases (n) |
|-------------------------|-----------|
| General haematology     | 7989      |
| Haematology coagulation | 3645      |

|                             |      |
|-----------------------------|------|
| Haematology oncology        | 2934 |
| Haemostasis                 | 349  |
| Haemolytic anaemia          | 285  |
| Haematology transplantation | 10   |
| Haematology leukaemia       | 39   |

### **Inpatient treatment**

Allogeneic bone marrow transplantation (BMT) and peripheral stem cell transplantation have been initiated in the department. Till March 2005, five transplants have been performed successfully and all of them are doing well.

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

**Dr V.P. Choudhry** was felicitated and awarded Distinguished Doctor Award by the Delhi Medical Association in May 2004; prestigious Malti Sathe Award by the Indian Society of Haematology during the 45th Annual Conference of ISHTM at Vellore in November 2004. He continues to be the Editor of the *Indian Journal of Pediatrics* and *National Thalassaemia Bulletin* of the Federation of Indian Thalassaemics.

Dr Choudhry is a member of the Advisory Committee for Thalassaemia Screening and Control Programme in Delhi in the Ministry of Health, Delhi Government.

**Dr R. Saxena** continues to be a member of NABL Accreditation Committee, DST; an executive member, DSH, and coordinator ISHTM-AIIMS EQAP. He was awarded the Professor Dinkar Chandra Memorial Oration by the UP Chapter of IAPM at KGMU centenary celebrations, Lucknow, March 2005.

Dr Saxena was cited in *Marquis Who's Who in Science and Engineering*; New Providence NJ 07974-0012 US; 8th Edition, 2005–2006 (Biographee No. 377138). He was also cited in *Marquis Who's Who in Medicine and Health Care*; New Providence NJ 07974-0012 US; 5th Edition 2004–2005 (Biographee No. 30702837).

**Dr Rajat Kumar** was co-opted as member of the Governing Body, Association of Physicians of India—Delhi State Chapter for the year 2005–2006.

**Dr M. Mahapatra** was selected as a member of the World Association of Medical Editors (WAME). He continues to be the Assistant Editor of the *Indian Journal of Haematology and Blood Transfusion* (ISHBT). He received scholarship from the Greenwall Foundation to attend the retreat on Conflicts of Interest in Scientific Publication at Oak Brook, Chicago, IL, USA. He was nominated as an expert member of the task force for finalization of protocols for Central Council for Research in Ayurveda and Siddha (CCRAS).

The Department of Haematology is continuing external Quality Assessment Programme in association with the Indian Society of Haematology and Blood Transfusion and National Accreditation Board for laboratories at national level in India. Presently, more than 300 laboratories have participated.

## 9.15 Hospital Administration

### Professor and Head

R.K. Sarma

### Professor

P.C. Chaubey (deputed as Medical Director to the Indira Gandhi Memorial Hospital at Maldives under the 'Aid to Maldives' for a period of 3 years, returned to the department in April 2005)

### Additional Professors

Shakti Gupta  
(Trauma Centre)

D.K. Sharma

### Associate Professors

I.B. Singh (IRCH)

Sidhartha Satpathy

Sanjay Arya

### Assistant Professor

Aarti Viji (ORBO)

## EDUCATION

The Department of Hospital Administration is running a 2-year postgraduate course for students in Hospital Administration.

Faculty members have conducted training programmes for doctors working in various state government and public sector undertakings such as the Madhya Pradesh Academy of Administration, Bhopal and Indian Institute of Coal Management, Ranchi.

Training was also imparted to:

- Ten students from the National Institute of Health and Family Welfare, New Delhi for 1 month.
- One student from the Deccan School of Management, Hyderabad for 6 months.
- One student from the Symbiosis Institute of Health Sciences, Pune for 3 months.
- Four students from the Institute of Management Studies, Indore for 4–8 weeks.
- Two students from the Institute of Health Management Research for 3 months.
- WHO fellowship in Hospital Waste Management for a period of 1 week to Dr A.K.M. Saledur Rehman from Bangladesh.
- WHO fellowship to 3 students from the Republic of North Korea for 6 weeks.

## **Continuing Medical Education**

The department provided training in the field of Hospital Management to visiting students from other states and countries. The department is actively involved in 'update programmes' in hospital housekeeping, hospital support services, security, fire-fighting, interpersonal relations, hospital infection control and biomedical waste management to various nursing, paramedical and sanitation personnel.

### ***Papers presented***

#### **Dr Shakti Kumar Gupta**

- 'Public-private partnership in the diagnostic laboratory—synergy for effective patient care'; Medicare India 2004, Pragati Maidan, New Delhi; 6–8 April 2004.
- 'Trends and dimensions in hospital architecture'; Conference on the Integrated Health Care Infrastructure organized jointly by the Construction Industry Development Council (CIDC) and HSCC (I) Ltd and Council for Application of Actuarial Science in Construction and Applied Industry, Kathmandu, Nepal; 9–10 July 2004.
- 'The strategy imperative: The strategies to meet current challenges'; Seminar on Emerging Imperatives in Health Care organized by the School of Hospital Management, NIILM University, India International Centre, New Delhi; 7 January 2005.
- 'Hospitals of the future'; Indo-German workshop organized by IIT Roorkee, India Habitat Centre, New Delhi; 11–12 February 2005.
- 'Public-private partnership in health care—synergy for effective patient care'; National seminar on Global Health Care—Indian Strategic Initiative organized by the Apollo Institute of Hospital Administration, Hyderabad; 25–26 February 2005.
- 'Barriers to patient flow process management—a study conducted in a premier institute in India'; 11th World Congress on Informatics, San Francisco; 7–11 September 2004.

#### **Dr Sanjay Kumar Arya**

- Arya SK, Bedi S. 'What it costs and what they get—a study of perceived costs and benefits among ESIC beneficiaries'; National Conference of Health Insurance and Financing, New Delhi; 16–17 October 2004.

#### **Dr S. Satpathy**

- 'Issues in the Health Information System'; Medinfo-2004, 11th World Congress on Medical Informatics, organized by the American Medical Information Association (AMIA), San Francisco, USA; 7–11 September 2004.
- 'Legal issues in telemedicine—a SWOT analysis'; International Conference on Telemedicine, organized by the Indian Space Research Organization, Indian Institute of Science, Bangalore; 17–19 March 2005.

## *Lectures delivered*

### **Professor R.K. Sarma**

- ‘Disaster management’; National Institute of Defence Estates Management, Manekshaw Marg, New Delhi at a clinical update for doctors of the Cantonment Board Hospital; 21–25 February 2005.

### **Dr Shakti Kumar Gupta**

- ‘Disaster management and overview’; Workshop on Emerging Issues on Health and Hospital Management, Jamia Hamdard University, New Delhi; 30 September 2004.
- ‘Materials management in hospitals’; 27th Management Course for Hospital Pharmacists organized by the Indian Hospital Pharmacist Association, St Stephen’s Hospital, Tees Hazari, New Delhi; 12 October 2004.
- ‘Biomedical waste management—guidelines to new hospitals’; Training course on Biomedical Waste Management organized by the Post Graduate Institute of Medical Education and Research, Chandigarh; 18 March 2005.

### **Dr S. Satpathy**

- ‘Hospital infection control’; HIV/AIDS Training Programme for doctors, nurses and other staff conducted by the Department of Medicine, AIIMS, Delhi State AIDS Control Society (DSACS) and National AIDS Control Organization (NACO).
- ‘Medical negligence’, ‘Judgments on CPA’; Training courses on Medical Negligence, CPA and Medical Ethics for the faculty of medical colleges organized by NIHFWS, New Delhi; 20 and 23 July, 2 and 5 August 2005, respectively.
- ‘Procurement of quality drugs and equipment at AIIMS’; Symposium during the 63rd Annual Depot Commanders Conference organized by the Armed Forces Medical Stores Department (AFMSD), New Delhi; 10 March 2005.
- ‘Health information and telemedicine’ for senior doctors of Orissa Health System Development Programme conducted by the Academy of Hospital Administration, New Delhi; 3 August 2004.
- ‘Patient satisfaction and medical audit’; Training on Hospital Management for doctors of Orissa Health Services Development Programme conducted by the Academy of Hospital Administration, New Delhi; 10 November 2004.
- ‘Consumer Protection Act’; Training course on Hospital Administration for Hospital Administrators of North Eastern States organized by NIHFWS, New Delhi; 9 December 2004.
- ‘Coding and indexing of medical records in hospitals’; Inaugural and Review workshops to improve and strengthen the use of ICD-10 in India conducted by the Central Bureau of Health Intelligence, DGHS, MOHFW, New Delhi; 21 July 2004 and 25 January 2005.
- Delivered lectures on various topics in hospital administration and conducted an Organizational Behaviour Laboratory during the ‘Special Programme on Hospital Management and Administration for Medical Superintendents, GDMOs and Non-specialists of Coal India Ltd at IICM, Ranchi; 10–15 January 2005.

- ‘Medical audit’, ‘Consumer Protection Act’, ‘Organizational behaviour in hospitals’ and ‘Biomedical waste management’; Training Programme on Hospital Management for Medical Officers, RCVP Norohna Academy of Administration, Bhopal; 17–18 February 2005.
- ‘Infection control in hospital’ and ‘Biomedical waste management’; Clinical Update for Health Officers/Doctors of Cantonment Board Hospitals, organized by the National Institute of Defence Estates Management, Manekshaw Marg, New Delhi; 21 and 24 February 2005.

### **Dr Aarti Vij**

- ‘Organ donation and transplantation’; VIII Annual Medical Seminar organized by the Government of India, Ministry of Home Affairs, Directorate General Border Security Forces (Medical Directorate), New Delhi; 23 March 2005.
- ‘Organ donation—ethical issues’; Workshop on Biomedical Ethics organized by Vardhman Mahavir Medical College and Safdarjung Hospital, New Delhi; 18 March 2005.
- ‘Problems faced by government institutions—organ donation and transplantation’ organized by the Rajiv Gandhi Foundation, New Delhi; 12 December 2004.
- ‘Public relations issues in nursing management (patient satisfaction and conflict resolution)’; Training Programme on Hospital Administration organized by the Academy of Hospital Administration, New Delhi; 15 September 2004.
- ‘Decision-making and supervision’; Management Development Programme for senior nursing administrators, Academy of Hospital Administration, New Delhi; 28 April 2004.

### **National and International Conferences**

#### ***Professor R.K. Sarma***

- Attended a national-level conference on ‘Creating competitive hospital marketing strategies’ at Madurai, Tamil Nadu; 29–31 May 2004.
- Attended the IV Annual Conference of the Indian Society of Waste Management at Army Hospital R&R, Delhi Cantt, New Delhi; 24–25 April 2004.

#### ***Dr Shakti Kumar Gupta***

- Attended an international conference on ‘Writing, editing and publishing’ organized by the staff and society of Seth G.S. Medical College and K.E.M. Hospitals at K.E.M. Hospital, Mumbai; 23–26 September 2004.
- Was Chairman, Scientific Committee, National Conference on ‘Health insurance and financing’ organized by the Department of Hospital Administration, AIIMS, New Delhi; 16–17 October 2004.
- Participated in Indo-German workshop on ‘Infrastructure development’; India Habitat Centre, New Delhi; 11–12 February 2004.
- Participated in the International Conference on Medical Architecture, organized by the School of Planning and Architecture, New Delhi, in collaboration with the Indian Institute of Architects (Northern Chapter) and School of Architecture and Planning, ApeeJay Institute of Technology at the Indian National Science Academy, New Delhi; 4–6 March 2005.

### ***Dr I.B. Singh***

- Participated in the Euro India 2004 cooperation forum on the information society co-sponsored by the European Commission Directorate General Information Society and the Confederation of Indian Industry, Taj Palace, New Delhi; 24–26 March 2004.
- Participated in ‘Medicare India 2004’, organized by Kinex Log International, UK and TAFCON Project, India, Pragati Maidan, New Delhi; 6–8 April 2004.

### ***Dr Sanjay Arya***

- Participated in the International Conference on Medical Architecture 2005 at New Delhi; 4–6 March 2005.
- Participated in the (HIFCON) National Conference on Health Insurance and Financing (HIFCON) at AIIMS, New Delhi; 16–17 October 2004.

### ***Dr Aarti Vij***

- Participated in the International Conference on Medical Architecture 2005 at New Delhi; 4–6 March 2005.
- Participated in the International summit on Coronary Artery Diseases and Cardiovascular Interventions organized by the Academy of Cardiology, Mumbai; 19 February 2005.
- Participated in the 26th Annual Conference of the Indian Society of Critical Care and Disaster Medicine at AIIMS; 18–19 December 2004.
- Participated in the National Conference on Health Insurance and Financing (HIFCON) at AIIMS, New Delhi; 16–17 October 2004.

## **RESEARCH**

### **Departmental Projects**

#### ***Completed***

1. A study of the medical records forms in use at AIIMS hospital with a view to standardize them.
2. A study of engineering maintenance services at AIIMS hospital with a view to assess its adequacy and effectiveness and to develop a module for efficient functioning.
3. Study on the utilization of surgical sutures at AIIMS hospital.

#### ***Ongoing***

1. Study on the patterns of financing of medical care of the patients admitted to a tertiary care hospital like AIIMS.
2. Study on the magnitude of medicolegal workload on AIIMS administration: Existing status and recommendations.
3. Study of patients attending AIIMS Accident and Emergency Department to evaluate the appropriateness of pre-hospital care and its effect on the outcome of patient management.

4. Study of sociological changes amongst nurses at AIIMS.
5. Study of the Ambulance services with reference to type of vehicles, equipment fitted, its utilization pattern, so as to suggest an optimal model with its equipment and accessories.
6. Evaluate the hospital planning with particular reference to allocation of space for different hospital facilities and identify the prime considerations which should be the determining factor for requirement of space for various service areas of a hospital.
7. A study of the morbidity pattern in the geriatric age group and identifying resource inputs for a geriatric centre at AIIMS.
8. A study of the manpower deployment and its utilization in a hospital so as to identify the factors responsible for calculating need-based manpower planning.

## **PUBLICATIONS**

### **Journals**

1. Arya SK, Bedi S. Patient expectation survey—a relevant marketing tool for hospitals. *J Hosp Adm* 2004;**16**:15–24.
2. Chattoraj A, Satpathy S, Sarma RK. A study to ascertain the misuse/wastage of medical record forms at a tertiary super speciality hospital. *J Acad Hosp Adm* 2004;**16**:15–18.
3. Dogra TD, Lalwani S, Vij A, Vyas M, Venugopal P. Organ retrieval in medicolegal cases. *J Acad Hosp Adm* 2004;**16**:53–6.
4. Gupta S, Kath S. Hospital architecture—emerging issues and strategic option. *J Acad Hosp Adm* 2004;**16**:45–8.
5. Lalwani S, Dogra TD, Bhardwaj DN, Sharma RK, Murty OP, Vij A. Study on arsenic level in ground water of Delhi using hydride generator coupled with atomic absorption spectrophotometer. *Indian J Clin Biochem* 2004;**19**:135–40.
6. Saini S, Das BK, Kapil A, Nagarajan SS, Sarma RK. The study of bacterial flora of different types in hospital waste: Evaluation of waste treatment at AIIMS Hospital, New Delhi. *Southeast Asian J Trop Med Public Health* 2004;**35**:986–9.
7. Singh IB, Sarma RK, Rathore A. Public private partnership in health sector. *J Indian Hosp Adm* 2004;**40**:28–41.
8. Singh IB. Health care financing model in India—a critical analysis. *J Indian Hosp Adm* 2004;**39**:118–38.

### **Chapters in Books**

1. Satpathy S. Infection control in emergency room. In: *Principles of emergency medicine*. 1st ed. Hyderabad:Paras Medical Publisher; 2005:405–19.

## **PATIENT CARE**

- The department has been actively involved in improving the patient care services by revamping the support services to aid in provision of a quality clinical service. Extensive in-service training for

control of hospital-acquired infection was carried out for Group ‘D’ employees, the nursing staff and residents.

- As per the need for efficient functioning of patient care areas, various renovations have been planned and commissioned in the main hospital—AB2 ICU and AB2 ward, main casualty (store, USG room and gynaecological examination room), new Emergency Ward (ABG room), IVF OT and Foetal Medicine Unit in the AB wing of the 3rd floor, treatment room of AB6. Renovation of the AB4 ward (nephrology) for construction of an ICU is in the pipeline.
- Extensive renovations are also been carried out in the 2nd floor of the OPD complex (GE and HN). The project of air-conditioning the OPD wing is also under way.
- Organ Retrieval Banking Organization (ORBO), a nodal centre and national facility for the country set-up at AIIMS, New Delhi has been instrumental in facilitation of organ transplantation to the needy. The first cadaver bone bank in association with the Department of Orthopaedics, AIIMS has been established. In addition, the first pancreas and kidney transplantation had been coordinated by ORBO. ORBO has also been instrumental in the first ever allocation of an organ to a hospital outside Delhi (liver allocated to SGPGI, Lucknow). Donor and recipient registration is being done through networking with fifteen hospitals in Delhi (both private and government), in collaboration with NGOs and other government organizations for creating awareness and promoting organ donation among society. As a part of the awareness programmes on organ donation and transplantation activities various activities have been arranged with NGOs (64), government schools (22), religious bodies (5), academic institutions (26), government and private organizations (10) and various hospitals (15).
- A Stem cell facility has been recently started at AIIMS.

## SIGNIFICANT EVENTS

**Dr Shakti Kumar Gupta** was appointed Supervisor by the Department of Humanities and Social Sciences, IIT Roorkee to supervise the PhD work of Dr Devendar Kumar Chakarpani entitled ‘Supply chain management in hospitals: Case study of Delhi Metro’.

**Professor R.K. Sarma** was nominated as a member of the DPCC meeting vide of no B-120 15/7/04 dated 17/12/04; Course Director for the training programme on Hospital Management and Administration for Medical Superintendents of Coal India Ltd at the Indian Institute of Coal Management, Ranchi, January–February 2005.

**Dr Shakti Kumar Gupta** was nominated as a member of the committee formed by the Ministry of Home Affairs, Government of India for preparation of the curriculum for in-service training of hospital managers and professionals for mass casualty management and introduction of emergency health management in the MB,BS curriculum being conducted by the Rajiv Gandhi University of Health Sciences, Karnataka at Bangalore. He was also nominated a member of the committee constituted by the Ministry of Health and Family Welfare, Government of India for the preparation of training modules for in-service training of hospital managers and professionals being conducted by the Directorate General of Health Services (Emergency Medical Relief) at Safdarjung Hospital, New Delhi.

Dr Gupta was elected as a member of the National Academy of Medical Sciences, India; distinguished Fellow of the Institute of Hospital Engineering, PGIMER, Chandigarh; Editor, *Journal of the Academy of Hospital Administration* (JAHA) for the year 2004–05; selected external lecturer by the Raj Kumari

Amrit Kaur College of Nursing, GOI for delivering lectures on Hospital Administration for the MSc Nursing course. He also visited Mongar, Bhutan as a member of a delegation of the GOI from 12 to 18 April 2004 for consultation with the Health Authority and consultants of the Royal Government of Bhutan to review the scope of parameters for construction of a regional referral hospital at Mongar, Bhutan.

**Dr S. Satpathy** was elected as an executive member of the Academy of Hospital Administration for 2004–05. He also conducted and organized an in-service training programme on Infection Control for all categories of staff from January 2005; conducted a strategic study for improvement of medical services at ONGC Hospitals (Sibsagar, Assam and Dehradun, Uttaranchal) during April–May 2004.

**Dr I.B. Singh** received a Fellowship for developing and organizing a Trauma System from Israel.

## 9.16 Laboratory Medicine

### Professor and Head

B.L. Jaikhani

### Professor

A.K. Mukhopadhyay

### Additional Professors

M. Irshad

Sarman Singh

### Assistant Professor

Subhadra Sharma

## EDUCATION

### Short-term training

Eight students, 4 from Bundelkhand University, Jhansi; 2 from JP Institute of Technology, Himachal Pradesh; 1 from Allahabad University, Allahabad; and 1 postgraduate doctor from Cuttack, Orissa, underwent a short-term training in Molecular Biology during the year. A 3-week hands-on workshop on Molecular Biology, sponsored by DBT, Government of India was also conducted in which 12 mid-career scientists/doctors from various parts of the country participated.

Three students (2 BSc and 1 MSc) took summer training from different institutes and 13 students took short-term training (MLT). Henceforth, this training has been stopped.

### Continuing Medical Education

The faculty of the department participated in and delivered 10 lectures in continuing medical education programmes, symposia, national and international conferences during the year.

## RESEARCH

### Funded Projects

1. To optimize the yield of recombinant human anti-rabies single chain variable fragment human IgG1/fc fusion proteins. B.L. Jaikhani. Funded by DBT for 3 years (2001–2004). Funds: Rs 16.21 lakh.
2. Presynaptic membrane receptor autoantibodies in myasthenia gravis. B.L. Jaikhani. Funded by ICMR for 3 years (2001–2004). Funds: Rs 6 lakh.
3. Reactivity of muscle nicotinic acetylcholine receptor antigens from different animals with myasthenic antibodies. B.L. Jaikhani. Funded by ICMR for 3 years (2002–2005). Funds: Rs 6.53 lakh.
4. Development of Vi-conjugate vaccine for the prevention of typhoid fever. B.L. Jaikhani. Funded by DBT for 3 years (2001–2004). Funds: Rs 29.23 lakh.

5. Optimization of carbohydrate–protein conjugates as vaccine for prevention of enteric fever. B.L. Jaikhani. Funded by DBT for 3 years (2004–2007). Funds: Rs 36.58 lakh.
6. Development of rapid diagnostic test for detection of auto-antibodies in myasthenia gravis by plate and dot-blot ELISA. B.L. Jaikhani. Funded by ICMR for 2 years (2004–2006). Funds: Rs 9.17 lakh.
7. Recovery and stability for routine chemistry analysis and enzymes from serum/whole blood spotted on filter paper. B.L. Jaikhani. Funded by ICMR for 3 years (2005–2007). Funds: Rs 5.79 lakh.
8. Prevalence and significance of transfusion transmitted virus (TTV) and association of lipoprotein (a) with apoprotein A and B in various forms of liver diseases. M. Irshad. Funded by ICMR for 3 years (2005–2007).
9. Baseline database collection and documentaion of good manufacturing and supply practices adopted by the manufacturers of TORCH-ELISA kits and quality control assessment at the user level of these kits. Sarman Singh. Funded by DBT for 2 years (2003–2005). Funds: Rs 8.5 lakh.
10. Screening of marine products for *in vitro* antimicrobial activity. Sarman Singh. Funded by CSIR-NIO for 2 years (2003–2005). Funds: Rs 10 lakh.
11. Rapid and accurate diagnosis of tuberculosis using a novel set of primers directly from clinical sample. Sarman Singh. Funded by ICMR for 3 years (2004–2007). Funds: Rs 13 lakh.
12. Comparative evaluation of various methods for diagnosis of pulmonary and extrapulmonary tuberculosis. Sarman Singh. Funded by BioMerieux India Ltd for 1 year (2004–2005). Funds: Rs 1.6 lakh.
13. Expression, characterization and purification of recombinant kinesin-like protein of VL and PKDL-causing Indian strains of *Leishmania donovani*, and developing ELISA and other rapid test methods using the above antigen. Sarman Singh. Funded by DBT for 3 years (2003–2006). Funds: Rs 13 lakh.
14. Genetic heterogeneity amongst the *Leishmania donovani* isolated from eastern India. Sarman Singh. Funded by AIIMS for 3 years (2003–2006). Funds: Rs 1.35 lakh.
15. Evaluation of the toxicity and anti-leishmanial efficacy of liposomal amphotericin B (KALSOME) in mouse model. Sarman Singh. Funded by DBT from 2005 to 2007. Funds: Rs 41.9 lakh.
16. To study the molecular mechanism(s) of miltefosine-induced drug resistance in *Leishmania donovani*. Sarman Singh. Funded by CSIR for 3 years (2004–2007). Funds: Rs 4.5 lakh.
17. Inhibition of kinetoplast DNA replication using topoisomerase inhibitors. Sarman Singh. Funded by ICMR from 2004 to 2007. Funds: Rs 4 lakh.
18. Genotypic characterization of *Mycobacterium tuberculosis* in clinical isolates from pulmonary tuberculosis by using spoligotyping and IS 6110 RFLP analysis. Sarman Singh. Funded by UGC for 3 years (2004–2007). Funds: Rs 4.2 lakh.

## Departmental Projects

1. Purification and characterization of putative nicotinic receptors (alpha bungarotoxin-binding proteins) from heart.
2. Genomic polymorphism of human apolipoprotein E and peroxisome proliferator activated receptor alpha genes in hyperlipidaemia and diabetes.
3. Comparative evaluation of brain and muscle presynaptic nicotinic acetylcholine receptors.
4. Recovery and stability of various analysis enzymes and DNA from whole blood spotted filter paper.
5. Preparation and characterization of Vi-polysaccharide–protein conjugate for immunization against salmonellae.
6. To evaluate the impact of viral hepatitis on apo and lipoproteins.
7. HCV core antigen detection in liver disease.
8. HCV infection in renal failure.
9. CRF in Indian communities.
10. Synergism of hepatitis viruses and TTV-virus in liver diseases.
11. Role of HCV core antigen in diagnosis and pathogenesis of HCV infection.
12. Impact of oxidative stress on liver diseases.
13. Comparative evaluation of smear, LJ culture, MGIT-960 Bactec culture and bacteriophage tests for the diagnosis of tuberculosis.
14. Comparative evaluation of various TORCH test kits.
15. Comparative evaluation of various PCR primers for the rapid and sensitive diagnosis of tuberculosis.
16. Bloodborne infection after needle-prick injury in health care workers of AIIMS.
17. *Toxoplasma gondii* IgG avidity assays in pregnant women attending AIIMS.
18. Sequence-based diagnosis of mycobacterial isolates from HIV-positive and HIV-negative patients.

## Collaborative Projects

1. Coagulation profile in acute hepatic failure (with Gastroenterology).
2. Coagulation profile in acute pancreatitis (with Gastroenterology).
3. Bacterial and fungal pathogens in HIV-positive patients with CNS involvement (with Medicine).
4. Bacterial and fungal pathogens isolated by Bact/alert automated culture system from HIV-positive patient with PUO (with Medicine).

5. Nested polymerase chain reaction for the diagnosis of congenital cytomegalovirus infection (with Obstetrics and Gynaecology, and Paediatrics).
6. Nested polymerase chain reaction in the diagnosis and prognosis of post-transplant reactivation of cytomegalovirus (with Nephrology and Medical Oncology).
7. HIV and hepatitis markers in intravenous drug users (with Laboratory Medicine and DAC).

## **PUBLICATIONS**

### **Journals**

1. Irshad M, Dubey R. Apolipoproteins and their role in different clinical conditions: An overview. *Indian J Biochem Biophys* 2005;**42**:73–80.
2. Irshad M. Serum lipoprotein (a) levels in liver diseases caused by hepatitis. *Indian J Med Res* 2004;**120**:542–5.
3. Irshad M. Status of apolipoprotein in liver diseases caused by hepatitis viral infections. *Clin Chem* 2004;**50** (Suppl. 6):189.
4. Shahdad S, Kaur M, Singh S, Khattar S. A case of pulmonary *Mycobacterium celatum* in an Indian AIDS patient. *Int J Infect Dis* 2005;**9**:62–3.
5. Sharma Y, Bashir S, Irshad M, Gupta SD, Dogra TD. Effects of acute dimethoate administration on antioxidant status of liver and brain of experimental rats. *Toxicology* 2005;**206**:49–57.
6. Singh S, Dey A, Sivakumar R. Applications of molecular methods for *Leishmania* control. *Expert Rev Mol Diagn* 2005;**5**:251–65.
7. Singh S, Pandit AJ. Incidence and prevalence of *Toxoplasma gondii* in Indian pregnant women: A prospective study. *Am J Reprod Immunol* 2004;**52**:276–83.
8. Singh S, Sivakumar R. Challenges and new discoveries in the treatment of leishmaniasis. *J Infect Chemother* 2004;**10**:307–15.
9. Singh S. Mucosal leishmaniasis in an Indian AIDS patient. *Lancet Infect Dis* 2004;**4**:660–1.

### **Chapter in Books**

1. Mukhopadhyay A. Developing a science for consciousness: Philosophical underpinnings. In: Chattopadhyay DP (ed). *Philosophical consciousness and scientific knowledge: Conceptual linkages and civilizational background*. New Delhi: Publication Centre for Studies in Civilization; 2004:92–145.
2. Siva Kumar R, Singh S. Laboratory diagnosis of visceral leishmaniasis. In: Raghunath D, Nayak R (eds). *Trends and research in leishmaniasis*. New Delhi: Tata McGraw-Hill Publishing Co. Ltd; 2005:113–30.

**PATIENT CARE****Total tests performed 50,79,539****Centralized collection centres*****Blood collection***

| <b>For department</b> | <b>No. of specimen</b> |
|-----------------------|------------------------|
| Laboratory Medicine   | 1,52,719               |
| Blood Bank            | 3,090                  |
| Microbiology          | 15,806                 |
| Miscellaneous         | 15,359                 |
| <b>Total</b>          | <b>1,86,974</b>        |

***Fluid and secretions collection***

| <b>Specimen</b>                          | <b>Number</b> |
|--|---------------|
| Urine                                    | 56,752        |
| Faeces                                   | 9,231         |
| Sputum                                   | 7,700         |
| Semen                                    | 12,482        |
| Other fluids                             | 118           |
| Blood for viral marker/HIV investigation | 11,251        |
| <b>Total</b>                             | <b>97,534</b> |

**GRAND TOTAL 2,84,508****Emergency Laboratory Services (Round-the-clock)*****Clinical Biochemistry***

| <b>Test</b>        | <b>Number</b>   |
|--------------------|-----------------|
| Blood sugar        | 63,938          |
| Blood urea         | 74,674          |
| Bilirubin          | 20,399          |
| Sodium             | 70,177          |
| Potassium          | 70,177          |
| Amylase            | 5,141           |
| CSF sugar          | 6,757           |
| CSF protein        | 6,757           |
| SGOT               | 900             |
| SGPT               | 900             |
| Total protein      | 900             |
| Albumin            | 900             |
| Creatinine         | 902             |
| Arterial blood gas | 7,540           |
| <b>Total</b>       | <b>3,30,062</b> |

***Haemogram and Body Fluids***

| <b>Test</b>        | <b>Number</b>   |
|--------------------|-----------------|
| Hb                 | 97,200          |
| TLC                | 76,800          |
| Platelets          | 54,000          |
| Prothrombin time   | 26,880          |
| Malarial parasite  | 15,480          |
| CSF                | 36,800          |
| Urine              | 10,080          |
| Microbiology blood | 28,000          |
| Culture and CSF    |                 |
| Gram stain         | 12,160          |
| Giemsa stain       | 5,400           |
| Stool hanging drop | 1,440           |
| <b>Total</b>       | <b>3,64,240</b> |

**GRAND TOTAL 6,94,302*****Clinical Biochemistry***

| <b>Test</b>     | <b>Blood</b> | <b>Urine</b> | <b>Fluid</b> |
|-----------------|--------------|--------------|--------------|
| Sugar           | 1,17,676     | 1,368        | 3,640        |
| Urea            | 1,66,948     | 684          | —            |
| Total protein   | 1,44,756     | —            | 3,640        |
| Albumin         | 1,44,756     | —            | 3,640        |
| 24-hour albumin |              | 1,202        | —            |

|                           |                  |               |               |
|---------------------------|------------------|---------------|---------------|
| Bilirubin                 |                  |               |               |
| —Total                    | 1,44,780         | —             | —             |
| —Conjugated               | 1,44,780         | —             | —             |
| Alkaline phosphatase      | 1,56,216         | —             | —             |
| Acid phosphatase          | 302              | —             | —             |
| Cholesterol               | 41,220           | —             | —             |
| Na                        | 1,21,776         | 4,836         | —             |
| K                         | 1,21,776         | 4,836         | —             |
| Calcium                   | 1,02,880         | 5,976         | —             |
| Phosphate                 | 95,136           | 5,508         | —             |
| Uric acid                 | 1,12,560         | 3,840         | —             |
| Amylase                   | 17,628           | 315           | 95            |
| Creatinine                | 1,57,736         | 9,588         | —             |
| SGOT                      | 1,56,780         | —             | —             |
| SGPT                      | 1,56,780         | —             | —             |
| 17-ketosteroid            | —                | —             | —             |
| pCO <sub>2</sub>          | 6,096            | —             | —             |
| pH                        | 6,096            | —             | —             |
| pO <sub>2</sub>           | 6,096            | —             | —             |
| HCO <sub>3</sub>          | 6,096            | —             | —             |
| CO <sub>2</sub>           | 6,096            | —             | —             |
| A-aDO <sub>2</sub>        | 6,096            | —             | —             |
| O <sub>2</sub> saturation | 6,096            | —             | —             |
| BE                        | 6,096            | —             | —             |
| <b>Total</b>              | <b>21,53,254</b> | <b>38,153</b> | <b>11,015</b> |

### *Miscellaneous investigations*

| Test                 | Number |
|----------------------|--------|
| Cyclosporin A        | —      |
| HBsAg                | 1,200  |
| Anti-HBs             | 300    |
| HBeAg                | 50     |
| IgM anti-HBc         | 250    |
| Anti-HCV             | 500    |
| Anti-HEV             | 200    |
| IgM anti-HAV         | 200    |
| Superoxide dismutase | 200    |
| Total antioxidant    | 200    |
| Apoprotein A         | 300    |
| Apoprotein B         | 300    |
| Mg                   | 100    |
| Lp(a)                | 300    |
| CK                   | 100    |
| LDH                  | 100    |
| GGT                  | 300    |
| TG                   | 300    |

|                                 |               |
|---------------------------------|---------------|
| LDLC                            | 200           |
| HDLC                            | 200           |
| Adenosine deaminase assay       | 2,625         |
| ELISA IgG-Ab tuberculosis       | 2,625         |
| ELISA IgG-Ab neurocysticercosis | 2,625         |
| ELISA IgG-Ab Ach-R              | 86            |
| <b>Total</b>                    | <b>13,261</b> |

**GRAND TOTAL 22,15,683**

### **Haematology Section**

| <b>Test</b>               | <b>OPD</b>      | <b>Ward</b>     |
|---------------------------|-----------------|-----------------|
| Hb                        | 75,074          | 54,581          |
| TLC                       | 75,074          | 54,581          |
| PCV                       | 75,074          | 54,581          |
| DLC                       | 68,178          | 54,581          |
| ESR                       | 63,184          | 27,245          |
| D/Morphology              | 44,486          | 15,389          |
| Platelet                  | 75,074          | 54,581          |
| Reticulocyte count        | 14,423          | 8,382           |
| Absolute eosinophil count | 13,791          | 3,566           |
| Malarial parasite         | 18,805          | 11,283          |
| Thick smear               | Nil             | 4,982           |
| MCV                       | 75,074          | 54,581          |
| MCH                       | 75,074          | 54,581          |
| MCHC                      | 75,074          | 54,581          |
| RBC                       | 75,074          | 54,581          |
| BT                        | 1,449           | —               |
| CT                        | 1,449           | —               |
| PT                        | 4,991           | 9,643           |
| Blood clotted             | 6045            | 1,651           |
| Other                     | 8,256           | 2,662           |
| <b>Total</b>              | <b>8,45,649</b> | <b>5,76,032</b> |

**GRAND TOTAL 14,21,681**

### **Microbiology Section**

#### ***Patient care***

|                                   |     |
|-----------------------------------|-----|
| Pre- and post-counselling (total) | 189 |
| TORCH investigation               | 60  |
| HIV/AIDS                          | 129 |

## A. Free investigations

| Name of the test                         | OPD             | Ward            | Total           |
|--|-----------------|-----------------|-----------------|
| <i>Urine investigations</i>              |                 |                 |                 |
| Medical Board                            | —               | —               | 9,150           |
| Routine                                  | 50,497          | 43,878          | 94,375          |
| Microscopic                              | 76,090          | 54,572          | 130,662         |
| pH                                       | 1,735           | 18,533          | 20,268          |
| Specific gravity                         | 1,329           | 18,533          | 19,862          |
| Acetone                                  | 1,437           | 18,533          | 19,970          |
| Bile pigment salt                        | 735             | 18,533          | 19,268          |
| Urobilinogen                             | 730             | 18,533          | 19,263          |
| Blood                                    | 300             | 18,533          | 18,833          |
| Bence–Jones protein                      | 195             | 190             | 385             |
| Chyluria                                 | 42              | 38              | 80              |
| Porphobilinogen                          | 6               | 20              | 26              |
| Myoglobinuria                            | 2               | 3               | 5               |
| Haemosiderin                             | 1               | 2               | 3               |
| Urine culture                            | 12,408          | —               | 12,408          |
| Strain identification test               | 7,162           | —               | 7,162           |
| Antibiotic sensitivity                   | 1,780           | —               | 1,780           |
| <b>Subtotal</b>                          | <b>1,54,449</b> | <b>2,09,901</b> | <b>3,73,500</b> |
| <i>Faecal investigations</i>             |                 |                 |                 |
| Wet mount—saline                         | 6,737           | 2,881           | 9,618           |
| Wet iodine stain                         | 6,737           | 2,881           | 9,618           |
| Occult blood in stool                    | 3,177           | 1,570           | 4,747           |
| Fat globules                             | 232             | 187             | 419             |
| Special stains for HIV-positive patients | 440             | 486             | 926             |
| <b>Subtotal</b>                          | <b>17,323</b>   | <b>8,005</b>    | <b>25,328</b>   |
| <i>Semen investigations</i>              |                 |                 |                 |
| Routine                                  | 11,592          |                 |                 |
| Morphology                               | 3,398           |                 |                 |
| Fructose                                 | 404             |                 |                 |
| <b>Subtotal</b>                          | <b>15,394</b>   |                 |                 |
| <i>Sputum investigations</i>             |                 |                 |                 |
| Z–N staining for AFB                     | 13,008          |                 |                 |
| Concentration/decontamination            | 171             |                 |                 |
| AR staining                              | 62              |                 |                 |
| LJ culture                               | 171             |                 |                 |
| BACTEC culture                           | 171             |                 |                 |
| BACTEC sensitivity                       | 35              |                 |                 |
| Mycobacterial strains maintained         | 486             |                 |                 |

|                   |               |
|-------------------|---------------|
| Biochemical tests | 121           |
| <b>Subtotal</b>   | <b>14,225</b> |

*Miscellaneous investigations*

|   |             |
|---|-------------|
| <i>Leishmania</i> culture strain maintenance  | 1206        |
| Bone marrow, CSF latex agglutination for cryptococcosis, Pyogenic meningitis  |             |
| Bacteria Blood for malarial parasite, Antigen detection, Blood smear for MP, Stool hanging drop for <i>Vibrio</i> , Urine microalbumin, Microfilaria, Pus culture and sensitivity, <i>Pneumocystis carinii</i> , TPHA, etc. |             |
| <b>Subtotal</b>   | <b>1206</b> |

|                   |                 |
|-------------------|-----------------|
| <b>Total of A</b> | <b>4,29,653</b> |
|-------------------|-----------------|

**B. Paid investigations**

*Serology*

|                                      |       |
|--------------------------------------|-------|
| <i>Toxoplasma gondii</i> IgG         | 990   |
| <i>Toxoplasma gondii</i> IgM         | 966   |
| Rubella IgG                          | 830   |
| Rubella IgM                          | 824   |
| Cytomegalovirus IgG                  | 1,377 |
| Cytomegalovirus IgM                  | 1,377 |
| Herpes simplex virus IgG             | 756   |
| Herpes simplex virus 2 IgG           | 756   |
| Herpes simplex virus (1+2) IgM       | 750   |
| Parvovirus B19 IgG                   | 104   |
| Parvovirus B19 IgM                   | 104   |
| Cysticercosis                        | 96    |
| Anti- <i>Leishmania</i> antibodies   | 1,152 |
| <i>Leishmania</i> PCR                | 35    |
| Cytomegalovirus PCR                  | 36    |
| <i>Toxoplasma gondii</i> PCR         | 8     |
| HBsAg                                | 8,586 |
| Anti-HCV antibody                    | 5,663 |
| HIV (1+2)                            | 5,058 |
| HBeAg                                | 881   |
| Anti-HBeIgM                          | 583   |
| Anti-HBs                             | 338   |
| Anti-HBe                             | 55    |
| HIV-Spot                             | 300   |
| <i>Toxoplasma gondii</i> IgG avidity | 16    |
| Rubella IgG avidity                  | 12    |
| Cytomegalovirus IgG avidity          | 12    |

|                 |               |
|-----------------|---------------|
| HEV IgM         | 1179          |
| HAV IgM         | 859           |
| CCR-5 PCR       | 9             |
| <b>Subtotal</b> | <b>33,712</b> |

**GRAND TOTAL (A+B) 4,63,365**

### **AWARDS AND HONOURS**

**Dr A.K. Mukhopadhyay's** paper titled 'Nonlocality in the nature of consciousness: Implication in neuroscience and evolution' has been selected as Leading Article and displayed on the home page of the website of Scientific and Medical Network, UK (www.scimednet.org). Dr Mukhopadhyay was included in the *Biography Today, Vol. III*, Refacimento International, FI Publications, New Delhi, 2005; *Distinguished and admirable achievers*, South Asia (Intl.) Pub. Co., Delhi, 2005; *Eminent personality of world*, World Biographical Research Foundation, Nagpur, India.

**Dr M. Irshad's** biography was selected for inclusion in various directories published from India and abroad. He has also been selected on the panel of reviewers for the *Indian Journal of Medical Research* and *Indian Journal of Experimental Biology*.

**Dr Sarman Singh** was nominated as a member of the Task Force, DST for young scientists, 2004–2007; Expert Committee on Kala-azar Elimination from India by the Directorate General of Health Services, Government of India, 2005. He continues to be the CPCSEA nominee by the Government of India for the Institutional Animal Ethics Committee, JNU, New Delhi; member of the Equipment Purchase Committee of CJLI, Agra for the current year; Editor-in-Chief, *Journal of Laboratory Medicine*; President of the Association for Better Health and Society (ABHAS). He was elected as Editor, *Journal of Immunology and Immunopathology* at the 3rd Convention of the Society for Immunology and Immunopathology, Agra. He was also selected as the Scientific Abstract Reviewer for the XVth World AIDS Conference, Bangkok, June 2004 and the International AIDS Conference on 'AIDS in Asia Pacific' to be held at Kobe, Japan in 2005. He was nominated scientific reviewer for prestigious scientific journals including the *Lancet*.

## 9.17 Medicine

### Professor and Head

S.K. Sharma

### Professors

Anoop Misra

Randeep Guleria

Rita Sood

A.B. Dey

Ashok Kumar

### Additional Professors

Rohini Handa

G.C. Khilnani

### Associate Professors

Naveet Wig

Ashutosh Biswas

### Assistant Professors

Sanjeev Sinha

Naval K. Vikram

Uma Kumar

Anant Mohan

Rajiva Gupta

## EDUCATION

### Short- and long-term training

- The department imparted training in Tropical Medicine to 21 elective students from various countries.
- Four doctors received training in Pulmonary Medicine during the year.
- The department organized a training programme in HIV/AIDS for health care workers (Nursing) at AIIMS under the National AIDS Control Organization (NACO) and Delhi State AIDS Control Society (DSACS) on 6–7 November 2004 and 29–30 November 2004.
- Lt Col Vishal Marwah from the Army completed his training in Rheumatology for 2 years on 11.4.2004.
- Wing Commander S. Shankar, from the Indian Air Force, continued as long-term trainee in Rheumatology for 2 years w.e.f. 3.11.2003.
- Dr Kiran Soni joined as a short-term trainee in Rheumatology w.e.f. 1.3.2005 for 3 months.

### Continuing Medical Education

- Professor S.K. Sharma organized and chaired the following:
  - Third meeting of the National Task Force for the involvement of medical colleges in the RNTCP (23–24 November 2004) at the Conference Hall, AIIMS, New Delhi.
  - Ranbaxy Round Table Conference on HIV–TB co-infection; 8 January 2005.
- Professor Rita Sood organized two workshops and was the resource person for these:
  - Principles of Teaching, Learning and Assessment in Medical Education; April 2004.
  - MCQs and Item Analysis; February 2005.

- Professor Ashok Kumar organized a Clinical Meeting of the Delhi Rheumatology Association at AIIMS on 17 April 2004 and another one on 19 March 2005.
- Dr Rohini Handa organized the following:
  - Association of Physicians of India-Delhi State Chapter and Department of Medicine, AIIMS Symposium on Emergencies in Medicine, New Delhi; 5 September 2004.
  - A Workshop on ‘Joint Injection Techniques’ at Mumbai during the Annual Conference of the Association of Physicians of India; January 2005.
- Dr Ashutosh Biswas organized a Scientific Session on the eve of World AIDS Day 2004 at AIIMS; 30 November 2004.

### *Lectures delivered*

#### **Professor S.K. Sharma**

- ‘Sarcoidosis in India: Not so rare’ and ‘Anti-TB drug-induced hepatotoxicity’; Association of Physicians of India, Himachal Pradesh, Mandi; 2 October 2004.
- ‘Integrated treatment of HIV and TB’; 15th Round Table Conference on HIV and Tuberculosis co-infections, organized by Ranbaxy Science Foundation at New Delhi; 8 January 2005.
- ‘Management of HIV–TB co-infection’; Indo–US CME on HIV/AIDS and Symposium on Recent Advances in AIDS Research; jointly organized by the Postgraduate Institute of Medical Education and Research, Chandigarh, India and New York University School of Medicine, New York, USA at Chandigarh; 9–10 January 2005.
- ‘Clinical scenario of HIV–TB infection’; Update on HIV–TB Nexus; jointly organized by the Department of Biotechnology, AIIMS and New York University (NYU) AIDS and Tuberculosis International Training and Research Programme (AITRP) at AIIMS, New Delhi; 12 January 2005.
- Inaugural address at the International Course on Management, Finance and Logistics for TB Control; jointly organized by the Indian Institute of Health Management Research and International Union Against Tuberculosis and Lung Disease (The Union, Paris, France) at Jaipur; 7 February 2005.
- Chaired the session on HLA and Disease I at the ISHI-2005 Workshop, AIIMS, New Delhi; 18 February 2005.
- Chaired the session in the IV National Hematology Update at AIIMS, Ansari Nagar, New Delhi; 26–27 February 2005.

#### **Professor Anoop Misra**

- ‘Childhood obesity’; CME on Endocrinology, Diabetes and Metabolism, IMS, BHU, Varanasi; 5–6 February 2005.
- ‘Blood glucose monitoring and obesity issue—an underused tool in management’; 4th International Symposium on Diabetes, Indian Diabetes Summit, Mumbai; 7–9 January 2005.
- ‘Prevalence of metabolic syndrome in South Asians’; Joint CME Programme of American Association of Physicians of Indian Origin (AAPI) and Manipal Hospital, Bangalore; 2 January 2005.
- ‘Diabetes epidemiology: Current concepts’; 8th International Epidemiology Association—WHO-SEARO, Jhansi; 6 December 2004.

- ‘Obesity and diabetes—the sinister combination’; World Diabetes Day ‘Fight Obesity—Prevent Diabetes’, New Delhi; 13 November 2004.
- ‘Obesity, nutrition and physical activity in Indians’; Subregional workshop on Nutrition, Food Safety and Biotechnology, Jamia Milia, New Delhi; 7 October 2004.
- ‘Insulin resistance syndrome’; American Diabetes Association and Madras Diabetes Research Foundation, Chennai; 26 September 2004.
- ‘Obesity and diabetes’; Indian Council of Medical Research, New Delhi; 15 September 2004.
- ‘Obesity in Indians: Current status’; Symposium on Obesity, Centre for Science and Environment, New Delhi; September 2004.
- ‘Assessment of obesity’; Symposium on Obesity, St Teresa’s College for Women, Department of Home Science, Ernakulam, Kochi, Kerala; 28 July 2004.
- ‘Obesity in Indians: Phenotype and implications’; UGC Symposium on Obesity, Kochi; 28–29 July 2004.
- ‘Obesity in Indians: Peculiarities and implications’; Abbot Symposium on Obesity, New Delhi; 17 July 2004.
- ‘Metabolic syndrome: Implications for Asian Indians’; Symposium on Metabolic Syndrome, BC Institute of Medical Sciences, New Delhi; 30 May 2004.
- ‘Body composition estimation and risk factors for diabetes mellitus and cardiovascular disease in young individuals’; Endocrine Club Meeting, New Delhi; 25 April 2004.
- ‘Body composition estimation and risk factors for diabetes mellitus and cardiovascular disease in young Asian Indian’; 3rd Mayo International Institute of Diabetes, Symposium on Diabetes, Thiruvananthapuram, Kerala; 14 February 2004.
- ‘Diabetes mellitus and CHD in Asian Indians: Opportunities for dietary interventions’; Nutrition—Challenges Ahead, Institute of Home Economics, University of Delhi; 5 February 2004.
- ‘Diabetes and CHD in Asian Indians’; Dietetic Update, AIIMS, New Delhi; 22 January 2004.
- ‘Body composition of Asian Indians and its relationship to insulin resistance, diabetes and dyslipidaemia’; 4th Asian Network of Research on Antidiabetic Plants (ANRAP), International Seminar, Kolkata; 16–18 January 2004.

### **Professor Ashok Kumar**

- ‘Approach to monoarthritis’; Postgraduate Clinics in Rheumatology, SGP GIMS, Lucknow; 12 September 2004.
- Participated in a debate on ‘Biological response modifiers in rheumatoid arthritis are first line therapy’ at AFMC, Pune; 3 October 2004.
- ‘Remission in rheumatoid arthritis’; National CME on Rheumatology, NIMS, Hyderabad; 8 October 2004.
- ‘What is Rheumatology?’; Rheumatology Update organized under the auspices of Delhi Rheumatology Association, ISIC Superspecialty Hospital, New Delhi; 27 February 2005.

## **Professor R. Guleria**

- ‘Management of community-acquired pneumonia: Recent advances’; CME organized by All India General Practitioners Association, Kolkata; 18 September 2004.
- ‘Pneumonia’; CME at TMDC, Jamshedpur; 3 October 2004.
- ‘Non-resolving pneumonia’; XV Annual CME of API-Delhi State Chapter; 9 October 2004.
- ‘Clinical approach to patients with non-resolving consolidation’; Medicine Update 2004, MAMC; 17 December 2004.
- ‘Pneumonia: Recent advances’; CME organized by the Indian Medical Association, Bihar State Branch, Patna; 2 October 2004.
- Participated in the Asthma workshop on ‘WHO India Guidelines for Asthma’ held at PGIMER, Chandigarh; 19–20 February 2005.

## **Dr Rohini Handa**

- ‘Management of RA—current trends’; API-Delhi State Chapter Mid-term CME, New Delhi; 30 May 2004.
- ‘SLE—When to suspect, how to manage?’ and ‘OA: From despair to definite hope’; Rheumatology 2004, National CME on Joint Diseases, Hyderabad; 8–9 October 2004.
- ‘SLE—Current concepts’ and ‘Spondyloarthropathies’; Symposium on Rheumatology, Academy of Medical Sciences, Nagpur and Association of Physicians of India, Vidarbha Chapter, Nagpur; 24 October 2004.
- ‘Approach to seronegative arthritis’; 6th Postgraduate Instructional Course (North Zone) in Orthopaedics, Maulana Azad Medical College, New Delhi; 27–30 October 2004.
- ‘SLE: Current concepts’; Rheumatology Update, Sant Parmanand Hospital, New Delhi; 5 December 2004.
- ‘Update on management of OA’; CME-2004, Ghaziabad Orthopaedics Club, Ghaziabad; 5 December 2004.
- ‘Rational use of immunological markers in clinical practice’; Medicine Update 2004, Maulana Azad Medical College, New Delhi; 16 December 2004.
- ‘Vasculitis: An overview’; 7th National CME on Dermatopathology, New Delhi; 20–21 December 2004.
- ‘Clinical approach to osteoporosis and new and emerging therapies’; KGMU Centenary Celebrations, CME on Osteoporosis, Lucknow; 11 February 2005.
- ‘Current scenario and emerging trends in management of RA’; Indo-American International Convention, Government Medical College, Amritsar; 23–25 February 2005.
- ‘Case vignette: A 48-year-old man with acute pain left big toe’; Rheumatology Update, Delhi Rheumatology Association, Delhi; 27 February 2005.

### **Dr Ashutosh Biswas**

- Guest lecture as resource person in the HIV/AIDS Training and CME Programme for Private Medical Practitioners organized by the MP State AIDS Control Society held at Bhopal; 24–25 April 2004.
- Guest lecture in HIV/AIDS CME and Training Programme for South Zone Dispensaries Doctors organized by E.S.I. Hospital held at E.S.I. Hospital, Okhla, Phase-I, New Delhi; 10 November 2004.
- Guest lecture as the resource person in HIV/AIDS CME Programme for doctors organized by the Jharkhand State AIDS Control Society held at Dhanbad, Jharkhand; 23–24 November 2004.
- Guest lecture as the resource person in HIV/AIDS CME Programme for doctors organized by Babu Jagjivan Ram Memorial Hospital, Jahangir Puri, Delhi; 20–21 May 2004.

### **Dr Rajiva Gupta**

- ‘An approach to Raynaud’s phenomenon’; GMC, Chandigarh; 21 March 2004.
- ‘Pregnancy and rheumatoid arthritis’; Sant Parmanand Hospital CME; 16 October 2004.
- ‘Osteoporosis’; IMA meeting, Saharanpur; 4 September 2004.
- ‘Soft-tissue rheumatism’; Rheumatology Update 2005, ISIC, New Delhi; 27 February 2005.

### **Dr Naval K. Vikram**

- ‘Management of obesity’; Abbot Symposium on Obesity, New Delhi; 17 July 2004.

### **Dr Anant Mohan**

- ‘Bronchial asthma: An overview’; IMA meeting, Saharanpur; 31 July 2004.
- ‘Acute severe asthma’; 4th CME: National Update on Bronchial Asthma, V.P. Chest Institute, Delhi; 25 April 2004.

### **National and International Conferences**

Professor A.B. Dey organized the ‘Indian Ageing Congress’ which was held at the All India Institute of Medical Sciences, New Delhi, 5–7 November 2004. The Congress followed the Pre-congress ‘National consultation on emerging issues in care of the elderly’, 4 November 2004. It included four workshops for postgraduate students and young researchers. The Congress was inaugurated by Dr Anbumani Ramadoss, Union Minister for Health and Family Welfare, Government of India. The Scientific Programme included: five orations, three plenary lectures, three guest lectures, fourteen symposia, six free paper sessions and three award sessions. In all, 135 oral papers and 19 posters were presented; 273 national and 6 international delegates attended the Congress.

## *Lectures delivered*

### **National Conferences**

#### *Professor S.K. Sharma*

- ‘Tuberculosis: Resurgence’; American Association of Physicians of Indian Origin (AAPICON-CME), Hyderabad; 25 December 2004.
- ‘Current diagnostic techniques and the future of TB diagnosis’ and ‘Antitubercular drug-induced hepatotoxicity: From bench to bedside’; 60th Annual Conference of Association of Physicians of India (Diamond APICON-2005), Mumbai; 22–25 January 2005.
- Participated in an Asthma Workshop to formulate National Guidelines at the Postgraduate Institute of Medical Education and Research, Chandigarh; 19–20 February 2005.
- Moderator of the 15th Round Table Conference on HIV and tuberculosis co-infections, organized by Ranbaxy Science Foundation, New Delhi; 8 January 2005.

#### *Professor Anoop Misra*

- ‘Subclinical inflammation and metabolic syndrome’; 13th Annual CME on Diabetes (DIABECON 2005), New Delhi; 17 April 2005.
- ‘Statins in diabetes: Current status’; New Delhi; 31 March 2005.
- ‘Insulin resistance syndrome in Asian Indians’; RSSDI Kerala State Annual Conference, Kochi; 26–27 February 2005.
- ‘Metabolic syndrome in Asian Indians: Trials and tribulations’; Nutrition Foundation of India, New Delhi; 16 February 2005.
- ‘Target metabolic syndrome’; 4th World Congress on Prevention of Diabetes and its Complications, Chennai; 11–13 February 2005.
- Was Chairperson at the Metabolic syndrome—trials and tribulations in Indians, 32nd Research Society for the Study of Diabetes in India, Patna; 4 November 2004.
- ‘Body composition of Asian Indians and its relation to insulin resistance, diabetes and dyslipidaemia’; First Interdisciplinary Conference on Nutrition in Health and Disease, Surat; 13 February 2004.

#### *Professor Rita Sood*

- Professor Sood delivered 10 lectures in Internal Medicine and Medical Education at various conferences and workshops. She was a resource person for many workshops on medical education. She was chairperson and judge for the Award paper session during the API-DSC Conference.

#### *Professor Ashok Kumar*

- Participated in a panel discussion on ‘Laboratory investigations in rheumatology’ during the 2nd National Paediatric Rheumatology Conference held at New Delhi; 20–21 November 2004. He also chaired a session on ‘Rare rheumatic disorders’.
- Chaired a session on ‘Role of anti-CCP antibody in the diagnosis and prognosis of rheumatoid arthritis’ under the auspices of the Delhi Rheumatology Association at New Delhi; 12 August 2004.

- ‘Remission in rheumatoid arthritis’; Annual National Conference of the Indian Rheumatology Association, Chennai; 26–28 November 2004.
- Chaired a session on clinicopathological conference during the Annual National Conference of the Indian Rheumatology Association at Chennai; 26–28 November 2004.

*Professor R. Guleria*

- Delivered a lecture and chaired a session at the National Conference on Pulmonary Disease (NAPCON), Ahmedabad; 16–21 November 2004.
- Gave a lecture on ‘Bronchial asthma’ and participated in a lung function testing workshop at the National Conference of Tuberculosis and Chest Disease (NATCON), L.R.S. Institute of Tuberculosis and Respiratory Disease; 3–6 February 2005.
- Chaired a session at the 10th National Conference of Bronchology 2005 (BRONCHOCON), India Habitat Centre, New Delhi; 11–13 February 2005.

*Dr Rohini Handa*

- ‘Osteoarthritis: Management’; Indian Association of Clinical Medicine, Bihar Chapter Annual Conference, Patna; 13 June 2004.
- ‘Management of RA’; 6th Annual Conference of the Himachal Pradesh Chapter of Association of Physicians of India, Mandi; 2–3 October 2004.
- ‘Coxibs at cross roads’; DOACON, Annual Conference of the Delhi Orthopaedic Association, AIIMS, New Delhi; 19–21 November 2004.
- ‘Therapeutic decision making in osteoporosis’; 26th Annual Conference of API-UP chapter (UPICON-2004), M.L.N. Medical College, Allahabad; 20–21 November 2004.
- ‘Vasculitis and the internist’; Annual Conference of the East Delhi Physicians Association, Delhi; 5 December 2004.
- ‘Rheumatoid arthritis: Which drug for whom?’; XXIX Annual Conference of UP Chapter of the Indian Orthopaedic Association, Jhansi; 4–6 February 2005.
- ‘ANCA-associated vasculitides’; 12th Annual Conference of the Indian Academy of Clinical Medicine, Agra; 24–26 September 2004.
- ‘Osteoporosis epidemiology in India: Current scenario and future action’; BJD Symposium, 20th Annual Conference of the Indian Rheumatology Association, Chennai; 26–28 November 2004.
- Plenary talks on ‘RA: Early diagnosis, promising prognosis’ and ‘Connective tissue diseases and the internist: Nomenclature, classification or just semantics’; Annual Conference of the Association of Physicians of India, Mumbai; 21–25 January 2005.

*Dr Ashutosh Biswas*

- Guest lecture on ‘HIV diseases’; Symposium on Antiretroviral therapy in HIV/AIDS in resource constrained settings at the FDI’s Annual World Dental Congress at Pragati Maidan, New Delhi; 10–13 September 2004.

- Attended an update on HIV–TB nexus, AIIMS–New York University (NYU), AIDS and Tuberculosis International Training and Research Programme (AITRP) Joint Meeting, organized by the Department of Biotechnology at AIIMS, New Delhi; 12 January 2005.
- Presented a scientific paper at the 60th Diamond Jubilee Annual Conference of the Association of Physicians of India, Mumbai; 22–25 January 2005.
- Attended a National Workshop on Accreditation and drug resistance monitoring with special reference to antiretroviral therapy (ART), organized by NACO, Ministry of Health and Family Welfare, Government of India and UNAIDS at Maurya Sheraton, New Delhi; 27–28 January 2005.
- Attended a CBS-sponsored EBM workshop on ‘Best practice of evidence based medicine’ at CERTC, Thiruvananthapuram; 5–7 August 2004.
- Attended the 59th National Conference on Tuberculosis and Chest Diseases at LRS Institute, New Delhi; 3–6 February 2005. Dr Biswas also chaired a session in the same conference.
- Guest lecture in the Emergency Medicine Update, organized by the Department of Emergency Medicine, AIIMS, New Delhi; 30 October 2004. Dr Biswas also chaired a session in the same conference.

*Dr Sanjeev Sinha*

- Resource person for RIMS, Manipur; ART (April 2004).
- Chairperson at the ICMR-Micronutrient workshop in Shillong, Meghalaya; February 2005.
- Presented a paper in APICON-2005, Mumbai.
- Presented a paper in NAPCON-2004, Ahmedabad.

*Dr Naval K. Vikram*

- ‘Type 2 diabetes mellitus in children, adolescents and young adults (CAYA-T2DM): A multicenter collaborative case–control study from north India’; APICON-2005, Mumbai; 22–25 January 2005.

*Dr Anant Mohan*

- Free paper on ‘Predictors of short-term mortality and morbidity in patients admitted with acute exacerbation of COPD’; APICON-2005, Mumbai; 22–25 January 2005.

**International Conferences**

*Professor Ashok Kumar*

- Talk on ‘Infliximab in the treatment of spondyloarthropathies: The Indian experience’; International Scientific Meeting of the National Arthritis Foundation of Singapore; 11–14 November 2004.

*Dr Rohini Handa*

- Talk on ‘Identifying the core rheumatological skills that must be in the curriculum’; 11th APLAR Congress of Rheumatology, Jeju, Korea; 11–15 September 2004.

*Dr Ashutosh Biswas*

- Presented a scientific paper at the Second International Conference on Information Technology, Asian Applied Computing Conference (AACC), at Kathmandu, Nepal; 29–31 October 2004.

*Dr Sanjeev Sinha*

He attended and presented papers in the following conferences:

- HIV/TB workshop at UCLA, Los Angeles, USA (May 2004)—Continuing Medical Education (CME) programmes to strengthen AIDS treatment in India.
- HIV/TB workshop at UCLA, Los Angeles, USA (May 2004)—Study of early versus delayed initiation of antiretroviral therapy for HIV-infected patients with tuberculosis on antituberculosis chemotherapy in Indian subjects.
- Symposium on optimal management of long-term HIV infection and chronic ARV therapy (June 2004). Organized by the UCLA AIDS Institute, Los Angeles, USA.
- Chest-2004, Seattle, Washington, USA (2004)—Spectrum of pulmonary infections in HIV-positive patients: Indian scenario.

*Dr Rajiva Gupta*

He attended and presented papers in the following conferences:

- The Annual Meeting of the British Society for Rheumatology (BSR), Edinburgh, April 2004—Renal involvement in Indian scleroderma patients: A single-centre study.
- The Annual Meeting of the British Society for Rheumatology (BSR), Edinburgh, April 2004—Characteristics of rheumatoid arthritis patients who maintain the remission without DMARD.

## **RESEARCH**

### **Funded Projects**

#### ***Completed***

1. Collection of well characterized clinical samples and strains of *Mycobacterium tuberculosis*. Development of molecular techniques for detection of drug resistance. G.C. Khilnani. Funded by the Department of Biotechnology, Government of India for 3 years. Funds: Rs 6.81 lakh.
2. Air pollution in the vicinity of Indraprastha Thermal Power Station, New Delhi and its health effects. G.C. Khilnani. Funded by WHO for 2.5 years. Funds: Rs 7.46 lakh.
3. Caeruloplasmin gene mutation in rheumatoid arthritis. Uma Kumar. Funded by DST for 2 years. Funds: Rs 9 lakh.

#### ***Ongoing***

1. Randomized, double-blind, comparative study of micafungin (FK 463) versus caspofungin as antifungal treatment in patients with invasive candidiasis or candidaemia. S.K. Sharma. Funded by Quintile Research Pvt. Ltd (Fujisawa Healthcare Inc., Research and Development, Germany) for 6 months. Funds: Rs 80,000 + (Rs 1 lakh = ~ US\$ 2225) per patient.

2. A multicentre, double-blind, comparative, randomized study to evaluate the efficacy and safety of micafungin (FK 463) versus liposomal amphotericin B (Ambisome) in the treatment of invasive candidiasis and candidaemia. S.K. Sharma. Funded by Quintiles Spectral India (Pvt) Ltd for 2 years. Funds: Rs 1.64 lakh.
3. Programme support for immuno-proteomics-based diagnostics of infectious diseases. S.K. Sharma. Funded by the Department of Biotechnology, University of Delhi, South Campus for 3 years. Funds: Rs 36.47 lakh.
4. Evaluation of management strategy for pulmonary embolism. S.K. Sharma. Funded by the International Atomic Energy Agency (IAEA), Vienna, Austria for 3 years. Funds: Rs 1,74,334.
5. Genomic and molecular studies in patients with bronchial asthma: Collaborative project; Department of Medicine, AIIMS, New Delhi and Institute of Genomics and Integrated Biology, New Delhi. S.K. Sharma. Funded by the Department of Biotechnology, Ministry of Science and Technology, Government of India for 3 years. Funds: Rs 41.74 lakh.
6. Efficacy and safety of immunomodulator (*Mycobacterium w*) as an adjuvant therapy in Category II and multi-drug resistant pulmonary tuberculosis along with reduction in the duration of therapy and to study immunological parameters. S.K. Sharma. Funded by the Department of Biotechnology, Ministry of Science and Technology, Government of India and Cadila Pharmaceuticals Ltd for 3 years. Funds: Rs 98.95 lakh.
7. Identification of specific immuno-dominant epitopes using phage-displayed fragmented genome library of *Mycobacterium tuberculosis*. Department of Medicine and Delhi University (South Campus). S.K. Sharma. Funded by the Department of Biotechnology, Ministry of Science and Technology, Government of India for 3 years. Funds: Rs 85.89 lakh.
8. DOTS centre at a tertiary care teaching hospital. S.K. Sharma. Funded by World Health Organization-SEARO, New Delhi for 4.4 years. Funds: Rs 29.43 lakh.
9. A population-based study of diabetes and metabolic correlates of cardiovascular risk factors among Asian Indians (multi-site international collaboration study). Anoop Misra. Funded by Texas A&M University subcontracted by CDC, Atlanta, GA, USA for 1 year. Funds: Rs 15 lakh.
10. Double-blind randomized placebo-controlled clinical trial of herbal compound MA-579 in patients with non-alcoholic fatty liver diseases. Anoop Misra. Funded by Maharishi Ayurveda Products for 1 year. Funds: Rs 3.5 lakh.
11. Double-blind randomized placebo-controlled clinical trial of herbal compound MA-471 on metabolic profile of type 2 diabetic patients. Anoop Misra. Funded by Maharishi Ayurveda Products for 1 year. Funds: Rs 3.5 lakh.
12. Evaluation of the efficacy and safety of Wosulin Biphasic (Human Insulin Biphasic regular. NPH, 30:70) (rDNA origin) for control of hyperglycaemia in subjects with type 2 diabetes mellitus—phase IV study. Anoop Misra. Funded by Wockhardt Pharmaceutical Company for 1 year. Funds: Rs 3 lakh.
13. Pharmacogenetics of methotrexate in RA. Ashok Kumar. Funded by the Department of Biotechnology, Government of India for 3 years. Funds: Rs 91.72 lakh.
14. Design and development of personal use respiratory device for patients with respiratory failure. Randeep Guleria. Funded by the Ministry of Information Technology for 2 years. Funds: Rs 22.85 lakh.

15. Diagnostic approaches for the rapid and early diagnosis of *Mycoplasma pneumoniae* in asthmatics. Randeep Guleria. Funded by the Department of Science and Technology for 3 years. Funds: Rs 16 lakh.
16. Assessment of the efficacy of hydroxychloroquine as an alternative to corticosteroids in the treatment of sarcoidosis: A randomized control trial. Randeep Guleria. Funded by the Department of Science and Technology for 3 years. Funds: Rs 19.78 lakh.
17. Development of SNP Panel as a predictive marker for drug target identification and drug response of asthma patients in the Indian population. Randeep Guleria. Funded by the Institute of Genomics and Integrative Biology (IGIB) for 3 years.
18. Spectrum of pulmonary infection in HIV-positive patients: Indian scenario. Randeep Guleria. Funded by the National AIDS Control Organization for 3 years. Funds: Rs 27.79 lakh.
19. Impact of multidisciplinary intervention on health-related quality of life in ambulatory older subjects. A.B. Dey. Funded by ICMR for 2.5 years. Funds: Rs 3.15 lakh.
20. Herbal treatment of osteoarthritis and rheumatoid arthritis. R. Handa. Funded by CSIR for 4 years. Funds: Rs 1.2 lakh.
21. Effect of outdoor indoor air pollution on children's health in Delhi: A controlled study. G.C. Khilnani. Funded by the Ministry of Environment and Forest, Government of India for 2.5 years. Funds: Rs 11.19 lakh.
22. Assess human health risk associated with environmental exposure under three parameters, i.e. air pollution, water pollution and solid and hazardous waste and to evaluate the economic cost of health risk to enable ranking of particular environmental concerns on the basis of these health and economic risks. G.C. Khilnani. Funded by WHO for 2 years. Funds: Rs 5.52 lakh per year.
23. Air pollution and mortality in Delhi. G.C. Khilnani. Funded by the Health Effects Institute, Boston, USA for 1 year. Funds: US\$ 25,000.
24. To study the use of ASC antibodies in inflammatory bowel disease. Rajiva Gupta. Funded by AIIMS for 2 years. Funds: Rs 1 lakh.
25. Evaluating intestinal permeability and intestinal inflammation in patients with inflammatory arthritis and non-inflammatory arthritis. Rajiva Gupta. Funded by AIIMS for 2 years. Funds: Rs 1 lakh.
26. Evaluation of antibodies against cyclic citrullinated peptide (CCP) as diagnostic and prognostic marker of rheumatoid arthritis. Rajiva Gupta. Funded by AIIMS for 2 years. Funds: Rs 1 lakh.
27. Study of the relationships between growth hormone-insulin like growth factor-1 axis and hypothalamo-pituitary-adrenal axis with body composition, insulin sensitivity, subclinical inflammation and cytokines in Asian Indians. Naval K. Vikram. Funded by the Department of Science and Technology for 3 years. Funds: Rs 7.5 lakh.
28. Development of appropriate prevention and intervention strategies for non-communicable nutrition-related disorders among women in the post-reproductive period. Naval K. Vikram. Funded by the Department of Science and Technology, Government of India for 2 years. Funds: Rs 10 lakh.
29. Effect of feeding pectin on antioxidant status in patients with diabetes mellitus. Anant Mohan. Funded by AIIMS for 1 year. Funds: Rs 0.65 lakh.

## **Departmental Projects**

### ***Completed***

1. A comparative study of various host factors in nodal and other forms of abdominal tuberculosis.
2. Diagnostic usefulness of bone marrow examination in fever of unknown origin.
3. Prospective comparative study of the diagnostic methods of ventilator-associated pneumonia.
4. Role of technetium-99m-tetrafosmin lung scanning in the diagnosis and follow-up of active pulmonary tuberculosis.
5. Prospective evaluation of <sup>99m</sup>Tc ciprofloxacin in pyrexia of unknown origin.
6. Serum nitrite in ankylosing spondylitis.
7. Frequency of obstructive sleep apnoea in hypothyroid patients and effect of thyroxine supplementation therapy on sleep apnoea in hypothyroid patients.
8. Prevalence of bacteraemia and fungaemia in HIV/AIDS.
9. Neurological manifestation in HIV/AIDS.
10. Screening for primary antiphospholipid syndrome at AIIMS.
11. Study of the efficacy of pilocarpine in the treatment of sicca symptoms in Sjogren syndrome.
12. Role of monthly pamidronate infusions in the treatment of ankylosing spondylitis.
13. Efficacy and adverse effect profile of leflunomide in the treatment of rheumatoid arthritis.

### ***Ongoing***

1. Assessment of the quality of life in COPD.
2. Assessment of the quality of life in patients with lung cancer.
3. Bronchial hyperreactivity in patients with sarcoidosis.
4. Bronchial hyperactivity, respiratory muscle strength and dyspnoea in patients with mitral stenosis before and after balloon valvulotomy.
5. Clinicomicrobiological profile of common isolates at AIIMS in the Medicine wards and ICU, and risk factors associated with antimicrobial resistance.
6. Comparative study of bone marrow aspirate smear, culture and polymerase chain reaction (PCR) for the diagnosis of disseminated tuberculosis.
7. Effect of feeding pectin on blood sugar, hyperlipidaemia and antioxidant enzyme status.
8. Evaluation of current management of hospitalized patients with community-acquired pneumonia at AIIMS.
9. Evaluation of current management practices of HIV-infected individuals at AIIMS.
10. Lactate dehydrogenase and alkaline phosphate levels in bronchoalveolar lavage fluid of patients with sarcoidosis.
11. Nutritional status in lung cancer.

12. Predictors of mortality and morbidity in patients admitted with acute exacerbation of COPD.
13. Predictors of the requirement of mechanical ventilation and determinants of outcome in patients with COPD with acute or chronic respiratory failure: A prospective study.
14. Risk of ventilator-associated pneumonia and colonization of the lower respiratory tract in patients receiving mechanical ventilation.
15. Role of low-dose steroids in patients with septic shock. A randomized, double-blind study.
16. Smoking habits among medical students.
17. Study of haematological abnormalities in HIV/AIDS.
18. Assessment of bone health in older Indian women.
19. Determinants of the functional status of older Indians.
20. Cloning and expression of *M. pneumoniae* *PI* gene and its fragments to study their role in cytoadherence.
21. Molecular basis of dysregulation of interferon- $\gamma$  generation and function in tuberculosis patients.
22. To study the effect of oral pilocarpine in patients with Sjogren syndrome.
23. To study the subset of antiphospholipid syndrome defined by anti-beta glycoprotein 1 antibodies.
24. Screening for primary antiphospholipid syndrome at AIIMS.
25. Autonomic function in Indian fibromyalgia patients.
26. To study the role of synovectomy of the wrist in case of inflammatory arthritis of the wrist.
27. Bronchial hyperreactivity, respiratory muscle strength, and dyspnoea in patients with mitral stenosis before and after balloon valvulotomy.
28. Study of haematological abnormalities in HIV patients.
29. Study of the drug resistance patterns in medical wards and the ICU.
30. Spectrum of pulmonary infections in HIV-positive patients.
31. HIV seroprevalence among patients with tuberculosis.
32. Prevalence of pulmonary arterial hypertension in scleroderma patients.
33. Prevalence of osteoporosis in ankylosing spondylitis.
34. Clinical features of anti-beta-2 GP1-defined subset of APLS.
35. Peripheral neuropathy in rheumatoid arthritis.
36. Development of Continuing Medical Education (CME) programmes to strengthen AIDS treatment in India.
37. Lung function, respiratory muscle strength, nutrition and magnetic resonance spectroscopy study of brain in COPD subjects.
38. Nutritional status, anthropometric profiles, pulmonary function tests and respiratory muscle strength in patients with chronic obstructive pulmonary disease.

## **Collaborative Projects**

### ***Completed***

1. A study of 100 consecutive cases of mediastinal lymphadenopathy without parenchymal involvement on chest X-ray (with Surgery).
2. Evaluation of the role of video-assisted thoracoscopic surgery (VATS) in chest trauma (with Surgery).
3. *In vitro* MR spectroscopic evaluation of lymph nodes in patients with lymphadenopathy (with Surgery).
4. Autonomic dysfunction in SLE (with Physiology and Neurology).
5. Peripheral vascular disease in SLE (with Cardiac Radiology and Biostatistics).
6. Dyslipidaemia in rheumatoid arthritis (with Cardiac Biochemistry).
7. Heterogeneity of HLA B27 antigen in Indian patients with seronegative spondylarthritis syndrome and healthy subjects (with Tissue Typing and Immunogenetics).
8. Role of cytokines, anti-dsDNA antibodies and complement regulatory proteins in systemic lupus erythematosus (with Biochemistry).

### ***Ongoing***

1. Correlation between instrumental hand function evaluation and activities of daily living in patients with rheumatoid arthritis (with PMR).
2. Holmium radiosynovectomy in refractory arthritis (with Nuclear Medicine).
3. Revision of international criteria for Behcet disease (with Dr F. Davatchi, Iran, Multicentric Study).
4. Carotid intimo-medial thickness in rheumatoid arthritis (with Cardiac Radiology and Biostatistics).
5. Clinico-aetiological study of sepsis in Dermatology ward (with Dermatology and Venereology).
6. Diagnosis of visceral leishmaniasis by use of polymerase chain reaction (PCR) on patient blood (with Microbiology).
7. Patterns of nosocomial infections in Medicine ICU (with Microbiology).
8. Primary drug resistance studies by genotypic and phenotypic analysis in HIV-Indian subtype C-infected individuals (with Microbiology).
9. DNA amplification study by polymerase chain reaction (PCR) to detect subclinical *Pneumocystis carinii* pneumonia (PCP) infection and colonization in 'at risk' patients with or without respiratory symptoms (with Microbiology).
10. Determination of relative F reaction of integrated and unintegrated viral DNA and plasma viral RNA in HIV-1 infected individuals (with Microbiology).
11. A comparative study between pre- and post-operative pulmonary functions and diaphragmatic movements in congenital craniovertebral junction anomalies (with Neurosurgery).

12. A study to evaluate various parameters for early detection of ethambutol-induced optic neuropathy (with Ophthalmology).
13. Expression of major histocompatibility complex (MHC-I and II) and cell adhesion molecules in idiopathic inflammatory myopathies (with Pathology and Neurology).
14. Effect of yoga on pulmonary function, mast cell activation and quality of life in bronchial asthma: A randomized controlled trial (with Physiology).
15. Lung function and respiratory mechanics in patients with chronic renal failure before and after renal transplant (with Surgery).
16. Pulmonary tuberculosis: CT evaluation in active and post-treatment phases with limited MR correlation (with Surgery).

## PUBLICATIONS

### Journals

1. Ahluwalia G, Sharma SK. Dengue: Current trends and challenges—an Indian perspective. *J Assoc Physicians India* 2004;**52**:561–3.
2. Ahmed N, Alam M, Rao KR, Kauser F, Kumar NA, Qazi NN, Sangal V, Sharma VD, Das R, Katoch VM, Murthy KJ, Suneetha S, Sharma SK, Sechi LA, Gilman RH, Hasnain SE. Molecular genotyping of a large, multicentric collection of tubercle bacilli indicates geographical partitioning of strain variation and has implications for global epidemiology of *Mycobacterium tuberculosis*. *J Clin Microbiol* 2004;**42**:3240–7.
3. Arora V, Verma J, Dutta R, Marwah V, Kumar A, Das N. Reduced complement receptor 1 (CR1, CD35) transcription in systemic lupus erythematosus. *Mol Immunol* 2004;**41**:449–56.
4. Banga A, Khilnani GC, Sharma SK, Dey AB, Wig N, Banga N. A study of empyema thoracis and role of intrapleural streptokinase in its management. *BMC Infect Dis* 2004;**4**:19.
5. Batra J, Niphadkar PV, Sharma SK, Ghosh B. Uteroglobin-related protein 1(UGRP1) gene polymorphisms and atopic asthma in the Indian population. *Int Arch Allergy Immunol* 2005;**136**:1–6. Epub 2004 Dec 8.
6. Chaudhary VK, Kulshreshta A, Gupta G, Verma N, Kumari S, Sharma SK, *et al.* Expression and purification of recombinant 38-kDa and Mtb81 antigens of *Mycobacterium tuberculosis* for application in serodiagnosis. *Protein Exp Purif* 2005;**40**:169–76.
7. Chauhan R, Handa R, Das TP, Pati U. Over-expression of TATA binding protein (TBP) and p53 and autoantibodies to these antigens are features of systemic sclerosis, systemic lupus erythematosus and overlap syndromes. *Clin Exp Immunol* 2004;**136**:574–84.
8. Garg A, Misra A. Lipodystrophies: Rare disorders causing metabolic syndrome. *Endocrinol Metab Clin North Am* 2004;**33**:305–31.
9. Ghai S, Sharma S, Gupta R, Ghai S, Sharma SK, Dey AB. Unusual serosal calcifications in CREST syndrome. *Clinical Radiology Extra* 2004;**59**:91–3.
10. Guleria R, Mohan A. Prioritization of care in ICU. *Ann Nat Acad Med Sci* 2004;**6**:35–9.

11. Gupta R, Gulati N, Gupta A, Kumar A, Dinda AK, Sharma SK. Unusual presentation of lupus nephritis. *Rheumatol Int* 2005;**25**:130–2. Epub 2004 Oct 13.
12. Gupta R, Khaitan BK, Sharma SK. Systemic cutaneous amyloidosis. *J Assoc Physicians India* 2005;**53**:119.
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## **PATIENT CARE**

### **Special clinics**

#### ***Chest and Rheumatology Clinic***

|   |      |
|---|------|
| New cases registered                                | 233  |
| Number of follow-up visits                          | 6729 |
| Total   | 6962 |
| Intravenous pulses of steroids and cyclophosphamide | 412  |
| Joint and soft tissue injections                    | 1852 |

#### ***Adult Haematology Clinic***

|           |     |
|-----------|-----|
| New cases | 108 |
| Old cases | 661 |

#### ***Geriatric Clinic***

|           |     |
|-----------|-----|
| New cases | 186 |
| Old cases | 813 |

### **Laboratories**

#### ***Clinical Immunology Laboratory***

| <b>Test</b>   | <b>Number</b> |
|---|---------------|
| RF  | 4267          |
| ANA   | 5456          |
| Anti-dsDNA  | 1450          |
| C3  | 1144          |
| Serum IgG, IgA and IgM  | 951           |
| Cryoglobulins   | 137           |
| ANCA  | 1282          |
| aCL   | 3292          |
| Anti-LKM-1  | 877           |
| Nailfold capillary microscopy   | 25            |
| Synovial fluid examination<br>(including polarizing light microscopy) | 75            |
| CD4/CD8 counts (Flowcytometry)  | 88            |

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor S.K. Sharma** received the following honours: awarded the Hari Om Ashram Alembic Research Award—2004 in Clinical Research; Searle Oration—2005, award of the Association of Physicians of India; Member of the International Union Against Tuberculosis and Lung Diseases since 2003; Member of the Indian Society of Critical Care Medicine since 2004; Editor of the *Indian Journal of Chest Diseases and Allied Sciences* 2004; Editorial Board *Chest* (Indian edition) since 2000. He continued as Member, Advisory Board, *Journal of the Association of Physicians of India* since 2003; Member, Advisory Board, *Journal of Indian Academy of Clinical Medicine* since 2003; Member, Editorial Board, *Indian Journal of Tuberculosis* since 2003; Member, Editorial Board, *Lung India* since 2004; Member, International Advisory Board *Davidson's Principles and Practice of Medicine* (20th edition) 2004; Member, International Advisory Board *Clinical Medicine* by Kumar and Clark (6th edition) 2004. Professor Sharma continues to be a reviewer for the following journals: *American Journal of Respiratory and Critical Care Medicine*, *Respiratory Medicine*, *BMC (Biomedcentral) Infectious Disease*, *BMC (Biomedcentral) Pulmonary Medicine*, *Laboratory and Critical Medicine*, *Molecular and Cellular Proteomics*, *Indian Journal of Medical Research*, *Indian Journal of Chest Diseases and Allied Sciences*, *Journal of the Association of Physicians of India* and *Journal of Infection*, *Genetics and Evolution*, *Pharmacological Research* and *Clinica Chimica Acta*.

He is the Officer-in-charge of the DOTS Centre at AIIMS since 2001; Project advisor of an international project titled, 'Study of the relationship between recurrent lower respiratory tract infection, gastrooesophageal reflux and bronchial asthma in children' funded by the International Atomic Energy Agency, Vienna, Austria since 2001. He is the Chairman, National Task Force on Involvement of Medical Schools in TB Control in India since 2002; Member, Scientific Advisory Committee, Medicine Research Centre (Indian Council of Medical Research) since 2002; Member, National Consultation of Clinical Management of HIV/AIDS and use of antiretroviral therapy, National AIDS Control Organization, Ministry of Health and Family Welfare, Government of India since 2003; Member, Research Area Panel-Scientific Advisory Committee (RAP-SAC), Centre for DNA Fingerprinting and Diagnostics (CDFD), Hyderabad, since 2003; Advisor to assist the Personality Test Board (P.T. Board) in the UPSC for interviewing candidates who have qualified in the Combined Medical Service Examination since 2003; Member, Research Board of Advisors of the American Biographical Institute Inc. since 2003; Member, Joint Monitoring Mission (World Health Organization, Geneva; Ministry of Health and Family Welfare, Government of India, World Health Organization, SEARO, New Delhi, World Bank) of the TB Programme in India, New Delhi since 2003; Member, Indian Association of Sarcoidosis and other Granulomatous Disorders (IASOG) since 21 February 2003; Member, Project Review Committee, HIV-TB, Indian Council of Medical Research since March 2003; Advisor of an international project titled, 'Evaluation of Management Strategy for Pulmonary Embolism' funded by the International Atomic Energy Agency, Vienna, Austria since 2004; Member, Scientific Advisory Group, Division of Epidemiology and Communicable Diseases, Indian Council of Medical Research since 2004; Chairperson, Expert Group on Promoting Lung Health in India, International Union Against Tuberculosis and other Lung Disease since 2004; Member, Research Council, Institute of Genomics and Integrative Biology, Mall Road, University Campus, Delhi since 2004; Expert Member, Task Force on Bronchial Asthma, Central Council for Research in Ayurveda and Siddha (CCRAS) under the Ministry of Health and Family Welfare, Government of India, New Delhi since 2004; Member, Indian Society of Critical Care Medicine since 2004; Member, Indian College of Physician since 2005; Founder Member, World Lung Health (initiative of the International Union Against Tuberculosis and Lung Diseases India office) since 2005; Expert Member, Phase II Revised National TB Control Programme since 2005.

**Professor Rita Sood** was appointed as the UNICEF Consultant for review and revision of training modules for the PPTCT of HIV Programme of the Government of India; invited as an expert for a preparatory consultation meeting for the proposed South Asia Foundation for Advancement of International Medical Education and Research (FAIMER) Institute at CMC, Vellore; conferred membership of the National Academy of Medical Sciences; elected Member of the editorial board for the journal *Indian Academy of Clinical Medicine* published by IACM; elected Member of the International Advisory Panel of the 6th edition of the *Textbook of clinical medicine* published by Elsevier; nominated a member of the 'Credential Committee' of the Indian College of Physicians; selected for the FAIMER Institute fellowship (2005) by the FAIMER Institute, Philadelphia, USA.

**Professor Ashok Kumar** was awarded Senior Clinical Fellowship in Rheumatology at the Royal National Hospital for Rheumatic Diseases, Bath, UK for 2 months; elected editor of the *Journal of Indian Rheumatology Association* (to take over from 1 January 2006); elected Vice-President of the Delhi Rheumatology Association; awarded the Best Paper Award at the 20th Annual National Conference of the Indian Rheumatology Association held at Chennai, 26–28 November 2004.

**Dr Rohini Handa** delivered the prestigious Indian Rheumatology Association (IRA) Aventis Oration 'Lupus and lipids: Getting to the heart of the matter' at Chennai in November 2004; was elected Deputy Secretary General, Asia Pacific League of Associations for Rheumatology; elected Faculty Council Member of the Indian College of Physicians (2005–2007); elected Governing Body Member of the Indian Academy of Clinical Medicine (2004–2005); elected Governing Body Member of Bone and Joint Decade India (2004–2007); awarded Best Poster Award at the 20th Annual Conference of Indian Rheumatology Association, Chennai for a poster on 'Autonomic dysfunction in systemic lupus erythematosus'.

**Dr G.C. Khilnani** was elected Member of the Editorial Board of the *Indian Journal of Chest Diseases and Allied Sciences*, *Indian Journal of Critical Care Medicine*, *Current Medical Trends and Lung India*; and was awarded a Fellowship of the American College of Chest Physicians.

**Dr Sanjeev Sinha** was selected for the Fogarty International Fellowship for HIV/AIDS in the USA in the year 2004.

**Dr Uma Kumar** was awarded a travel bursary to attend the Annual European Congress of Rheumatology 'EULAR 2005' in Vienna.

**Dr Rajiva Gupta** was selected as an Adjunct member of CMET from the Department of Medicine; a Fellow of the Royal College of Physician, Glasgow; an international reviewer of Kelley's *Textbook of rheumatology* (7th ed); a Member of the International Advisory Board of *Davidson's principles and practice of medicine*; and member of the International Advisory Board of the *Textbook of clinical medicine*.

**Dr Naval K. Vikram** received the Best Research Paper award for a platform presentation at the 60th Annual Conference of the Association of Physicians of India, 22–25 January 2005, Mumbai (Type 2 diabetes mellitus in children, adolescents and young adults [(CAYA-T2DM)]: A multicenter collaborative case-control study from north India).

## **VISITING SCIENTISTS**

1. Dr Max Hirshkowitz, Associate Professor, Baylor College of Medicine, Houston, Texas, USA, delivered a lecture titled 'OSA: Current status' on 10 February 2005.
2. Mr Duncan Smith Rohrberg from Yale University, USA is doing research in the epidemiology of infectious diseases among inmates of Tihar jail, New Delhi for a period of 4 months.

## 9.18 Microbiology

### **Professor and Head**

Pradeep Seth

### **Professors**

J.C. Samantaray

S. Broor

U. Banerjee

### **Additional Professors**

R. Chaudhry

A. Kapil

B.R. Mirdha

B.K. Das

L. Dar

### **Associate Professors**

B. Dhawan

M. Vajpayee

I. Xess

### **Assistant Professors**

S. Sood

U.B. Singh (ad hoc)

## **EDUCATION**

### **Short-term training**

Short-term summer training was provided to 30 students (MSc and Medical Laboratory Technology) from various institutes/universities, including three students from Nepal and one from Sri Lanka.

Postgraduates from the Department of Microbiology of all three medical colleges of the University of Delhi (MAMC, LHMC, UCMS) underwent short-term training in newer microbiological techniques and postgraduate students of the Centre of Community Medicine, AIIMS were provided short-term training in Entomology.

### **Continuing Medical Education**

The faculty of the department delivered 16 lectures in various continuing medical education (CME) programmes, seminars, workshops and symposia. Twenty papers were presented in various national and international conferences.

### **National and International Conferences**

The department organized two National Symposia and two National Task Force Meetings.

## RESEARCH

### Funded Projects

#### Completed

1. Validation of PCR-based assays/kits developed at different centres for detection of food-borne pathogen—Human caliciviruses and *Salmonella typhi*. Shobha Broor and R. Chaudhry. Funded by DBT for 9 months (October 2003–June 2004). Funds: Rs 7.45 lakh.
2. Development of multiplex PCR for the detection of *Clostridium botulinum* and *Clostridium perfringens* in food samples. R. Chaudhry. Funded by ICMR for 2 years (March 2003–February 2005). Funds: Rs 8 lakh.
3. Development of molecular techniques for the rapid diagnosis of leptospirosis. R. Chaudhry. Funded by DBT for 3 years (April 2001–April 2004). Funds: Rs 16 lakh.
4. Molecular characterization of clinical isolates of *C. neoformans* strains. U. Banerjee. Funded by DBT for 3 years. Funds: Rs 15 lakh.
5. Community antimicrobial resistance pattern surveillance for *Streptococcus pneumoniae* and *Haemophilus influenzae*—an IBIS-INCLIN study. B.K. Das. Funded by USAID for 2 years (2004–2005). Funds: Rs 10 lakh.

#### Ongoing

1. Development of a multiplex real-time quantitative PCR assay to detect *Chlamydia pneumoniae*, *Legionella pneumophila* and *Mycoplasma pneumoniae* in community-acquired pneumonia. R. Chaudhry. Funded by DBT for 3 years (February 2005–2008). Funds: Rs 36 lakh.
2. Global Network Project for prevention of infection of Indian neonates. R. Chaudhry. Funded by NIH for up to 5 years (January 2002–March 2006). Funds: Rs 44,87,400.34.
3. Evaluation of disk-diffusion test for *in vitro* antifungal susceptibility test of yeast against fluconazole and voriconazole—a global multicentric study. U. Banerjee. Funded by Biomic for 1 year (2004–2005).
4. Role of *Ureaplasma urealyticum* in prematurity and diseases in newborn. B. Dhawan. Funded by DST for 3 years (May 2003–May 2006). Funds: Rs 13.09 lakh.
5. Aerobic and anaerobic bacteriological profile of diabetic, foot ulcers with special reference to methicillin-resistant *Staphylococcus aureus*. B. Dhawan. Funded by ICMR for 3 years (March 2003–February 2006). Funds: Rs 6,06,600.
6. Genetic variability among ‘G’ protein of respiratory syncytial virus (RSV) strains from India and studies of antibody differences to these ‘G’ proteins. Shobha Broor. Funded by the Indo-US Vaccine Action Programme, DBT for 3 years. Funds: Rs 34.22 lakh.
7. A multicentric study on detection and characterization of human caliciviruses (HuCVs) in acute gastroenteritis and food-borne disease. Shobha Broor. Funded by ICMR from 2003 to 2006. Funds: Rs 30.9 lakh.

8. Multisite monitoring of human influenza virus in India, Phase-1. Shobha Broor. Funded by ICMR, WHO and DHHS, USA from 2004 till date. Funds: Rs 3.63 lakh, Rs 11.2 lakh and US\$ 5000.
9. Molecular characterization of *H. influenzae* isolated from invasive and non-invasive cases. B.K. Das. Funded by DST for 3 years (2004–2006). Funds: Rs 24 lakh
10. DNA amplification study by polymerase chain reaction (PCR) to detect subclinical *Pneumocystis carinii* infections and colonization in ‘at risk’ patients with or without respiratory symptom. B.R. Mirdha. Funded by DST for 3 years (2004–2007). Funds: Rs 18 lakh.
11. Prevalence of intestinal coccidiosis and other parasitosis in ‘at risk’ individuals. B.R. Mirdha. Funded by AIIMS for 1 year (2005–2006). Funds: Rs 35,000.
12. Role of IL-7 in peripheral homeostasis and its relationship with CD4+ T cell level. M. Vajpayee. Funded by AIIMS for 1 year (April 2004–March 2005). Funds: Rs 0.50 lakh.
13. Evaluation of cytokine profile and Th1/Th2 shift. M. Vajpayee. Funded by ICMR for 2 years (January 2004–June 2006). Funds: Rs 28 lakh.
14. Study of *gyr A* gene mutation in *Salmonella typhi*. A. Kapil. Funded by DST for 3 years (February 2002–February 2005). Funds: Rs. 10.95 lakh.
15. Molecular, biological and serological detection of parameters of association of *Campylobacter jejuni* infection in children with Guillain–Barre syndrome. Veena Kalra, R. Chaudhary. Funded by DBT for 3 years (August 2003–August 2006). Funds: Rs 28 lakh.
16. Optimization of carbohydrate–protein conjugates as vaccine for prevention of enteric fever. S. Sood. Funded by the Ministry of Science and Technology, Department of Biotechnology, GOI for 3 years (December 2004–December 2007). Funds: Rs 36.58 lakh.
17. Congenital CMV infection in offspring of immune mothers. Shobha Broor. Funded by Indo-US project through ICMR.

## Departmental Projects

### Ongoing

1. A study on genetic heterogeneity in subgenomic fragments of 5' NCR core and NS5B regions of HCV strains from patients of chronic liver disease.
2. Variability in G protein of respiratory syncytial virus (RSV) strains isolated from a rural community near Delhi.
3. Multiplex RT-PCR and real-time RT-PCR for detection of viruses causing lower respiratory tract infection.
4. Antigenic and molecular characterization of influenza virus strains from acute respiratory infections.
5. Detection, genotyping and immune response to human metapneumovirus.
6. Development of a mutant and positive standard clone from 5' UTR of hepatitis C virus.
7. Detection and genotyping of human cytomegalovirus from neonates and renal transplant recipients.
8. Modulation of immune response in mice with Indian HIV-1 subtype C gene construct with immunostimulatory sequences and murine IL-2/Ig construct.

9. *Tat* gene of HIV-1 Indian subtype C as a vaccine candidate for immunogenicity testing in Balb/C mice.
10. *Nef* gene of HIV-1 Indian subtype C as a vaccine construct: Immunogenicity testing in Balb/C mice.
11. Evaluation of cell-mediated immune response in HIV-1 infected individuals in north India.
12. Characterization of T helper cell immune response to HIV-1 subtype C in infected individuals from India.
13. Immunogenicity testing in *Macaca radiata* of an HIV-1 DNA vaccine expressing the envelope and capsid antigens of Indian clade C virus.
14. Diagnostic and prognostic evaluation of leishmaniasis by PCR and a newly developed Buffy Coat Assay using patients' blood.

## **Collaborative Projects**

### ***Completed***

1. Identification of *Candida* spp isolated from blood (with Microbiology and Medicine).
2. Molecular biotyping of *Candida* spp (with AIIMS and JNU).
3. *Helicobacter pylori* genome project: A multicentre project (with Centre for DNA Fingerprinting and Diagnostics [CDFD]).

### ***Ongoing***

1. A comparative study of VIA, cytodiagnosis, HPV testing and colposcopy as tools for cervical cancer screening. Shobha Broor. Funded by DBT Indo-US project (with Obstetrics and Gynaecology).
2. Microscopy Centre for Directly Observed Therapy, Short-course (DOTS) for Employees' Health Scheme, All India Institute of Medical Sciences (with Medicine).
3. Vulvo-vaginal candidiasis in diabetic patients and its therapy (with Endocrinology).
4. Diagnostic usefulness of bone marrow examination in fever of unknown origin (with Medicine, Microbiology, Radiology).
5. Molecular analysis of mitochondrial dysfunction in Parkinson disease (with Neurology and Microbiology).
6. Diagnosis of visceral leishmaniasis by use of the polymerase chain reaction (PCR) on patient blood (with Medicine and Institute of Pathology).
7. Development and evaluation of reverse line blot assay based on sequence analysis of *rpoB* gene in rifampicin-resistant *Mycobacterium tuberculosis* isolates (with Medicine and L.R.S. TB Hospital).
8. Tuberculosis as an aetiological factor in liver abscess in adults (with Microbiology and Medicine, Dr R.M.L. Hospital).

9. Study of emerging parasitic agents (intestinal coccidia and microsporidia) in aetiologies of malabsorption syndrome (with Microbiology, Gastroenterology and HNU, and Paediatrics).

## PUBLICATIONS

### Journals

1. Agarwal G, Awasthi S, Kabra SK, Kaul A, Singhi S, Walter SD; ISCAP Study Group. Three day versus five day treatment with amoxicillin for non-severe pneumonia in young children: A multicentre randomised controlled trial. *BMJ* 2004;**328**:791.
2. Amatya R, Vajpayee M, Kaushik S, Kanswal S, Pandey RM, Seth P. Lymphocyte immunophenotype reference ranges in healthy Indian adults: Implications for management of HIV/AIDS in India. *Clin Immunol* 2004;**112**:290–5.
3. Banerjee U, Datta K, Casadevall A. Serotype distribution of *Cryptococcus neoformans* in patients in a tertiary care center in India. *Med Mycol* 2004;**42**:181–6.
4. Bhatia V, Ahuja V, Das B, Bal C, Sharma MP. Use of imidazole-based eradication regimens for *Helicobacter pylori* should be abandoned in north India regardless of *in vitro* antibiotic sensitivity. *J Gastroenterol Hepatol* 2004;**19**:619–25.
5. Biju SS, Ahuja A, Khar RK, Chaudhry R. Formulation and evaluation of an effective pH balanced topical antimicrobial product containing tea tree oil. *Pharmazie* 2005; **60**:208–11.
6. Broor S, Bhupatiraju AV, Broor SL, Ghosh D, Anand R, Rai A, *et al.* Analysis of genetic variability of Indian isolates of hepatitis C virus. *Arch Virol* 2004;**149**:1185–92.
7. Broor S, Ghosh D, Mathur P. Molecular epidemiology of rotaviruses in India. *Indian J Med Res* 2003;**118**:59–67.
8. Chakravarti P, Samantaray JC, Malik S. Mixed infection with three intestinal coccidian parasite in an AIDS patient. *J Assoc Physicians India* 2004;**52**:975.
9. Chaudhry R, Nisar N, Hora B, Chirasani SR, Malhotra P. Expression and immunological characterization of the carboxy-terminal region of the P1 adhesin protein of *Mycoplasma pneumoniae*. *J Clin Microbiol* 2005;**43**:321–5.
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12. Kabra SK, Broor S, Lodha R, Maitreyi RS, Ghosh M. Can we identify acute severe viral lower respiratory tract infection clinically? *Indian Pediatr* 2004;**41**:245–9.
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14. Lattif AA, Banerjee U, Prasad R, Biswas A, Wig N, *et al.* Susceptibility pattern and molecular type of species-specific *Candida* in oropharyngeal lesions of Indian human immunodeficiency virus-positive patients. *J Clin Microbiol* 2004;**42**:1260–2.

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16. Mahanty S, Kapil A, Das BK. Seasonality and antimicrobial resistance pattern of *Vibrio cholerae* in a tertiary care hospital of north India. *Trop Doct* 2004;**34**:249–51.
17. Malik S, Khan S, Das A, Samantaray JC. Plasmodium lactate dehydrogenase assay to detect malarial parasites. *Natl Med J India* 2004;**17**:237–9.
18. Mathur P, Arora NK, Kapil A, Das BK. *Streptococcus pyogenes* meningitis. *Indian J Pediatr* 2004;**71**:423–6.
19. Mathur P, Kapil A, Das B. Prevalence of group G and group C streptococci at an Indian tertiary care centre. *Indian J Med Res* 2004;**120**:199–200.
20. Mathur P, Samantaray JC, Mangraj S. Smouldering focus of kala-azar in Assam. *Indian J Med Res* 2004;**120**:56.
21. Mathur P, Samantaray JC. The first probable case of platelet transfusion-transmitted visceral leishmaniasis. *Transfus Med* 2004;**14**:319–21.
22. Mohanty S, Kapil A, Das BK. Enterococcal bacteraemia in a tertiary care hospital of north India. *J Indian Med Assoc* 2005;**103**:31–2, 34, 36–7.
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30. Shawgi S, Kumar L, Kochupillai V, Shukla NK, Broor S, Kapila K, *et al.* Evaluation of pulmonary infiltrates in patients with haematological malignancies using fiberoptic bronchoscopy and bronchoalveolar lavage. *Indian J Med Pediatr Oncol* 2004;**24**:10–21.
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32. Singhal R, Mohanty S, Sood S, Das B, Kapil A. Profile of bacterial isolates from patients with ventilator associated pneumonias in a tertiary care hospital in India. *Indian J Med Res* 2005;**121**: 63–4.
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34. Vajpayee M, Kanswal S, Wig N, Seth P. Evaluation of CD4 counts and percentages in the HIV infected Indian population. *Southeast Asian J Trop Med Public Health* 2004;**35**:144–6.
35. Xess I, Mathur P, Sirka CS, Banerjee U. Comparison of trypsin treatment method and standard laboratory technique for diagnosis of dermatomycosis. *Southeast Asian J Trop Med Public Health* 2004;**35**:396–8.
36. Xess I, Mohanty S, Jain N, Banerjee U. Prevalence of *Aspergillus* species in clinical samples isolated in an Indian tertiary care hospital. *Indian J Med Sci* 2004;**58**:513–19.

### Chapters in Books

1. Dar L. Detection and identification of *Mycobacterium tuberculosis* and other mycobacteria: CME Monograph Series VIII. In: Singh MK (ed). *Diagnostic dermatopathology: A manual*. New Delhi: National Academy of Medical Sciences; 2005:24–27.
2. Mirdha BR, Chumber S. Microbiological aspects of surgical infections. In: Chumber S (ed). *Surgery for undergraduates*. New Delhi: Jaypee Publications; 2004:226–41.

### PATIENT CARE

#### Bacteriology

##### *Bacteriology laboratory*

##### Clinical samples

|   |               |
|---|---------------|
| Urine   | 22,834        |
| Blood   | 25,814        |
| Throat swabs, sputum, BAL, tracheal secretions, ET tips, etc. | 10,061        |
| Pus, tissue, catheter tips, wound swabs, etc.                 | 10,115        |
| CSF and sterile fluids  | 7,417         |
| Stool   | 604           |
| <b>Total</b>  | <b>76,845</b> |

##### Antimicrobial susceptibility tests

|   |               |
|---|---------------|
| Urine   | 3,833         |
| Blood   | 2,764         |
| Throat swabs, sputum, BAL, tracheal secretions, ET tips, etc. | 4,024         |
| Pus, tissue, catheter tips, wound swabs, etc.                 | 3,591         |
| CSF and sterile fluids  | 688           |
| Stool   | 148           |
| <b>Total</b>  | <b>15,048</b> |

## **Sexually transmitted diseases**

### *Clinical samples*

|                                      |            |
|--------------------------------------|------------|
| Expressed prostatic secretions (ESP) | 73         |
| High vaginal swab (HVS)              | 288        |
| Semen                                | 260        |
| Urethral discharge                   | 20         |
| Vaginal discharge                    | 82         |
| <b>Total</b>                         | <b>723</b> |

### *Antimicrobial susceptibility testing*

|                    |            |
|--------------------|------------|
| EPS                | 16         |
| HVS                | 87         |
| Semen              | 22         |
| Urethral discharge | 05         |
| Vaginal discharge  | 01         |
| <b>Total</b>       | <b>131</b> |

## **Hospital infection control**

|   |       |
|---|-------|
| Samples processed as a part of surveillance | 5,000 |
|---|-------|

## **Water bacteriology**

|                         |       |
|-------------------------|-------|
| Total samples processed | 1,145 |
|-------------------------|-------|

## **Quality control**

### *Internal quality control*

Sterility testing of media and ability to support growth  
Biochemical tests  
Antibiotic discs

### *External quality assessment*

Participation in WHO quality control and proficiency testing project  
Participation in external quality control programme of IBIS study  
Participation in ICMR proficiency testing on antimicrobial resistance monitoring

## **Anaerobic bacteriology**

|  |     |
|--|-----|
| Anaerobic culture                              | 767 |
| Antimicrobial sensitivity                      | 41  |
| Stool for <i>Clostridium difficile</i> toxin   | 154 |
| Referred anaerobic culture (identification)    | 10  |
| Toxigenicity test for <i>Botulinum</i> toxin   | 1   |
| Referred stool samples for <i>C. difficile</i> | 5   |
| Anaerobic strains supplied to other hospitals  | 10  |
| <i>Leptospira</i> culture                      | 40  |

|   |              |
|---|--------------|
| <i>Leptospira</i> serology for IgM antibodies                     |              |
| — by ELISA  | 90           |
| — by Leptodipstick/Leptodridot                                    | 80           |
| <i>Chlamydia trachomatis</i> serology for IgG-antibodies by ELISA | —            |
| <i>Mycoplasma pneumoniae</i> IgM antibodies by ELISA              | 111          |
| <i>Mycoplasma pneumoniae</i> culture                              | 92           |
| <i>Mycoplasma hominis</i> and <i>Ureaplasma</i> culture           | 311          |
| Detection of <i>Mycoplasma</i> as contaminant in cell lines       | 67           |
| PCR for <i>Salmonella typhi</i>                                   | 20           |
| PCR for <i>Bacteriodes fragilis</i>                               | 15           |
| <b>Total</b>  | <b>1,814</b> |

### **Tuberculosis laboratory**

|                         |       |
|-------------------------|-------|
| Smear and culture       | 8,974 |
| Drug susceptibility     | 10    |
| PCR                     | 2,465 |
| Rapid culture by Bactec | 98    |

### **Parasitology**

#### ***Special serological investigations***

|   |     |
|---|-----|
| <i>Toxoplasma gondii</i> serology for IgG antibodies by ELISA | 198 |
| Hydatid diseases serology by indirect haemagglutination test  | 273 |
| Amoebic serology for IgG antibodies by ELISA                  | 184 |

#### ***Investigations for malaria***

|  |       |
|--|-------|
| Fluorescent staining (Acridine Orange) | 2,747 |
| Giemsa staining                        | 2,747 |
| Quantitative Buffy Coat (QBC) Assay    | 841   |
| HRP-II antigen detection               | 333   |

#### ***Investigations for kala-azar***

|  |     |
|--|-----|
| Fluorescent staining (Acridine Orange) | 219 |
| Giemsa staining                        | 219 |
| Quantitative Buffy Coat (QBC) Assay    | 102 |
| Kala-azar serology                     | 235 |
| Aldehyde test                          | 190 |

#### ***Examination of stool samples***

|   |       |
|---|-------|
| Direct and concentration  | 2,996 |
| Culture   | 21    |
| Modified acid-fast and special staining for intestinal coccidia | 2,996 |
| Tissue specimens (homogenates)                                  | 29    |

|   |               |
|---|---------------|
| <b><i>Examination of aspirates</i></b>                              |               |
| Sputum, pus and others  | 108           |
| <b><i>Investigations for filariasis</i></b>                         |               |
| Direct and concentration  | 129           |
| Acridine Orange   | 129           |
| Thin and thick smear  | 129           |
| QBC   | 129           |
| Hetrazan provocative test   | 17            |
| <b><i>Other investigations</i></b>                                  |               |
| Broncho-alveolar lavage (BAL), induced sputum                       | 35            |
| Cerebrospinal fluid examination for free living amoebae (FLA)       | 30            |
| <b>Total</b>  | <b>15,036</b> |
| <b>Virology</b>   |               |
| Viral culture and identification (HSV, dengue, etc.)                | 78            |
| Viral serology  |               |
| HIV   | 5,369         |
| Rubella IgG   | 195           |
| Rubella IgM   | 230           |
| CMV IgM   | 71            |
| HSV (serum and CSF)   | 465           |
| Measles (serum and CSF)   | 259           |
| Dengue  | 233           |
| Polymerase chain reaction   |               |
| CMV   | 109           |
| HSV   | 82            |
| CMV antigen detection (pp65)  | 53            |
| Miscellaneous (staining for inclusions, etc.)                       | 7             |
| <b>Total</b>  | <b>7,073</b>  |
| <b>Mycology</b>   |               |
| Total number of samples processed for isolation of pathogenic fungi | 7,047         |
| Mycotic serology  |               |
| <i>In vitro</i> antifungal susceptibility test                      |               |
| Maintenance of stock cultures                                       |               |
| Inter-institution teaching support by provision of stock cultures   |               |
| Outside strains for identification                                  | 50            |
| <b><i>Serological tests</i></b>                                     |               |
| Aspergillosis   | 70            |
| Histoplasmosis  | 10            |
| Cryptococcosis  | 300           |

***Antifungal susceptibility: Candida***

*Cryptococcus*

|                |     |
|----------------|-----|
| Disc diffusion | 450 |
| Microdilution  | 400 |

**Immunology**

CD4/CD8 counts by flow cytometer

VDRL 9,700

Widal 5,500

ASLO 190

**Total 15,390**

***HIV testing***

Total number of HIV testing done 5,067

Total number of CD4 and CD8 estimations  
(in patients with HIV/AIDS and others) 1,097

**AWARDS AND HONOURS**

**Dr R. Chaudhry** received the ‘Indian Association Mycoplasmaology Fellow Award’ for the year 2004–2005 by the Indian Association of Mycoplasmatologists for contribution in the research of *Mycoplasma pneumoniae*. Dr Chaudhry was elected as an executive member in the Indian Association of Medical Microbiologists (Delhi Chapter).

**Professor Uma Banerjee** was selected as research associate in AITRP programme of Albert Einstein College of Medicine, New York, USA. She developed the animal model of subclinical cryptococcal infection.

**VISITING SCIENTISTS**

1. Dr Nalin Rastogi, Professor, Unite Tuberculose et Mycobacteries, Institut Pasteur de Guadeloupe, France.
2. Dr Pinaki Panigrahi, Associate Professor, Department of Pediatrics, University of Maryland, USA from 8 to 9 November 2004.
3. Dr Judith Johnson, Department of Microbiology, University of Maryland, USA from 12 to 14 April 2005.

## 9.19 Nephrology

### Professor and Head

S.C. Dash

### Professor

S.C. Tiwari

### Additional Professor

S.K. Agarwal

### Associate Professors

D. Bhowmik

S. Gupta

### Assistant Professor

S. Mahajan (ad hoc)

## EDUCATION

### Long-term training

The department mainly runs a 3-year DM Nephrology course for post-MD (Medicine) candidates, who get selected by AIIMS on the basis of merit. Postgraduates in Internal Medicine are posted on a rotational basis for a short period of 1–2 months.

### Short-term training

During 2004–2005 3 senior consultants, 1 from Bir Hospital, Kathmandu (Nepal) and 2 from ESI Hospital, Delhi, underwent short-term training in Nephrology—Dialysis and Transplantation at the department. Five technicians and 2 nurses from ESI Hospital and Hamdard Hospital in Delhi also took training in haemodialysis and nursing, respectively.

### Continuing Medical Education

The department organized the 1st National Congress on Prevention of Chronic Kidney Disease in India on 26–27 February 2005.

### *Lectures delivered*

#### **Dr S.C. Dash**

- Public lecture on ‘Prevention of kidney disease’; Kanpur Rotary Club; 6 November 2004.
- ‘Cardiovascular risk in chronic kidney disease’; Annual Conference of the Indian Society of Nephrology, BHU, Varanasi; 18–19 November 2004.
- ‘Renal vasculitis’; Orissa Nephrology Forum, Bhubaneswar; December 2004.
- ‘Hypertension and kidney: Current perspective’; Sri Venkateswar Medical College, Tirupati; 5–6 February 2005.

- ‘Hypertension epidemiology and magnitude of renal damage’ and ‘Tubulo interstitium and its role in CRF’; First National Congress on Prevention of Kidney Disease, New Delhi; 26–27 February 2005.
- ‘ANCA-associated renal vasculitis’; Delhi Nephrology Society Annual CME; 12 March 2005.

### **Dr S.C. Tiwari**

- ‘Recent advances in diabetic nephropathy’; Northern Chapter of ISN Conference, Shimla; April 2004.
- ‘Management of acute renal failure’ at Raipur; April 2004.
- ‘Current scenario: Renal replacement therapy’; Eastern Chapter of ISN, Patna; October 2004.
- C.P.C. at Sir Ganga Ram Hospital, February 2005.
- ‘The key issues for progression of CKD’; 1st National Conference on Prevention of CKD, New Delhi; February 2005.

### **Dr S.K. Agarwal**

- Invited lecture on ‘Management of diabetic nephropathy’; TUNNDA course, New Delhi; 1 July 2004.
- Invited talk on ‘Renal and water handling in health and liver disease’; 4th Current Perspective in Liver Diseases—2004’ organized jointly by AIIMS and PGIMER; 6 November 2004.
- Invited talk on ‘Differentiating hepatorenal syndrome from renal parenchymal disease’; 14th Asian Pacific Association for the Study of the Liver Conference, New Delhi; 11–15 December 2004.
- Invited talk on ‘Prevention of CKD: Indian perspective’; Medicine Update 2004, Delhi; 16–18 December 2004.
- Invited talk on ‘Diabetic nephropathy’; Nephrovision-III 2005, organized by East Delhi Branch, DMA, New Delhi; 20 February 2005.

### **Dr D. Bhowmik**

- Guest lecture in mid-summer Peritoneal Dialysis Self-training Programme organized under the auspices of Delhi Nephrology Society; 8 August 2004.
- Guest lecture in Renal Sciences Update organized under the auspices of Delhi Nephrology Society; 31 January 2005.
- Guest lecture on Stress: Integral Health Management Symposium at Sri Aurobindo Ashram, New Delhi; 20 September 2004.

### **Dr S. Mahajan**

- ‘Screening and management of diabetic nephropathy’; 10th North Zone Chapter of the Indian Society of Nephrology, Shimla; 28 April 2004.
- Guest lecture on ‘Role of icodeatrin in peritoneal dialysis prescription’; Mid-summer Peritoneal Dialysis Self-training Programme organized under the auspices of Delhi Nephrology Society, New Delhi; August 2004.

## **RESEARCH**

### **Funded Projects**

1. Prevalence of chronic renal failure in India. S.K. Agarwal. Funded by ICMR for 3 years. Funds: Rs 12 lakh (approx.).
2. Impact of isolation on incidence of hepatitis C virus infection in patients on maintenance haemodialysis. S.K. Agarwal. Funded by ICMR for 3 years. Funds: Rs 12 lakh (approx.).

### **Departmental Projects**

#### ***Completed***

1. Study of hepatitis B and hepatitis C infections in primary glomerular diseases.
2. Post renal transplant tuberculosis: Comparison between double and triple immunosuppression.
3. Estimation of anti-oxidant in blood in renal and liver diseases.
4. The effect of haemodialysis on the bioavailability of rifampicin in chronic renal failure.
5. Genetic polymorphism of complement receptor-2 in relation to pathophysiology.

#### ***Ongoing***

1. Assessment of sympathetic hyperactivity in chronic kidney disease.
2. Cardiovascular morbidity in chronic kidney disease.
3. Effect of therapy with ketoanalogue of essential aminoacids on certain metabolic alterations caused by chronic kidney disease.
4. Pulmonary function test and respiratory muscle strength in patients with CRF.
5. Dyslipidaemia and anthropometry in patients with CRF.
6. Tuberculosis prophylaxis in patients on maintenance haemodialysis.
7. Open label study of effect of lamivudine in hepatitis B renal transplant recipients.
8. Clinicopathological correlation of HBV and HCV infections in patients on renal replacement therapy.
9. Sleep studies in renal failure.
10. An open label clinical trial to assess the efficacy and tolerability of sevelamer in the treatment of hyperphosphataemia in ESRD patients.
11. Effect of pretransplant nutritional status on early post-transplant infections and renal allograft survival.

## Collaborative Projects

### Ongoing

1. Monitoring T cell activation markers and cytokine production following allogeneic renal transplantation (with Transplant Immunology).
2. Impact of protocol biopsy on the outcome of renal transplant (with Pathology).
3. A study of psychiatric morbidity and quality of life in patients before and after renal transplantation (with Psychiatry).
4. Diagnosis of cytomegalovirus pneumonitis in immunocompromised patients at AIIMS (with Microbiology).
5. Detection and genotyping of human cytomegalovirus from neonates and renal transplant recipients (with Microbiology).

## PUBLICATIONS

### Journals

1. Agarwal SK, Gupta S, Dash SC, Bhowmik D, Tiwari SC. Prospective randomised trial of isoniazid prophylaxis in renal transplant recipient. *Int Urol Nephrol* 2004;**36**:425–31.
2. Agarwal SK, Kalra V, Dinda A, Gupta S, Dash SC, Bhowmik D, *et al.* Fibrosing cholestatic hepatitis in renal transplant recipient with CMV infection: A case report. *Int Urol Nephrol* 2004;**36**:433–5.
3. Bhowmik D, Tiwari SC. Selective Cox 2 inhibition should be used judiciously in the presence of renal impairment. *J Indian Med Assoc* 2004;**102**:225.
4. Sivasankar B, Dinda AK, Tiwari SC, Srivastava LM, Das N. Modulation of urinary CR1 in systemic lupus erythematosus. *Lupus* 2004;**13**:228–33.
5. Dash SC, Bhowmik D, Agarwal SK, Gupta S, Tiwari SC. Obstructive uropathy as cause of rickets: Often a forgotten entity. *Indian J Pediatr* 2005;**72**:265.
6. Guleria S, Aggarwal S, Bansal VK, Varma MC, Kashyap L, Tandon N, Mahajan S, Bhowmik D, Agarwal SK, Mehra NK, Misra MC. The first successful simultaneous pancreas–kidney transplant in India. *Natl Med J India* 2005;**18**:18–19.
7. Kalra V, Mahajan S, Agarwal SK, Tiwari SC. Cardiorenal disease: A clinical intersection. *Int Urol Nephrol* 2005;**37**:175–84
8. Kalra V, Mahajan S, Kesarwani PK. Rare presentation of Wilson’s disease: A case report. *Int Urol Nephrol* 2004;**36**:289–91.
9. Katyal M, Tiwari SC, Kumar A, Dinda AK, Arora V, Kumar R, *et al.* Association of complement receptor 1 (CR1, CD35, C3b/C4b receptor) density polymorphism with glomerulonephritis in Indian subjects. *Mol Immunol* 2004;**40**:1325–32.
10. Mahajan S, Boulton H, Gokal R. A trial of subcutaneous administration of darbepoetin alfa once every other week for the treatment of anaemia in peritoneal dialysis patients. *J Nephrol* 2004;**17**:687–92.

11. Mahajan S, Tiwari SC, Kalra V, Bhowmik DM, Agarwal SK. Factors affecting the use of peritoneal dialysis among the ESRD population in India: A single-center study. *Perit Dial Int* 2004;**24**:538–41.
12. Oreopoulos DG, Lobbedez T, Gupta S. Peritoneal dialysis: Where is it now and where is it going? *Int J Artif Organs* 2004;**27**:88–94.
13. Panigrahi A, Deka R, Bhowmik D, Tiwari SC, Mehra NK. Immunological monitoring of posttransplant allograft sensitization following living related donor renal transplantation. *Transplant Proc* 2004;**36**:1336–9.
14. Prakash S, Dash SC, Kumar A, Dinda AK, Agarwal SK, Acharya SK. Frequency and role of hepatitis-C virus and type II cryoglobulinemia in membranoproliferative glomerulonephritis. *J Assoc Physicians India* 2004;**52**:451–3.
15. Rotter RC, Naicker S, Katz IJ, Agarwal SK, Valdes RH, Kaseje D, *et al.* On behalf of the ISN-COMGAN Bellagio Study Group 2004. Demographic and epidemiological transition in the developing world: Role of albuminuria in the early diagnosis and prevention of renal and cardiovascular disease. *Kidney Int* 2004;**66**:S32–S37.
16. Uttley L, Vardhan A, Mahajan S, Smart B, Hutchison A, Gokal R. Decrease in infections with the introduction of mupirocin cream at the peritoneal dialysis catheter exit site. *J Nephrol* 2004;**17**:242–5.
17. Wani M, Kalra V, Agarwal SK. Low birth weight and its implication in renal disease. *J Assoc Physicians India* 2004;**52**:649–52.

### Abstracts

18. Gupta S, Agarwal SK, Gupta N, Abirami K, Bhowmik D, Guleria S, *et al.* Post renal transplant glucose intolerance: Secretary defect or insulin resistant. *Transplant Proc* 2004;**36** (Suppl. 1):S614.
19. Gupta S, Sunder S, Seth S, Choddha DS, Masih J, Agarwal SK, *et al.* Impact of residual renal function assessed by echocardiography and tissue Doppler imaging in patients on CAPD/CCPD. *Perit Dial Int* 2005;**25**:S8.
20. Mahajan S, Tiwari SC, Kalra V, Agarwal SK, Bhowmik DM. Factors affecting the utilization of PD at a tertiary-care state-run hospital in India. *Perit Dial Int* 2004;**24** (Suppl. 2):S74.
21. Panigrahi A, Deka R, Bhowmik D, Dash SC, Guleria S, Mehta SN, *et al.* Immunological predictors of graft rejection: A comparative study in live related renal transplantation. *Transplant Proc* 2004;**36** (Suppl. 1):601S.

### Chapters in Books

1. Gupta S, Chumber S. Fluids, electrolytes and acid–base balance. In: Chumber S (ed). *Essentials of surgery*. New Delhi: Jaypee Brothers; 2005:42–67.

## **PATIENT CARE**

### **Facilities available in the department**

1. Haemodialysis
2. Acute peritoneal dialysis
3. Continuous ambulatory peritoneal dialysis
4. Vascular access (minor surgery)
5. Plasmapheresis/plasma exchange
6. CRRT (C II ICU, AB8 and CTVS)
7. Renal transplants
8. Renal laboratory tests

### **Specialized treatment procedures**

The department provides specialty care for seriously ill patients with acute and chronic kidney failure. It conducts the following specialized treatment procedures:

- Haemodialysis 6,504
- Intermittent peritoneal dialysis 546
- Continuous ambulatory peritoneal dialysis 65
- Plasmapheresis/plasma exchange 14
- Continuous renal replacement therapy (venovenous/arteriovenous haemofiltration and haemodialysis) 8
- Femoral vein catheterization 625
- Preparation for kidney transplantation 96

Patients of end-stage kidney failure are treated, dialysed and selected for kidney transplantation on the basis of suitable tests. The work-up for patients and their donors is done by a variety of selection or rejection tests.

### **Other therapeutic procedures (Day-care treatment)**

- Intravenous pulse therapy for immunosuppressants and iron therapy 622
- Jugular and subclavian catheter insertion 159
- AV fistula 38
- SV shunt 30
- Kidney biopsy 280
- Laboratory facilities for early and late diagnosis of renal diseases
  - Number of patients 9,732
  - Number of investigations 84,726

### **Clinics**

- Renal clinic (6 days per week) 11,237
- Renal transplant counselling clinic (3 days per week) 1,251
- Renal transplant clinic (2 days per week) 4,334
- Indoor admissions (long and short) 3,091
- Nephrology consultations 2,181

## Community service

The faculty members participated in 7 telemedicine and 3 public lecture programmes.

## AWARDS AND HONOURS

**Dr S.C. Dash** was elected as the President of the Indian Society of Nephrology; Associate Editor, *American Journal of Nephrology* (Indian edition). He received the Rashtriya Rattan Award by the International Study Circle.

**Dr S.C. Tiwari** continued to be the Editor of the *Journal of Renal Sciences*.

**Dr S.K. Agarwal** was awarded the Bhartiya Chikitsa Rattan Puraskar by the International Study Circle; the award was given by Dr Bishma Narain Singh, Ex-Governor of Tamil Nadu and Assam. He was invited to represent India in a conference titled 'Prevention of Renal Diseases in the Emerging World: Towards Global Health Equity', organized by the International Society of Nephrology and Rockefeller Foundation in Italy on 15–19 March 2004. He was invited to be the Medical Adviser to the *Rastriya Navodaya* newspaper. He was elected as the Joint Secretary of the Indian Society of Organ Transplantation for 2005–2006. He was invited to be a member of the 'Chronic Kidney Diseases (CKD) Collaborative Group' for making guidelines for the management of CKD in India by the Indian Society of Nephrology; 'Screening and Evaluation of Early Kidney (SEEK) Disease' study in collaboration with the Harvard Medical School, USA; Ethics Committee of the Central Council for Research in Homeopathy, an autonomous body under the Ministry of Health and Family Welfare, Government of India in January 2005; and Task Force formed by the Rajiv Gandhi Foundation to draft 'Guidelines for Authorization Committee' and an 'Incentive Policy for the Donors' in relation to organ transplantation in India.

## VISITING SCIENTISTS

1. Professor J.J. Weening, President of the International Society of Nephrology (Netherlands), spoke on 'Recent classification of lupus nephritis'.
2. Professor John Dirks, Chairman, Commission for Global Advancement of Nephrology (Canada), visited the department in March 2005.
3. Professor Joane Borgman, Department of Medicine, University of Toronto, Toronto, Canada delivered a lecture on 'Thoughts on measuring adequacy of peritoneal dialysis' on 15 January 2005.
4. Professor A.K. Mandal, University of Florida, USA delivered a talk on 'Renal protection/deterioration with ace inhibitor therapy in HT and DM' on 25 November 2004.
5. Professor Pravin C. Singhal, Chief of Nephrology and Professor of Medicine, Albert Einstein College of Medicine, USA delivered a lecture on 'Immunomodulation of renal injury in unilateral ureteral obstruction model' on 9 December 2004.

## 9.20 Nuclear Magnetic Resonance

### Professor and Head

N.R. Jagannathan

### Associate Professor

Rama Jayasundar (on long leave)

### Scientist II

Jasbeer Dhawan  
(on leave)

Uma Sharma

## EDUCATION

### Postgraduate

The faculty participated in and delivered several lectures in the MBiotechnology programme of the Department of Biotechnology.

### Short- and long-term training

Thirteen students from various institutes/universities underwent training in MRI and MRS techniques.

### Continuing Medical Education

The department organized a 4-day International Workshop on Biomedical MR from 12 to 15 January 2005. The workshop was attended by Professor R.R. Ernst, a Nobel Laureate, and 27 other renowned scientists from abroad.

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

## RESEARCH

### Funded Projects

#### *Completed*

1. Assessment of human cerebral tumours using MRS techniques. Rama Jayasundar. Funded by the Department of Science and Technology (DST) for 4 years and 6 months (December 1996–May 2001). Funds: Rs 18.3 lakh.
2. *In vivo* magnetic resonance (MR) study of human breast carcinoma. N.R. Jagannathan. Funded by the Department of Science and Technology (DST) for 5 years (August 1997–September 2002). Funds: Rs 13.84 lakh.
3. Synthesis and solution conformational studies of bioactive peptides containing dehydroamino acids by NMR spectroscopy. N.R. Jagannathan. Funded by the Department of Science and Technology (DST) for 5 years (August 1997–September 2002). Funds: Rs 14.28 lakh.

### ***Ongoing***

1. Evaluation of the role of proton MR spectroscopy in the non-invasive detection, assessment of treatment response and tumour metabolism in breast cancer. N.R. Jagannathan. Funded by the Department of Science and Technology, Government of India for 3 years (June 2003–June 2006). Funds: Rs 18.8 lakh.
2. Upgradation of the existing animal MR scanner for biomedical research. N.R. Jagannathan. Funded by the Department of Science and Technology, Government of India for 5 years (November 2004–November 2009). Funds: Rs 365 lakh.

### **Departmental Projects**

#### ***Completed***

1. *In vivo* MRI and MRS: Contrast enhancement strategies and studies of biochemical mediators in animal models.

### **Collaborative Projects**

#### ***Completed***

1. MRI/MRS studies of brain metabolites in cretins and hypothyroidism patients (with Endocrinology and Metabolism).
2. *In vivo* MRS of brain in patients with schizophrenia (with Psychiatry).
3. *In vivo* MR spectroscopy of spine (with Orthopaedics).
4. MRI/MRS studies of brain metabolism in malnutrition (with Paediatrics).
5. Excitotically created lesions models of rat brain (with Physiology).
6. MRI and MRS study of dietary carcinogenesis in animal models (with University of Madras).
7. Injectable contraceptive for the male: Studies on animal models (with IIT, Delhi).
8. MRI of rat liver carcinoma: Assessment of the anticancer activity of anticancer drugs (with Biochemistry).
9. MRI in osteoporosis (with JNU, Delhi).
10. Evaluation of the effect of a new intravascular male contraceptive RISUG on seminal plasma composition using NMR techniques (with IIT, Delhi).
11. Evaluation of seminal plasma metabolites in male infertility (with IIT, Delhi).
12. Simultaneous electrophysiology and fMRI during sleep and awake stages in animal model (with Physiology).

### ***Ongoing***

1. MRI/MRS studies to evaluate brain metabolism in sleep apnoea patients (with Medicine).
2. *In vivo* MRS of muscle in non-insulin dependent diabetes mellitus patients (with Medicine).
3. *In vivo* MRI/MRS of prostate cancer (with Urology and Pathology).

4. Analysis of (brain and breast) tumour tissue extracts (with Surgery and CN Centre).
5. High-resolution <sup>1</sup>H MR spectroscopy of lymph nodes (with Surgery).
6. *In vitro* MR spectroscopy studies of tissue extracts of prostate tumours (with Urology).
7. High-resolution NMR spectroscopy of blood plasma in patients with cardiovascular disease (with Cardiology).
8. *In vivo* and *in vitro* NMR spectroscopy of soft tissue sarcoma (with IRCH).
9. *In vitro* MR spectroscopy of colon tissue in patients of Crohn disease (with Gastrointestinal Surgery).
10. Evaluation of neuroprotective agents in animal model of stroke using diffusion MRI (with Pharmacology).

## PUBLICATIONS

### Journals

1. Barthwal R, Awasthi P, Monica, Kaur M, Sharma U, Srivastava N, *et al.* Structure of DNA sequence d-TGATCA by two-dimensional nuclear magnetic resonance spectroscopy and restrained molecular dynamics. *J Struct Biol* 2004;**148**:34–50.
2. Degaonkar MN, Raghunathan P, Jayasundar R, Jagannathan NR. Determination of relaxation characteristics during preacute stage of lysophosphatidyl choline-induced demyelinating lesion in rat brain: An animal model of multiple sclerosis. *Magn Reson Imaging* 2005;**23**:69–73.
3. Kumar R, Kumar M, Jagannathan NR, Gupta NP, Hemal AK. Proton magnetic resonance spectroscopy with a body coil in the diagnosis of carcinoma prostate. *Urol Res* 2004;**32**:36–40.
4. Pal K, Sharma U, Gupta DK, Pratap A, Jagannathan NR. Metabolite profile of cerebrospinal fluid in patients with spina bifida: A proton magnetic resonance spectroscopy study. *Spine* 2005;**30**:E68–E72.
5. Sharma U, Jagannathan NR. Potential of *in vivo* magnetic resonance spectroscopy (MRS) in medicine. *Proc Indian Natl Sci Acad* 2004;**70**:555–77.
6. Sharma U, Kumar V, Jagannathan NR. Role of magnetic resonance imaging (MRI), MR spectroscopy (MRS) and other imaging modalities in breast cancer. *Natl Acad Sci Lett* 2004;**27**:373–85.
7. Sharma U, Mehta A, Seenu V, Jagannathan NR. Biochemical characterization of metastatic lymph nodes of breast cancer patients by *in vitro* <sup>1</sup>H magnetic resonance spectroscopy: A pilot study. *Magn Reson Imaging* 2004;**22**:697–706.
8. Sinha S, Misra A, Kumar V, Jagannathan NR, Bal CS, Pandey RM, *et al.* Proton magnetic resonance spectroscopy and single photon emission computed tomography study of the brain in asymptomatic young hyperlipidaemic Asian Indians in north India show early abnormalities. *Clin Endocrinol (Oxf)* 2004;**61**:182–9.

### Abstracts

9. Chaturvedi PK, Sharma U, Kumar A, Jagannathan NR. Potential of *in vitro* proton MRS of seminal plasma in the diagnosis of male infertility diseases. *Proc Intl Soc Magn Reson Med* 2004;**11**:2015.

10. Kar M, Shukla NK, Jagannathan NR, Deo SVS, Sharma U, Dattagupta S, Kumar V. *In vivo* magnetic resonance spectroscopic (MRS) evaluation and its histopathological correlation in diagnosing soft tissue sarcomas. *Indian J Med Res* 2005;**121** (Suppl.):58.
11. Kumar V, Kumar R, Thulkar S, Das SC, Gupta NP, Jagannathan NR. Correlation of [Cit/Cho+ Cr] ratio with ADC values in prostate cancer patients with PSA level in the range of 4 to 20 ng/ml. *Proc Intl Soc Mag Reson Med* 2004;**11**:2047.

## Books

1. Jagannathan NR (ed). *Recent advances in MR imaging and spectroscopy*. New Delhi: Jaypee Brothers; 2005.
2. Jagannathan NR (ed). *Biomedical magnetic resonance: Proceedings of the international workshop on biomedical MR*. New Delhi: Jaypee Brothers; 2005.

## Chapters in Books

1. Jagannathan NR. Basic principles of magnetic resonance imaging (MRI) and spectroscopy (MRS). In: Jagannathan NR (ed). *Recent advances in MR imaging and spectroscopy*. New Delhi: Jaypee Brothers; 2005:1–34.
2. Kumar M, Seenu V, Julka PK, Srivastava A, Kapila K, Rath GK, Jagannathan NR. Proton MR spectroscopy of human breast cancer. In: Jagannathan NR (ed). *Recent advances in MR imaging and spectroscopy*. New Delhi: Jaypee Brothers; 2005:312–44.
3. Sharma U, Atri S, Sharma MC, Sarkar C, Jagannathan NR. Role of MR spectroscopy in the study of skeletal muscle tissues—a review. In: Jagannathan NR (ed). *Recent advances in MR imaging and spectroscopy*. New Delhi: Jaypee Brothers; 2005:398–427.
4. Sharma U, Jagannathan NR. Applications of MR spectroscopy in neuromuscular diseases. In: Jagannathan NR (ed). *Biomedical magnetic resonance: Proceedings of the international workshop on biomedical MR*. New Delhi: Jaypee Brothers; 2005:313–29.

## PATIENT CARE

The old MR scanner available at the department was upgraded with a new state-of-the-art MRI scanner in November 2004. The department provides 12 hours per day of MRI scanning for patients. The details of the number of patients scanned during the year are:

|                              |               |
|------------------------------|---------------|
| Clinical diagnostic MRI scan | 3657 patients |
| MRS research                 | 289 patients  |

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Jagannathan** was elected as a member of the executive council of the International Conference of Magnetic Resonance in Biological Systems (ICMRBS) for a period 10 years from 2004 onwards.

**Professor Richard R. Ernst**, Nobel Laureate from Switzerland, visited the department during 11–13 January 2005 and delivered a lecture on ‘My life in science and my passions’.

## **VISITING SCIENTISTS**

Professor Richard R. Ernst, Switzerland; Professor John C. Gore, USA; Dr Stefan Roell, Germany; Professor A.M. Thomas, USA; Professor W. Grodd, Germany; Professor R.J. Ordidge, UK; Professor P.B. Barker, USA; Professor Michel T. Nelson, USA; Professor P. Cozzone, France; Professor D.G. Gadian, UK; Professor R.J. Gillies, USA; Professor Z.M. Bhujwala, USA; Professor J.R. Griffiths, UK; Professor Michael Garwood, USA, Dr K. Schenker, Switzerland; Dr S. Sarkar, USA; Dr Ian C.P. Smith, Canada; Dr E.D. Becker, USA; Professor S. Ogawa, Japan; Professor James W. Lewis, USA.

## 9.21 Nuclear Medicine

### Professor and Head

A. Malhotra

### Professors

G.P. Bandopadhyaya

G.S. Pant

### Additional Professor

C.S. Bal

### Associate Professor

Rakesh Kumar

### Assistant Professor

C.D. Patel

## EDUCATION

### Continuing Medical Education

The faculty of the department participated in and delivered 22 lectures in continuing medical education programmes, workshops, symposia and annual conferences during the year.

## RESEARCH

### Funded Projects

#### *Completed*

1. Multimedia development of computer-aided learning in nuclear medicine on quantitative renography (completed on 14 March 2004). G.S. Pant. Funded by IAEA, Vienna for 4 years. Funds: US\$ 16,000.

#### *Ongoing*

1. Radiation dose to relations of patients of thyrotoxicosis and Ca-thyroid treated with I-131. G.S. Pant. Funded by AERB, Mumbai for 3 years. Funds: Rs 6 lakh (approx.).
2. Radiation-induced chromosome aberrations and their use in biodosimetry. G.S. Pant. Funded by AERB, Mumbai for 3 years. Funds: Rs 15 lakh (approx.).
3. Incidence of micronuclei in differentiated thyroid cancer treated with low dose of I-131 for remnant ablation. G.S. Pant. Funded by ICMR for 1 year. Funds: Rs 1.23 lakh.
4. Role of radionuclide techniques in the management of neonatal hydronephrosis. Rakesh Kumar. Funded by the International Atomic Energy Agency (IAEA), Vienna, Austria from 2001 till date. Funds: US\$ 5000 per annum.

## PUBLICATIONS

### Journals

1. Bajpai M, Kumar A, Tripathi M, Bal CS. Dorsal lumbotomy incision in paediatric pyeloplasty. *ANZ J Surg* 2004;**74**:491–4.
2. Bajpai M, Pratap A, Tripathi M, Bal CS. Posterior urethral valves: Preliminary observations on the significance of plasma renin activity as a prognostic marker. *J Urol* 2005;**173**:592–4.
3. Bal CS, Kumar A, Chandra P, Dwivedi SN, Mukhopadhyaya S. Is chest X-ray or high-resolution computed tomography scan of the chest sufficient investigation to detect pulmonary metastasis in pediatric differentiated thyroid cancer? *Thyroid* 2004;**4**:217–25.
4. Bal CS, Kumar A, Pant GS. Radioiodine dose for remnant ablation in differentiated thyroid carcinoma: A randomized clinical trial in 509 patients. *J Clin Endocrinol Metab* 2004;**89**:1666–73.
5. Barai S, Bandopadhyaya G, Arun M, Halnaik D. Severe duodenogastroesophageal reflux in an 11-year-old girl diagnosed by hepatobiliary imaging with (99m) Tc-mebrofenin. *Hellenike Pyrenike Iatr* 2004;**7**:142–3.
6. Barai S, Bandopadhyaya GP, Bhowmik D, Patel CD, Malhotra A, Agarwal P, *et al.* Prevalence of vesicoureteral reflux in patients with incidentally diagnosed adult hypertension. *Urology* 2004;**63**:1045–8; discussion 1048–9.
7. Barai S, Bandopadhyaya GP, Chumber S, Gupta DK, Patel CD, Dhanapati H. Role of skeletal scintigraphy in soft tissue sarcoma: Improving the diagnostic yield. *J Postgrad Med* 2004;**50**:180–3; discussion 183–4.
8. Barai S, Bandopadhyaya GP, Julka PK, Dhanapathi H, Haloi AK, Seith A. Cerebellar medulloblastoma presenting with skeletal metastasis. *J Postgrad Med* 2004;**50**:110–12.
9. Barai S, Bandopadhyaya GP, Julka PK, Kale SS, Kumar R, Malhotra A, *et al.* Evaluation of Tc99m-glucoheptonate for SPECT functional imaging of medulloblastoma. *J Clin Neurosci* 2005;**12**:36–8.
10. Barai S, Bandopadhyaya GP, Julka PK, Kale SS, Malhotra A, Haloi AK, *et al.* Evaluation of 99mTc-L-methionine brain SPECT for detection of recurrent brain tumor: A pilot study with radiological and pathological correlation. *Acta Radiol* 2004;**45**:649–57.
11. Barai S, Bandopadhyaya GP, Julka PK, Malhotra A, Bal CS, Dhanapathi H. Imaging using Tc99m-tetrofosmin for the detection of the recurrence of brain tumour: A comparative study with Tc99m-glucoheptonate. *J Postgrad Med* 2004;**50**:89–93.
12. Barai S, Bandopadhyaya GP, Julka PK, Naik KK, Haloi AK, Kumar R, *et al.* Role of Tc-glucoheptonic acid brain single photon emission computed tomography in differentiation of recurrent brain tumour and post-radiation gliosis. *Australas Radiol* 2004;**48**:296–301.
13. Barai S, Bandopadhyaya GP, Kumar R, Malhotra A, Halanaik D. Multiple ectopic thyroid masses in a hypothyroid child. *Pediatr Radiol* 2004;**34**:584.
14. Barai S, Bandopadhyaya GP, Malhotra A, Agarwal S, Kumar R, Dhanapathi H. Does I-131-MIBG underestimate skeletal disease burden in neuroblastoma? *J Postgrad Med* 2004;**50**:257–60; discussion 260–1.

15. Barai S, Bandopadhyaya GP, Naik K, Haloi AK. Is brain SPECT a suitable modality for evaluation of postradiotherapy posterior fossa brain tumours? A comparative evaluation with contrast enhanced computed tomography. *J Indian Med Assoc* 2004;**102**:477–9, 486.
16. Barai S, Bandopadhyaya GP, Patel CD, Rathi M, Kumar R, Bhowmik D, *et al.* Do healthy potential kidney donors in India have an average glomerular filtration rate of 81.4 ml/min? *Nephron Physiol* 2005;**101**:21–6.
17. Barai S, Bandopadhyaya GP, Raj P, Julka PK, Kumar R, Malhotra A, *et al.* Role of skeletal scintigraphy in advanced retinoblastomas. *Acta Radiol* 2004;**45**:313–16.
18. Barai S, Kumar R, Haloi AK, Dhanpati, Banopadhyaya G, Malhotra A. Bone scan demonstrating metastasis to the breast from an ovarian carcinoma and a review of the literature. *Clin Nucl Med* 2004;**29**:167–70.
19. Barai S, Kumar R, Mehta SN, Dinda AK, Yadav R, Bandopadhyaya GP, *et al.* Diagnostic significance of semiquantitative and quantitative parameters of Tc99m-ethylenedicystine renal allograft scintigraphy. *Int Urol Nephrol* 2003;**35**:451–6.
20. Battle JC, Zhuang H, Potenta S, Kumar R, Alavi A. Hodgkin disease in the sinonasal region detected by FDG PET. *Clin Nucl Med* 2004;**29**:449.
21. Bhargava P, Kumar R, Zhuang H, Charron M, Alavi A. Catheter-related focal FDG activity on whole body PET imaging. *Clin Nucl Med* 2004;**29**:238–42.
22. Bhargava P, Zhuang H, Kumar R, Charron M, Alavi A. Iatrogenic artifacts on whole-body F-18 FDG PET imaging. *Clin Nucl Med* 2004;**29**:429–39.
23. Bhargava P, Zhuang H, Kumar R, Yu JQ, Alavi A. Ring-shaped FDG uptake in the right lower lung: Is it always a tumor? *Clin Nucl Med* 2004;**29**:324–5.
24. Bhatia V, Ahuja V, Das B, Bal C, Sharma MP. Use of imidazole-based eradication regimens for *Helicobacter pylori* should be abandoned in north India regardless of *in vitro* antibiotic sensitivity. *J Gastroenterol Hepatol* 2004;**19**:619–25.
25. Bhatnagar P, Bhatnagar A, Kishan S, Bal CS, Saran RK, Sinha S, *et al.* Unusual widespread metastatic presentation of mixed medullary-follicular thyroid carcinoma. *Clin Nucl Med* 2004;**29**:303–5.
26. Bural GG, Mavi A, Kumar R, El-Haddad G, Srinivas SM, Alavi A. FDG PET imaging as a potential modality for detecting atherosclerotic lesions in the major arteries. *J Nucl Cardiol* 2004;**11**:S23–S24.
27. Bural GG, Kumar R, Mavi A, Alavi A. Reflux esophagitis secondary to chemotherapy detected by serial FDG-PET. *Clin Nucl Med* 2005;**30**:182–3.
28. Bural GG, Mavi A, Kumar R, Alavi A. FDG uptake in intercostal muscles is an indicator of severe respiratory disease. *Clin Nucl Med* 2004;**29**:807–8.
29. Chaudhary A, Ahuja V, Bal CS, Das B, Pandey RM, Sharma MP. Rank order of success favors longer duration of imidazole-based therapy for *Helicobacter pylori* in duodenal ulcer disease: A randomized pilot study. *Helicobacter* 2004;**9**:124–9.
30. Dasan JB, Hadi M, Karthikeyan G, Choudhury S, Thomas EJ, Kumar R, *et al.* Reproducibility of regional left ventricular wall thickening obtained by gating resting and redistribution 201Tl myocardial SPECT studies. *Nucl Med Commun* 2004;**25**:487–93.

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### Abstracts

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### PATIENT CARE

Radioiodination of MIBG for diagnostic and therapeutic application has been standardized.

### Radionuclide investigations

|         |      |
|---------|------|
| DMSA    | 2101 |
| LLEC    | 3000 |
| HIDA    | 384  |
| Thyroid | 590  |

|  |      |
|--|------|
| DRCG   | 360  |
| DTPA   | 56   |
| Liver  | 15   |
| Sentinel lymph node                                | 15   |
| Meckel diverticulum                                | 25   |
| Tetrofosmin (non-cardiac)                          | 80   |
| Blood pool study                                   | 37   |
| MIBI   | 10   |
| GER  | 512  |
| Testicular scan                                    | 3    |
| Bone scan  | 4300 |
| Brain SPECT ECD                                    | 1300 |
| Others   | 200  |
| Stress thallium (cardiac)                          | 1381 |
| Stress tetrofosmin (cardiac)                       | 400  |
| MUGA study   | 1638 |
| Lung perfusions                                    | 108  |
| Miscellaneous                                      | 24   |
| RAIU   | 680  |
| GFR  | 1200 |
| RBC mass   | 79   |
| RBC survival                                       | 61   |
| MIBG (diagnostic)                                  | 480  |
| Whole body scan (diagnostic and post-therapy scan) | 1010 |

### **Nuclear medicine therapy**

|                                 |     |
|---------------------------------|-----|
| Hyperthyroidism                 | 178 |
| Thyroid cancer                  | 450 |
| MIBG therapy                    | 18  |
| Pain palliation: Strontium      | 17  |
| Phosphorus 32 and Strontium 153 | 50  |
| Radiosynovectomy                | 25  |

### **AWARDS AND HONOURS**

**Dr G.S. Pant** was awarded Brig. S.K. Mazumdar Oration by the Society of Nuclear Medicine, India at the 36th Annual Conference of SNM(I) at Mysore, December 2004. Dr Pant was a faculty in a workshop on Advanced Image Processing of SPECT Studies at Tygerberg Hospital, Cape Town, South Africa, 19–23 April 2004.

**Dr Rakesh Kumar** was given the ‘Young Investigator Award’ at the 51st Annual meeting of the Society of Nuclear Medicine, Philadelphia, USA, June 2004.

## 9.22 Obstetrics and Gynaecology

### Professor and Head

Suneeta Mittal

### Professors

Alka Kriplani

Sunesh Kumar

### Additional Professors

Deepika Deka

Neerja Bhatla

K.K. Roy

Renu Misra

### Associate Professors

Vatsla Dadhwal

Neena Malhotra

### Assistant Professors

Nutan Agarwal

J.B. Sharma

Neeta Singh

Sonika Agarwal (ad hoc)

Pradeep Garg (ad hoc)

## EDUCATION

### Undergraduate, Postgraduate and Paramedical

The Delhi Post Graduate Medical Education Forum (Department of Obstetrics and Gynaecology) organizes monthly meetings for postgraduate training since 2001. These are held to supplement training of postgraduates in clinical and surgical skills, a 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 the training of postgraduates.

### Short- and long-term training

The department offers short- and long-term training in various subspecialty subjects such as Gynaecological Endoscopic Surgery, Maternal–Foetal Medicine, Gynaecological Oncology, and Gynaecological and Obstetrics Ultrasonography. During 2004–05 we had 5 fellows undergoing training in subspecialty subjects and 14 short-term trainees.

### Long-term Fellowship

- Dr Joginder Singh from Command Hospital, Lucknow—Training in foetal medicine from September 2003 to October 2004.
- Dr Vandana Saini from New Delhi—Training in gynaecology endoscopy from 24 June 2004 to 23 December 2004.

### ***Short-term Fellowship***

- Dr Geeta Jain from Dr S.T.M. Forest Hospital, Uttaranchal—Training in laparoscopic and hysteroscopy surgery from 1 June 2004 to 15 July 2004.
- Dr Sarita Kataria—Training in endoscopy from 17 August 2004 to 30 October 2004.
- Dr Vineeta Agarwal from Ghaziabad—Training in ultrasonography from 15 March 2005 to 14 May 2005.

### ***Elective training***

- Mr Theodoros Fredericus Vink from the Netherlands—from 9 August 2004 to 8 October 2004.
- Mr Jerven Dirk Paar from the Netherlands—from 9 August 2004 to 8 October 2004.
- Dr Gayatri from Jawaharlal Nehru Medical College, Wardha—from 4 October 2004 to 11 October 2004.
- Dr Mohneet from Jawaharlal Nehru Medical College, Wardha—from 4 October 2004 to 11 October 2004.
- Dr Bhagyashree from Jawaharlal Nehru Medical College, Wardha—from 4 October 2004 to 11 October 2004.
- Dr Rashmii from Jawaharlal Nehru Medical College, Wardha—from 4 October 2004 to 11 October 2004.
- Dr Santoshi from Jawaharlal Nehru Medical College, Wardha—from 4 October 2004 to 11 October 2004.
- Dr Sudhanshu from Jawaharlal Nehru Medical College, Wardha—from 4 October 2004 to 11 October 2004.
- Dr N.A. Huda from Abu Dhabi—from 30 October 2004 to 12 November 2004.
- Dr Kuldeep Birdi, UK—from 17 January 2005 to 28 January 2005.
- Dr Valerie Ghislaine Niche, the Netherlands—from 14 February 2005 to 18 February 2005.
- Dr Vinita Jain, USA—from 7 February 2005 to 4 March 2005.
- Dr Deepika Gupta, Delhi—from 11 January 2005 to 10 March 2005.
- Dr Anu Sirpal, UK—from 18 February 2005 to 23 March 2005.

### **Continuing Medical Education**

The department organizes a national CME in Obstetrics and Gynaecology in collaboration with the National Board of Examinations and National Academy of Medical Sciences every six months. It is a unique, innovative modular teaching programme in which the MD syllabus is covered in six modules. Modules IV and V were held on 21–22 August 2004 and 22–23 January 2005, respectively. The CME modules are attended by more than 200 delegates and are accredited by the Delhi Medical Council.

The following lectures were delivered:

***Dr Suneeta Mittal***

- ‘Infertility: Case presentation’; CME for postgraduates organized by MAMC and AOGD; 8 August 2004.
- ‘Screening and early diagnosis of genital cancers’; National CME in Obstetrics and Gynaecology, Module IV, AIIMS; 21–22 August 2004.
- ‘Shoulder dystocia’ and ‘Managing delivery of second twin’; ICOG CME on Common obstetrical and gynaecological problems, Rewari; 5 December 2004.
- Panel discussion on ‘Medicolegal aspects in Obstetrics and Gynaecology’; ICOG CME, Rewari; 5 December 2004.
- ‘Endometriosis’; National CME in Obstetrics and Gynaecology, Module V, AIIMS, New Delhi; 22–23 January 2005.

***Dr Alka Kriplani***

- ‘DUB—case presentation’; CME for postgraduates organized by MAMC and AOGD, Delhi; 7 August 2004.
- ‘Malignant lesions of the uterus’; National CME in Obstetrics and Gynaecology, Module IV, AIIMS, New Delhi; 21–22 August 2004.
- ‘Managing PCOS’; CME organized by East Delhi Gynaecologists Forum, Delhi; 14 January 2005.
- ‘Advances in contraception’; CME organized by Meerut Obstetrics and Gynaecological Society, Meerut; 18 November 2004.
- ‘Abnormal uterine bleeding’; National CME in Obstetrics and Gynaecology, Module V, AIIMS, New Delhi; 23 January 2005.

***Dr D. Deka***

- ‘Prenatal diagnostic techniques’; National CME in Obstetrics and Gynaecology, Module IV, AIIMS, New Delhi; 21–22 August 2004.
- ‘Recent advances in Rh isoimmunization’; CME organized by the North Delhi Obstetrics and Gynaecology Study Group, Delhi; 9 September 2004.
- ‘Coping with early pregnancy loss—a practical approach’ and a panelist on ‘Managing a 32-week pregnancy with loss of liquor’; ICOG CME organized by the Rewari Obstetrics and Gynaecological Society, Rewari; 5 December 2004.

***Dr Renu Misra***

- ‘Diabetes in pregnancy’; Seminar/Panel discussion at the National CME in Obstetrics and Gynaecology, Module IV, AIIMS, New Delhi; 21–22 August 2004.
- ‘Carcinoma vulva’; National CME in Obstetrics and Gynaecology, Module IV, AIIMS, New Delhi; 21–22 August 2004.

- ‘Hormone replacement therapy’; National CME in Obstetrics and Gynaecology, Module V, AIIMS, New Delhi; 22–23 January 2005.

***Dr K.K. Roy***

- ‘Obstetrics ultrasound’; National CME in Obstetrics and Gynaecology, Module IV, AIIMS, New Delhi; 21–22 August 2004.
- ‘Fibroid uterus and adenomyosis—diagnosis and medical management’; National CME in Obstetrics and Gynaecology, Module V, AIIMS, New Delhi; 22–23 January 2005.

***Dr Vatsla Dadhwal***

- ‘Pregnancy with renal disease’; National CME in Obstetrics and Gynaecology, Module IV, AIIMS, New Delhi; 21–22 August 2004.
- ‘Management of Rh negative and Rh isoimmunized pregnancy’; National CME in Obstetrics and Gynaecology, Module V, AIIMS, New Delhi; 22–23 January 2005.

***Dr Neena Malhotra***

- ‘Mock OSCE’; National CME in Obstetrics and Gynaecology, Module IV, AIIMS, New Delhi; 21–22 August 2004.
- ‘Antepartum haemorrhage’; National CME in Obstetrics and Gynaecology, Module V, AIIMS, New Delhi; 22–23 January 2005.

***Dr Nutan Agarwal***

- ‘Obstetrical management of liver disease unique to pregnancy’; National CME in Obstetrics and Gynaecology, Module IV, AIIMS, New Delhi; 21–22 August 2004.
- ‘Multiple pregnancy’; National CME in Obstetrics and Gynaecology, Module V, AIIMS, New Delhi; 22 January 2005.

**National and International Conferences**

***National***

- Symposium on Integrated National Management of Pregnancy and Childbirth: Making Pregnancy Safest, by WHO-SEARO, Geneva and AIIMS; 24 July 2004.
- Symposium on Haematological Disorders in Obstetrics; 3 October 2004.
- Workshop on Reproductive Health Library during ACOG Conference at Aurangabad; 6–9 January 2005.
- Symposium-cum-workshop on Urogynaecology; 21–22 November 2004.
- Perinatology Update by ISOPARB (North Zone and AIIMS); 13 January 2005.
- National Consensus for Expanding Access to Emergency Contraception; 12 February 2005.
- RCOG Workshop on Urogynaecology, AIIMS; 7 March 2005.
- Clinical Meeting of Delhi Society for Prenatal Diagnosis and Therapy (DESPAT), AIIMS, New Delhi; 12 March; 2005.

### ***International***

- WHO Expert Group meeting on Post-ovulatory methods of fertility regulation at Ranikhet; 13–17 February 2005.

### ***Lectures delivered***

#### **Dr Suneeta Mittal**

##### *National*

- ‘*Garbhpaat aur usase jude vibhinn pahaloo*’ at Prasar Bharati, Akashvani, New Delhi; 22 April 2004.
- ‘Dummy doll of all cephalic presentations’, ‘Occipito-posterior presentations’ and ‘Face and brow presentations’; Intensive Postgraduate Revision Course in Obstetrics and Gynaecology for MRCOG II, MD, DNB students; 11 June 2004.
- ‘Contraception made easy’; Women Doctors’ Convention, National Seminar on Population Stabilization organized by the Delhi Medical Association, Delhi; 1 July 2004.
- ‘Spectrum of haematological diseases’; National Symposium on Haematological Disorders in Obstetrics, New Delhi; 3 October 2004.
- ‘Menstrual problems in adolescent girls’; 26th Annual Conference of AOGD, New Delhi; 9–10 October 2004.
- ‘Urogynaecological problems in India: Gravity of the situation’; Symposium-cum-Workshop on Urogynaecology, AIIMS; 21–22 November 2004.
- ‘Teenage pregnancy and contraception’; Scientific feast, ITPAH-2004, New Delhi; 25–28 November 2004.
- ‘Medical abortion guidelines’; Annual Conference of NARCHI, Delhi; 5 December 2004.
- ‘Infections complicating pregnancy outcome’; 92nd Indian Science Congress 2005 (ISC), Ahmedabad; 4 January 2005.
- ‘Hypertensive disorders in pregnancy’; 21st All India Congress of ISOPARB organized by the North Zone Society, Lucknow; 4–6 February 2005.
- ‘Hormonal contraception’; AICC–RCOG–North Zone, National Annual Conference on Evidence-based Clinical Practice Guidelines, New Delhi; 5–6 March 2005.
- ‘Complications of hysteroscopic surgery’; AMASICON 2005, AIIMS, New Delhi; 19 March 2005.
- ‘Emergency contraception’; 33rd Annual Conference of the Mumbai Obstetric and Gynaecological Society; 27 March 2005.

##### *International*

- ‘Medical and surgical abortion: Service delivery requirements—best conditions for both medical and surgical abortion, differences between the two and problems in providing both of them given the differences’; International Forum on Policies, Programme and Services organized by the International Consortium for Medical Abortion at Johannesburg, South Africa; 17–20 October 2004.

- ‘Contraception after medical abortion’; International Consensus Conference on Non-surgical (medical) abortion in the first trimester and unresolved issues related to regimens and service delivery, Bellagio; 1–5 November 2004.

## **Dr Alka Kriplani**

### *National*

- ‘LNG-IUS new option in menorrhagia’ symposium, organized by Schering, Delhi; 6 April 2004.
- ‘Laparoscopy and hysteroscopy in infertility’; FOGSI-certified advanced training programme in Gynaecological endoscopy and endosuturing, organized by Jeevan Mala Hospital, Delhi; 27 May 2004.
- ‘Epithelial ovarian cancer and management’; Intensive postgraduate revision course in Obstetrics and Gynaecology for MRCOG II, organized by AICC–RCOG–North Zone, Delhi; 8 June 2004.
- ‘Hysteroscopic myomectomy’; Annual conference 2004, organized by the Indian Association of Gynaecological Endoscopists (IAGE), Mumbai; 13 June 2004.
- ‘Endoscopy and infertility’; Panelist, FERTICON 2004, organized by KJ IVF and Laparoscopy Centre, EDGF and AOGD, Delhi; 11 July 2004.
- ‘Role of endoscopy in infertility’; Quarterly meet of Northern Zone of FOGSI, organized by Government Medical College, Chandigarh; 19 September 2004.
- ‘Nutritional anaemia—new challenges’; Panel Moderator, National Symposium on haematological disorders in Obstetrics, organized by the Departments of Obstetrics and Gynaecology, and Haematology, AIIMS, New Delhi; 3 August 2004.
- ‘Endocrinology and management of hirsutism’; Kishori 2004, organized by the National Adolescent Gynaecology and All Rajasthan Obstetrics and Gynaecology Conference, Jaipur; 23 October 2004.
- ‘Managing PCOS—current concepts’; 48th AICOG 2005, organized by FOGSI, Aurangabad; 6 September 2005.
- ‘Indications and sampling procedures used for prenatal diagnosis’; Fourth hands-on workshop on Prenatal Diagnosis of Genetic Disorders, organized by AIIMS, NAMS, Delhi; 25 January 2005.
- ‘Role of endoscopy in infertility’; International Conference on Health Sciences, organized by J.S.S. Mahavidyapeeth, Mysore; 26 February 2005.
- ‘Trouble-shooting in hysteroscopy’; Panelist, workshop on Endoscopy in Infertility, organized by AICC–RCOG–North Zone, Delhi; 4 March 2005.
- ‘Hysteroscopy in infertility’; Workshop on Endoscopy in Infertility, organized by AICC–RCOG–North Zone, Delhi; 4 March 2005.

### *International*

- ‘LNG–IUD in management of AUB’; Annual Conference of the Society of Gynaecologists and Obstetricians of Pakistan (SGOP), organized by Liaquat University of Health Sciences, Hyderabad, Sindh, Pakistan; 4 December 2004.

## **Dr Sunesh Kumar**

### *National*

- ‘Cervical and ovarian malignancy’; Training programme for Medical Officers on Awareness and early detection of common cancers’, AIIMS, New Delhi; 28 April 2004.
- ‘Cancer cervix’; Training programme for WHO Fellowship, AIIMS; 5 January 2005.

## **Dr D. Deka**

### *National*

- ‘Periconceptional care’ and ‘New strategies for the management of IUGR’; 15th North-East Obstetrics and Gynaecological Congress, Duliajan, Assam; 1–2 May 2004.
- ‘Periconceptional care’; Pune Obstetrics and Gynaecology Society Meeting; 9 August 2004.
- ‘Management of Rh -ve pregnancy’; Saharanpur Obstetrics and Gynaecology Society Meeting; 4 August 2004.
- ‘Genetic screening and counselling’; Quarterly Meet of the Northern Zone of FOGSI organized by the Department of Obstetrics and Gynaecology, Government Medical College and Hospital, Chandigarh; 19 September 2004.
- ‘Prenatal diagnostic procedures’ and panelist on ‘Toxaemias of pregnancy’; Obstetrics and Gynaecology CME-2004 organized by the Department of Obstetrics and Gynaecology, Indira Gandhi Medical College, Shimla; 16–17 October 2004.
- ‘Foetal therapy’ and panelist on ‘Controversies in caesarean section’; 2nd C.G. State Conference on Obstetrics and Gynaecology organized by AOGCG, Bilaspur; 11–12 December 2004.
- ‘Foetal medical therapy’; 21st ISOPARB Conference 2005 organized by the North Zone Society of ISOPARB, Lucknow; 5 February 2005.

### *International*

- ‘Management of Rhesus isoimmunization by intrauterine foetal blood transfusion’; FAOPS Conference, Kuala Lumpur; 14–18 April 2004.
- ‘HIV infection in perinatal period’; 13th Congress of Federation of Asia and Oceania Perinatal Societies, Kuala Lumpur; 17 April 2004.
- ‘Ultrasound-guided intrauterine foetal blood transfusion’; IMSACON-2004, Rochester, USA; 9–11 July 2004.
- ‘Prevention of hearing loss in utero’; 4th SAARC ENT Congress, Colombo, Sri Lanka; 1–4 September 2004.

## **Dr Renu Misra**

### *National*

- ‘Hysteroscopic adhesiolysis and hysteroscopic septum resection’; FOGSI Conference, Faridabad Obstetrics and Gynaecological Society; 10 April 2004.

- ‘Prevention and treatment of DVT and pulmonary embolism’; Gynae Update 2004 organized by IMA Janak Puri; 12 September 2004.
- ‘Troubleshooting in laparoscopy’; Annual RCOG Conference; 5–6 March 2005.

### **Dr K.K. Roy**

#### *National*

- ‘Bleeding disorders during pregnancy—past, present and future’; National Symposium on Haematological disorders in Obstetrics, AIIMS; 3 October 2004.
- ‘Prevention of parent-to-child transmission in HIV/AIDS’; HIV/AIDS Training Programme, AIIMS, 29–30 November; 2004.

### **Dr Vatsla Dadhwal**

#### *National*

- ‘Intrauterine foetal resuscitation’ in YUVA, FOGSI, Faridabad; April 2004.
- ‘Intrauterine infection and cerebral palsy’; Kamala Achari Symposium at the 21st All India Congress of ISOPARB, Lucknow; February 2005.
- ‘Foetal congenital renal anomalies’; panel discussion at the Clinical Meeting of DESPAT, Delhi; 12 March 2005.

### **Dr Neena Malhotra**

#### *National*

- ‘Contraception for MRCOG’, and ‘How to write essays for MRCOG’; MRCOG Part II Course organized by RCOG—North Zone Committee, New Delhi; 14–18 June 2004.
- ‘How to optimize intrauterine insemination’; Workshop and CME on Assisted Reproduction Technology in Infertility at R&R Hospital, New Delhi; 30 October 2004.
- ‘Hepatitis during pregnancy’; CME organized by West Zone, Delhi Society of Obstetrics and Gynaecology, New Delhi; 30 September 2004.
- ‘Evidence-based management of infertility with endometriosis’; Infertility Update 2005 organized by Sir Ganga Ram Hospital, New Delhi; 22–23 January 2005.
- ‘Management of common obstetric and gynaecological problems’; Clinical Update for Doctors of Cantonment Board, National Institute of Defence Estates Management, New Delhi; 21 February 2005.
- ‘Prenatal diagnosis of haemophilia—chorion villus sampling and cordocentesis’; Delhi Society for Prenatal Diagnosis and Therapy; 12 March 2005.

### **Dr Nutan Agarwal**

#### *National*

- ‘Mirena LNG–IUS’—an innovative choice for contraception and treatment for idiopathic menorrhagia’, Dehradun Obstetrics and Gynaecological Society; 29 September 2004.

## **Dr Neeta Singh**

### *National*

- ‘*In vitro* maturation of oocytes’; National Conference on Advances in ART at R&R Hospital, New Delhi; 29–31 October 2004.

## **Dr J.B. Sharma**

### *National*

- ‘Current management of anaemia’; Delhi RCOG Society; 6 June 2004.
- ‘Anaemia in pregnancy: Current management’; Conference organized by Bokaro Obstetrics and Gynaecological Society; 7 July 2004.
- ‘Abnormal uterine bleeding’; Annual RCOG Conference North Zone, New Delhi; 31 August 2004.
- ‘Stress incontinence’; MRCOG Part II Course, New Delhi; 14 July 2004.
- ‘Stress incontinence’ at the Saharanpur Society CME; 4 August 2004.
- ‘Role of erythropoietin in surgery’; Conference organized by the Pune Surgical Society; 24 September 2004.
- ‘Urge incontinence’; Symposium-cum-Workshop on Urogynaecology; 21 November 2004.
- ‘Management of anaemia during pregnancy’; Conference organized by the Gorakhpur Obstetrics and Gynaecological Society; 2 January 2005.
- ‘Role of erythropoietin in anaemia during pregnancy’; AICOG Congress in Aurangabad; 7–8 January 2005.
- ‘Answering MCQs’; AICC RCOG Annual Conference, New Delhi; 5 March 2005.

## **RESEARCH**

### **Funded Projects**

#### ***Completed***

1. Case management of reproductive tract infections in India: An analysis of clinical protocols and costs. S. Mittal. Funded by GNPRH/Population Council from November 2002 to July 2004. Funds: US\$ 80,803.
2. Measurement of peak systolic velocity in the foetal middle cerebral artery for monitoring pregnancies complicated by Rh isoimmunization. D. Deka. Funded by ICMR from October 2003 to January 2005. Funds: Rs 1,80,000.
3. Open label non-comparative clinical survey of Centchroman in dysfunctional uterine bleeding. Alka Kriplani. Funded by Hindustan Latex Ltd for 1 year. Funds: Rs 1,75,000.
4. Efficacy and safety of administration of Evanova capsules in the management of menopausal symptoms. Alka Kriplani. Funded by Charak Pharma Ltd for 1 year. Funds: Rs 4.5 lakh.
5. National neonatal perinatal database. Suneeta Mittal. Funded by ICMR for 1 year. Funds: Rs 30,000.

6. Hospital-based surveillance for childhood morbidity and mortality. Suneeta Mittal. Funded by ICMR for 2 months. Funds: Rs 17.15 lakh.
7. Previous caesarean section: Management and outcome. Suneeta Mittal. Funded by ICMR from 1 August 2004 to 31 March 2005. Funds: Rs 17.15 lakh.
8. A comparative study of VIA, cytodiagnosis, HPV testing and colposcopy as tools for cervical cancer screening. Neerja Bhatla. Funded by DBT for 2 years. Funds: Rs 43,00,000.

### ***Ongoing***

1. Comparison of two mifepristone doses and two intervals of misoprostol for termination of early pregnancy: A multinational RCT. S. Mittal. Funded by WHO from 1 April 2004 to 30 June 2005. Funds: Rs 7,41,714.
2. Role of intravenous immunoglobulins in recurrent abortions. D. Deka. Funded by Bharat Serum and Vaccines Ltd from October 2003 to March 2005. Funds: Rs 2,88,000.
3. Double-blind randomized placebo controlled trial to investigate the effect of lycopene on lipid peroxidation and lipid profile in postmenopausal women. Renu Misra. Funded by AIIMS for 1 year. Funds: Rs 40,000.
4. Screening with cytology, visual inspection, acetic acid and with Lugol iodine for early detection of cervical neoplasia and comparative evaluation of single versus double freeze cryotherapy technique in the treatment of cervical intraepithelial neoplasia. Neerja Bhatla. Funded by IARC, WHO from November 2003 to May 2005. Funds: Rs 27,00,000.
5. Pre-treatment with misoprostol before vacuum aspiration for first-trimester induced abortion. Suneeta Mittal. Funded by WHO from December 2003 to June 2005. Funds: Rs 12,25,926.

### **Departmental Projects**

#### ***Completed***

1. To evaluate the feasibility of conscious pain mapping using a 5 mm laparoscope in women with chronic pelvic pain.
2. Comparison of foetomaternal haemorrhage quantification by flowcytometry and by Kleihuer-Betke test.
3. A comparative study of daily versus intermittent iron prophylaxis to compare lipid peroxidation levels in non-anaemic pregnant women.
4. To compare the efficacy of trans-cervical resection of endometrium with levonorgestrel, intrauterine system in the treatment of dysfunctional uterine bleeding.
5. Comparison of the efficacy of misoprostol, nitroglycerine and prostaglandin E2 gel for cervical ripening.
6. Comparison of the safety and efficacy of raloxifene with hormone replacement therapy in the management of postmenopausal osteoporosis.

#### ***Ongoing***

1. Perinatal outcome in foetuses with sonographic diagnosis of nuchal cord.

2. Detection and quantification of foetomaternal haemorrhage (FMH) following deliveries in Rh negative non-immunized pregnancy by KBT, flowcytometry.
3. Comparison of harmonic scalpel with bipolar cautery in laparoscopic-assisted vaginal hysterectomy.
4. A comparative study of VIA, cytodiagnosis, HPC testing and colposcopy as tools for cervical cancer screening.
5. Screening with cytology, visual inspection, acetic acid and Lugol iodine for early detection of cervical neoplasia and comparative evaluation of single versus double freeze cryotherapy technique in the treatment of cervical intraepithelial neoplasia.
6. To compare the efficacy, safety and patient acceptability of various routes of misoprostol administration for induction of labour at term.
7. Conscious pain mapping: A new technique of laparoscopy for evaluation of chronic pelvic pain.
8. Effect of betamethasone in preterm labour on foetal biophysical profile score and Doppler studies.
9. The effect of warmed and humidified carbon dioxide pneumoinsufflation on intraoperative and postoperative pain in laparoscopy.
10. An RCT of prophylactic sublingual misoprostol, I/M methergin and I/M PgF<sub>2</sub>α for active management of the 3rd stage of labour.
11. Evaluation of laparoscopic occlusion of uterine artery and compare to uterine artery embolization for symptomatic uterine fibroids.
12. Evaluation of single session diagnosis and management of CIN in VIA/VILLI positive patients by LEEP.
13. Comparison of single vs double IUI in unexplained and mild male factor infertility.
14. Doppler velocimetry in middle cerebral artery, thoracic aorta, umbilical artery and ductus venosus in IUGR patients and foetal estimation of birth weight using two-dimensional in comparison to three-dimensional ultrasonography.
15. The study of aromatase inhibitor letrozole in cases of clomiphene-resistant anovulation.
16. Prevention of uterine atony during caesarean section: Randomized comparison of sublingual misoprostol versus syntocinon.

### **Collaborative Projects**

1. Sequence-based identification of *Mycobacterium* species isolated from extra-pulmonary tuberculosis cases (with Laboratory Medicine).
2. Establishment and characterization of human foetal liver haematopoietic stem cell line (with Medical Oncology, IRCH).
3. To study the subset of antiphospholipid syndrome defined by anti-β<sub>2</sub> glycoprotein1 antibody (with Laboratory Medicine).
4. Role of centchroman in benign breast disease (with Surgery).

5. Epidural analgesia in labour (with Anaesthesia).
6. Chromosome aneuploidy and mosaicism in preimplantation embryo (with Reproductive Biology).
7. Prenatal development and maturation of the human inferior colliculus (with Anatomy).
8. Evaluation of ovarian function in female patients with multi-bacillary leprosy (with Dermatology and Venereology).
9. Apoptosis in placental membranes in pre-eclampsia: An immunohistochemical study (with Anatomy).
10. Development of human papillomavirus vaccine prototypes—molecular epidemiology of HPV types prevalent in India and identification of HPV-16 L1 and E6 variants (with Biochemistry).
11. PEARL study (postmenopausal evaluation and risk reduction with lazofloxifene): Global research and development (with Endocrinology).
12. The generations trial. Effects of arzoxifene on vertebral fracture incidence and on invasive breast cancer incidence in postmenopausal women with osteoporosis or with low bone density (with Anatomy).
13. Biostatistical aspects in case–control studies on unintended pregnancies (with Biostatistics).
14. A study of molecular basis of endometrial receptivity for blastocyst implantation in primates (with Physiology).
15. Prevention of parent-to-child transmission of HIV (with Paediatrics and Microbiology).
16. Diabetes mellitus and vulvovaginal candidiasis: Prevalence and its rational management (with Endocrinology).
17. Prevalence of bacterial vaginosis and other reproductive tract infections among symptomatic women (study in a tertiary centre) (with Microbiology).
18. To study the effect of human chorionic gonadotrophin (hCG) on vascular endothelial growth factor (VEGF) expression by human mid-secretory endometrial cells grown on rat-tail collagen matrix (with Physiology).
19. Effect of progesterone on *hsp 27* expression in human, mid-secretory stage endometrial cells grown on collagen matrix *in vitro* (with Physiology).

## **PUBLICATIONS**

### **Journals**

1. Agarwal R, Kumar S, Roy KK. Placental mesenchymal dysplasia. *Ultrasound Int* 2004;**10**:89–91.
2. Agarwal S, Agarwal R, Kumar S, Roy KK. Prerupture ultrasonographic diagnosis of a live twin pregnancy in the rudimentary horn. *Ultrasound Int* 2004;**10**:57–61.
3. Agarwal S, Kumar S, Roy KK. Misdiagnosis of ectopic pregnancy: Importance of ultrasonography prior to early termination of pregnancy. *Ultrasound Int* 2004;**10**:136–9.
4. Aruna J, Mittal S, Kumar S, Misra R, Dadhwal V, Vimala N. Metformin therapy in women with polycystic ovary syndrome. *Int J Gynaecol Obstet* 2004;**87**:237–41.

5. Banerjee K, Kriplani A, Kumar V, Rawat KS, Kabra M. Detecting fetomaternal hemorrhage after first-trimester abortion with the Kleihauer-Betke test and rise in maternal serum alpha-fetoprotein. *J Reprod Med* 2004;**49**:205–9.
6. Banerjee K, Mittal S, Kumar S. Accuracy of estimating fetal weight by ultrasound in the Indian population. *Ultrasound Int* 2004;**10**:6–10.
7. Banerjee K, Mittal S, Kumar S. Clinical vs ultrasound evaluation of fetal weight. *Int J Gynaecol Obstet* 2004;**86**:41–3.
8. Bhatla N, Mukhopadhyay A, Joshi S, Kumar A, Kriplani A, Pandey RM, *et al*. Visual inspection for cervical cancer screening: Evaluation by doctor versus paramedical worker. *Indian J Cancer* 2004;**41**:32–6.
9. Biswas K, Kapoor A, Karak AK, Kriplani A, Gupta DK, Kucheria K, *et al*. Imaging in intersex disorders. *J Pediatr Endocrinol Metab* 2004;**17**:841–5.
10. Chakraborty S, Khurana N, Sharma JB, Chaturvedi KU. Endometrial hormone receptors in women with dysfunctional uterine bleeding. *Arch Gynecol Obstet* 2005;**272**:17–22. Epub 5 August 2004.
11. Dadhwal V, Mittal S, Kumar S. Uterine volume and blood flow changes in the uterus induced by GnRH analogues in cases of fibroids. *JK Science* 2004;**6**:206–8.
12. Deka D, Sharma N, Dadhwal V, Sumanna, Mittal S. Management of recurrent non-immune hydrops fetalis: Still an enigma. *Perinatology* 2004;**6**:295–8.
13. Gulati MS, Srinivasan A, Paul SB, Bhatla N. Uterine restoration following fibroid expulsion after uterine artery embolisation using gelfoam. *J Postgrad Med* 2004;**50**:80.
14. Honkanen H, Piaggio G, Herten H, Bartfai G, Erdenetungalag R, Gemzell-Danielsson K, Gopalan S, Horga M, Jerve F, Mittal S, Thi Nhu Ngoc N, Peregoudov A, Prasad RN, Pretnar-Darovec A, Shah RS, Song S, Tang OS, Wu SC; WHO Research Group on Post-Ovulatory Methods for Fertility Regulation. WHO multinational study of three misoprostol regimens after mifepristone for early medical abortion. *Br J Obstet Gynaecol* 2004;**111**:715–25.
15. Kesarwani PK, Misra R, Goel A, Hemal AK, Goel R. Vesicocervical fistula: An unusual complication of vesicovaginal [corrected] fistula repair. *Int Urogynecol J Pelvic Floor Dysfunct* 2004;**15**:358–9. Epub 19 May 2004. Erratum in: *Int Urogynecol J Pelvic Floor Dysfunct* 2004;**15**:366.
16. Kriplani A, Agarwal N, Parul, Gupta A, Bhatla N. Observations on aetiology and management of genital fistulas. *Arch Gynecol Obstet* 2005;**271**:14–18. Epub 18 December 2004.
17. Kriplani A, Agarwal N. Effects of metformin on clinical and biochemical parameters in polycystic ovary syndrome. *J Reprod Med* 2004;**49**:361–7.
18. Kriplani A, Singh BM, Meena S. One-step hysteroscopic myomectomy: Unusual cases and a review of the literature. *J Laparoendosc Adv Surg Tech A* 2004;**14**:390–4.
19. Kriplani A, Singh BM, Sowbernika R, Choudhry VP. Successful pregnancy outcome in Bernard–Soulier syndrome. *J Obstet Gynaecol Res* 2005;**31**:52–6.
20. Kumar A, Beniwal M, Kar P, Sharma JB, Murthy NS. Hepatitis E in pregnancy. *Int J Gynaecol Obstet* 2004;**85**:240–4.

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22. Kumar S, Agarwal R, Malhotra N, Roy KK. Recurrent angiomyxoma of vulva. *Int J Gynaecol Obstet India* 2004;**7**:43–5.
23. Kumar S, Kumar L, Barge S. Malignant germ cell tumours of ovary. *Indian J Med Paed Oncol* 2004;**25**:39–42.
24. Kumar S, Vimala N, Dadhwal V, Mittal S. Heterotopic cervical and intrauterine pregnancy in a spontaneous cycle. *Eur J Obstet Gynecol Reprod Biol* 2004;**112**:217–20.
25. Kumar S, Vimala N, Mittal S. Invasive mole presenting as acute haemoperitoneum. *JK Science* 2004;**6**:159–60.
26. Singh BM, Kriplani A, Bhatla N. Uterocervical lacerations during induction of labour with intravaginal misoprostol in a woman with idiopathic thrombocytopenic purpura. *J Obstet Gynaecol* 2005;**25**:75–6.
27. Malhotra M, Sharma JB, Wadhwa L, Arora R. Prospective study of glove perforation in obstetrical and gynecological operations: Are we safe enough? *J Obstet Gynaecol Res* 2004;**30**:319–22.
28. Malhotra M, Sharma JB, Wadhwa L, Singh S. Disseminating myxoid leiomyosarcoma of the uterus. *Arch Gynecol Obstet* 2005;**271**:166–7.
29. Malhotra N, Kumar S, Roy KK, Agarwal R, Verma V. Vaginal calculus secondary to vaginal outlet obstruction. *J Clin Ultrasound* 2004;**32**:204–6.
30. Malhotra N, Sinha A, Deka D, Roy KK. Twin reversed arterial perfusion: Report of four cases. *J Clin Ultrasound* 2004;**32**:411–14.
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33. Mukhopadhyay A, Bhatla N, Kriplani A, Agarwal N, Saxena R. Erythrocyte indices in pregnancy: Effect of intermittent iron supplementation. *Natl Med J India* 2004;**17**:135–7.
34. Mukhopadhyay A, Bhatla N, Kriplani A, Pandey RM, Saxena R. Daily versus intermittent iron supplementation in pregnant women: Haematological and pregnancy outcome. *J Obstet Gynaecol Res* 2004;**30**:409–17.
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36. Sharma JB, Malhotra M, Gupta S, Kumar A, Singh BP, Vindal A. A preliminary survey of patients' views on awareness, information, choices and expectations in women undergoing hysterectomy. *J Indian Med Assoc* 2004;**102**:304–6, 308.
37. Sharma JB, Wadhwa L, Malhotra M, Arora R, Garg A, Singh S. Huge localized vaginal neurofibromatosis: An unusual cause of postmenopausal bleeding. *J Obstet Gynaecol Res* 2004;**30**:96–9.

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39. Sharma JB, Wadhwa L, Malhotra M, Arora R. Minilaparotomy versus conventional laparotomy for abdominal hysterectomy: A comparative study. *Indian J Med Sci* 2004;**58**:196–202.
40. Sharma JB, Wadhwa L, Mittal S. Survey of knowledge, attitudes and practices of urogynecological problems amongst gynecologists of Delhi. *Indian J Med Sci* 2005;**59**:28–30.
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43. Vimala N, Dadhwal V, Kumar S, Mittal S, Vinekar S. Intravaginal misoprostol versus intraamniotic 15MF<sub>2</sub>α for termination of second trimester pregnancy. *JK Sciences* 2005;**7**:29–31.
44. Vimala N, Dadhwal V, Mittal S. Sublingual misoprostol for second-trimester abortion. *Int J Gynaecol Obstet* 2004;**84**:89–90.
45. Vimala N, Kothari N, Mittal S, Kumar S, Dahwal V. Primary ovarian abscess in pregnancy. *JK Science* 2004;**6**:40–2.
46. Vimala N, Mittal S, Dadhwal V. Cervical priming with sublingual misoprostol vs 15-methyl-prostaglandin F<sub>2</sub>α prior to surgical abortion. *Int J Gynaecol Obstet* 2005;**88**:134–7.
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## Books

1. Misra R, Grundsell HS. *Electronic fetal heart monitoring: A practical guide*. 1st ed. Delhi: BI Publications Pvt. Ltd; 2004.

## Chapters in Books

1. Deka D, Banerjee K. Gender identity and adolescent girls. In: Kotdawala P, Salvi V, Krishna UR (eds). *Adolescent girl—an update*. New Delhi: Jaypee Brothers, FOGSI Adolescent Committee Publication; 2004:44–53.
2. Deka D, Sharma N. Decision making for the intrapartum management of twins. In: Desai P (ed). *Current practice in obstetrics and gynaecology, Vol.1*. Delhi: Jaypee Brothers; 2005:80–91.
3. Deka D. Obstetric procedures for prenatal diagnosis of genetic diseases. In: Usha Rani P (ed). *Recent advances in genetics and health*. Hyderabad: Murthy Graphics; 2004;102–8.
4. Deka D. Etiology of fetal growth restriction: In: Sood M (ed). *The growth restricted baby of the tropics*. Delhi: New Age International Publishers Ltd; 2005:13–21.
5. Kriplani A, Banerjee K. Place and perils of highly invasive investigations for fetal anomaly. In: Debdas AK (ed). *Screening and diagnosis of fetal malformations*. 1st ed. New Delhi: BI Publications Pvt. Ltd; 2004:163–72.
6. Kriplani A, Malhotra B. Tibolone. In: Purandore CN, Khadikar SS (eds). *Menopause: Current concepts*. 1st ed. Delhi: Jaypee Brothers; 2004:134–43.
7. Zalud I, Deka D, Matai A. Hormone replacement therapy: Ultrasound role. In: Kurjak A, Arenas JB (eds). *Donald school textbook of transvaginal sonography*. Delhi: Jaypee Brothers; 2005:260–71.

## PATIENT CARE

Hospital care: Facilities available with the department include special clinics and special laboratory facilities besides the regular OPD which is held every day. The following special clinics are held.

| Clinics                                    | Number of patients |             |                |
|--|--------------------|-------------|----------------|
| 1. General OPD                             | 6/week             | New: 32,980 | Old: 14,80,200 |
| 2. High-risk pregnancy clinic              | 3/week             | New: 2,855  | Old: 15,481    |
| 3. Gynaecological endocrine clinic         | 3/week             | New: 154    | Old: 207       |
| 4. Gynaecological cancer clinic            | 2/week             | New: 771    | Old: 1,744     |
| 5. Postnatal clinic                        | 3/week             | 18,190      |                |
| 6. Medical termination of pregnancy clinic | 6/week             | 1,243       |                |
| 7. Family welfare clinic                   | 6/week             | New: 3,436  | Old: 5,392     |

## Operations performed

### Gynaecological

Major: 2370

|                                   |     |
|-----------------------------------|-----|
| Surgery for benign diseases       | 502 |
| Oncological surgery               | 189 |
| Infertility                       | 728 |
| Endoscopic surgeries: Laparoscopy | 854 |
| Hysteroscopy                      | 69  |
| Plastic surgery                   | 28  |

Minor: 5592

|        |      |
|--------|------|
| D&C/EA | 3015 |
|--------|------|

|                         |          |
|-------------------------|----------|
| Colposcopy/cryo/LEEP    | 814/10/8 |
| Diagnostic hysteroscopy | 502      |
| MTP                     | 1243     |

### **Obstetrics**

|       |                              |      |
|-------|------------------------------|------|
| Major | LSCS                         | 989  |
|       | Em. laparotomies             | 18   |
| Minor | Operative vaginal deliveries | 124  |
|       | Vaginal deliveries           | 2743 |

### **Foetal Medicine**

|                           |      |
|---------------------------|------|
| Cordocentesis             | 58   |
| Chorionic villus sampling | 140  |
| Amniocentesis             | 135  |
| Foetal cyst aspiration    | 3    |
| Intrauterine infusion     | 47   |
| High-risk obstetrics      |      |
| —Obstetric ultrasound     | 5070 |
| —NST                      | 3110 |
| —BPP                      | 1554 |
| Gynaecological ultrasound | 2038 |
| Interventional ultrasound | 78   |

### **Laboratory investigations**

|                      |      |
|----------------------|------|
| Urine pregnancy test | 217  |
| Haemoglobin          | 1910 |
| Blood groups         | 70   |
| Urine albumin/sugar  | 1910 |

### **Postpartum Programme**

The Postpartum Programme (PPP) is a maternity-centred, hospital-based approach to family welfare 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.

### **Achievement of different family planning methods, Postpartum Programme**

| <b>Methods</b>                                 | <b>Achievement</b> |
|--|--------------------|
| Copper T                                       | 664                |
| Oral pills (13 cycles=1 user)                  | 317                |
| Conventional contraceptives (72 pieces=1 user) | 37,061             |
| Sterilization                                  |                    |
| (a) Tubectomy                                  | 996                |
| (b) Vasectomy                                  | 57                 |

Note: Family planning methods are free of targets.

## Maternal and Child Health (MCH) Performance (2004–2005), Postpartum Programme

| Services target                 | Annual | Achievement | Per cent achievement |
|---------------------------------|--------|-------------|----------------------|
| <b>Pregnant women</b>           |        |             |                      |
| TT (mothers) (2nd or booster)   | 6250   | 1983        | 31.7                 |
| Iron and folic acid tablets     | 6250   | 1829        | 29.2                 |
| <b>Children (0–1 years)</b>     |        |             |                      |
| DPT (3rd dose)                  | 6150   | 1697        | 27.5                 |
| Polio (3rd dose)                | 6150   | 1557        | 25.3                 |
| BCG                             | 6150   | 2236        | 36.35                |
| Measles                         |        |             |                      |
| Vitamin A (1st dose)            | 6150   | 853         | 13.8                 |
| <b>Children (1–2 years)</b>     |        |             |                      |
| DPT booster dose                | 6000   | 1077        | 17.9                 |
| Polio booster dose              | 6000   | 1980        | 33                   |
| Vitamin A (2nd dose)            | 6000   | 152         | 2.5                  |
| Vitamin A (3rd dose)            | 6000   | 52          | 0.86                 |
| Vitamin A (4th dose)            | —      | —           | —                    |
| Vitamin A (5th dose)            | —      | —           | —                    |
| <b>Children (under 5 years)</b> |        |             |                      |
| DT                              | 450    | 623         | 138.4                |

### Community services/camps

The faculty participated in community awareness programmes through public education talks on the radio, phone-in programmes and panel discussions on AIR and allied TV channels.

A cancer detection camp was organized at Janak Puri in collaboration with Rotary Club on 18.12.2004.

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Dr Suneeta Mittal** was awarded the Dr V.V. Puri Award of the Family Planning Association of India in recognition of the contribution in the field of Health and Family Planning at the national and international level. She is the Editor of the *Reproductive Health Library*, WHO; Chairperson North Zone, ISOPARB; Member of the Regional Technical Advisory Group (RTAG) on Adolescent Health and Development (AHD), WHO; Member of the Joint Working Group, Indo-US collaboration for reproductive health; Member of the Academic Council of Jiwaji University, Gwalior for a period of three years from 1/8/04 to 31/7/07; Member of the National Academy of Medical Sciences; Member of the Federation of Obstetrician and Gynaecologist of Asia-Oceania and New York Academy of Sciences.

**Dr Sunesh Kumar** is a Member of the Project Advisory Committee on Screening for common cancers being conducted by ICMR in three districts of Himachal Pradesh.

**Dr Alka Kriplani** is the Editor of the *Asian Journal of Obstetrics and Gynaecological Practice*; Vice-President of the Delhi Gynaecological Endoscopists Society; and Zonal Vice-President (North Zone) of IMAGES (Indian Society of Minimal Access and Gynaecological Endoscopic Surgery).

**Dr D. Deka** received the 'Dr P.K. Devi Oration' award on 'Foetal therapy' at YUVA FOGSI 2004 West Zone Conference organized by the Nagpur Obstetric and Gynaecology Society at Nagpur on 27 November 2004; an Expert Member of the ICMR Fellowship Programme Committee; Founder-Honorary Secretary of the Delhi Society for Prenatal Diagnosis and Therapy (DESPAT); Executive Member of the following bodies—Indian Society for Prenatal Diagnosis and Therapy, Imaging Sciences Committee, Foetal Medicine and Genetics, International Exchange Committee, Indian Society for Perinatology and Reproductive Biology, and NARCHI (Delhi Branch); Assistant Editor of the *Journal of ISOPARB*; and Member, Maternal Morbidity, UNFPA Technical Advisory Committee.

**Dr K.K. Roy** was awarded the Best Paper Prize in the poster presentation on 'Fimbrio-ovarian relationship in unexplained infertility' at the 18th World Congress of IFFS at Montreal, Canada, 23–28 May 2004.

**Dr Neerja Bhatla** is a Member of the Advisory Group, Strategic Assessment of Cervical Cancer Prevention and Treatment programme in three districts of Uttar Pradesh.

**Dr J.B. Sharma** is the Editor of *Obstetrics and Gynaecology Today*, Delhi; Associate Editor of the *International Journal of Gynaecology and Obstetrics*, New Delhi; and Associate Editor of the *Indian Journal of Gynaecologic Endoscopy*, New Delhi; Reviewer for the *British Journal of Clinical Nutrition*, *BMC* (America), Irish Medical Council.

### **Workshops/Conferences**

1. Steering Committee Meeting of investigators of the project 'Case management of reproductive tract infection in India: An analysis of clinical protocols and costs', New Delhi, 20–21 July 2004.
2. Symposium on 'Integrated management of pregnancy and childbirth—making pregnancy safer' jointly organized by WHO-SEARO, Geneva and Department of Obstetrics and Gynaecology, AIIMS, 24 July 2004.
3. Dissemination Meeting of the project 'Case management of reproductive tract infection in India: An analysis of clinical protocols and costs', AIIMS, 11 September 2004.
4. Study tour of delegates from China between 5 and 15 December 2004.
5. National Consensus for Expanding Access to Emergency Contraception at AIIMS, 12 February 2005.

### **VISITING SCIENTISTS**

1. Dr Hassan Ali, Consultant Gynaecologist, Southern General Hospital, Glasgow, UK
2. Mr J.L. Beynon FRCOG, Consultant, Obstetrics and Gynaecology, West Sussex, England, UK
3. Dr Rajiv Verma, Southern General Hospital, UK
4. Dr Stanely Okolo, UK
5. Dr T. Middleton, University of Rochester, UK
6. Professor J.C. Konje, University of Leicester, England, UK

7. Dr Lily A. Arya, Assistant Professor, Urogynaecology and Reconstructive Pelvic Surgery, University of Pennsylvania, USA
8. Dr Sunanda Gupta, Consultant, UK
9. Dr Wun Kuangshi, National Centre for Women and Children's Healthcare, China
10. Dr John E. Shervin, Department of Health Services, Richmons
11. Dr Jorge E.Tholosa, Thomas Jefferson University, USA
12. Dr Debrah Armbnofer, POPPHI Project Director, Washington, DC
13. Dr Sarah Hawkes, UK
14. Dr Helena von Hertzen, WHO, Geneva
15. Dr Linan Chang, China
16. Dr Pak Chung Ho, Hong Kong
17. Dr Kristina Gemzell-Danielsson, Sweden
18. Dr M.E. Khan, Population Council

## 9.23 Orthopaedics

### Professor and Head

S. Bhan

### Emeritus Professor

P. Chandra

### Professors

P.P. Kotwal

Shishir Rastogi

A. Jayaswal

### Additional Professors

Rajesh Malhotra

Hira Lal Nag

### Associate Professors

Ravi Mittal

C.S. Yadav

### Assistant Professors

Vikas Gupta

Shah Alam

Buddhadev Chowdhury  
(ad hoc)

## EDUCATION

### Undergraduate and Postgraduate

Classroom lectures for undergraduate and postgraduate medical students, and undergraduate nursing students were conducted. Clinical and bed-side case discussions were also conducted for undergraduate and postgraduate medical students.

### Short- and long-term training

- Training in Arthroscopy and Sports Medicine was provided to fellows from different parts of the country and abroad.
- The department was associated with curriculum design and execution of 'Distance Education in Medicine', School of Health Sciences, Indira Gandhi National Open University (IGNOU), New Delhi.
- Observers from various parts of the country came to learn joint replacement and spine surgery.

### Continuing Medical Education

#### *CME programmes organized*

- Current Concepts in Arthroplasty, 18–19 September 2004.
- Minimal Invasive Surgery, 19 November 2004.

### *Lectures delivered*

#### **Professor P.P. Kotwal**

- Chaired a scientific session at the National Conference of Biomechanics; Indian Institute of Technology, Delhi; November 2004.

#### **Dr Rajesh Malhotra**

- ‘Bone cuts in TKR’; Joint Replacement Workshop and CME; Gulab Devi Hospital, Jalandhar; 12 February 2005.
- ‘Technique of implanting femoral component’; Joint Replacement Workshop and CME; Gulab Devi Hospital, Jalandhar; 12 February 2005.
- ‘Ensuring success in THR—the whole nine yards’; Continuing Medical Education on Geriatric Orthopaedics; Base hospital, Delhi Cantt.; 20 February 2005.
- ‘Advances in fracture management’ in CME organized by the Cantonment Board; ‘Chitrakoot’, Delhi Cantt.; 21 February 2005.

#### **Dr C.S. Yadav**

- Guest panelist in Haematology Update-2005 at AIIMS on 26 February 2005.

#### **Dr Shah Alam Khan**

- Panel discussion on ‘Management of Ewing’s sarcoma’; CME conducted by the Department of Medical Oncology, Dr B.R. Ambedkar Institute Rotary Cancer Hospital, AIIMS, New Delhi; 28 November 2004.
- ‘Principles of limb salvage’; CME conducted by the Department of Surgical Oncology, Rajiv Gandhi Cancer Hospital, New Delhi; 19 February 2005.
- ‘Radiology of bone tumours’; CME Programme of the Bihar Orthopaedic Association, Patna; 25–27 February 2005.
- ‘Principles of limb salvage in bone tumours’; CME Programme of the Bihar Orthopaedic Association, Patna; 25–27 February 2005.

### **National and International Conferences**

The department organized the Annual Conference of the Delhi Orthopaedic Association on 19–21 November 2004.

### *Lectures delivered*

#### **Professor P.P. Kotwal**

- Guest lecture on ‘Fracture scaphoid: When to fix?’; MIDCON-2004 of the Delhi Orthopaedic Association, Delhi; August 2004.

- Guest lecture on ‘Shoulder arthroplasty’; Annual Conference of the Haryana Chapter of the Indian Orthopaedic Association, Faridabad; September 2004.
- Guest lecture on ‘Compression neuropathies: Carpal tunnel syndrome’; Annual Conference of the Central Zone of Indian Orthopaedic Association, Allahabad; October 2004.
- Guest lecture on ‘Hand infections’; Annual Conference of the Central Zone of Indian Orthopaedic Association, Allahabad; October 2004.
- Guest lecture on ‘Tumours of the hand’; Annual Conference of the Central Zone of Indian Orthopaedic Association, Allahabad; October 2004.
- Guest lecture on ‘Radial club hand’; Annual Conference of the Central Zone of Indian Orthopaedic Association, Allahabad; October 2004.
- Invited lecture on ‘Flexor tendon injuries’; PG Course of the Maulana Azad Medical College, Delhi; October 2004.
- Invited lecture on ‘Percutaneous fixation of fractures of scaphoid’; Annual Conference of the Delhi Orthopaedic Association, Delhi; November 2004.
- Invited lecture on ‘Flexor tendon injuries’; Xth Postgraduate Instructional Course at M.G.M. Medical College, Indore; February 2005.
- Invited lecture on ‘Principles in the management of paralysed hand, including leprosy’; Xth PG Instructional Course at the M.G.M. Medical College, Indore; February 2005.

### **Professor Shishir Rastogi**

- Guest lecture on ‘Aggressive bone tumours of upper limb and their management’; Symposium on Orthopaedic Oncology, MP Orthocon-2004, Ujjain; 10 October 2004.
- Guest lecture on ‘Management strategies of malignant bone tumours’; IMA, Bhopal; 10 October 2004.
- Guest lecture on ‘Fracture fixation in osteoporosis’; UP Orthocon-2005, Jhansi; 4–6 February 2005.
- Chaired scientific session in Symposium on Spine; UP Orthocon-2005; M.L.B. Medical College, Jhansi; 4–6 February 2005.
- Faculty in PG Instructional Course Lectures at the UP Chapter of IOA; Department of Orthopaedics, KGMS, Lucknow; 7 November 2004. He delivered a lecture on ‘Approach and management of malignant bone tumours’.
- Guest lecture on ‘Distal femoral nailing’; Seminar on Innovations in Femoral Nailing organized by A.O.; India Habitat Centre, Delhi.
- Chaired a session in Seminar on ‘Evidence Based Management of Cancers’; IMCH, Mumbai; 27 February 2004.
- Guest faculty in the Annual Conference of NAILSCON-2004, Ludhiana; 28–29 February 2004.
- Guest lecture on ‘Aggressive benign bone tumours’; CME of IOA, Uttaranchal Chapter, Haridwar; 25 April 2004.
- Guest lecture on ‘PFN in subtrochanteric fracture’; CME organized by the Agra Orthopaedic Club; 14 April 2004.

- Guest lecture on ‘Amputations in children’; 10th National Conference of the Paediatric Orthopaedic Society of India (POSICON-2004), Allahabad; 20–23 February 2004.
- Guest faculty in the Annual Conference of AO Alumni Association, Indian Chapter (Annual Conference 2005); PGIMER, Chandigarh; 8–9 January 2005.
- Guest lecture on ‘Management of fracture in the lower end of radius’; CME of IOA, Uttarakhand Chapter, Haridwar; 25 April 2004.
- Guest lecture on ‘Geriatric rehabilitation of patients of fractures around hip’; IAPMRCON-2005; NIMHANS, Bangalore; 25–27 January 2005.
- Participated as a special invitee in the ‘Advanced course on ankle and foot and fracture management’, Devos, Switzerland; 12–17 December 2004.

### **Professor A. Jayaswal**

- Invited lecture on ‘Principles of scoliosis correction’; Annual Conference of the Punjab Orthopaedics Association, Chandigarh; 10–11 April 2004.
- Guest lecture on ‘Management strategies in thoraco-lumbar spine injuries’; Uttarakhand Pradesh Orthopaedic Association CME, Haridwar; 25 April 2004.
- Invited lecture on ‘Metal in TB spine’; MIDCON-2004; India Habitat Centre, New Delhi; 1 August 2004.
- Faculty lecture on ‘Principles of instrumentation of thoracic and lumbar spine’; AO Spine Workshop on Spinal Osteosynthesis; India Habitat Centre, New Delhi; 11–12 August 2004.
- Faculty lecture on ‘Instrumentation for spinal infections’; AO Spine Workshop on Spinal Osteosynthesis; India Habitat Centre, New Delhi; 11–12 August 2004.
- Lecture on ‘Ant./Post. instrumentation for dorsal and lumbar spinal tumours’; AO Spine Workshop on Spinal Osteosynthesis; India Habitat Centre, New Delhi; 11–12 August 2004.
- ‘Thoracoscopic-assisted anterior surgery for tuberculous spondylitis’; 4th Pacific Asian Society for Minimally Invasive Spine Surgery (PASMIS 2004), Jeju, Korea; 19–21 August 2004.
- ‘Comparative analysis of microendodisectomy with open discectomy’; 4th Pacific Asian Society for Minimally Invasive Spine Surgery (PASMIS 2004), Jeju, Korea; 19–21 August 2004.
- Invited guest lecture on ‘Management of high-grade spondylolisthesis’; Symposium and Workshop on Spondylolisthesis organized by I.M.S., BHU, Varanasi; 3–4 October 2004.
- Guest lecture on ‘Complications of surgery in spondylolisthesis’; Symposium and Workshop on Spondylolithesis organized by I.M.S., BHU, Varanasi; 3–4 October 2004.
- Guest lecture on ‘TLIF’; Symposium and Workshop on Spondylolisthesis organized by I.M.S., BHU, Varanasi; 3–4 October 2004.
- Faculty lecture on ‘Approaches and fixation of cervico-thoracic spine’; Spine Society of Europe (SSE) and Association of Spine Surgeons of India (ASSI)—2nd Combined Instructional Course Lectures on Spine Surgery, New Delhi; 8–10 October 2004.
- Invited guest lecture on ‘Reconstruction and fixation in spinal tuberculosis’; Symposium on Advances in Spine Surgery, organized by the Kanpur Orthopaedic Association, Kanpur; 6 November 2004.

- Invited guest lecture on ‘Minimally invasive spine surgery (MISS)’; Symposium on Advances in Spine Surgery, organized by the Kanpur Orthopaedic Association, Kanpur; 6 November 2004.
- Faculty lecture on ‘Decompression and fixation of thoracic and lumbar spine’; PG Instructional Course, KGMC, Lucknow; 6–7 November 2004.
- Guest lecture on ‘Minimally invasive spine surgery’; PG Instructional Course, KGMC, Lucknow; 6 November 2004.
- Faculty lecture on ‘Scope of MISS’; Annual Conference of the Delhi Orthopaedic Association (DOACON-2004), AIIMS, New Delhi; 19–21 November 2004.
- Faculty lecture on ‘Instability in ankylosing spondylitis’; Pre-conference Workshop of the Annual Conference of Indian Orthopaedic Association (IOACON-2004), Agra; 14 December 2004.
- Faculty lecture on ‘Minimally invasive fixation and fusion’; Workshop on Minimally Invasive Spine Surgery; Annual Conference of the Indian Orthopaedic Association (IOACON-2004), Agra; 15 December 2004.
- Invited guest lecture on ‘Minimally invasive spine surgery for spinal tuberculosis’; ASSI Subspecialty Meet, Annual Conference of the Indian Orthopaedic Association (IOACON-2004), Agra; 17 December 2004.
- Faculty lecture on ‘Anterior instrumentation for scoliosis’; Pre-conference Workshop of the Annual Conference of the Association of Spine Surgeons of India (ASSICON-2005), Bangalore; 21 January 2005.
- ‘MISS—posterior lumbar instrumentation and interbody fusion’; Annual Conference of the Association of Spine Surgeons of India (ASSICON-2005), Bangalore; 21 January 2005.
- Faculty lecture on ‘Neuro-muscular scoliosis’; Annual Conference of the Association of Spine Surgeons of India (ASSICON-2005), Bangalore; 22 January 2005.
- ‘Non-tuberculosis kyphosis correction’; Annual Conference of the Association of Spine Surgeons of India (ASSICON-2005), Bangalore; 23 January 2005.
- ‘Surgical management of lumbar spine instabilities’; Annual Conference of the Gujarat Orthopaedic Association (GOACON-2005), Rajkot; 5–7 February 2005.
- ‘Scoliosis’; Annual Conference of the Paediatric Orthopaedics Society of India (Bihar Chapter); PMCH, Patna; 12–13 March 2005.
- ‘Spondylolysis and spondylolisthesis’; Annual Conference of the Paediatric Orthopaedics Society of India (Bihar Chapter); PMCH, Patna; 12–13 March 2005.
- ‘Backpain’; Workshop on Endoscopic Spine Surgery; STNM Hospital, Gangtok, Sikkim, organized by the Department of Health Care and Family Welfare, Government of Sikkim; 27 March–1 April 2005.
- Guest lecture on ‘Management of lumbar disc herniations’; Workshop on Endoscopic Spine Surgery; STNM Hospital, Gangtok, Sikkim; organized by the Department of Health Care and Family Welfare, Government of Sikkim; 27 March–1 April 2005.
- ‘Outcome assessment of vertical titanium mesh cages in anterior column reconstruction—a follow up of 3 years’; Annual Conference of the Association of Spine Surgeons of India (ASSICON-2005), Bangalore; 23 January 2005.

- ‘A new outcome-based classification for assessment of pedicular screw placement’; Annual Conference of the Association of Spine Surgeons of India (ASSICON-2005), Bangalore; 23 January 2005.
- ‘Anterior column reconstruction in burst fractures’; Annual Conference of the Association of Spine Surgeons of India (ASSICON-2005), Bangalore; 23 January 2005.
- Pseudoarthrosis in ankylosing spondylitis—a clinicoradiological classification; Annual Conference of the Association of Spine Surgeons of India (ASSICON-2005), Bangalore; 23 January 2005.
- ‘A new outcome-based classification for assessment of pedicular screw’; Annual Conference of the Indian, Orthopaedic Association (IOACON-2004), Agra; 14 December 2004.

### **Dr Rajesh Malhotra**

- ‘Bone cuts and instrumentation in TKR’; Workshop on Knee Arthroplasty; Indira Gandhi Medical College, Shimla; 7–8 May 2004.
- ‘Difficult primary TKR following HTO and patellectomy’; Workshop on Knee Arthroplasty; Indira Gandhi Medical College, Shimla; 7–8 May 2004.
- ‘Advances in the management of pain’; India Habitat Centre, New Delhi; 22 May 2004.
- ‘Bone grafts’; Annual Meeting of the East Delhi Orthopaedic Club, New Delhi; 5 June 2004.
- ‘Fixed bearing total knee replacement’; MIDCON-2004 held under the auspices of the Delhi Orthopaedic Association; India Habitat Centre, New Delhi; 1 August 2004.
- ‘Pain management—a surgeon’s perspective’; Symposium on Pain; Hotel Ashok, New Delhi; 28 August 2004.
- ‘Backache—causes and prevention’; National Dairy Development Board, New Delhi; 21 September 2004.
- ‘Management of pelvic fractures’; Emergency Medicine Update, AIIMS, New Delhi; 31 October 2004.
- ‘Stiff elbow—evaluation and management’; Hyderabad Orthopaedic Medical Education (HOME 2005), Osmania Medical College, Hyderabad; 4–6 February 2005.
- ‘Management of multiple-operated, difficult non-union of femur using cortical strut allografts’; AO Alumni Association, Indian Chapter (Annual Conference 2005), PGIMER, Chandigarh; 8–9 January 2005.
- ‘Templating’; Delhi Arthroplasty Course (Basic); Ethicon Institute of Surgical Education (Johnson & Johnson), New Delhi; 19 January 2005.
- ‘The valgus knee—tips for correction’; Delhi Arthroplasty Course (Basic); Ethicon Institute of Surgical Education (Johnson & Johnson), New Delhi; 19 January 2005.
- ‘Osteoporosis: A growing health problem in India’; National Institute of Health and Family Welfare (under the aegis of IFTA), New Delhi; 15 March 2005.
- ‘Dome osteotomy for post-traumatic cubitus varus—a surgical technique to avoid lateral condylar prominence’; 20th Annual Meeting of the Orthopaedic Trauma Association (Florida), USA; 8–10 October 2004.

- ‘Assessment of bone allografts for acetabular reconstruction in total hip arthroplasty’; XVIII Scientific Congress, Bangladesh Orthopaedic Society and Orthopaedic Association of SAARC Countries, Bangladesh; 28–30 January 2005.
- ‘Cementless total hip replacement in patients with bony ankylosis in ankylosing spondylitis’ in the ‘Current Concepts in Arthroplasty’, Hotel Hyatt Regency, New Delhi; 18–19 September 2004.

### **Dr Ravi Mittal**

- Treatment of avascular necrosis of femoral condyle—short-term follow up’; Indian Arthroscopy Society Annual Conference, Mumbai; 8–9 October 2004.
- ‘ACL reconstruction using hamstring graft’; DOACON-2004, AIIMS, New Delhi; 19–21 November 2004.
- ‘Treatment of avascular necrosis of femoral condyle—short-term follow up’; DOACON-2004, AIIMS, New Delhi; 19–21 November 2004.
- ‘Doping’; Sports Medicine and Arthroscopy Workshop, Sir Ganga Ram Hospital; 13 March 2005.

### **Dr Vikas Gupta**

- ‘Wrist arthroscopy’; Indian Orthopaedic Association (North Zone), Srinagar; 27–30 May 2004.
- Guest lecture on ‘Radial nerve injuries’; Annual Conference of the Indian Orthopaedic Association (Central Zone), Allahabad; October 2004.
- Guest lecture on ‘Skeletal injuries in hand’; Annual Conference of the Indian Orthopaedic Association (Central Zone), Allahabad; October 2004.
- Guest lecture on ‘Flaps in hand’; Annual Conference of the Indian Orthopaedic Association (Central Zone), Allahabad; October 2004.
- Guest lecture on ‘Wrist arthroscopy’; Annual Conference of the Indian Orthopaedic Association (Central Zone), Allahabad; October 2004.
- Paper on ‘Wrist arthroscopy’; Symposium on Minimally Invasive Surgeries; Annual Conference of the Delhi Orthopaedic Association, AIIMS, New Delhi; 19–21 November 2004.
- Paper on ‘Vascularized bone grafting for non-union scaphoid and Keinbocks disease’; Annual Conference of the Delhi Orthopaedic Association, AIIMS, New Delhi; 19–21 November 2004.
- Guest lecture on ‘Skeletal injuries of hand’; Hand injuries symposium, Annual Conference of the Indian Orthopaedic Association (IOACON-2004), Agra; 14–19 December 2004.
- Guest lecture on ‘Scaphoid fractures’; Hand injuries symposium, Annual Conference of the Indian Orthopaedic Association (IOACON-2004), Agra; 14–19 December 2004.
- Guest lecture on ‘Role of wrist arthroscopy in hand injuries’; Hand injuries symposium, Annual Conference of the Indian Orthopaedic Association (IOACON-2004), Agra; 14–19 December 2004.
- Guest lecture on ‘Flap coverage in hand’; Hand injuries symposium, Annual Conference of the Indian Orthopaedic Association (IOACON-2004), Agra; 14–19 December 2004.
- ‘Endoscopic carpal tunnel release’; Annual Conference of the Indian Orthopaedic Association (IOACON-2004), Agra; 14–19 December 2004.

## **Dr C.S. Yadav**

- ‘Bone banking and allograft’; CME of BOACON-2005, Patna; 25 February 2005.
- Free paper presentation on ‘Surgical management of elbow’ at NZIAOCON-2004, 27–30 May 2004 and on ‘Role of radial head excision in rheumatoid elbow’ at IOACON-2004, 14–19 December 2004.
- Paper presented on ‘Comparison of ring vs tubular fixator in hand’; Triennial Conference of Hand Biomechanics, Syracuse, New York, USA; 4 September 2004.

## **RESEARCH**

### **Funded Projects**

#### ***Completed***

1. Estimation of serum sialic acid–glycosaminoglycans in patients of ankylosing spondylitis. Development of a possible new laboratory test for diagnosing early ankylosing spondylitis. Arvind Jayaswal. Funded by ICMR for 4 years (1 April 2000–31 March 2004). Funds: Rs 5,20,838.

#### ***Ongoing***

1. Role of free radical scavengers and the effect of antioxidants on their levels in patients with ankylosing spondylitis to investigate the possible role of antioxidants as therapeutic agents in ankylosing spondylitis. Arvind Jayaswal. Funded by ICMR for 3 years (23 December 2004 to 22 December 2007). Funds: Rs 9,47,640.
2. Comparison of recovery, and complications and recurrence rate after endoscopic versus open carpal tunnel release. Rajesh Malhotra. Funded by ICMR for 3 years (1 June 2003 to 1 June 2006). Funds: Rs 21 lakh.
3. The establishment and organization of bone bank of fresh frozen bone allografts and utilization of femoral heads harvested from live donors. S. Bhan. Funded by DST for 4.5 years (2 August 1999 to 30 June 2004). Funds: Rs 26 lakh.
4. Determination of the therapeutic range of temperature for heat therapy for Indian patients—a preliminary study. Funded by ICMR for 2.5 years (1 January 2003 to 30 June 2005). Funds: Rs 2.5 lakh.

### **Departmental Projects**

#### ***Completed***

1. Assessment of bone allograft for acetabular reconstruction in total hip arthroplasty.
2. Comparative evaluation of quadruple semitendinosus tendon autograft fixed at femoral site by two different techniques in the reconstruction of torn anterior cruciate ligament.

#### ***Ongoing***

1. Assessment of outcome of surgery for scoliosis.
2. Evaluation of the effect of alteration in joint line and patellar height on range of movement and stability after total knee arthroplasty.

3. Role of autologous bone grafts and other bone substitute as an adjunct to the treatment of comminuted fracture of P/E radius.
4. Evaluation of result of TKA in stiff knee.
5. To study the role of synovectomy of wrist in cases of inflammatory arthritis of wrist.
6. Giant cell tumour of bone—a clinicopathological study.
7. Outcome of results in minimally invasive spinal fusion in various disorders of thoracic and lumbar spine.
8. Evaluation of results of cementless and hybrid total hip arthroplasty in adults.
9. Fixed bearing vs mobile bearing total knee arthroplasty. A comparative analysis of PFC rotating platform and PFC sigma (fixed bearing) at minimum follow up of one year.
10. Arthroscopic and MRI correlation of meniscal lesions occurring in ACL deficient knee.
11. Management of musculoskeletal deformities of lower limb in haemophilia.

## PUBLICATIONS

### Journals

1. Ahmed A, Mahesh BH, Shamsheery PK, Jayaswal A. Traumatic retrolisthesis of the L4 vertebra. *J Trauma* 2005;**58**:393–4.
2. Anwar R, Khan SA. Unusual self-inflicted injury in a patient with SHAFST syndrome. *German J Psychiatry* 2004;**7**:21–3.
3. Khan SA, Hasan AS. South Asian health: What is to be done? Who cares about superspecialisation? *BMJ* 2004;**328**:839.
4. Khan SA, Rastogi S. Surgery in Ewing's sarcoma—myth or reality. *Indian Journal of Pediatric Oncology* 2004;**25** (Suppl. 2):58–63.
5. Khan SA, Sherwani MKA, Hakim S, Asif N. Back pain in pregnancy. A clinical study. *J Rehab Asia* 2004;**16**:70–2.
6. Kotwal PP, Gupta V. Neglected tendon and nerve injuries of the hand. *Clin Orthop Relat Res* 2005;**431**:66–71.
7. Kotwal PP, Shamsheery P. Post menopausal osteoporosis. *J Int Med Sci Acad* 2004;**17**:129–30.
8. Krishna KE, Dua A, Malhotra R, Bhan S. The external rotation method for the reduction of acute anterior dislocations and fracture—dislocations of the shoulder. *J Bone Joint Surg Am* 2004;**86-A**:2431–4.
9. Krishna KE, Malhotra R, Bhan S. Unilateral vs one stage bilateral total knee replacement in rheumatoid and osteoarthritis arthroplasty—a comparative study. *Indian J Orthopaedics* 2005;**39**:14–20.
10. Logani V, Eachempati KK, Malhotra R, Bhan S. Spontaneous tendon ruptures in alkaptonuria. *J Bone Joint Surg (Br)* 2004;**86**:1090.

11. Nag HL, Chowdhury B, Yadav CS, Bhan S, Pawar M, Upendra BN. The Delhi active test for detection of anterior cruciate ligament tears. *Knee* 2004;**11**:7–8.
12. Nag HL. Fixation of type-C tibial plafond fractures. *J Bone Joint Surg Am* 2004;**86-A**:431–2.
13. Rastogi S, Trikha V, Khan SA. Limb salvage in osteogenic sarcoma: An Indian perspective. *Indian J Med Paediatr Oncol* 2004;**25** (Suppl. 2):46–50.
14. Tan AH, Mitra AK, Chang PC, Tay BK, Nag HL, Sim CS. Assessment of blood-induced cartilage damage in rabbit knees using scanning electron microscopy. *J Orthop Surg (Hong Kong)* 2004;**12**:199–204.
15. Theruvil B, Kapoor V, Thalava R, Nag HL, Kotwal PP. Vascular malformations in muscles around the knee presenting as knee pain. *Knee* 2004;**11**:155–8.
16. Trikha V, Gupta V, Kumar R. Increased uptake in Tc-99m MDP scan of sacral chordoma: An unusual presentation. *Clin Nucl Med* 2004;**29**:562–3.
17. Trikha V, Gupta V, Rastogi S, Kumar R. Tuberculosis of calcaneus: Assessing treatment response by Tc-99m MDP scintigraphy. *Clin Nucl Med* 2004;**29**:506.

### **Books**

1. Malhotra R, Bhan S. *Textbook of orthopedics*. New Delhi: CBS Publishers; 2004.
2. Bhan S, Malhotra R. *Bone banking—current concepts and techniques*. New Delhi: AIIMS, Orthopaedic Research Society Publishers; 2004.

### **PATIENT CARE**

#### The department

- Looks after the ‘Sports Clinic’ once in a week in the afternoon
- Provides state-of-the-art arthroscopic operative support to indoor and outdoor patients
- Takes care of patients with sports injuries and related problems in morning OPDs twice a week
- Attends to the medical needs of athletes in the afternoon once a week at Jawaharlal Nehru Stadium, New Delhi
- Conducts two morning teaching-cum-grand rounds of inpatients every week
- Conducts morning trauma class and evening clinical discussion for postgraduate students once every week

#### **Community service**

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

- Was ‘Orthopaedic Expert’ for the International Amateur Athletic Federation’s World Half-Marathon Championship held at Jawaharlal Nehru Stadium, New Delhi on 3 October 2004, attended to the acute injuries of international athletes on the spot and managed these accordingly.

- Gave a talk on ‘common sports injuries and treatment’ on the All India Radio on 20 and 21 October 2004.
- ‘Discourse on euthanasia’ on an NDTV Programme, ‘We The People’, 19 December 2004.

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

**Professor P.P. Kotwal** was elected as President of the Delhi Orthopaedic Association, November 2004. He was appointed as External Examiner for the practical/clinical and oral examinations of MS Orthopaedics by the Kathmandu University, Kathmandu, Nepal; September 2004. He was Member, Editorial Board and Reviewer of the *Delhi Orthopaedic Journal*, 2004.

Professor Kotwal was Member of the Selection Committee constituted by the National Centre for Antarctic and Ocean Research, Goa to select medical officers for the 24th Indian expedition team to Antarctica; November 2004. He delivered medical briefings to the 24th Indian expedition team to Antarctica at Goa in December 2004.

**Dr S. Rastogi** was elected Member of the Executive Committee of the National Association of Interlocking Surgeons; was the Chairman of the Oncology Session of IOA; and the Organizing Secretary of DOACON-2004, 19–21 November 2004.

**Dr A. Jayaswal** was Member of the Board of Directors of the World Spine Society (WSS); Executive Committee Member of the following international scientific societies: Pacific Asia Society for Minimally Invasive Spine Surgery (PASMIS), Asian Academy of Minimally Invasive Spine Surgery (AAMIS). Among national scientific societies, he is the Vice-President of the Association of Spine Surgeons of India (ASSI) and President of the Delhi Spine Society.

Dr Jayaswal was the Course Director of the ‘Combined Instructional Course on Spine Surgery’ of the Spine Society of Europe (SSE) and Association of Spine Surgeons of India (ASSI), New Delhi, 8–10 October 2004. He was the Chairperson of the 4th Annual Conference of the Pacific Asia Society of Minimally Invasive Spine Surgery (PASMIS-2004), Jeju, Korea, 20 August 2004. He was coordinator of examinations and examiner of the Post Doctoral Fellowship Examination in Spine Surgery of the National Board of Examinations, New Delhi, 25 September 2004. He was Subject Expert of the Standing Selection Committee of the North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), Shillong—an autonomous institute under the Ministry of Health and Family Welfare, Government of India, 25–26 February 2005.

**Dr Rajesh Malhotra** was consultant in the Expert Group Meeting for NMITLI project entitled ‘Medical implants’ for CSIR. He co-opted as Regional Adviser for Hyperguide Web-based Global Orthopaedic Teaching Module.

**Dr H.L. Nag** was Honorary Consultant for Sports Authority of India (SAI), JLN Stadium, New Delhi; was selected both as ‘Associate Member’ and ‘Active Member’ of the International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS); was selected as Member of the Scientific Committee for Sports Medicine of ISAKOS for 2005–2007. He is the Founder Member and Treasurer of the Indian Federation of Sports Medicine (IFSM); and an Executive Member of the Delhi Orthopaedic Association (DOA) and North Zone Indian Orthopaedic Association (NZIOA).

**Dr Shah Alam Khan** was awarded the MCh Orthopaedics degree by the University of Liverpool on 15 December 2004 following the completion of the degree course of MCh Orthopaedics. He was selected as Editor for the prestigious Orthoteers website ([www.orthoteers.org](http://www.orthoteers.org)), the web-based learning tool for the FRCS orthopaedic candidates.

**Dr Ravi Mittal** was awarded the Arthroscopy Fellowship at Praxisklinik, Herten, Germany in May 2004.

**Dr Vikas Gupta** won the Best Paper Award for his paper on 'Wrist arthroscopy' presented at the conference of North Zone Indian Orthopaedic Association, Srinagar, 27–30 May 2004.

## 9.24 Otorhinolaryngology (ENT)

### Professor and Head

R.C. Deka

### Professors

S. Bahadur

S.C. Sharma

### Associate Professors

K.K. Handa

A. Thakar

### Assistant Professors

R. Kumar

A. Kumar (ad hoc)

### EDUCATION

The department has developed an undergraduate (MB,BS) teaching manual. It provided short- and long-term training to 12 national and international doctors.

### Continuing Medical Education

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

Professor R.C. Deka gave a course in Otology at the Rama Krishna Mission Hospital in Kolkata.

#### *Lectures delivered*

The faculty of the department participated in and delivered 22 lectures in continuing medical education programmes, symposia, workshops, national and international conferences during the year.

### National and International Conferences

#### *Organized by the department*

Professor R.C. Deka was the National Chairman of the organizing committee of the International Conference-Asian Research Symposium in Rhinology which was held at Mumbai. It was inaugurated by the Hon'ble President of India Dr A.P.J. Abdul Kalam.

#### *Lectures delivered*

The faculty delivered 21 lectures/guest lectures/invited talks at various national and international conferences.

## RESEARCH

### Funded Projects

#### Ongoing

1. Role of intratympanic dexamethasone therapy in sudden sensorineural loss. R.C. Deka. Funded by ICMR for 2.5 years. Funds: Rs 5.10 lakh.
2. Role of amphotericin lavage and corticosteroid nasal spray combination therapy in allergic fungal sinusitis. R.C. Deka. Funded by ICMR for 3 years. Funds: Rs 6.32 lakh.
3. Empowerment Project: Development of educational and training material for rehabilitating cochlear implantees. R.C. Deka. Funded by the Ministry of Social Justice and Empowerment for 1.5 years. Funds: 2.93 lakh.
4. Assessment of aetiological factors for conductive hearing impairment in rural/urban population. R.C. Deka. Funded by WHO for 1.5 years. Funds: Rs 3.6 lakh.
5. Role of acyclovir–prednisolone therapy in treatment of Bell palsy. R.C. Deka. Funded by ICMR for 2 years. Funds: Rs 3.90 lakh.
6. Study of clinicopathological and immune profile of patients of chronic invasive fungal sinusitis. S.C. Sharma. Funded by ICMR for 3 years (2004–2007). Funds: Rs 6.66 lakh.
7. Effect of cochlear implant on T&C values. R.C. Deka. Funded by CSIR for 9 months. Funds: Rs 90,000.
8. Quality of life in head and neck cancer following multimodality treatment. S. Bahadur. Funded by CSIR for 3 years (2004–2007). Funds: Rs 3.6 lakh.
9. Role of Botox injection in spasmodic dysphonia. K.K. Handa. Funded by AIIMS for 2 years (2002–2004). Funds: Rs 25,000.

## PUBLICATIONS

### Journals

1. Deka RC. Tinnitus: Causes, pathogenesis, diagnosis and management. *Indian J Otolaryngology* 2005;**11**: 3–5.
2. Deka RC, Venkatarthikeyan C, Kumar R. A new procedure for improving hearing results in tympanomastoid surgery with type II tympanoplasty. *Indian J Otolaryngology* 2004;**10**:19–23.
3. Deka RC, Venkatarthikeyan C. Current concepts in the management of Bell's palsy. *Indian J Otolaryngology* 2005;**11**:6–8.
4. Deka RC, Venkatarthikeyan C. Neurotrophic factors for the survival of spinal ganglion cells—a new frontier in the management of sensorineural deafness. *Indian J Otolaryngology* 2004;**10**:3–5.
5. Kumar A, Sharma SC. Laryngeal papillomatosis. *Asian J Ear Nose Throat* 2004;**2**:32–4.
6. Mannan AA, Ray R, Sharma SC, Hatimota P. Infantile fibromatosis of the nose and paranasal sinuses: Report of a rare case and brief review of the literature. *Ear Nose Throat J* 2004;**83**: 481–4.

7. Mohanti BK, Umopathy H, Bahadur S, Thakar A, Pathy S. Short course palliative radiotherapy of 20 Gy in 5 fractions for advanced and incurable head and neck cancer: AIIMS study. *Radiother Oncol* 2004;**71**:275–80.
8. Nallegowda M, Singh U, Khanna M, Yadav SL, Choudhary AR, Thakar A. Morgagni Stewart Morel Syndrome—additional features. *Neurol India* 2005;**53**:117–19.
9. Panda NK, Balaji P, Chakrabarti A, Sharma SC, Reddy CE. Paranasal sinus aspergillosis: Its categorization to develop a treatment protocol. *Mycoses* 2004;**47**:277–83.
10. Roy BC, Saxena NS, Kumar A. Extraluminal migration of esophageal foreign body leading to peri-esophageal abscess formation. *Asian J Ear Nose Throat* 2004;**2**:44–6.
11. Shah N, Handa KK, Sharma MC. Malignant mesenchymal tumor arising from cherubism: A case report. *J Oral Maxillofac Surg* 2004;**62**:744–9.
12. Sharma SK, Kurian S, Malik V, Mohan A, Handa KK, Mukhopadhyay S. A stepped approach for prediction of obstructive sleep apnea in overtly asymptomatic obese subjects: A hospital based study. *Sleep Med* 2004;**5**:351–7.
13. Venkatakarthikeyan C, Thakar A, Lodha R. Endoscopic correction of severe laryngomalacia. *Indian J Paediatr* 2005;**72**:165–8.

### Chapters in Books

1. Deka RC, Handa KK. Emergencies in ENT. In: Chaudhary P (ed). *Principles of pediatric and neonatal emergencies*. 2nd ed. New Delhi: Jaypee Brothers; 2004:642–6.
2. Deka RC, Thakar A. The skull base. In: Tuli BS, Tuli IP (eds). *Textbook of ear, nose and throat*. New Delhi: Jaypee Brothers; 2005:345–9.

### PATIENT CARE

#### Facilities available in the department

The department provides state-of-the-art ENT service and is equipped with the entire range of diagnostic and therapeutic equipment including a cochlear implant laboratory, audiological facilities, electronystagmographic facilities, electrodiagnostic audiometry, hearing aid analyser, ear mould laboratory, speech therapy, stroboscopy and computer-aided speech analysis, and nasal and laryngeal endoscopes. The Rehabilitation Unit of Audiology and Speech Therapy functions with the clinical department to provide supportive, diagnostic and rehabilitative services for hearing impairment, speech problems and post-laryngectomy speech disabled.

Since 1996, the department has been successfully conducting the cochlear implant surgery programme. It has provided support in starting cochlear implant surgery programme in R.R. Hospital, Central Railway Hospital and PGIMER, Chandigarh. Professor Deka demonstrated surgery and trained their surgeons.

#### ENT OPD

|           |        |
|-----------|--------|
| New cases | 45,443 |
| Old cases | 32,962 |

## Specialty clinics

| Clinic     | New cases | Old cases |
|------------|-----------|-----------|
| Vertigo    | 101       | 85        |
| Audiology  | 108       | 52        |
| Skull base | 55        | 43        |
| Rhinology  | 107       | 52        |
| Voice      | 441       | 531       |

## Inpatients

|                  |       |
|------------------|-------|
| Long admissions  | 1,426 |
| Short admissions | 260   |

## Surgical procedures

|          |        |
|----------|--------|
| Major    | 2,273  |
| Minor    | 1,636  |
| Minor OT | 20,123 |

## Community services/camps

The department provides comprehensive ENT services at the Primary Health Centre at Ballabhgarh, Haryana. In addition, Dr R. Kumar runs once-a-week OPD services at Deaf Centre, Gurgaon, under the Haryana government. The department also organized several ENT health camps in rural areas and schools during the year.

## AWARDS AND HONOURS

**Professor R.C. Deka** was an invited speaker at the SAARC summit in Colombo in 2004. He was the National Chairman of the organizing committee of the International Asian Research Symposium in Rhinology held at Mumbai in 2004; he was an invited speaker there and also chaired a scientific session. Professor Deka was an invited speaker at the American Academy of Otolaryngology and Head and Neck Surgery (AAOHNS) meeting; he was honored with Fellowship of the American Academy (USA) and was invited by the Academy as a leader from India to attend a meeting of the Board of Governors at New York, USA. He was invited as guest speaker in the Skull Base Congress at Sydney (Australia) and redelivered lecture on ‘Surgical management of large angiofibroma’; he also chaired a scientific session. He was also invited as guest speaker in the Asia-Oceania Conference at Malaysia and delivered lectures on ‘Oral cavity pre-malignant lesions including oral submucous fibrosis’ and ‘Cochlear implant surgery’; he also chaired a scientific session. He gave the Smt. Udhi Devi Sood Oration at the annual meeting of the Indian Society of Rhinology at Bangalore in 2004. He is the founder Chairman of the Indian Academy of Otolaryngology—Head and Neck Surgery. He is the International Editorial Board Member of *Acta Otolaryngologica* (Stockholm); *Otolaryngology—Head and Neck Surgery* (USA); *Otology and Neurotology* (USA); and *Pakistan Journal of Otology*. He is the Editorial Chief of *Indian Journal of Otology* and *Vertigo Viewpoint*. He participated in one Editorial Board meeting of *Otolaryngology—Head and Neck Surgery*; and *Otology and Neurotology* (USA). He is also MCI’s and NBE’s Inspector.

**Professor S. Bahadur** is the current President of the Foundation for Head and Neck Oncology, 2004.

**Dr K.K. Handa** was awarded and availed the Commonwealth fellowship at the Glasgow Royal Infirmary, Glasgow, UK from 21.1.2004 to 6.10.2004 in the field of Lasers and Laryngology. He is the Secretary of the Neuro-otological and Equilibrium Society of India and founder Secretary of the Association of Phonosurgeons of India.

**Dr A. Thakar** gave the Dr G.S. Grewal Oration at the AOI Annual Conference in Indore on 'Vertigo management: Moving beyond labyrinthine suppressants. The pathophysiological approach to diagnosis and treatment'. He is a member of the Working Committee of the Foundation for Head and Neck Oncology. He is the Editorial Board Member of *Otology India* and *Indian Journal of Otology*.

**Dr R. Kumar** is the Governing Body member of the All India Rhinology Society; and AOI (Delhi).

### **VISITING SCIENTISTS**

Twelve doctors visited the department as observers.

#### **National**

Dr Sanjeev Kackar; Dr B. Bandyopadhyay; Dr G. Agarwal; Dr M.K. Gupta; Dr I.P. Reddy; Dr M. Sharma; Dr R.N. Yadav; Dr Sandeep Kumar; and Dr H.N. Prasad.

#### **International**

Dr Kim Chol Jun; Dr Hwang Hui Ryong; and Dr M. Latif Baher.

## 9.25 Paediatrics

### Professor and Head

V. Kalra

### Professors

M.K. Bhan  
(on leave)

V.K. Paul

N.K. Arora

### Additional Professors

A.K. Deorari  
S.K. Kabra

A. Bagga  
Madhulika Kabra

### Associate Professor

P. Hari

### Assistant Professors

R. Aggarwal

S. Gulati

R. Lodha

## EDUCATION

### Undergraduate and Postgraduate

A DM programme in Child Neurology was initiated since 2004 and four candidates were admitted.

### Short-term training

The Division of Nephrology was recognized as a centre for short-term training by the International Pediatric Nephrology Association. The Division of Neonatology developed a high-quality training tool on 'Essential Newborn Nursing' based on participatory learning methods for nurses working in small hospitals in the country. Sixteen short-term trainees were trained in Neurology, seven in Genetics, and four each were trained in Paediatric Pulmonology and Nephrology.

### Continuing Medical Education

The faculty of the department organized/conducted 9 workshops/CME programmes for paediatricians and practising physicians. The Division of Child Neurology organized the 8th Asian and Oceanian Child Neurology Congress at New Delhi. The department organized the 3rd multidisciplinary CME in Paediatrics. The Division of Nephrology organized the first training course of the International Pediatric Nephrology Association and Annual Conference of the Indian Pediatric Nephrology Group. The faculty of the department participated in and delivered 160 guest lectures, keynote addresses, orations, plenary lectures and research papers in the CME programmes, workshops, national and international conferences of various academic bodies during the year.

## RESEARCH

### Funded Projects

1. Health education intervention among school children for prevention of taeniasis and neurocysticercosis. V. Kalra. Funded by the Department of Science and Technology from 2003 to 2004. Funds: Rs 1.27 lakh.
2. Molecular, biological and serological detection of parameters of association of *Campylobacter jejuni* infection in children with Guillain–Barre syndrome. V. Kalra. Funded by the Department of Science and Technology from 2003 to 2006. Funds: Rs 22.68 lakh.
3. Randomized double-blind placebo controlled trial of gabapentin in children with spinal muscular atrophy. S. Gulati. Funded by AIIMS from 2003 to 2005. Funds: Rs 1 lakh.
4. Assessment of injection practices in India: An IndiaCLEN Program Evaluation Network Study. N.K. Arora. Funded by MOHFW/World Bank from 2002 to 2004. Funds: Rs 4 crore.
5. Alpha-1 antitrypsin deficiency in chronic liver diseases of childhood: Genetic and phenotypic characterization. N.K. Arora. Funded by DBT from 2001 to 2005. Funds: Rs 28.64 lakh.
6. IndiaCLEN program for health intervention development and evaluation. N.K. Arora. Funded by IndiaCLEN from 2002 to 2005. Funds: Rs 24 lakh.
7. National Certification Committee for polio eradication. N.K. Arora. Funded by MOHFW, GOI from 1998 to 2005. Funds: Rs 40 lakh.
8. Evaluation of AFP Surveillance and Universal Immunization Programme in India. N.K. Arora. Funded by INCLEN and USAID from 2004 to 2005. Funds: 139.83 lakh.
9. Evaluation of Safe Water Systems Intervention Project in urban slums of Dehradun and Haridwar. N.K. Arora. Funded by INCLEN and USAID from 2004 to 2007. Funds: Rs 28.57 lakh.
10. IndiaCLEN community-acquired microbial resistance (CAMR): Extn-II. N.K. Arora. Funded by INCLEN and USAID from 2004 to 2005. Funds: Rs 7.27 lakh.
11. Determinants of client behaviour in public health campaigns. N.K. Arora. Funded by IndiaCLEN from 2001 to 2004. Funds: Rs 18 lakh.
12. Programme Implementation Project. ‘Integrated Disease Surveillance Programme (IDSP): Development of state and national PIPs (project implementation plans)’. N.K. Arora. Funded by INCLEN and World Bank from 2002 to 2004. Funds: 43 lakh.
13. Specific targeted research of innovation project. S. Bhatnagar. Funded by the European Union from 2005 to 2008. Funds: Rs 89.15 lakh.
14. Zinc as an immunomodulator in the treatment of possible serious bacterial infections in infants more than 7 days and up to 4 months of age. S. Bhatnagar. Funded by DBT from 2005 to 2008. Funds: Rs 96.02 lakh.
15. Extended studies on the safety and efficacy of zinc ORS compared to ORS alone in hospitalized children with severe and complicated acute diarrhoea. S. Bhatnagar. Funded by NORAD from 2003 to 2006. Funds: Rs 81.92 lakh.
16. Aetiological significance of microscopic colitis in chronic diarrhoea in children and its pathogenesis. S. Bhatnagar. Funded by ICMR from 2004 to 2006. Funds: Rs 23.50 lakh.

17. *Helicobacter pylori* infection in early childhood, characterization of isolates and determination of their ability to exert pathogenic effect in *in vitro* models (I-364). S. Bhatnagar. Funded by ICMR from 2001 to 2004. Funds: Rs 16.47 lakh.
18. Impact of zinc supplementation in low birth weight infants on severe morbidity and zinc status: A randomized controlled trial. M.K. Bhan. Funded by Linda and Kenneth Pollin Foundation, USA from 2004 to 2007. Funds: Rs 30.87 lakh.
19. Programme to improve child health and nutrition in South Asia. M.K. Bhan. Funded by NUFU from 2002 to 2006. Funds: Rs 54.80 lakh.
20. The Indo-US collaboration to develop rotavirus vaccine. M.K. Bhan. Funded by NIH, USA from 2003 to 2008. Funds: Rs 209.16 lakh.
21. Impact of zinc supplementation on mortality and hospitalizations in children aged 2 months to 23 months. M.K. Bhan. Funded by WHO from 2001 to 2005. Funds: Rs 882 lakh.
22. Reactogenicity and immunogenicity of live attenuated rotavirus vaccine candidate strain 116E and I321 in healthy adults. M.K. Bhan. Funded by DBT from 2000 to 2008. Funds: Rs 27.54 lakh.
23. Growth hormone replacement in Turner syndrome. M. Kabra. Funded by LG Life Sciences (India) from 2003 to 2004. Funds: Rs 17,699.
24. Cytogenetics and molecular studies in chromosomal breakage syndromes. Madhulika Kabra. Funded by CSIR from 2003 to 2008.
25. Molecular studies for Wilson disease. Madhulika Kabra. Funded by CSIR from 2003 to 2005.
26. Early stimulation of children with Down syndrome. Madhulika Kabra. Funded by AIIMS from 2003 to 2004. Funds: Rs 35,000.
27. Mapping genes for non-syndromic hereditary hearing impairment. Madhulika Kabra. Funded by the National Institute of Deafness and Other Communication Disorders (NIDCD), NIH, Rockville, Maryland, USA from 1997 to 2005. Funds: Rs 13.5 lakh per annum.
28. An integrated approach for mutation analysis and identification of new gene(s) for X-linked mental retardation. Madhulika Kabra. Funded by DBT from 2005 to 2008. Funds: Rs 13 lakh.
29. National Neonatal Perinatal Database (NNPD). A.K. Deorari. Funded by ICMR from 2001 to 2005. Funds: Rs 45 lakh.
30. Capacity building in newborn nursing at district and sub-district hospitals. A.K. Deorari. Funded by Saving Newborn Lives (SNL), Save the Children, USA from 2004 to 2005. Funds: US\$ 24,089.
31. Promoting kangaroo mother care in India. A.K. Deorari. Funded by Saving Newborn Lives (SNL), Save the Children, USA from 2004 to 2005. Funds: US\$ 17,734.
32. Young Infant Sepsis Study. A.K. Deorari. Funded by SEARO, WHO from 2004 to 2005. Funds: US\$ 60,000.
33. Efficacy of intramuscular vitamin K1 versus intramuscular vitamin K3 in the prevention of subclinical classic vitamin K deficiency: A randomized controlled trial. R. Agarwal. Funded by AIIMS from 2003 to 2005. Funds: Rs 1 lakh.
34. Treatment of acute lymphoblastic leukaemia in children and young adults. Protocol INCTR (International Network for Cancer Treatment and Research). L.S. Arya. Funded by INTCR, Brussels, Belgium from 2002 to 2004. Funds: Rs 18 lakh.

35. Translational research initiative in lymphoid malignancies (childhood ALL) (King Faisal Specialist Hospital and Research Centre). L.S. Arya. Funded by the Kingdom of Saudi Arabia from 2002 to 2006.
36. Childhood Hodgkin disease: Role of Epstein–Barr virus (EBV) association, cellular proliferation and apoptosis parameters in relation with the treatment outcome. L.S. Arya. Funded by ICMR from 2003 to 2005. Funds: Rs 12 lakh.
37. To study the effect of seasonal changes on growth of Indian children with cystic fibrosis. S. Kabra. Funded by the International Cystic Fibrosis (mucoviscidosis) Association (Cystic Fibrosis Worldwide) from 2002 to 2004. Funds: US\$ 10,000.
38. Randomized double-blind placebo-controlled trial of amoxycillin in the treatment of non-severe pneumonia with wheeze in children 2–59 months of age: A multicentric double-blind trial. S. Kabra. Funded by USAID from 2004 to 2005. Funds: Rs 10 lakh.
39. Effectiveness of 3-day amoxycillin versus 5-day co-trimoxazole in the treatment of non-severe pneumonia in children aged 2–59 months—a multicentric open-label trial (I-424). S. Kabra. Funded by ICMR, IndiaCLEN from 2004 to 2005. Funds: Rs 7 lakh.
40. Circulating vasopressin levels in children with septic shock. R. Lodha. Funded by AIIMS from 2004 to 2005. Funds: Rs 50,000.
41. Zinc as an immunomodulator in the treatment of possible serious bacterial infections in infants more than 7 days and up to 2 months of age. S. Bhatnagar. Funded by DBT.
42. Serum levels of cystatin C and creatinine in malnourished and normally nourished boys. Pankaj Hari. Funded by AIIMS from 2003 to 2004. Funds: Rs 50,000.
43. Paediatric eplerenone development study II: An open-label long-term study to evaluate the safety of eplerenone in the treatment of hypertension in children. A. Bagga. Funded by Pfizer India from 2004 to 2006. Funds: Rs 10 lakh.

### **Departmental and Collaborative Projects**

1. Randomized trial of oral diazepam versus clobazam in prophylaxis of febrile seizures in children.
2. To evaluate the presence of *Toxoplasma* antibodies and cysticercal antibodies in blood and CSF of patients with ring lesions.
3. A study of gastroesophageal reflux by scintigraphy and ultrasonography in developmentally delayed children.
4. Randomized trial of propranolol versus flunarizine in childhood migraine.
5. Randomized trial of 28 days albendazole vs 1-day praziquantel in children with neurocysticercosis.
6. Blood lead level estimation in patients with suspected lead poisoning.
7. Attention deficit disorders: Atomoxetine trial.
8. Rett syndrome: Clinical evaluation, genetic evaluation, stimulation and therapeutic trials.
9. To study the cognitive and behavioural profile of children with coeliac disease before and after the introduction of a gluten-free diet and the various neuropsychiatric manifestations of coeliac disease.

10. A randomized controlled trial of mosapride versus metoclopramide for treatment of gastroesophageal reflux in developmentally delayed children.
11. Evaluation of genetic polymorphism in *MTHFR* gene as a risk factor for neural tube defect in offspring.
12. Molecular genetics of Wilson disease in Indian patients.
13. Effect of short-term phenytoin monotherapy on bone mineral density in ambulatory epileptic children.
14. Prevalence of spina bifida occulta in patients with enuresis and its relation to urodynamic and neurophysiological measurements.
15. Prospective randomized double-blind controlled trial of dexamethasone versus albendazole on calcification as an outcome in 1–2 ring enhancing lesions in neurocysticercosis in children.
16. Magnetic resonance spectroscopy (MRS) in various neurological disorders: Ring lesions in neurocysticercosis persisting for more than 1 year; Megalencephaly and leucodystrophy; Attention-deficit hyperactivity disorders; Friedrich ataxia; Tuberos sclerosis; Neurocysticercosis/Tuberculoma; Leigh disease.
17. Risk of seizures and neurocysticercosis among children with taeniasis and their household contacts. An ongoing community study with the Municipal Corporation of Delhi and NICD (with CSIR).
18. Magnetic resonance spectroscopy in children with protein–energy malnutrition (with NMR; CSIR).
19. Cardiac dysfunction in Becker muscular dystrophy and Duchenne muscular dystrophy carriers (with Paediatric Cardiology).
20. Creatine therapy trial in vacuolating leucodystrophy: Clinical outcome and follow up MRS study (with NMR).
21. Autistic spectrum disorders network established—screening tests, autism rating scales and drug trials with risperidone, olanzepine under Indo–US Science and Technology Collaboration, training resource material developed, Awareness generation, Networking with NGOs and parents, Registry for Autism initiated in Delhi.
22. Magnetic resonance spectroscopy (MRS) in Rett syndrome (with NMR).
23. Analysis of muscle response to flexible and rigid fixed functional appliance—an EMG study of the masseter and anterior temporalis muscle (with Dental Surgery).
24. Evaluation of the adaptive changes associated with twin block therapy on the masseter and temporalis with and without prior muscle deprogramming: An EMG study (with Dental Surgery).
25. Real-time PCR for enteroviruses in cerebrospinal fluid of aseptic meningitis patients (with Microbiology).
26. Gastrointestinal manifestations of cystic fibrosis.
27. Randomized trial on effect of zinc supplementation on response to growth hormone in children with growth hormone deficiency.
28. *MTHFR* polymorphisms in mothers having babies with Down syndrome.
29. Aetiology of mental retardation in young children.
30. IVS8-5T allele polymorphism in asthma.

31. Prevalence of mitochondrial DNA mutations among non-syndromic sensorineural hearing-impaired population in India.
32. Pulse oximetry in the diagnosis of congenital heart disease.
33. Phototherapy with slings in neonatal hyperbilirubinaemia—a randomized controlled trial.
34. Incidence, clinical profile of *Mycoplasma* infections in preterms (with Microbiology).
35. Screening for CMV infection by PCR (with Microbiology).
36. Implementation of KMC model in moderately low birth weight newborns: Effect on breast-feeding.
37. Effect of two-dose regime of intravenous immunoglobulin in Rh haemolytic disease of the newborn—a randomized controlled trial.
38. Slow vs fast feed advancement on incidence of feed intolerance in VLBW babies: A randomized controlled trial.
39. Longitudinal study of breastfeeding practices of mothers (with College of Nursing).
40. Characterization of aetiology of oral ulcers in children with acute lymphoblastic leukaemia.
41. Ocular toxicity in paediatric cancer survivors.
42. Pulmonary toxicity in paediatric cancer survivors.
43. Bone densitometry in paediatric cancer survivors.
44. Human papillomavirus (HPV) infection in retinoblastoma.
45. Screening for retinoblastoma in children—twinning with pulse polio immunization programme of the Government of India.
46. Efficacy of chemotherapy on adding cyclosporin to our four-drug regimen in the management of retinoblastoma.
47. Plasma levels of chemotherapeutic agents in the treatment of retinoblastoma with and without cyclosporin.
48. Intravitreal levels of chemotherapeutic agents in the treatment of retinoblastoma with and without cyclosporin.
49. Randomized controlled trial of montelukast versus low-dose inhaled corticosteroids in the treatment of mild persistent asthma.
50. Determination of the factors affecting the outcome of children under 5 years of age hospitalized with severe community-acquired pneumonia.
51. Adrenal status in children with septic shock.
52. Thyroid profile in children with septic shock.
53. Comparison of the rapid bronchodilator effect of salmeterol versus formoterol: A randomized controlled trial.
54. Pain in children.

55. Randomized controlled trial of the effect of enalapril on glomerular filtration rate in children with chronic renal failure.
56. Randomized controlled crossover trial to compare the diuretic and natriuretic effects of intravenous furosemide infusion with co-administration of furosemide and human albumin infusions in children with nephrotic syndrome and refractory oedema.
57. Effectiveness of zinc supplementation in reducing relapse rates in patients with steroid-sensitive nephrotic syndrome.
58. Randomized controlled trial to compare the efficacy of enalapril with a combination of enalapril and irbesartan in reducing proteinuria in steroid-resistant nephrotic syndrome.

## PUBLICATIONS

### Journals

1. Agarwal G, Awasthi S, Kabra SK, Kaul A, Singhi S, Walter SD; ISCAP Study Group. Three day versus five day treatment with amoxicillin for non-severe pneumonia in young children: A multicentre randomized controlled trial. *BMJ* 2004;**328**:791.
2. Arya LS, Dinand V, Bakhshi S, Thavaraj V, Singh R, Dawar R. Significance of splenomegaly in childhood Hodgkin disease. *J Pediatr Hematol Oncol* 2004;**26**:807–12.
3. Arya VB, Agarwal R, Paul VK, Deorari AK. Efficacy of oral phenobarbitone in term ‘at risk’ neonates in decreasing neonatal hyperbilirubinemia: A randomized double-blinded, placebo controlled trial. *Indian Pediatr* 2004;**41**:327–32.
4. Azad RV, Pasumala L, Kumar H, Talwar D, Pal R, Paul VK, *et al.* Prospective randomized evaluation of diode-laser and cryotherapy in prethreshold retinopathy of prematurity. *Clin Exp Ophthalmol* 2004;**32**:251–4.
5. Bajpai A, Bardia A, Mantan M, Hari P, Bagga A. Non-azotemic refractory rickets in Indian children. *Indian Pediatr* 2005;**42**:23–30.
6. Bajpai A, Kabra M, Menon PS. 21-hydroxylase deficiency: Clinical features, laboratory profile and pointers to diagnosis in Indian children. *Indian Pediatr* 2004;**41**:1226–32.
7. Bajpai A, Menon PS. Growth hormone therapy. *Indian J Pediatr* 2005;**72**:139–44.
8. Bajpai A, Sharma J, Hari P, Bagga A. Pseudohypoparathyroidism presenting with bony deformities resembling rickets. *Indian J Pediatr* 2004;**71**:345–8.
9. Bakhshi S, Arya LS. Conjunctival mass: Rare site of extramedullary relapse in childhood acute lymphoblastic leukaemia. *J Assoc Physicians India* 2005;**53**:160–1.
10. Bakhshi S, Jain P, Anand M, Padmanjali K, Kumar R, Arya LS. Non-Hodgkin’s lymphoma seven years following remission of acute lymphoblastic leukaemia. *Indian J Pediatr* 2004;**71**:431–2.
11. Bakhshi S, Rao IS, Jain V, Arya LS. Autoimmune hemolytic anemia complicating disseminated childhood tuberculosis. *Indian J Pediatr* 2004;**71**:549–51.
12. Banerjee K, Kriplani A, Kumar V, Rawat KS, Kabra M. Detecting fetomaternal hemorrhage after first-trimester abortion with the Kleihauer–Betke test and rise in maternal serum alpha-fetoprotein. *J Reprod Med* 2004;**49**:205–9.

13. Bang AT, Paul VK, Reddy HM, Baitule SB. Why do neonates die in rural Gadchiroli, India? (Part I): Primary causes of death assigned by neonatologist based on prospectively observed records. *J Perinatol* 2005;**25** (Suppl. 1):S29–S34.
14. Barman D, Mirdha BR, Samantray JC, Kironde F, Kabra SK, Guleria R. Evaluation of quantitative buffy coat (QBC) assay and polymerase chain reaction (PCR) for diagnosis of malaria. *J Commun Dis* 2003;**35**:170–81.
15. Bhan G, Bhandari N, Taneja S, Mazumder S, Bahl R; Zinc Study Group. The effect of maternal education on gender bias in care-seeking for common childhood illnesses. *Soc Sci Med* 2005;**60**:715–24.
16. Bhandari N, Bahl R, Mazumdar S, Martines J, Black RE, Bhan MK; Infant Feeding Study Group. Effect of community-based promotion of exclusive breastfeeding on diarrhoeal illness and growth: A cluster randomized controlled trial. *Lancet* 2003;**361**:1418–23.
17. Bhandari N, Mazumder S, Bahl R, Martines J, Black RE, Bhan MK; Infant Feeding Study Group. An educational intervention to promote appropriate complementary feeding practices and physical growth in infants and young children in rural Haryana, India. *J Nutr* 2004;**134**:2342–8.
18. Bhandari N, Taneja S, Rongsen T, Chetia J, Sharma P, Bahl R, Kashyap DK, Bhan MK. Implementation of the WHO Multicentre Growth Reference Study in India. *Food Nutr Bull* 2004;**25**:S66–S71.
19. Bhandari N. Zinc treatment in diarrhea. *FriscoCare's J Infant Nutr* 2003;**5**:8–9.
20. Bhatnagar S, Bahl R, Sharma PK, Kumar GT, Saxena SK, Bhan MK. Zinc with oral rehydration therapy reduces stool output and duration of diarrhea in hospitalized children: A randomized controlled trial. *J Pediatr Gastroenterol Nutr* 2004;**38**:34–40.
21. Bhatnagar S, Bhandari N, Mouli UC, Bhan MK. IAP National Task Force. Consensus Statement of IAP National Task Force: Status report on management of acute diarrhea. *Indian Pediatr* 2004;**41**:335–48.
22. Bhatnagar S, Natchu MU. Coeliac disease in Indian children. *Natl Med J India* 2004;**17**:124–7.
23. Bhatnagar S, Natchu UC. Zinc in child health and disease. *Indian J Pediatr* 2004;**71**:991–5.
24. Chandra P, Paliwal L, Lodha R, Kabra SK. Comparison of terbutaline and salbutamol inhalation in children with mild or moderate acute exacerbation of asthma. *Indian J Pediatr* 2004;**71**:961–3.
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## **PATIENT CARE**

### **OPD and specialty clinics**

Please *see* Chapter 6, Appendix III.

### **Inpatients**

Please *see* Chapter 6, Appendix V.

The Division of Neonatology created a network of five institutions in the country for spreading awareness about low-cost Kangaroo Mother Care among parents and health professionals. A website [www.kmcindia.org](http://www.kmcindia.org) was also launched.

### **Laboratory investigations**

#### ***Special tests and procedures in pulmonology***

|                           |     |
|---------------------------|-----|
| Sweat chloride estimation | 750 |
| Fibreoptic bronchoscopy   | 100 |
| Spirometry                | 500 |
| Mechanical ventilation    | 160 |

#### ***Special tests and procedures in nephrology***

|                       |     |
|-----------------------|-----|
| Haemodialysis         | 400 |
| Peritoneal dialysis   | 55  |
| Creatinine analysis   | 15  |
| Urine pH              | 10  |
| Renal biopsy          | 95  |
| Renal transplantation | 5   |

#### ***Paediatric ward laboratory services***

|                                  |        |
|----------------------------------|--------|
| Blood gas analysis               | 10,000 |
| Urine pH and bicarbonate         | 370    |
| Blood sodium, potassium, calcium | 7,000  |
| Blood chloride, glucose, lactate | 750    |

#### ***Cytogenetics tests***

|                               |     |
|-------------------------------|-----|
| Peripheral blood cultures     | 254 |
| Cord cultures for karyotyping | 24  |

***Biochemical tests in genetics and endocrinology***

|   |       |
|---|-------|
| Urine and plasma for disorders of amino acid metabolism | 685   |
| Disorders of mucopolysaccharidosis (Spot test)          | 50    |
| Galactosaemia   | 7     |
| Maternal serum alpha foetoprotein                       | 1,767 |
| Maternal serum beta-hCG                                 | 1,399 |
| Maternal serum oestriol                                 | 1,390 |
| Homocysteinuria test                                    | 70    |
| Alkaptonuria screening                                  | 10    |
| Ehrlich porphyria test                                  | 11    |
| Plasma ammonia  | 211   |

***Special procedures and investigations in gastroenterology and hepatology***

|  |       |
|--|-------|
| Upper gastrointestinal endoscopy   | 485   |
| EST  | 157   |
| Colonoscopy  | 124   |
| Intestinal biopsies  | 117   |
| Polypectomy  | 18    |
| Stricture dilatation   | 141   |
| HBsAg  | 871   |
| HBV DNA  | 41    |
| Anti-Hbc IgM   | 123   |
| HbeAg  | 243   |
| Anti-Hbe   | 263   |
| Anti-Hbs   | 7     |
| Anti-HCV   | 693   |
| HCV RNA  | 21    |
| HAV IgM  | 244   |
| HEV IgM  | 250   |
| $\alpha$ 1 Antitrypsin band  | 526   |
| $\alpha$ 1 Antitrypsin Pi-Phenotype  | 571   |
| Tyrosinaemia   | 159   |
| D-xylose   | 96    |
| 24-hour faecal fat estimation  | 51    |
| Immunofluorescence assay for anti-endomysial antibodies<br>and tissue transglutaminase ELISA for coeliac disease | 410   |
| Sudan III test   | 98    |
| C-reactive protein   |       |
| Qualitative  | 14    |
| Quantitative   | 14    |
| Nitro-blue tetrazolium test for CGD  | 20    |
| Serum Zn estimation  | 2,500 |
| Serum Cu estimation  | 2,000 |
| Intestinal biopsy  | 300   |

### ***Molecular genetics (DNA probes)***

|  |     |
|--|-----|
| Thalassaemia family studies                    | 105 |
| Thalassaemia prenatal diagnosis                | 91  |
| Duchenne muscular dystrophy family studies     | 7   |
| Duchenne muscular dystrophy prenatal diagnosis | 11  |
| Cystic fibrosis family studies                 | 40  |
| Cystic fibrosis prenatal diagnosis             | 01  |
| Spinal muscular atrophy family studies         | 49  |
| Spinal muscular atrophy prenatal diagnosis     | 15  |
| Haemophilia A family studies                   | 10  |
| Haemophilia A prenatal diagnosis               | 2   |
| Haemophilia B family studies                   | 2   |
| Haemophilia B prenatal diagnosis               | 4   |
| Fragile X screening/prenatal                   | 116 |
| Xmn polymorphism studies                       | 10  |
| Amniotic fluid Rh genotyping                   | 15  |
| Intersex cases for genotyping                  | 61  |
| Skeletal dysplasia mutations                   | 18  |

### ***Special tests in neurology***

|   |       |
|---|-------|
| Electroencephalography                                | 1,410 |
| Electrophysiological studies—EMG, NCV, BERA, VER      | 150   |
| Blood lead estimations                                | 20    |
| Arterial lactate                                      | 250   |
| CSF lactate   | 100   |
| Muscle biopsies                                       | 175   |
| Nerve biopsies  | 10    |
| Skin biopsies   | 20    |
| Urine aminoacidogram and neurometabolic tests         | 500   |
| Plasma ammonia  | 200   |
| Gene deletion studies in DMD                          | 70    |
| Gene deletion studies in SMA                          | 47    |
| Fragile X screening                                   | 50    |
| Developmental/behavioural evaluation and intervention | 1,465 |

### **Community service**

The Division of Neurology volunteered professional services to the Pulse Polio Initiative, Spastics Society of North India, Inner Wheel (Rotary), Prayas and many other NGOs. School-based services were provided for children with learning disabilities.

### **AWARDS AND HONOURS**

**Professor V. Kalra** was President of the Asian Oceanian Child Neurology Association (AOCNA); Executive Board Member of the International Child Neurology Association since 1999; Chairperson of the International Education Committee of ICNA from 2002 till date; Editorial Board Member of the *Journal of Child Neurology* (USA) (since 1999), *Pediatric Neurology* (USA), *Journal of Pediatric Neurology* (Turkey), *Indian Pediatrics* (since 1990), *Indian Journal of Pediatrics*, *Pediatrics Today*;

Editorial Advisory Board Member of *Current Pediatric Research*; Expert for Science and Society Division of DST for review of health projects.

**Dr V.K. Paul** was the lead speaker at the global launch of the *Lancet* Neonatal Survival Series at the National Press Club, Washington, DC; Advisor (MCH) and a Member of the Design Team for the Reproductive and Child Health Programme (Phase II) for the Ministry of Health and Family Welfare, Government of India; Member of the United Nations Millennium Project Task Force on Child Health and Maternal Health; Member of the Technical Advisory Group of the Saving Newborn Lives initiative of the Save the Children (US); Member of the International Editorial Board of the *Journal of Perinatology*.

**Dr N.K. Arora** was a Member Coordinator, National Certification Committee for Polio Eradication; Member of the India Expert Group on Polio Eradication, WHO-GOI, New Delhi; Member of the National Advisory Group on Immunization (NTAGI)-Ministry of Health and Family Welfare; Team Leader, IndiaCLEN Program Evaluation Network involved in evaluation of public health programmes in India since 1999; Coordinator, IndiaCLEN Program for Health Interventions and Evaluation (IPHIDE); Core Group Member, India Injection Safety Coalition; Member, Working Group for Review of National Nutrition Policy and National Plan of Action on Nutrition, Department of Women and Child Development; Member, Technical Committee on specification of AD Syringe, Ministry of Health, GOI; Nominated Member, Shadow Committee on Codex Committee on Nutrition and Food for Special Dietary Uses by Directorate General of Health Services PH (Food Section); Member, Planning Group for Centre for Public Health and Biotechnology, DBT; Member, Technical Advisory Group for Shivgarh Project (Johns Hopkins University); Editor, *Indian Journal of Pediatrics*.

**Dr A.K. Deorari** served as UN-WHO consultant to the Republic of Maldives for establishing neonatal intensive care facilities; received the Best Research Paper award at the 13th Federation Asia Oceania Perinatal Society Meeting, Kuala Lumpur.

**Dr Arvind Bagga** was appointed a Member of the Childhood Vasculitis Classification Committee: European League against Rheumatism; Councilor, International Pediatric Nephrology Association; Member of the International Advisory Board of *Current Pediatrics*.

**Dr Pankaj Hari** was appointed Secretary, Indian Pediatric Nephrology Group of the Indian Academy of Pediatrics.

**Dr Sheffali Gulati** was appointed Executive Board Member of the Indian Academy of Pediatrics, Delhi branch; Editorial Board Member of *Indian Pediatrics* and *Indian Journal of Pediatrics*.

**Dr Rakesh Lodha** was a technical expert for the Expert Technical UNICEF/MSF/WHO Consultations at Geneva.

## 9.26 Paediatric Surgery

### Professor and Head

D.K. Mitra (up to 31.12.2004)/D.K. Gupta (from 1.1.2005)

### Professor

V. Bhatnagar

### Additional Professor

M. Bajpai

### Associate Professors

S. Agarwala

M. Srinivas

### EDUCATION

#### Undergraduate, Postgraduate and Paramedical

- Teaching of undergraduate medical and nursing students
- Teaching and training of MCh Paediatric Surgery trainees; this included seminars, journal clubs, case discussions, thesis presentations
- Trainees on rotation—MCh trainees in Neurosurgery, DM trainees in Neonatology, MS trainees in General Surgery
- Training of BSc and MSc Nursing students

#### Short- and long-term training

The following underwent short-term training/observership at the department:

- Dr Gundela Holmdahl, Paediatric Surgeon from Sweden, from 30.1.05 to 12.2.05.
- Dr Marina Basile, Paediatric Surgeon from Italy, from 18.1.05 to 20.4.05.
- Dr Rishavdeb Patra, Paediatric Surgeon from Kolkata, from 10.11.04 to 16.11.04.
- Dr Umesh Mehta, WHO fellow in Neonatology from Karnal, Haryana, from 1.12.04 to 15.12.04.
- Jyotika Prasad and Alice Pan from New Zealand did their sixth year elective posting in December 2004–January 2005.
- Eight nurses from IGICH, Kabul, Afghanistan underwent training in AB5 ward and AB5 ICU.

#### Continuing Medical Education

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

- Symposium on 'Biotechnological frontiers in Paediatric Surgery' on 14 December 2005.

- ‘Management of corrosive oesophageal injuries in children’; Clinical Grand Round, AIIMS, New Delhi; 6 April 2004.
- ‘Urinary bladder augmentation’; Clinical Grand Round, AIIMS, New Delhi; 1 March 2005.
- Symposium on ‘Paediatric solid tumours’ was organized in collaboration with the Department of Medical Oncology, IRCH, AIIMS, New Delhi; 30 January 2005.

### ***Lectures delivered***

#### **Dr D.K. Gupta**

- ‘Constipation in children’; Symposium on Update in Paediatric Surgery, Sangli, Maharashtra; 16–17 January 2004.
- ‘Congenital hydronephrosis’; CME programme in Paediatric Surgery, NSBMC, Jabalpur; 25 September 2004.
- ‘Posterior urethral valve—pathophysiology and treatment’; Workshop on Pathophysiology of Hydronephrosis, University of Foggia, Italy; June 2004.
- ‘Pyeloplasty by mini procedure and single transanastomotic stent’; Workshop on Pathophysiology of Hydronephrosis, University of Foggia, Italy; June 2004.
- ‘Aetiopathology of congenital hydronephrosis due to PUJ obstruction’; Workshop on Pathophysiology of Hydronephrosis, University of Foggia, Italy; June 2004.
- ‘Management of vesicoureteric reflux and associated malformations—clinical, medical and surgical strategies’; Workshop on Pathophysiology of Hydronephrosis, University of Foggia, Italy; June 2004.
- ‘Surgical treatment of giant hydronephrosis by mini incision’; Workshop on Pathophysiology of Hydronephrosis, University of Foggia, Italy; June 2004.
- ‘Hydronephrosis in children—indications for pyeloplasty’; Postgraduate Institute of Medical Sciences and SSKM Hospital, Kolkata; 24 July 2004.

#### **Dr V. Bhatnagar**

- ‘Surgical intervention in inflammatory bowel disease’; Postgraduate lecture series, Department of Paediatrics, AIIMS, New Delhi; 5 February 2004.
- ‘Reflux nephropathy—consensus and controversies in management’; Nephrology Update, Department of Nephrology, AIIMS, New Delhi; 28–29 February 2004.
- ‘Principles in the evaluation of neonatal cholestasis’; Postgraduate lecture series, Department of Paediatric Surgery, AIIMS, New Delhi; 8 April 2004.
- ‘From research to publication: Data analysis, report writing and publication’; Workshop on Clinical Research, Lucknow; 16 April 2005.
- ‘Surgical principles for treatment of Wilms tumour’; Symposium on Paediatric Solid Tumours, AIIMS, New Delhi; 30 January 2005.

### **Dr M. Bajpai**

- Panelist on the discussion on 'Paediatric rhabdomyosarcoma'; Symposium on Paediatric Solid Tumours, AIIMS, New Delhi; 30 January 2005.

### **Dr Sandeep Agarwala**

- Guest lecture on 'Principles of surgery in paediatric rhabdomyosarcoma', Symposium on Paediatric Solid Tumours, AIIMS, New Delhi; 30 January 2005.
- Conducted panel discussions on 'Wilms tumour' and 'Paediatric rhabdomyosarcoma'; Symposium on Paediatric Solid Tumours, AIIMS, New Delhi; 30 January 2005.

### **National and International Conferences**

#### ***Organized by the department***

- International workshop-cum-symposium on Paediatric Urology and joint meetings of the Asian and Indian Societies of Paediatric Urology, AIIMS; 8–9 November 2004. Dr Bajpai was the Organizing Secretary.

#### ***Lectures delivered***

### **Dr D.K. Gupta**

- 'Oesophageal reconstruction in children using stomach'; 1st World Congress of Paediatric Surgery, Zagreb, Croatia; 22–27 June 2004.
- 'Oesophageal manometry in children with caustic oesophageal injury'; 1st World Congress of Paediatric Surgery, Zagreb, Croatia; 22–27 June 2004.
- 'Controversies in the management of parapagus conjoined twins'; 1st World Congress of Paediatric Surgery, Zagreb, Croatia; 22–27 June 2004.
- 'Assessment of pulmonary functions and GER in patients with congenital diaphragmatic hernia'; 1st World Congress of Paediatric Surgery, Zagreb, Croatia; 22–27 June 2004.
- 'Steroids in surgically induced oesophageal fibrosis in rats'; 1st World Congress of Paediatric Surgery, Zagreb, Croatia; 22–27 June 2004.
- 'A simplified approach (instead of HPE) in advanced biliary atresia (ABA)'; 1st World Congress of Paediatric Surgery, Zagreb, Croatia; 22–27 June 2004.
- 'Survival following major anastomotic leaks after primary repair for oesophageal atresia with tracheo-oesophageal fistula (EATEF)'; 1st World Congress of Paediatric Surgery, Zagreb, Croatia; 22–27 June 2004.
- Poster on 'Aneuploidy in mesenchymal hamartoma of liver'; 1st World Congress of Paediatric Surgery, Zagreb, Croatia; 22–27 June 2004.
- Poster on 'Tracheal atresia with distal tracheo-oesophageal communication (TADET)'; 1st World Congress of Paediatric Surgery, Zagreb, Croatia; 22–27 June 2004.
- Poster on 'Male sex assignment in patients with congenital adrenal hyperplasia'; 1st World Congress of Paediatric Surgery, Zagreb, Croatia; 22–27 June 2004.

- Poster on ‘Serum inhibin B levels in mixed gonadal dysgenesis and male pseudohermaphroditism: A preliminary study’; 1st World Congress of Paediatric Surgery, Zagreb, Croatia; 22–27 June 2004.
- Poster on ‘Post male genitoplasty—uroflowmetric evaluation in intersex patients with normal urine flow pattern’; 1st World Congress of Paediatric Surgery, Zagreb, Croatia; 22–27 June 2004.
- Guest lecture on ‘Pulmonary malformations in neonates’; AP State Chapter of IAPS, Warrangal, AP; 9–10 July 2004.
- Guest lecture on ‘Neonatal jaundice and TEF’; Annual Conference of the North East Zone of IAPS, Dibrugarh; 16–17 October 2004.
- Guest lecture on ‘Hydrocephalus’; Paediatric Neurology International Congress, New Delhi; 12 October 2004.
- Guest lecture on ‘CDH and pulmonary functions’; 30th Annual Conference of the IAPS, Jabalpur; October 2004.

### **Dr V. Bhatnagar**

- ‘Neonatal cholestasis—surgical point of view’; Symposium on Neonatal Cholestasis, Annual Conference of the Indian Academy of Paediatrics, Chennai; 10 January 2004.
- ‘Anorectal malformations—assessment of postoperative results’; CME lecture, 30th Annual Conference of the India Association of Paediatric Surgeons, Jabalpur; 28–31 October 2004.
- ‘Management of bladder outflow obstruction’; XVI Annual Conference of the Indian Paediatric Nephrology Group and International Paediatric Nephrology Association Training Course, New Delhi; 26–28 November 2004.
- ‘Pre- and postoperative liver histology correlated with surgical outcomes in biliary atresia’; 10th International Surgical Conference of the Society of Surgeons of Pakistan, Lahore; 25–26 February 2005.

### **Dr M. Bajpai**

- Guest lecture on ‘VUR and prevention of chronic kidney disease’; National Congress on Prevention of Chronic Renal Diseases, India Habitat Centre; 26–27 February 2005.

### **Dr Sandeep Agarwala**

- ‘Ventilatory care in congenital diaphragmatic hernia’; Symposia on Congenital Diaphragmatic Hernia, 36th Annual Conference of the India Association of Paediatric Surgeons, Jabalpur; 28–31 October 2004.
- ‘Outcome of hepatoblastoma: Treatment with neoadjuvant chemotherapy and surgery’; 19th Congress of the Asian Association of Paediatric Surgeons, Hong Kong; 28 November–1 December 2004.

## **RESEARCH**

### **Funded Projects**

1. *N-myc* gene amplification by polymerase chain reaction in neuroblastoma and tumour surveillance

by detecting tyrosine hydroxylase protein using RT PCR. D.K. Gupta, S. Agarwala, P. Chattopadhyaya. Funded by DBT for 3 years (2005–2007). Funds: Rs 19.5 lakh.

2. *ACE I/D* gene polymorphism in ‘posterior urethral valves’ and its correlation with transforming growth factor- $\beta$ 1, tumour necrosis factor (TNF)- $\alpha$ , soluble TNF receptor-1, interleukin-6 (IL-6), microalbuminuria, angiotensin II and plasma renin activity in the early diagnosis of renal damage. M. Bajpai. Funded by the Department of Science and Technology for 3 years. Funds: Rs 20 lakh.

## **Departmental Projects**

### ***Completed***

1. Evaluation of neurovesical dysfunction in patients with anorectal malformations and the alteration in neurovesical function following posterior-sagittal anorectoplasty.
2. Incidence of associated anomalies in children with anorectal malformations and their effect on outcome.

### ***Ongoing***

1. Assessment of results of surgery in anorectal malformations by anorectal manometry.
2. Assessment of results of surgery in Hirschsprung disease by anorectal manometry.
3. Assessment of postoperative bladder dysfunction in anorectal malformations by cystometry.
4. Assessment of postoperative bladder dysfunction in Hirschsprung disease by cystometry.
5. Effect of intralesional injection sclerotherapy using sodium tetradecyl sulphate in vascular malformations.
6. Results of the outcome of treatment of neuroblastoma in children by using moderately intense chemotherapy consisting of cyclophosphamide, doxorubicin, etoposide and cisplatin in combination with surgery and radiotherapy.
7. Results with the use of platinum-based regimes in the treatment of paediatric malignant germ cell tumours.
8. Prospective study of treatment of children with Wilms tumour on treatment with NWTS-5 regimen.
9. Prospective study of treatment of children with rhabdomyosarcoma on treatment with IRS-5 regimen.
10. Prospective study of treatment of children with hepatoblastoma on treatment with PLADO regime.
11. Outcome of patients with antenatally diagnosed unilateral pelviureteric junction obstruction managed conservatively and surgically.
12. Prospective study on five-drug regimen for the management of clear cell sarcoma of the kidney.

## **Collaborative Projects**

### ***Ongoing***

1. Renal function reserve in hydronephrotic children (with Nuclear Medicine).

2. Antibiotic prophylaxis in the management of vesicoureteric reflux: A multicentric randomized double-blind placebo-controlled trial (with Paediatrics).
3. Assessment of latent manganese toxicity in follow-up cases of biliary atresia (with Radiology).
4. Development of intrapulmonary arteriovenous shunting in follow-up cases of biliary atresia (with Paediatric Cardiology).
5. Evaluation of cardiotoxicity related to adriamycin in children with solid tumours (with Nuclear Medicine).
6. Evaluation of hearing deficiencies in children who have received cis-platinum for treatment of solid tumours (with ENT).
7. Evaluation of restrictive lung disease in long-term survivors of malignant germ cell tumours who have received bleomycin as a part of treatment (with Paediatrics).
8. Hepatoblastoma: Role of DNA ploidy, cell proliferation and cytokeratin 19 expression in subtyping and prognosis (with Pathology).
9. Wilms tumour: Relation of apoptotic gene expression with subtype, chemoresponse and prognosis (with Pathology).

## **PUBLICATIONS**

### **Journals**

1. Agarwala S. Recent advances in the management of Wilms' tumor. *Indian J Med Pediatr Oncol* 2004;**25**:26–36.
2. Bajpai M, Kumar A, Gupta AK, Pawar DK. Lumbotomy approach for upper urological tract surgery in children—an analysis of 68 consecutive lumbotomies. *Eur J Pediatr Surg* 2004;**14**:163–7.
3. Bajpai M, Kumar A, Tripathi M, Bal CS. Dorsal lumbotomy incision in paediatric pyeloplasty. *Aust N Z J Surg* 2004;**74**:491–4.
4. Bajpai M, Pratap A, Tripathi M, Bal CS. Posterior urethral valves: Preliminary observations on the significance of plasma renin activity as a prognostic marker. *J Urol* 2005;**173**:592–4.
5. Barai S, Bandopadhyaya GP, Malhotra A, Agarwal S, Kumar R, Dhanapathi H. Does I-131-MIBG underestimate skeletal disease burden in neuroblastoma? *J Postgrad Med* 2004;**50**:257–60; discussion 260–1.
6. Bhat NA, Grover VP, Bhatnagar V. Manometric evaluation of postoperative patients with anorectal anomalies. *Indian J Gastroenterol* 2004;**23**:20–8.
7. Bhatnagar V, Agarwala S, Gupta SK, Kolhapure SA. Effect of cystone on pediatric urolithiasis with special reference to urinary excretion of calculogenesis inhibitors. *Medicine Update* 2004;**11**:47–54.
8. Chaudhury A, Shariff A, Srinivas M, Sabherwal U. Changes in nitrenergic innervation of defunctionalized rat colon after diversion colostomy. *Neurogastroenterol Motil* 2004;**16**:475–87.
9. Das S, Arora NK, Gupta DK, Gupta AK, Mathur P, Ahuja A. Pancreatic diseases in children in a north Indian referral hospital. *Indian Pediatr* 2004;**41**:704–11.

10. Gupta DK, Charles AR, Srinivas M. Manometric evaluation of the intrathoracic stomach after gastric transposition in children. *Pediatr Surg Int* 2004;**20**:415–18.
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12. Kumar A, Gupta AK, Bhatnagar V. Low anorectal malformation associated with sarococcygeal teratoma. *Trop Gastroenterol* 2004;**25**:101–2.
13. Nambirajan L, Bhatnagar V, Lal R, Agarwala S, Gupta AK, Mitra DK. Somatic and renal growth in boys treated for posterior urethral valves. *J Indian Assoc Pediatr Surg* 2004;**9**:131–6.
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15. Parida L, Bhatnagar V. Bilateral ureteric polyps associated with vesicoureteric reflux. *J Indian Assoc Paediatr Surg* 2004;**9**:114–15.
16. Singal AK, Agarwala S, Seth T, Gupta AK, Mitra DK. Intra-abdominal extralobar pulmonary sequestration presenting antenatally as a suprarenal mass. *Indian J Pediatr* 2004;**71**:1137–9.
17. Singal AK, Bal CS, Srinivas M, Bhatnagar V. Bleeding ileal duplication diagnosed by pertechnetate scan. *Indian J Gastroenterol* 2004;**23**:196.
18. Singal AK, Bhatnagar V, Mitra DK. Oesophageal duplication cyst causing neonatal haemoptysis. *Trop Gastroenterol* 2004;**25**:99–100.
19. Singal AK, Bhatnagar V. Esophageal rupture secondary to blunt trauma in a child. *Trop Gastroenterology* 2004;**25**:42–3.
20. Singhal AK, Agarwala S, Manan SASR, Gupta AK, Bhan MK, Mitra DK. Diffuse intra-abdominal fibromatosis—report of a new entity with review of literature. *Trop Gastroenterol* 2004;**25**:28–31.

### Abstracts

21. Agarwala S, Gupta DK, Mitra DK. Stabilization using hyperventilation in neonates with congenital diaphragmatic hernia presenting with respiratory distress in the first six hours after birth. *Asian J Surg* 2005;**28** (Suppl.):S28.
22. Agarwala S, Srinivas M, Bajpai M, Bhatnagar V, Gupta DK, Gupta AK, *et al.* Neuroblastoma: Outcomes over a 7 year period. *Pediatr Blood Cancer* 2004;**43**:336.
23. Agarwala S, Srinivas M, Bajpai M, Bhatnagar V, Gupta DK, Gupta AK, *et al.* Hepatoblastoma: Experience from a developing country. *Pediatr Blood Cancer* 2004;**43**:346.
24. Agarwala S, Srinivas M, Bajpai M, Bhatnagar V, Gupta DK, Gupta AK, *et al.* Outcome of hepatoblastoma treatment with neoadjuvant chemotherapy and surgery. *Asian J Surg* 2005;**28** (Suppl.):S20.
25. Agarwala S, Srinivas M, Bajpai M, Bhatnagar V, Kothari SS, Gupta AK, *et al.* Associated anomalies in EA/TEF: Incidence and effect on outcome. *Asian J Surg* 2005;**45** (Suppl.):S28.
26. Bhatnagar V, Datta Gupta S, Baruah RR, Mohanty MK. Correlation of pre and post operative liver histology with surgical outcomes in biliary atresia. *J Pediatr Gastroenterol Nutr* 2004;**39** (Suppl. I):S64.

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28. Gupta DK, Agarwala S. A simple alternative to hepatico-portoenterostomy (HPE) in advanced biliary atresia? *Asian J Surg* 2005;**28** (Suppl.):S13.
29. Kumar A, Agarwala S, Mitra DK. Incidence of occult neurovesical dysfunction in children with anorectal malformation. *Asian J Surg* 2005;**28** (Suppl.):S23.
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### Chapters in Books

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2. Bajpai M, Puri A, Mathur M. Mixed gonadal dysgenesis. In: Bajpai M, Gearhart JP (eds). *Progress in pediatric urology, Vol. 7*. London, New Delhi, Washington: Penwel Publishers; 2004:130–51.
3. Bajpai M, Puri A, Mathur M. True hermaphrodite. In: Bajpai M, Gearhart JP (eds). *Progress in pediatric urology, Vol. 7*. London, New Delhi, Washington: Penwel Publishers; 2004:152–68.
4. Bhatnagar V. Obstructive uropathy. In: Srivastava RN, Bagga A (eds). *Pediatric nephrology*. 4th ed. New Delhi: Jaypee Brothers; 2004:366–78.
5. Chumber S, Agarwala S, Deo SVS, Gupta A. Peritoneum and retroperitoneum. In: Chumber S (ed). *Essentials of surgery*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:994–1007.
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7. Chumber S, Pande GK, Sharma A, Agarwala S. Appendix. In: Chumber S (ed). *Essentials of surgery*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:879–90.
8. Pal S, Agarwala S, Chumber S. Liver. In: Chumber S (ed). *Essentials of surgery*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:891–929.
9. Pal S, Chumber S, Agarwala S. Gall bladder and biliary tract. In: Chumber S (ed). *Essentials of surgery*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:930–58.
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11. Pal S, Pande GK, Agarwala S, Chumber S. Colon and rectum. In: Chumber S (ed). *Essentials of surgery*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:838–67.
12. Pal S, Pande GK, Agarwala S, Chumber S. Esophagus. In: Chumber S (ed). *Essentials of surgery*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:734–62.
13. Pal S, Pande GK, Agarwala S, Chumber S. Stomach and duodenum. In: Chumber S (ed). *Essentials of surgery*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:763–99.

14. Pande GK, Agarwala S, Chumber S. Small intestine. In: Chumber S (ed). *Essentials of surgery*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:800–37.
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## PATIENT CARE

### Attendance in OPD and specialty clinics

|                         | New cases | Old cases | Total  |
|-------------------------|-----------|-----------|--------|
| General OPD             | 7,477     | 10,624    | 18,101 |
| Specialty clinics       |           |           |        |
| Hydrocephalus           | 33        | 334       | 367    |
| Intersex                | 31        | 33        | 64     |
| Craniosynostosis        | 15        | 34        | 49     |
| Paediatric urology      | 268       | 2,460     | 2,728  |
| Paediatric solid tumour | 86        | 2,119     | 2,205  |
| Minor procedures        | —         | —         | 2,800  |
| Admissions              |           |           |        |
| AB-5 ward               | 2,210     |           |        |
| AB5-ICU                 | 173       |           |        |
| Surgical procedures     |           |           |        |
| Major                   | 1,000     |           |        |
| Minor                   | 628       |           |        |
| At CRHS, Ballabgarh     | 201       |           |        |
| Special investigations  |           |           |        |
| Urodynamic evaluation   | 295       |           |        |
| Uroflowmetry            | 551       |           |        |
| Anorectal manometry     | 9         |           |        |
| Oesophageal manometry   | 5         |           |        |
| 24-hour pH monitoring   | 8         |           |        |

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor D.K. Gupta** delivered the Lettura Magistrate oration on ‘Pathophysiology and treatment of posterior urethral valves’ at the University of Foggia, Italy, 28–29 June 2004; oration on ‘Management of vesicoureteric reflux and associated malformations—clinical, medical and surgical strategies’ at the University of Foggia, Italy, 28–29 June 2004; Key note address as the President of SAARC countries during the Symposium on Paediatrics at the National Institute of Child Health, Karachi, Pakistan, January 2005; Key note address on ‘Biliary atresia’ during the Annual Conference of the Arab Association of Paediatric Surgeons, Riyadh, Saudi Arab, March 2005; WOFAPS International Guest Lecture on ‘Ethics adapted by social conditions—allocation of limited resources’ during the 1st World Congress of Paediatric Surgery, Zagreb, Croatia, June 2004; Key note address on the ‘Surgery of the oesophagus in children’ during the Annual Conference of North-East State Chapter of IAPS, Dibrugarh, October 2005. He was nominated for the second term as the Executive Committee Member of the World Federation of Association of Paediatric Surgeons; awarded the medal of the Asian Association of Paediatric Surgeons

during the 19th International Congress of AAPS, Hong Kong, November 2004; re-elected as the Member of the Executive Council of the World Federation of Association of Paediatric Surgeons, 2005–2008.

Professor Gupta was invited as the guest of honour, President of Indian Association of Paediatric Surgeons during the Annual Conference of IAPS, Jabalpur, October 2005; and Annual Conference of North-East State Chapter of IAPS, Dibrugarh, October 2005. Dr Gupta was also invited as the guest of honour during the National Symposium, Institute of Child Health, Karachi, Pakistan, January 2004; Saudi Symposium on Paediatric Surgery, March 2004; and World Congress of the World Federation of Association of Paediatric Surgeons. He was invited to chair the scientific session on ‘Neonatal respiratory distress’ during the symposium held in the Annual Conference of North-East State Chapter of IAPS, Dibrugarh, October 2005; and to chair the scientific session during the 19th Congress of the Asian Association of Paediatric Surgeons, Hong Kong, November 2004.

Professor Gupta was nominated as the Editor-in-Chief of the *Journal of Indian Association of Paediatric Surgeons* (JIAPS); Organizing Chairman of the 20th International Congress of the Asian Association of Paediatric Surgeons, New Delhi, 2006. He has also been nominated on the Editorial Board of the *Paediatric Surgery International* and Reviewer for *Journal of Paediatric Surgery*. He has been elected as the President of the Federation of Association of Paediatric Surgeons of SAARC countries.

Professor Gupta became Member of the European Association of Pediatric Surgeons, 2004. He was invited to participate as the international member of the European Association of Pediatric Surgeons, 2004; invited to present the Bid to invite World Congress of Pediatric Surgery to India, Zagreb, Croatia, 22–27 June 2004; invited to chair the scientific session on ‘Ethical issues in paediatric surgery’ during the World Congress of Pediatric Surgery, Zagreb, Croatia, 22–27 June 2004; invited to present the Bid to invite the Asian Congress of Pediatric Surgery to India, Hong Kong, 28 November–1 December 2004; invited to represent the Indian Association of Paediatric Surgeons as the National Delegate at the Executive Council of the World Federation of Association of Pediatric Surgeons, Zagreb, Croatia, 22–27 June 2004; invited to serve as the member of the Selection Committee, BHU, Varanasi, 22 April 2004. He delivered the Presidential address at the Indian Association of Paediatric Surgeons meeting at Jabalpur. He was Member, CSIR Selection Board, 5 November 2004; Member, Rajasthan Selection Board, Ajmer, 25 August 2004; Executive Member of Delhi State Chapter ASI, 4–5 December 2004; MCh Examiner, Bhopal, 9 January 2005; MCI Inspector, Ahmedabad, 16–17 October 2004; President Elect, Asian Association of Pediatric Surgeons; Immediate Past President, Indian Association of Pediatric Surgeons; Executive Member, World Federation of Association of Pediatric Surgeons; Honorary International Member, American Academy of Pediatrics; Honorary Overseas Council Member, British Association of Pediatric Surgeons.

**Professor V. Bhatnagar** was nominated as Editor of the *Journal of Indian Association of Paediatric Surgeons*; elected Executive Council Member of the Asian Association of Paediatric Surgeons; nominated as Editorial Board Member of the *Indian Journal of Paediatrics*.

Professor Bhatnagar was a guest of honour at the 10th International Surgical Conference, Society of Surgeons of Pakistan, Lahore, 25–26 February 2005.

**Dr M. Bajpai** was appointed reviewer for the following journals: *Journal of Urology*, USA; *Australian and New Zealand Journal of Surgery*, Australia; *Gold Journal of Urology*, USA; and *Journal of Paediatric Urology*, Germany. He was appointed member of the editorial board of the *Journal of Paediatric Urology*, Germany.

**Dr Sandeep Agarwala** was awarded Scholarship for 2004 by the International Society of Pediatric Oncology (SIOP); nominated as Editorial Secretary of the *Journal of Indian Association of Pediatric Surgeons*.

#### **VISITING SCIENTISTS**

Dr Andreas Dietl (Switzerland); Professor Tom de Jong (Netherlands); Mr A.E. Mackinnon (UK); Dr Antonio Dessanti (Italy); Dr Mahmood Shaukat (Pakistan); Dr Abdul Hamid (Pakistan); Dr Biox Ochoa (Spain); Mr Prem Puri (Ireland); Dr Michael Hollworts (Austria); Dr Juda Z. Jona (USA); Dr Amulya Saxena (Germany); Dr Amin Gohary (UAE).

## 9.27 Pathology

### Professor and Head

Kusum Verma

### Professors

P. Chopra  
(till 31 May 2004)  
Chitra Sarkar  
M.K. Singh

Kusum Kapila  
(till September 2004)  
R. Dawar

S.K. Panda  
M. Vijayaraghavan

### Additional Professors

S. Datta Gupta

Rajni Safaya

A.K. Dinda

### Associate Professors

A.K. Karak

Ruma Ray

M.C. Sharma

### Assistant Professors

K. Venkateswar Iyer

Manju Aron

Sandeep Mathur  
(ad hoc)

Dr P. Chopra superannuated in May 2004, while Dr Kusum Kapila took voluntary retirement in September 2004.

## EDUCATION

### Undergraduate

No change from previous years.

### Postgraduate

No change from previous years.

### Short- and long-term training

Two pathologists from the Armed Forces completed 2 years' training in Oncopathology and Gastrointestinal Pathology, respectively. One pathologist from the Armed Forces continued his training for one more year in Neuropathology, while another candidate has joined for 2 years' training in Oncopathology. Short-term training for 2–8-week period was provided to 4 pathologists in Cardiac Pathology, Gastrointestinal Pathology and Oncopathology.

## **Continuing Medical Education**

### ***Conferences, seminars, workshops***

The departmental faculty organized the 7th national CME on Dermatopathology in New Delhi, December 2004; and the Gaya Prasad Symposium on 'CNS tumours: An update' at the Annual Conference of the Indian Association of Pathologists and Microbiologists held at Pune in November 2004.

The faculty participated in and delivered 14 lectures in various CMEs conducted in different parts of the country.

### **National and International Conferences**

The departmental faculty coordinated organization of the Neuropathology Section of the World Federation of Neurosurgical Sciences 'tumour meeting' held in Jaipur in October 2004; and Liver Pathology Session at the 14th Biennial Conference of the Asian Pacific Association for the Study of Liver held in New Delhi in December 2004.

The faculty and residents presented 49 papers in various national and international conferences.

## **RESEARCH**

### **Funded Projects**

#### ***Completed***

1. Medulloblastomas in children and adults: A comparative study with special reference to clinicopathological features, cell proliferation, apoptosis and their regulatory proteins. Chitra Sarkar. Funded by ICMR from 2001 to 2004. Funds: Rs 6 lakh.
2. Clinicopathological study of testicular germ cell tumours and significance of Ki-67 expression. R. Dawar. Funded by AIIMS from 2002 to 2004. Funds: Rs 0.50 lakh.
3. Significance of bone marrow angiogenesis in multiple myeloma. R. Dawar. Funded by AIIMS from 2003 to 2004. Funds: Rs 0.50 lakh.
4. P57/Kip1 in hydatidiform mole and choriocarcinoma. M.C. Sharma. Funded by AIIMS from 2002 to 2004. Funds: Rs 25,000.
5. Utility of p53 immunostaining as a prognostic indicator in fine-needle aspiration cytology of Wilms tumour. Venkateswaran K. Iyer. Funded by AIIMS from 2001 to 2004. Funds: Rs 75,000.
6. Histopathology reference centre for multicentric study of interferon-glycyrrhizin combination therapy and interferon-ribavarin combination therapy in management of chronic hepatitis C. S. Datta Gupta. Funded by ICMR from 2001 to 2004. Funds: Rs 10.10 lakh.
7. Evaluation of VEGF and p53 expression as prognostic markers in giant cell tumour of bone. R. Safaya. Funded by ICMR from 2001 to 2004. Funds: Rs 80,000.

#### ***Ongoing***

1. Health systems reform and ethics: Private practitioners in poor urban neighbourhoods in India, Indonesia and Thailand. Kusum Verma. Funded by DANIDA from 2004 to 2007. Funds: Rs 29.0 lakh.

2. To study the site of replication of hepatitis E virus (HEV) by inlocalizing the viral replicase (RdRp) into the subcellular compartments by transfection studies using HepG2/Huh7 cells and fusion reporter construct. S.K. Panda. Funded by DBT for 3 years (September 2004 to September 2007). Funds: Rs 21.47 lakh.
3. Development of non-radioactive antigen specific reporter release cytotoxicity assay and analysis of cytotoxicity against HEV proteins. S.K. Panda. Funded by DBT for 3 years (September 2004 to September 2007). Funds: Rs 45.95 lakh.
4. Development of small interfering RNAs (siRNAs) for inhibition of hepatitis E virus (HEV) replication and transcription. S.K. Panda. Funded by DBT for 3 years (December 2004 to December 2007). Funds: Rs 42.05 lakh.
5. Myopathic disorders: A comparative clinicopathological and *in vitro* proton magnetic resonance spectroscopy (MRS) study on muscle biopsies. C. Sarkar. Funded by ICMR from 2004 to 2007. Funds: Rs 6.0 lakh.
6. Childhood Hodgkin disease: Role of Epstein–Barr virus (EBV) association, cellular proliferation and apoptosis parameters in relation with the treatment outcome. R. Dawar. Funded by ICMR from 2002 to 2005. Funds: 14.42 lakh.
7. Immunohistochemical and image analytic characterization of the stromal component in giant cell tumour of bone. R. Safaya. Funded by AIIMS from 2003 to 2005. Funds: Rs 1.0 lakh.
8. Post chemotherapeutic expression of apoptotic proteins in hepatoblastoma. Venkateswaran K. Iyer. Funded by AIIMS for 2 years (June 2004 to June 2006). Funds: Rs 1.05 lakh.

## **Departmental Projects**

### ***Completed***

1. Classification and morphometric evaluation of proliferative breast disease on fine-needle aspiration cytology.
2. Hepatoblastoma—subtyping on FNA by morphology and image morphometry.
3. Cytomorphologic spectrum of Wilms tumour.
4. Cytomorphologic features of follicular variant of papillary carcinoma of thyroid.
5. Utility of typing of lymphomas in FNA smears.
6. Cytomorphologic spectrum of clear cell sarcoma of the kidney.
7. Fine-needle aspiration cytology of paediatric hepatocellular carcinoma.
8. CD34 in glioneuronal tumours associated with epilepsy.
9. Non-functioning pituitary adenomas—clinicopathological study with special reference to ultrastructural and immuno-electron microscopic features.
10. Primary CNS lymphomas—Indian profile of incidence and clinicopathological features.
11. Clinicopathological evaluation of gemistocytic astrocytomas.
12. Clinicopathological and immunohistochemical study of rare variants of meningiomas.
13. Comparative study of topoisomerase II alpha and MIB-1 labelling indices in astrocytic tumours.

14. Clinicopathological study of olfactory neuroblastomas.
15. Clinicopathological study of sarcoglycanopathies.
16. Neuropathological spectrum of Rasmussen encephalitis.
17. Diagnosis of low-grade peripheral B-cell neoplasms in bone marrow trephine biopsies: A study on the utility of a panel of paraffin reactive antibodies.
18. Hypoplastic left heart syndrome—an autopsy study.

### ***Ongoing***

1. Protein aggregating myopathy—a clinicopathological and immunohistochemical study.
2. Mitochondrial myopathy—a clinicopathological and ultrastructural study.
3. Pilocytic astrocytomas—tumour regulatory gene protein expression and correlation with histopathological spectrum.
4. Congenital myopathies—clinicopathological and ultrastructural evaluation.
5. Angiogenic patterns in high grade astrocytic tumours and correlation with proliferative markers.
6. Expression of major histocompatibility complex (MHC-I and -II) and cell adhesion molecules in idiopathic inflammatory myopathies.
7. Paediatric astrocytic tumours—study of cyclin-dependent kinases and their inhibitors.
8. Angiogenesis and myelofibrosis in chronic myeloid leukaemia—pre- and post therapy.
9. Pattern of restrictive heart disease on endomyocardial biopsy specimens.
10. Histological changes in pulmonary autographs of Ross procedure.
11. Wilms tumour: Relation of apoptotic gene expression with subtype, chemoresponse and prognosis.
12. Hepatoblastoma: Role of DNA ploidy, cell proliferation and cytokeratin 19 expression in subtyping and prognosis.
13. Acid phosphatase cytochemistry as an aid to cervical cancer screening.

### **Collaborative Projects**

1. A comparative study of VIA, cytodiagnosis, HPV testing and colposcopy as tools for cervical cancer screening (with Obstetrics and Gynaecology, Microbiology).
2. Evaluation of the comparative efficacy of single- and double-freeze technique of cryotherapy in controlling CIN lesions: Multicentre randomized trial (with Obstetrics and Gynaecology).
3. Advanced centre for liver disease (with Gastroenterology).
4. Ligand-based selection from combinatorial libraries for generating recombinant antibodies to the placental (oncofoetal) isoenzymes of alkaline phosphatase: Characterization and validation in clinical cancer (with Biochemistry).
5. Clinical correlation of quantitative analysis and immunohistochemical localization of VEGF and HCG in the serum and placenta at different gestational ages in normal and PIH cases (with Biochemistry).

6. Giant pituitary adenomas: A clinicopathological study (with Neurosurgery).
7. Characterization of molecular alterations in glial tumours by RAPD analysis (with Biochemistry).
8. Study of hypothalamic lesions in head injury (with Neurosurgery).
9. Expression of tumour suppressor gene *HIC-1* in human glial tumours and cell lines (with Biochemistry).
10. Altered DNA sequences in gliomas: Characterization of changes and context sequences with reference to tumour type (with Biochemistry).
11. Characterization of the properties of an amplified region of DNA in primary meningeal tumours (with Biochemistry).
12. Prevalence of alteration at microsatellite loci in 1p and 19q in primary human gliomas (with Biochemistry).
13. Overexpression of IL-4 and IL-13 receptors in meningiomas (with Biochemistry).
14. Study of the function of mitochondria in apoptosis and human disease (with Biochemistry).
15. A multinational, multicentric open labelled active controlled randomized parallel group dose-finding study to evaluate the efficacy of two doses of AP-12009 in adult patients with recurrent high grade glioma administered intract-tumorili as continuous high flow microperfusion over 7 days period every other week (with Neurosurgery).
16. Clinicopathological study of epithelial ovarian carcinomas and changes produced by neoadjuvant therapy (with IRCH).
17. Germ cell tumours of the ovary (with IRCH).
18. Cutaneous nerve involvement in non-lepromatous granulomatous lesions of the skin (with Dermatology).
19. Lichen nitidus revisited (with Dermatology).
20. Tuberculosis of the skin (with Dermatology and Biotechnology).
21. Hypopigmentation in PKDL, an electron microscopic and histochemical study (with Dermatology).
22. *Helicobacter pylori* infection in early childhood: Characterization of isolates and determination of their ability to exert pathogenic effect in *in vitro* models (with Paediatrics).
23. Aetiological significance of microscopic colitis in chronic diarrhoea in children and its pathogenesis (with Paediatrics).
24. Multicentre 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 (with IRCH).
25. Relationship between genetic polymorphism in drug metabolizing enzymes, CYP1A1 and GSTM1, and risk of developing oral precancer and cancer among consumers of tobacco and chewing products (with IRCH, Biochemistry and Surgery).

26. *In vivo* magnetic resonance spectroscopic (MRS) evaluation with pathologic and radiological correlation of metabolic imaging of soft tissue tumours (with Surgical Oncology, NMR and Radiodiagnosis).
27. Histological diagnosis of coeliac disease and its correlation with other markers (with Paediatrics).
28. Clinicopathological study of reflux oesophagitis (with Gastroenterology).
29. Distinction between Crohn disease and tuberculosis in Indian patients (with Gastroenterology and Biotechnology).
30. Histopathology of acute and subacute liver failure (with Gastroenterology).
31. Comparative study between simple excision and Gromet insertion versus simple excision with grafting of retraction pocket of the tympanic membrane (with ENT).
32. Study of angiogenesis and proliferation markers in oral squamous cell carcinoma (with Radiotherapy).
33. Evaluation of molecular markers and anticancer agents in non-small cell lung cancer (with Biochemistry).
34. Morphological features of steatosis in non-alcoholic steatohepatitis and HCV hepatitis (with Gastroenterology).
35. Effect of H<sub>2</sub> blocker (Famotidine) on tumour-infiltrating lymphocytes and characterization of lymphocytes in breast cancer (with Surgery).
36. A comparison of urease-based tests and conventional histology with immunohistochemistry for detection of *H. pylori* in gastric biopsies (with Gastroenterology, Microbiology and Nuclear Medicine).
37. A study of molecular markers in oral cancers (with Biochemistry, Surgery and Surgical Oncology).
38. A study of molecular markers in cervical cancers (with Biochemistry, Obstetrics and Gynaecology).
39. Effect of acute and chronic exposure of dimethoate on oxidative stress in rats (with Forensic Medicine).
40. Effect of acute and chronic exposure of arsenic on oxidative stress in rats (with Forensic Medicine).
41. Evaluation of epithelial proliferation in paediatric and adult cholesteatoma (with ENT).
42. Evaluation of efficacy of radiofrequency ablation of primary tumour in early breast cancer (with Surgery, Radiation Oncology, Nuclear Medicine and Radiodiagnosis).
43. Emerging parasitic aetiologies in malabsorption syndromes (with Microbiology, Paediatrics, Gastroenterology).
44. Evaluation of the appropriate size of the residual thyroid tissue after subtotal thyroidectomy in Graves and toxic multinodular goitre and comparison between modified and conventional technique of subtotal thyroidectomy (with Surgery).
45. Identification for bcl-6 and bcl-2 proteins by immunohistochemistry in non-Hodgkin lymphoma and their correlation with clinical features, laboratory parameters and response to therapy (with Medical Oncology).

46. Light microscopic and electron microscopic evaluation of myocardium in congenital heart disease (with Cardiothoracic Surgery).
47. Effect of thalidomide in experimentally induced myocardial infarction (with Pharmacology).
48. Effect of chronic oral administration of *Terminalia arjuna* in a rat model of hyperlipidaemia (with Pharmacology).
49. Studies on cardioprotective effect of curcumin in experimental models of myocardial infarction (with Pharmacology).
50. The role of percutaneous vertebroplasty in the management of painful vertebral lesions (with Radiodiagnosis).
51. Evaluation of sentinel lymph node by imprint cytology (with Surgery).
52. Feasibility of minimally invasive neck surgery for thyroid and parathyroid disorders (with Surgery).

## PUBLICATIONS

### Journals

1. Aggarwal N, Deo V, Satyanarayan G, Tevatia MS, Ahuja V, Sharma MP, Mathur M, Datta Gupta S. Diagnosis of *H. pylori* infection following eradication therapy in peptic ulcer: A problem. *Indian J Pathol Microbiol* 2005;**48**:79–80.
2. Aggarwal P, Ray R, Seth P. Phosphorothioated CpG oligonucleotide induced hemopoietic changes in mice. *Gene Ther Mol Biol* 2004;**8**:319–26.
3. Anand M, Kumar R, Jain P, Asthana S, Deo SV, Shukla NK, Karak A. Comparison of three different staining techniques for intraoperative assessment of nodal metastasis in breast cancer. *Diagn Cytopathol* 2004;**31**:423–6.
4. Aron M, Kapila K, Verma K. Carcinoid tumors of the lung: A diagnostic challenge in bronchial washings. *Diagn Cytopathol* 2004;**30**:62–6.
5. Aron M, Nair M, Hemal AK. Renal metastasis from primary hepatocellular carcinoma. A case report and review of the literature. *Urol Int* 2004;**73**:89–91.
6. Aroori S, Parshad R, Kapoor A, Gupta SD, Kumar A, Chattopadhyay TK. Neoadjuvant chemotherapy in squamous cell carcinoma of the esophagus using low dose continuous infusion 5-fluorouracil and cisplatin: Results of a prospective study. *Indian J Cancer* 2004;**41**:3–7.
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8. Bannerjee K, Datta Gupta S, Mathur SR. Vaginal angiomyofibroblastoma. *Arch Gynecol Obstet* 2004;**270**:124–5.
9. Bhatla N, Mukhopadhyay A, Joshi S, Kumar A, Kriplani A, Pandey RM, Verma K. Visual inspection for cervical cancer screening: Evaluation by doctor versus paramedical worker. *Indian J Cancer* 2004;**41**:32–6.

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11. Chaudhuri V, Tayal R, Nayak B, Acharya SK, Panda SK. Occult hepatitis B virus infection in chronic liver disease: Full-length genome and analysis of mutant surface promoter. *Gastroenterology* 2004;**127**:1356–71.
12. Chowdhury UK, Airan B, Mishra PK, Kothari SS, Subramaniam GK, Ray R, *et al.* Histopathology and morphometry of radial artery conduits: Basic study and clinical application. *Ann Thorac Surg* 2004;**78**:1614–21.
13. Dahiya S, Verma K. Malignant melanoma of soft parts a diagnostic pitfall in FNA: A case report. *Indian J Pathol Microbiol* 2004;**47**:54–7.
14. Das AK, Iyer VK. The TACRD association is distinct from VACTERL association—a case report. *Indian J Pathol Microbiol* 2004;**47**:61–4.
15. Dwarakanath S, Jaiswal AK, Ralte AM, Sharma MC, Mahapatra AK. Primary plasma cell granuloma of petrous bone. *J Clin Neurosci* 2004;**11**:552–5.
16. Garg A, Chugh M, Gaikwad SB, Chandra SP, Gupta V, Mishra NK, Sharma MC. Juvenile pilocytic astrocytoma presenting with subarachnoid hemorrhage. Case report and review of the literature. *J Neurosurg* 2004;**100** (5 Suppl. Pediatrics):525–9.
17. Garg A, Gupta V, Gaikwad SB, Mishra NK, Ojha BK, Chugh M, Sharma MC. Scalp malignant peripheral nerve sheath tumor (MPNST) with bony involvement and new bone formation: Case report. *Clin Neurol Neurosurg* 2004;**106**:340–4.
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19. Goyal HK, Wadhwa J, Arora B, Dawar R, Agarwal SK, Singh D. Interferon-induced lupus nephritis in a patient with chronic myeloid leukemia. *Leuk Lymphoma* 2005;**46**:481–2.
20. Gulati S, Salhotra A, Sharma MC, Sarkar C, Kalra V. Central core disease. *Indian J Pediatr* 2004;**71**:1021–4.
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22. Iyer VK, Aggarwal S, Mathur M. Xanthogranulomatous pancreatitis: Mass lesion of the pancreas simulating pancreatic carcinoma—a report of two cases. *Indian J Pathol Microbiol* 2004;**47**:36–8.
23. Iyer VK, Bandhu S, Verma K. An unusual mass lesion of the liver with distinctive cytology. *Cytopathology* 2004;**15**:233–6.
24. Jaiswal AK, Mahapatra AK, Sharma MC. Cerebellopontine angle medulloblastoma. *J Clin Neurosci* 2004;**11**:42–5.

25. Jaiswal AK, Mahapatra AK, Sharma MC. Pituitary abscess associated with prolactinoma. *J Clin Neurosci* 2004;**11**:533–4.
26. Jaiswal AK, Mahapatra AK, Sharma MC. Primary central nervous lymphoma presenting as bilateral cerebellopontine angle lesions: A rare case report. *J Clin Neurosci* 2004;**11**:328–31.
27. Kashyap S, Sen S, Sharma MC, Betharia SM, Bajaj MS. Alveolar soft-part sarcoma of the orbit: Report of three cases. *Can J Ophthalmol* 2004;**39**:552–6.
28. Madan K, Ahuja V, Gupta SD, Bal C, Kapoor A, Sharma MP. Impact of 24-h esophageal pH monitoring on the diagnosis of gastroesophageal reflux disease: Defining the gold standard. *J Gastroenterol Hepatol* 2005;**20**:30–7.
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2. Singh MK. *Diagnostic dermatopathology: A manual*. NAMS CME Monograph Series VIII. Delhi: Academa Publishers; 2005.

## Chapters in Books

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2. Aron M. Diabetes mellitus. In: Singh MK (ed). *A textbook of pathophysiology for pharmacy students*. New Delhi: Academa Publishers; 2004:131.
3. Datta Gupta S. Pathology, molecular and genetic mechanisms in the pathogenesis of chronic pancreatitis. In: Tandon BN, Tandon V, Sood S, Tandon A (eds). *Chronic pancreatitis*. New Delhi: Indian Council of Medical Research and Digestive Disease Foundation; 2004:19–21.
4. Iyer VK. Lung diseases. In: Singh MK (ed). *A textbook of pathophysiology for pharmacy students*. New Delhi: Academa Publishers; 2004:50–76.
5. Karak AK, Chumber S. Surgical pathology techniques. In: Chumber S (ed). *Essentials of surgery*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2005:345–55.
6. Mathur S. Pathological changes in aging. In: Sharma OP (ed). *Geriatric care*. 2nd ed. New Delhi: Vivek Books Pvt. Ltd; 2004:22–9.
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## PATIENT CARE

### Laboratory services

#### Surgical pathology laboratory

|                     |        |
|---------------------|--------|
| Specimens processed | 36,014 |
| Special stains      | 21,322 |
| Frozen sections     | 520    |

**Cytopathology laboratory**

|                          |        |
|--------------------------|--------|
| Specimens processed      | 19,180 |
| FNAC                     | 8,777  |
| Exfoliative              | 10,403 |
| Immunocytology specimens | 206    |

|                            |    |
|----------------------------|----|
| <b>Autopsies performed</b> | 40 |
|----------------------------|----|

**Electron microscopy**

|                     |     |
|---------------------|-----|
| Specimens processed | 672 |
|---------------------|-----|

**Immunohistochemistry laboratory**

|                     |       |
|---------------------|-------|
| Specimens processed | 1,092 |
|---------------------|-------|

**Neuropathology services**

|                                   |       |
|-----------------------------------|-------|
| Neuropathology surgical specimens | 2,194 |
| Immunohistochemistry              | 2,179 |
| Muscle enzyme histochemistry      | 1,261 |
| Muscle immunohistochemistry       | 1,149 |

**Renal pathology services**

|                                      |     |
|--------------------------------------|-----|
| Immunofluorescence on renal biopsies | 292 |
| Urinary sediment analysis            | 873 |

**Cardiac pathology services**

|                      |     |
|----------------------|-----|
| Immunohistochemistry | 253 |
|----------------------|-----|

**Endocrine pathology services**

|                      |     |
|----------------------|-----|
| Immunohistochemistry | 206 |
|----------------------|-----|

**Hepatic pathology services*****Markers for hepatitis viruses***

|              |       |
|--------------|-------|
| HBs Ag       | 3,152 |
| HBe Ag       | 976   |
| HBc-IgM      | 432   |
| HAV IgM      | 540   |
| Anti-HCV IgG | 2,568 |
| Anti-HEV IgM | 920   |
| Anti-HEV IgG | 100   |
| Anti-HBc IgG | 345   |
| Anti-Hbe     | 752   |

## Molecular diagnostic tests

|  |     |
|--|-----|
| HBV DNA                                | 718 |
| HBV DNA (quantitative)                 | 225 |
| HCV RNA (qualitative and quantitative) | 400 |
| HEV RNA                                | 116 |

## Haematopathology services

|                      |     |
|----------------------|-----|
| Immunohistochemistry | 348 |
|----------------------|-----|

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Dr Kusum Verma** was invited as the chief guest for the ‘Graduation and Awards Day’ function of Kasturba Medical College, Mangalore and delivered the graduation day address.

Dr Verma was invited as a temporary advisor by WHO-SEARO to the ‘Workshop to revise the SEAR health ethics teaching guidelines’ held at Bangkok in August 2004. Modules for teaching health ethics were finalized and are ready to be distributed to all medical institutions in the country. She was also nominated as member of the Technical Advisory Group of Engender-Health to plan ‘Cervical cancer prevention and treatment services in Uttar Pradesh, India’; ICMR–DBT–DST ‘Brain storming session on improving research in medical colleges in the country’ held at PGI, Chandigarh, January 2005; Council Member of the Delhi Medical Council; National Pharmacovigilance Committee set up by the DGHS; ICMR expert committee for setting up a tumour tissue bank at Tata Memorial Hospital, Mumbai. She continued to be a Governing Body Member, UCMS, Delhi; National Editor for *Acta Cytologica*; Editorial Board Member of *Diagnostic Cytopathology*; and Member of the Technical Committee and Accreditation Committee of NABL, DST.

**Dr M.K. Singh** received the Dr B.C. Roy National Award for developing Dermatopathology as a specialty by the Medical Council of India.

**Dr Manju Aron** received the ‘Young talented Pathologist award’ by the Delhi Chapter of the Indian Association of Pathologists and Microbiologists for the year 2005.

**Dr E. Sridhar**, Senior Resident, received the Best Paper award at the Annual Conference of the Delhi Neurological Association held in New Delhi.

**Drs Shipra Agarwal** and **Anita Chopra**, Junior Residents, were the recipients of the first and second prizes for best posters at the 34th Annual Conference of the Indian Academy of Cytologists held in Bhopal.

**Dr S.K. Panda** was nominated as Member of the International Advisory Committee for ‘Triennial International Symposium on Viral Hepatitis and Liver Disease’, and continued to be a Member of the Editorial Board of the *Indian Journal of Medical Research*.

**Dr Chitra Sarkar** was nominated as Member of the Editorial Board of *Neurology India*; and Member of the DST Selection Committee for DST Awards for participation in the meeting of Nobel Laureates and students in Lindau, Germany. She continued to be a Member of the Scientific Advisory Committee and Academic Committee, National Brain Research Centre (NBRC); on the Institute body and Governing

body of Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Thiruvananthapuram; Expert Panel on Fast Track Proposals of the Young Scientist Programme of the DST; Executive Member of the Delhi Neurological Association (DNA); and Member of Subject Expert Committees (SECs), Women Scientist Scheme-A (WOS-A) of DST.

**Dr Ramesh Dawar** was nominated as Member of the Working Group on Sterilization Practices in India constituted by the Office of the Principal Scientific Advisor to the Government of India. She acted as Lead and Technical Assessor for the National Accreditation Board for Testing and Calibration of six laboratories; and Inspector for the Medical Council of India to inspect Santosh Medical College for starting an MD Pathology course.

**Dr Ruma Ray** became a Member of the Royal College of Pathologists, UK by clearing the examination; and was nominated as an Editorial Board Member of *Cardiovascular Pathology*.

### VISITING SCIENTISTS

1. Dr Gladwyn Leiman, Professor of Pathology, University of Vermont, USA.
2. Dr Hans Goebel, Professor of Neuro-Pathology, University Johannes Gutenberg Medical Centre, Mainz, Germany.
3. Dr Vinod Shidham, Assistant Professor of Pathology, University of Wisconsin, USA.
4. Dr Satish Tickoo, Staff Pathologist, Memorial Sloane-Kettering Hospital, New York, USA.

## 9.28 Pharmacology

### Professor

Y.K. Gupta (on deputation)

### Additional Professor and Head

V.L. Kumar

### Additional Professors

K. Kishore

S.K. Maulik

### Associate Professor

D.S. Arya

### Assistant Professors

J. Bhatia

J.P.K. Katyal

### Scientists

U. Singh

S. Joshi

S.S. Peshin (ad hoc)

T. Kaleekal (ad hoc)

A. Srivastava (ad hoc)

## EDUCATION

The department is actively involved in undergraduate (MB,BS, BSc Human Biology, BSc Nursing [Hons]) and Postgraduate (MD, MSc Pharmacology) teaching programmes.

| Degree | No. of students |
|--------|-----------------|
| PhD    | 7               |
| MD     | 6               |
| MSc    | 6               |

The National Poisons Information Centre at the Department of Pharmacology provided training to WHO-sponsored fellows from Myanmar in August 2004.

## National and International Conferences

### *Dr V.L. Kumar*

- Presented a paper entitled 'Oestrogens and oestrogen receptor variant in breast cancer'; XXX Annual Conference of the Environmental Mutagen Society of India, ITRC, Lucknow; 17–19 March 2005. He also chaired a session in the same conference.

### *Dr K. Kishore*

- Was invited to attend the Indian Aging Conference, AIIMS; 5–7 November 2004. He also chaired a session.

- Presented a paper entitled ‘Effect of diet on cancer and its prevention’; XXX Annual Conference of the Environmental Mutagen Society of India, ITRC, Lucknow; 17–19 March 2005. He also chaired a session in the same conference.
- Delivered a lecture on ‘Clinical trials and overview’; Training Workshop on Research Methodologies for Research on Ayurveda and Siddha under WHO biennium 2004–2005; 24–25 February 2005.

### ***Dr D.S. Arya***

- Was invited by the International Society for Heart Research (ISHR) and presented a paper entitled ‘Cardioprotective effects of hydroalcoholic extract of *Withania somnifera* on isoproterenol-induced myocardial infarction in rats’; XVIII World Congress of the ISHR, Brisbane, Australia; 6–10 August 2004. He also chaired the poster session at the same meet.

## **RESEARCH**

### **Funded Projects**

#### ***Completed***

1. Expression of bcl-1 in human breast cancer. V.L. Kumar. Funded by AIIMS for 2 years (2003–2005). Funds: Rs 55,000.

#### ***Ongoing***

1. National adverse drug reaction (ADR) monitoring. K. Kishore. Funded by the Ministry of Health and Family Welfare from 2004 onwards. Funds: Rs 4.50 lakh.
2. Study of antihyperlipidaemic and hypolipidaemic effect of polyherbal preparation. S.K. Maulik. Funded by Dabur Research Foundation, UP for 6 months (2005). Funds: Rs 2.50 lakh.
3. Determination of ED50 of a standardized preparation of *Terminalia arjuna* in a model of heart failure in rat. S.K. Maulik. Funded by DBT for 3 years (2004–2006). Funds: Rs 27 lakh.
4. Pharmacological studies on cardioprotective potential of medicinal plants. D.S. Arya. Funded by the Ministry of Health and Family Welfare for 3 years (2003–2006). Funds: Rs 1 lakh.
5. Molecular studies on cardioprotective potential of medicinal plants. D.S. Arya. Funded by CSIR for 3 years (2004–2007). Funds: Rs 1 lakh.

### **Departmental Projects**

#### ***Completed***

1. High-dose methotrexate in acute lymphoblastic leukaemia and T cell lymphoblastic lymphoma: Role in central nervous system prophylaxis and in relapse.
2. Effect of phytoadaptogens on chronic stress-induced cardiovascular and neurological changes in rats.
3. Evaluation of cardiac antioxidant potential of some plants/plant products.
4. Experimental evaluation of angiogenic potential of *Tridax procumbens* and *Ficus religiosa*.

### **Ongoing**

1. Evaluation of drugs with antioxidant property *in vitro* and in middle cerebral artery model of acute ischaemic stroke in rats.
2. Evaluation of antioxidants—curcumin and vineatrol—in rat model of seizures.
3. Evaluation of antioxidants in rat model of Alzheimer disease.
4. Inflammation-related studies on the latex of *Calotropis procera*.
5. Comparative evaluation of anti-arthritic activity of *Calotropis procera* and COX-2 inhibitors.
6. Studies on the nociceptive effect of latex of *Calotropis procera*.
7. Studies on the hepatoprotective effect of *Calotropis procera*.
8. Studies on the anti-hyperglycaemic effect of *Calotropis procera*.
9. Antioxidant effects of statins in coronary artery disease patients and interaction between clopidogrel and atorvastatin.
10. Antioxidant potential of dietary palm oil in myocardial reperfusion injury in rats.
11. Effect of aqueous extract of *Terminalia arjuna* in rat model of hypercholesterolaemia.
12. Studies on cardioprotective effect of curcumin in experimental models of myocardial infarction in rats.

### **Collaborative Projects**

#### **Ongoing**

1. Comparative efficacy of NSAIDs and their adverse effects (with Physical Medicine and Rehabilitation).

### **PUBLICATIONS**

#### **Journals**

1. Arya S, Kumar VL. Interleukin-1-beta inhibits paw oedema induced by local administration of latex of *Calotropis procera* extracts. *Inflammopharmacology* 2004;**12**:391–8.
2. Gauthaman K, Banerjee SK, Dinda AK, Ghosh CC, Maulik SK. *Terminalia arjuna* (Roxb.) protects rabbit heart against ischemic-reperfusion injury: Role of antioxidant enzymes and heat shock protein. *J Ethnopharmacol* 2005;**96**:403–9.
3. Gupta M, Gupta YK, Agarwal S, Aneja S, Kalaivani M, Kohli K. Effects of add-on melatonin administration on antioxidant enzymes in children with epilepsy taking carbamazepine monotherapy: A randomized, double-blind, placebo-controlled trial. *Epilepsia* 2004;**45**:1636–9.
4. Gupta M, Gupta YK, Agarwal S, Aneja S, Kohli K. A randomized, double-blind, placebo controlled trial of melatonin add-on therapy in epileptic children on valproate monotherapy: Effect on glutathione peroxidase and glutathione reductase enzymes. *Br J Clin Pharmacol* 2004;**58**:542–7.
5. Gupta SK, Mohanty I, Talwar KK, Dinda A, Joshi S, Bansal P, *et al*. Cardioprotection from ischemia and reperfusion injury by *Withania somnifera*: A hemodynamic, biochemical and histopathological assessment. *Mol Cell Biochem* 2004;**260**:39–47.

6. Gupta YK, Briyal S, Sharma U, Jagannathan NR, Gulati A. Effect of endothelin antagonist (TAK-044) on cerebral ischemic volume, oxidative stress markers and neurobehavioral parameters in the middle cerebral artery occlusion model of stroke in rats. *Life Sci* 2005;**77**:15–27.
7. Gupta YK, Briyal S. Animal models of cerebral ischemia for evaluation of drugs. *Indian J Physiol Pharmacol* 2004;**48**:379–94.
8. Gupta YK, Gupta M, Aneja S, Kohli K. Current drug therapy of protozoal diarrhoea. *Indian J Pediatr* 2004;**71**:55–8.
9. Gupta YK, Gupta M, Chaudhary G, Kohli K. Modulation of antiepileptic effect of phenytoin and carbamazepine by melatonin in mice. *Methods Find Exp Clin Pharmacol* 2004;**26**:99–102.
10. Gupta YK, Sharma M, Briyal S. Antinociceptive effect of trans-resveratrol in rats: Involvement of an opioidergic mechanism. *Methods Find Exp Clin Pharmacol* 2004;**26**:667–72.
11. Gupta YK, Sharma M, Chaudhary G, Katiyar CK. Hepatoprotective effect of new Livfit, a polyherbal formulation, is mediated through its free radical scavenging activity. *Phytother Res* 2004;**18**:362–4.
12. Kumar VL, Shivkar YM. *In vivo* and *in vitro* effect of latex of *Calotropis procera* on gastrointestinal smooth muscles. *J Ethnopharmacol* 2004;**93**:377–9.
13. Kumar VL, Shivkar YM. Involvement of prostaglandins in inflammation induced by latex of *Calotropis procera*. *Mediators Inflamm* 2004;**13**:151–5.
14. Kumar VL, Shivastava A, Singhal R, Kumar V. Immunoreactive estrogen receptor in breast tumour and adjacent tissue—association with clinicopathological characteristics in Indian population. *J Surg Oncol* 2005;**89**:251–5.
15. Kumari R, Manchanda SC, Maulik SK. Effect of pre- and post-treatment of losartan in feline model of myocardial ischemic-reperfusion injury. *Methods Find Exp Clin Pharmacol* 2004;**26**:39–45.
16. Mathur R, Gupta SK, Joshi S, Velpandian T. Cigarette smoke condensate reduces the detoxifying capabilities of rat lens. *Indian J Pharmacol* 2005;**37**:44–5.
17. Mohanty I, Singh Arya D, Dinda A, Joshi S, Talwar KK, Gupta SK. Protective effects of *Curcuma longa* on ischemia-reperfusion induced myocardial injuries and their mechanisms. *Life Sci* 2004;**75**:1701–11.
18. Mohanty I, Arya DS, Dinda A, Talwar KK, Joshi S, Gupta SK. Mechanisms of cardioprotective effect of *Withania somnifera* in experimentally induced myocardial infarction. *Basic Clin Pharmacol Toxicol* 2004;**94**:184–90.
19. Narang D, Sood S, Thomas MK, Dinda AK, Maulik SK. Effect of dietary palm olein oil on oxidative stress associated with ischemic-reperfusion injury in isolated rat heart. *BMC Pharmacol* 2004;**4**:29.
20. Rajak S, Banerjee SK, Sood S, Dinda AK, Gupta YK, Gupta SK, *et al.* *Embllica officinalis* causes myocardial adaptation and protects against oxidative stress in ischemic-reperfusion injury in rats. *Phytother Res* 2004;**18**:54–60.
21. Ray SB, Gupta H, Gupta YK. Up-regulation of m-opioid receptors in the spinal cord of morphine-tolerant rats. *J Biosci* 2004;**29**:51–6.

22. Ray SB, Gupta YK, Wadhwa S. Expression of opioid receptor-like 1 (ORL1) and mu opioid receptors in the spinal cord of morphine tolerant mice. *Indian J Med Res* 2005;**121**:194–202.
23. Shivkar YM, Kumar VL. Effect of anti-inflammatory drugs on pleurisy induced by latex of *Calotropis procera* in rat. *Pharmacol Res* 2004;**50**:335–40.
24. Sood S, Narang D, Dinda AK, Maulik SK. Chronic oral administration of *Ocimum sanctum* Linn. augments cardiac endogenous antioxidants and prevents isoproterenol-induced myocardial necrosis in rats. *J Pharm Pharmacol* 2005;**57**:127–33.
25. Srivastava A, Peshin SS, Kaleekal T, Gupta SK. An epidemiological study of poisoning cases reported to the National Poisons Information Centre, All India Institute of Medical Sciences, New Delhi. *Hum Exp Toxicol* 2005;**24**:279–85.

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26. Arya S, Shivkar YM, Kumar VL. Pharmacological analysis of the inflammatory response induced by latex of *Calotropis procera*. *Inflamm Res* 2004;**53**:S210.
27. Arya S, Kumar VL. Comparison of anti-inflammatory activity of latex of *Calotropis procera* against inflammation induced by biogenic amines and carrageenin. *Indian J Pharmacol* 2004;**36**:118.
28. Arya S, Kumar VL. Interleukin 1 $\beta$  inhibits paw oedema induced by local administration of latex on *Calotropis procera* extracts. *Indian J Physiol Pharmacol* 2004;**48** (Suppl.):84.
29. Kumar VL, Shivkar YM. Mediators in latex of *Calotropis procera* induced inflammation. *Indian J Pharmacol* 2004;**36**:115–16.
30. Sehgal R, Kumar VL. Antimitotic activity of podophyllotoxin in *Allium cepa* model. *Indian J Pharmacol* 2004;**36**:126.

### Chapters in Books

1. Agnihotri S, Joshi S. Anticataract agents. In: Gupta SK (ed). *Drug screening methods*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:333–46.
2. Arya DS, Ojha SK, Nandave M, Mittal R, Gupta SK. Neutraceuticals: New approach in the therapy of cardiovascular disorders. In: Gupta SK, Singhal PK (eds). *Pharmacotherapy of heart failure*. New Delhi: Anamaya Publishers; 2005:220–32.
3. Bhardwaj RK, Gupta R. Drugs acting on parasympathetic nervous system. In: Gupta SK (ed). *Drug screening methods*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:44–8.
4. Bhardwaj RK, Gupta R. Drugs acting on sympathetic nervous system. In: Gupta SK (ed). *Drug screening methods*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:37–43.
5. Bhardwaj RK, Mittal R. Absorption and metabolism. In: Gupta SK (ed). *Drug screening methods*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:185–92.
6. Bhardwaj RK, Mittal R. Antiulcer drugs. In: Gupta SK (ed). *Drug screening methods*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:175–80.
7. Bhardwaj RK, Mittal R. Drugs affecting gut motility. In: Gupta SK (ed). *Drug screening methods*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:181–4.

8. Gupta R. Analgesic drugs. In: Gupta SK (ed). *Drug screening methods*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:151–61.
9. Gupta R. Anti-obesity drugs. In: Gupta SK (ed). *Drug screening methods*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:138–50.
10. Gupta SK, Nandave M, Ojha SK, Mittal R, Arya DS. Flavonoids: Promising cardioprotective agents. In: Gupta SK, Singhal PK (eds). *Pharmacotherapy of heart failure*. New Delhi: Anamaya Publishers; 2005:56–71.
11. Gupta YK, Sharma M, Chaudhary G. Oxidative stress in Alzheimer's disease and cerebral ischemia: Implications for antioxidant treatment. In: Flora SJS, Romano JA, Baskin SI, Sekhar K (eds). *Pharmacological perspectives of toxic chemicals and their antidotes*. New Delhi: Narosa Publishing House; 2004:431–44.
12. Mathur R, Sharma M. Drugs for learning and memory. In: Gupta SK (ed). *Drug screening methods*. New Delhi: Jaypee Medical Publishers P (Ltd); 2004:117–29.
13. Mittal R, Gupta R. Anti-HIV drugs. In: Gupta SK (ed). *Drug screening methods*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:471–84.
14. Mittal R. Antiepileptics. In: Gupta SK (ed). *Drug screening methods*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:84–103.
15. Mittal R. Antimigraine drugs. In: Gupta SK (ed). *Drug screening methods*. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2004:130–7.

## **PATIENT CARE**

### **Urinary catecholamines test**

Urinary catecholamines estimation is routinely performed in the department for the diagnosis of pheochromocytoma (adrenal gland tumour). A total of 142 samples from different departments were analysed during the year.

### **National Poisons Information Centre**

The National Poisons Information Centre provides round-the-clock, 7 days a week, throughout the year service. It provides information on the management of poisonings to treating physicians, first-aid instructions to general public and information to government and non-government agencies from all over India. The centre attended to a total of 1231 calls. When required, the centre also provided specific antidotes to some of the patients with poisoning.

## **AWARDS AND HONOURS**

**Dr V.L. Kumar** attended the 43rd Annual Conference of the National Academy of Medical Sciences (NAMS) and convocation held in Jaipur on 9–11 April 2004 and received the scroll for membership.

**Dr D.S. Arya** was conferred the Saroj Sharma prize for the best research paper in cardiovascular pharmacology for his paper entitled 'Cardioprotective potential of *Ocimum sanctum* in isoproterenol-induced myocardial infarction in rats' during the 37th Annual Conference of the Indian Pharmacological Society held at Kolkata from 14 to 16 January 2005.

**Mr Mukesh Nandave**, a PhD student, was awarded the Professor G. Achari prize for best oral presentation on 'Molecular basis for the cardioprotective response to chronic administration of *Bacopa monniera* (Brahmi) in experimental models of myocardial infarction' during the 37th Annual Conference of the Indian Pharmacological Society held at Kolkata from 14 to 16 January 2005.

## 9.29 Physical Medicine and Rehabilitation

### **Professor and Head**

U. Singh

### **Additional Professor**

Sanjay Wadhwa

### **Associate Professor**

S.L. Yadav

### **Assistant Professor**

Gita Handa

### **EDUCATION**

The department is involved in teaching of undergraduate medical students during MB,BS course through lectures, integrated seminars and practical demonstrations/visit to department including prosthetic–orthotic workshop.

The department is providing MD (PMR) training to postgraduate students, besides orientation training of MHA, MD (Community Medicine, Pharmacology, Medicine, Rheumatology, Paediatrics), MS (Orthopaedics), DM (Neurology and Paediatric Neurology) students, WHO fellows and postgraduate nursing students. The faculty has been involved in guiding postgraduate students of Orthopaedics, Pharmacology, Community Medicine and Paediatrics in their thesis, and Computer Facility Project trainees are also provided guidance.

### **Continuing Medical Education**

The faculty and resident doctors of the department participated in a number of national and international CME programmes, conferences, seminars, symposia and panel discussions.

### ***Lectures delivered***

#### **Dr U. Singh**

- ‘Sexuality in spinal cord injury’; 5th Annual Conference and CME of the Indian Association of Physical Medicine and Rehabilitation (Delhi Chapter), organized by Aruna Asaf Ali Government Hospital, Delhi; 3–4 April 2004.
- ‘Rehabilitation in neuromuscular disorder’; Current Trends in Neuromuscular Disorders, organized by the Department of Neurology, AIIMS, New Delhi; 5–7 March 2005.

#### **Dr S. Wadhwa**

- ‘Neuro-rehabilitation in stroke’ and ‘Life after stroke’; CME programme on Brain Matters, organized by the Department of Neurology, PGIMER, Chandigarh; 19–20 March 2005.

- ‘Medical emergencies in rehabilitation’; Guest lecture during CME programme of IAPMR Conference at NIMHANS, Bangalore; 28 January 2005.

### **Dr Gita Handa**

- Guest lecture on ‘Neural prosthesis—past, present and future’; IAPMR West Bengal State Chapter Conference and CME, Kolkata; 27 June 2004 and at NIOH, Kolkata; 30 June 2004.

## **RESEARCH**

### **Funded Projects**

#### ***Completed***

1. Prospective evaluation of neurogenic bowel and bladder disorders in children with cerebral palsy. Gita Handa. Funded by the Ministry of Social Justice and Empowerment (under S&T mission mode) from 2003 to 2004. Funds: Rs 3.5 lakh.

### **Departmental Projects**

#### ***Ongoing***

1. A comparative trial of ayurvedic and allopathic therapy for spasticity and paralysis: A randomized controlled study.
2. Effects of community-based rehabilitation on the quality of life of Indian elderly.

### **Collaborative Projects**

#### ***Completed***

1. Impact of multidisciplinary intervention on health-related quality of life (QOL) in ambulatory older subjects (with Medicine).

## **PUBLICATIONS**

### **Journals**

1. Nallegowda M, Singh U, Handa G, Khanna M, Wadhwa S, Yadav SL, *et al.* Role of sensory input and muscle strength in maintenance of balance, gait, and posture in Parkinson’s disease: A pilot study. *Am J Phys Med Rehabil* 2004;**83**:898–908.
2. Nallegowda M, Singh U, Khanna M, Yadav SL, Choudhary AR, Thakar A. Morgagni Stewart Morel syndrome—additional features. *Neurol India* 2005;**53**:117–19.
3. Sindhu V, Singh U. Prevalence of medical complications vis-à-vis psycho-social complications in spinal cord injury patients. *Indian J Phys Med Rehabil* 2004;**15**:38–44.
4. Sindhu V, Singh U. PWD Act: Awareness among beneficiaries and members of rehabilitation team. *Indian J Phys Med Rehabil* 2004;**15**:12–16.
5. Suresh R, Singh U, Wadhwa S, Yadav SL, Das P, Borah D, *et al.* A study of efficiency of breathing exercises to improve pulmonary function in tetraplegic and high paraplegic subjects. *Indian J Phys Med Rehabil* 2004;**15**:17–22.

- Wadhwa S. Understanding walking aids for children with disabilities. *Childhood Disability Update* 2004;**3**:2–9.

### Abstracts

- Nallegowda M, Singh U, Khanna M, Ansari M. A new design, low cost, custom made, removable immediate postoperative upper limb prosthesis. *Am J Phys Med Rehabil* 2005;**84**:231.
- Nallegowda M, Singh U, Khanna M, Mathur VP. Health status in Indian children with cerebral palsy: A pilot study. *Am J Phys Med Rehabil* 2005;**84**:231.
- Nallegowda M, Singh U, Sachdev G, Khanna M. Coexistence of ankylosing spondylitis with benign joint hypermobility syndrome: Are they complementary to each other? *Am J Phys Med Rehabil* 2005;**84**:231.

### Chapters in Books

- Handa G. Amputation, rehabilitation and replantation. In: Chumber S (ed). *Textbook of surgery*. 1st ed. New Delhi: Jaypee Brothers; 2004:1411–26.

### PATIENT CARE

The department provides outpatient, inpatient and outreach services to people with disabilities. The department has many diagnostic as well as therapeutic facilities including comprehensive rehabilitation facilities, balance laboratory, computerized dynamometry, electrophysiology laboratory, etc.

### OPD and specialty clinics

#### New cases

|                         |               |
|-------------------------|---------------|
| OPD                     | 12,698        |
| Ballabgarh              | 4,844         |
| Camps                   | 120           |
| Prosthetic and Orthotic | 2,770         |
| <b>Total</b>            | <b>20,432</b> |

#### Old cases

|                                   |               |
|-----------------------------------|---------------|
| OPD                               | 9,570         |
| OPD visits: PT section            | 22,503        |
| OPD visits: OT section            | 12,211        |
| OPD visits: MSW                   | 3,515         |
| OPD visits: Vocational counsellor | 1,338         |
| Disability evaluation clinic      | 421           |
| Prosthetic and Orthotic           | 8,111         |
| Minor OT procedures               | 1,585         |
| <b>Total</b>                      | <b>59,254</b> |

## Community services/camps

Dr U. Singh participated as an expert in two episodes of Total Health, a live phone-in programme, on 'Poliomyelitis' and 'Arthritis' on DD News on 20 November 2004 and 18 December 2004, respectively.

Dr S. Wadhwa participated as an Expert in an episode on 'Artificial limbs' on Doctor NDTV.

Doctors from the department participated in monthly camps for the disabled at Sri Krishna Janamsthan, Mathura, Uttar Pradesh.

## AWARDS AND HONOURS

The paper entitled 'A new design, low cost, custom made, removable immediate postoperative upper limb prosthesis' (Nallegowda M, Singh U, Khanna M, Handa G, Sachdev G, Ansari M), presented at the 33rd Annual National Conference of the Indian Association of Physical Medicine and Rehabilitation, NIMHANS, Bangalore, 27–30 January 2005 received the Dr Anisya Vasanth Award.

**Dr U. Singh** continued to be a Member of the Sub-Committee on Locomotor, Leprosy Cure, etc. of the Rehabilitation Council of India, Ministry of Social Justice and Empowerment; Chairman, Specialty Advisory Board in PMR, National Board of Examinations; Member of the Governing Council of the National Institute for the Orthopaedically Handicapped, Kolkata; Inspector, National Board of Examinations; Inspector, Medical Council of India; Member BIS, Rehabilitation Appliances and Equipment for Disabled Sectional Committee (MHD 10); Editor, *Indian Journal of Physical Medicine and Rehabilitation*; Consulting Editor and Reviewer, *Journal of Rehabilitation Council of India: Locomotor and Associated Disabilities*; Expert Member, Board of Studies of the School of Medicine and Para Medical Health Sciences, Guru Gobind Singh Indraprastha University, Delhi. Dr Singh was appointed Chairman of the Technical Advisory Group, District Rehabilitation Centre Scheme, Ministry of Social Justice and Empowerment; Inspector, Guru Gobind Singh IP University by the Government of NCT of Delhi; Chairman, Scientific Sessions II, 5th Annual Conference and CME of the Indian Association of Physical Medicine and Rehabilitation (Delhi Chapter), organized by Aruna Asaf Ali Government Hospital, Delhi, 3–4 April 2004; Chairman, Scientific Committee, 5th Annual Conference and CME of the Indian Association of Physical Medicine and Rehabilitation (Delhi Chapter), organized by Aruna Asaf Ali Government Hospital, Delhi, 3–4 April 2004; Member of the Expert Committee for evolving formal procedure and determining the quantitative and qualitative parameters for grant of permanent affiliation to institutions conducting programmes under the aegis of Guru Gobind Singh IP University, Delhi; Expert Member, Affiliation Committee for grant of deemed university's status, University Grants Commission, New Delhi.

**Dr Sanjay Wadhwa** was appointed Vice Chairman, ISPO India for the year 2004–05; Expert, Rehabilitation Council of India, to assess training facilities at Viklang Kendra, Viklang Kendra Rural Research Society, and Israji Devi Shikshan Sansthan, Allahabad; Associate Editor, *Journal of Rehabilitation in Asia*; Member, Advisory Board, J.K. Science *Journal of Medical Education and Research*; Subspecialty Editor, *Indian Journal of Forensic Medicine and Toxicology*; Advisor, Scientific Committee, 5th Annual CME and Conference of IAPMR, Delhi Chapter; Examiner, MD (PMR), SMS Medical College Hospital, Jaipur; Examiner, Diploma Prosthetics and Orthotics, Safdarjung Hospital, New Delhi; Member, Academic Council, School of Rehabilitation Sciences, SSNI, New Delhi; Member,

Faculty of Physiotherapy, Baba Farid University of Health Sciences, Faridkot, Punjab; Life Member, Indian Federation of Sports Medicine (IFSM); Life Member, Indian Spinal Cord Society (ISCoS); Won the First Prize in Essay Competition during the Vigilance Awareness Week (1–6 November 2004), AIIMS.

## 9.30 Physiology

### Professor and Head

R.L. Bijlani

### Professors

V. Mohan Kumar  
R. Mathur

J. Sengupta  
K.K. Deepak

### Emeritus Professor

B.K. Anand

### Additional Professors

S.C. Bhatia  
D. Ghosh

S.C. Mahapatra  
K.P. Kochhar

H.N. Mallick

### Associate Professors

Ratna Sharma

Nalin Mehta

### Assistant Professors

Suman Jain  
Sanjay Sood

Ashok Kumar Jaryal  
Anjana Talwar

Raj Kumar Yadav

## EDUCATION

### Undergraduate, Postgraduate, Paramedical

The department provided about 400 hours of teaching to first year MB,BS students and 60 hours of teaching to students of BSc Nursing and allied courses, besides conducting MSc (Physiology) and MD (Physiology) courses and guiding PhD students.

### Short-term training

The department provided short-term training for 3 months to 6 students (2 MSc students, one from Jiwaji University, Gwalior, one from Panjab University, Chandigarh; and 4 BTech students from National Institute of Technology, Jalandhar). Ten WHO fellows, undergoing training in non-communicable disease prevention and surveillance, were provided training for 8 days in the department. In addition, 2 undergraduates did research projects in the department as summer fellows and 2 interns did their elective in the department. Dr Manjula Suri, Lecturer, Delhi University, was given short-term training for 6 months from 21 April 2004.

### National and International Conferences

#### *Organized by the department*

- Dr K.K. Deepak organized the 6th Professor Baldev Singh Symposium on 'Baroreflex control of cardiovascular system' at AIIMS on 24 April 2004.

- Dr J. Sengupta and Dr Ghosh organized a seminar on ‘Tissue engineering network’ at AIIMS on 4 November 2004.
- Dr H.N. Mallick organized a symposium titled ‘Lateral hypothalamic area revisited’ during the 50th Annual Conference of the Association of Physiologists and Pharmacologists of India on 21 December 2004.
- Dr V. Mohan Kumar organized a symposium titled ‘Neurophysiology of sleep’ during the 50th Annual Conference of the Association of Physiologists and Pharmacologists of India on 21 December 2004.
- Dr J. Sengupta and Dr D. Ghosh organized a symposium titled ‘New frontiers in reproductive physiology’ during the 50th Annual Conference of the Association of Physiologists and Pharmacologists of India on 21 December 2004.

### *Lectures delivered*

#### **Dr R.L. Bijlani**

- ‘Obesity: An obvious marker of multiple maladies’; Annual Conference of the National Academy of Medical Sciences (India), Jaipur; 9 April 2004.
- ‘Nutrition in the medical curriculum: Preclinical subjects’; Nutrition Foundation of India, New Delhi; 28 April 2004.
- ‘Role of yoga in alleviation of headache’; Indian Society of Pain Research and Therapy (ISPRAT), New Delhi; 8 May 2004.
- ‘Meditation, with special reference to Sri Aurobindo and the Mother’; Foundation of Universal Responsibility of His Holiness the Dalai Lama (FURHH), New Delhi; 27 May 2004.
- Gen. S.L. Bhatia Oration titled ‘Double revolution in medicine’; 50th Annual Conference of the Association of Physiologists and Pharmacologists of India; 21 December 2004.
- ‘Stress management through yoga’; Conference on Yoga, Kaivalyadhama, Bhopal; 9 January 2005.
- ‘Indian psychology’; University of Delhi (South Campus); 16 February 2005.
- ‘Yesterday’s wisdom for a happy tomorrow’; Sri Aurobindo Ashram, New Delhi; 19 February 2005.
- ‘Spirituality and health’; Sri Aurobindo Ashram, New Delhi; 26 February 2005.
- ‘Yoga and health’; Conference on Jain Yoga and Other Yoga Systems, Jain Vishva Bharati Institute, Ladnun (Rajasthan); 8 March 2005.
- ‘Yesterday’s wisdom for a happy tomorrow’; Conference on Stress Management Through Yoga, JIPMER, Pondicherry; 16 March 2005.
- ‘Yoga as a psychotherapeutic tool’; Conference on Stress Management Through Yoga, JIPMER, Pondicherry; 16 March 2005.

#### **Dr V. Mohan Kumar**

- ‘Thermoregulation and the medial preoptic area’; DST-sponsored Workshop as a part of the 50th Annual Conference of the Association of Physiologists and Pharmacologists of India, National Institute of Mental Health and Neuro Sciences, Bangalore; 19 December 2004.

- ‘Interrelation between thermoregulation and sleep regulation’; Symposium on ‘Neurophysiology of sleep’, held as a part of the 50th Annual Conference of the Association of Physiologists and Pharmacologists of India, National Institute of Mental Health and Neuro Sciences, Bangalore; 21 December 2004.
- ‘Role of thermoreceptors in sleep regulation’; 22nd Annual Conference of the Indian Academy of Neurosciences, Gwalior; 28–30 January 2005.
- ‘Role of thermoreceptors in sleep regulation’; Indo–French Workshop in Neurosciences, NBRC, Manesar; 14–15 February 2005.

#### **Dr J. Sengupta**

- ‘Three-dimensional cell culture in research in reproduction’; Seminar on Tissue Engineering Network, AIIMS, New Delhi; 4 November 2004.
- ‘Biology of trophoblast cells during implantation–placentation in the primate’; Symposium on Trends in Molecular and Applied Approaches to Reproduction, ISSRF, Kolkata; 4–6 February 2005.

#### **Dr R. Mathur**

- Invited talk on ‘Role of ventromedial hypothalamus in pain modulation’; International Symposium on Pain Update 2005, Bangalore; 5–6 February 2005.
- Invited talk on ‘Chronic headache’; Annual Day of the Indian Society for Pain Research and Therapy, New Delhi; 8 May 2004.

#### **Dr K.K. Deepak**

- Invited talk on ‘Neurophysiological model of meditation’; 50th Annual Conference of the Association of Physiologists and Pharmacologists of India, NIMHANS, Bangalore; December 2004.
- ‘Clinical application of the impedance plethysmography’; National Workshop on Non-Invasive Measurement of Peripheral Blood Flow and Cardiac Output, KGMU, Lucknow; 18–19 February 2004.
- ‘Project preparation for clinical research’; National Workshop organized by the Central Council for Research in Yoga and Naturopathy, New Delhi; 4–5 March 2004.
- ‘MCQ and item analysis’; CME Workshop organized by Dr K.L. Wig CMET, AIIMS; 12–14 February 2005.
- ‘Physiology of induction of meditation’; Morarjee Desai National Institute of Yoga, New Delhi; 16 December 2004.
- ‘Stress relaxation and its management by yoga relaxation’; Conference on Stress Management Through Yoga, JIPMER, Pondicherry; 16–18 March 2004.

#### **Dr H.N. Mallick**

- ‘Neural mechanism of sleep’; CME titled ‘Sleep disorders’ organized by the Jharkhand Psychiatric Society, Ramgarh; 5 December 2004.
- ‘Understanding forebrain mechanism in sleep and sexual behaviour’; 50th APPI Annual Conference, NIMHANS, Bangalore; 21 December 2004.

### **Dr D. Ghosh**

- Invited lecture on ‘Analysis of expression arrays to define progesterone-regulated endometrial preparation for blastocyst implantation’; KGMU, Lucknow; 31 July 2004.
- Invited lecture on ‘Examining endometrial receptivity to blastocyst implantation in the primate: Top–down, bottom–up and middle–out’; Golden APPICON-2004, NIMHANS, Bangalore; 19–22 December 2004.

### **Dr Nalin Mehta**

- Invited guest lecture on ‘Ethical principles involved in healthcare and research on human subjects’; Dayanand Medical College and Hospital, Ludhiana, Punjab; 22 May 2004.
- Invited guest lecture on ‘Terra incognita Australis–Antarctica’; Sardar Patel Vidyalyaya; 8 July 2004.
- Was invited in the capacity of a resource person (adjunct faculty member, CMET) to speak in a plenary session on ‘Question Banking’ for faculty members of AIIMS at Dr K.L. Wig CMET, AIIMS, New Delhi; 16 February 2005.
- Was invited in the capacity of an ethics resource person to make a presentation entitled ‘General ethical principles in research on human subjects’ at Safdarjung Hospital for an ICMR-sponsored Workshop on Biomedical Ethics organized by Vardhman Mahavir Medical College and Safdarjung Hospital, New Delhi; 18–19 March 2005.
- Was invited in the capacity of a resource person (adjunct faculty member, CMET) for delivering a talk on ‘Assessment using MCQs and item analysis’ for visiting WHO fellows from Sri Lanka; 31 March 2005.

### **Dr Raj Kumar Yadav**

- ‘Non-invasive assessment for erectile dysfunction—an emotionally invasive disorder’; National workshop on Non-invasive Measurement of Peripheral Blood Flow and Cardiac Output, King George’s Medical University, Lucknow (UP); 18–19 February 2005.

## **RESEARCH**

### **Funded Projects**

#### ***Completed***

1. Progesterone-mediated regulation of primate endometrial cell differentiation in primary cell culture on biomatrices. Jayasree Sengupta. Funded by DST for 5 years (17 November 1999–16 November 2004). Funds: Rs 16,08,343.
2. Neural mechanism of penile erection during REM sleep in rats. H.N. Mallick. Funded by DST for 3 years. Funds: Rs 13,43,970.
3. Role of the  $\alpha_1$  adrenergic receptor in the preoptic area in the regulation of sleep-wakefulness and body temperature. H.N. Mallick. Funded by CSIR for 3 years. Funds: Rs 9,16,600.

### **Ongoing**

1. Multicentric trial of integrated software for quantification of autonomic tone. K.K. Deepak. Funded by the Department of Information Technology, Ministry of Communication and Information Technology for 2 years. Funds: Rs 28,33,000.
2. Development of ECG amplifier: An essential hardware for the autonomic function tests (heart rate variability). K.K. Deepak. Funded by DST for 2 years. Funds: Rs 17,26,269.20.
3. Yogic relaxation in the management of ulcerative colitis. K.K. Deepak. Funded by the Central Council for Research in Yoga and Naturopathy (CCRYN) for 3 years. Funds: Rs 9,63,000.
4. Development and clinical evaluation of artificial intelligence-based biomedical instruments. K.K. Deepak. Funded by DST for 2 years. Funds: Rs 6,04,600.
5. Role of the warm receptors of the preoptic area in altering sleep. H.N. Mallick. Funded by DIPAS for 3 years. Funds: Rs 4,66,000.
6. Effect of (Ala<sup>8,13,18</sup>)-magainin II amide on human trophoblast cells *in vitro*. D. Ghosh. Funded by ICMR for 3 years (15 November 2003–14 November 2006). Funds: Rs 17,17,731.
7. The effect of stress-induced changes in theta and alpha bands during memory retrieval. Ratna Sharma. Funded by AIIMS for 1 year (2005–2006). Funds: Rs 40,000.
8. Effect of prenatal auditory overstimulation on the postnatal learning in domestic chicks. Ratna Sharma. Funded by Institute Research Grant for 2 years (April 2003–March 2005). Funds: Rs 80,000.
9. A randomized controlled trial on the efficacy of yoga in the management of bronchial asthma. R.L. Bijlani. Funded by CCRYN for 3 year (2002–2005). Funds: Rs 12,39,000.
10. A randomized controlled trial on the efficacy of yogic intervention in premenstrual syndrome. Ratna Sharma. Funded by ICMR from 2003 to 2005. Funds: Rs 16,83,000.

### **Departmental Projects**

#### **Completed**

1. Subjective well-being, anxiety levels and fasting plasma glucose, lipoprotein profile, oxidant stress and autonomic functions at the beginning and end of the yoga course conducted in the Integral Health Clinic.

#### **Ongoing**

1. A psychophilosophical study: Application of *astanga* yoga as a tool in the treatment of psychosomatic disorders.

### **Collaborative Projects**

#### **Completed**

1. Physiology of the implantation window in the primate: Target-oriented approaches in pregnancy interception. Funded by the WHO–Rockefeller Foundation (with University of Cambridge, UK).
2. Immuno-neutralization of leukaemia inhibitory factor as an anti-implantation strategy. Funded by the CONRAD (with University of California, Davis, USA).
3. Environmental and dietary influences on pain in rats (with Neurosciences Centre, Jiwaji University, Gwalior).

4. Evaluation of autonomic function in central serous chorioretinopathy (with Dr R.P. Centre for Ophthalmic Sciences).
5. Systemic (vascular studies) and ocular profile of normal tension glaucoma (NTG) (with Dr R.P. Centre for Ophthalmic Sciences).
6. Autonomic function in systemic lupus erythematosus (with Medicine).
7. A comparison of the autonomic functions before and after surgical intervention in intractable epilepsy (with Neurology and Neurosurgery).

### **Ongoing**

1. Motor responses to noxious/non-noxious stimuli in spinalized humans and rats: Role of electromagnetic stimulation in recovery (with Laboratory of Movement Physiology, Pavlov Institute of Physiology, Russian Academy of Sciences, St Petersburg, Russia).
2. Nociceptive status in Alzheimer dementia and age-matched healthy volunteers (with Neurology and Medicine).
3. Correlation of endogenous opioid status with palatability and pain in human volunteers (with Endocrinology).
4. Correlation between cardiovascular autonomic function and myocardial ischaemia (with Cardiology).
5. Autonomic cardiovascular functions after myocardial infarction: Effect of physical training (with Cardiology).
6. Comparison of indigenously developed impedance cardiography and the Fick method for measurement of cardiac output (with Cardiology).
7. Autonomic functions in fibromyalgia (with Medicine).
8. Quantification of sympathetic functions in patients of chronic renal failure (with Nephrology).
9. Clinical and autonomic functions study of childhood anxiety disorders (with Psychiatry).
10. Comparative evaluation of masticatory efficiency of conventional device with implant tissue supported mandibular complete denture using spectrophotometry and EMG (with Centre for Dental Education).
11. Study of pathophysiology of simple writer's cramp using neurophysiological methods (with Neurology).

### **PUBLICATIONS**

#### **Journals**

1. Bijlani RL. Body–mind medicine in action: The Integral Health Clinic of All India Institute of Medical Sciences. *New Approaches Med Health* 2004;**12**:37–48.
2. Bijlani RL. Demystifying meditation. *Biofeedback* 2004;**32**:16–20.

3. Chakrabarty G, Manjunatha S, Bijlani RL, Ray RB, Mahapatra SC, Mehta N, *et al.* The effect of ingestion of egg on the serum lipid profile of healthy young Indians. *Indian J Physiol Pharmacol* 2004;**48**:286–92.
4. Ghosh D. Francis Crick (1916–2004): No ghost in the machine. *Indian J Physiol Pharmacol* 2004;**48**:375–6.
5. Ghosh D. Health status in India. *Indian J Physiol Pharmacol* 2004;**48**:253–5.
6. Gulia KK, Mallick HN, Kumar VM. Atenolol or butoxamine injection at the lateral septum doesn't inhibit male sexual behavior in rats. *Indian J Physiol Pharmacol* 2005;**49**:103–7.
7. Gulia KK, Mallick HN, Kumar VM. Sleep-related penile erections do not occur in rats during carbachol-induced rapid eye movement sleep. *Behav Brain Res* 2004;**154**:585–7.
8. Kar M, Sengupta J, Kumar S, Bhargava VL, Ghosh D. Immunohistochemical localization of macrophage CD68+, HLA-DR+, L1+ and CD44+ subsets in uterine endometrium during different phases of menstrual cycle. *Indian J Physiol Pharmacol* 2004;**48**:293–303.
9. Khandpur S, Malhotra AK, Deepak KK, Verma KK. Neurofibromatosis I with unusual hypopigmentation masquerading as leprosy. *J Assoc Physicians India* 2004;**52**:1001–3.
10. Kumar VM. Neurophysiological basis of learning from error observation. *Natl Med J India* 2004;**17**:257–8.
11. Kumar VM. Why the medial preoptic area is important for sleep regulation. *Indian J Physiol Pharmacol* 2004;**48**:137–49.
12. Lalitkumar PG, Sengupta J, Ghosh D. Endometrial tumor necrosis factor alpha (TNFalpha) is a likely mediator of early luteal phase mifepristone-mediated negative effector action on the preimplantation embryo. *Reproduction* 2005;**129**:323–35.
13. Lamba P, Kar M, Sengupta J, Ghosh D. Effect of (Ala 8, 13, 18)-magainin II amide on human trophoblast cells *in vitro*. *Indian J Physiol Pharmacol* 2005;**49**:27–38.
14. Mahapatra AP, Mallick HN, Kumar VM. Changes in sleep on chronic exposure to warm and cold ambient temperatures. *Physiol Behav* 2005;**84**:287–94.
15. Mehta N. Research using animals: An ethical dilemma. *Indian J Physiol Pharmacol* 2005;**49**:1–7.
16. Ravi Shankar S, Yadav RK, Basu Ray R, Bijlani RL, Baveja T, Jauhar N, *et al.* Serum lipid response to introducing *ghee* as a partial replacement for mustard oil in the diet of healthy young Indians. *Indian J Physiol Pharmacol* 2005;**49**:49–56.
17. Ray B, Mallick HN, Kumar VM. Changes in sleep-wakefulness in the medial preoptic area lesioned rats: Role of thermal preference. *Behav Brain Res* 2005;**158**:43–52.
18. Ray B, Mallick HN, Kumar VM. Changes in thermal preference, sleep-wakefulness, body temperature and locomotor activity of rats during continuous recording for 24 hours. *Behav Brain Res* 2004;**154**:519–26.

19. Sharma RK, Deepak KK, Bijlani RL, Rao PS. Short-term physical training alters cardiovascular autonomic response amplitude and latencies. *Indian J Physiol Pharmacol* 2004;**48**:165–73.
20. Sharma RK, Deepak KK. A short duration of physical training benefits cardiovascular performance. *Indian J Physiol Pharmacol* 2004;**48**:481–5.
21. Singh D, Kumar V, Saxena SC, Deepak KK. An improved windowing technique for heart rate variability power spectrum estimation. *J Med Eng Technol* 2005;**29**:95–101.
22. Singh D, Vinod K, Saxena SC, Deepak KK. Effects of RR segment duration on HRV spectrum estimation. *Physiol Meas* 2004;**25**:721–35.
23. Srividya R, Mallick HN, Kumar VM. Sleep changes produced by destruction of medial septal neurons in rats. *Neuroreport* 2004;**15**:1831–5.
24. Taneja I, Deepak KK, Poojary G, Acharya IN, Pandey RM, Sharma MP. Yogic versus conventional treatment in diarrhea-predominant irritable bowel syndrome: A randomized control study. *Appl Psychophysiol Biofeedback* 2004;**29**:19–33.
25. Vetrivelan R, Mallick HN, Kumar VM. Unmasking of alpha 1 adrenoceptor induced hypnogenic response from medial preoptic area. *Physiol Behav* 2005;**84**:641–50.

### Abstracts

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27. Bijlani RL. Revolution in medicine: Redefining the role of basic scientists. *Indian J Physiol Pharmacol* 2004;**48** (Suppl. 5):19.
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### Chapters in Books

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2. Bijlani RL. Research philosophy and methodology. In: Toteja GS, Singh P (eds). *Proceedings of the national symposium on child health and nutrition* (21–23 December 2000). New Delhi: Indian Council of Medical Research; 2004:1–2.
3. Bijlani RL. Exploding some myths about yoga. In: Bhattacharya N, Paudel BH (eds). *Emerging concepts in yoga and lifestyle*. Dharan, Nepal: B.P. Koirala Institute of Health Sciences; 2004:15–19.
4. Deepak KK. Psychophysiological mechanisms of meditation. In: Bhattacharya N, Paudel BH (eds). *Emerging concepts in yoga and lifestyle*. Dharan, Nepal: B.P. Koirala Institute of Health Sciences; 2004:81–91.
5. Grover JK, Pathak A, Mehta N. Iatrogenic diseases. In: Singh MK (ed). *Textbook of pathophysiology for pharmacy students*. 1st ed. New Delhi: Academa Publishers; 2004:192–204.
6. Kumar VM. Sleep, thermoregulation and the medial preoptic area. In: Raju TR, Kutty BM, Sathyaprabha TN, Rao BSS (eds). *Brain and behavior*. Bangalore: Department of Neurophysiology, National Institute of Mental Health and Neuro Sciences; 2004:50–4.
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### PATIENT CARE

The Integral Health Clinic continued to provide yoga-based intervention for prevention and management of chronic diseases. Twenty-four courses, attended by 207 patients, were completed during the year.

Autonomic function laboratory and vascular function laboratory provided diagnostic facility for referred patients. In addition to routine test of autonomic reactivity, the laboratories provided autonomic tone quantification and non-invasive recording of gastric motility (electrogastrography, EGG). A total of 1101 persons were tested for autonomic function this year, which included 990 patients.

### AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Dr R.L. Bijlani** was awarded Major-General S.L. Bhatia Oration (2004) of the Association of Physiologists and Pharmacologists of India (APPI) for substantial contribution to research and

development in Physiology and allied sciences through outstanding work carried out primarily in India; Atmajyoti Award for excellence in Yoga and Medicine jointly by the Research Institute of Vedic Culture and Sir Ganga Ram Hospital.

**Dr K.K. Deepak** was nominated as member of the Academic Council, Sports Authority of India, Netajee Subhash National Institute of Sports, Patiala.

**Dr D. Ghosh** was awarded the 4th Professor R.C. Shukla Award at K.G. Medical College, Lucknow on 31 July 2004. Dr Ghosh was the Wellcome Trust Centre for the History of Medicine Associate at Euston Road, London from 13 June to 12 July 2004.

**Dr Nalin Mehta** was certified (ICMR–WHO) ‘Surveyor’ of Ethics Committees on 25 January 2005. Dr Mehta was invited as a resource person for an ICMR–WHO Ethics Case-study Development Workshop held on 6–7 May 2004. He was selected to be the Taskmaster in-charge of compiling the case-study collection. Dr Mehta was also invited to present a progress report at the University of Toronto Joint Centre for Bioethics Workshop for re-entry plans of MHSc (Bioethics) international stream students, held at the University of Toronto JCB, Toronto, Canada between 2 and 4 June 2004. In the capacity of an Ethics Expert, Dr Nalin Mehta conducted a WHO workshop for Field Testing of Healthcare Ethics Modules at the K.L. Wig CMET, AIIMS, New Delhi from 8 to 12 June 2004. He has been a member of the Global Priority Setting Research Network (GPSRN) since June 2003.

**Ms R. Sridhya**, a PhD student in the Department of Physiology, received the B.K. Anand Prize from the Association of Physiologists and Pharmacologists of India for the paper titled ‘Sleep changes produced by destruction of medial septal neurons in rats’ published in *Neuroreport*.

**Ms Najwa**, a PhD student in the Department of Physiology, received the Dr G.P. Talwar Award for Best Oral Presentation titled ‘A study of transcript profiles in luteal phase endometrium for bifurcating the relative influence of progesterone and preimplantation embryo towards receptivity for blastocyst implantation in the rhesus monkey’; Symposium on Trends in Molecular and Applied Approaches to Reproduction at the 15th Annual Meeting of the Indian Society for the Study of Reproduction and Fertility, Kolkata; 4–6 February 2005.

**Dr Sanjay Kumar Sood** represented the Indian National Science Academy (INSA) at the council meeting of IUPS during Experimental Biology 2005 and the XXXV International Congress of Physiological Sciences meeting at San Diego, California, USA; 31 March 2005–6 April 2005.

## VISITING SCIENTISTS

1. Dr Umber Cheema, Scientist, Tissue Repair and Engineering Centre, UCL, UK visited the department from 20 to 24 March 2004 and delivered a lecture on ‘Mechanical conditioning of 3D skeletal muscle constructs’ on 22 March 2004.
2. Dr Firdaus Dhabhar, Institute of Behavioural Medicine Research, Ohio State University, Columbus, Ohio, USA delivered a lecture on ‘A hassle a day may keep the doctor away: Stress-induced augmentation of immune function’ on 1 April 2004.
3. Dr Adam Burke, San Francisco State University, San Francisco, California, USA delivered a lecture on ‘The current status of guided imager in healing’ on 21 July 2004.

4. Professor Semir Zeki, Professor of Cognitive Neurosciences, UCL, UK visited the department from 22 to 26 October 2004 and delivered a lecture on ‘The theory of microconsciousness’ on 25 October 2004.
5. Professor Robert Brown, Director, Tissue Repair and Engineering Centre, UCL, UK delivered a lecture on ‘Strategies for next generation tissue regeneration and engineering: From networks to platform—I’ on 4 November 2004.
6. Dr Vivek Mudera, Lecturer, Tissue Repair and Engineering Centre, UCL, UK delivered a lecture on ‘Strategies for next generation tissue regeneration and engineering: From networks to platform—II’ on 4 November 2004.
7. Dr Kunio Torii, DVM, PhD, Institute of Life Sciences, Kawasaki, Japan delivered a lecture on ‘Brain mechanisms of recognition and adaptation in rats to an essential nutrient deficiency, L-lysine’ on 17 December 2004.
8. Dr Sat Bir Khalsa, Division of Sleep Medicine, Harvard Medical School, Boston MA, USA delivered a lecture on ‘Yoga as a therapeutic psychological intervention’ on 6 January 2005.
9. Dr Arthur Brownstein, Assistant Clinical Professor of Medicine, John A. Burns School of Medicine, University of Hawaii at Manoa, USA delivered lectures on ‘Yogic approach to chronic pain’, ‘The body’s healing system’, ‘Potential contributions of yoga to modern medicine’, ‘Healing back pain naturally’ and ‘Reversing heart disease’ on 11, 12, 13, 14 and 15 January 2005, respectively.

**ACADEMIC, ADMINISTRATION, FINANCE, ENGINEERING, LIBRARY,  
CENTRAL FACILITIES, ETC.**

The department is running Confocal Laser Scanning Microscopy as a centralized facility.

## 9.31 Radiodiagnosis

### Professor and Head

Sima Mukhopadhyay

### Professors

Sushma Vashisht

Arun Kumar Gupta

### Additional Professor

Deep Narayan Srivastava

### Associate Professors

Raju Sharma

Manpreet Gulati

Sanjay Thulkar (IRCH)

Sanjay Sharma (RPC)

### Assistant Professors

Suman Bandhu

Ashu Seith

## EDUCATION

### Undergraduate and Postgraduate

BSc (Hons) Medical Technology in Radiography: A batch of 7 students was admitted to BSc (Hons) Medical Technology in Radiography course in 2004–2005. However, 3 of them left the course within 1 month. This course is of 3 years' duration. A total of 13 students were enrolled in this course.

MD: There were 20 junior residents out of whom one was a sponsored candidate.

### Short-term training

Short-term training was imparted to 8 doctors from different parts of India; one of them was a WHO-sponsored fellow.

### Continuing Medical Education

The department organized the AIIMS–MAMC–PGI imaging course series on 'Paediatric imaging' at AIIMS on 2–3 April 2004.

### Lectures delivered

#### Dr Sushma Vashisht

- 'Radiology of the lower urinary tract'; AIIMS–MAMC–PGI imaging course series on 'Paediatric imaging', AIIMS, New Delhi; 2–3 April 2004.
- 'Imaging in obstructive biliopathy'; Updates in Medical Imaging, Dr Bhubaneswar Borooah Cancer Institute, Guwahati; 31 July 2004.

- ‘Imaging of soft tissue pathology’; Indian College of Radiology and Imaging CME Programme, Varanasi; 10–12 September 2004.
- ‘Evaluation of soft tissue pathology’; 2nd AIIMS–MAMC–PGI imaging course series on ‘Musculoskeletal and breast imaging’, New Delhi; 15–16 October 2004.

#### **Dr Arun Kumar Gupta**

- ‘Gastrointestinal masses in children’; 4th course on ‘Paediatric imaging’ in the second AIIMS–MAMC–PGI imaging course series, AIIMS, New Delhi; 2–3 April 2004.
- ‘Radiology of intersex disorders’; 4th course on ‘Paediatric imaging’ in the second AIIMS–MAMC–PGI imaging course series, AIIMS, New Delhi; 2–3 April 2004.
- ‘Skeletal maturity assessment’; 4th course on ‘Paediatric imaging’ in the second AIIMS–MAMC–PGI imaging course series, AIIMS, New Delhi; 2–3 April 2004.
- ‘Hypoxic–ischaemic encephalopathy’; 4th course on ‘Paediatric imaging’ in the second AIIMS–MAMC–PGI imaging course series, AIIMS, New Delhi; 2–3 April 2004.
- ‘Film reading session on paediatric radiology’; 4th course on ‘Paediatric imaging’ in the second AIIMS–MAMC–PGI imaging course series, AIIMS, New Delhi; 2–3 April 2004.
- ‘Imaging in hypoxic ischaemic injury’; IVth National CME Programme in Neonatology, AIIMS, New Delhi; 4–6 February 2005.
- ‘Imaging in paediatric respiratory disorders’; Paediatric Pulmonology Update organized by the Department of Paediatrics, SMS Medical College and IAP Respiratory Chapter, Jaipur; 12–13 March 2005.

#### **Dr Deep Narayan Srivastava**

- ‘Angiography and interventions in musculoskeletal lesions’; 2nd AIIMS–MAMC–PGI imaging course series on ‘Musculoskeletal and breast imaging’, New Delhi; 15–16 October 2004.
- Lecture, video workshop and panel discussion on ‘Radiofrequency ablation of liver tumours’; Interventional Radiology Workshop/Update and the mid-term CME of the Indian Society of Vascular and Interventional Radiology; Army Hospital (Research and Referral), New Delhi; 1–2 May 2004.

#### **Dr Raju Sharma**

- ‘Basic principles and current concepts of musculoskeletal MRI’; 2nd AIIMS–MAMC–PGI imaging course series on ‘Musculoskeletal and breast imaging’, Maulana Azad Medical College, New Delhi; 15–16 October 2004.

#### **Dr Sanjay Thulkar**

- ‘Ovarian tumours: Role of radiology’; Symposium on Ovarian Cancer organized by Dr B.R. Ambedkar Institute Rotary Cancer Hospital, AIIMS, New Delhi; 9–10 April 2004.
- ‘Advances in breast imaging and interventions’; 5th course on ‘Musculoskeletal and breast imaging’ in the second AIIMS–MAMC–PGI imaging course series, Maulana Azad Medical College, New Delhi; 15–16 October 2004.

- Lecture on and demonstration of ‘Mammography’; WHO fellowship for integrated NCD prevention, AIIMS, New Delhi; 3–11 January 2005.
- Film reading session during AIIMS–MAMC–PGI second course on ‘Musculoskeletal and breast radiology’; October 2004.

#### **Dr Manpreet Gulati**

- Lecture, video workshop and panel discussion on ‘Radiofrequency ablation of liver tumours’; Interventional Radiology Workshop/Update and the mid-term CME of the Indian Society of Vascular and Interventional Radiology; Army Hospital (Research and Referral), New Delhi; 1–2 May 2004.
- Participated in a panel discussion on ‘Tuberculous ascites’; Conference on Current Perspectives in Liver Diseases, AIIMS, New Delhi; 6 November 2004.

#### **Dr Suman Bandhu**

- ‘Surgical conditions of the paediatric chest’; 4th course on ‘Paediatric imaging’ in the second AIIMS–MAMC–PGI imaging course series, AIIMS, New Delhi; 2–3 April 2004.
- ‘Tuberculosis of the bones and joints’; 4th course on ‘Paediatric imaging’ in the second AIIMS–MAMC–PGI imaging course series, AIIMS, New Delhi; 2–3 April 2004.
- Film reading session during AIIMS–MAMC–PGI second course on ‘Musculoskeletal and breast radiology’; October 2004.

#### **Dr Ashu Seith**

- ‘Technical considerations in paediatric imaging’; 4th course on ‘Paediatric imaging’ in the second AIIMS–MAMC–PGI imaging course series, AIIMS, New Delhi; 2–3 April 2004.
- ‘Paediatric chest: Medical conditions’; 4th course on ‘Paediatric imaging’ in the second AIIMS–MAMC–PGI imaging course series, AIIMS, New Delhi; 2–3 April 2004.
- ‘Benign and malignant lesions of breast’; AIIMS–MAMC–PGI imaging course series; October 2004.
- ‘Imaging in neuroblastoma’; Symposium on Paediatric Solid Tumours, AIIMS; 23 January 2005.

### **National and International Conferences**

#### ***Lectures delivered***

#### **Dr Sushma Vashisht**

- ‘Imaging studies for ocular tumours’; Delhi Ophthalmological Society Conference, during a symposium on ‘Ocular Oncology’, Delhi; 3–4 April 2004.
- ‘Role of imaging in orbital diagnosis’; Instruction course on ‘Demystifying orbit’, during All India Ophthalmological Society Conference, Bhubaneswar; 13–16 January 2005.
- ‘Imaging of the solitary pulmonary nodule’; 58th Annual Conference of the Indian Radiological and Imaging Association (IRIA), Agra; 22–25 January 2005.

### **Dr Arun Kumar Gupta**

- ‘Imaging in paediatric neuroinfections’; 8th Asian and Oceanian Congress of Child Neurology, New Delhi; 7–10 October 2004.
- ‘A study of gastro-oesophageal reflux by scintigraphy and ultrasonography in developmentally delayed children’; 8th Asian and Oceanian Congress of Child Neurology, New Delhi; 7–10 October 2004.
- ‘Megalecephalic leucoencephalopathy with subcortical cysts: Imaging and spectroscopic features in nine patients’; Poster presentation in the 8th Asian and Oceanian Congress of Child Neurology, New Delhi; 7–10 October 2004.
- ‘Skeletal disorders of metabolic and endocrine origin’; 5th course on ‘Musculoskeletal and breast imaging’, AIIMS–MAMC–PGI imaging course series, New Delhi; 15–16 October 2004.
- ‘Anorectal anomalies’; 2nd Annual Conference of the Indian Society of Paediatric Radiology, Mumbai; 11–12 December 2004.
- ‘Skeletal maturity’; 2nd Annual Conference of the Indian Society of Paediatric Radiology, Mumbai; 11–12 December 2004.
- ‘Anorectal anomalies’; 58th Annual Congress of the Indian Radiological and Imaging Association, Agra, UP; 22–25 January 2005.
- ‘Skeletal maturity’; 58th Annual Congress of the Indian Radiological and Imaging Association, Agra, UP; 22–25 January 2005.
- ‘A study of the spectrum of childhood leucodystrophies: Correlation with imaging, spectroscopic and biochemical features’; 58th Annual Congress of the Indian Radiological and Imaging Association, Agra, UP; 22–25 January 2005.
- ‘Imaging in paediatric chest diseases’; 59th National Conference of Tuberculosis and Chest Diseases (NATCON), New Delhi; 3–6 February 2005.
- ‘Megalecephalic leucodystrophy’; Poster presentation at the Annual Conference of the Indian Radiology and Imaging Association, Agra; January 2005.

### **Dr Deep Narayan Srivastav**

- ‘Hepatocellular carcinoma—Indian experience’; 6th Asia Pacific Congress of Cardiovascular and Interventional Radiology and 7th Annual Meeting of the Indian Society of Vascular and Interventional Radiology, New Delhi; 31 October–3 November 2004.
- ‘Angiography and interventions in the management of male erectile dysfunction’; 6th Asia Pacific Congress of Cardiovascular and Interventional Radiology and 7th Annual Meeting of the Indian Society of Vascular and Interventional Radiology, New Delhi; 31 October–3 November 2004.
- ‘Comparative evaluation of plain radiography, sonography and helical CT in the evaluation of acute flank pain’; 58th Annual Congress of the Indian Radiological and Imaging Association, Agra, UP; 22–25 January 2005.
- ‘Vertebroplasty: A simple solution to a difficult problem’; Poster presentation at the Asia Pacific Congress of Vascular and Interventional Radiology, New Delhi; 31 October–3 November 2004.

### **Dr Raju Sharma**

- ‘Role of MRCP in the workup of infantile cholestasis’; 58th Annual Congress of the Indian Radiological and Imaging Association, Agra, UP; 22–25 January 2005.
- ‘Recent advances in MR contrast media’; Asia Pacific Conference of Vascular and Interventional Radiology, New Delhi; 31 October–3 November 2004.
- ‘Body MR imaging’; Symposium on Biomedical MR, Indian National Science Academy, New Delhi; January 2005.
- ‘MR imaging of bone and soft tissue tumours’; Annual Conference of the Indian Radiology and Imaging Association, Agra; January 2005.
- ‘Renal lymphangioma: Imaging features’; Poster presentation at the Conference of Northern Chapter of Urology, New Delhi; 2004.
- ‘Imaging spectrum of paediatric orbital diseases’; Poster presentation at the Annual Conference of Indian Radiology and Imaging Association, Agra; January 2005.
- ‘Fat containing lesions from head to toe’; Poster presentation at the Annual Conference of Indian Radiology and Imaging Association, Agra; January 2005.
- ‘Imaging of tuberous sclerosis’; Poster presentation at the Annual Conference of Indian Radiology and Imaging Association, Agra; January 2005.
- ‘MRI of sellar and suprasellar pathology’; Poster presentation at the Annual Conference of Indian Radiology and Imaging Association, Agra; January 2005.
- ‘Cross-sectional imaging spectrum of adrenal mass lesions’; Poster presentation at the Annual Conference of Indian Radiology and Imaging Association, Agra; January 2005.

### **Dr Sanjay Thulkar**

- ‘Breast interventions’; 6th Asia-Pacific Congress of Cardiovascular and Interventional Radiology organized by the Indian Society of Vascular and Interventional Radiology, The Grand, New Delhi; 31 October–3 November 2004.
- ‘Imaging the breast’; Annual Conference of Delhi State Chapter of Association of Surgeons of India, AIIMS, New Delhi; 4–5 December 2004.

### **Dr Manpreet Gulati**

- ‘Radiofrequency ablation and cryoblation of hepatocellular carcinoma’; Asia-Pacific Society of Vascular and Interventional Radiology Conference, New Delhi; 31 October–3 November 2004.
- ‘Imaging and intervention in liver transplantation’; Annual Conference of the Indian Radiological and Imaging Association, Agra; 22–25 January.

### **Dr Sanjay Sharma**

- ‘Infections in immunocompromised: How can imaging help?’; National Haematology Update-IV, AIIMS, New Delhi; 2–3 February 2005.

## **RESEARCH**

### **Funded Projects**

1. Avoiding unnecessary radiation doses to the patient during interventional radiological procedures. Sima Mukhopadhyay. Funded by the International Atomic Energy Agency (IAEA) for 4 years (2002–2006). Funds: US\$ 9500.
2. Post menopausal evaluation and risk reduction with lasofoxifene (PEARL). A.C. Ammini. Funded by Pfizer for 5 years. Funds: Rs 50 lakh.
3. Dose reduction in CT while maintaining diagnostic confidence. Arun Kumar Gupta. Funded by the International Atomic Energy Agency (IAEA) for 4 years (2002–2006). Funds: US\$ 9500.
4. Management of liver cancer using radionuclide methods with special emphasis on early diagnosis, locoregional therapy (intra-arterial) and internal dosimetry. Deep N. Srivastava. Funded by the International Atomic Energy Agency (IAEA) for 5 years (2001–2006). Funds: US\$ 40,000.
5. Effects of arzoxifene on vertebral fracture incidence and on invasive breast cancer incidence in postmenopausal women with osteoporosis or with low bone density. A.C. Ammini. Funded by Eli Lilly and Company for 5 years (2005–2009). Funds: Rs 50 lakh.

### **Departmental Projects**

#### ***Completed***

1. Prevalence, diagnostic evaluation, natural course and management strategy of early hepatocellular carcinoma among patients with cirrhosis of liver.
2. CT colonography evaluation of patients with suspected colonic tuberculosis: Comparison with conventional colonoscopy.
3. Comparison of MRCP, ultrasonography, HIDA and peroperative cholangiogram in the evaluation of infantile cholestasis.
4. Role of minimally invasive image-guided therapies in treatment of focal liver neoplasms.
5. Role of CT and MRI in staging of non-small cell lung cancer and its correlation with surgical and histopathological staging.

#### ***Ongoing***

1. MRCP evaluation of high CBD strictures.
2. Pulmonary tuberculosis: CT evaluation in active and post-treatment phases with limited MR correlation.
3. Breast cancer: Local tumour staging by MRI and its impact on therapeutic approach.
4. Role of MR imaging of the spine in neurologically normal children presenting with voiding dysfunction.
5. Chest tuberculosis in children: CT findings in active and post-treatment cases.
6. Comparison of carbon dioxide angiography with conventional digital subtraction angiography in peripheral occlusive diseases of lower limbs.

7. Role of percutaneous vertebroplasty in management of painful vertebral lesions.
8. Evaluation of the role of MDCT, CT angiography and bronchial artery embolization in the management of haemoptysis.
9. Role of MRCP in the diagnostic work-up of portal biliopathy.
10. Preoperative evaluation of carcinoma of ovary with MDCT and its correlation with surgical findings.
11. Characterization of bone tumours with *in vivo* proton magnetic resonance spectroscopy aided by dynamic contrast enhanced magnetic resonance imaging.

## **Collaborative Projects**

### ***Completed***

1. Study on spectrum of brain injury in very low birth weight infants as on imaging; its aetiological correlates and correlation with the neurodevelopmental outcome at one year of age (with Neonatology).
2. Correlation of visual evoked potential with clinical features and severity of ventriculomegaly in hydrocephalus (with Ophthalmology).
3. A study of gastro-oesophageal reflux by scintigraphy and ultrasonography in developmentally delayed children (with Paediatrics).
4. Comparison of endoscopic ultrasound and computed tomography in lower end obstruction of the biliary tract (with Gastrointestinal Surgery).
5. Spectrum and response to treatment of tuberculosis in HIV/AIDS patients at the All India Institute of Medical Sciences, New Delhi (with Medicine).
6. Comparison of bone SPECT and MRI in the diagnosis and follow-up of spinal tuberculosis (with Nuclear Medicine, Orthopaedics).
7. Evaluation of aggressive benign bone tumours (with Orthopaedics).
8. To compare the effect of conventional chest physiotherapy (continuous positive airway pressure) and incentive spirometry after lung resection on pulmonary function tests and postoperative pulmonary complications (with Surgery).
9. Evaluation of bone health in older women (with Medicine).
10. A comparative study of various host factors in nodal and other forms of abdominal tuberculosis (with Medicine).

### ***Ongoing***

1. Validation of the modified Berlin questionnaire to identify patients at risk for obstructive sleep apnoea syndrome (with Medicine).
2. Prospective randomized double-blind control trial of dexamethasone vs albendazole on calcification as an outcome in 1–2 ring-enhancing lesions in neurocysticercosis of children (with Paediatric Neurology).
3. Prospective evaluation of neurogenic bowel and bladder disorders in children with cerebral palsy (with Physical Medicine and Rehabilitation).

4. Evaluation of uterine artery embolization in the management of uterine fibroid in comparison with medical and surgical treatment (with Obstetrics and Gynaecology).
5. Study of the effect of resistance muscle exercise on insulin sensitivity in non-obese type II diabetic Asian Indians (with Medicine).
6. High biliary obstruction: Indicators to diagnose benign versus malignant aetiology (with Gastrointestinal Surgery).
7. Unilateral percutaneous biliary drainage and plastic stenting versus unilateral endoscopic plastic stenting in patients with biliary obstruction in carcinoma gallbladder: A prospective randomized trial (with Gastrointestinal Surgery).
8. Evaluation of image-based treatment planning in radiotherapy (with Radiotherapy).
9. Role of neoadjuvant chemotherapy in management of patients with advanced ovarian cancer (with Medical Oncology).
10. MR spectroscopy and endorectal MR imaging in the diagnosis of early prostate cancers and its correlation with histopathological results of TRUS-guided prostate biopsies and surgical specimens (with NMR).
11. Study of physical parameters and quality assurance in the gamma knife-based stereotactic radiosurgery with non-coplanar beam in the phantom (with Medical Physics).
12. Study of effectiveness of virtual simulation in external beam radiotherapy planning of carcinoma cervix (with Radiotherapy).
13. Metabolic characterization of soft tissue tumours and pathological and radiological correlation with *in vivo* magnetic resonance spectroscopy (MRS) (with Surgical Oncology, NMR).
14. Randomized comparison of ABVD with EVAP in newly diagnosed cases of Hodgkin lymphoma (with Medical Oncology).
15. Role of three-dimensional computed tomographic scanning in assessment of mandibular invasion and its utility in planning mandibular resection and reconstruction in oral cancer patients (with Surgical Oncology).
16. Evaluation of efficacy of radiofrequency ablation of primary tumour in early breast cancer (with Surgery).
17. Role of radiological and microbiological work-up in the clinical evaluation of abdominal infections in immunocompromised patients (with Haematology).
18. Impact of preoperative vascular evaluation by Doppler ultrasound on early failure rate of AV fistula in haemodialysis patients (with Surgery).
19. Dosimetric and therapeutic evaluation of transarterial rhenium-188 in cases of inoperable liver cancer (with Nuclear Medicine).
20. A magnetic resonance imaging study to compare changes in TMJ following mandible advancement using twin block and bionator appliances (with Dental Surgery, Nuclear Magnetic Resonance).
21. Focused abdominal sonography in blunt abdominal trauma (with Surgery).
22. Quantitative imaging study of breast cancer and its correlation with oxidative stress (with Medical Physics, Surgery, Pharmacology).

23. CT-guided coeliac plexus block for the management of benign pain due to chronic pancreatitis: A comparative study using steroid and alcohol neurolysis (with Anaesthesia).
24. Relationship of serum TSH with thyroid vascularity assessed at operation (with Surgery).

## PUBLICATIONS

### Journals

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2. Bakshi S, Subramanyam R, Sharma R, Sarkar C, Kabra M, Menon PSN. Rathke's cleft cyst: Missed cause of panhypopituitarism in the presence of coexistent ocular and neurocysticercosis. *J Paediatr Endocrinol Metabol* 2004;**17**:1133–6.
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## PATIENT CARE

### Radiological procedures

|                              |                 |
|------------------------------|-----------------|
| Routine outdoor              | 1,12,344        |
| Routine indoor and portables | 46,009          |
| Casualty                     | 92,167          |
| Special procedures           | 53,848          |
| <b>Total</b>                 | <b>3,04,368</b> |

### *Special procedures*

|                                      |               |
|--------------------------------------|---------------|
| Barium meal                          | 1,706         |
| Barium enema                         | 581           |
| Barium swallow                       | 1,177         |
| Intravenous pyelography              | 1,971         |
| Micturating cystourethrography       | 1,579         |
| Contrast studies                     | 716           |
| Venogram                             | 66            |
| Digital subtraction angiography      | 258           |
| Hysterosalpingograms                 | 223           |
| <b>Total</b>                         | <b>8,277</b>  |
| CT scan: Body                        | 9,257         |
| Head                                 | 4,443         |
| <b>Total</b>                         | <b>13,700</b> |
| Ultrasound: Routine                  | 15,325        |
| Emergency                            | 8,698         |
| Doppler                              | 2,294         |
| <b>Total</b>                         | <b>26,317</b> |
| ERCP                                 | 643           |
| Interventional procedures: US-guided | 963           |
| CT-guided                            | 276           |
| Angio/fluoro-guided                  | 493           |
| <b>Total</b>                         | <b>1,732</b>  |
| MRI                                  | 1,716         |
| OT procedures                        | 68            |
| Mammography                          | 1,395         |
| <b>Grand total</b>                   | <b>53,848</b> |

### **New equipment**

Three units of heavy-duty automatic processors were installed on 23.06.2004.

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

**Dr M.S. Gulati** was selected Member of the National Executive Committee of the Indian Society of Vascular and Interventional Radiology for the period 2004–05.

**Dr Sanjay Sharma** was awarded 'Fellow of the Royal College of Radiologists' (FRCR), London in November 2004 after clearing the final fellowship examination of the Royal College.

**Dr Sima Mukhopadhyay** continued to be the Chairperson of the Specialty Board of Radiodiagnosis, National Board of Examinations, New Delhi; was a Special Invitee of the Academic Committee, AIIMS. She has been the Chairperson, Radiation Safety Council of AIIMS since 2003. She was an expert for faculty selection for Delhi University; SGPGI, Lucknow; UPSC specialist selection; Bhopal Memorial Hospital and Research Centre; NEIGRIHMS; Institute of Human Behaviour and Allied Sciences, Shahdara. She was also a technical expert for procurement of equipment for PGI, Chandigarh; RML Hospital; Safdarjung Hospital; Indira Gandhi Institute of Medical Sciences, Patna.

**Dr Sushma Vashisht** carried out inspection of a medical college/hospital (as per the request by the Medical Council of India for starting MD Radiodiagnosis course). She was nominated as one of the members of the Disciplinary Committee of the National Academy of Medical Sciences (NAMS).

## 9.32 Reproductive Biology

### **Professor and Head**

Anand Kumar

### **Associate Professor**

Narendra Nath Sarkar

### **Assistant Professors**

Pradeep Kumar Chaturvedi

Ashutosh Halder

### **Scientist IV**

Urmila Vij

## **EDUCATION**

### **Undergraduate**

The department conducted BSc (Hons) Human Biology Phase II course on Experimental Endocrinology and Reproductive Biology.

### **Postgraduate**

An MD Laboratory Medicine student was trained (on RIA). In addition, three PhD students are being trained in the department.

### **Long-term training**

One as Research Officer (post-doctoral)

### **Short-term training**

- Short-term training was provided to 7 students.
- MSc students from the Department of Environmental Sciences (Sambalpur University, Orissa) paid a brief visit to the department.
- Two post-doctoral students were also given short-term training.

## **National and International Conferences**

### ***Lectures delivered***

### **International conferences**

- Dr Anand Kumar was invited as a guest speaker in the symposium on 'Reproductive health—a life-cycle approach', Aga Khan University, Karachi; 20–21 September 2004.
- Dr A. Halder presented in the 12th World Congress on Human Reproduction, Venice, Italy; 10–13 March 2005.

## **National conferences**

*Dr A. Halder*

- Invited guest speaker in the Workshop on ‘Spectral Karyotyping: A Revolutionary Genome Scanning Method to Visualize Human Chromosome’, Bhopal Memorial Hospital and Research Centre; 1–2 April 2004.
- Invited guest speaker in ‘Current Techniques in Genetic Toxicology’, ITRC, Lucknow; 13 December 2004.
- Oral presentation in the All India Congress of Obstetrics and Gynecology in assistance with Aurangabad Society of Obstetrics and Gynecology (Federation of Obstetrics and Gynecological Society of India Conference at Aurangabad, Maharashtra; 6–9 January 2005.

*Professor Anand Kumar*

- Invited guest speaker in ISSRF Conference, Kolkata; January 2005.

## **RESEARCH**

### **Funded Projects**

#### ***Ongoing***

1. Double-blind randomized study on polyherbal preparations of *Ashokarista* on postmenopausal status of women. Anand Kumar. Funded by the Ministry of Health, AYUSH, Government of India for 3.5 years (April 2002–September 2005). Funds: Rs 10 lakh.
2. Chromosome aneuploidy and mosaicism in pre-implantation embryo on mouse model. A. Halder. Funded by ICMR SRF Project for 3 years (2003–2006). Funds: Rs 4 lakh (approx.).
3. Chromosome aneuploidy and mosaicism in pre-implantation embryo. A. Halder. Funded by AIIMS for 3 years. Funds: 1.5 lakh.
4. Secretion of progesterone and expression of hypoxia-inducible factor 1 $\alpha$  during hypoxia induced by cobalt chloride in MA10 cells. Funded by ICMR RA Project for 3 years. Funds: Rs 5.7 lakh.

### **Departmental Projects**

1. Role of hypoxia on progesterone and vascular endothelial growth factor (VEGF) secretions in MA-10 cells.
2. Effect of phytoestrogen, Genestein, on LNCAP cell line.
3. Evaluation of emergency contraception: A contraceptive intervention approaching target with controversy and opposition (Review of the literature).
4. Studies on the effect of anti-hormones on the metabolic biotransformation and interaction of oestrogen and progesterone in target organs.
5. Evaluation of prognostic tumour markers in hormone-dependent tumours.
6. Evaluation of Nuva ring: A potential combined contraceptive vaginal device (Review of the literature).

## PUBLICATIONS

### Journals

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2. Halder A, Halder S, Fauzdar A, Kumar A. Molecular approaches of chromosome analysis: An overview. *Proc Indian Natl Sci Acad* 2004;**B70**:153–221.
3. Kumar A, Mohanty BP, Chaturvedi PK. Regulation of hypophyseal gonadal axis in thyroid disorders. *Indian J Physiol Pharmacol* 2004;**48**:223.
4. Sarkar NN. The potential of mifepristone (RU-486) as an emergency contraceptive drug. *Acta Obstet Gynecol Scand* 2005;**84**:309–16.
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### Chapter in Books

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## PATIENT CARE AND OTHER SERVICES

- Andrological examinations  
Semen examination: 188  
Seminal fructose: 24
- Hormone and tumour marker assays
- Reproductive genetic counselling-cum-management planning/expert opinion was provided to cases of male infertility (~100 cases), female infertility (~20 cases), RSA (~20 cases), foetal malformation (~10 cases) and haematological malignancy (~10 cases), etc.
- Standardization of DiGeorge/velocardiofacial syndrome (microdeletion syndrome) diagnosis in the department (A. Halder)
- Standardization of single cell/blastomere/embryo FISH in the department (A. Halder)

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Anand Kumar** received the best poster award at APICON 2005, Bangalore.

**Dr A. Halder** was awarded membership of the National Academy of Medical Sciences, New Delhi. He was selected as Board Member of the Association of DNA Technologies (ADNAT), Hyderabad.

Dr Halder was invited to a panel discussion on India and the Stockholm Convention under 'Environment and Health Public Lecture Series' (conducted by Toxics Link in collaboration with the India International Centre) on 18 May 2004.

## 9.33 Surgical Disciplines

### Professor and Head

S.N. Mehta

### Professors

M.C. Misra

Anurag Srivastava

Arvind Kumar

### Additional Professors

S. Bal  
(on foreign assignment)  
Rajinder Parshad

Sunil Chumber

Sandeep Guleria

### Associate Professor

V. Seenu

### Assistant Professors

Sandeep Aggarwal

Virinder Kumar Bansal

Anita Dhar

## EDUCATION

The departmental faculty delivered lectures and imparted clinical teaching to the undergraduate medical and nursing students. Thirty junior residents and 13 senior residents are under training in the department.

### Short- and long-term training

Four medical students from abroad (Germany, UK, UAE) came for elective posting in surgery and three surgeons from various hospitals in the country received training in the department.

### Continuing Medical Education

The department organized and hosted the monthly meeting of the Delhi State Chapter of Association of Surgeons of India in February 2005 at AIIMS.

The faculty of the department delivered 52 lectures in the continuing medical education programmes, workshops, seminars, symposia, national and international conferences during the year.

### National and International Conferences

Two conferences were organized at AIIMS. The Annual Conference of the Delhi State Chapter of the Association of Surgeons of India (SURGICON-2004) was held on 4–5 December 2005. The inaugural international conference-cum-live workshop of the Association of Minimal Access Surgeons of India (AMASICON-2005) was organized from 18 to 20 March 2005. Dr M.C. Misra was the organizing chairman, Dr Arvind Kumar was the organizing secretary and Dr Guleria was the co-organizing secretary for both the conferences.

## RESEARCH

### Departmental Projects

#### *Completed*

1. Impact of preoperative vascular evaluation by Doppler ultrasound on the early failure rate of arteriovenous fistulae in haemodialysis patients.
2. Significance of protocol biopsies in live, related kidney transplant recipients.
3. Evaluation of the appropriate size of residual thyroid tissue in subtotal thyroidectomy for Grave disease and toxic multinodular goitre including comparison between modified and conventional technique of subtotal thyroidectomy.
4. Prospective assessment of awareness attitude and feasibility of breast conservation surgery inpatients with breast cancer.
5. To compare quality of life before and after treatment between patients undergoing inpatient and day-care laparoscopic cholecystectomy.
6. Evaluation of the role of protocol biopsies in renal transplantation.
7. Quality of life of live, related donors.
8. Role of Centchroman in management of mastalgia and fibroadenoma: A pilot study.
9. Comparative trial of conventional physiotherapy, CPAP, incentive spirometry in the prevention of pulmonary complications after lung resections.

#### *Ongoing*

1. Study of efficacy of intermittent pneumatic compression pump therapy in the management of lymphoedema following breast cancer treatment.
2. Evaluation of radiofrequency ablation in the treatment of primary tumour in early breast cancer.
3. Minimally invasive radio-guided parathyroidectomy in established cases of primary hyperparathyroidism—feasibility and evaluation of performance.
4. To evaluate the efficacy and tolerability of tacrolimus in patients undergoing renal transplantation.
5. A phase-two study of sequential neoadjuvant gemcitabine plus doxorubicin and gemcitabine plus cisplatin in large T2 and locally advanced operable breast cancer.
6. Multicentre phase 3 trial comparing doxorubicin and cyclophosphamide followed by docetaxel with doxorubicin and cyclophosphamide followed by docetaxel with herceptin and with docetaxel, carboplatin and herceptin in the adjuvant treatment of node positive and high-risk, node negative patients with operable breast cancer containing the *HER2* alteration (BCIRG 006).
7. Adjuvant tamoxifen longer against shorter (ATLAS). An international multicentre randomized trial to define the optimal duration of tamoxifen in an adjuvant setting.
8. A randomized, controlled, open label study to evaluate the efficacy and safety of herceptin (trastuzumab) in combination with the oral aromatase inhibitor armidex (anastrozole) compared with armidex alone as first and second-line treatment in postmenopausal hormone receptor positive patients with HER 2 $\mu$  over-expressing metastatic breast cancer.

9. Evaluation of early outcomes of day-care inguinal hernia repair.
10. Molecular typing and detection of mupirocin and methicillin-resistant *Staph aureus*.
11. To assess the role of endovascular valves in the treatment of varicose veins.
12. To assess the value of biphosphonates in post-transplant bone disease.
13. Radical duct excision for nipple discharge (benign breast disease)—its long term follow-up.
14. To study the burden of postoperative surgical site infections in clean and contaminated operations.
15. To evaluate the role of intra-abdominal pressure as a predictor of abdominal wound dehiscence.
16. Assessment of the efficacy of Tc-99m-tetrofosmin scintimammography in identifying locally advanced breast cancer sensitive to neoadjuvant chemotherapy.
17. Evaluation of the problems associated with gallstone disease leading to postcholecystectomy syndrome using upper gastrointestinal endoscopy.
18. Laparoscopic and conventional incisional and ventral hernia repair: A randomized study.
19. Three ports versus four ports laparoscopic cholecystectomy: A prospective randomized controlled study.
20. Factors affecting incidence of early postoperative complications following elective and emergency surgery.
21. Focused abdominal sonography in trauma (FAST) in patients with blunt trauma abdomen: A prospective study.
22. Post-cholecystectomy symptoms following laparoscopic cholecystectomy: A prospective study.

### **Collaborative Projects**

#### ***Completed***

1. Advanced programme in histocompatibility and transplant immunology (APHTI) (with Transplant Immunology and Immunogenetics).
2. Therapeutic monitoring of cyclosporine in renal transplant patients: A pharmacokinetic approach to optimize drug therapy and development of a new oral cyclosporine formulation (with Pharmacology).
3. Carbon dioxide DSA in peripheral arterial disease of lower limbs in comparison with conventional iodinated contrast media (with Radiology).
4. Comparative study of incidence of wound infection, pain, and quality of life in patients undergoing inguinal hernia mesh repair by laparoscopic and open methods (with Psychiatry).
5. Role of laparoscopic surgery in achalasia cardia (with Gastroenterology).

#### ***Ongoing***

1. Molecular analysis of alteration in breast cancer associated genes (with Biochemistry).
2. Prognostic value of epidermal growth factor receptor in breast cancer (with Radiotherapy, Pathology, Biochemistry and Biostatistics).

3. Evaluation of neoadjuvant chemotherapy in locally advanced breast cancer (with Pathology and Radiology).
4. Advanced sentinel lymph node evaluation in breast, and head and neck cancers (with Endocrinology, Pathology and Nuclear Medicine).
5. Breast cancer: Local tumour staging by MRI and its impact on therapeutic approach (with Radiology and Pathology).
6. Sentinel lymph node biopsy for locally advanced breast carcinoma after neoadjuvant chemotherapy (with Pathology, Radiotherapy and Nuclear Medicine).
7. Prediction of axillary lymph node status using upfront (prior to neoadjuvant chemotherapy) sentinel node biopsy in locally advanced breast cancer (with Nuclear Medicine).
8. Evaluation of the role of proton MR spectroscopy in the non-invasive detection, assessment of treatment response and tumour metabolism in breast cancer (with NMR).
9. Study of apoptotic, transcription and synaptic markers in ovariectomized rat hippocampus following oestrogen and tamoxifen therapy (with Anatomy).
10. Evaluation of cell cycle regulatory molecules in breast cancer (with Anatomy).
11. Role of reflexology therapy in the management of mastalgia: A randomized prospective study (with Biophysics).

## PUBLICATIONS

### Journals

1. Barai S, Bandopadhyaya GP, Chumber S, Gupta DK, Patel CD, Dhanpati H. Role of skeletal scintigraphy in soft tissue sarcoma: Improving the diagnostic yield. *J Postgrad Med* 2004;**50**:180–4.
2. Chahal R, Madaan S, Guleria S, Lodge JP, Spencer JA. A complex caliceal-cutaneous and caliceal-peritoneal fistula in a renal transplant patient: A case for conservative management. *Int Urol Nephrol* 2004;**36**:245–7.
3. Guleria S, Aggarwal S, Bansal VK, Varma MC, Kashyap L, Tandon N, *et al.* The first successful simultaneous pancreas–kidney transplant in India. *Natl Med J India* 2005;**18**:18–19.
4. Haloi AK, Seith A, Chumber S, Bandhu S, Panda SK, Mannan SR. Case of the season: Proliferative myositis. *Semin Roentgenol* 2004;**39**:4–6.
5. Iyer VK, Aggarwal S, Mathur M. Xanthogranulomatous pancreatitis: Mass lesion of the pancreas simulating pancreatic carcinoma—a report of two cases. *Indian J Pathol Microbiol* 2004;**47**:36–8.
6. Kolla SB, Aggarwal S, Kumar A, Kumar R, Chumber S, Prashad R, *et al.* Early versus delayed laparoscopic cholecystectomy for acute cholecystitis: A prospective randomized trial. *Surg Endosc* 2004;**18**:1323–7.
7. Miah M, Madaan S, Kessel DJ, Newstead CG, Guleria S. Transplant renal artery kinking: A rare cause of early graft dysfunction. *Nephrol Dial Transplant* 2004;**19**:1930–1.

8. Sharma U, Mehta A, Seenu V, Jagannathan NR. Biochemical characterization of metastatic lymph nodes of breast cancer patients by *in vitro* <sup>1</sup>H magnetic resonance spectroscopy: A pilot study. *Magn Reson Imaging* 2004;**22**:697–706.
9. Seenu V, Kumar R, Verma K, Mehta SN. Experience of sentinel node biopsy for breast cancer at a tertiary care hospital in northern India. *Mammology* 2004;**1**:20–8.
10. Seenu V, Shridhar D, Bal C, Parshad R, Kumar A. Laparoscopic cholecystectomy: Cystic duct occlusion with titanium clips or ligature? A prospective randomized study. *Trop Gastroenterol* 2004;**25**:180–3.
11. Singh A, Halder S, Menon GR, Chumber S, Misra MC, Sharma LK, *et al.* Meta-analysis of randomized controlled trials on hydrocolloid occlusive dressing versus conventional gauze dressing in the healing of chronic wounds. *Asian J Surg* 2004;**27**:326–32.
12. Srivastava A, Dhar A, Aggarwal CS. Why MCQ? *Indian J Surg* 2004;**66**:246–8

### Abstracts

13. Chacko RT, Julka PK, Parshad R, Nair A, Nag S, Dhindsa N, *et al.* Neoadjuvant administration of gemcitabine plus doxorubicin followed by gemcitabine plus cisplatin in large or locally advanced operable breast cancer: A phase II study. *Breast Cancer Res Treat* 2004;**88** (Suppl. 1): S-109.
14. Panigrahi A, Deka R, Bhowmik D, Dash SC, Guleria S, Mehta SN, *et al.* Immunological predictors of graft rejection: A comprehensive study in live related donor renal transplantation. *Transplant Proc* 2004;**36** (10 Suppl.):601S.
15. Raju Bagadi SA, Prasad C, Tripathi R, Dutta Gupta S, Srivastava A, Parshad R, *et al.* Expression of tumor suppressor proteins BRCA1 and p53 in breast carcinoma *Indian J Med Res* 2005;**121** (Suppl.):11.
16. Srivastava A, Bassi KK, Seenu V, Parshad R, Chumber S, Dhar A. Second echelon node accurately predicts the involvement of additional axillary nodes. *Breast Cancer Res Treat* 2004;**88** (Suppl. 1): S-85.
17. Taranikanti V, Seenu V, Kumar R. Impact of surgery and adjuvant chemotherapy on host immunity and its influence on long term survival in breast cancer. *FASEB J* 2004; **A-62** (Suppl. 4,5):85.19.

### Books

1. Chumber S. *Essentials of surgery*. 1st ed. New Delhi: Jaypee Publishers; 2005.

### PATIENT CARE

The department runs a general surgery OPD every day, follow up clinic 4 days a week, breast cancer clinic twice a week and renal transplant clinic once a week.

### OPD and specialty clinics

|                         | Number of patients |        |        |
|-------------------------|--------------------|--------|--------|
|                         | New                | Old    | Total  |
| General OPD             | 34,408             | 24,042 | 58,450 |
| Renal transplant clinic | 100                | 3,062  | 3,162  |
| Breast cancer clinic    | 304                | 2,536  | 2,840  |

**Inpatients 6325**

## Surgical procedures

|                  | Total  | Surgery<br>Unit I | Surgery<br>Unit II | Surgery<br>Unit III | Surgery<br>Unit IV |
|------------------|--------|-------------------|--------------------|---------------------|--------------------|
| Total operations | 13,621 | 3173              | 3764               | 3265                | 3419               |
| Major operations | 3,439  | 711               | 1161               | 680                 | 887                |
| Minor operations | 10,182 | 2462              | 2603               | 2585                | 2532               |

## Renal transplant-related procedures

|                            |     |
|----------------------------|-----|
| Renal transplants          | 94  |
| Live donor nephrectomy     | 92  |
| Cadaver organ retrieval    | 2   |
| Vascular access procedures | 330 |

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor S.N. Mehta** was appointed as a member of the Transplantation of Human Organs Act Review Committee by the Hon'ble Delhi High Court; continues to be: Member, Steering Committee of the Jai Prakash Narayan Apex Trauma Centre, appointed by President, AIIMS; Member, National Advisory Board of the Indian Society of Histocompatibility and Immunogenetics (ISHI); Chairman, Committee of Experts appointed by DGHS, India to advise regarding granting licence to hospitals in Union Territories to perform kidney transplantation; invited member of the Authorization Committee appointed by the Ministry of Health, India for Renal Transplantation; Member of Dean's Committee, AIIMS.

**Professor M.C. Misra** delivered the Golden Jubilee Oration 'Minimally invasive surgery: Pushing the frontiers' at the Annual Conference of the Delhi State Chapter of the Association of Surgeons of India on 5 December 2004. He also delivered the Dr P.C. Dubey Memorial Oration on 'Minimally invasive surgery' on the Golden Jubilee Foundation Day of the Department of Surgery, King George's Medical University, Lucknow.

**Dr Sandeep Aggarwal** won the Poster of Distinction Award for the paper on 'Early versus delayed laparoscopic cholecystectomy for acute cholecystitis: A prospective randomized trial' at the Annual Meeting of the Society of American Gastrointestinal Endoscopic Surgeons (SAGES), held in Denver, USA in April 2004. He also won the Best Surgical Video Presentation Award at the Annual Meeting of the Delhi State Chapter of the Association of Surgeons of India (ASI) held in December 2004.

**Dr Sunil Chumber** brought out a book titled *Essentials of surgery*. Most of the chapters in this book have been contributed by the faculty members of the department in association with faculty members of other departments.

## 9.34 Transplant Immunology and Immunogenetics

### Professor and Head

N.K. Mehra

### Associate Professor

D.K. Mitra

### Scientist II

Uma Kanga  
Sunil Kumar

Gurvinder Kaur  
Chowphie Chen Rapphap

### Scientist I

Arundhati Panigrahi

## EDUCATION

### Short-term training

The department provided short-term training to junior residents of Pathology and Laboratory Medicine and senior residents (DM students) of the Department of Haematology. During the year, 16 students from various universities and institutions as well as doctors from hospitals in and around Delhi received 4–6 months training in the laboratory techniques of HLA testing and other immunological investigations.

### Long-term training

One doctor (Lt Colonel) from the Armed Forces Medical Services (AFMS) joined the department for undergoing 2 years' training in Transplant Immunology. Another Lt Colonel (Dr) from the AFMS joined for long-term training and was also registered for PhD admission.

Training to overseas doctors: One trainee from the USA attended a 4-week training programme in the department.

### Continuing Medical Education

The faculty of the department participated in and delivered 40 lectures in continuing education programmes, symposia, national and international conferences during the year. A quality control exercise for DNA typing of *HLA* genes is in progress at the national level. Training on various cell culture assays, including flowcytometry-based assays has been regularly given to students and visiting trainees. The department provides a course on basic clinical immunogenetics for MSc students of the University of Delhi (South Campus) and Banaras Hindu University. The faculty also delivered special lectures in various departments of the institute (Biotechnology, Medical Oncology, Medicine) as part of the academic curriculum of these departments.

## **National and International Conferences**

### ***Organized by the department***

During the year, the department organized two national level scientific conferences.

- Round Table Conference on ‘HIV and tuberculosis co-infection’, New Delhi, January 2005. This conference was sponsored by the Ranbaxy Science Foundation (RSF).
- 2nd Scientific Conference of the Indian Society for Histocompatibility and Immunogenetics (ISHI), New Delhi, 17–19 February 2005. This meeting was attended by more than 100 participants, including 22 speakers from various parts of the country. The department also organized a laboratory workshop on Transplant-related Monitoring of Antibody, PCR-SSP, PCR-SSOP Technologies.

## **RESEARCH**

### **Funded Projects**

#### ***Completed***

1. Advanced Programme in Histocompatibility and Transplantation Immunology (APHTI). N.K. Mehra. Funded by DBT for 5 years (1999–2004). Funds: Rs 17 lakh.
2. Evaluation of immunology and cytopathological characteristics of first-degree relatives of patients with juvenile autoimmune thyroiditis. N.K. Mehra, Uma Kanga and Nikhil Tandon. Funded by INMAS for 2 years (2003–2005). Funds: Rs 3 lakh.
3. Human genome diversity: HLA studies. N.K. Mehra. Funded by DBT for 3 years (2001–2004). Funds: Rs 30.56 lakh.
4. Immunogenetics of mycobacterial diseases: A 13th IHWC international study. N.K. Mehra. Funded by ICMR for 3 years (2001–2004). Funds: Rs 18.35 lakh.

#### ***Ongoing***

1. Immunogenetic and humoral profile of type 1 diabetes in Indian population (Indo-French study). N.K. Mehra and Uma Kanga. Funded by ICMR-INSERM for 3 years (2003–2006). Funds: Rs 24 lakh.
2. Evaluation of virus-specific immune response in HIV-1 subtype C infected individuals. N.K. Mehra. Funded by DBT for 3 years (2002–2005). Funds: Rs 15.5 lakh.
3. Molecular analysis of cytokine gene polymorphisms in leprosy. N.K. Mehra. Funded by ICMR for 3 years (2002–2005). Funds: Rs 26.3 lakh.
4. Programme support for Advanced Programme in Histocompatibility and Immunogenetics (PS-APHTI). N.K. Mehra. Funded by DBT for 3 years (2005–2008). Funds: Rs 163.43 lakh.

### **Collaborative Projects**

1. Genomic and molecular studies on the immunopathogenesis of bronchial asthma (with Medicine, Pathology and IGIB, CSIR).

2. Study of reduction of duration of ATT with immunomodulator (MW) of immunological parameters (with Medicine).

## PUBLICATIONS

### Journals

1. Balamurugan A, Sharma SK, Mehra NK. Human leukocyte antigen class I supertypes influence susceptibility and severity of tuberculosis. *J Infect Dis* 2004;**189**:805–11.
2. Guleria S, Aggarwal S, Bansal VK, Verma MC, Kashyap L, Tandon N, Mahajan S, Bhowmik D, Agarwal SK, Mehra NK, Misra MC. The first successful simultaneous pancreas–kidney transplant in India. *Natl Med J India* 2005;**18**:18–19.
3. Kanga U, Vaidyanathan B, Jaini R, Menon PSN, Mehra NK. HLA haplotypes associated with type one diabetes mellitus in north Indian children. *Human Immunol* 2004;**65**:47–53.
4. Panigrahi A, Deka R, Bhowmik D, Tiwari SC, Mehra NK. Immunological monitoring of posttransplant allograft sensitization following living related donor renal transplantation. *Transplant Proc* 2004;**36**:1336–9.

### Chapters in Books

1. Mehra NK. Histocompatibility antigens. In: *Nature encyclopedia of life sciences*. London: Nature publication group; 2005:1–10 (available from URL: <http://www.els.net/npg.els.0004014>).
2. Mehra NK, Kaur G, Jaini R. Immunogenetic basis of variation and disease susceptibility. In: Kumar D (ed). *Genetic disorder of the Indian subcontinent*. The Netherlands: Kluwer Academic Publishers; 2004:89–123.

## PATIENT CARE

### Laboratory services

#### *Transplantation*

#### HLA matching

|                                 | <b>Recipients</b> | <b>Donors</b> | <b>Total</b> |
|---------------------------------|-------------------|---------------|--------------|
| Renal transplant patients       | 225               | 255           | 480          |
| Bone marrow transplant patients |                   |               |              |
| Leukaemia                       | 81                | 300           | 381          |
| Aplastic anaemia                | 29                | 85            | 114          |
| Thalassaemia                    | 29                | 90            | 119          |
| Others                          | 37                | 100           | 137          |
| <b>Total</b>                    | <b>176</b>        | <b>575</b>    | <b>751</b>   |
| <b>HLA-DNA matching</b>         | 120               | 137           | 257          |

## **Cadaver donor organ transplantation**

|                   |    |
|-------------------|----|
| Cadaver donor     | 2  |
| Kidney recipients | 15 |
| Heart recipients  | 10 |

## **Cross-match test**

|   |     |
|---|-----|
| Serology                                | 500 |
| Flowcytometry                           | 65  |
| Panel reactive antibody (PRA) screening | 350 |
| Flow PRA                                | 60  |
| ELISA PRA                               | 125 |

## ***Diagnostics***

|                          |     |
|--------------------------|-----|
| Spondyloarthropathies    | 515 |
| Other diseases           | 105 |
| Chimerism studies in BMT | 13  |

## **Unrelated donor search for BMT**

During the year, 320 requests for search of unrelated HLA-matched donor for bone marrow transplantation (BMT) were received from the 'Asian Indian Donor Marrow Registry'. These included 150 from the USA, 70 from Europe, 35 from various Asian countries and 65 from India.

## **New technologies for patient services**

|  |    |
|--|----|
| FACS-based immunophenotyping of leukaemia patients | 70 |
|--|----|

This service has recently been standardized in the department. Immunophenotyping of patients with leukaemia is being routinely done as an important diagnostic aid.

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

**Professor N.K. Mehra** continues to be the Council Member of the International Union of Immunological Societies (IUIS); Vice-President of the Federation of Immunological Societies of Asia-Oceania (FIMSA); Councillor for the International Histocompatibility Advisory Council and of the Australasian and South-East Asian Tissue Typing Association (ASEATTA). He is the trustee of the Immunology Foundation India; member of the DBT Task Force on Modern Biology; member of the Scientific Advisory Committee of JALMA Institute for Leprosy and other Mycobacterial Diseases, Agra; Institute of Cytology and Preventive Oncology (ICPO), New Delhi and ICMR Regional Medical Research Centre, Port Blair. He is a member of the Research Council of the Indian Institute of Chemical Biology, Kolkata; Indo-French technical association; ICMR Task Force on Immunology, Diabetes, Molecular Cardiology; several project review committees of ICMR. He is also a member of the expert-cum-monitoring committee of the DBT.

Professor Mehra is on the Editorial Board of several prestigious international journals: *Microbes and Infection* (Pasteur Institute, Paris), *Tissue Antigens* (Australia), *Modern Rheumatology* (Japan), *International Journal of Human Genetics* (India) and *Journal of Clinical Immunology* (USA). He is a member of the Ethical, Legal and Social Implications (ELSI) Committee of the Type 1 Diabetes Genetics

Consortium (T1DGC) of the NIH, Washington, USA, and of the Ranbaxy Jury Awards Committee, India. He was invited as guest speaker in several national and international meetings.

**Dr Uma Kanga** continues to serve as the Councillor for the Australasian and South-East Asian Tissue Typing Association (ASEATTA).

**Dr Arundhati Panigrahi** received the 'best paper award' at the Annual Conference of the Indian Society of Organ Transplantation held in Mumbai in September 2004.

A Canadian delegation of senior scientists led by Professor Allan Bernstein, President of the Canadian Institute of Health and Research (CIHR), visited the department to explore possible areas of scientific collaboration. The department also interacted with the French scientists for defining areas of mutual collaboration. The department continues to offer high-tech molecular-based technologies for HLA matching and immunological monitoring for organ and bone marrow transplantation to patients from all over India.

### **VISITING SCIENTISTS**

Professor Chella David (Mayo Clinic, Rochester, USA); Bruce Mcmanus (UBC/CIHR, Canada); Professor Singh (Canada); Dr Sophie Caillat-Zucman and Dr Monique Gannage (France); Professor Erwin Schurr (Montreal, Canada); Dr Pavan Reddy (USA); Professor P.K. Das (Netherlands); Professor G.S. Chhatwal (Germany); Dr Bob Anderson (Australia); Professor D.P. Pokhrel (Nepal); Professor John Fahey (USA).

## 9.35 Urology

### Professor and Head

N.P. Gupta

### Professors

A.K. Hemal  
(Joined after long leave on 30.8.2004)

P.N. Dogra

### Associate Professor

Amllesh Seth

### Assistant Professors

Monish Aron

Rajeev Kumar

### EDUCATION

The department imparted lectures for undergraduates and nursing students. The postgraduate education is continuing and 12 postgraduates (1 MSc in Urology Technology) are under training.

The department had observers and postgraduate students from abroad and various parts of India to observe and learn Endourology, Laparoscopy and Microsurgery in Urology.

The faculty of the department continue 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 examination and facilities for Urology postgraduate courses.

### Continuing Medical Education

The faculty of the department participated in and delivered lectures in continuing medical education programmes, symposia, national and international conferences during the year.

### *Lectures delivered*

#### **Professor N.P. Gupta**

Conducted the following workshops as invited operating faculty:

- ‘Prosurg’, Pune; 29–30 May 2004.
- ‘Laparoscopy Workshop in Urology’, BHU, Varanasi; 13–14 August 2004.
- ‘Hypospadias Workshop’, Bikaner; 5 January 2005.

#### **Dr Monish Aron**

Operating faculty at International Workshop on ‘Technological Advancements in Urology’, Friends Medical Centre, New Delhi; 30–31 October 2004.

## **Dr Rajeev Kumar**

- ‘Evidence-based management of male infertility’; Infertility Update, CME programme organized by SGRH, New Delhi; January 2005.
- ‘Genetics of male infertility’; CME programme on Andrology, MPUH, Nadiad; 12–13 March 2005.
- ‘Immunological male infertility’; CME programme on Andrology, MPUH, Nadiad; 12–13 March 2005.
- ‘Medical management of male infertility’; CME programme on Andrology, MPUH, Nadiad; 12–13 March 2005.
- ‘Varicocelectomy: Current concept’; CME programme on Andrology, MPUH, Nadiad; 12–13 March 2005.
- ‘Physiopharmacology of erectile dysfunction’; CME programme on Andrology, MPUH, Nadiad; 12–13 March 2005.
- ‘Oral therapy for erectile dysfunction’; CME programme on Andrology, MPUH, Nadiad; 12–13 March 2005.
- ‘Peyronie’s disease’; CME programme on Andrology, MPUH, Nadiad; 12–13 March 2005.

## **National and International Conferences**

### ***Organized by the department***

The department organized the 3-day Urology Section Operative Workshop during the AMASICON-2005 held at AIIMS, New Delhi from 18 to 20 March 2005.

### ***Lectures delivered***

#### **Professor N.P. Gupta**

- ‘Role of traditional medicine in urology’; 27th SIU Congress, Honolulu for Urological Association of Asia; 2–7 October 2004.
- ‘Management of BPH’; Annual Conference of the North Zone Chapter-ASI; 3–5 June 2004.
- ‘Holmium lasers in endourology’; 7th Asian Congress of Urology, Hong Kong; 29 October–4 November 2004.
- ‘Basic principles of holmium lasers’; World Congress on Endourology and SWL, Mumbai; 4–5 November 2004.
- ‘New energies in urology’; Indian National Science Congress, Ahmedabad; 7 January 2005.
- ‘Augmentation cystoplasty’; Annual Conference of Urological Society of India, Ahmedabad; 8–11 January 2005.
- ‘Laparoscopic surgery in urology’; Annual Conference of Urological Association of Pakistan, Lahore; 7–9 February 2005.
- ‘Medical management of urolithiasis’; Chronic Kidney Disease Update, New Delhi; 26 February 2005.

- ‘Diagnosis and treatment of male infertility’; Workshop on Infertility, AIIMS, New Delhi; 28 January 2005.

### **Professor A.K. Hemal**

- Guest lecture on ‘Role of robotic surgery in urology’; Minimally Invasive Surgery Meeting, Gwalior, MP; 7 November 2004.
- ‘Emerging role of robotics in urology’ and ‘Role of laparoscopy (retroperitoneoscopy) in urology’; Keynote guest speaker, Japanese Society of Endourology and ESWL; 17–19 November 2004.
- Guest lecture on ‘Robotic radical prostatectomy’; North Zone Chapter, Urology Society of India; 20–21 November 2004.
- ‘Emergence of robotics in surgery with special emphasis in the field of urology’; Keynote speaker, International Conference on Human Machine Interfaces, Bangalore; 20–22 December 2004.
- ‘Role of robotics in cancer prostate’, ‘Robotic radical cystectomy’, ‘Laparoscopic pyeloplasty’, ‘Laparoscopic radical nephrectomy’, ‘Radical nephroureterectomy’, ‘Role of laparoscopy in urolithiasis’; Keynote guest speaker, Urology Fair, Annual Scientific Meeting, Singapore; 25–27 February 2005.
- Guest speaker on ‘Complications of robotic urologic surgery’; International Conference on Minimal Access Surgery–Endosurgery 2005, New Delhi; 28 February–1 March 2005.

### **Dr Monish Aron**

- Debate on ‘Upper ureteral stone: Laparoscopy versus endourology’; Annual Conference of North Zone Chapter of USI, New Delhi; November 2004.
- ‘Urological education in India: Challenges posed by changing technology’; Annual Conference of North Zone Chapter of USI, New Delhi; November 2004.

### **Dr Rajeev Kumar**

- Panelist for ‘Evidence-based medicine in male infertility’; Vth Indian Congress on Gynaecologic Endoscopy, Infertility and ART, Khajuraho; November 2004.
- ‘Erectile dysfunction’; Annual Conference of the Delhi State Chapter, ASI, Delhi; December 2004.
- ‘Varicocele surgery’ and ‘Drug therapy for male infertility’; Andrology subspecialty meeting, Annual Conference of the Urology Society of India, Ahmedabad; January 2005.

## **RESEARCH**

### **Funded Projects**

#### ***Ongoing***

1. Genomics of male infertility. K. Kucheria, N.P. Gupta. Funded by the Indian Council of Medical Research for 3 years (2003–2006). Funds: Rs 19 lakh.

## **Departmental Projects**

### ***Completed***

1. One-stage urethral reconstruction using buccal mucosa free grafts.
2. Long-term results of laparoscopic pyeloplasty and holmium laser endopyelotomy in primary pelviureteric junction (PUJ) obstruction.
3. Evaluation of the role of FNAC in patients with azoospermia.

### ***Ongoing***

1. Renal cell carcinoma—evaluation of laparoscopic radical nephrectomy, nephron sparing surgery and long-term follow-up.
2. Evaluation of various types of intussusception techniques of microsurgical vasoepididymostomy.
3. Understanding the health-seeking behaviour of infertile men.
4. Evaluation of laparoscopy in the management of carcinoma bladder.
5. Effect of stone and pelvicalyceal system configuration on the morbidity and relook rates with PCNL and its impact on training.
6. Development and validation of a stratification system to grade the degree of difficulty of PCNL.
7. Evaluation of TRUS and TRUS-guided biopsy for early diagnosis of carcinoma prostate.
8. Evaluation of holmium laser core through urethrotomy in the management of obliterative strictures of the urethra.
9. Evaluation of TUVRP and holmium laser prostatectomy for BPH.

## **Collaborative Projects**

### ***Ongoing***

1. Mitochondrial genes and Y chromosome deletions in male infertility (with Anatomy).
2. 3-dimensional chemical shift imaging and diffusion weighted imaging using proton MRS in the diagnosis of carcinoma prostate (with NMR).
3. Stone analysis using X-ray diffraction studies (with Biophysics).
4. Prospective randomized study of radical cystectomy versus concurrent chemoradiotherapy in muscle-invasive cancer of urinary bladder (with Radiotherapy).

## **PUBLICATIONS**

### **Journals**

1. Ansari MS, Gupta NP, Hemal AK, Dogra PN, Seth A, Aron M, *et al.* Spectrum of stone composition: Structural analysis of 1050 upper urinary tract calculi from northern India. *Int J Urol* 2005;**12**:12–16.
2. Ansari MS, Gupta NP, Hemal AK, Dogra PN, Seth A. Combined androgen blockade in the management of advanced prostate cancer: A sensible or ostensible approach. *Int J Urol* 2004;**11**:1092–6.

3. Ansari MS, Gupta NP. A comparison of lycopene and orchidectomy vs orchidectomy alone in the management of advanced prostate cancer. *BJU Int* 2004;**94**:678.
4. Ansari MS, Gupta NP. Lycopene: A novel drug therapy in hormone refractory metastatic prostate cancer. *Urol Oncol* 2004;**22**:415–20.
5. Ansari MS, Singh I, Dogra PN. Spontaneous nephrocutaneous fistula—2 unusual case reports with review of literature. *Int Urol Nephrol* 2004;**36**:239–43.
6. Ansari MS, Singh I, Gupta NP. Renal stone masquerading as an occult renal cell cancer (incidental RCC). *Int Urol Nephrol* 2004;**36**:235–7.
7. Aron M, Goel R, Gupta NP, Seth A. Incidental detection of purulent fluid in kidney at percutaneous nephrolithotomy for branched renal calculi. *J Endourol* 2005;**19**:136–9.
8. Aron M, Goel R, Kesarwani PK, Gupta NP. Hemostasis in tubeless PNL: Point of technique. *Urol Int* 2004;**73**:244–7.
9. Aron M, Goel R, Kesarwani PK, Seth A, Gupta NP. Upper pole access for complex lower pole renal calculi. *BJU Int* 2004;**94**:849–52; discussion 852.
10. Aron M, Gupta NP, Goel R, Ansari MS. Laparoscopy-assisted percutaneous nephrolithotomy (PCNL) in previously operated ectopic pelvic kidney. *Surg Laparosc Endosc Percutan Tech* 2005;**15**:41–3.
11. Aron M, Nair M, Hemal AK. Renal metastasis from primary hepatocellular carcinoma. A case report and review of the literature. *Urol Int* 2004;**73**:89–91.
12. Dada R, Gupta NP, Kucheria K. Yq microdeletions—azoospermia factor candidate genes and spermatogenic arrest. *J Biomol Tech* 2004;**15**:176–83.
13. Dogra PN, Ansari MS, Gupta NP, Tandon S. Holmium laser core-through urethrotomy for traumatic obliterative strictures of urethra: Initial experience. *Urology* 2004;**64**:232–5; discussion 235–6.
14. Dogra PN, Ansari MS. Spinning top urethra and lower urinary tract dysfunction in a young female. *Scientific World Journal* 2004;**4** (Suppl. 1):108–10.
15. Dogra PN, Gautam G, Ansari MS. Penile amputation and emasculation: Hazards of modern agricultural machinery. *Int Urol Nephrol* 2004;**36**:379–80.
16. Dogra PN, Goel R. Complication of percutaneous suprapubic cystostomy. *Int Urol Nephrol* 2004;**36**:343–4.
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### PATIENT CARE

#### OPD and specialty clinics

Please *see* Appendix.

|  |             |
|--|-------------|
| <b>Surgical procedures</b>                           | <b>7607</b> |
| Open   | 361         |
| Endourology  | 1472        |
| Lower tract  | 846         |
| Upper tract  | 626         |
| Percutaneous renal surgery                           | 260         |
| Ureterorenoscopy                                     | 180         |
| Microsurgery   | 65          |
| Laparoscopic surgery                                 | 93          |
| AV fistula   | 2           |
| Minor OT   | 5614        |
| Cystoscopy   | 2246        |
| Minor cases  | 3368        |
| <b>Extra-corporeal shock wave lithotripsy (ESWL)</b> | <b>844</b>  |

|                                      |             |
|--------------------------------------|-------------|
| New cases                            | 366         |
| Re-do cases                          | 478         |
| <b>Urodynamic procedures</b>         | <b>3358</b> |
| Uroflowmetry                         | 3027        |
| Cystometrogram                       | 331         |
| <b>Ultrasound procedures</b>         | <b>585</b>  |
| Diagnostic                           | 160         |
| Interventional                       | 425         |
| <b>Laboratory investigations</b>     | <b>65</b>   |
| X-ray diffraction of urinary calculi | 65          |

#### AWARDS AND HONOURS

**Professor N.P. Gupta** received the Dr B.C. Roy National Award for Eminent Medical Teacher. He was elected Societe Internationale d' Urologie (SIU) Board Member; and elected Chairman, Organizing Committee, 9th Asian Congress of Urology.

**Professor A.K. Hemal** was co-organizer and faculty in the 3rd International Robotic Urologic Symposium held in Detroit, USA on 14–16 October 2004; he conducted live demonstrations of robotic radical prostatectomy there. He was the invited guest faculty in the 7th Asian Congress of Urology, Hong Kong, 29 October–1 November 2004; and the 22nd World Congress of Urology, Mumbai, India, 2–5 November 2004. He delivered the Dr M.L. Sharma oration in the MPASICON–2005 held in Bhopal, on 5 February 2005. He was faculty at the International Conference on Uro-oncology held by the Rajiv Gandhi Cancer Hospital in New Delhi on 12–13 March 2005.

**Dr Amlesh Seth** was the visiting faculty at the B.P. Koirala Institute of Health Sciences, Dharan, Nepal for 6 weeks.

**Dr Monish Aron** was appointed member of the Editorial Board of the *Indian Journal of Urology*; awarded the Chakraborty Fellowship for the year 2004 by the Indian section of the American Urological Association; awarded the International Endourology Society Research Fellowship for the year 2004–2005. He was the convenor of the panel to frame guidelines for the treatment of renal and ureteral calculi, under the aegis of the North Zone Chapter of USI, at the Annual Conference of the North Zone Chapter of USI at New Delhi, November 2004. He chaired a video session on advanced PCNL (V20) at the 22nd World Congress on Endourology and SWL, Mumbai, November 2004.

**Dr Rajeev Kumar** was the Convener of Andrology Symposium at the 14th Annual Conference of the North Zone Chapter of Urological Society of India, Delhi in November 2004. He was the Chairperson, 'Evidence-based Medicine', Infertility Update at SGRH, New Delhi, January 2005.

## 10.1 Cardiothoracic Sciences Centre

**Chief, CTC**  
P. Venugopal

### **CARDIOTHORACIC AND VASCULAR SURGERY**

**Professor and Head**  
P. Venugopal

#### **Professors**

A. Sampath Kumar

Balram Airan

#### **Associate Professors**

U.K. Chowdhury

S.K. Choudhary

A.K. Bisoi

#### **Assistant Professors**

Milind Hote

Sachin Talwar

V. Devagourou

Dr Anil Bhan, Additional Professor of CTVS, resigned from the Institute on  
7 December 2004

### **CARDIOLOGY**

**Professor and Head**  
K.S. Reddy

#### **Professors**

V.K. Bahl

A. Saxena

S.S. Kothari

#### **Additional Professors**

K.C. Goswami

B. Bhargava

#### **Associate Professors**

S. Ramamurthy  
R. Juneja

D. Prabhakaran  
S. Seth

R. Narang  
S. Mishra  
(on assignment)

#### **Assistant Professors**

R. Yadav  
Gautam Sharma

N. Naik  
Sandeep Singh

G. Karthikeyan

Dr K.K. Talwar, Professor and Head, Department of Cardiology has joined as Director,  
PGI, Chandigarh w.e.f. 31.03.2004 on lien from AIIMS

## **CARDIAC ANAESTHESIA**

### **Professor and Head**

Usha Kiran

### **Professor**

S.C. Kale

### **Associate Professors**

Sandeep Chauhan

Neeti Makhija

Poonam Malhotra

### **Assistant Professors**

Minati Choudhury

Shambhu Das

Manoj Sahu

## **CARDIAC RADIOLOGY**

### **Professor and Head**

Sanjiv Sharma

### **Assistant Professor**

Gurpreet Gulati

## **BLOOD BANK (CNC)**

### **Senior Chief Medical Officer**

Rama Bhasin

### **Senior Medical Officer**

Anjali Hazarika

## **CARDIAC BIOCHEMISTRY**

### **Associate Professor**

R. Lakshmy

## **CARDIAC PATHOLOGY**

### **Professor**

P. Chopra

### **Associate Professor**

Ruma Ray

## **CARDIAC NUCLEAR MEDICINE**

### **Assistant Professor**

Chetan D. Patel

## **EDUCATION**

### **Cardiothoracic and Vascular Surgery**

#### ***Short- and long-term training***

The following cardiac surgeons underwent short-term training in the Department of CTVS:

- Dr Rajesh S. from Medical College, Thiruvananthapuram, Kerala
- Dr Ram Shankar P. from Medical College, Thiruvananthapuram, Kerala
- Dr Shah Shabir Hussain from Sher-I-Kashmir Institute of Medical Sciences, Srinagar
- Dr K.V. Raja Rao from Care Hospital, Hyderabad, Andhra Pradesh
- Dr Karma Kar Padhy from Care Hospital, Vishakhapatnam, Andhra Pradesh
- Dr Rajnish Pathania, Dr Pyare Lal Ganta and Dr Anil Malhotra from the Indira Gandhi Medical College, Shimla
- Dr Aneil Malhotra and Dr Norzeihan Bappu from the United Kingdom did elective training.
- Paramedical staff such as nurses and technicians sponsored from the Indira Gandhi Medical College, Shimla were trained.
- Three Masters of Physiotherapy (Cardiopulmonary) students from the Jamia Hamdard University were posted in the department from July 2004 to February 2005 for their compulsory clinical training as short-term observers. All three had their dissertations under the guideship of Dr V.P. Gupta, Superintendent Physiotherapist, CTVS, AIIMS.

### **Cardiology**

#### ***Short- and long-term training***

- Six foreign nationals from the UK got elective posting in the department.
- Two persons got training in the ECG laboratory.
- Ten doctors from various hospitals received training in several areas of the department.
- One staff nurse from Ladakh got training in various areas of the department.
- Sixteen doctors from the CGHS received training while their VVIP posting.
- Eight doctors from various departments of the institute received training in different areas of the department.
- One doctor got training under the WHO fellowship.

### **Cardiac Anaesthesia**

#### ***Postgraduate training***

Eight postgraduate students from the Department of General Anaesthesia were posted for a period of 2 months each for training in cardiac anaesthesia from 1 April 2004 to 31 March 2005.

### ***DM Cardiac Anaesthesia***

Two more candidates were selected for postdoctoral training in DM Cardiac Anaesthesia Programme. At present, nine candidates are pursuing the course with ICU training as well. The first DM candidate will be appearing in the examination in May 2005. Two of the nine DM students are sponsored candidates, as Lt Colonels from the Army.

### ***Guest lectures***

#### **Dr Usha Kiran**

- ‘Healthy life-style and positive health’; 4th National Conference on Heart of Healing; 15 April 2004.
- ‘Role of relaxation therapy in management of chronic headache’; Conference on Medicine and Meditation, Mount Abu; October 2004.
- Coordinated a symposium entitled ‘Achievements in health, nutrition and biological sciences and their contribution for well being in mankind’; proceedings of a national conference on Scientific Awareness, in collaboration with the Ministry of Science and Technology, Vigyan Bhawan, New Delhi; 27 December 2004.
- Participated in a discussion on ‘Advanced Course on Transfusion Alternatives’, Panipat; 10 March 2005.

#### **Dr S.C. Kale**

- Took part in a panel discussion on ‘Intraoperative cardiac arrhythmias’; VIIIth IACTA Conference, Jaipur; February 2005.
- Chaired a session in the Cardiac Specialty Chapter, 52nd Annual Conference of the Indian Society of Anaesthesiology (ISACON-2004), Bhopal; December 2004.

#### **Dr Sandeep Chauhan**

- Took part in a panel discussion on ‘Intraoperative cardiac arrhythmias’; VIIIth IACTA Conference, Jaipur; February 2005.
- Chaired 2 sessions on (i) ‘Paediatric cardiac anaesthesia’ and a guest lecture on (ii) ‘Arrhythmias’; VIIIth IACTA Conference, Jaipur; February 2005.

#### **Dr Neeti Makhija**

- ‘Newer drugs in anaesthesia practice’; Symposium of the West Zone Indian Society of Anaesthesia, Ahmedabad; October 2004.

#### **Dr Poonam Malhotra**

- CME lecture on ‘Newer techniques in paediatric cardiopulmonary bypass’; Annual IACTA Conference, Jaipur; February 2005.
- Organized workshops on (i) Invasive and Non-invasive Cardiac Output Monitoring and (ii) Thromboelastography and Bispectral Index; 16th National Conference of the Research Society of Anaesthesiology and Clinical Pharmacology, Mumbai; 15–17 October 2004.

## *Community guest lectures and services*

### **Dr Usha Kiran**

- Public lecture on 'Life-style for preventing heart attack'; Health Mela, Panipat; 29 March 2004.
- Participated in two health camps organized for 'Awareness about parkinsonism', Amity, Defence Colony, New Delhi; May 2004.

### **Dr Poonam Malhotra**

- Offered voluntary medical services on Sunday mornings (8–10 times in 2004–2005) at the charitable clinics run by the Ram Memorial Trust at its Madhuvan and Noida branches.

## **Cardiac Pathology**

### *Undergraduate and Postgraduate*

Routine academic activities include teaching the cardiovascular pathology system to 4th semester students and demonstration of cardiac cases to the pathology residents. Demonstration of cases of congenital heart diseases is sometimes done for interested cardiothoracic residents.

### *Short-term training*

Dr Uma Nahar Saikia, Assistant Professor, PGIMER, Chandigarh visited the department for a short-term training in Cardiac Pathology in October 2004.

## **Cardiac Nuclear Medicine**

### *Undergraduate and Postgraduate*

Three postgraduates from the Department of Cardiac Nuclear Medicine were trained in Nuclear Cardiology on rotational basis. The departmental faculty delivered 10 lectures for postgraduate students and were moderators in 14 journal clubs/seminars. One thesis was completed and two new were started.

## **Continuing Medical Education**

### *Lectures delivered*

### **Cardiothoracic and Vascular Surgery**

#### *Professor P. Venugopal*

- Invited guest lecture on 'Stem cell therapy'; International Summit on Coronary Artery Disease and Cardio Vascular Intervention, Mumbai; 18–20 February 2005.

#### *Professor Sampath Kumar*

- Invited talk on 'Surgical techniques of mitral valve replacement and role of chordal preservation'; KLES Hospital and JN Medical College, Belgaum, Karnataka; 19 December 2004, under the auspices of the Indian Association of Cardiovascular and Thoracic Surgeons.

- Invited talk on 'Valve repair surgery in one country'; GMC and Rajaji Hospital, Madurai; 30–31 October 2004.
- Attended the National Conference of the Bangladesh Cardiac Society at Dhaka, Bangladesh; 10–11 December 2004.
- Attended a symposium organized by the National Institute of Cardiovascular Disease, Teachers' Association of Bangladesh; 23–26 July 2004.
- Attended the Annual Conference of the Indian Association of Cardiovascular and Thoracic Surgeons at Cochi, Kerala; 17–20 February 2005.

*Professor Balram Airan*

- Invited talk on 'Surgical correction of complex congenital anomalies (Cardiac Malposition–TGA correction; Arterial switch A-V canal Defect/TAPVC Video-demonstration)'; CME organized at the Heart Foundation, KLES Hospital and MRC J.N. Medical College at Belgaum, Karnataka; 18–19 December 2004.
- Attended the 6th Annual Conference of the Pediatric Society of India, Bangalore; 28–29 August 2004.
- Invited lecture on 'Decision making in univentricular heart repair'; CME organized under the auspices of the Indian Association of Cardiovascular and Thoracic Surgeons, Madras Medical College, Chennai; 21–22 August 2004.
- Invited lecture on 'Developing a heart and lung device programme in countries exceeding one billion'; 24th Annual Meeting and Scientific Session of the International Society for Heart and Lung Transplantation, San Francisco, CA, USA; 21–24 April 2004.
- Invited guest lecture on 'Current concepts in management of congestive heart failure'; Armed Forces Medical College, Pune; 7 February 2005.
- Attended the 51st Annual Conference of the Indian Association of Cardiovascular and Thoracic Surgeons (CTCON-2005); 17–20 February 2005.

*Dr Sachin Talwar*

- Invited lecture on 'Rheumatic valvular heart diseases: Surgical aspects'; CME organized by the Department of Medicine at JLN Medical College, Ajmer; 25 September 2004.
- Invited lecture on 'Surgical options for myocardial revascularization'; CME organized by the Ajmer State Chapter of the Association of Physicians of India; 25 September 2004.
- Presented a paper on 'Mitral valve repair in children with rheumatic heart disease'; Annual Meeting of the Pediatric Cardiac Society of India; 28–29 August 2004.
- Presented a paper on 'Sternal wound complications: Prevention is better than cure'; Annual Conference of the Indian Association of Thoracic and Cardiovascular Surgeons, Cochin; 16–20 February 2005.
- Presented a paper on 'Long-term results of mitral valve repair in patients with rheumatic heart disease'; Annual Conference of the Indian Association of Thoracic and Cardiovascular Surgeons, Cochin; 16–20 February 2005.

- Visited the children's hospital at the Cleveland Clinic Foundation, Cleveland, Ohio, US as an observer from 21 June to 7 July 2004.

## **Cardiology**

The faculty participated in various CMEs held at national and international levels.

## **Cardiac Radiology**

*Dr Sanjiv Sharma*

- Guest lecture on 'Interventions in paediatric age group'; AIIMS–MAMC–PGI imaging course on Paediatric Imaging, AIIMS; 2–3 April 2004.
- Guest lecture on 'Non-surgical closure of aortic aneurysms'; 9th AP State Chapter meeting of CSI, Hyderabad; 12–13 June 2004.
- Case presentation on 'Endovascular repair of aortic aneurysm'; Workshop-cum-Update on Interventional Radiology, Army Hospital R&R, New Delhi; 1 May 2004.
- Guest lecture on 'Annual registry data presentation'; 5th Annual Meeting of the National Registry of the Indian Society of Vascular and Interventional Radiology, Coimbatore; 17–18 July 2004.
- Guest lecture on 'Evolving trends in interventional radiology'; Indian Radiological and Imaging Association, Punjab and Chandigarh Branch, Chandigarh; 21 July 2004.

*Dr Harnam Singh*

- Guest lecture on 'Evolving trends in paediatric vascular interventional radiology'; Mid-term CME-ICRI-2004, Chennai; 7–8 August 2004.
- Guest lecture on 'Introduction to interventional radiology'; Indian College of Radiology and Imaging CME, Varanasi; 10–12 September 2004.
- Guest lecture on 'Recent advances in endovascular surgery'; Annual Conference, Delhi State Chapter of the Association of Surgeons of India, AIIMS; 4–5 December 2004.
- Guest lectures on 'Interpretation of catheter coronary angiography', 'Conventional and colour Doppler', 'CT in peripheral vessel imaging'; 58th Annual Congress of the Indian Radiological and Imaging Association, Agra; 22–25 January 2005.
- Guest lecture on 'Endovascular management of critical limb ischaemia'; 2nd World Congress of Interventional Cardiology, Mumbai; 24–27 February 2005.
- Guest lecture on 'Current trends in IVC filter applications'; National Haematology Update-IV, AIIMS, Delhi; 27–28 February 2005.
- Participated in the Workshop on Minimal Access and Endovascular Surgery; Inaugural international conference-cum-live workshop of the Association of Minimal Access Surgeons of India, AIIMS, Delhi; 18–20 March 2005.

*Dr Gurpreet Gulati*

- 'CTA vs MRA in PTE'; 6th Asia Pacific Congress of Cardiovascular and Interventional Radiology (APSCVIR), New Delhi; 31 October–3 November 2004.

## **RESEARCH**

### **Cardiothoracic and Vascular Surgery**

#### *Departmental Projects*

##### **Ongoing**

1. Evaluation of feasibility of Trusler formula for PA banding—does it need to be modified?
2. Does early extubation after open-heart surgery reduce the hospital stay—prospective study?
3. Long-term follow up of patients who have undergone transatrial repair of tetralogy of Fallot.
4. Ventricular function in patients operated for total cavopulmonary corrections.

#### *Collaborative Projects*

##### **Ongoing**

1. Development of a polymer heart valve (with DMSRDE, Kanpur).

### **Cardiology**

#### *Funded Projects*

##### **Ongoing**

1. The STICH trial: International multicentric study comparing the efficacy of intensive medical treatment with coronary artery bypass grafting (CABG) surgery in high-risk patients with multi-vessel coronary artery disease. D. Prabhakaran. Funded by NIH for 5 years. Funds: Rs 33.75 lakh.
2. The ADVANCE study: International multicentric, factorial, randomized trial of intensive blood pressure lowering and intensive glucose control for the prevention of vascular disease among high-risk individuals with type 2 diabetes. K.S. Reddy. Funded by the Institute of International Health, Sydney, Australia for 6 years. Funds: Rs 40 lakh.
3. The SUPER study: Single-centre phase III study evaluating the immediate and medium term outcome of an indigenously developed sirolimus-eluting coronary stent (the Supralimus stent). B. Bhargava. Funded by Sahajanand Medical Company for 1 year.
4. The HEART2D study: International multicentric study of hyperglycaemia and its effect after acute myocardial infarction on cardiovascular outcomes in patients with type 2 diabetes (HEART2D), aims to evaluate the effect of treating post-prandial hyperglycaemia on cardiovascular outcomes in diabetics following acute myocardial infarction. Nikhil Tandon. Funded by Eli Lilly for 3 years. Funds: Rs 10 lakh.
5. Role of homocysteine in coronary disease: Genetic and epigenetic studies. G. Karthikeyan. Funded by the Department of Biotechnology, Ministry of Science and Technology, Government of India for 3 years. Funds: Rs 18 lakh.

6. Comparison of plasma homocysteine levels in patients with mitral stenosis with and without left atrial thrombus. G. Karthikeyan. Funded by the Indian Council for Medical Research, Government of India for 2 years. Funds: Rs 3 lakh.
7. Are dilated aortic roots in patients with bicuspid aortic valves associated with mutations in the fibrillin-1 gene? G. Karthikeyan. Funded by the All India Institute of Medical Sciences, New Delhi for 1 year. Funds: Rs 50,000.
8. Investigation of the mechanisms underlying dyspnoea and exercise limitation in patients with mitral stenosis. Balram Bhargava. Funded by DST for 2 years.
9. Role of tissue Doppler imaging in early detection of cardiomyopathy in relatives of patients with hypertrophic cardiomyopathy. S. Seth. Funded by AIIMS Faculty Research Grant for 3 years. Funds: Rs 90,000.
10. *Terminalia arjuna*: Role in heart failure. Investigation in animal model and humans. S. Seth. Funded by DBT.

### ***Departmental Projects***

#### **Ongoing**

1. Evaluation of intracoronary infusion of bone marrow stem cells in patients with LV systolic dysfunction and patent coronary arteries.
2. Rapid fibrinolysis with streptokinase for left-sided prosthetic valve thrombosis.
3. Effect of sildenafil on haemodynamics in dilated cardiomyopathy.

### **Cardiac Anaesthesia**

#### ***Funded Projects***

#### **Ongoing**

1. Correlates of chronic tension headache and its modulation by autogenic relaxation therapy (meditation). Usha Kiran. Funded by the Department of Science and Technology, Government of India for 3 years (2001–2004). Funds: Rs 15 lakh.

### ***Departmental Projects***

#### **Completed**

1. Effect of thoracic epidural anaesthesia in patients undergoing CABG surgery.
2. Effect of perioperative haemodilution in CCHD undergoing Blalock Taussig shunt.
3. Patient control analgesia in paediatric cardiac surgery.
4. Role of transcutaneous electrical nerve stimulation in postoperative period in adults undergoing open heart surgery.
5. Efficacy of intranasal ketamine, midazolam and their mixture in cyanotic children and its correlation with bispectral index.
6. Comparison of aprotinin and epsilon aminocaproic acid (EACA) in adult cardiac surgery.

7. Evaluation of EACA and autologous blood as blood conservation strategies.
8. Myocardial performance in paediatric cardiac surgery: Comparison of conventional ultrafiltration and modified ultrafiltration.
9. Chronic infections and their association with atherosclerotic artery disease.

### **Ongoing**

1. New biochemical markers of myocardial injury in CABG patients.
2. Role of GIK infusion in myocardial protection.
3. Role of MUF in adult pulmonary function.
4. Efficacy of inhaled nitric oxide in reducing pulmonary hypertension in congenital cardiac surgery.

### ***Collaborative Projects***

1. Role of meditation in Parkinson disease (with Neurology).
2. Elucidation of the mechanism underlying heparin-induced thrombocytopenia (with IRCH).

### **Cardiac Radiology**

#### ***Departmental Projects***

### **Completed**

1. Assessment of coronary artery disease with multislice CT.
2. Evaluation of coronary artery anatomy with MSCT, following arterial switch operation for transposition of great arteries.
3. MSCT evaluation of coarctation of aorta following Dacron patch/subclavian flap aortoplasty.
4. Assessment of pulmonary artery anatomy in congenital heart disease with multislice CT.

### **Ongoing**

1. Intra-arterial delivery of stem cells in peripheral vascular disease.
2. MR evaluation of ischaemic heart disease for myocardial perfusion, wall motion, and viability.
3. MR evaluation of cardiomyopathies.
4. MR evaluation of outcomes of intracoronary stem cell implantation in patients with heart failure.
5. MSCT evaluation of pulmonary vein and left atrial morphology in patients with mitral stenosis undergoing percutaneous mitral commissurotomy.
6. Ultrasound evaluation of carotid intimomedial thickness in patients with rheumatoid arthritis.
7. MR evaluation of RV function and pulmonary regurgitation following total correction of tetralogy of Fallot.
8. MR evaluation of arrhythmogenic RV dysplasia.
9. Imaging evaluation during follow-up after percutaneous repair of type B aortic dissection.

## **Cardiac Pathology**

### ***Departmental Projects***

#### **Ongoing**

1. Pattern of restrictive heart disease on endomyocardial biopsy specimens.
2. Histological changes in pulmonary autographs of Ross procedure.

### ***Collaborative Projects***

#### **Ongoing**

1. Light microscopic and electron microscopic evaluation of myocardium in congenital heart disease (with Cardiothoracic Surgery).
2. Effect of thalidomide in experimentally induced myocardial infarction (with Pharmacology).
3. Effect of chronic oral administration of *Terminalia arjuna* in a rat model of hyperlipidaemia (with Pharmacology).
4. Studies on cardioprotective effect of curcumin in experimental models of myocardial infarction (with Pharmacology).

## **Cardiac Nuclear Medicine**

### ***Funded Project***

1. Role of radionuclide techniques in diagnosis of early dementia. Chetan D. Patel. Funded by the International Atomic Energy Agency for 2 years (2003–2004). Funds: US\$ 8000.

### ***Collaborative Projects***

#### **Completed**

1. MUGA and first-pass angiocardiology in evaluation of patients with one and half ventricular repair (with CTVS).
2. Comparison of ventricular volumes generated by thallium-gated SPECT perfusion study and ECHO in CAD patients (with Cardiology).
3. Evaluation of left ventricular function in post-MVR patients. Comparison with ECHO (with CTVS).
4. Comparison of two doses of daunorubicin (45 mg/m<sup>2</sup> vs 60 mg/m<sup>2</sup>) induction therapy of patients of acute myeloid leukaemia (with Medical Oncology).

#### **Ongoing**

1. Evaluation of cardiac function in patients receiving anthracycline therapy by 1st pass study and equilibrium radionuclide ventriculography (with Cardiology).
2. Feasibility and additive value of rest left ventricular ejection fraction in ECG-gated thallium-201 myocardial SPECT. Comparison with left ventricular rejection fraction on radionuclide equilibrium ventriculography at rest (with Cardiology).

3. Comparison of MRI, first-pass angiocardiography and ECHO in assessment of right ventricular function in post-op total correction for TOF (with CTVS and Cardiac Radiology).

## PUBLICATIONS

### Journals

#### *Cardiothoracic and Vascular Surgery*

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2. Chowdhury UK, Subramaniam GK, Kothari SS, Airan B, Venugopal P. Congestive heart failure in unoperated tetralogy of Fallot: Can hypoxia be a cause? *Indian Heart J* 2005;**57**:65–7.
3. Dogra S, Sabu R, John B, Gupta VP, Mehra P, Talwar S, *et al.* Sternal wound complications: Prevention is better than cure. *Indian J Thorac Cardiovasc Surg* 2005;**21**:29–33.
4. Gulati GS, Sharma S, Jagia P, Talwar S, Kumar AS. Magnetic resonance imaging of the pulmonary autograft in the mitral position. *Tex Heart Inst J* 2004;**31**:326–7.
5. Gupta G, Roy A, Sampath Kumar A. Aortic valve replacement with 31- and 33-mm mechanical prostheses: Early results. *Tex Heart Inst J* 2004;**31**:149–52.
6. Kumar AS, Talwar S, Mohapatra R, Saxena A, Singh R. Aortic valve replacement with the pulmonary autograft: Mid-term results. *Ann Thorac Surg* 2005;**80**:488–94.
7. Murala JS, Sampath Kumar A. Long-term results of cusp-level chordal shortening for anterior mitral leaflet prolapse. *Tex Heart Inst J* 2004;**31**:246–50.
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9. Sampath Kumar A. Mitral annular calcification. *Asian Cardiovasc Thorac Ann* 2005;**13**:100.
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11. Talwar S, Jayantkumar HV, Kumar AS. Chordal preservation during mitral valve replacement: Basis, techniques and results. *Indian J Thorac Cardiovasc Surg* 2005;**21**:45–52.
12. Talwar S, Kapoor CK, Velayoudam D, Kumar AS. Anticoagulation protocol and early prosthetic valve thrombosis. *Indian Heart J* 2004;**56**:225–8.
13. Talwar S, Mohapatra R, Saxena A, Singh R, Kumar AS. Aortic homograft: A suitable substitute for aortic valve replacement. *Ann Thorac Surg* 2005;**80**:832–8.
14. Talwar S, Rajesh MR, Saxena A, Subramaniam A, Kumar AS. Mitral valve repair in children with rheumatic heart disease. *J Thorac Cardiovasc Surg* 2005;**129**:875–9.
15. Talwar S, Saikrishna C, Saxena A, Kumar AS. Aortic valve repair for rheumatic aortic valve disease. *Ann Thorac Surg* 2005;**79**:1921–5.

#### *Cardiac Anaesthesia*

1. Chauhan S, Das SN, Bisoi A, Kale S, Kiran U. Comparison of epsilon aminocaproic acid and tranexamic acid in pediatric cardiac surgery. *J Cardiothorac Vasc Anesth* 2004;**18**:141–3.

2. Chauhan S, Ingole P, Kale S, Kiran U. Correlation of BIS with Tet spells. *J Cardiothorac Vasc Anesth* 2004;**18**:682–3.
3. Das SN, Makhija N, Kiran U. Anaesthesia for redo coronary artery bypass grafting. *Hospital Today* 2004;**9**:278–81.
4. Dass SN, Kale SC. Perioperative management of pacemaker implantation for congenital complete heart block. *J Cardiothorac Vasc Anesth* 2004;**18**:628–9.
5. Kumar N, Kiran U, Saxena N. Anaesthetic management of post infarction ventricular septal rupture. *Indian J Anaesth* 2004;**48**:309–11.

### ***Cardiac Pathology***

1. Aggarwal P, Ray R, Seth P. Phosphorothioated CpG oligonucleotide induced hemopoietic changes in mice. *Gene Ther Mol Biol* 2004;**8**:319–26.
2. Chowdhury UK, Airan B, Mishra PK, Kothari SS, Subramaniam GK, Ray R, *et al.* Histopathology and morphometry of radial artery conduits: Basic study and clinical application. *Ann Thorac Surg* 2004;**78**:1614–21.
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4. Jagia P, Gulati GS, Sharma S, Goyal NK, Gaikwad S, Saxena A. MRI features of tuberculoma of the right atrial myocardium. *Pediatr Radiol* 2004;**34**:904–7.

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6. Kothari SS, Anandaraja S, Prakash R, Balasundaram, Gulati GS. Transhepatic balloon dilation of the interatrial septum. *Indian Heart J* 2004;**56**:683–4.

### ***Cardiac Nuclear Medicine***

1. Barai S, Bandopadhyaya GP, Bhowmik D, Patel CD, Malhotra A, Agarwal P, *et al.* Prevalence of vesicoureteral reflux in patients with incidentally diagnosed adult hypertension. *Urology* 2004;**63**:1045–8; discussion 1048–9.
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3. Barai S, Patel CD, Malhotra A, Bandopadhyaya GP, Gambhir S, Kumar R, *et al.* Use of atropine in patients with recent myocardial infarction during exercise myocardial perfusion study. Use of atropine during exercise myocardial perfusion SPECT. *Int J Cardiovasc Imaging* 2005;**21**:413–19.
4. Chowdhury UK, Airan B, Kothari SS, Talwar S, Saxena A, Singh R, Subramaniam GK, Pradeep KK, Patel CD, Venugopal P. Specific issues after extracardiac fontan operation: Ventricular function, growth potential, arrhythmia, and thromboembolism. *Ann Thorac Surg* 2005;**80**:665–72.
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1. Anandaraja S, Kothari SS, Bahl VK. Oral anticoagulation therapy for prosthetic valves. *Indian Heart J* 2004;**56**:281–5.
2. Balasundaram RP, Karthikeyan G, Kothari SS, Talwar KK, Venugopal P. Fibrinolytic treatment for recurrent left sided prosthetic valve thrombosis. *Heart* 2005;**91**:821–2.
3. Bhargava B, Karthikeyan G, Tripuraneni P. Intravascular brachytherapy: Indications and management of adverse events. *Am J Cardiovasc Drugs* 2004;**4**:385–94.
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## Abstracts

### *Cardiothoracic and Vascular Surgery*

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### **Chapters in Books**

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## **PATIENT CARE**

### **Cardiothoracic and Vascular Surgery**

Total operations performed in the year 2004–2005 (w.e.f 1 April 2004–31 March 2005)

|                           |             |
|---------------------------|-------------|
| Open heart surgery        | 2693        |
| Close heart surgery       | 953         |
| <b>Total</b>              | <b>3646</b> |
| Stem cell transplantation | 14          |

28,792 patients were seen in the outpatient department of Cardiothoracic and Vascular Surgery.

## Cardiology

|                    |        |
|--------------------|--------|
| New cases          | 25,520 |
| Old cases          | 99,110 |
| TMT                | 2,383  |
| Holter             | 1,770  |
| Foetal Echo        | 285    |
| TEE                | 688    |
| Echo               | 21,151 |
| Catheterization    | 1,653  |
| ECG                | 26,701 |
| Balloon dilatation | 103    |
| PTCA               | 886    |
| PTMC               | 233    |
| PDA                | 23     |
| Coil               | 49     |
| EMBX               | 20     |
| ASD                | 13     |
| LPA stent          | 2      |
| VSD device         | 2      |
| RFA                | 270    |
| DSA                | 780    |
| PPI                | 236    |

## Cardiac Anaesthesia

The department provides direct patient care in seven operation theatres, three cardiothoracic surgical intensive care units, as well as intensive and resuscitative care in the cardiology critical care units.

Monitored anaesthesia and resuscitative support is provided by the department for routine and emergency patients in coronary care unit, paediatric ICU, postoperative ICU and catheterization laboratory by providing basic and advanced life-support services.

During the period under review, anaesthesia was provided for a total number of 3350 major cardiac and vascular surgeries. This included 3153 elective and 367 emergency operations. Anaesthesia cover was provided for 113 procedures in the cardiac catheterization laboratory. A total of 458 resuscitative calls were attended to in the critical care units.

### *Anaesthesia provided for:*

|  |      |
|--|------|
| Major cardiac and vascular surgery   | 3550 |
| Invasive procedures in catheterization laboratory  | 113  |
| Monitored anaesthesia care in catheterization laboratory and operation theatre             | 490  |
| Anaesthesia cover for resuscitative call in catheterization laboratory CCU, paediatric CCU | 458  |

## **Cardiac Radiology**

|   |        |
|---|--------|
| Total cine-angiography                        | 5,494  |
| Cine fluoroscopy                              | 5,739  |
| Vascular catheter procedures                  | 613    |
| Ultrasound                                    | 1,506  |
| CT  | 1,183  |
| MRI   | 195    |
| <i>Routine X-rays for CTVS and Cardiology</i> |        |
| OPD   | 5,598  |
| Ward  | 20,105 |
| Portable                                      | 31,993 |

## **Blood Bank**

### ***Blood units collected***

|                                      |        |
|--------------------------------------|--------|
| Total number of units collected      | 19,019 |
| Replacement donors                   | 17,374 |
| Voluntary donors                     |        |
| In the department                    | 95     |
| Through blood mobiles                | 847    |
| Total                                | 942    |
| Blood received from IRCS             | 89     |
| Blood received from AIIMS blood bank | 173    |
| Blood received from other hospitals  | 441    |
| Blood donation mobiles organized     | 12     |

### ***Blood units issued***

|  |        |
|--|--------|
| Number of units issued                       | 19,645 |
| Blood issued to CTVS/NS                      | 17,560 |
| Blood issued to AIIMS blood bank             | 478    |
| Blood issued to the Indian Red Cross Society | 129    |
| Blood issued to other hospitals              | 679    |
| Blood units discarded                        | 799    |

### ***Laboratory procedures***

|                               |        |
|-------------------------------|--------|
| Total blood grouping (ABO)    | 79,614 |
| Number of Rh grouping         | 41,554 |
| Number of cross-matching done | 82,569 |

### ***Infectious markers tested***

|      |        |
|------|--------|
| HIV  | 24,428 |
| HBV  | 24,389 |
| HCV  | 25,114 |
| VDRL | 20,370 |
| CMV  | 256    |

|                          |               |
|--------------------------|---------------|
| HBV (confirmatory tests) | 782           |
| <b>Total</b>             | <b>95,343</b> |

### ***Blood components***

|                            |               |
|----------------------------|---------------|
| Fresh frozen plasma (FFP)  | 16,137        |
| Platelet rich plasma (PRP) | 106           |
| Platelet concentrate       | 12,866        |
| Recovered plasma           | 1,395         |
| Cryoprecipitate            | 207           |
| Packed red blood cells     | 16,344        |
| <b>Total</b>               | <b>47,055</b> |

### ***Special procedures***

|                               |     |
|-------------------------------|-----|
| Therapeutic plasmapheresis    | 118 |
| Number of patients            | 33  |
| Single donor plateletpheresis | 11  |

### **Cardiac Pathology**

Patient care includes reporting of (i) endomyocardial biopsies in cardiomyopathies and transplant recipients (ii) specimens from various cardiovascular surgical procedures. Special techniques, such as electron microscopic procedure, are used as and when required.

### ***Total number of specimens/slides***

|                           |             |
|---------------------------|-------------|
| Surgical/biopsy specimens | 253         |
| Research specimens        | 90          |
| Immunohistochemistry      | 1306 slides |
| Poly-L-lysine coating     | 8750 slides |
| Block cutting             | 208 blocks  |
| H & E stain               | 103 slides  |
| Special stains            | 21 slides   |
| Movat pentachrome stain   | 16 slides   |
| Thioflavin T              | 2 slides    |

Electron microscopic study is done as and when required.

### **Cardiac Nuclear Medicine**

The department is equipped with a dual head SPECT gamma camera catering to patients referred for cardiac studies from CN centre and other departments of the hospital. Both thallium and tetrofosmin-gated SPECT myocardial perfusion studies are performed. The department also performs MUGA studies for assessment of left ventricular function in CAD patients referred from the centre and IRCH for cardiac evaluation in patients receiving chemotherapy.

Total number of patients investigated in Cardiac Nuclear Medicine from 1.4.2004 to 31.3.2005.

|                      |             |
|----------------------|-------------|
| Stress thallium      | 1381        |
| Stress tetrofosmin   | 400         |
| MUGA study           | 1638        |
| Lung perfusion study | 108         |
| Miscellaneous        | 24          |
| <b>Total</b>         | <b>3551</b> |

## **AWARD, HONOURS AND SIGNIFICANT EVENTS**

### **Cardiothoracic and Vascular Surgery**

**Professor P. Venugopal** was honoured with the 23rd Rameshwara Birla National Award by the Rameshwardasji Birla Smarak Kosh, Mumbai for the year 2005.

**Professor Sampath Kumar** delivered the Nityananda Shetty Memorial Oration at MS Ramiah Memorial Hospital, Bangalore on 21 October 2004.

**Professor Balram Airan** was appointed the President of the Indian Association of Cardiovascular Thoracic Surgeons for the year 2003–2004. CME programmes were organized at Madras Medical College, Chennai, 21–22 April 2004 and at Heart Foundation, KLES Hospital and MRC J.N. Medical College, Belgaum, Karnataka, 18–19 December 2004 under the Presidentship of Professor Airan. The 51st Annual Conference of the Indian Association of Cardiovascular Thoracic Surgeons (CTCON-2005) was also organized under the Presidentship of Professor Balram Airan at Kochi during 16–20 February 2005.

**Dr Sachin Talwar** has been awarded the Investigators Award for his paper entitled ‘Mitral valve repair in children with rheumatic heart disease’ at the Annual Meeting of the Pediatric Cardiac Society of India, 28–29 August 2004.

The department has initiated the stem cell research programme whereby the damaged myocardium can be restored to normalcy by neomyogenesis. The research is also being extended to the stem cell therapy in diabetes. The early results are encouraging. The department has also acquired daVinci Robotic System and has started robotic coronary artery bypass surgery. Other modalities of minimally invasive and off pump CABG are continuing. The department leads the country in the management of complex congenital cardiac lesions, especially in neonates and infants. In valvular heart diseases, the department excels the other centres in reparative valve procedures and Ross operation. An additional seven-storied CN Tower is expected to be completed in 2006, further enhancing the patient care facilities.

### **Cardiology**

**Professor K.S. Reddy** was awarded the Padma Bhushan (2005) by the President of India; and Queen Elizabeth Medal (2005) by the Royal Society for the Promotion of Health, UK. He was inducted as the first ever Indian Member of the Institute of Medicine, one of the three US National Academies.

### **Cardiac Anaesthesia**

**Dr Usha Kiran** is continuing as the Vice-President of a society named ‘PRAN’—Parkinson-related disease and awareness network.

**Dr S.C. Kale** was nominated and awarded membership, National Board of Examinations in a convocation held at Jaipur on 9–10 April 2004. Dr Kale was the External Examiner for M.D. University of Pune/Pravara, July–August 2004 and February 2005.

**Dr Sandeep Chauhan** is continuing as the Editorial Board Member of the *Journal of Indian Association of Cardiac Anaesthesia* and *Annals of Cardiac Anaesthesia*. He was the External Examiner for Postdoctoral Certificate Course in Cardiac Anaesthesia at SGPPI, Lucknow in December 2004.

**Dr Poonam Malhotra** was re-elected as Executive Council Member of the Indian Association of Cardiac Anaesthesia (IACTA) for a period of 2 years.

**Dr S.C. Kale and Dr Naresh Aggarwal** received the Best Paper Award for their poster entitled ‘Anaesthesia management of a patient with dilated cardiomyopathy: A case report’ at the Annual Conference of Delhi Branch, ISA held in April 2004.

**Dr Puneet Goyal and Dr S.C. Kale** received the Janak Mehta Award for the Best Paper Presentation at the VIIIth IACTA Conference held at Jaipur in 2005 for their paper entitled ‘Presence of common chronic infections and their association with atherosclerotic coronary artery disease in patients coming for coronary artery bypass grafting (CABG).’

Anaesthesia for stem cell implantation was started in 2004; so far, 34 cases have been done in the OT and cardiac catheterization laboratory. Anaesthesia for robotic surgery was started in 2003 and is ongoing.

Two DM Senior Residents got the Best Poster and Best Paper Awards (Janak Mehta Award) at national conferences in 2004–05. The intensive care training that was started for DM and postgraduate students has been intensified.

### **Cardiac Radiology**

**Dr Sanjiv Sharma** was the President-elect of the Asia-Pacific Society of Cardiovascular and Interventional Radiology; President of the Indian Society of Vascular and Interventional Radiology; National Coordinator of the Indian National Registry of Vascular and Interventional Radiological Procedures. He was the Associate Editor of the *Indian Journal of Radiology and Imaging* and *Indian Heart Journal*.

**Dr Gurpreet Gulati** attended the 2004 Introduction to Research for International Young Academics (IRIYA) Seminar sponsored by the RSNA. Dr Gulati was awarded US\$ 1000 and free registration to attend the RSNA at Chicago, USA during 28 November–3 December 2004. Dr Gulati was an observer in Cardiovascular MRI at the Royal Brompton Hospital, London, UK from 8 to 17 December 2004.

### **Cardiac Pathology**

**Dr Ruma Ray** has become a Member of the Royal College of Pathologists, UK. Dr Ray is an Editorial Board Member of the Journal *Cardiovascular Pathology*.

### **Cardiac Nuclear Medicine**

**Dr Chetan D. Patel** received one-month training in Positron Emission Tomography at Malinkrot Institute of Radiology, St Louis and University of Los Angeles, California, USA; October–November 2004.

## **VISITING SCIENTISTS**

### **Cardiac Anaesthesia**

The following observers came as visitors to the department:

1. Dr Tserin Morup, HOD Anaesthesia from Ladakh came for 30 days' observership in the department from 13.5.2004 to 12.6.2004.
2. Dr Aparna Juneja from Abu Dhabi came for 1 month (1.6.2004 to 31.7.2004) to learn more about cardiac anaesthesia.
3. Dr Vardhman came as a sponsored candidate from IACTA to do 'Travelling Fellowship in Cardiac Anaesthesia' from 1.8.2004 to 30.9.2004.
4. Dr Neeti Chandra, an anaesthetist from Sir Ganga Ram Hospital, visited the department from 19.7.2004 to 3.9.2004.
5. Three postgraduate trainees came from the Lady Hardinge Medical College for training in Cardiac Anaesthesia for 15 days (1.8.2004 to 15.8.2004).
6. Dr Anil Ohri, an anaesthetist from Shimla, was in the department for 3 months (3.02.2005 to 2.05.2005).
7. Dr Raj Kumar, Cardiac Anaesthetist from Care Hospital, Vishakhapatnam came as observer for a week (28.3.2005 to 2.4.2005).

## 10.2 Centre for Behavioural Sciences

### [NATIONAL DRUG DEPENDENCE TREATMENT CENTRE (NDDTC) AND DEPARTMENT OF PSYCHIATRY]

#### Professor and Chief

Rajat Ray  
(Psychiatry and NDDTC)

#### Professors

Manju Mehta  
(Psychiatry)

S.K. Khandelwal  
(Psychiatry)  
(on leave abroad)

B.M. Tripathi  
(NDDTC)  
(on leave abroad)

#### Additional Professors

Rakesh Lal  
(NDDTC)

Raka Jain  
(NDDTC)

Meera Vaswani  
(NDDTC)

#### Associate Professors

Hemraj Pal  
(NDDTC)  
Rajesh Sagar  
(Psychiatry)

Anju Dhawan  
(NDDTC)  
Renuka Jena  
(Psychiatry)

#### Assistant Professors

N. Kaw  
(NDDTC)  
S. Ramesh  
(Psychiatry)  
(resigned on 28.5.2004)

Sonali Jhanjee  
(NDDTC)  
Sameer Malhotra  
(Psychiatry)  
(resigned on 31.12.2004)

## EDUCATION

### Undergraduate

During their posting in the Department of Psychiatry, undergraduates are posted for a day in the Centre.

### Teaching

|          |              |
|----------|--------------|
| 24 hours | 3rd Semester |
| 14 hours | 6th Semester |
| 6 hours  | 8th Semester |

### ***Clinical posting***

20 days

4th–5th Semester

40 days

6th–28th Semester

### **BSc Nursing**

38 hours in both the semesters

### **Human Biology**

20 hours in the January–April session

### **Speech and Hearing**

20 hours in the August–April session

### **PhD and Postgraduate teaching**

The following are the conjoint activities of the Department of Psychiatry and the Centre:

- Journal discussion
- Seminar
- Case conference
- Faculty/staff presentation once every week besides CCR and CGR in every semester.

### **Continuing Medical Education**

#### ***Workshops and CME***

- National workshop on ‘Streamlining of Opium Registration System in India’ sponsored by the Ministry of Health and Family Welfare and WHO, India on 31.8.2004.
- Training programme of medical doctors on ‘Substance use disorder’ for 4 months between 11.10.2004 and 10.2.2005, sponsored by WHO (I) and Ministry of Health and Family Welfare.
- Training programme for medical doctors on ‘Substance use disorder’ for 2 weeks from 14.2.2004 to 28.2.2004, sponsored by WHO (I) and Ministry of Health and Family Welfare.
- Workshop on ‘Strengthening of National Drug De-addiction Programme’ on 28.10.2004, sponsored by WHO (I) and Ministry of Health and Family Welfare.
- Training programme for medical doctors on ‘Substance use disorder’ for 1 month; one resident doctor from Orissa was trained from 1.3.2005 to 31.3.2005.
- Training of MSc Nursing students (AIIMS) on ‘Substance use disorder’ on 24.1.2005–25.1.2005.
- Training of BSc Nursing students (41 students from JSS college, Mysore) on ‘Substance use disorder’ on 18.2.2005.
- In-service training of nursing personnel posted at NDDTC, AIIMS on 14.3.2005–15.3.2005.

All the faculty of the NDDTC and Department of Psychiatry gave lectures during these training programmes.

The department organized training of psychologists from Baraut on 20.2.2005. Forty people participated in the training programme. The faculty of the Department of Psychiatry and NDDTC delivered lectures in the training programme.

### ***Lectures delivered***

- Dr Raka Jain delivered a talk entitled ‘Drug abuse—effects and its consequences’ at the 1st course on Drug Problem, Criminological and Forensic Science Aspects for senior level Judicial Officers, Prosecutors, Officers from Customs and Central Excise, and Welfare Officers from the Directorate of Social Welfare on 31.5.2004 at the National Institute of Criminology and Forensic Sciences, Ministry of Home Affairs, Rohini, New Delhi.
- Dr Rakesh Lal participated in the National Mid-term CME of the Indian Psychiatric Society at Khajuraho on 4.9.2004–5.9.2004.
- Dr Rajesh Sagar was invited for a presentation in the International Continuing Medical Education (CME) of Child and Adolescent Psychiatry held at Varanasi in November 2004.

### **National and International Conferences**

#### ***National conferences***

##### **Dr Rajat Ray**

- Participated as a resource person in the workshop on ‘National Consultation on Drugs and HIV’, Delhi; 12.3.2005–13.3.2005.
- Participated as a resource person and gave the plenary lecture on ‘Drug use in India—current scenario’; National Workshop: Addiction—Aetiologies to Interventions, NIMHANS, Bangalore; 26.11.2004–28.11.2004.
- Participated as a resource person in the National Stakeholders Workshop on HIV, Delhi; 17.8.2004–18.8.2004.
- Participated as a resource person in the meeting of the State Coordination Committee against Drug Abuse and Illicit Trafficking, Government of NCT of Delhi; 5.8.2004.

##### **Dr Rakesh Lal**

- Presented paper entitled ‘Cost-effectiveness of opioid abuse treatment in a community setting’; Marfatia Award session in the Annual Conference of the Indian Psychiatric Society, Chandigarh; 29.1.2005–2.2.2005.

##### **Dr Rajesh Sagar**

- Was invited to attend and present in the National Workshop on Mental Health Manpower Augmentation Strategies, organized by WHO and Ministry of Health (Government of India), Pune on 9.8.2004–29.8.2004.
- Was invited speaker on ‘World Mental Health Survey—Indian study’ in the Golden Jubilee Celebration of NIMHANS, Bangalore in February 2005.

## *International conferences*

### **Dr Raka Jain**

- Presented a paper on ‘Role of sweet tasting solution in opiate withdrawal’; 9th Satellite Meeting of 2004 NIDA International Forum, San Juan, Puerto Rico, USA; 11.6.2004–17.6.2004.
- Presented a paper on ‘Effects of the NMDA receptor antagonist (ketamine) to the operant decrement produced by naloxone in morphine-treated rats’; Annual Scientific Meeting of the College on Problem of Drug Dependence (CPDD), San Juan, Puerto Rico, USA; 11.6.2004–17.6.2004.
- Presented a paper on ‘Effect of nitric oxide synthase inhibitors in nicotine-dependent rats’; 11th Annual Meeting of the Society for Research on Nicotine and Tobacco, held jointly with the 7th SRNT European Conference, Prague, Czech Republic; 20.3.2005–23.3.2005.

### **Dr Meera Vaswani**

- Presented a paper on ‘Risk behaviours and HIV infection in alcoholics’; Research Society of Alcoholism, Vancouver, Canada; June 2004.

### **Dr Hemraj Pal**

- Attended ISBRA-2004 meeting at Mannheim, Germany; September 2004.

### **Dr Rajesh Sagar**

- Was invited to attend and present the Country Progress Report in the Annual consortium meeting on World Mental Health (WMH) Survey in Portland, Maine, USA, organized by WHO, Harvard University, University of Michigan and NIMH in July 2004.
- Presented a paper and attended the 4th International Conference on Early Psychosis held in Vancouver, Canada in September 2004.
- Attended the Investigator’s Meeting on Clinical Drug Trial and trained in psychiatric instruments (PANSS, YMRS, EPS rating, etc.) in Barcelona, Spain in March 2005.

### **Ms Anita Chopra**

- Presented a paper on ‘Pattern of traditional alcohol use in general population of north-east region, India’ (Mohan D, Chopra A, Sethi H, Dhawan A); 30th Annual Alcohol Epidemiology Conference organized by the Ketti Brunn Society, Helsinki, Finland; May 2004.

## **RESEARCH**

### **Funded Projects**

#### ***Ongoing***

1. Mainstreaming HIV/AIDS concerns in ongoing drug demand reduction programmes in South Asia. Rajat Ray. Funded by the United Nations Office on Drugs and Crime, Regional Office South Asia.
2. Regional Adviser—Development of Regional Drug Control Policy and Regional Data Base. Rajat Ray. Funded by the United Nations Office on Drugs and Crime, Regional Office South Asia.

3. Regional Adviser—Development of Regional Report on Best Practice and Situation Assessment. Rajat Ray. Funded by the United Nations Office on Drugs and Crime, Regional Office South Asia.
4. Role of nitric oxide synthase inhibitors in modifying nicotine withdrawals in rats. Raka Jain. Funded by CSIR for 3 years (2002–2005). Funds: Rs 11.33 lakh.
5. Identification and management of psychoactive substance problems in primary care settings (ASSIST Project phase III). Hemraj Pal. Funded by WHO.
6. Assessment of alcohol and tobacco consumption pattern in adolescent children in Municipal Corporation of Delhi schools in the National Capital Territory of Delhi. Hemraj Pal. Funded by ICMR.
7. Risk factors of substance use and abuse in offspring of substance abuse patients. Manju Mehta. Funded by ICMR for 2 years (2004–2006). Funds: Rs 6 lakh.
8. Epidemiology of mental disorders—longitudinal study (multicentric study, 11 centres). Rajesh Sagar. Funded by WHO for 3 years (2002–2005). Funds: Rs 15.4 lakh.
9. Disability associated with mental disorders: Their nature and evaluation (multicentric study, 3 centres). Rajesh Sagar. Funded by WHO for 3 years (2002–2005). Funds: Rs 9.5 lakh.
10. Urbanization and mental disorders—a study of migrant population (multicentric study, 2 centres). Rajesh Sagar. Funded by WHO for 2 years (2002–2004). Funds: Rs 9.5 lakh.
11. A phase I clinical drug trial on OCD. Rajesh Sagar. Funded by Pfizer for 2 years (2002–2004). Funds: Rs 4.8 lakh.
12. Effects of arzoxifene on vertebral fracture incidence and on invasive breast cancer incidence in postmenopausal women with osteoporosis or with low bone density. A.C. Ammini, Renuka Jena. Funded by Eli Lilly and Company for 5 years (2005–2009). Funds: Rs 50 lakh.
13. WHO eight-country collaborative project on Determinants of sexual risk behaviours among alcohol users in diverse cultural settings. Sameer Malhotra.

### ***Departmental Projects***

1. Effect of nitric oxide synthase inhibitor to the operant decrement produced by naloxone in morphine-treated rats.
2. Role of sweet-tasting solutions in modifying the opioid withdrawals in rats.

### ***Collaborative Projects***

1. Creation of a database on drug abuse and HIV/AIDS. Anju Dhawan. Regional project sponsored by the United Nations Office on Drugs and Crime, Regional Office for South Asia, New Delhi from 2003 onwards (with Biostatistics, Medicine and Computer Facility).
2. A prospective study in Indian women: How pregnancy and epilepsy interact to produce psychosocial and mental health morbidity. Sponsored by WHO (with Neurology).

## PUBLICATIONS

### Journals

1. Goyal RO, Sagar R, Ammini AC, Khurana ML, Alias AG. Negative correlation between negative symptoms of schizophrenia and testosterone levels. *Ann N Y Acad Sci* 2004;**1032**:291–4.
2. Jain R, Holtzman SG. Caffeine induces differential cross tolerance to the amphetamine-like discriminative stimulus effects of dopaminergic agonists. *Brain Res Bull* 2005;**65**:415–21.
3. Jain R, Mukherjee K, Mohan D. Evidence for a role of nitric oxide in nicotine precipitated withdrawals in the rat. *Nicotine Tob Res* 2004;**6**:873.
4. Jain R, Mukherjee K, Singh R. Influence of sweet tasting solutions on opioid withdrawal. *Brain Res Bull* 2004;**64**:319–22.
5. Jena R, Sharma M, Kumar R. Enhancing nicotine cessation amongst inpatient substance abusers through cognitive behavioural therapy. *Indian J Clin Psychol* 2004;**31**:117–20.
6. Mehta M. Child mental health: New challenges. *Indian J Clin Pract* 2004;**31**:5–9.
7. Pal H, Jena R, Yadav D. Validation of the Alcohol Use Disorders Identification Test (AUDIT) in urban community outreach and de-addiction center samples in north India. *J Stud Alcohol* 2004;**65**:794–800.
8. Ray R, Pal H, Kumar R, Maulick P, Mangla RM. Post-marketing surveillance of buprenorphine. *Pharmacoepidemiol Drug Saf* 2004;**13**:615–19.
9. Sadhu R, Mehta M, Kalra V, Sagar R. Neurological soft signs in children with scholastic developmental disorders of scholastic skills. *Indian J Pediatr* 2004;**SS-I** (Suppl.):134–5.
10. Sagar R, Saxena S. Treatment seeking behavior in acute and transient psychotic disorders. *Schizophr Res* 2004;**70** (Suppl.):96.
11. Sagar R, Varghese ST, Balhara YP. Dysphagia due to olanzepine, an antipsychotic medication. *Indian J Gastroenterol* 2005;**124**:37–8.
12. Vaswani M, Desai NG. HIV infection and high-risk behaviors in opioid dependent patients: The Indian context. *Addict Behav* 2004;**29**:1699–705.
13. Vaswani M, Kalra H. Selective serotonin re-uptake inhibitors in anorexia nervosa. *Expert Opin Investig Drugs* 2004;**13**:349–57.
14. Vaswani M, Prasad P. Risk behaviours and HIV infection in alcoholics: Indian context. *Alcohol Clin Exp Res* 2004;**28**:161.

### Books

1. Pal H (ed). *Substance use disorder case-book*. New Delhi: National Drug Dependence Treatment Centre, All India Institute of Medical Sciences; 2005.
2. Ray R (ed). *Injecting drug use and HIV/AIDS in India—an emerging concern*. New Delhi: United Nations, Office on Drugs and Crime and UNAIDS and Ministry of Social Justice and Empowerment, Government of India; 2004.

3. Tripathi BM, Malhotra S, Sharma S. *Alcohol use and sexual risk behaviour. Exploring links*. New Delhi: Department of Psychiatry and National Drug Dependence Treatment Centre, AIIMS; 2004.

### Chapters in Books\Reports

1. Dhawan A, Ambekar A. Theories of progression of drug abuse—from tobacco, alcohol and cannabis to other drugs. In: Dhawan A, Jain R, Kumar N (eds). *Proceedings of the workshop on assessment of role of tobacco as a gateway substance and information available on evidence relating to tobacco, alcohol and other forms of substance abuse*. New Delhi: Centre for Behavioural Sciences, AIIMS; 2004;14–21.
2. Dhawan A, Kumar N. Abuse liability of nicotine. In: Dhawan A, Jain R, Kumar N (eds). *Proceedings of the workshop on assessment of role of tobacco as a gateway substance and information available on evidence relating to tobacco, alcohol and other forms of substance abuse*. New Delhi: Centre for Behavioural Sciences, AIIMS; 2004;39–49.
3. Jain R, Mukherjee K. Biological theories of tobacco abuse. In: Dhawan A, Jain R, Kumar N (eds). *Proceedings of the workshop on assessment of role of tobacco as a gateway substance and information available on evidence relating to tobacco, alcohol and other forms of substance abuse*. New Delhi: Centre for Behavioural Sciences, AIIMS; 2004;33–8.
4. Malhotra S. Tobacco use among drug-dependent patients in treatment settings. In: Dhawan A, Jain R, Kumar N (eds). *Proceedings of the workshop on assessment of role of tobacco as a gateway substance and information available on evidence relating to tobacco, alcohol and other forms of substance abuse*. New Delhi: Centre for Behavioural Sciences, AIIMS; 2004;58–67.
5. Mohan D, Chopra A. Patterns and prevalence of tobacco use and dependence. In: Dhawan A, Jain R, Kumar N (eds). *Proceedings of the workshop on assessment of role of tobacco as a gateway substance and information available on evidence relating to tobacco, alcohol and other forms of substance abuse*. New Delhi: Centre for Behavioural Sciences, AIIMS; 2004;4–13.
6. Pal H. Benefiting from models of behaviour change. In: Reddy KS, Gupta PC (eds). *Tobacco control in India*. New Delhi: Ministry of Health and Family Welfare, Government of India, Centers for Disease Control and Prevention, USA and World Health Organization; 2004;311–19.
7. Pal H. Influencing behaviours: An integrative model. In: *Tobacco use scenario in India*. WHO-CDC; 2004.
8. Pal H. Supporting tobacco cessation programs. In: *Tobacco use scenario in India*. WHO-CDC; 2004.
9. Pal H. Supporting tobacco use cessation programmes. In: Reddy KS, Gupta PC (eds). *Tobacco control in India*. New Delhi: Ministry of Health and Family Welfare, Government of India, Centers for Disease Control and Prevention, USA and World Health Organization; 2004.
10. Ray R, Sharma HK, Malhotra S. What can tobacco contribute to the field of substance abuse research? In: Dhawan A, Jain R, Kumar N (eds). *Proceedings of the workshop on assessment of role of tobacco as a gateway substance and information available on evidence relating to tobacco, alcohol and other forms of substance abuse*. New Delhi: Centre for Behavioural Sciences, AIIMS; 2004;112–21.

11. Ray R. Substance abuse and growth of de-addiction centre. Challenge of our times. In: Agarwal SP (ed). *Mental health—an Indian perspective (1946–2003)*. DGHS/Ministry of Health and Family Welfare. New Delhi: Elsevier; 2004:284–9.
12. Vaswani M, Ramesh S, Kalra H, Sagar R. Use of selective serotonin reuptake inhibitors in neuropsychiatric disorders. In: Serge P (ed). *Advances in psychology research, Vol. 33*. USA: Nova Science Publishers, Inc; 2005:161–200.

## PATIENT CARE

### General information

|  |        |
|--|--------|
| 1. Total beds                                      | 50     |
| General ward                                       | 50     |
| Private ward                                       | Nil    |
| 2. OPD attendance (NDDTC and Trilokpuri Community) | 36,691 |
| 3. Admissions                                      |        |
| NDDTC  | 838    |
| Psychiatry   | 364    |

### Attendance at OPD and specialty clinics

| <i>NDDTC</i>                 | New cases | Old cases | Total  |
|------------------------------|-----------|-----------|--------|
| General OPD                  | 5,046     | 18,528    | 23,574 |
| Specialty clinics            |           |           |        |
| Tobacco use cessation clinic | 172       | 112       | 284    |
| Adolescent clinic            | 18        | 25        | 43     |
| Dual diagnosis clinic        | 52        | 248       | 300    |
| <b>Total</b>                 | 5,288     | 18,913    | 24,201 |
| Trilokpuri community clinic  | 255       | 12,235    | 12,490 |

### *Psychiatry*

|                       |               |               |               |
|-----------------------|---------------|---------------|---------------|
| General OPD           | 1,227         | —             | 1,227         |
| Specialty clinics     |               |               |               |
| Child guidance clinic | 428           | 205           | 633           |
| Walk-in clinic        | 12,783        | 22,999        | 35,782        |
| De-addiction clinic   | 181           | 1,062         | 1,243         |
| <b>Total</b>          | 14,619        | 24,266        | 38,885        |
| <b>Grand total</b>    | <b>20,162</b> | <b>55,414</b> | <b>75,576</b> |

### Laboratory investigations for patient care

Total number of drugs of abuse screened in urine samples: 12,956

| Drug     | Number |
|----------|--------|
| Morphine | 1565   |
| Codeine  | 1565   |

|                               |      |
|-------------------------------|------|
| Buprenorphine                 | 1565 |
| Detropoxyphene                | 1565 |
| Pentazocine                   | 242  |
| Naltrexone                    | 180  |
| Pheniramine (Avil)            | 1565 |
| Nitrazepam                    | 1565 |
| Diazepam                      | 1565 |
| Chlordiazepoxide              | 1565 |
| Cannabinoids                  | 14   |
| Biochemical investigations    | 8200 |
| Haematological investigations | 3000 |
| HIV screening                 | 400  |

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Dr Rajat Ray** was appointed Examiner for MD Psychiatry at K.G. Medical University, Lucknow, May 2004. He attended the Fourth Multistakeholder Round Table Meeting on 29 June 2004 (UNODC-ROSA and German Technical Cooperation).

He was a member of multi-member team constituted to inspect various Psychiatric hospitals and Department of Psychiatry in various Medical Colleges to strengthen the National Mental Health Programme, October–November 2004.

**Dr Manju Mehta** was awarded Summer Fellowship for Rational Emotive Behaviour Therapy at the Ablert Ellis Institute at New York on 7.7.2004–28.7.2004.

**Dr Rakesh Lal** was appointed External Examiner for MD Psychiatry in B.P. Koirala Institute of Health Sciences, Dharan on 22–23 July 2004 and 20–23 December 2004; and for MD Psychiatry and MPhil in Central Institute of Psychiatry, Ranchi on 15 November 2004.

Dr Lal attended the de-addiction movement (awareness) at Sidhauri village, Mirganj, Bareilly, UP on 2 October 2004. The Gram Panchayat invited him for a talk.

**Dr Raka Jain** was awarded the National Institute of Drug Abuse (NIDA) INVEST Travel Award for participating and presenting paper in the 9th satellite meeting on 2004 NIDA International Forum, Annual Scientific Meeting of the College on Problem of Drug Dependence (CPDD), San Juan, Puerto Rico, USA on 11–17 June 2004. Dr Jain chaired the session ‘Glutamate—What’s all the excitement?’ in the 9th satellite meeting on 2004 NIDA International Forum, Annual Scientific Meeting of CPDD, San Juan, Puerto Rico, USA on 11–17 June 2004. He was appointed as steering committee member of the International Drugs of Abuse Research Society (IDARS), USA in October 2004; Examiner for MSc Toxicology Ist year, Lab II, Jamia Hamdard University, May 2004; Examiner for Diploma in Pharmacy (Biochemistry, Practical Examination), Delhi Institute of Pharmaceutical Sciences and Research, Government of Delhi, May 2004.

**Dr Anju Dhawan** received Fogarty AITRP International Fellowship for training at CIRID UCLA, LA, USA from March to June 2004. She was appointed as resource person for the Regional Research and Training Centre, United Nations Office on Drugs and Crime for Northern India (SPYM).

**Dr Rajesh Sagar** received award (PPA) for the best published paper in the Annual National Conference of the Indian Psychiatric Society in 2004; and two awards for the best poster presentation at the Annual Conference of the Delhi Psychiatric Society in 2004.

Dr Sagar received official training in Schedule for Assessment in Neuropsychiatry (SCAN), a comprehensive diagnostic instrument, by experts from WHO, Geneva. He was nominated as Secretary of the Central Mental Health Authority, Government of India; Member of the Scientific Advisory Committee, National Brain Research Centre (Deemed University), New Delhi. He was nominated by the Ministry of Health, Government of India to provide psychosocial support to affected people after Tsunami at Port Blair, Andaman and Nicobar Islands in January 2005.

**Dr Renuka Jena** was awarded the INSA Fellowship, UK in April 2004. She was the Chairperson in the Annual Conference of the Indian Association of Clinical Psychologists held at Coimbatore in January 2005. She was a resource person in the Department of Psychology, South Campus, Delhi University and Department of Psychology, Baraut, University of Meerut.

**Dr Sameer Malhotra** was the recipient of the Sir Donald Cohen Fellowship, International Association for Child and Adolescent Psychiatry and Allied Professions, Germany in August 2004. He became the Steering Committee Member, World Association for Young Psychiatrists and Trainees (WAYPT), USA from 2003 onwards. He was appointed as the Member of the Abstract Review Committee, National Conference on Tobacco or Health, 2004–2005.

**Dr Sonali Jhanjee** obtained postgraduate diploma in Stress Management (PGDSM) from the Institute of Health Care Administration (IHCA), Chennai on 5 January 2005.

The National Drug Dependence Treatment Centre has been identified as a training centre for WHO in-country fellowship.

## **VISITING SCIENTISTS**

1. Dr Prem Chopra, Consultant Psychiatrist, St Vincent's Health Centre, Melbourne, Australia visited the Department of Psychiatry and the Centre between 8.11.2004 and 25.11.2004.
2. A multi-member delegation from Pakistan visited NDDTC and interacted with the faculty and staff on treatment of patients with substance use disorder on 11.3.2004.

## 10.3 Centre for Dental Education and Research

### **Chief**

Hari Parkash

### **Professor**

Naseem Shah

### **Additional Professor**

O.P. Kharbanda

### **Associate Professors**

Ritu Duggal

Ajoy Roychoudhury

Veena Jain

### **Assistant Professor**

Ongkila Bhutia

## **EDUCATION**

### **Undergraduate**

The Centre conducted the teaching programme of MB,BS undergraduate students during their clinical posting in the VIIth semester.

### **Postgraduate**

At present, the centre is conducting postgraduate programmes in Orthodontics, Prosthodontics and Conservative Dentistry-cum-Endodontics.

### **Short-term training**

Eight residents have undergone short-term training varying from 3 to 6 months in Dental Surgery and Oral Health Education Programme.

### **Continuing Medical Education**

The faculty organized 3 training and reorientation workshops for dental surgeons and medical officers, and 9 training programmes for health workers as a part of the National Oral Health Care Programme and Early Detection of Oral Cancer. The centre organized Scientific Programme of the 92nd FDI Annual World Dental Congress at Pragati Maidan, New Delhi where more than 10,000 delegates from India and abroad participated. The faculty also conducted 8 workshops/CME programmes for the benefit of general practitioners, postgraduates and faculty of other dental colleges.

## RESEARCH

### Completed

1. Oral health module for prevention of dental caries among schoolchildren. Hari Prakash. Funded by GoI-WHO India for 2 years. Funds: Rs 10 lakh.
2. Training of investigators for multicentric oral health survey. Hari Prakash. Funded by GoI-WHO India for 1 year. Funds: Rs 2.23 lakh.
3. Epidemiological baseline, future projections, causal analysis, interventions and standard treatment protocols for oral health problems. Naseem Shah. Funded by the National Commission on Macroeconomics and Health for 3 months. Funds: Rs 30,000.

### Ongoing

1. National Oral Health Care Programme (with the Directorate General of Health Services and Ministry of Health and Family Welfare). Hari Prakash. This is an ongoing project where AIIMS has been declared as a nodal agency.
2. A hospital-based study on progressive and regressive changes in oral precancerous lesions in north Indian population. Ajoy Roychoudhury. Funded by ICMR for 3 years. Funds: SRO salary.

## PUBLICATIONS

### Journals

1. Bansal M, Mohanti BK, Shah N, Chaudhry R, Bahadur S, Shukla NK. Radiation related morbidities and their impact on quality of life in head and neck cancer patients receiving radical radiotherapy. *Qual Life Res* 2004;**13**:481-8.
2. Batra P, Duggal R, Kharbanda OP, Parkash H. Orthodontic treatment of impacted anterior teeth due to odontomas: A report of two cases. *J Clin Pediatr Dent* 2004;**28**:289-94.
3. Batra P, Duggal R, Parkash H. Craniofacial and dental manifestations of a case of Proteus syndrome. *J Indian Soc Pedod Prev Dent* 2004;**22**:154-7.
4. Batra P, Duggal R, Parkash H. Impacted canines: Epidemiology, orthodontic considerations and a report of two cases. *J Int Coll Dent* 2004;**51**:18-26.
5. Batra P, Duggal R, Parkash H. Orthodontic treatment in severely periodontally compromised dentition. *J Dent Prac* 2004;**6**:6-18.
6. Batra P, Prasad S, Duggal R, Parkash H. Transmigration of canine—a report of three cases. *J Pierre Fauch Acad* 2004;**18**:31-3.
7. Batra P, Roychoudhury A, Parkash H. Langerhans' cell histiocytosis—a case report. *J Indian Soc Pedod Prev Dent* 2004;**22**:168-71.
8. Batra P, Shah N. Olmsted syndrome—a rare syndrome with oral manifestations. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2004;**97**:599-602.
9. Batra P, Shah N. Recalcitrant osteomyelitis following tooth extraction in a case of malignant osteopetrosis. *Int Dent J* 2004;**54**:418-23.

10. Batra P, Sharma J, Duggal R, Parkash H. Secondary bone grafting in cleft lip and palate with eruption of tooth into the graft: A case report. *J Indian Soc Pedod Prev Dent* 2004;**22**:8–12.
11. Bhutia O, Roychoudhury A, Parkash H. Ankylosis of coronoid process to the maxilla—a case report. *J Maxillofac Oral Surg* 2004;**3**:12–13.
12. Darendeliler MA, Kharbanda OP, Chan EK, Srivicharnkul P, Rex T, Swain MV, *et al.* Root resorption and its association with alterations in physical properties, mineral contents and resorption craters in human premolars following application of light and heavy controlled orthodontic forces. *Orthod Craniofac Res* 2004;**7**:79–97.
13. Jena AK, Duggal R, Mathur VP, Parkash H. Orthodontic care for medically compromised patients. *J Indian Orthod Soc* 2004;**37**:160–71.
14. Jena AK, Duggal R, Parkash H. Orthopedic and orthodontic effects of twin-block appliance. *J Clin Pediatr Dent* 2005;**29**:225–30.
15. Jena AK, Duggal R, Roychoudhary A, Parkash H. Effects of timing and number of palate repair on maxillary growth in complete unilateral cleft lip and palate patients. *J Clin Pediatr Dent* 2004;**28**:225–32.
16. Jena AK, Duggal R, Roychoudhury A, Parkash H. Orthodontic assisted tooth eruption in a dentigerous cyst: A case report. *J Clin Pediatr Dent* 2004;**29**:33–5.
17. Ngan DC, Kharbanda OP, Byloff FK, Darendeliler MA. The genetic contribution to orthodontic root resorption: A retrospective twin study. *Aust Orthod J* 2004;**20**:1–9.
18. Ngan DC, Kharbanda OP, Darendeliler MA. Considerations in the management of transposed teeth. *Aust Orthod J* 2004;**20**:41–50.
19. Rex T, Kharbanda OP, Petocz P, Darendeliler MA. Physical properties of root cementum: Part 4. Quantitative analysis of the mineral composition of human premolar cementum. *Am J Orthod Dentofacial Orthop* 2005;**127**:177–85.
20. Roychoudhury A, Batra P, Parkash H. Pseudo temporomandibular joint ankylosis in a patient with Klippel-Feil syndrome. *J Oral Maxillofac Surg* 2005;**63**:257–61.
21. Shah N, Handa KK, Sharma MC. Malignant mesenchymal tumor arising from cherubism: A case report. *J Oral Maxillofac Surg* 2004;**62**:744–9.
22. Shah N, Sundaram KR. Impact of socio-demographic variables, oral hygiene practices, oral habits and diet on dental caries experience of Indian elderly: A community-based study. *Gerodontology* 2004;**21**:43–50.
23. Shah N. Challenges for geriatric oral health care in India. *Developing Dentistry* 2004;**5**:20–7.
24. Shah N. Geriatric dentistry: The need for a new specialty in India. *Natl Med J India* 2005;**18**:37–8.
25. Shah N. In endodontic miscellany: Extra canal invasive root resorption as a late complication of radiotherapy to head and neck region. *Endodontology* 2004;**16**:65–6.
26. Shah N. Need for gerodontology education in India. *Gerodontology* 2005;**22**:104–5.

27. Sharma JN, Duggal R, Roychaudhary A, Parkash H. Cephalometric evaluation of changes in soft tissue profile and lip characteristics in extraction cases and class I bimaxillary protrusion. *J Indian Orthod Soc* 2004;**37**:27–36.
28. Singh SK, Parkash H, Jain V, Shah N, Bhatia M, Singh N. An evaluation of masticatory efficiency in partially edentulous patients pre and post fixed prosthodontic rehabilitation—an electromyographic and spectrophotometric study. *J Indian Prosthodont Soc* 2004;**4**:16–20.
29. Srivicharnkul P, Kharbanda OP, Swain MV, Petocz P, Darendeliler MA. Physical properties of root cementum: Part 3. Hardness and elastic modulus after application of light and heavy forces. *Am J Orthod Dentofacial Orthop* 2005;**127**:168–76.

### **Books/Posters**

1. Prakash H, Duggal R, Mathur VP. *Manual for multi-centric oral health survey*. New Delhi: Center for Dental Education and Research and WHO (SEARO); 2004.
2. Prakash H, Duggal R, Mathur VP. *Oral health module for prevention of dental caries among schoolchildren*. New Delhi: Center for Dental Education and Research and WHO (SEARO); 2004.

### **Chapters in Books/Monographs/Posters**

1. Darendeliler MA, Kharbanda OP. Occlusion and orthodontics. Part 1: In children and young adults. Part 2: In adults. In: Klineberg I (ed). *Occlusion in clinical practice*. Edinburgh: Elsevier; 2004.
2. Darendeliler MA, Chan EK, Kharbanda OP, Srivicharnkul P, Rex T, Swain MV, *et al*. Changes in physical and mineral dimensions of human cemenetum in association with root resorption craters at different orthodontic force levels. In: Davidovitch Z, Mah J (eds). *Proceedings of International Symposium on Biological Mechanism of Tooth Movement and Craniofacial Adaptation*. Boston, Massachusetts: Harvard Society for the Advancement of Orthodontics; 2004:91–111.

## **PATIENT CARE**

### **Special laboratory facilities**

The centre continued radiovisiographic facility as the dental chair-side facility to diagnose and plan the treatment.

### **Community services/camps**

The faculty is continuing work on the National Oral Health Care Programme. The centre conducted 12 training and reorientation programmes for dental surgeons and health workers. During this year, the faculty and staff participated in 9 oral health camps and awareness programmes conducted for the community. Apart from this, the trainers trained under the National Oral Health Care Programme conducted several IEC activities in Delhi, Uttar Pradesh, Maharashtra, Rajasthan, Arunachal Pradesh and Karnataka using background material provided by this Project. A visit to one of the primary health centre was organized during the 92nd FDI Annual World Dental Congress. The department conducted oral health education programmes for approximately 90,000 schoolchildren of 78 schools of Delhi and adjoining states.

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Hari Parkash** was appointed Chairman, Hospital Management Board, AIIMS from 7 August 2004. He was presented the Rashtriya Rattan Award by the Global Economic Council at the Conference on National Unity and Economic Development for his contributions to the service of mankind. He was appointed as an External Examiner by the Royal College of Physicians and Surgeons of Glasgow, UK to conduct MFDS Part-C Examination. Being Chairman of the Scientific Committee of the 92nd FDI Annual World Dental Congress, he was invited to participate in Sino Dental Conference held at Beijing, China. He was invited by the organizers of UAE International Dental Conference to attend AEEDC Dubai 2005 Conference and shared his experience on 'Evidence-based practices in fixed prosthodontics'. He was appointed as Member of the Monitoring and Evaluation Committee of ICMR Task Force Project on Cancer Control at Himachal Pradesh and Member of the Core Group on Postgraduate Education by National Board of Examinations. He has been invited as an Inspector to the Dental Council of India for conduction of inspection of several dental colleges/institutions.

He organized or was invited to attend the following conferences/workshops and continuing dental education programmes:

- Organized and conducted Scientific Programme of the 92nd FDI Annual World Dental Conference and spoke as a guest speaker on 'Evidence-based practices in fixed prosthodontics'.
- Was invited to participate in CAMAHD/WHO Workshop at Bangalore and spoke on 'The burden of oral diseases in children and adolescents in Asia'.
- Was granted travel grant by AIIMS to attend the 6th International Congress of Maxillofacial Rehabilitation held at Maastricht, The Netherlands and presented his work on 'A qualitative assessment of speech following maxillary cancer—a clinical study' during the Continuing Dental Education Programme on Full Mouth Rehabilitation.

**Professor Naseem Shah** was appointed Member of the UGC to confer the status of Deemed University to various institutions and Member of the committee for selection of candidates for Commonwealth Scholarship 2005 of the Ministry of Human Resource, Government of India. She was nominated as Chairperson of the Ethics Committee of Dr Ram Manohar Lohia Hospital, New Delhi. Two of her papers, 'Zimmermann–Laband syndrome with bilateral development cataract—a new association' and 'Olmsted syndrome—a rare syndrome with oral manifestations', have been included in *An Encyclopedia of Head and Neck Syndromes* by Dr R.J. Gorlin. She was appointed as an External Expert for selection of dental surgeons by the Defence Research and Development Organization (DRDO), Government of India and also acted as an Expert Member for the selection of Senior Research Associates (SRA - Scientist Pool) of CSIR.

She organized or was invited to participate in the following seminars/conferences/workshops:

- Participated in a seminar on Special Need Dentistry organized by the British Council at New Delhi and presented a paper entitled 'Case for strengthening geriatric oral health care in India'.
- Participated and gave a guest lecture on 'The right technique of preparing scientific manuscript' at the 5th All India Postgraduate Students Convention of Conservative Dentistry and Endodontics at Kanyakumari.
- Organized a CME course in Endodontics; she gave a talk on 'Management of peri-radicular lesions' and conducted a panel discussion in collaboration with the Indian Endodontic Society at AIIMS.

- Participated in a training programme for medical officers on ‘Awareness and early detection of common cancers’ and gave a talk on ‘Oral cancer and pre-cancer’ at IRCH, AIIMS.

**Dr O.P. Kharbanda** has been appointed as an Inspector by the DCI to conduct inspection of various dental colleges in India to start BDS/MDS courses. He served as a Consultant Editor to the *Journal of Orthodontic Society* and is on the Editorial Board of the *Journal of Orthodontics* (UK). He also served as a Contributory Editor to the *Journal of the Clinical Pediatrics Dentistry* (USA), and Reviewer to the *American Journal of Orthodontics and Orthopaedics* and *Cleft Palate Craniofacial Journal*.

He organized or was invited to participate in the following seminars/conferences/workshops:

- Invited to speak at FDI World Dental Congress 2004
- Invited as Guest Speaker, Indian Orthodontic Conference, 2004
- Guest lecture—Indian Dental Association, Faridabad Branch, 2004
- Guest lecture—Cleft Palate Orthodontics, Cleft Lip Palate Conference, 2004
- Guest speaker—Current Research in Orthodontics, Postgraduate Orthodontic Convention at Dharward in 2005.

**Dr Ritu Duggal** has been appointed as an Inspector by the Dental Council of India to conduct inspection of various dental colleges in India to start BDS/MDS courses. She was also invited to participate in WHO-CAMHADD—Global Workshop for Oral Health Promotion through Schools at Bangalore during the year 2004. She delivered a lecture on ‘Oral health promotion initiatives in India’ during a meeting of FDI World Dental Federation at the 92nd FDI Annual World Dental Congress.

**Dr Ajoy Roychoudhury** presented 2 papers on the occasion of the Annual Scientific Meeting of the British Association of Oral and Maxillofacial Surgeons. He was also appointed as Inspector by the Dental Council of India to conduct inspection of various dental colleges in India to start BDS/MDS courses.

**Dr Veena Jain** has been appointed as an Inspector by the Dental Council of India to conduct the inspection of Santosh Dental College and Hospital, Ghaziabad. She also chaired a session at the 92nd FDI Annual World Dental Congress, 2004 at New Delhi.

**Dr Ongkila Bhutia** chaired 2 scientific sessions at the 92nd FDI Annual World Dental Congress, 2004.

The construction work for the establishment of Centre for Dental Education and Research at AIIMS started from March 2005.

## VISITING SCIENTISTS

1. Dr Paul Peterson from Geneva, WHO.
2. Professor Raman Bedi, Chief Dental Officer, Department of Health, Wellington House, England.
3. Dr Lonnie H. Norris and Dr Noshir R. Mehta of Tufts University, Boston visited the department to have the student/faculty exchange programme between the two institutes.

4. Dr Paul Brown from Stanford University visited the department and delivered a lecture on '3-D interactive imaging: Virtual reality in medical and dental education'.
5. Dr Daniel D. Krueger and Dr Jon W. Fundingsland from Germany.
6. Three WHO fellows from Korea.

## 10.4 Dr B.R. Ambedkar Institute Rotary Cancer Hospital

### Professor and Chief

Vinod Kochupillai (Medical Oncology)

### Professors

G.K. Rath  
(Radiation Oncology)

P.K. Julka  
(Radiation Oncology)

N.K. Shukla  
(Surgical Oncology)

Vinod Raina  
(Medical Oncology)

Subhash Chander  
(Radiation Oncology)

Rajive Kumar  
(Laboratory Oncology)

Lovleen Bijlani  
(Medical Oncology)

### Additional Professors

B.K. Mohanti  
(Medical Oncology)

Lalit Kumar  
(Medical Oncology)

I.B. Singh  
(Hospital Administration)

### Associate Professors

S.V.S. Deo  
(Surgical Oncology)

Sanjay Thulkar  
(Radiodiagnosis)

Sushma Bhatnagar  
(Anaesthesiology)

### Assistant Professors

Atul Sharma  
(Medical Oncology)

Paresh Jain  
(Laboratory Oncology)

Pratik Kumar  
(Medical Physics)

Sameer Bakhshi  
(Medical Oncology)

Seema Mishra  
(Anaesthesiology)

Suman Bhaskar  
(Radiation Oncology)

D.N. Sharma  
(Radiation Oncology)

Sushmita Pathy  
(Radiation Oncology)

Tulika Seth (ad hoc)  
(Medical Oncology)

## EDUCATION

### Anaesthesiology

The following activities are conducted:

- IRCH seminars every Monday and Thursday
- Journal club and Radiology conference every Saturday

## **Laboratory Oncology**

- The department provides training to students of MD Pathology and Paediatrics.
- Combined clinicopathological discussions are held with the Department of Paediatrics.
- Five observers from all over India (Haryana, Chhattisgarh and Assam) received short-term training in haemato-oncopathology.

## **Medical Oncology**

### *Undergraduate*

The unit participated in the undergraduate teaching programme as per the Dean's circular.

### *Postgraduate*

The unit is running a DM programme under which there are 8 regular and 2 sponsored students. Three students are undergoing PhD training.

### *Short- and long-term training*

- One student from the Army Hospital underwent 2 years' training in Medical Oncology from September 2002 to September 2004.
- Dr Lalit Kumar has been regularly providing 3–4 weeks' training to postgraduates (DM students from the Department of Haematology) in Bone marrow/Stem cell transplantation. He also trained two DNB students from outside hospitals in Bone marrow/Stem cell transplantation as well as Medical Oncology.
- In addition, 14 students from all over India undertook training in Medical Oncology: 7 each in Clinical Oncology and Medical Laboratory Oncology.

## **Medical Physics**

### *Undergraduate and Postgraduate*

The Medical Physics Unit has actively participated in imparting education in the field of radiation protection, radiation physics and quality in radiological imaging to students of MD Radiology; MB,BS; BSc (Hons) Nursing; and BSc (Hons) Radiography. These activities would widen the perception of Institute graduates towards the use of ionizing radiation in Medicine. In addition, 2 PhD students are undergoing training in the unit.

### *Short-term training*

The unit has imparted training in diagnostic Medical Physics to one physicist from Nepal for 1 month and, currently, three WHO trainees are undergoing training for 6 months.

## **Radiation Oncology**

The unit is involved in undergraduate, postgraduate and BSc Nursing teaching programmes.

### ***Short-term training***

Short-term training was given to:

- Three Medical Physics students from Anna University, Chennai
- One Medical Physicist (Assistant Professor) from Trissur, Kerala
- Six Medical Physics students from BARC, Mumbai
- One Radiation Oncologist from Allahabad
- One Radiation Physicist from IGIMS, Patna
- Three Medical Physics students from the University of Calicut, Kerala
- One Radiation Oncologist from RGCI and RC, Rohini, New Delhi
- One Radiation Oncologist (Assistant Professor) from Dr S.N. Medical College, Jodhpur, Rajasthan
- One Medical Physicist (Assistant Professor) from Dr S.N. Medical College, Jodhpur, Rajasthan
- Two Medical Physicists from Anna University, Chennai
- One MD Radiotherapy student from SGPGI Medical Sciences, Lucknow
- One MD Radiotherapy student from S.N. Medical College, Agra
- Two MD Radiotherapy students from Acharya Harihara Regional Cancer Centre, Cuttack.

### **Radiodiagnosis**

Undergraduate and postgraduate teaching activities are combined with the main Radiodiagnosis department.

### **Surgical Oncology**

#### ***Undergraduate***

The faculty were involved in undergraduate teaching by giving didactic lectures and participating in and moderating seminars on topics in oncology.

#### ***Postgraduate***

The faculty were involved in teaching and training of 6 Surgical Oncology senior residents, DM Medical Oncology residents, MD Radiotherapy junior residents by giving didactic lectures, moderating seminars, journal clubs and clinical teaching during ward rounds and in special cancer clinics of IRCH. Both Dr Shukla and Dr Deo acted as co-guides and co-supervisors in DM Medical Oncology thesis, MD Radiation Oncology thesis and of PhD students from different departments of IRCH and AIIMS.

#### ***Paraclinical***

Both faculty were involved in the teaching of BSc Nursing students.

### ***Short- and long-term training***

Dr Ajay Kumar Saha, a surgical specialist from Tripura, got training in surgical oncology for a period of 6 months from 1.12.2004.

## **Continuing Medical Education**

### ***Anaesthesiology***

- The unit organized 4th Foundation Course on Palliative Care on 5–6 February 2005 for medical practitioners and nursing staff treating cancer patients in and around Delhi.
- The unit also organized lectures for nursing staff deputed at IRCH from all over the country for undergoing advanced courses in Oncology.

### ***Medical Oncology***

The department arranged the following CME programmes:

- Dr Sameer Bakhshi organized a Symposium on ‘Paediatric cancers’ in November 2004 to celebrate IRCH Foundation Day.
- Subsequently, Dr Sameer Bakhshi organized another Symposium on ‘Paediatric cancers’ in January 2005.
- Dr Lalit Kumar organized a Workshop on Haemopoietic Stem Cell Transplantation on 5–6 November 2004.
- Dr Tulika Seth and Dr Rakesh Thakur organized a CME and arranged a series of lectures for WHO training programme on ‘Non-communicable diseases’ from 3 to 11 January 2005, and coordinated and designed oncology programme for WHO Fellowship for Integrated NCD Prevention, IRCH, AIIMS, New Delhi, January 2005.

### ***Medical Physics***

The faculty and staff of the Medical Physics Unit delivered guest lectures on ‘Developing quality assurance programme’ and ‘What AIIMS is doing in terms of quality assurance’ in a workshop sponsored by the International Society of Radiographers and Radiological Technologists (ISSRT). The staff also participated in Dr B.R. Ambedkar IRCH teaching and research seminars in addition to the unit’s seminars. The staff also presented papers at the International conference on Medical Physics at the Rajiv Gandhi Cancer Institute and Research Centre, Delhi in November 2004.

### ***Surgical Oncology***

#### **Dr N.K. Shukla**

- Organized the Annual Meeting of the Indian Ostomy Society on 7 November 2004 at New Delhi and chaired a panel discussion on ‘Problems in ostomates’.
- Attended a Symposium on Ovarian Cancer held at AIIMS on 9–10 April 2004 and chaired a session on ‘Surgical management of ovarian cancer’.
- Attended the International symposium on ‘Current trends in cancer and national continuing medical education programme in surgery’ at MAMC, New Delhi on 16–23 September 2004 and gave a talk on ‘Newer techniques of chemo administration—pumps, implants, etc.’
- Participated in ASICON–CME, Delhi Chapter of Association of Surgeons of India at New Delhi on 25 July 2004. He participated in clinical case discussion and gave a talk on ‘Breast conservation surgery’.

- Participated in Symposium on Paediatric Solid Tumours at New Delhi on 30 January 2005 and moderated a panel discussion on ‘Rhabdomyosarcoma’.

### **Dr S.V.S. Deo**

- Participated in an International workshop on Oesophageal Cancer, IWEC-2004, Kochi, April 2004.
- Chaired a session during IRCH Foundation Day Symposium on ‘Paediatric and adolescent tumours—Limb salvage in osteogenic sarcoma’ on 28 November 2004.
- Delivered a guest lecture on ‘Second-look laparotomy: Current status—ovarian cancer’ during the Symposium on Ovarian Cancer held at AIIMS on 9–10 April 2004.
- Participated as a guest faculty to demonstrate SLNB procedure and breast reconstruction for breast cancer in a workshop organized by Kerala Chapter of ASI, Thrissur, 7–9 May 2004.

### **National and International Conferences**

#### ***Anaesthesiology***

#### **Dr Sushma Bhatnagar**

##### *Lectures delivered*

- ‘Role of onco-anaesthesia in pain and palliative care’; 11th International Conference of the Indian Association of Palliative Care, Chandigarh; February 2004.
- ‘Common concern in cancer patients’; XIIth International Conference of the Indian Association of Palliative care, Guwahati; 10–13 February 2005.
- ‘Double battle—fighting cancer is one and living life is another’; XIIth International Conference of the Indian Association of Palliative Care, Guwahati; 10–13 February 2005.
- ‘Cancer pain management’; 4th cancer foundation course on Pain and palliative care, Delhi; 5–6 February 2005.
- ‘Comparison of ease of fiberoptic nasotracheal intubation between a conventional tube and a flexible intubating laryngeal mask tube in oral cancer patients with difficult airway’; 16th Annual Conference of RSACP-2004, Mumbai; 15–17 October 2004.

#### **Dr Seema Mishra**

##### *Lectures delivered*

- ‘Cancer pain: Mechanism and aetiology’; 4th foundation course on Pain and palliative care, Delhi; 5–6 February 2005.
- ‘Anaesthetic management of patients undergoing oral cancer surgery’, 16th Annual Conference of RSACP-2004, Mumbai; 15–17 October 2004.

## ***Hospital Administration***

### **Dr I.B. Singh**

- Participated in a 4-week Fellowship Programme on Developing and Organizing a Trauma System; Rambam Medical Centre, Haifa, Israel; 17 October–12 November 2004.
- Participated in the ‘Medicare India 2004—Exhibition and Conference’ organized by Kinex Log International (UK) and Tafcon Projects (India) Pvt. Ltd at Pragati Maidan, New Delhi; 6–8 April 2004.
- Participated in a training course on quality technology—Six Sigma Champion— organized by the Indian Institute of Quality Management, Jaipur; 7–9 July 2004.
- Attended a symposium entitled ‘Communicable Diseases: Recent Advances’; Main lecture hall, NICD, Delhi; 30 July 2004.
- Attended an international conference on Medical Architecture; Indian National Science Academy, New Delhi; 4–6 March 2005.

## ***Laboratory Oncology***

Dr Rajive Kumar delivered a lecture on ‘Laboratory diagnosis of childhood acute leukaemias: Case scenarios’; IRCH Foundation Symposium on Paediatric and Adolescent Tumours; November 2004.

## ***Medical Oncology***

### **Dr Vinod Kochupillai**

- Invited talks on ‘Science of breath’
  - 4th International Health Care and Herbal Expo and Seminar 2004, New Delhi; 2–4 April 2004.
  - Indian Medical Association, Panipat; 15–17 September 2004.
  - Dayanand Medical College, Ludhiana; 25 January 2005.
- Invited talks on ‘Stress management’
  - National Defence Academy, Pune; 30 September 2004.
  - 30th Advanced Professional Programme in Public Administration (APPPA); 25 October 2004.
- Invited talks on ‘Cancer prevention’
  - Delivered lectures on ‘Life-style and cancer prevention’ and ‘Common cancers in India including haematological cancers’; CME at Ranchi; 17 April 2004.
  - ‘Cancer prevention and early detection’; Rohtak PGIMS; 7 April 2004.
  - ‘Life-style and cancer prevention’; Subharti Institute of Medical Sciences, Meerut; 4 May 2004.
- Invited talk on ‘Mechanism of autologous haematopoietic recovery in aplastic anaemia with the help of foetal liver infusion’; Symposium organized by the Department of Physiology, AIIMS in collaboration with British scientists from the Tissue Engineering and Regenerative Medical Centre, University College, London; 4 November 2004.
- Invited talk on ‘Thalidomide in multiple myeloma’; Haematological malignancies symposium, Bangalore; 8–10 October 2004.

- Invited talk on ‘Increasing productivity spiritually’; International symposium on Corporate Culture and Spirituality, Bangalore; 19–21 November 2004.
- Invited talk on ‘Management of non-Hodgkin lymphoma—new horizons’; Army Hospital, Delhi Cantt; September 2004.
- Conducted ‘Healing Breath Workshops’
  - King George’s Medical University; 27 April–2 May 2004.
  - Indian Medical Association, Panipat; 28–31 December 2004 and 1–2 January 2005.

### *International talks*

- ‘Stress elimination through *Sudarshan kriya*’; MD Anderson Cancer Center, Houston, Texas; 2004.
- ‘Beneficial effects of breathing technique (*Sudarshan kriya*) on the immune system: A possible and additional treatment in cancer patients’; University of Utrecht, Germany; 6 December 2004.

### **Dr Lalit Kumar**

#### *Invited lectures*

- ‘Bone marrow transplantation’ for trainees in Rheumatology in the Department of Medicine; 16 April 2004.
- ‘Management of gynaecological malignancies’; 2nd BKMA (British Kashmiri Medical Association) International Medical Conference, International Convention Centre, Srinagar, Kashmir; 24 July 2004.
- ‘Clinical management of myeloma’; First meeting of the Myeloma Group of India, Mumbai; 15 August 2004.
- ‘Early epithelial ovarian cancer’; International Cancer Congress organized by the Dharmshila Cancer Hospital, Delhi; 19 September 2004.
- ‘Adjuvant chemotherapy of epithelial ovarian cancer’; 8th Biennial meeting of the Indian Society of Medical Oncology, Bangalore; 9 October 2004.
- ‘Infections in BMT in India’; Stem cell transplantation symposium, 45th Annual Conference of the Indian Society of Haematology and Transfusion Medicine, Christian Medical College, Vellore; 18 November 2004.
- ‘Cancer ovary’; WHO Fellowship Training Programme, IRCH-AIIMS; 5 January 2005.
- ‘Haemopoietic stem cell transplantation: Newer advances’; 24th Annual convention of the Indian Association of Cancer Research, Institute of Cytology (ICMR), Noida; 11 February 2005.
- ‘Haemopoietic stem cell transplantation: Current status’; Conference of the Indian Society of Histocompatibility and Immunogenetics, AIIMS, New Delhi; 19 February 2005.
- ‘Multiple myeloma—is autologous transplant standard of care?’; National Haematology Update-IV, AIIMS; 26 February 2005.
- ‘Issues in the chemotherapeutic management of testicular cancers’ during the Challenges in the practice of evidence-based oncology in developing countries organized by the European Society of Radiation Oncology and Tata Memorial Hospital, Mumbai; 3 March 2005.

- ‘Stem cell transplantation’; Seminar in Oncology, Dr B. Borooah Cancer Institute, Guwahati, Assam; 19 March 2005.
- ‘Optimization of primary management of ovarian cancer’; Seminar in Oncology, Dr B. Borooah Cancer Institute, Guwahati, Assam; 19 March 2005.
- ‘Stem cell transplantation’; Department of Biotechnology, AIIMS; 30 March 2005.
- Faculty research presentation on ‘Haemopoietic stem cell transplantation’, AIIMS; 21 September 2004.
- Invited to chair a scientific session on ‘HCC management issues’ by the Rajiv Gandhi Cancer Institute and Research Centre, Delhi; 25 April 2004.
- Participated as a panelist in a panel discussion on ‘Ovarian cancer’; 8th Biennial meeting of the Indian Society of Medical Oncology and Indian Society of Oncology, Bangalore; 9 October 2004.

### **Dr Atul Sharma**

#### *Lectures delivered*

- ‘Role of chemotherapy in colorectal cancer—current guidelines’; International symposium on Electronics in Cancer, University of Delhi; 17 September 2004.
- ‘Recent advances in oncology’; Clinical Update, Delhi Cantonment; March 2004.

### **Dr Sameer Bakhshi**

#### *Lectures delivered*

- Chaired session: ‘Ovarian germ cell tumours’; Symposium on Ovarian Cancers, AIIMS, New Delhi; April 2004.
- ‘Bone marrow transplantation in children: Special considerations’; Workshop on Haematopoietic Stem Cell Transplantation, AIIMS, New Delhi; November 2004.
- ‘Non-Hodgkin lymphoma: Case-based scenarios’; Symposium on Paediatric and Adolescent Cancers, AIIMS, New Delhi; November 2004.
- ‘Retinoblastoma’; WHO Fellowship for Integrated NCD Prevention’; IRCH, AIIMS, New Delhi; January 2005.
- ‘Bone marrow transplantation in neuroblastoma’; Symposium on Paediatric Solid Tumours, AIIMS, New Delhi; January 2005.
- Panelist: ‘Management of rhabdomyosarcoma—case-based discussion’; Symposium on Paediatric Solid Tumours, AIIMS, New Delhi; January 2005.
- ‘Infections in immunocompromised host: During and after completion of chemotherapy in acute leukaemias’; Symposium on Early diagnosis and appropriate treatment improve the outcome and quality of life of children and young adults with cancer, Rajiv Gandhi Cancer Institute, New Delhi; February 2005.

## **Dr Tulika Seth**

### *Lectures delivered*

- ‘Potential for umbilical cord blood transplantation’; Indian Society for Histocompatibility and Immunogenetics Conference, New Delhi; 17–19 February 2005.
- ‘Ethical issues in transplant’; Workshop on Biomedical Ethics, Vardhman Mahavir Medical College, New Delhi; 18–19 March 2005.
- ‘Workup for transplantation’; Workshop on Haematopoietic Stem Cell Transplantation, AIIMS; November 2004.
- ‘Chemotherapy for Wilms tumour’ and Panelist: ‘Treatment of Wilms tumour’; Symposium on Paediatric Solid Tumours, AIIMS, New Delhi; January 2005.
- ‘Preventive oncology—directions and results’; WHO Fellowship for Integrated NCD Prevention, IRCH, AIIMS, New Delhi; January 2005.
- Panelist: ‘Symptoms of solid tumours’; Symposium on Early diagnosis and appropriate treatment to improve outcome and quality of life of children and young adults with cancer, Rajiv Gandhi Cancer Institute, New Delhi; 19 February 2005.
- ‘Paediatric palliative care’; Foundation course programme; 5–6 February 2005.
- ‘Retinoblastoma diagnosis and treatment’; Armed Forces Oncology Update, R and R Hospital, New Delhi; 15–17 April 2005.
- Faculty research presentation on ‘Community oncology programme’, AIIMS, New Delhi; February 2005.
- ‘Treatment of Hodgkin lymphoma’; Update in Oncology VIII, New Delhi; 2–3 April 2005.

### *Medical Physics*

## **Dr Pratik Kumar**

### *Papers presented/lectures delivered*

- ‘Thermoluminescence and photoluminescence of Dy doped BaSr (SO<sub>4</sub>)<sub>2</sub> phosphor’; Workshop on Accelerator and Environmental Radiation Safety, Nuclear Science Centre, New Delhi; 22–23 April 2004.
- ‘Assessment of viewing condition in radiological reporting rooms and impact of cleaning of view boxes’; 58th Annual Congress of the Indian Radiological and Imaging Association, Agra; 2005.
- ‘Film dosimetry in patients undergoing radiological interventions’; 58th Annual Congress of the Indian Radiological and Imaging Association, Agra; 2005.
- ‘Quality control and maintenance of automatic film processors’; 11th National Conference of the Society of Indian Radiographers, Chandigarh; 8–10 January 2005.
- ‘Tobacco control with breathing techniques’; WHO training programme on Non-Communicable Diseases, IRCH, AIIMS, New Delhi; 4 January 2005.
- Invited to chair a session at the International Conference on Medical Physics, New Delhi; 28–31 October 2004.

## **Dr Anil Kumar Pandey**

### *Papers presented*

- ‘To reduce the radiation dose in CT examinations’; 58th Annual Congress of the Indian Radiological and Imaging Association, Agra; 2005.
- ‘Is it required to perform sensitometric study in diagnostic medical imaging’; 11th National Conference of the Society of Indian Radiographers, Chandigarh; 8–10 January 2005.
- ‘Can it be possible to make organ mass database for Indian reference man using routine CT study’; 11th National Conference of the Society of Indian Radiographers, Chandigarh; 8–10 January 2005.

### ***Radiotherapy***

## **Dr G.K. Rath**

### *Lectures delivered*

- ‘Principle of radiotherapy in head and neck cancer and brachytherapy in head and neck cancer’; Regional Institute of Medical Science, Imphal; 23–25 April 2004.
- ‘Radiotherapy facilities in India’; Workshop on Cancer for the Common Man, organized by Kidwai Memorial Institute of Oncology and Public Relation Council of India, Bangalore; 15 July 2004.
- ‘Role of radiotherapy in brain tumours’; Symposium on Brain Tumours, J.K. Cancer Institute, Kanpur; 14 August 2004.
- ‘Radiotherapy in the management of cancer cervix’; GSL Trust Cancer Hospitals and Research Centre, Rajahmundry; 21 August 2004.
- ‘Intensity-modulated radiotherapy’; Conference of the Association of Radiation Oncology of India (Rajasthan Chapter), Bikaner; 25–26 September 2004.
- Debate on ‘Lung cancer’; Conference of XI ISO and XIII ISMPO, Bangalore; 8–10 October 2004.
- ‘Intraoperative radiotherapy’; AMPI Conference, New Delhi; 28–31 October 2004.
- ‘Radiation therapy in India’; 26th Annual National Conference, Association of Radiation Oncologists of India, Ludhiana; 25–28 November 2004.
- ‘Importance and prevalence of state-of-the-art technique of radiation therapy in Indian context and dose escalation by state-of-the-art technique of radiotherapy’; Jawahar Lal Nehru Cancer Hospital and Research Centre, Bhopal; 18–19 December 2004.
- ‘Radiotherapy tomorrow’; Conference on Oncology Tomorrow, Gujarat Cancer and Research Institute, Ahmedabad on the occasion of pre-92nd Indian Science Congress event; 2 January 2005.
- ‘State-of-the-art radiotherapy techniques’; Regional Cancer Centre, Thiruvananthapuram; 12–13 March 2005.

## **Dr P.K. Julka**

### *Lectures delivered/sessions chaired*

- ‘Current trials in lymphoma’; Rajiv Gandhi Cancer Institute, Delhi; 5 September 2004.
- ‘Recent advances in breast cancer management’; Breast cancer symposia, Delhi; 18 September 2004.
- ‘Evolving role of new chemotherapeutic drugs in non-small cell lung cancer’; Lung Cancer Symposium organized by Dr Reddy’s Labs, New Delhi; 18 September 2004.
- ‘Chemotherapy and radiotherapy in carcinoma pancreas’; Sir Ganga Ram Hospital, New Delhi; 11 November 2004.
- ‘Lycopene and phytonutrients in malignant gliomas’; AROI Annual Conference, Ludhiana; 25 November 2004.
- ‘Hormone therapy in breast cancer’; AROI Annual Conference, Ludhiana; 26 November 2004.
- ‘Targeted therapy in brain tumours’; Brain tumour symposium, AROI Annual Conference, Ludhiana; 26 November 2004.
- ‘Recent advances in gliomas’; Dharamshila Cancer Congress, New Delhi; 27 November 2004.
- ‘Chemotherapy and radiotherapy in head and neck cancer’; RGCI, New Delhi; 11 December 2004.
- ‘Non-small cell lung cancer: Recent advances’; Conference on Lung Cancer organized by Eli Lilly, New Delhi; 18 December 2004.
- ‘MRI in oncology’; MRI symposium, AIIMS, New Delhi; 27 December 2004.
- ‘Liposomal doxorubicin in head and neck cancer’; conference organized by Fulford India Limited, New Delhi; 26 February 2005.
- ‘Concurrent chemo-radiation in head and neck cancer’; Head and Neck symposium organized by Dharamshila Cancer Centre, New Delhi; 19 December 2004.
- ‘MR spectroscopy in breast cancer’; conference organized by the Indian National Science Academy, New Delhi; 27 January 2005.

## **Dr D.N. Sharma**

### *Papers presented*

- ‘Glimpse of radiotherapy for ocular tumours’; Annual Conference of the Delhi Ophthalmology Society, New Delhi; April 2004.
- ‘Role of radiation therapy for Pancoast’s tumour’; Update on Lung Cancer 2004, New Delhi; April 2004.
- ‘Subcutaneous amifostine during radiation therapy—an experience’; RANZCR-2004, Perth, Australia; October 2004.
- ‘Role of radiation therapy in Wilms’ tumour’; Symposium on Paediatric Malignancies, New Delhi; 2005.

- ‘Role of radiotherapy in Paediatric RMS’; Symposium on Paediatric Malignancies, New Delhi; 2005.
- ‘Role of palliative radiotherapy in bone metastases from breast cancer’; Annual Conference of the Breast Cancer Foundation of India, Cuttack; March 2005.

### **Dr T. Ganesh**

#### *Lectures delivered*

- ‘Step and shoot vs sliding window IMRT in the IMRT practices’; Tata Memorial Hospital, Mumbai; 24–25 September 2004.
- ‘Dose volume specification in external beam radiotherapy: Current status’; UP Chapter, AROI Annual Conference, Varanasi; 9–10 October 2004.
- ‘Pros and cons of sliding window IMRT’; Silver Jubilee Conference of the Association of Medical Physicists of India and the International Conference of Medical Physics; 28–31 October 2004.
- ‘IMRT—basic concepts and technologists’ role’; VIIIth National Conference of the Association of Radiation Therapy Technologists of India, Manipal; 4–5 December 2004.
- Presented a scientific paper in the 26th Annual Conference of the Association of Radiation Oncologists of India, Ludhiana; 25–28 November 2004.

#### *Radiodiagnosis*

### **Dr Sanjay Thulkar**

#### **Lectures delivered**

- ‘Ovarian tumours: Role of radiology’; Symposium on Ovarian Cancer organized by Dr B.R. Ambedkar IRCH, AIIMS, New Delhi; 9–10 April 2004.
- ‘Advances in breast imaging and interventions’; 5th course on Musculoskeletal and breast imaging of second AIIMS–MAMC–PGI imaging course series, Maulana Azad Medical College, New Delhi; 15–16 October 2004.
- Lecture and demonstration: ‘Mammography’; WHO Fellowship for Integrated NCD Prevention, AIIMS, New Delhi; 3–11 January 2005.
- ‘Breast interventions’; 6th Asia-Pacific Congress of Cardiovascular and Interventional Radiology organized by the Indian Society of Vascular and Interventional Radiology, The Grand, New Delhi; 31 October–3 November 2004.
- ‘Imaging the breast’; Annual Conference of the Delhi State Chapter of Association of Surgeons of India, AIIMS, New Delhi; 4 December 2004.

#### *Surgical Oncology*

### **Dr N.K. Shukla**

- Attended the 1st International Conference on Surgical Oncology, New Delhi; 24–26 February 2005.

## **Dr S.V.S Deo**

- Delivered a guest lecture on ‘Data base development in oncology’; Annual Conference of the Indian Association of Surgical Oncology, Jaipur; 25 September 2004.
- Participated as a faculty in the panel discussion on ‘Oncologic emergencies’; ASICON-2005, Hyderabad; 25–30 December 2005.

## **Video/paper presentations**

- S.V.S. Deo, N.K. Shukla, Madhabananda Kar. Presented an educational video on ‘Radical chest wall resection and reconstruction using Marlex mesh and PMMC’; National Conference of the Indian Association of Surgical Oncology and International Seminar in Current Trends in Oncology, Jaipur; 21–23 September 2004.
- S.V.S. Deo, N.K. Shukla, Madhabananda Kar. Presented a video on ‘Breast reconstruction following skin sparing mastectomy’; Annual Conference of the Delhi Chapter of ASI; 1–3 December 2004.
- Madhabananda Kar, N.K. Shukla, N.R. Jagannathan, S.V.S. Deo, Uma Sharma, S. Datta Gupta, Virendra Kumar. Presented a paper on ‘*In vivo* magnetic resonance spectroscopic (MRS) evaluation and its histopathological correlation in diagnosing soft tissue sarcoma’; 24th Annual Convention of IACR and International Symposium on Human Pappiloma Virus in Cancer of Cervix, ICPO, Noida; 9–12 February 2005.
- Madhabananda Kar, N.K. Shukla, S.V.S. Deo, Sanjay Tulkar. Presented a paper on ‘Role of three-dimensional computed tomography scanning in assessment of mandibular invasion in oral cancer patients’; National Conference of the Indian Association of Surgical Oncology and International Seminar on Current Trends in Oncology, Jaipur; 21–23 September 2004.
- A. Sharma, V. Raina, N.K. Shukla, S.V.S. Deo, G.K. Rath, N. Lokeshwar. Presented a paper on ‘Gemcitabine and oxaliplatin (Gemox): Is it effective combination in advanced/unresectable adenocarcinoma of gallbladder?’; Gastrointestinal Cancer Symposium, Florida, USA; 27–29 January 2005.
- S.V.S. Deo, Sunil Kumar, N.K. Shukla, Sidharth Hazarika, Madhabananda Kar, Atul Samaiya, B.K. Mohanti, G.K. Rath. Presented a paper on ‘Surgical management of gallbladder cancer: IRCH, AIIMS experience’; RGCON-2004, International Conference on Hepatobiliary Malignancies, Le Meridian, New Delhi; 25 April 2004.
- Suryanarayana Deo, Sunil Kumar, N.K. Shukla, Madhabananda Kar, Bidhu K. Mohanti, Atul Sharma, Vinod Raina, G.K. Rath. Presented a paper on ‘Patient profile and treatment outcome of rectal cancer patients treated with multimodality therapy at a regional cancer centre in Biennial conference, Indian Society of Oncology, Bangalore; 6–8 October 2004.
- Suryanarayana Deo, Sidhartha Hazarika, N.K. Shukla, Sunil Kumar, Madhabananda Kar, Atul Samaiya, Bidhu K. Mohanti, G.K. Rath. Presented a paper on ‘Surgical management of skin cancers—experience from a regional cancer centre in north India’; Annual Conference of Delhi Chapter of ASI; 1–3 December 2004.
- S.V.S. Deo, N.K. Shukla, Hemant Goyal, Vinod Raina, Lalit Kumar, Sunil Kumar, Madhabananda Kar. Presented a paper on ‘Neoadjuvant chemotherapy followed by surgical cytoreduction in

advanced ovarian cancer’; 5th International Conference on Ovarian Cancer, Houston, Texas, USA; 1–4 December 2004.

- V. Vaithi, M. Kar, S.V.S. Deo, N.K. Shukla. Presented a paper on ‘Comprehensive management of locally advanced orbital tumours—a review of 19 cases’; Annual Conference of Delhi Chapter of ASI; 1–3 December 2004.
- Rajiv Saran, M. Kar, S.V.S. Deo, N.K. Shukla. Presented a paper on ‘Surgical management of chest wall tumours—surgical oncology experience’; Annual Conference of Delhi Chapter of ASI; 1–3 December 2004.

## **RESEARCH**

### **Anaesthesiology**

#### ***Funded Projects***

##### **Completed**

1. A comparative study between continuous extrapleural intercostal nerve block with a mixture of bupivacaine and clonidine and epidural morphine mixed with clonidine in post-thoracotomy pain—a prospective, randomized, double-blind study. Sushma Bhatnagar. Funded by Terry Fox for 1 year. Funds: Rs 2 lakh.

#### ***Departmental Projects***

##### **Completed**

1. Airway management of patients undergoing oral cancer surgery: A retrospective study.
2. A comparison of oral ketamine plus midazolam versus intramuscular ketamine in paediatric oncologic procedures: A prospective, randomized, double-blind study.
3. Epidural morphine analgesia compared with intravenous morphine for oral cancer surgery with pectoralis major myocutaneous flap reconstruction.
4. Fighting cancer is half the battle—Living life is the other half.

##### **Ongoing**

1. A comparative, double-blind study of oral granisetron vs oral ondansetron for PONV in MRM surgeries.
2. Prevention of pain on propofol injection: A comparative, randomized, double-blind study between lignocaine, pethidine, dexamethasone and placebo.
3. Effect of gender on pain score and analgesic requirement in patients undergoing exploratory laparotomy and surgery for carcinoma oesophagus.
4. Oral controlled-release morphine vs immediate-release morphine as starting therapy for cancer pain management—a randomized double-blind trial.

## Medical Oncology

### *Funded Projects*

#### **Completed**

1. Detection of minimal residual disease (MRD) in chronic myeloid leukaemia—Indian scenario. Vinod Kochupillai. Funded by the Terry Fox Foundation for 1 year. Funds: Rs 2 lakh.
2. Foetal liver infusion: Further studies on the role of action of foetal liver cells on the regeneration of adult bone marrow. *In vitro* evaluation. Vinod Kochupillai. Funded by the Department of Biotechnology for 3 years. Funds: Rs 24.63 lakh.
3. Role of antioxidant vitamins in human lung cancer. Vinod Kochupillai. Funded by the Terry Fox Foundation for 1 year. Funds: Rs 3 lakh.
4. A multicentre phase II clinical and pharmacological study of DRF-1042, a novel camptothecin analog given orally in adult patients with refractory solid tumours. Atul Sharma. Funded by Dr Reddy's Laboratory for 2 years. Funds: Rs 4 lakh.
5. Phase III randomized double-blind evaluation of Ly353381 compared with tamoxifen in women with locally advanced or metastatic breast cancer. Atul Sharma. Funded by Eli Lilly for 2 years. Funds: Rs 8 lakh.
6. Phase III trial of ALIMTA vs docetaxel in patients with locally advanced or metastatic non-small cell lung cancer who were previously treated with chemotherapy. Atul Sharma. Funded by Eli Lilly for 1 year. Funds: Rs 2 lakh.
7. Randomized phase II trial of gemcitabine combined with taxane for metastatic breast cancer. Atul Sharma. Funded by Eli Lilly for 1 year. Funds: Rs 3 lakh.

#### **Ongoing**

1. Effect of breathing techniques: *Sudarshan kriya* in normal individuals and those with cancer in remission. Vinod Kochupillai. Funded by the Central Council of Research in Yoga and Naturopathy, Ministry of Health and Family Welfare for 5 years. Funds: Rs 23 lakh.
2. Expansion of adult human bone marrow and cord blood stem cells for reconstituting marrow and for reprogramming into hepatocytes. Lalit Kumar and Vinod Kochupillai. Funded by ICMR for 3 years. Funds: Rs 23,52,400.
3. Resistance to imatinib Ph-positive Indian leukaemia patients: Molecular mechanism. Lalit Kumar. Funded by the Terry Fox Foundation for 1 year. Funds: Rs 2 lakh.
4. Randomized study comparing upfront surgery followed by chemotherapy versus upfront chemotherapy followed by interval debulking surgery in previously untreated epithelial ovarian cancer stage IIIC and stage IV (pleural effusion only). Lalit Kumar. Funded by Dabur India Ltd (Partial funding) for 3 years. Funds: Free drugs.
5. An open, non-comparative study to evaluate the safety of recombinant human interferon alpha-2a (intermax alpha™ inj) in the treatment of chronic myelogenous leukaemia in Indian patients. Lalit Kumar. Funded by LG Chemicals for 2 years. Funds: Free drugs + Rs 1.8 lakh.
6. To assess the efficacy and adverse effects of thalidomide and prednisolone in hormone refractory prostate carcinoma. Atul Sharma. Funded by the Terry Fox Foundation for 1 year. Funds: Rs 1 lakh.

7. Population-based screening programme for cancer of the cervix, breast and oral cavity. Tulika Seth. Funded by WHO for 1 year. Funds: Rs 8.71 lakh.
8. Common cancers: Perceptions of community and determinants of community behaviour in Delhi. Tulika Seth. Funded by the Terry Fox Foundation for 1 year. Funds: Rs 2 lakh.
9. Training in low-cost screening methods for medical health workers: A pilot study. Tulika Seth. Funded by the Terry Fox Foundation for 1 year. Funds: Rs 2 lakh.

### ***Departmental Projects***

#### **Completed**

1. Short-term complications following bone marrow transplantation for various disorders at IRCH, AIIMS: Results of a prospective study.
2. A study of chimerism and engraftment in allogeneic bone marrow transplantation.
3. Pattern of cytogenetic abnormalities in patients of acute myeloid leukaemia.
4. Recurrent ovarian cancer: A retrospective study of patients seen in IRCH, AIIMS for the last 13 years.
5. Cytogenetic response assessment in chronic myeloid leukaemia patients treated with imatinib mesylate using fluorescence *in situ* hybridization.
6. Comparison between two doses of daunorubicin (45 mg/m<sup>2</sup> vs 60 mg/m<sup>2</sup>) during induction therapy in patients of acute myeloid leukaemia (AML).

#### **Ongoing**

1. Evaluation of pulmonary infiltrates in febrile neutropenia and to assess the predictive value of galactomannan in diagnosis of invasive pulmonary aspergillosis.
2. To compare the efficacy of oral antibiotics (amoxicillin clavulanate + levofloxacin) with that of intravenous antibiotics (ceftriaxone + amikacin) in low-risk febrile neutropenia.
3. Serial changes in bone marrow microvessel density and myelofibrosis in patients with chronic myeloid leukaemia chronic phase treated on imatinib and correlation with cytogenetics.
4. To assess the efficacy of melphalan and dexamethasone in contrast to melphalan and prednisolone as first-line therapy in multiple myeloma patients who are not candidates for autologous transplant.
5. Identification of BCL-6 and BCL-2 proteins by immunohistochemistry in non-Hodgkin lymphoma and their correlation with clinical features, laboratory parameters and response to therapy.
6. Analysis of demographic, clinical profile, treatment modalities and their outcome in patients with non-small cell lung cancer attending cancer clinic at IRCH, AIIMS.
7. Prevalence of *Helicobacter pylori* infection in gastric malignancies at IRCH, AIIMS.
8. To study the effect of *sudarshan kriya* and *pranayam* in patients with breast cancer in terms of tolerance to chemotherapy, immune status and quality of life.
9. Modified dosing of daunorubicin as induction therapy in adult pre-B ALL—a pilot study.
10. Application for PCR to diagnose chromosomal translocations in pre-B ALL.

11. Measurement of plasma imatinib levels by high performance liquid chromatography (HPLC) method in patients of chronic myeloid leukaemia (chronic phase) and comparison of plasma imatinib levels in imatinib responders and imatinib non-responders (an observational study).
12. Randomized comparison of ABVD with EVAP in newly diagnosed cases of Hodgkin lymphoma. Protocol 0402.
13. Gemcitabine and oxaliplatin (gemox) in advanced/unresectable adenocarcinoma of the gallbladder: An open label phase II study. Protocol 0401.

## **Laboratory Oncology**

### ***Departmental Project***

1. Myeloperoxidase cytochemical reactivity blasts of all phase-chronic myloid leukaemia.

## **Medical Physics**

### ***Departmental Projects***

1. Evaluation of view-boxes and viewing condition in radiological film-reporting room.
2. Impact of illuminance of view-boxes on the interpretation of mammograms.
3. Quality control of radiological reports: A survey-based study.
4. Reducing radiation dose in chest radiography using filters.
5. Repeat rate analysis of films in X-ray rooms and evaluation of impact of continuous quality monitoring.
6. Reducing pain during mammograms without compromising diagnostic confidence.
7. Monitoring image quality and film processor parameters for X-ray films.
8. Development of educational multimedia CD on magnetic resonance imaging physics for radiography students.
9. Development of multimedia CD on radiation safety in radiodiagnosis.
10. Establishing minimum number of routine quality control tests that ensure consistent high-quality US images.

## **Radiotherapy**

### ***Funded Projects***

#### **Completed**

1. A phase III study of gemcitabine plus paclitaxel versus paclitaxel in patients with unresectable, locally recurrent or metastatic breast cancer. B9E-MC-JHQG. P.K. Julka. Funded by Eli Lilly for 3 years (2001–2004).
2. A phase III study of Alimta vs docetaxel in patients with locally advanced or metastatic non-small cell lung cancer (NSCLC) who were previously treated with chemotherapy. P.K. Julka. Funded by Eli Lilly for 3 years (2001–2004).

3. A randomized, double-blind, placebo controlled phase II study of oral recombinant human lactoferrin (rhLF) in combination with carboplatin and paclitaxel chemotherapy in patients with locally advanced and/or metastatic non-small cell lung cancer (NSCLC). P.K. Julka. Funded by Reliance for 2 years (2003–2005).
4. A centrally randomized, open multicentre study evaluating the efficacy and safety of combination therapy with Intermax alpha™ and vinblastine versus vinblastine monotherapy in patients with advanced renal cell carcinoma. P.K. Julka. Funded by Sterling for 2 years (2003–2005).
5. A randomized, controlled, open label study to evaluate the efficacy and safety of Herceptin® (trastuzumab) in combination with the oral aromatase inhibitor Arimidex® (anastrozole) compared with Arimidex® alone as first and second line treatment administered to postmenopausal, hormone receptor positive (ER+ve and/or PR+ve) patients with HER2 overexpressing metastatic breast cancer. P.K. Julka. Funded by Roche for 2 years (2002–2004).

### **Ongoing**

1. Modification of number of fractions per week in head and neck cancer—aspects of radiobiology applicable in clinical radiotherapy. B.K. Mohanti and Suman Bhasker. Funded by IAEA.
2. 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—BCIRG trial. P.K. Julka. Funded by Aventis for 2 years (2004–2006).
3. A multicentre study of short-course palliative radiotherapy of one-week duration for advanced and incurable head and neck cancers (IAEA-CRP-PAL). B.K. Mohanti, S. Bhaskar, G.K. Rath and K.C. Pandey. Funded by IAEA.
4. A phase two study of sequential neoadjuvant gemcitabine plus doxorubicin and gemcitabine plus cisplatin in large T2 (>3 cm) and locally advanced (T3, T4, or N2) operable breast cancer. P.K. Julka. Funded by Eli Lilly for 3 years (2003–2006).

### ***Departmental Projects***

#### **Completed**

1. Clinical benefit programme of Gemcite in patients with advanced non-small cell lung cancer.
2. Networking of the equipment and treatment planning systems.
3. Study of the characteristics of multi-leaf collimator systems.
4. Clinical implementation of intensity-modulated radiotherapy.
5. 3D conformal and intensity-modulated radiation therapy. Dosimetric evaluation.
6. Evaluation and optimization of 3D treatment planning in clinical radiotherapy.
7. Ewing sarcoma—role of chemotherapy and limb salvage surgery in non-metastatic disease of the extremities.

## **Ongoing**

1. Computerized patient database management system.
2. Development of DICOM-RT software for interfacing the treatment planning system with treatment machines.
3. Software tool for comparison of portal images with digitally reconstructed radiograph.
4. Prognostic value of epidermal growth factor receptors in carcinoma of breast.
5. *BRCA-I* gene mutations in Indian breast cancer patients and its significance.
6. Oral pilocarpine in head and neck cancer patients undergoing radiotherapy.

## **Radiodiagnosis**

### ***Departmental Projects***

#### **Completed**

1. Role of CT and MRI in staging of non-small cell lung cancer and its correlation with surgical and histopathological staging.
2. Role of minimally invasive image-guided therapies in treatment of focal liver neoplasms.

#### **Ongoing**

1. Carbon dioxide digital subtraction angiography in peripheral arterial occlusive disease of lower limb in comparison with conventional iodinated contrast media.
2. Role of MRCP in diagnostic workup of portal biliopathy.
3. Preoperative evaluation of carcinoma of the ovary with multidetector CT and its correlation with surgical findings.

## **Surgical Oncology**

### ***Funded Projects***

#### **Completed**

1. Bone marrow micrometastases in breast cancer patients—a pilot study. S.V.S. Deo. Funded by AIIMS for 1 year. Funds: Rs 75,000.

#### **Ongoing**

1. Bone marrow micrometastases in breast cancer patients—incidence and clinical correlation. S.V.S. Deo. Funded by the Terry Fox Foundation, Canada for 2 years. Funds: Rs 1 lakh.

### ***Departmental Projects***

#### **Completed**

1. Pattern of lymph node involvement in oral cancers.

## **Ongoing**

1. Functional assessment of oral cancer patients after radical surgery and radiotherapy.

## ***Collaborative Projects***

1. Evaluation of Sm 153 EDTMP in bone palliation (with Anaesthesiology and Nuclear Medicine).
2. Alpha-1-antitrysin deficiency in chronic liver disease of childhood: Phenotypic and genetic characterization (with Laboratory Oncology and Paediatrics).
3. Diagnosis of low-grade peripheral B-cell neoplasms in bone marrow trephine biopsies (with Laboratory Oncology and Pathology).
4. Molecular characterization of Indian patients with Glanzmann thrombasthenia (with Laboratory Oncology and Haematology).
5. Gene expression profiling in *Sudarshan kriya* practitioners (with Medical Oncology and Biochemistry).
6. Concomitant chemoradiation in advanced/unresectable head and neck cancer (with Medical Oncology, Radiation Oncology, IRCH and ENT).
7. Oxaliplatin as first-line therapy in advanced or metastatic colorectal cancer (with Medical Oncology and Radiation Oncology).
8. Concomitant chemoradiation as adjuvant therapy in gastric cancer (with Medical Oncology and Radiation Oncology).
9. Role of thalidomide in relapsed/refractory multiple myeloma patients (with Medical Oncology and Pharmacology).
10. Role of thalidomide in hormone refractory prostate cancer patients (with Medical Oncology, Pharmacology and Urology).
11. Randomized study of concomitant chemoradiation versus radiotherapy alone for advanced and/or unresectable squamous cell carcinoma of oropharynx and nasopharynx (with Medical Oncology, Radiation Oncology, IRCH and ENT).
12. Expansion of adult human bone marrow and cord blood stem cells for reconstituting marrow and for reprogramming into hepatocytes (with Medical Oncology and NII, New Delhi).
13. Pilot study of high-dose chemotherapy in recurrent/refractory squamous cell carcinoma of head and neck region. Protocol 0403 (with Medical Oncology and Radiation Oncology, IRCH and ENT).
14. Serial skin biopsy in chronic myeloid leukaemia (CML) patients on imatinib mesylate. Protocol 0404 (with Medical Oncology and Pathology).
15. High-dose methotrexate in acute lymphoblastic leukaemia and T-cell lymphoblastic lymphoma (with Medical Oncology and Pharmacology).
16. Avoiding unnecessary radiation doses to the patient during interventional radiological procedures (with Medical Physics Unit, IRCH, Cardiac Radiology).

17. Dose reduction in CT while maintaining diagnostic confidence (with Medical Physics Unit, IRCH and Radiology).
18. Study of radiation exposure to patients and operating room personnel during percutaneous nephrolithotomy (with Medical Physics and Urology).
19. Quantitative imaging study of breast cancer and its correlation with oxidative stress (with Medical Physics Unit, Radiodiagnosis and Pharmacology).
20. Radiation dosimetry and development of new TLD phosphor (with Medical Physics Unit and Department of Physics, University of Delhi).
21. Study of physical parameters and quality assurance in gamma knife-based stereotactic radiosurgery with non-coplanar beam in the phantom (with Medical Physics Unit, Neurosurgery and Radiodiagnosis).
22. Limb salvage in osteogenic sarcoma (with Orthopaedics and Radiation Oncology).
23. Adjuvant breast cancer trial—multicentre international trial under UKCCR, UK (with Medical Oncology and Radiation Oncology).
24. Diagnostic potential of localized *in vivo* proton MRS of breast carcinoma (with Radiation Oncology, NMR)
25. Adjuvant tamoxifen long against short (ATLAS)—Multicentre international trial, Oxford, UK (with Medical Oncology and Radiation Oncology).
26. Preoperative short-course RT (25 Gy/5 Fr) followed by surgery for rectal cancer (with Radiation Oncology).
27. Study of angiogenesis and proliferative markers in oral squamous cell carcinoma, Intra-mural project (with Pathology and Radiation Oncology).
28. Radiation-induced chromosomal aberration analysis and their use as biodosimetry (with Nuclear Medicine and Radiation Oncology).
29. Radiofrequency ablation in metastatic liver tumours (with Radiodiagnosis and Radiation Oncology).
30. A multinational, multicentre, open label, active, controlled, randomized parallel group dose-finding study to evaluate the efficacy and safety of two doses of AP 12009 in adult patients with recurrent high-grade glioma, administered intratumorally as continuous high flow microfusion over a 7-day period every other week (with Neurosurgery and Radiation Oncology).
31. Protocol 1839IL/0706: A phase II randomized, double-blind, placebo controlled, multicentre comparative study of ZD1839 250 mg or 500 mg (Iressa™) given either continuously or concomitantly with cisplatin plus radiotherapy for the treatment of patients with previously untreated unresected late stage III/IV non-metastatic head and neck squamous cell carcinoma (with Radiation Oncology and ENT).
32. LF-0202—an open label phase 2 study of oral recombinant human lactoferrin (rhLF) monotherapy in patients with advanced or metastatic renal cell carcinoma (RCC) (with Radiation Oncology and ENT).

33. Study of survival and quality of life for muscle-invasive bladder cancer with concurrent chemoradiotherapy (with Radiation Oncology).
34. HDR intraluminal radiotherapy in advanced carcinoma of oesophagus (with Radiation Oncology and Surgical Oncology).
35. Effectiveness of virtual simulation in radiotherapy planning of carcinoma cervix (with Radiation Oncology and Department of Radiodiagnosis).
36. Evaluation of image-based treatment planning in radiotherapy (with Radiodiagnosis and Radiation Oncology).
37. Role of neoadjuvant chemotherapy in management of patients with advanced ovarian cancer (with Radiodiagnosis and Medical Oncology).
38. MR spectroscopy and endorectal MR imaging in the diagnosis of early prostate cancers and its correlation with histopathological results of TRUS-guided prostate biopsies and surgical specimens (with Radiodiagnosis and NMR).
39. Study of effectiveness of virtual simulation in external beam radiotherapy planning of carcinoma cervix (with Radiodiagnosis and Radiation Oncology).
40. Metabolic characterization of soft tissue tumours and pathologic and radiological correlation with *in vivo* magnetic resonance spectroscopy (MRS) (with Pathology, Radiodiagnosis and Medical Oncology).
41. Randomized comparison of ABVD with EVAP in newly diagnosed cases of Hodgkin lymphoma (with Radiodiagnosis).
42. Evaluation of efficacy of radiofrequency ablation of primary tumour in early breast cancer patients (with Radiodiagnosis and Surgery).
43. Nutritional risk factors in breast cancer—a case–control study (with Gastroenterology and Human Nutrition).
44. Cell cycle regulatory proteins WAF-e and p16 in human oesophageal cancer (with Biochemistry and Pathology).
45. Multicentric national programme on evaluation and validation of molecular markers in oral cancer: A cross-sectional study (with Biochemistry).
46. Nutritional risk factors in oesophageal cancer—a case–control study (with Gastroenterology and Human Nutrition).
47. To evaluate microsatellite instabilities in different chromosomes in Indian female breast cancer patients (with Department of Biosciences, Jamia Milia Islamia, New Delhi).
48. Role of 3-dimensional CT scan in mandibular involvement and its reconstruction in oral cancer (with Radiodiagnosis).

## PUBLICATIONS

### Journals

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### Chapters in Books/Monographs

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## **PATIENT CARE**

### **Total bed strength**

|                             |               |
|-----------------------------|---------------|
| Till June 2004              | 96            |
| Present status              |               |
| Private                     | Nil           |
| General                     | 106           |
| Medical oncology            | 23            |
| Radiation oncology          | 32            |
| Surgical oncology           | 20            |
| Day care                    | 22            |
| Minor OT                    | 6             |
| ICU                         | 3             |
| <b>Total</b>                | <b>106</b>    |
| <b>Total OPD attendance</b> | <b>70,752</b> |
| New cases                   | 13,434        |
| Old cases                   | 57,318        |

|                         |        |
|-------------------------|--------|
| <b>Total admissions</b> | 16,961 |
| Regular                 | 2,734  |
| Short (day care)        | 14,227 |

### Description of various OPD/clinics

| No. | Name of the OPD/clinie   | New cases | Old cases | Total  |
|-----|--------------------------|-----------|-----------|--------|
| 1.  | Bone and soft tissue     | 250       | 904       | 1,154  |
| 2.  | Breast cancer            | 474       | 3705      | 4,179  |
| 3.  | Chemotherapy evaluation  | 2,663     | 21,483    | 24,146 |
| 4.  | Gastrointestinal         | 389       | 943       | 1,332  |
| 5.  | Gynaecology 'A'          | 315       | 660       | 975    |
| 6.  | Gynaecology 'B'          | 456       | 1,084     | 1,540  |
| 7.  | Head and neck oncology A | 213       | 1,212     | 1,425  |
| 8.  | Head and neck oncology B | 1,262     | 4,300     | 5,562  |
| 9.  | Lymphoma leukaemia       | 1,015     | 11,006    | 12,021 |
| 10. | Paediatric oncology      | 93        | 2,056     | 2,149  |
| 11. | Paediatric surgery       | 98        | 1,251     | 1,349  |
| 12. | Pain                     | 1,609     | 2,663     | 4,272  |
| 13. | Radiotherapy evaluation  | 2,978     | 3,512     | 6,490  |
| 14. | Urology malignant        | 285       | 919       | 1,204  |
| 15. | Surgical oncology        | 1,234     | 1,347     | 2,581  |
| 16. | Ophthalmic tumour        | 100       | 273       | 373    |
|     | <b>Total</b>             | 13,434    | 57,318    | 70,752 |

### Anaesthesiology

The facilities available include:

- ICU facilities for postoperative patients.
- The Pain and Palliative Care Clinic is run twice a week in addition to the anaesthesiology-related work.
- Home support to patients with advanced malignancies by NGOs and keeping monthly meeting with them to know follow-up reports.
- Critical care to patients of Radiotherapy, Medical Oncology, Surgical Oncology.

- Facility for paediatric radiotherapy.
- Anaesthesia for minor paediatric oncology procedures such as bone marrow biopsy, central line insertion, bone marrow harvesting.
- Facility for paediatric radiological procedures under anaesthesia, radiofrequency ablation for liver, lung and breast carcinomas.

### **Laboratory Oncology**

|  |        |
|--|--------|
| Haemogram (Hb, TLC, platelets)               | 29,352 |
| Peripheral blood smear                       | 5,041  |
| Bone marrow aspiration and touch preparation | 3,214  |
| Cytochemistry                                | 1,539  |
| Serum electrophoresis                        | 1,814  |
| Urine electrophoresis                        | 159    |
| Immunofixation                               | 75     |
| APAAP  | 768    |
| FNAC/lymph node                              | 188    |
| Cytospin                                     | 112    |
| Flowcytometry                                | 600    |

### **Medical Oncology**

#### *Clinical services*

|                      |               |
|----------------------|---------------|
| New cases (CTE + LL) | 3,678         |
| Old cases (CTE + LL) | 32,489        |
| <b>Total</b>         | <b>36,167</b> |

|                                |               |
|--------------------------------|---------------|
| Total chemotherapy in day-care | 14,361        |
| OPD chemotherapy               | 7,574         |
| Admissions                     |               |
| Ward                           | 532           |
| Day care                       | 13,885        |
| <b>Total</b>                   | <b>14,417</b> |
| OPD procedures                 | 3,955         |

#### *Diagnostic and therapeutic procedures*

|   |       |
|---|-------|
| Bone marrow biopsy                          | 1,388 |
| Bone marrow aspiration                      | 605   |
| Lumbar puncture                             | 178   |
| Peripherally inserted central line catheter | 30    |
| Pleural tapping                             | 108   |
| Abdominal tapping                           | 3     |
| Intrathecal methotrexate                    | 598   |
| Tru-cut biopsy                              | 10    |
| Skin biopsy                                 | 26    |

|                                    |     |
|------------------------------------|-----|
| Ascitic tapping                    | 226 |
| Cerebral spinal fluid for cytology | 147 |
| Catheterization                    | 23  |

### ***Laboratory services***

|                                      |        |
|--------------------------------------|--------|
| Haemogram                            | 11,583 |
| Single donor platelets               | 412    |
| Cryopreservation of PBSC             | 68     |
| Cytogenetics                         | 523    |
| Stem cell transplantation            | 77     |
| MNC of stem cells                    | 77     |
| Infusion of stem cells               | 58     |
| Viability of stem cells              | 58     |
| Cryopreservation of stem cells       | 49     |
| CD34 count of stem cells             | 100    |
| Polymerase chain reaction            | 16     |
| Stem cell isolation and purification | 28     |

Medical Oncology laboratory meeting: Once in 2 weeks

### ***New clinical services***

Dr Lalit Kumar and Dr Sujata Mohanty have been involved in the stem cell transplantation work in collaboration with other departments—CTVS, Neurology and R.P. Centre. Dr Kumar has started a new BMT clinic every Friday. A meeting to discuss BMT patients has also been initiated by Dr Lalit once every 2 weeks.

### ***Community oncology services***

Dr Tulika Seth and Dr Rakesh Thakur have initiated a cancer screening programme over the past 1 year in slum areas of Delhi. They have also initiated a WHO training programme on low-cost cancer screening and awareness for medical officers and paramedicals.

### **Medical Physics**

The Medical Physics Unit looks after the patient care activities in IRCH and AIIMS in terms of radiation-related activities. It carries out blood-bag irradiation before blood transfusion to patients undergoing bone marrow transplantation. This unit also performs periodic calibration and maintenance of the irradiator. The unit carries out quality assurance tests of imaging machines, which include X-ray units, mammography, ultrasonography, spiral CT and film processors. Other important contributions are radiation protection survey for the benefit of staff and general public, and patient's radiation dose measurement in medical imaging for optimization. This optimization assumes significance due to the caveat that radiation in imaging should be used judiciously.

|  |      |
|--|------|
| Blood bags irradiated                                  | 9514 |
| Quality assurance (QA) tests done on X-ray machines    | 1231 |
| Quality control tests done on CT and CT processor      | 22   |
| QA tests done on film processor at room no. 10 (X-ray) | 212  |

|  |     |
|--|-----|
| QA tests done on film processor at room no. 46 (US, Mammo)       | 197 |
| Radiation output measurements in X-ray units                     | 304 |
| Patient dose measurement by DAP meter, EDR-2 and Gafchromic film | 139 |
| Experiments with DAP meter and fluoro QA                         | 139 |
| Advice in inadvertent exposure in pregnancy                      | 2   |

## **Radiodiagnosis**

Facility of X-rays, portable X-rays, ultrasound, digital mammography with the facility of stereotactic-guided biopsy, and whole-body multislice spiral CT scanner.

### ***Analysis of patient-care activities***

|                                     |        |
|-------------------------------------|--------|
| CT scans                            | 4,127  |
| Ultrasound                          | 2,650  |
| Mammograms                          | 398    |
| Barium IVP                          | 19     |
| Plain X-rays                        | 10,177 |
| Interventions (CT scan, Ultrasound) | 359    |

## **Radiotherapy**

|   |         |
|---|---------|
| Total cases on radiotherapy                     | 61,566  |
| Total fields on radiotherapy                    | 142,916 |
| Cases on brachytherapy                          | 593     |
| Treatment planning and simulations              | 3,612   |
| 2D and 3D distribution                          | 816     |
| Compensators                                    | 400     |
| Shielding blocks, immobilization and wax moulds | 773     |
| Radiation review cases                          | 12,417  |
| Cases on chemotherapy                           | 10,330  |
| Injections administered                         | 38,537  |
| Intraoperative high-dose brachytherapy          | 2       |
| Radiofrequency ablation (RFA)                   | 30      |

## **Surgical Oncology**

### ***Facilities available***

#### **Minor operative procedures**

These were conducted under general/local anaesthesia including lymph node biopsy, tumour biopsy, excision of skin/oral tumours, soft tissue tumour, feeding jejunostomy, colostomy, insertion of Hickman catheter for long-term chemotherapy, orchidectomy, etc.

#### **Endoscopic procedures (diagnostic and therapeutic)**

These included fiberoptic upper GI endoscopy, side viewing duodenoscopy, colonoscopy, sigmoidoscopy, bronchoscopy, cystoscopy, nasopharyngolaryngoscopy and laparoscopy.

Total number of minor operations and endoscopic procedures performed: 2794

## **Major cancer operations**

Total number: 429

These included radical resection and reconstruction for tumours involving head and neck, GI tract, breast, bone and soft tissue, gynaecological malignancies and thoracic tumours. Advanced reconstructive surgical procedures, including microvascular free tissue transfer, were conducted after tumour resection.

## **Community services**

### ***Preventive oncology services***

Training programmes for medical officers, paramedical workers and health workers were organized.

| <b>Category</b>     | <b>Number</b> |
|---------------------|---------------|
| Medical officers    | 122           |
| Paramedical workers | 28            |
| Health workers: NGO | 60            |
| Government          | 37            |
| <b>Total</b>        | <b>247</b>    |

### ***Number of people screened***

| <b>Screening done</b>   | <b>Number</b> |
|-------------------------|---------------|
| Oral screening          | 1339          |
| Breast screening        | 660           |
| Screening for ca cervix | 833           |

**Professor G.K. Rath** delivered public lecture on ‘Cancer’ in Ghaziabad, UP; published an article on cancer in *Hindustan Times*; contributed to the Health Education Programme, Government of NCT of Delhi; participated in a workshop on Cancer for common man in Bangalore.

**Professor P.K. Julka** conducted the following live programmes on television: Delhi Doordarshan Bharti health show ‘Swasth Bharat’ on ‘Preventive oncology’ for public awareness, 13 November 2004; DD Bharti show on ‘Cancer prevention’ for public awareness, 20 November 2004; DD live programme on ‘Breast cancer’ on 12 December 2004. He conducted Phone-in programme on AIR on ‘Head and neck cancers’ and ‘Breast cancers’ on 12 August 2004 and 10 September 2004, respectively.

He published an article on ‘Smoking hazards of *ghutka*’ in *The Week* on 6 February 2005; and on ‘Monoclonal antibody to combat breast cancer’ in *The Times of India* on 26 March 2005. He participated in a video conference on ‘Androgen-independent prostate cancer’, an Indo-USA joint venture on 10 January 2005; and launched a campaign on ‘Public awareness on acromegaly and pituitary tumour’ on 8 January 2005.

**Dr Pratik Kumar** appeared as an expert on a talk show-cum-news item on India TV regarding increased propensity for self-referred CT scan and associated radiation risk.

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Professor Vinod Kochupillai** was conferred Honorary Citizenship of Houston, and was the Goodwill Ambassador for the City of Houston, USA, June 2004; and 'State Intellectuals' honour, Delhi Rattan-2004. Professor Kochupillai received the Dr B.C. Roy National Award (2004) in the category of 'Eminent Medical Teacher'; and Fellowship of the National Academy of Medical Sciences in April 2004.

Dr Kochupillai was invited as a guest on Cancer Awareness Day (7 November 2004) to a programme organized by the Government of National Capital Territory of Delhi at New Delhi. Dr Kochupillai was also invited to Jakarta by the 2nd Asia Congress of Pediatric Nutrition to deliver a talk on 'Micronutrients and cancer', December 2004; to Cape Town, South Africa by the University of Utrecht as a plenary speaker during the 1st International Conference on Natural Products and Molecular Therapy', 12–14 January 2005; by ICRI at INSA during the National Conference on Clinical Research: Challenges and Opportunities in India to deliver a talk on 'Role of antioxidants in lung cancer', New Delhi, 26–27 November 2004; and to be a member of the National Advisory Committee of the 24th Annual Convention of the Indian Association of Cancer Research (ICAR) and a one-day International Symposium on 'Human Papillomavirus and Cervical Cancer' in January/February 2005. Dr Kochupillai and Dr Tulika Seth visited Russia under the Integrated Long-term Programme (ILTP) of Cooperation in Science and Technology between India and Russia, 13–17 May 2004 in connection with a collaborative project initiated by the Department of Science and Technology, Government of India.

**Dr G.K. Rath** was elected as the President of the Association of Radiation Oncologists of India. He is the Chairman of the subgroup of the Ministry of Information Technology, GoI to review the progress of the project on 'Development and deployment of 6 MV medical linear accelerator'; and Monitoring Committee of the project on 'Screening for cancers in Himachal Pradesh, Shimla'.

He is a member of the Governing Bodies of two Regional Cancer Centres (Bikaner, Allahabad); Standing Committee on Radiotherapy Development Programme, Ministry of Health and Family Welfare, Government of India; Advisory Committee, Dr B.R. Ambedkar IRCH; Core Committee on the projects under the North-East Initiative of the Indian Council of Medical Research; Steering Committee of the Ministry of Information Technology, GoI for the National Programme for the Development of indigenously developed integrated medical linear accelerator system for cancer therapy (Phase-I); Committee of ICMR on the assessment of burden of non-communicable disease; Project Review Committee on Working Group of Medical Electronics, Ministry of Communication and Information Technology; Project Review Committee, ICMR-Oncology; Board of Studies of the Department of Radiotherapy, JLN Medical College, Aligarh Muslim University, UP; Steering Committee of the project on 'Development of radiation field analyser' by Variable Energy Cyclotron Centre, Kolkata; Safety Review Committee for Application of Radiation (SARCAR), Atomic Energy Regulatory Board, GoI; Inspection team of the Ministry of Health and Family Welfare, GoI, to carry out inspection of cancer hospital, Agartala for the purpose of financial assistance under oncology wing development schemes of the National Cancer Control Programme (NCCP); Scientific Advisory Committees of (i) Gujarat Cancer and Research Institute, Ahmedabad, (ii) Institute of Pathology and (iii) Institute of Cytology and Preventive Oncology, ICMR; Expert Group on Indo-German Project on Oncology of ICMR; Standing Selection Committee for the selection of faculty post of North-East Indra Gandhi Regional Institute of Health and Medical Sciences (NEIGHRIHMS), Shillong; Technical joint meeting on IMRT at GCRI, Ahmadabad; Executive Committee, Indian Society of Oncology; Board of Studies of Himachal Pradesh University, Shimla; Selection of Assistant Professor (Oncology), Govt. of NCT of Delhi, Health and Family Welfare Department; Board of Studies meeting, SGPGIMS, Lucknow; Scientific

Advisory Group, ICMR; Scientific Advisory Committee of the 24th Annual Convention of the Indian Association of Cancer Research and International Symposium on Human Papilloma Virus and Cervical Cancer organized by ICPO, New Delhi. He was invited by the Government of Tripura to prepare a road map for expansion of cancer management facility in Tripura; and was nominated to be an expert of WHO–GoI sponsored population-based screening programme at Patna.

He is the Advisory Editor of: *Journal of Cancer Research and Therapeutics*; *Journal of the Academy of Hospital Administration*. He is a Member of the Editorial Board of: *Indian Journal of Chest Disease and Allied Sciences*; and *Indian Journal of Cancer*. He is the Consulting Editor of: *Journal of Cancer Research and Therapeutics*; and *Clinical Oncology*. He contributed a chapter to the book titled *Recent advances in MR imaging and spectroscopy*, published by Jaypee Brothers.

**Professor P.K. Julka** is a member of the DNB Specialty Board for Curriculum for Radiotherapy and Oncology; Project Review Committee, ICMR, New Delhi; Expert Committee, Commonwealth Fellowship Selection; Advisory Committee on Breast Cancer Investigator Meeting; ICON meeting on Breast Cancer and Cervix Protocol Meeting; Book Selection Committee, NML, New Delhi; Task Force, ICMR, New Delhi; Expert Committee of Linear Accelerator, Ministry of Health and Family Welfare, New Delhi; Advisory Board Meeting on Breast Cancer; Expert Committee of CSIR for senior research associate selection; Executive Committee, New Delhi branch of IMA; Investigators' meeting on 'Advanced breast cancer'.

He is the Vice-President of the Indian College of Radiation Oncology; Coordinator of BCIRG trial on breast cancer video conference; Inspector of MCI for MD and DNB (RT); Principal Investigator for 'Clinical trial on Faslodex in breast cancer', 18 February 2005; Expert for the Core Technical Committee meeting, PGIMER, Chandigarh; Expert for Procurement of TLD for the Department of Radiotherapy, PGIMER; Investigator, Meeting on Breast Cancer, Thiruvananthapuram; and Expert for Commonwealth Scholarship. He was the awardee of leading scientist of the world in the field of clinical oncology by the International Biographical Society, Cambridge, England.

**Professor N.K. Shukla** received President's Gratitude Rotary Award from the Cancer Foundation for his outstanding services to cancer patients during the year 2004; was nominated as Executive Member of the Cancer Foundation for the year 2004–2005; and got re-elected as President of the Indian Ostomy Society for the year 2004–2005.

**Dr S.V.S. Deo** was awarded fellowship of the American College of Surgeons (FACS) during the Annual Conference of the American College of Surgeons; New Orleans, USA, October 2004; nominated as a reviewer for scientific articles in the prestigious 'Nature – Clinical Practice – Oncology'.

**Dr Madhabananda Kar** was awarded UICC–ICRETT fellowship to visit MD Anderson Cancer Center, Houston, Texas for advanced training in 'Thoracic oncology'.

**Dr Pratik Kumar** was designated as an expert by the International Atomic Energy Agency (IAEA), Vienna for the National Training Course on Radiation Protection in Diagnostic and Interventional Radiology and Pilot Project, Cairo, Egypt, 12–16 June 2004. He was also invited by IAEA, Vienna to attend the Research coordination meeting on multi-country project 'Avoiding unnecessary patient radiation dose in interventional radiology', 10–14 May 2004. He is a referee for manuscripts submitted to the *Journal of Medical Physics*.

**Dr D.N. Sharma** is a member of the review committee of: *Journal of Postgraduate Medicine*; *Indian Journal of Cancer*; *Journal of Cancer Research and Therapeutics*; *Indian Journal of Medical Sciences*; and *Indian Journal of Medical and Pediatric Oncology*.

**Dr Tulika Seth** received the Colonel Commandant and DGAFMS Best Paper Award for the year 2004 for her paper on 'Injection practices in a metropolis of north India: Perceptions, determinants and issues of safety'. She made poster presentations on (i) 'Understanding factors which influence tobacco (smoking and smokeless) in secondary schoolchildren in Delhi (India)' at the American Society of Clinical Oncology annual meeting, New Orleans, Louisiana, USA on 4–8 June 2004; and (ii) 'Assessment of coping strategies in families of paediatric acute lymphoblastic leukaemia (ALL): A pilot study in patients in a regional hospital in India' in the 36th Congress of the International Society of Paediatric Oncology, Oslo, Norway on 16–19 September 2004.

**Dr Lalit Kumar** is the Editor of the *Indian Journal of Medical and Paediatric Oncology*, January 2005–December 2006. He was Examiner for DM Medical Oncology (2004) for the Dr M.G.R. Medical University, Chennai (for Cancer Institute, Adyar, Chennai and Government Medical College and Hospital, Chennai) and also at Gujarat University, Ahmedabad (Gujarat Cancer and Research Institute, Ahmedabad); Examiner for evaluation of PhD thesis, University of Madras, Chennai, 2004; Member, Research Advisory Committee of Cancer Institute, Adyar, Chennai; Member of the Review Committee for research projects for funding in the area of cell and molecular biology with special emphasis on stem cell biology, Punjab University, Chandigarh, 2005; Member of the National Advisory Committee for the Annual Meeting of the International Network for Cancer Treatment and Research (INCTR, Brussels) to be held at Cancer Institute, Chennai, 10–13 December 2005; Reviewer of the research projects submitted to the ICMR, DST, Tata Memorial Hospital, Mumbai, and the Biomedical Ethics Committee, New Delhi; Reviewer for the *Journal of Gastroenterology*, *European Journal of Obstetrics and Gynecology*, *National Medical Journal of India*, *Indian Journal of Cancer*.

### Significant events

- The Departments of Radiation Oncology and Surgical Oncology have started intraoperative high dose rate brachytherapy (IOHDR) in the specially renovated 1st floor Surgical Oncology OT; two cases of IOHDR were successfully performed after obtaining the necessary clearances from the concerned authorities. This procedure was performed for the first time in India.
- The Department of Radiation Oncology has started high dose rate interstitial brachytherapy and intraluminal radiotherapy.
- The textbook *Radiation oncology: Principle and practice* by Dr Rath and Dr Mohanti was reprinted by Elsevier India Private Limited in 2004.
- The Department of Surgical Oncology in collaboration with the Department of Biosciences, Jamia Milia Islamia described a new gene sequence FHIT Breast Cancer. This was registered in the Gene Bank, USA.

### VISITING SCIENTISTS

1. Dr Michael Minton, Director, Sir Michal Sobell House, Churchill Hospital, UK visited the department and gave a talk on 'Neuropathic management of cancer pain'.
2. Dr Victor Pace, Consultant Oncologist, Palliative care from London visited the department and gave a lecture on 'Palliative care and oncology'.
3. Dr Alfred Yung, Chair Neuro Oncology, MD Anderson Cancer Center, Houston, Texas gave a lecture on 'Targetted therapy in brain tumours'.

4. Dr Subir Nag, Chief of Brachytherapy, Arthur James Cancer Centre, Columbus, Ohio, USA visited the department and delivered two guest lectures and performed intraoperative high dose rate brachytherapy procedure from 16.2.2005 to 17.2.2005. He also had extensive academic discussion with faculty members, staff and residents.
5. Professor Donald Weaver, Chief of Surgical Oncology Services, Harper Hospital, Detroit Medical Center gave a lecture on 'Recent advances in the management of rectal cancer' in October 2004.
6. Professor Richard R. Love, Chief, Department of Medical Oncology, University of Wisconsin, Comprehensive Cancer Center, Madison, USA gave a lecture on 'Hormonal management of breast cancer'.

## **ADMINISTRATION**

|                                  |                             |
|----------------------------------|-----------------------------|
| Administrative Chief             | Professor Vinod Kochupillai |
| Assistant Administrative Officer | Shri R. Simon               |

Total staff of Dr B.R. Ambedkar IRCH:

|                                   |            |
|-----------------------------------|------------|
| Faculty                           | 23         |
| Group A and B                     | 38         |
| Technical staff                   | 46         |
| Nursing staff                     | 78         |
| Resident staff (SR, JR, RO, etc.) | 69         |
| Ministerial staff                 | 25         |
| Group D staff                     | 99         |
| <b>Total</b>                      | <b>378</b> |

## **FINANCE**

|                  |                 |
|------------------|-----------------|
| Accounts Officer | Shri C.L. Raina |
|------------------|-----------------|

## **STORES**

|                          |                     |
|--------------------------|---------------------|
| Assistant Stores Officer | Shri Narender Kumar |
|--------------------------|---------------------|

## 10.5 Neurosciences Centre

### Chief

V.S. Mehta

### NEUROSURGERY

#### Professor and Head

V.S. Mehta

#### Emeritus Professors

P.N. Tandon

A.K. Banerji

#### Professors

Ashok Kumar Mahapatra

Bhawani Shankar Sharma

#### Associate Professors

Sandeep Vaishya

Shashank Sharad Kale

Poodipedi Sharad Chandra

#### Assistant Professors

Ashish Suri

Manmohan Singh

Aditya Gupta

Rajender Kumar

### NEUROLOGY

#### Professor and Head

Madhuri Behari

#### Professor

Kameshwar Prasad (rejoined in September 2004)

#### Additional Professor

M.V. Padma

#### Associate Professor

M. Tripathi

#### Assistant Professors

Garima Shukla

Vinay Goyal

Achal Srivastava (ad hoc)

Mamta Bhushan Singh (ad hoc)  
(against leave vacancy)

Rohit Bhatia

Sumit Singh

Trilochan Srivastava (ad hoc)

## **NEUROANAESTHESIOLOGY**

### **Professor and Head**

Hari Hara Dash

### **Professor**

Parmod K. Bithal

### **Additional Professor**

Arvind Chaturvedi (on leave)

### **Associate Professor**

Rajendra Singh Chouhan

### **Assistant Professor**

Mihir Prakash Pandia

## **NEURORADIOLOGY**

### **Professor and Head**

N.K. Mishra

### **Additional Professor**

Shailesh B. Gaikwad

### **Assistant Professors**

Vipul Gupta

Ajay Garg

## **NEUROPATHOLOGY LABORATORY**

### **Professor**

Chitra Sarkar

### **Associate Professor**

M.C. Sharma

## **EDUCATION**

### **Neurosurgery**

#### *Undergraduate and Postgraduate*

The departmental faculty participated in undergraduate teaching in the form of scheduled lectures and seminars. There is continuous postgraduate teaching of junior and senior MCh residents. The academic programme consists of weekly journal club meetings, seminars, morbidity/mortality meetings, neurological case discussions, neuroradiology and neuropathology meetings.

### ***Short-term training***

The department offered short-term training (2–8 weeks) to five neurosurgical trainees from various parts of India. The training included clinical observership and training in the Experimental Microneurosurgery Laboratory.

### ***Long-term training***

The department offers continuous postgraduate teaching of junior and senior MCh residents. The MCh course is for 3 years (after MS General Surgery) and 5 years (after MB,BS).

## **Neurology**

Actively involved in all teaching programmes of the Department of Neurology and the Institute, training undergraduate, postgraduate and postdoctoral (DM) students. This includes guidance for preparation and presentation of seminars, journal clubs and clinical combined rounds of the department.

## **Neuroanaesthesiology**

### ***Short- and long-term training***

- Nine postgraduate students (for a period of two months each from the Department of Anaesthesiology, AIIMS) and three others (for a period of two weeks each from the Department of Anaesthesiology, LHMC), received training in Neuroanaesthesiology.
- Apart from six DM Neuroanaesthesiology students, 13 non-academic senior residents received training in the department during the year.
- Ten senior residents (five each from the Department of Anaesthesiology, AIIMS and Dr B.R. Ambedkar IRCH) received training in Neuroanaesthesiology for three months each as a part of interdepartmental rotation on a mutual exchange basis.
- One overseas trainee Dr Geoffrey Muiruri King'ang'a from Kenya received six months' training.

## **Neuroradiology**

### ***Academic activities***

Training for DM Neuroradiology

### ***Short-term training***

Six doctors from different hospitals of India attended short-term training in the department during the year.

## **Neuropathology Laboratory**

|               |           |
|---------------|-----------|
| Undergraduate | No change |
| Postgraduate  | No change |
| Paramedical   | Nil       |

### ***Short- and long-term training***

- Dr (Col) Prabal Deb from Army Hospital is undergoing training in Neuropathology for two years from 1 November 2003 to 30 October 2005.

- Dr Suash Sharma worked as Pool Officer in Neuropathology from 19 May 2004 to 15 January 2005.

## **Continuing Medical Education**

### *Neurosurgery*

#### **Organized by the department**

- 15th Sarveshwari Memorial Oration on 11 February 2005. Professor Tetsuo Kanno, Director, Fujita Health University was the Orator.
- 7th Microneurosurgery workshop on 11–13 February 2005. Over 200 delegates participated. Dr S.S. Kale was the Organizing Secretary.
- 26th Annual Conference of the Association for Critical Care Medicine at AIIMS on 18–19 December 2004. Professor A.K. Mahapatra was the Organizing Secretary.

#### **Lectures delivered**

The departmental faculty participated in a large number of CMEs and Updates during the year under review. Professor B.S. Sharma was the CME Coordinator of the 53rd Annual Conference of NSI held at Indore, 16–19 December 2004.

#### *Professor V.S. Mehta*

- ‘Brain tumour, past, present, future’; 7th National CME Neurosciences Update, Allahabad; 5 September 2004.
- ‘Stroke in youngsters’ in ‘Brain disorders across life span: Hopes and challenges’ at India Habitat Centre, New Delhi organized by Ranbaxy Science Foundation; 30 November 2004.

#### *Professor A.K. Mahapatra*

- ‘Gene therapy in malignant glioma’; Advanced Centre of Training and Clinical Research at Mumbai; 14 February 2005.
- ‘Craniostenosis’; CME of the Neurological Society of India at Indore; December 2004.
- ‘Prehospital care for accident victims’ to Delhi Police, PCR van and Fire Brigade every month.
- ‘Gamma knife in acoustic tumour’, CME of NES India at Lucknow; 8 October 2004.

### *Neurology*

- Organized the CME–Symposium on Mild cognitive impairment at the Annual Conference of the Indian Academy of Neurology, Nagpur 2004.
- Organized an international symposium on Sleep Medicine ‘Sleep Medicine in the 21st century’, in association with the World Association of Sleep Medicine; 11–12 February 2005.
- Organized an international conference ‘Current trends in neuromuscular disorders’ at India Habitat Centre, New Delhi; 5–7 March 2005.

## Lectures delivered

### *Dr M. Behari*

- ‘Headache—current concepts’; Indian Society for Pain Research and Therapy, Shahdara, Delhi; 8 May 2004.
- ‘A clinical and video laryngoscopic study in PD patients’; 8th International Congress of Parkinson’s Disease and Movement Disorders, Rome, Italy; 12–17 June 2004.
- ‘Voice profile and acoustic signs in Indian Parkinson’s disease patients’; 8th International Congress of Parkinson’s Disease and Movement Disorders, Rome, Italy; 12–17 June 2004.
- ‘Headache: Management by auto-relaxation’; National Conference on Mind–Body Medicine, Mount Abu, Rajasthan; 1–5 July 2004. .
- ‘Parkinsonism and other movement disorders’; Neurosciences CME, Allahabad; 5 September 2004.
- ‘Myasthenia gravis: Immunotherapy’; 8th Asian and Oceanian Congress of Child Neurology, New Delhi; 7–10 October 2004.
- ‘Botulinum toxin in movement disorders—from inhibition to initiation’; 26th Annual Conference of API-UP Chapter, Allahabad; 20–21 November 2004.
- ‘Early cognitive abnormalities in PD’; Neurological Society of India, Indore; 17–20 December 2004.
- ‘Achievements in health nutrition and biological science and its contribution for well-being of mankind’; Vigyan Bhawan, New Delhi; 27 December 2004.
- ‘Parkinson’s disease’; Ranbaxy Science Foundation 14th Round Table Conference on ‘Brain disorders across the life span: Hopes and challenges’, New Delhi; 30 November 2004.
- ‘Environmental factors in Parkinson’s disease’; 22nd Annual meeting of the Indian Academy of Neurosciences, Gwalior, MP; 28–30 January 2005.
- ‘Motor dysfunction in sleep in PD and other parkinsonism syndromes’; International symposium on ‘Sleep medicine in the 21st century’, New Delhi; 11–12 February 2005.
- ‘Acute flaccid paralysis with ophthalmoparesis’; ‘Current trends in neuromuscular disorders’, New Delhi; 5–7 March 2005.

### *Dr K. Prasad*

- ‘Reliability and validity of measurements in medical education’; Workshop on ‘Educational research methodology’ at Arabian Gulf University, Bahrain; 4–6 October 2004.
- ‘Designing research in medical education’; Workshop on ‘Educational research methodology’ at Arabian Gulf University, Bahrain; 4–6 October 2004.
- ‘Writing a research proposal in medical education’; Workshop on ‘Educational research methodology’ at Arabian Gulf University, Bahrain; 4–6 October 2004.
- ‘How to teach critical appraisal of a therapy article’; Workshop on ‘How to teach evidence-based medicine and educational research methodology’ at Arabian Gulf University, Bahrain; 3–9 January 2005.

- ‘How to teach critical appraisal of a meta-analysis article’; Workshop on ‘How to teach evidence-based medicine and educational research methodology’ at Arabian Gulf University, Bahrain; 3–9 January 2005.
- ‘How to teach diagnostic test performance characteristics’; Workshop on ‘How to teach evidence-based medicine and educational research methodology’ at Arabian Gulf University, Bahrain; 3–9 January 2005.
- ‘Descriptive and inferential statistics in medical education’; Workshop on ‘How to teach evidence-based medicine and educational research methodology’ at Arabian Gulf University, Bahrain; 3–9 January 2005.
- ‘Correlation and regression in medical education’; Workshop on ‘How to teach evidence-based medicine and educational research methodology’ at Arabian Gulf University, Bahrain; 3–9 January 2005.
- ‘Critical appraisal of a meta-analysis article’; Workshop on ‘Evidence-based medicine’ at Sultan Qaboos University, Oman; 14–19 January 2005.
- ‘Single seizure: How to manage?’; BAPICON-2005 at Motihari, Bihar; 5–6 March 2005.
- ‘Obstructive sleep apnoea and stroke’; International symposium on Sleep Medicine ‘Sleep Medicine in the 21st century’; in association with the World Association of Sleep Medicine, AIIMS, New Delhi; 11–12 February 2005.
- ‘Evidence-based approaches to management of neuromuscular disorders’; International Conference on ‘Current trends in neuromuscular disorders’, AIIMS, New Delhi; 5–7 March 2005.

*Dr M.V. Padma*

- ‘Thrombolysis in stroke’; annual conference ‘Brain Matters’ at PGIMER, Chandigarh; March 2005.
- ‘Channelopathies: Current trends in neuromuscular diseases’; an international symposium, New Delhi; March 2005.
- ‘Excessive daytime sleepiness in neurological disorders and their management’, Sleep and sleep-related disorders, New Delhi; February 2005.
- ‘Treatment of acute stroke’, Medicine Update, MAMC, New Delhi; December 2004.
- ‘Utility of multitracer PET imaging in the differential diagnosis of Parkinsonian syndromes’; Asian Oceanian Conference of Neurology (AOCN), Singapore; November 2004.
- ‘Procoagulant states in stroke’; International Neurology Update, New Delhi; September 2004.
- ‘Hyperacute thrombolysis in stroke: East vs West’; Critical Care Neurology Workshop; November 2004.
- ‘First few hours after ischaemic stroke: Management issues’; Annual UPNEUROCON, Meerut; March 2005.
- ‘Hyperacute thrombolysis in ischaemic stroke—experience at a tertiary care centre from India’; World Stroke Congress, Vancouver, Canada; June 2004.

- ‘Risk factor analysis in stroke in a north Indian cohort’; World Stroke Congress, Vancouver, Canada; June 2004.
- ‘Racial and ethnic differences in stroke perception’; World Stroke Congress, Vancouver, Canada; June 2004.
- ‘Distribution of intra- and extracranial arterial lesions in ischaemic stroke—an MRA study’; World Stroke Congress, Vancouver, Canada; June 2004.

*Dr M. Tripathi*

- ‘Intractable epilepsy’; National Medicine Update 2004, Navy Hospital, Aswini, Mumbai; November 2004.
- ‘Management and investigations in intractable epilepsy’; R.N. Khanna Oration, GSVM Medical College, Kanpur; March 2004.

*Dr Sumit Singh*

- ‘Management of headache’; UP Chapter Association of Physicians of India, summer CME, Mussoorie; August 2004.
- ‘Management of migraine’; UP Chapter API, Ghaziabad; September 2004.
- ‘Immunomodulation in neuromuscular disorders’; API Delhi Chapter; August 2004.

*Dr Achal Srivastava*

- ‘Epilepsy in children: Neurobiological, clinical and therapeutic approach’; International Summer Course at Venice, Italy; 2004.

*Dr R. Bhatia*

- ‘Hyperacute thrombolysis in acute ischaemic stroke: AIIMS experience’; 11th Asian and Oceanic Congress of Neurology, Singapore; November 2004.
- ‘Are risk factors for stroke common in first-degree relatives and spouses of stroke?’; 11th Asian and Oceanic Congress of Neurology, Singapore; November 2004.
- ‘Oculomotor palsy due to midbrain granulomas’; Annual Conference of the Neurological Society of India, Indore; December 2004.
- ‘Acute bacterial meningitis’; Critical Care Neurology Conference, Delhi; November 2004.
- ‘Spinal muscular atrophies’; Current Trends in Neuromuscular Disorders, Delhi; March 2004.

***Neuroanaesthesiology***

**Lectures delivered**

- Dash HH. ‘Neuroprotection’ in ‘Critical care in neurosciences’, New Delhi; 20–21 November 2004.
- Dash HH, Pandia MP. ‘Electrophysiologic monitoring in neurointensive care’ in ‘Critical care in neurosciences’, New Delhi; 20–21 November 2004.

- Dash HH. ‘Anaesthesia for epilepsy surgery’ at the 6th Annual National Conference of the Indian Society of Neuroanaesthesiology and Critical Care (ISNACC-2005), Chandigarh; 25–27 February 2005.
- Bithal PK. ‘Neuroradiological diagnostic procedures and anaesthetist’ at the 6th Annual National Conference of the Indian Society of Neuroanaesthesiology and Critical Care (ISNACC-2005), Chandigarh; 25–27 February 2005.
- Gupta MM, Bithal P, Chaturvedi A, Mahajan RP, Dash HH. ‘The effects of stellate ganglion block on cerebral haemodynamics measured by transcranial Doppler ultrasonography in healthy patients’ at the 6th Annual National Conference of the Indian Society of Neuroanaesthesiology and Critical Care (ISNACC-2005), Chandigarh; 25–27 February 2005.
- Radhakrishnan M, Ghosh I, Rath GP, Dash HH, Bithal PK. ‘Clinical evaluation of an indigenous volume preset and time cycled mechanical ventilator’ at the 6th Annual National Conference of the Indian Society of Neuroanaesthesiology and Critical Care (ISNACC-2005), Chandigarh; 25–27 February 2005.
- Rath GP, Dash HH. ‘Postoperative stridor in a child with ACM Type-II’ at the 6th Annual National Conference of the Indian Society of Neuroanaesthesiology and Critical Care (ISNACC 2005), Chandigarh; 25–27 February 2005.
- Bithal PK. ‘Intracranial pressure monitoring—indications, techniques, implications and complications’ at the 52nd Annual National Conference of the Indian Society of Anaesthesiologists (ISACON-2004), Bhopal; 26–30 December 2004.
- Chaturvedi A. ‘TEE guided central venous catheter tip placement’ at the 52nd Annual National Conference of the Indian Society of Anaesthesiologists (ISACON-2004), Bhopal; 26–30 December 2004.
- Pandia MP, Dash HH. ‘Acute intraoperative brain bulge’ at the 52nd Annual National Conference of the Indian Society of Anaesthesiologists (ISACON-2004), Bhopal; 26–30 December 2004.
- Ghosh I, Radhakrishnan M, Rath GP, Bithal PK, Dash HH. ‘Comparison of an indigenous volume preset ventilator with servo controlled ventilator’ at the 52nd Annual National Conference of the Indian Society of Anaesthesiologists (ISACON-2004), Bhopal; 26–30 December 2004.
- Bhagat H, Bithal PK, Dash HH, Chouhan RS, Arora R. ‘Refractory intraoperative bradycardia following phenytoin administration in a hypothermic neonate’ at the 52nd Annual National Conference of the Indian Society of Anaesthesiologists (ISACON-2004), Bhopal; 26–30 December 2004.

### ***Neuroradiology***

The department faculty participated in and delivered 5 lectures (Dr N.K. Mishra—3, Dr S.B. Gaikwad—2, Dr Ajay Garg—1) in CMEs during April 2004–March 2005.

### ***Neuropathology Laboratory***

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

Dr Chitra Sarkar organized the Gaya Prasad Symposium at the Annual Conference of IAPM, Pune, November 2004 on ‘CNS tumours: An update’.

## **Lectures delivered**

### *Professor Chitra Sarkar*

- ‘Embryonal tumours of CNS: Current concepts’; Annual Conference of IAPM, West Bengal Chapter, Kolkata; 3 October 2004.
- ‘Primary CNS lymphoma’; CME of the Annual Conference of IAPM, West Bengal Chapter, Kolkata; 1–2 October 2004.
- ‘Approach to diagnosis of myopathic disorders’; CME of the Annual Conference of IAPM, West Bengal Chapter, Kolkata; 1–2 October 2004.
- ‘Interpretation of muscle biopsy’; International CME in Neuropathology, Mumbai; 4–6 February 2005.

## **National and International Conferences**

### *Neurosurgery*

#### **Professor V.S. Mehta**

- ‘Surgery for brainstem gliomas’; National Neurosciences Conference, NIMHANS, Bangalore; 10–12 September 2004.
- ‘Giant basal anterior circulation aneurysm: Management strategies’; Annual Conference of the Skull Base Surgery Society of India, Mumbai; 6–9 November 2004.
- ‘Introduction to critical care in Neurology and Neurosurgery’; Symposium on Critical Care in Neurosciences at India Habitat Centre, New Delhi organized by Apollo Neurosciences Centre; 20 November 2004.
- ‘Brain stem tumours’; 3rd South Asian Neurosurgical Congress, Karachi, Pakistan; 17–20 March 2005.

#### **Professor A.K. Mahapatra**

- ‘Changing pattern of nosocomial infection in operated neurosurgical cases’; World Conference on Dosing of Drugs (Nurnberg, Germany).
- ‘Antibiotics policy in Neurosurgery—25 years experience’; Annual Conference of the Delhi Neurological Association; February 2005.
- ‘Changing concepts in nosocomial infections in Neurosurgery’; Sir Ganga Ram Hospital, New Delhi; March 2005.
- ‘Traumatic ophthalmoplegia’; 13th Annual Neurotrauma Conference, Ludhiana; August 2004.
- ‘Intramedullary tumours’; WFNS Tumour Conference, Jaipur; October 2004.
- ‘Anterior encephalocele’; Annual Conference of the Skull Base Surgery Society of India, Mumbai; 6–9 November 2004.
- Delivered a guest lecture in Surgery Update at Varanasi; October 2004 and also at WFNS Tumour Conference at Jaipur; October 2004.

### **Dr Sandeep Vaishya**

- ‘Back pain’—a live talk show on Doordarshan.
- ‘Spine tuberculosis’ at Mayo Clinic, Rochester, USA

### **Dr S.S. Kale**

- ‘Craniovertebral junction tuberculosis’; Australia New Zealand Education Group in Neurosurgery meeting, Canberra, Australia; March 2005.
- ‘CVJ anomalies in 632 patients—lessons learnt’; Congress of Neurological Surgeons meeting, San Francisco, USA; October 2004.
- Faculty in the ‘AO Spine Interactive and Masters Course’ in Davos, Switzerland; December 2004.
- ‘Transoral approach’; European Spine Society and ASSI meeting, Delhi; September 2004.
- Presented a paper at the ASSICON in Bangalore; January 2005.
- ‘Spine–PLIF’ one-day Seminar at Fortis Hospital, Noida; November 2004.

### **Dr A. Suri**

- ‘Image-guided spinal instrumentation’; European Spine Society and ASSI meeting, Delhi; September 2004.
- ‘Transcavernous approaches’; Annual Conference of the Skull Base Surgery Society of India, Mumbai; 6–9 November 2004.
- ‘Transcavernous approaches to intra/juxta cavernous lesions’; 3rd South Asian Neurosurgical Congress, Karachi, Pakistan; 17–20 March 2005.

### **Dr Manmohan Singh**

- ‘Image-guided brain biopsies’; Annual Conference of the Neurological Society of India, Indore; December 2004.
- ‘Paediatric brain tumours’; International Conference of Pediatric Neurology, New Delhi; October 2004.

### ***Neuroradiology***

The department faculty participated in and delivered 20 lectures (Dr N.K. Mishra—6, Dr S.B. Gaikwad—12, Dr Vipul Gupta—1, Dr Ajay Garg—1) in national conferences during April 2004–March 2005.

Dr S.B. Gaikwad was invited to the 13th course on Interventional Neuroradiology at Zurich held on 11–14 March 2005 and presented a paper on ‘Carotid angioplasty and stenting—AIIMS experience’.

### ***Neuropathology Laboratory***

Dr Chitra Sarkar was the coordinator for organizing the Neuropathology Section of the World Federation of Neurosurgical Sciences Tumour Meeting held at Jaipur; October 2004.

## **Lectures delivered**

### *National*

- Sarkar C. 'Neuronal and mixed neuronal–glial tumours: Diagnostic challenge'; WFNS Tumour Section Meeting, Jaipur; 11–13 October 2004.
- Sarkar C. 'Proliferative and apoptotic markers in CNS tumours: Uses and limitations'; WFNS Tumour Section Meeting, Jaipur; 11–13 October 2004.
- Singh AP, Sharma MC, Mehta VS, Mahapatra AK, Sarkar C. 'Clinicopathological evaluation of gemistocytic astrocytomas'; WFNS Tumour Section Meeting, Jaipur; 11–13 October 2004.
- Kukreja M, Sharma MC, Mahapatra AK, Sarkar C. 'Paediatric supratentorial glioblastomas (GBMs): Are they different?'; WFNS Tumour Section Meeting, Jaipur; 11–13 October 2004.
- Deb P, Sharma MC, Mahapatra AK, Agarwal D, Sarkar C. 'Glioblastoma multiforme with long-term survival: Report of 6 cases'; WFNS Tumour Section Meeting, Jaipur; 11–13 October 2004.
- Sridhar E, Chander B, Sharma MC, Mehta VS, Sarkar C. 'Chordoid meningiomas: A histomorphological and immunohistochemical study of 9 cases'; WFNS Tumour Section Meeting, Jaipur; 11–13 October 2004.
- Sharma S, Sharma MC, Sarkar C. 'Comparative study of topoisomerase II alpha and MIB1 labelling indices in astrocytic tumours'; WFNS Tumour Section Meeting, Jaipur; 11–13 October 2004.
- Sharma S, Sharma MC, Thakar A, Sarkar C. 'Olfactory neuroblastoma: A clinicopathological study'; WFNS Tumour Section Meeting, Jaipur; 11–13 October 2004.
- Sharma MC, Sridhar E, Gulati S, Kalra V, Sarkar C. 'Central core and mini-core disease—a rare form of congenital myopathy: An Indian experience'; Asia Oceanic Pediatric Neurology Conference, New Delhi; 7–10 October 2004.
- Sridhar E, Sharma MC, Singh S, Das T, Sarkar C. 'A rare case of desminopathy: Subtype of protein surplus myopathies'; Asia Oceanic Pediatric Neurology Conference, New Delhi; 7–10 October 2004.
- Agarwal N, Sharma MC, Behari M, Goel V, Gaikwad S, Vaishya S, Sarkar C. 'Hallervorden Spatz disease: MR and pathological findings. A report of a rare case'; Asia Oceanic Pediatric Neurology Conference, New Delhi; 7–10 October 2004.
- Sharma MC, Sridhar E, Gulati S, Kalra V, Singh S, Sarkar C. 'Sarcoglycanopathies: A clinicopathological study of 13 cases'; Asia Oceanic Pediatric Neurology Conference, New Delhi; 7–10 October 2004.
- Sharma MC, Sarkar C. 'Congenital myopathies: A clinicopathological study'; Annual Conference of the Indian Academy of Neurology, Nagpur; October 2004.
- Sarkar C. 'Current concepts in the diagnosis and prognosis of embryonal tumours'; Gaya Prasad Symposium entitled 'CNS tumours: An update', Annual Conference of IAPM, Pune; 23–25 November 2004.
- Sharma MC, Sarkar C. 'Approach to diagnosis of oligodendroglioma and oligodendroglioma-like lesions'; Gaya Prasad Symposium entitled 'CNS tumours: An update', Annual Conference of IAPM, Pune; 23–25 November 2004.

- Kukreja M, Sharma MC, Mahapatra AK, Sarkar C. ‘Tumour regulatory gene protein expression in childhood pilocytic astrocytomas’; Annual Conference of IAPM, Pune; 23–25 November 2004.
- Sharma MC, Sarkar C. ‘Pathological spectrum of congenital myopathies’; Annual Conference of IAPM, Pune; 23–25 November 2004.
- Sharma S, Sharma MC, Sarkar C. ‘Angiogenic patterns in high grade astrocytic tumours and correlation with proliferative markers’; Annual Conference of IAPM, Pune; 23–25 November 2004.
- Deb P, Sharma MC, Gaikwad S, Tripathi M, Chandra PS, Jain S, Singh VP, Sarkar C. ‘Neuropathological spectrum of Rasmussen encephalitis—study of 4 cases’; Annual Conference of the Delhi Neurological Association, New Delhi; 6–7 February 2005.
- Sridhar E, Sharma MC, Mehta VS, Sarkar C. ‘Chordoid meningioma: A clinicopathological study’; Annual Conference of the Delhi Neurological Association, New Delhi; 6–7 February 2005.
- Rishi A, Sharma MC, Mehta VS, Sarkar C. ‘Correlation of MIB-1 labeling index with recurrent potential of pituitary adenomas’; Annual Conference of the Delhi Neurological Association, New Delhi; 6–7 February 2005.

#### *International*

- Deb P, Sarkar C, Sharma MC, Singh R, Santosh V, Shankar SK. ‘Incidence and clinicopathological features of primary CNS lymphoma: An Indian profile of 24 years (1980–2003)’; Ninth Annual Meeting of the Society for Neuro-Oncology, Toronto, Ontario, Canada; 18–21 November 2004.
- Tripathi M, Chandra S, Padma M, Singh M, Shukla G, Gaekwad S, Sarkar C. ‘Concordance of interictal EEG, long-term ictal video EEG, MRI and interictal SPECT and histopathology with outcome in patients operated for intractable epilepsy’; 58th Annual Conference of the American Epilepsy Society, New Orleans, USA; 4–8 December 2004.
- Sharma S, Sharma MC, Sarkar C. ‘Angiogenic patterns and their quantitation in high grade astrocytic tumours’; Annual Conference of the United States and Canadian Academy of Pathology, San Antonio, TX; 26 February–4 March 2005.

#### **Neurobiochemistry**

PhD students: 2 as principal guides and 3 as co-guides.

#### **RESEARCH**

##### **Neurosurgery**

##### ***Funded Projects***

##### **Ongoing**

1. Non-invasive optical fibre probe near infra red spectroscopy (NIRS) for assessing brain activity. Anurag Sharma, V.S. Mehta, Aditya Gupta, B.D. Gupta, R. Malhotra. Funded by DST in collaboration with Indian Institute of Technology and National Physical Laboratory from July 2004 to December 2005. Funds: Rs 40–50 lakh.
2. Randomized, double-blind, placebo-controlled, multicentric, dose estimation study to evaluate the safety and preliminary efficiency of recombinant Factor VIIa (Novo-Seven/Nia Stase) in subjects

with brain contusion (Trial ID: F7CBI-1600). V.S. Mehta, Rajender Kumar, Aditya Gupta, Ajay Garg. Funded by Novo Nordisk for 9 months. Funds: Rs 3.67 lakh.

3. AP12009-G004 in recurrent grade III-IV glioma—a multinational and multicentric double-blind, randomized trial. A.K. Mahapatra, P.K. Julka, A. Suri, S.S. Kale, Manmohan Singh. Funded by Antisense Pharma-Germany from December 2003 to June 2006. Funds: Rs 30 lakh.

### ***Departmental Projects***

#### **Completed**

1. Study of terminal myelocystocele—study of 17 cases.
2. SPECT in hydrocephalus before and after shunt surgery.
3. Outcome of severe head injury—discharge at a vegetative state at one month.
4. Tuberculosis of CV junction—clinical, radiological analysis with outcome.
5. Intramedullary tumour—clinical, radiological analysis with surgical outcome.
6. Acoustic neuromas—surgical outcome with special reference to facial nerve preservation.
7. Prospective study of clinicopathological features and treatment outcome in giant pituitary adenomas.
8. Magnesium sulphate in long-term outcome of subarachnoid haemorrhage.

#### **Ongoing**

1. Hypothalamic abnormalities in severe head injury.
2. Extradullary compressive myelopathy: Surgical outcome.
3. Spinal vascular malformations.
4. Memory impairment after gamma knife in patients with AVMs.
5. Outcome of paraplegia/quadriplegia after surgery for extradural compressive myelopathy.
6. Magnesium sulphate in long-term outcome of severe head injury.
7. Adult spinal dysraphism.
8. Pulmonary function tests after brachial plexus neurotization.
9. Spontaneous cerebellar haematoma.
10. Transcranial Doppler in diffuse axonal injury.
11. Poor grade subarachnoid haemorrhage.
12. Solitary vertebral lesions.
13. Factors affecting postoperative seizures.

### ***Collaborative Projects***

1. A study of IL-13 and IL-4 receptors in primary meningeal tumours (with Neurosurgery and Biochemistry). Funds: Rs 10 lakh (2004–2006), ICMR.

## **Neurology**

### ***Funded Projects***

#### **Completed**

1. The development and standardization of a comprehensive dementia assessment scale. Manjari Tripathi. Funded by ICMR for 3 years (2001–2004). Funds: Rs 9.96 lakh.
2. Role of botulinum toxin injection in spasmodic dysphonia. Vinay Goyal. Funded by AIIMS for 2 years. Funds: Rs 0.25 lakh.
3. PET (FDG methionine choline) in brain tumours. M.V. Padma. Funded by Wallace-Kettering Neurosciences Center, Wright State University, Dayton, Ohio, USA for 1 year. Funds: US\$ 100,000.

#### **Ongoing**

1. High throughout single nucleotide polymorphism (SNP) genotyping in patients suffering from schizophrenia and PD. B.K. Thelma, Madhuri Behari. Funded by DBT for 3 years (2001–2004). Funds: Rs 369.3 lakh.
2. Molecular genetics of PD with special reference to PARKIN mutation in YOPD. M. Behari. Funded by ICMR for 3 years (2002–2005). Funds: Rs 26.01 lakh.
3. A longitudinal study to estimate proportion of patients with dementia and cognitive decline in PD, its clinical correlates with special reference of Apo E alleles. M. Behari. Funded by ICMR for 5 years (2002–2007). Funds: Rs 26.6 lakh.
4. Impact of nutritional strategies and multiple anti-oxidant therapy in progression and management of Parkinson disease. S. Vivekanandan. Funded by ICMR for 2 years (2004–2006). Funds: Rs 4.1 lakh.
5. Molecular study on mitochondrial dysfunction in Parkinson disease. S. Vivekanandan. Funded by ICMR for 2 years (2004–2006). Funds: Rs 12.7 lakh.
6. Open-label randomized controlled trial of ayush 56 as an add-on drug in intractable partial epilepsy. M.V. Padma. Funded by the Ministry of Health and Family Welfare for 3 years (2002–2005). Funds: Rs 6 lakh.
7. Stroke risk factors and subtypes in high altitudes: A prospective study in Ladakh. M.V. Padma. Funded by the Ministry of Health and Family Welfare for 3 years (2005–2007). Funds: Rs 25 lakh.
8. An open-label, randomized, parallel group, multicentre study to evaluate the efficacy and safety of enoxaparin versus unfractionated heparin in the prevention of venous thromboembolism in patients following acute ischaemic stroke. The PREVAIL study. M.V. Padma. Funded by Aventis Pharma for 1 year (2005–2006). Funds: Rs 12 lakh.
9. Nuclear imaging in dementia. Chetan D. Patel. Funded by IAEA for 2 years (2003–2005). Funds: Rs 3 lakh.
10. Women with epilepsy: Psychosocial aspects with intervention. Manjari Tripathi. Funded by WHO from 2003 to 2006. Funds: Rs 15 lakh.

### ***Departmental Projects***

1. Study of post-stroke epilepsy.
2. Risk factor analysis of stroke: Case-control study.
3. Delay in neurological attention and short-term outcome in acute stroke.
4. Public awareness of stroke in rural and urban populations and in stroke patients.
5. Clinical and aetiological profile of cerebral venous sinus thrombosis.
6. Autonomic function testing—normative data in Indian population.
7. Autonomic dysfunction in myasthenia gravis.
8. Sleep-related disorders in patients with tubercular meningitis—a prospective clinical, actigraphic and polysomnographic study.
9. Donepezil in vascular dementia. EISAI multicentric trial.
10. Autonomic dysfunction in Wilson disease.
11. Methyl prednisolone vs prednisolone as a therapeutic agent in Bell palsy.
12. Electrophysiological evaluation of juvenile myoclonic epilepsy.
13. Profile of chronic peripheral neuropathy.

### ***Collaborative Projects***

1. Study of peripheral neuropathy in patients of rheumatoid arthritis (with Medicine).
2. Molecular diagnosis of acute bacterial meningitis using 16s rRNA-based assay to determine the presence of Gram-positive and Gram-negative bacteria in the cerebrospinal fluid (with Microbiology).
3. Autologous marrow stem cells as a therapeutic option in muscular dystrophy—a pilot study (with CTVS, Cardiac Radiology, IRCH).
4. VATS thymectomy in myasthenia gravis (with Surgery).
5. Indian Co-operative Acute Stroke Study (ICASS). Conducted under the aegis of WHO as a part of the Global Initiative for Management of Stroke in Developing Countries (with P.M. Dalal).
6. Meta-analysis of randomized trials in surgery for intracerebral haemorrhage (with Department of Neurosurgery, Newcastle General Hospital, New Castle-upon-Tyne, UK).

### **Neuroanaesthesiology**

#### ***Departmental Projects***

##### **Completed**

1. A comparative study between pre- and postoperative pulmonary functions and diaphragmatic movements in congenital cranio-vertebral junction anomalies.
2. Perioperative outcome following posterior fossa craniectomy: A comparison between sitting and horizontal position.

3. Effect of gabapentin on postoperative pain relief and morphine consumption following lumbar laminectomy and discectomy—a randomized, double-blind, placebo-controlled study.
4. An outcome analysis of subarachnoid haemorrhage patients following craniotomy and aneurysmal clipping—2 years' experience (January 2000–December 2001).
5. Effect of stellate ganglion block on cerebral haemodynamics as measured by transcranial Doppler ultrasonography.
6. TEE-guided central venous catheter tip placement.
7. Clinical evaluation of an indigenous volume preset and time-cycled mechanical ventilator.
8. Comparison of an indigenous volume preset ventilator with servo-controlled ventilator.

### **Ongoing**

1. Anaesthetic management and surgical outcome comparison between coiling vs clipping for cerebral aneurysm surgery.
2. Comparison of clonidine and metoprolol premedication on propofol consumption guided by bispectral index.
3. Perioperative complications following trans-sphenoidal hypophysectomy.
4. Planning of early emergence in neurosurgical patients: A comparison of low dose anaesthetics.
5. ICU management of Guillain–Barre syndrome: A retrospective study.
6. Transcranial Doppler ultrasonographic study of cerebral haemodynamics, autoregulation and carbon dioxide reactivity in patients with supratentorial tumours.
7. Respiratory care of myasthenic crisis in neuro intensive care unit: Evaluation of outcome and adverse events.

### **Neuroradiology**

#### ***Departmental Projects***

#### **Completed**

1. Variations in intracranial arteries seen during catheter angiography: A prospective single-centre study.
2. Measurement of CSF flow velocity at the cerebral aqueduct by use of phase contrast magnetic resonance imaging: Technique validation and utility in the diagnosis and management of idiopathic normal pressure hydrocephalus.
3. Endovascular treatment of intracranial aneurysms.
4. Role of functional MRI in writers' cramp patients.

#### ***Collaborative Projects***

#### **Completed**

1. Role of 3-D DSA in evaluation of intracranial aneurysms (with Neurosurgery).

2. MR imaging and spectroscopy in intractable epilepsy (with Neurology and Neurosurgery).
3. MR imaging and MR spectroscopy in patients of Wilson disease (with Neurology).

### **Ongoing**

1. Venous sinus stenosis: Imaging and endovascular management (with Neurology).
2. Retrospective analysis of angio architecture of spinal vascular malformations. Treatment and follow up (with Neurosurgery).

### **Neuropathology Laboratory**

#### ***Funded Projects***

#### **Completed**

1. Medulloblastomas in children and adults: A comparative study with special reference to clinicopathological features, cell proliferation, apoptosis and their regulatory proteins. Chitra Sarkar. Funded by ICMR for 4 years (2000–2004). Funds: Rs 6 lakh (approx.).
2. P57/Kip1 in hydatidiform mole and choriocarcinoma. M.C. Sharma. Funded by AIIMS for 2 years (2002–2004). Funds: Rs 25,000.

#### **Ongoing**

1. Myopathic disorders: A comparative clinicopathological and *in vitro* proton magnetic resonance spectroscopy (MRS) study on muscle biopsies. Chitra Sarkar. Funded by ICMR for 3 years (2004–2007). Funds: Rs 6 lakh (approx).
2. Ligand-based selection from combinatorial libraries for generating recombinant antibodies to the placental (oncofoetal) isoenzymes of alkaline phosphatase: Characterization and validation in clinical cancer. Chitra Sarkar. Funded by DBT for 3 years (2005–2008). Funds: Rs 25 lakh (approx).
3. Clinical correlation of quantitative analysis and immunohistochemical localization of VEGF and hCG in the serum and placenta at different gestational ages in normal and PIH cases. Chitra Sarkar. Funded by CSIR for 3 years (2004–2007). Funds: Rs 12 lakh (approx).

#### ***Departmental Projects***

#### **Completed**

1. CD34 in glioneuronal tumours associated with epilepsy.
2. Non-functioning pituitary adenomas—clinicopathological study with special reference to ultrastructural and immuno-electron microscopic features.
3. Primary CNS lymphomas—Indian profile of incidence and clinicopathological features.
4. Clinicopathological evaluation of gemistocytic astrocytomas.
5. Clinicopathological and immunohistochemical study of rare variants of meningiomas.
6. Comparative study of topoisomerase II alpha and MIB-1 labelling indices in astrocytic tumours.
7. Clinicopathological study of olfactory neuroblastomas.

8. Clinicopathological study of sarcoglycanopathies.
9. Neuropathological spectrum of Rasmussen encephalitis.

### **Ongoing**

1. Protein aggregating myopathy—a clinicopathological and immunohistochemical study.
2. Mitochondrial myopathy—a clinicopathological and ultrastructural study.
3. Pilocytic astrocytomas—tumour regulatory gene protein expression and correlation with histopathological spectrum.
4. Congenital myopathies—clinicopathological and ultrastructural evaluation.
5. Angiogenic patterns in high grade astrocytic tumours and correlation with proliferative markers.
6. Expression of major histocompatibility complex (MHC-I and -II) and cell adhesion molecules in idiopathic inflammatory myopathies.
7. Paediatric astrocytic tumours—study of cyclin-dependent kinases and their inhibitors.

### ***Collaborative Projects***

#### **Completed**

1. Giant pituitary adenomas: A clinicopathological study (with Neurosurgery).
2. Characterization of molecular alterations in glial tumours by RAPD analysis (with Biochemistry).

#### **Ongoing**

1. Study of hypothalamic lesions in head injury (with Neurosurgery).
2. Expression of tumour suppressor gene *HIC-1* in human glial tumours and cell lines (with Biochemistry).
3. Altered DNA sequences in gliomas: Characterization of changes and context sequences with reference to tumour type (with Biochemistry).
4. Characterization of the properties of an amplified region of DNA in primary meningeal tumours (with Biochemistry).
5. Prevalence of alteration at microsatellite loci in 1p and 19q in primary human gliomas (with Biochemistry).
6. Overexpression of IL-4 and IL-13 receptors in meningiomas (with Biochemistry).
7. Study of the function of mitochondria in apoptosis and human disease (with Biochemistry).
8. A multinational multicentric open-labelled active controlled randomized parallel group dose-finding study to evaluate the efficacy of two doses of AP-12009 in adult patients with recurrent high grade glioma administered intra-tumorally as continuous high flow microperfusion over 7 days' period every other week (with Neurosurgery).

## Neurobiochemistry

### *Funded Projects*

#### Ongoing

1. Role of CYP2D6 and glutathione S-transferase M1 (GSTM1) polymorphism in multiple sclerosis patients. S. Vivekanandhan. Funded by ICMR for 3 years (2001–2004). Funds: Rs 5.8 lakh.
2. Impact of nutritional strategies and multiple antioxidant therapy of progression and management of Parkinson disease. S. Vivekanandhan. Funded by ICMR for 2 years (2004–2006). Funds: Rs 4.5 lakh.
3. Molecular study on mitochondrial dysfunction in Parkinson disease. S. Vivekanandhan. Funded by ICMR for 2 years (2004–2006). Funds: Rs 11.2 lakh.

## PUBLICATIONS

### Neurosurgery

#### *Journals*

1. Agarwal D, Gupta A, Mehta VS. Role of shunt surgery in pediatric tubercular meningitis with hydrocephalus. *Indian Pediatr* 2005;**42**:245–50.
2. Agarwal PP, Gaikwad SB, Garg A, Gupta V, Mishra NK, Mehta VS. Giant intraparenchymal neurocysticercosis: Unusual MRI findings. *Neurol India* 2004;**52**:259–60.
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4. Agrawal D, Mahapatra AK. Coagulopathy following pediatric head injury and its importance in predicting outcome. *Indian J Neurotrauma* 2004;**1**:23–6.
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6. Agrawal D, Mahapatra AK. Vertically acquired neonatal *Citrobacter* brain abscess—case report and review of the literature. *J Clin Neurosci* 2005;**12**:188–90.
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16. Gupta DK, Mahapatra AK. Endocrinal abnormalities in head injuries. *Indian J Neurotrauma* 2004;**1**:3–8.
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38. Agrawal D, Gupta A, Mehta VS, Mahapatra AK. Role of shunt surgery in pediatric TBM in hydrocephalus. *Childs Nerv Syst* 2004;**20**:660.
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35. Bhatia R, Padma MV, Srivastava D, Tripathi M, Singh MB, Srivastava AK. Hyperacute thrombolysis in acute ischaemic stroke: AIIMS experience. *J Clin Neurosci* 2004;**11**:S49.
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### **Books**

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2. Tripathi M, Mehdiratta MM (eds). *Early cognitive impairment—dilemmas of aging brain*. New Delhi: Indian Academy of Neurology; 2004.

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## Neuroanaesthesiology

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## Neuroradiology

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## Neuropathology Laboratory

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### **Abstracts**

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### **Chapters in Books**

1. Sharma S, Sharma MC, Sarkar C. Neuropathology and neurochemistry of mild cognitive impairment (MCI). In: Tripathi M, Mehndiratta MM (eds). *Early cognitive impairment—Dilemmas of an aging brain*. New Delhi: Indian Academy of Neurology; 2004:58–63.

## **Neurobiochemistry**

### **Journals**

1. Abraham S, Soundararajan CC, Vivekanandhan S, Behari M. Erythrocyte antioxidant enzyme activities in Parkinson's disease. *Indian J Med Res* 2005;**121**:111–15.
2. Shukla G, Bhatia M, Vivekanandhan S, Gupta N, Tripathi M, Srivastava A, Pandey RM, Jain S. Serum prolactin levels for differentiation of nonepileptic versus true seizures: Limited utility. *Epilepsy Behav* 2004;**5**:517–21.

## **PATIENT CARE**

### **Neurosurgery**

#### **Clinical workload**

|                             |       |
|-----------------------------|-------|
| Total number of admissions  | 3,619 |
| Total number of operations  | 3,415 |
| Total number of Gamma Knife | 205   |

***Total number of OPD cases***

|           |        |
|-----------|--------|
| New cases | 8,640  |
| Old cases | 21,679 |
| Total     | 30,319 |

***Total number of evoked potentials***

|                                 |     |
|---------------------------------|-----|
| VEP                             | 194 |
| BAEP                            | 83  |
| Intraoperative nerve conduction | 39  |

***Intraoperative procedures***

|                           |     |
|---------------------------|-----|
| Intraoperative ultrasound | 134 |
| CUSA                      | 690 |
| Intraoperative EEG        | 18  |
| Use of cell saver         | 48  |

**Neurology**

|              |               |
|--------------|---------------|
| New patients | 20,640        |
| Old patients | 37,500        |
| <b>Total</b> | <b>58,140</b> |

***Clinics***

|                         |       |
|-------------------------|-------|
| Paediatric neurology    | 6,404 |
| Movement disorders      | 3,934 |
| Neuroimmunology         | 391   |
| Stroke clinic           | 663   |
| IEC                     | 225   |
| Cognitive dementia      | 169   |
| Sleep disorders         | 141   |
| Neuromuscular disorders | 207   |
| Headache                | 67    |

***EPS laboratory procedures done from 1 April 2004 to 31 March 2005***

| <b>Test</b> | <b>Number</b> |
|-------------|---------------|
| EP          | 307           |
| EPS         | 2191          |
| STVEEG      | 279           |
| LTVVEEG     | 103           |
| Sleep       | 54            |
| Paper EEG   | 860           |
| Digital EEG | 2061          |
| ECG         | 734           |
| QST         | 231           |
| MAGSTIM     | 2             |

**Botulinum toxin therapy:** A total of 366 patients received botulinum toxin treatment for various types of dystonia and spasticity.

### ***Community services/camps***

The Department of Neurology organized the following patient awareness programmes:

1. Parkinson Disease April 2004
2. Epilepsy November 2004
3. Headache August 2004
4. Brain Storm December 2004

The faculty members routinely give talks on radio and television on neurological disorders such as migraine, Parkinson disease, epilepsy, stroke, muscle disorders, etc.

### **Neuroanaesthesiology**

#### ***Perioperative anaesthetic care***

- Anaesthetic management of 2795 operations (2037 routine and 758 emergency) was performed.
- Anaesthetic management of 312 neuroradiological procedures (198 diagnostic and 114 therapeutic) was performed.

### **Neuro Intensive Care Unit**

Intensive care of more than 4000 patients (including neurosurgical, trauma victims and critically ill neurological patients) was performed.

### **Pain Clinic**

A total of 882 patients (150 new and 732 old) were seen in the OPD; of them, 242 were treated with nerve blocks in the operation theatre.

### **Neuroradiology**

| <b>Procedure</b>                | <b>Number</b> |
|---------------------------------|---------------|
| Digital subtraction angiography | 735           |
| Gamma Knife angiogram           | 50            |
| CT: Emergency                   | 6,689         |
| Routine                         | 4,448         |
| Ultrasound                      | 1,292         |
| MRI/MR angiography              | 1,406         |
| MR (Gamma Knife and X-Knife)    | 244           |
| Plain X-rays OPD/indoor         | 18,339        |
| Private case reporting          | 4,757         |
| Interventional procedures       | 140           |
| <b>Total</b>                    | <b>39,392</b> |

### **Neuropathology Laboratory**

|                                   |       |
|-----------------------------------|-------|
| Neuropathology surgical specimens | 2,194 |
| Frozen sections                   | 298   |
| Diagnostic immunohistochemistry   | 2,179 |
| Electron Microscopy               |       |

|                              |       |
|------------------------------|-------|
| Specimens received           | 792   |
| Specimens processed for EM   | 663   |
| Muscle biopsies              |       |
| Number received              | 346   |
| Muscle enzyme histochemistry | 1,261 |
| Muscle immunohistochemistry  | 1,149 |
| Myelin stain                 | 143   |

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

### Neurosurgery

**Professor V.S. Mehta** received the Padma Shri Award from the President of India for the year 2004–2005 for contribution in the field of medicine. Professor Mehta was nominated a Member of the World Academy of Neurological Surgeons; Treasurer—Neurological Society of India; Editor—*Neurology, Neurosurgery, Psychiatry* (Indian edition) from 2001 till date; Associate Editor—*Acta Neurochirurgica* from 2003 till date; Editorial Board Member—*Current Medical Trends, Neurosciences Today* till date.

**Professor A.K. Mahapatra** was conferred Fellowship of the National Academy of Science, India, October 2004. He received the Pan Arab Journal of Neurosurgery Travelling Fellowship to attend the World Congress at Morocco. Professor Mahapatra was the Secretary, Neurotrauma Society of India, 2002–2005; Secretary, Skull Base Surgery Society; Geographic Editor, *Child's Nervous System*.

**Dr Ajay Kurve** received the Best Poster Award at the 13th Annual Neurotrauma Conference, Ludhiana, August 2004.

**Dr Deepak Agrawal** was awarded the 2nd Best Poster Award at the 13th Annual Neurotrauma Conference, Ludhiana, August 2004.

**Professor B.S. Sharma** was the Editor, *Progress in Clinical Neurosurgery*; Treasurer, Skull Base Surgery Society of India; Coordinator of a CME—Neurological Society of India; Executive member—Neurological Society of India.

**Dr S.S. Kale** developed and launched the Department of Neurosurgery website 'AIIMS-Neurosurgery'.

### Neurology

**Professor M. Behari** has been elected a Fellow of the National Academy of Medical Sciences in 2005.

**Professor K. Prasad** was made a WHO Temporary Adviser from 5 to 12 December 2004 in Abu Dhabi, United Arab Emirates.

**Dr A.K. Srivastava** received the Best Paper Award of the Association of Indian Neurologists in America (AINA) at the 56th Annual Conference of the American Academy of Neurology at San Francisco, USA in 2004; a scholarship for Young Physicians to attend the 5th World Stroke Congress at Vancouver, Canada in 2004; the International League Against Epilepsy (ILAE) Bursary to attend the International Summer Course on 'Epilepsy in children: Neurobiological, clinical and therapeutic approach' at Venice, Italy, 2004; the Young Participants Fellowship to attend the Asian Oceanian Symposium on Clinical Neurophysiology at Chiang Mai, Thailand, 2004. Dr Srivastava was granted overseas membership of the American Association of Electrodiagnostic and Neuromuscular Medicine and became a Member of the World Association of Sleep Medicine.

**Dr V. Goyal** has been re-elected for the third time as Joint Secretary of the Tropical Neurology section of the Indian Academy of Neurology, at the IAN annual meeting held at Nagpur in September 2004.

## **Neuroradiology**

**Dr N.K. Mishra** was elected President of the Indian Society of Neuroradiology.

**Dr S.B. Gaikwad** was elected Joint Secretary of the Indian Society of Vascular and Intervention Radiology (ISVIR) and Indian Society of Neuroradiology (ISNR).

## **Neuropathology Laboratory**

**Dr Chitra Sarkar** has been nominated as Member of the Editorial Board of *Neurology India*; Member of the DST Selection Committee for DST Awards for participation in the meeting of Nobel Laureates and students in Lindau, Germany. Dr Sarkar continues as member of the Scientific Advisory Committee and Academic Committee, National Brain Research Centre (NBRC); Institute body and Governing body of Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Thiruvananthapuram; Sectional Committee, Indian Academy of Sciences for selection of fellows of the academy (medical sciences); Expert Panel on Fast Track Proposals of the Young Scientist Programme of the DST; Technical Development Committee, SCTIMST, Thiruvananthapuram; Executive Member of the Delhi Neurological Association (DNA); Member of Subject Expert Committees (SECs), Women Scientist Scheme-A (WOS-A) of the Department of Science and Technology (DST).

### ***Best paper awards received by students***

**Dr Prabal Deb** received the Best Paper Award in Neurology for the paper entitled 'Neuropathological spectrum of Rasmussen encephalitis' at the Annual Conference of the Delhi Neurological Association, New Delhi; 6-7 February 2005.

**Dr E. Sridhar** received the Best Paper Award in Neurosurgery for the paper entitled 'Chordoid meningioma: A clinicopathological study' at the Annual Conference of the Delhi Neurological Association, New Delhi; 6-7 February 2005.

## **VISITING SCIENTISTS**

### **Neurosurgery**

1. Professor T. Kanno from Fujita Health University, Japan.
2. Dr Yoko Kato from Fujita Health University, Japan.
3. Dr R.P. Sengupta, Consultant Neurosurgeon, Newcastle General Hospital, UK.
4. Professor Atul Goel, Department of Neurosurgery, K.E.M. Hospital, Parel, Mumbai.

### **Neurology**

1. Dr Vineeta Singh, Assistant Professor, Department of Neurology, San Francisco, visited the department and delivered a guest lecture on 'Management of status epilepticus' in December 2004.
2. Dr Prassana Jayakar, Department of Neurology, San Francisco, visited the department and gave a guest lecture on 'Medically refractory epilepsy' in December 2004.

### **Neuroanaesthesiology**

1. Dr Rose Mary Craen, Associate Professor, Anaesthesiology, University Hospital, London, Ontario, Canada visited the department.

2. Dr Shailendra Joshi, Assistant Professor, Anaesthesiology, Columbia University, New York, USA, visited the department and delivered a lecture.

### **Neuropathology Laboratory**

Dr Hans Goebel, Professor, Department of Neuropathology, Johannes Gutenberg University Medical Center, Mainz, Germany was officially invited to participate in the Asian-Oceanic Paediatric Neurology Conference. He delivered a lecture entitled 'Neuronal ceroid lipofuscinosis: Current perspectives'.

### **NEUROBIOCHEMISTRY**

The number of laboratory investigations carried out for neurology patients during 1 April 2004 to 31 March 2005 in the various disciplines is as follows:

#### **Clinical chemistry**

| <b>Investigation</b>                    | <b>Number of samples/year</b> |
|---|-------------------------------|
| Glucose (fasting, post-prandial/random) | 34,600                        |
| Urea                                    | 34,600                        |
| Creatinine                              | 34,600                        |
| Calcium                                 | 21,600                        |
| Phosphorus                              | 21,600                        |
| Total/direct/indirect bilirubin         | 21,600                        |
| Total protein                           | 21,600                        |
| Albumin                                 | 21,600                        |
| AST                                     | 21,600                        |
| ALT                                     | 21,600                        |
| Alkaline phosphatase                    | 21,600                        |

#### **Haemogram**

| <b>Investigation</b> | <b>Number of samples/year</b> |
|----------------------|-------------------------------|
| Haemoglobin          | 26,300                        |
| PCV                  | 13,100                        |
| RBC                  | 13,100                        |
| Reticulocytes        | 13,100                        |
| Platelets            | 19,800                        |
| WBC                  | 19,800                        |
| WBC—differential     | 19,800                        |
| ESR                  | 16,100                        |

#### **Coagulation profile**

| <b>Investigation</b> | <b>Number of samples/year</b> |
|----------------------|-------------------------------|
| PT                   | 2,650                         |
| APTT                 | 2,650                         |
| Fibrinogen           | 980                           |

## Other enzymes

| Investigation | Number of samples/year |
|---------------|------------------------|
| CK            | 1,800                  |
| CK-MB         | 1,800                  |
| LDH           | 1,800                  |

## Lipid profile

| Investigation     | Number of samples/year |
|-------------------|------------------------|
| Cholesterol—total | 4,100                  |
| Cholesterol—HDL   | 4,100                  |
| Cholesterol—LDL   | 4,100                  |
| Cholesterol—VLDL  | 4,100                  |
| Triglycerides     | 4,100                  |

## Antiepileptic drugs

| Investigation | Number of samples/year |
|---------------|------------------------|
| Phenytoin     | 1,832                  |
| Carbamazepine | 1,772                  |
| Valproic acid | 2,019                  |
| Barbiturates  | 349                    |

## Hormone profile

| Investigation | Number of samples/year |
|---------------|------------------------|
| T3            | 4,100                  |
| T4            | 4,100                  |
| TSH           | 4,650                  |
| GH            | 1,370                  |
| Cortisol      | 1,050                  |
| Prolactin     | 2,100                  |
| LH            | 400                    |
| FSH           | 400                    |

## Other investigations

| Investigation                          | Number of samples/year |
|--|------------------------|
| Neurocysticercosis                     | 260                    |
| <i>M. tuberculosis</i> : IgA, IgG, IgM | 230, 230, 230          |
| Myelin basic protein                   | 210                    |
| Oligoclonal bands of CSF IgG           | 210                    |
| ANA                                    | 2,100                  |
| ANCA                                   | 2,100                  |
| RA Factor                              | 2,500                  |

## **Copper metabolism**

| <b>Investigation</b> | <b>Number of samples/year</b> |
|----------------------|-------------------------------|
| Serum copper         | 203                           |
| Urinary copper       | 153                           |
| Caeruloplasmin       | 672                           |

## **Myasthenia gravis**

| <b>Investigation</b>            | <b>Number of samples/year</b> |
|---------------------------------|-------------------------------|
| Acetylcholine receptor antibody | 105                           |
| MuSK antibody                   | 45                            |

## **DNA diagnostic test**

| <b>Investigation</b>                              | <b>Number of samples/year</b> |
|---|-------------------------------|
| Apo E genotyping (Alzheimer disease)              | 435                           |
| CYP2C9 and 19 PCR diagnostic test (epilepsy)      | 100                           |
| Mitochondrial common deletion (Parkinson disease) | 210                           |
| CYP2D6 C2938T polymorphism in PD                  | 420                           |

## 10.6 Dr Rajendra Prasad Centre for Ophthalmic Sciences

### Chief

H.K. Tewari  
(superannuated on 31 July 2004)

S. Ghose  
(w.e.f. 1 August 2004)

### Professors

Raj Vardhan Azad  
Subhash M. Betharia  
Yog Raj Sharma  
Ramanjit Sihota

Rasik Behari Vajpayee  
Sat Paul Garg  
Atul Kumar  
Nargis F. Jaffery  
(Ocular Biochemistry)  
(superannuated on 30 November 2004)

Vimla Menon  
Anita Panda  
Pradeep Sharma

### Additional Professors

Gita Satpathy  
(Ocular Microbiology)  
G.V.S. Murthy  
(Community Ophthalmology)  
Rajpal  
Jeewan Singh Titiyal

Dilip Shende  
(Ocular Anaesthesiology)  
S.K. Gupta  
(Community Ophthalmology)  
Mahesh Chandra  
Radhika Tandon

N.R. Biswas  
(Ocular Pharmacology)  
Niranjan Nayak  
(Ocular Microbiology)  
Mandeep Singh Bajaj

### Associate Professors

Seema Sen  
(Ocular Pathology)  
S.K. Arya  
(Hospital Administration)

Seema Kashyap  
(Ocular Pathology)  
Sudarshan Khokhar

Sanjay Sharma  
(Ocular Radiology)

### Assistant Professors

Praveen Vashist  
(Community Ophthalmology)  
Namrata Sharma  
Viney Gupta

T. Velpandian  
(Ocular Pharmacology)  
Pradeep Venkatesh  
Rohit Saxena

Jasbir Kaur  
(Ocular Biochemistry)  
Neelam Pushker  
Tanuj Dada

## EDUCATION

| Undergraduates | Postgraduates  | Paraclinical  | Scientists/<br>Pool Officers/<br>Sr Research Associates |
|----------------|--|---|---|
| MB,BS 60       | MD 24 passed<br>PhD 3<br><i>Senior Residents</i><br>Ophthalmology 25<br>Ocular anaesthesia 5<br>Radiodiagnosis 1<br>Medical Officer 2<br>(Casualty-cum-Eye Bank) | BSc (Hons)<br>Ophthalmology<br>course 32<br>(9 students passed) | Scientists/<br>Pool Officers 9                          |

## Short- and long-term training

Fifty-nine ophthalmologists from various parts of the country including 9 WHO fellows and 9 in training of trainers programme (ECCE/IOL) were trained in different fields of specialization.

## Continuing Medical Education

During the year the centre organized following Conferences/Seminars/Workshops:

|   |                      |
|---|----------------------|
| Phacoemulsification   | 21–22 April 2004     |
| Intellectual property rights: How and why?  | 23 July 2004         |
| Advanced Education Programme for contact lens practitioners                                   | 7–8 August 2004      |
| Cornea and refractive surgery   | 16–17 September 2004 |
| Cornea and small incision cataract surgery  | 23–25 September 2004 |
| Mechanical conditioning of 3-D skeletal muscle constructs                                     | November 2004        |
| Sentinel surveillance and reorientation training on MIS in NPCB                               | 18–19 November 2004  |
| Meeting of the Coordination Committee of the ORBIS-supported programme for management courses | 9 December 2004      |
| Eye care programme managers   | 3–29 January 2005    |
| Symposium on Eye Banking  | 18 March 2005        |
| Symposium on Community Ophthalmology  | 21–22 March 2005     |

The faculty participated in various scientific forums, delivered 111 lectures including keynote addresses, and chaired 71 scientific sessions.

## RESEARCH

### Funded Projects

#### Completed

1. Molecular characterization of *Streptococcus pneumoniae* isolates causing various infections in human beings. Gita Satpathy. Funded by ICMR from 2001 to 2004. Funds: Rs 24 lakh.
2. Estimation of PGE<sub>2</sub> and Substance P in tears in normal individuals and patients with diabetes. N.R. Biswas. Funded by AIIMS from 2002 to 2004. Fund: Rs 50,000.
3. p53 expression in sebaceous gland carcinoma of the eyelid—an immunohistochemical study. Seema Kashyap. Funded by AIIMS from 2003 to 2004. Funds: Rs 30,000.

#### Ongoing

1. Ocular kinetic study of newer fluoroquinolones measured by HPLC. N.R. Biswas. Funded by DST from 2002 to 2005. Funds: Rs 14.18 lakh.
2. Evaluation of topical cyclosporin A in prevention of corneal graft rejection. R.B. Vajpayee. Funded by ICMR from 2002 to 2005. Funds: Rs 14 lakh.

3. Phenotypic and molecular characterization of ocular isolates of coagulase-negative staphylococci: Implications in colonization and virulence. N. Nayak. Funded by ICMR from 2002 to 2005. Funds: Rs 8,48,205.
4. Amniotic membrane transplantation in acute ocular burns: A randomized controlled clinical trial. Radhika Tandon. Funded by ICMR from 2003 to 2006. Funds: Rs 12.27 lakh.
5. Novel molecular diagnostic for eye diseases and low vision enhancement devices (with CSIR). Gita Satpathy. Funded by ICMR from 2003 to 2005. Funds: Rs 25 lakh.
6. Diagnostic approaches for rapid and specific diagnosis of *Mycoplasma pneumoniae* infections in asthmatics. N.R. Biswas. Funded by DST from 2004 to 2007. Funds: Rs 16.8 lakh.
7. Ultrasound biomicroscopic study in primary angle closure glaucoma families. R. Sihota. Funded by ICMR from 2004 to 2005. Funds: Rs 2,79,720.
8. Evaluation of the biodisposition of xanthophylls in Indian donor eyes and detection of their content in commonly available fruits and vegetables. T. Velpandian. Funded by DST from 2005 to 2007. Funds: Rs 9.8 lakh.
9. Standardization of antifungal susceptibility testing for filamentous fungi and characterization of drug-sensitive and drug-resistant fungal isolates in mycotic keratitis. N. Nayak. Funded by ICMR from 2005 to 2007. Funds: Rs 5,40,132.
10. Evaluation of waveform characteristics and visual acuity in infantile nystagmus and the changes induced by its management. Pradeep Sharma. Funded by ICMR from 2005 to 2007. Funds: Rs 3 lakh.

## **Departmental Projects**

### ***Completed***

1. Role of minimally invasive image-guided therapies in treatment of focal liver neoplasms.
2. Evaluation of orbital implants with enucleation in retinoblastoma.
3. Whole globe retrieval vs corneal button excision. A prospective comparative study for development of strategies to increase donor cornea procurement.
4. Clinico-microbiological significance in dacryocystitis.
5. Ontogenic profile of human lens crystallins and antibodies to gamma-crystallins in cataract.
6. Demographic profile and management outcome in patients with iridofundal coloboma.
7. Optical coherence tomographic evaluation of diabetic macular oedema.
8. Posterior subtenon injection of steroids in patients with diffuse diabetic macular oedema.
9. Evaluation of autonomic function in central serous retinopathy.
10. Role of C3F8 in the prevention of rebleed following diabetic vitrectomy.
11. A prospective clinical evaluation of augmented Anderson procedure for idiopathic infantile nystagmus.
12. Comparison of conventional occlusion therapy with penalization in anisometropic amblyopia.

13. Comparison of full-time and part-time occlusion in moderate amblyopia.
14. Evaluation of single-stage adjustable surgery.
15. Effect of acupuncture on waveform characteristics and visual acuity in idiopathic infantile nystagmus.
16. Evaluation of stereopsis in patients with strabismus.
17. A study to evaluate various parameters for early detection of ethambutol-induced optic neuropathy.
18. Comparative study of single muscle surgery versus two-muscle surgery in exotropia.
19. Endoscopic nasal evaluation of dacryocystitis with prospective randomized comparison of endonasal and external dacryocystorhinostomy.
20. Nasal endoscopy in congenital dacryocystitis.
21. Prognostic indicators for functional recovery in orbital cellulitis.
22. Evaluation of MMC in the reconstruction of contracted socket.
23. Experimental evaluation of *neem* + oil—a new polyherbal drug with antimicrobial potential.
24. Experimental evaluation of Teensal (a new ayurvedic antimicrobial agent) for ocular infections.
25. Evaluation of amniotic membrane grafting in the reconstruction of contracted socket.
26. Intubation vs non-intubation DCR in chronic dacryocystitis.
27. Evaluation of mitomycin-C (MMC) application along with pericanalicular dissection (PCD) in the management of common canalicular block.
28. Evaluation of hydroxyapatite as an orbital implant.
29. Evaluation of orbital and adnexal cysticercosis.
30. A clinical trial on evaluation of ICG-guided selective thermotherapy in the treatment of subfoveal neovascular membrane in the ARMD.
31. Indocyanine green angiographic (ICG) characterization of choroidal pathological changes in ARMD and traumatic macular degeneration and its correlation with visual function.
32. A prospective clinical trial comparing transpupillary thermotherapy and photodynamic therapy in treatment of occult subfoveal choroidal neovascularization in age-related macular degeneration.

### ***Ongoing***

1. Evaluation of clinical and ultrasound biomicroscopic features of eyes with closed globe injury with glaucoma.
2. Evaluation of eyelid tumour with ultrasound biomicroscopy.
3. To evaluate demographic profile of donor and clinical and microbiological spectrum of donor corneas.
4. Evaluation of mitomycin-C application in conjunctival mucosal graft beds in the reconstruction of contracted socket.
5. Epidemiological study on ocular trauma in urban slum population of Delhi.
6. Epidemiological study on pterygium in rural population.

7. PCR assay in rapid diagnosis of mycotic keratitis: Comparison with standard microbiological diagnostic methods.
8. Evaluation of intravitreal ofloxacin concentrations after oral administration in laboratory proven (culture and PCR) bacterial endophthalmitis patients.
9. PCR assay in rapid diagnosis of bacterial keratitis: Comparison with standard microbiological diagnostic methods.
10. Evaluation of gatifloxacin in treatment of donor corneas for corneal transplantation.
11. Role of carbon dioxide angiography in evaluation of peripheral vascular disease.
12. The role of percutaneous vertebroplasty in management of painful vertebral lesions.
13. Evaluation of role of MDCT, CT angiography and bronchial artery embolization in management of haemoptysis.
14. A multicentre, randomized, double masked, controlled study to evaluate the safety and efficacy of an intravitreal flucinolone acetate implant (international study).
15. Ind EYE study: Epidemiological evaluation of age-related macular degeneration in the Indian population (international study).
16. Optical coherence tomographic evaluation of uveitic macular oedema.
17. Optical coherence tomographic evaluation of patients with choroidal neovascular membrane secondary to ARMD following TTT and PDT.
18. Diabetic retinopathy awareness and visual function assessment in patients with diabetes retinopathy.
19. Comparative evaluation of safety and efficacy of different methods of posterior subtenon injection in uveitis.
20. Evaluation of prevalence and clinical characteristics of ocular manifestations of HIV patients.
21. Evaluation of different methods of colour vision testing.
22. Studies on corneal lidocaine metabolism in the cornea.
23. Evaluation of topical penetration of cyclo-oxygenase inhibitors and their utility in corneal neovascularization.
24. Development of animal models for diabetic retinopathy.
25. Chemical and biological evaluation of colours used in the festival of Holi in Delhi.
26. Quantification of mitomycin-C in ocular tissues in patients undergoing glaucoma infiltration surgery.
27. Ocular penetration of topically applied moxifloxacin and gatifloxacin eye drops.
28. Evaluation of mitomycin-C stability at different temperatures, pH, concentrations by HPLC and its efficacy by flowcytometry.
29. Evaluation of waveform characteristics and visual acuity in infantile nystagmus and the changes induced by its management.
30. Correlation of eyelid tumours by ultrasound biomicroscopy along with histopathological correlation.

31. Evaluation of optic nerve head topography in normal and glaucoma patients using optical coherence tomography.
32. Assessment of RFNL using scanning laser polarimeter and optical coherence tomography in POAG.
33. Evaluation of levator plication from conjunctival route.
34. Evaluation of long-term effects of silicone intubation of the lacrimal system.
35. Role of mitomycin-C in an ophthalmic contracted socket repair.
36. Prognostic factors in blow-out fractures of the orbit.
37. Evaluation of visual status and corneal topography in simple congenital ptosis and its changes after surgery.
38. Comparative evaluation of oral angiography by scanning laser ophthalmoscope and digital camera.
39. OCT hole form factor as a predictor of surgical outcome in ICG-stained ILM peeling in the treatment of full-thickness macular holes.
40. To study the role of optical coherence tomography to guide laser photocoagulation in diabetic macular oedema.
41. Scleral buckling versus pars plana vitrectomy, in patients with rhegmatogenous retinal detachment in phakic eyes, which are not complicated by proliferative vitreoretinopathy grade C or greater (PCR study).
42. A prospective clinical trial comparing transpupillary thermotherapy and photodynamic therapy in treatment of occult subfoveal choroidal neovascularization in age-related macular degeneration with moderate visual loss (<6/18).
43. Prospective randomized evaluation of triamcinolone, trypan blue and conventional induced posterior vitreous detachment during pars plana vitrectomy.
44. Ofloxacin levels in vitreous of PPV.
45. RD surgery vs pars plana vitrectomy in retinal detachment.
46. OCT in the management in diabetic maculoedema.
47. ICG-assisted ILM peeling in macular hole—role of OCT.
48. Functional and anatomical outcomes of vitrectomy for diabetic vitreous haemorrhage with or without tractional retinal detachment.
49. Vitreous levels of gatifloxacin after systemic administration in inflamed and non-inflamed eyes.
50. Efficacy of chemotherapy on adding cyclosporin to our four-drug regimen in the management of retinoblastoma.
51. Correlation of visual evoked potential with clinical features and severity of ventriculomegaly in hydrocephalus.
52. Evaluation of mucous membrane grafting (MMG) in the reconstruction of contracted socket.
53. Clinico-aetiological profile and follow-up of children with optic atrophy. Ocular changes in patients with hydrocephalus and craniosynostosis.

## **Collaborative Projects**

### ***Completed***

1. Development of National Registry of Eye Care Infrastructure and Human Resource (with National Programme for Control of Blindness, Government of India).
2. Epidemiology of age-related eye disease in India: A feasibility study (with London School of Hygiene and Tropical Medicine).
3. Case management of reproductive tract infections in India. An analysis of clinical protocols and cost (with Obstetrics and Gynaecology).
4. Comparison of bone SPECT and MRI in the diagnosis and follow-up of spinal tuberculosis (with Nuclear Medicine).
5. Therapeutic drugs monitoring of rifampicin in chronic renal failure patients and its clearance during haemodialysis (with Nephrology).
6. Analysis of nicotinic content in tooth powders (with Delhi Institute of Pharmaceutical Sciences and Research, Pushp Vihar, New Delhi).
7. Moxifloxacin intraocular kinetics after oral administration (with Arvind Eye Hospital, Madurai).
8. Comparative trial of ayurvedic and allopathic therapy for spasticity and paralysis—a randomized controlled study (with Neurology and CCRAS, New Delhi, Department of AYUSH, Ministry of Health and Family Welfare, Government of India).

### ***Ongoing***

1. Prognostic markers in retinoblastoma—an immunohistochemical study (with Paediatric Oncology and IRCH).
2. Epidemiology of age-related eye disease in India—INDEYE (with London School of Hygiene and Tropical Medicine).
3. Situational analysis of human resource and eye care infrastructure for childhood blindness, refractive errors and low vision in India (with ORBIS International).
4. A National Surveillance Unit has been established at the Community Ophthalmology Department, Dr R.P. Centre, under the National Programme for Control of Blindness.
5. A Sentinel Surveillance Unit has been established at the Dr R.P. Centre, AIIMS, under the National Programme for Control of Blindness.
6. LCIF Sight First supported Manpower and Management development project (with Lions Club International Foundation).
7. Open-label, randomized trial to evaluate the efficiency of Ayush-56 as an add-on drug in intractable partial epilepsy (with Neurology and CCRAS, New Delhi, Department of AYUSH, Ministry of Health and Family Welfare, Government of India).
8. Validation of algorithms proposed by NACO for syndromic management of urethral and vaginal discharge in a tertiary care centre in northern India (with Dermatology and Venereology).

9. Role of radiological and microbiological work-up in the clinical evaluation of abdominal infections in the immunocompromised (with Haematology).
10. Impact of preoperative vascular evaluation by Doppler ultrasound on early failure rate of AV fistula in haemodialysis patients (with Surgical Disciplines).
11. Radiofrequency ablation of small breast tumours (with Surgical Disciplines).
12. Dosimetric and therapeutic evaluation of transarterial Rhenium-188 in cases of inoperable liver cancer (with Nuclear Medicine).
13. Evaluation of vitreous humour as a marker fluid for the quantification of the drugs in post-mortem cases (with Forensic Science Laboratory, Delhi).
14. Evaluation of low plasma levels of imatinib as an indicator for the therapeutic failure in chronic myeloid leukaemia (with Dr B.R. Ambedkar IRCH).
15. Etoposide levels in the chemotherapy of retinoblastoma in paediatric cases (with Paediatric Oncology, Dr B.R. Ambedkar IRCH).
16. Evaluation of bupivacaine concentration in biological samples (with Anaesthesia, IRCH).
17. ADVANCE (Action in Diabetes and Vascular Disease), retinal measurements study (international study) (with Endocrinology).
18. Limbal stem cell culture—establishment of standardization of limbal stem cells culture technique according to standard international norms (with Biochemistry).

## **PUBLICATIONS**

### **Journals**

1. Agarwal HC, Gupta V, Sihota R. Evaluation of contact versus non-contact diode laser cyclophotocoagulation for refractory glaucomas using similar energy settings. *Clin Exp Ophthalmol* 2004;**32**:33–8.
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## Abstracts

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## PATIENT CARE

### Hospital services

|              | <b>New cases</b> | <b>Old cases</b> | <b>Total</b>    |
|--------------|------------------|------------------|-----------------|
| General OPD  | 1,12,837         | 86,646           | 1,99,483        |
| Emergency    | 44,750           | —                | 44,750          |
| <b>Total</b> | <b>1,57,587</b>  | <b>86,646</b>    | <b>2,44,233</b> |

### Specialty clinics

|                          |       |       |        |
|--------------------------|-------|-------|--------|
| Cornea                   | 5,532 | 5,281 | 10,813 |
| Lens                     | 358   | 192   | 550    |
| Uvea                     | 868   | 1,467 | 2,335  |
| Contact lens             | 780   | 686   | 1,466  |
| Glaucoma                 | 2,673 | 7,010 | 9,683  |
| Ophthalmoplasty          | 2,934 | 1,461 | 4,395  |
| Paediatric ophthalmology | 956   | 384   | 1,340  |
| Trauma                   | 837   | 436   | 1,273  |
| Retina                   | 3,143 | 1,880 | 5,023  |
| Neuro-ophthalmology      | 1,354 | 748   | 2,102  |

|                         |                 |                 |                 |
|-------------------------|-----------------|-----------------|-----------------|
| Medical ophthalmology   | 1,629           | 1,858           | 3,487           |
| Vitreo-retinal          | 1,578           | 1,025           | 2,603           |
| Ocular surface disorder | 87              | 69              | 156             |
| Orthoptic               | 6,373           | 32,011          | 38,384          |
| Squint                  | 5,408           | 33,907          | 39,315          |
| Refraction              | —               | 55,352          | 55,352          |
| <b>Total</b>            | <b>34,510</b>   | <b>1,43,767</b> | <b>1,78,277</b> |
| <b>Grand total</b>      | <b>1,92,097</b> | <b>2,30,413</b> | <b>4,22,510</b> |

### Operations

|              |               |
|--------------|---------------|
| Major        | 17,659        |
| Minor        | 6,514         |
| <b>Total</b> | <b>24,173</b> |

### Indoor patients

The centre has 301 beds including 21 paying beds.

### Indoor admissions

|                       | <b>Number</b> |
|-----------------------|---------------|
| General ward          | 16,701        |
| Casualty              | 1,481         |
| Private ward          | 1,400         |
| Short admissions      | 2,379         |
| Day care admissions   | 2,352         |
| <b>Total</b>          | <b>24,313</b> |
| Average bed occupancy | 83%           |

### Investigative laboratories

|                               |        |
|-------------------------------|--------|
| Fluorescein angiography + ICG | 6,910  |
| Ultrasonography               | 19,048 |
| EOG                           | 82     |
| ECG                           | 1,497  |
| PRP                           | 4,807  |
| Focimetry                     | 14,095 |
| Applanation tonometry         | 12,856 |
| Goldmann perimetry            | 2,292  |
| Low vision aid                | 1,993  |
| Automated perimetry           | 4,916  |
| ERG                           | 1,296  |
| EUA                           | 179    |
| VER                           | 4,283  |
| Keratometry                   | 26,101 |
| Colour vision                 | 1,735  |
| Ultrasonic pachymetry         | 5,294  |
| Non-contact tonometry         | 10,337 |
| Indirect ophthalmoscopy       | 5,010  |

|   |        |
|---|--------|
| Nd: YAG laser                             | 2,433  |
| PDT                                       | 269    |
| TTT                                       | 61     |
| Auto refraction                           | 34,098 |
| Contrast sensitivity + Glare test         | 2,102  |
| Corneal topography (Orbscan)              | 2,332  |
| Axial length                              | 24,793 |
| Excimer work-up (Lasik) [New + Old cases] | 3,652  |
| Refraction                                | 60,823 |
| Contact lenses (Old + New)                | 2,465  |
| Fundus photography                        | 1,562  |
| ENG and VNG                               | 83     |
| Retinal camera (Ret. CAM.)                | 267    |

### **Ocular Radiology**

|  |        |
|--|--------|
| X-rays                                       | 11,917 |
| Special investigations (DCG)                 | 13     |
| CT scans (done in the main X-ray department) | 374    |

### **Ocular Microbiology**

|   |        |
|---|--------|
| Specimens processed                         | 12,082 |
| Bacterial culture and sensitivity           | 7,475  |
| Fungal culture                              | 2,316  |
| <i>Acanthamoeba</i> culture                 | 94     |
| Cytology                                    | 512    |
| Viral antigen detection                     | 316    |
| <i>Chlamydia</i> culture                    | 303    |
| <i>Chlamydia</i> antigen detection by DFA   | 376    |
| <i>Chlamydia</i> antigen detection by ELISA | 264    |
| PCR ( <i>Chlamydia</i> )                    | 266    |
| PCR (corneal ulcer and endophthalmitis)     | 160    |
| <i>Chlamydia</i> serology                   | 9      |

### **Ocular Pathology**

|                                   |        |
|-----------------------------------|--------|
| Total investigations              | 27,135 |
| Blood (TLC, DLC, PBS, ESR, BT/CT) | 13,237 |
| Histopathology and cytopathology  | 8,804  |
| Urine                             | 4,171  |

### **Ocular Biochemistry (Clinical Chemistry)**

|               |        |
|---------------|--------|
| Total samples | 20,109 |
| Indoor        | 16,824 |
| Outdoor       | 3,285  |

## **Ocular Pharmacology and Pharmacy**

|                                       |        |
|---------------------------------------|--------|
| Eye drop vials dispensed              | 60,520 |
| MK Media for Eye Bank                 | 605    |
| Cyclosporin eye drops—vials dispensed | 2,515  |

## **Eye Bank**

|   |     |
|---|-----|
| Donor eyes received                     | 703 |
| Surgery performed                       | 605 |
| Unsuitable for clinical transplantation | 98  |

## **Community Ophthalmology**

### ***Eye care services in slums***

|   |       |
|---|-------|
| Slums covered for comprehensive eye care services | 10    |
| Attendees at OPDs in slum clinics                 | 9,309 |
| Refractions carried out in OPDs in slum clinics   | 3,837 |

### ***Reach-in Programme***

|                                      |        |
|--------------------------------------|--------|
| Adult screening camps organized      | 25     |
| Patients examined                    | 5,018  |
| Patients operated at R.P. Centre     | 1,137  |
| Follow-up camps organized            | 28     |
| Follow-up patients examined          | 1,278* |
| Paediatric screening camps organized | 6      |
| Children examined                    | 502    |
| Children operated at R.P. Centre     | 13     |

### ***School Eye Screening (SES) Programme***

|                   |       |
|-------------------|-------|
| Schools covered   | 5     |
| Teachers trained  | 30    |
| Students examined | 2,289 |

\* This figure also includes patients who have been operated in the previous year.

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

**Professor S. Ghose:** Nominated Senior Vice-President of the Local Organizing Committee for the forthcoming Annual Conference of the Delhi Ophthalmological Society, April 2004; Member, Expert Committee Meeting for BSc (Hons) in Ophthalmic Techniques, Indira Gandhi National Open University, Delhi, June 2004; Member to conduct the interview for the post of Faculty, Public Service Commission, Allahabad, UP, March and July 2004; Appointed as Chief, Dr R.P. Centre w.e.f. 31.7.2004 and subsequently as Hony. Advisor of Ophthalmology to the Ministry of Health and Family Welfare, Government of India; Indian Expert to Nepal in connection with the construction of an Eye Hospital in Nepal, September 2004; Awarded in appreciation of the Centre's exemplary contribution towards elimination of avoidable blindness in India on the occasion of World Sight Day, October 2004; Expert Member to consider a representation for Custom Duty Exemption on Ophthalmic equipment (invited

by DGHS), December 2004; Continued to be Member of the Expert Committee on Ophthalmology at the Central Council for Research in Ayurveda and Siddha, New Delhi.

**Professor H.K. Tewari:** Awarded Distinguished Service Award by Delhi Medical Association on Doctor's Day, 1 July 2004; Member, Programme Advisory Committee (PAC) under National Programme for Control of Blindness, Ministry of Health and Family Welfare, Government of India up to July 2004; Editorial Advisor for Delhi Ophthalmological Society's monthly magazine (*DOS Times*), 2004; Continued to be President, All India Ophthalmological Society.

**Professor Rajvardhan Azad:** Member, International Advisory Board, AMD Alliance and Speaker, Bureau meeting at Barcelona, Spain, 10–12 June 2004; Member, Advisory Board for *DOS Times*, June 2004; Awarded Rustom Ranji Oration Medal at the Annual Conference of APSOS, October 2004; Awarded Dr A.N. Pandeya Oration Award at the Annual Conference of Bihar Ophthalmological Society, November 2004; Awarded Silver Jubilee Research Award for the year 2003 by the Medical Council of India for original and outstanding work in the field of Medical and Allied Sciences done in India, January 2005; Member, Editorial Board, *Indian Journal of Ophthalmology*, January 2005; Honorary Advisor to Armed Forces Medical Services in Ophthalmology, February 2005; Member, Council of Asia Pacific Academy of Ophthalmology (APAO), March 2005; Regional Secretary, Council of Asia Pacific Academy of Ophthalmology (APAO) during its meeting held in Kuala Lumpur, Malaysia, 27–31 March 2005; Continued to be: (i) President, National Board of Examinations, (ii) President, Vitreo-retina Society of India, (iii) Secretary General, All India Ophthalmological Society, (iv) Member, Governing Council, National Academy of Medical Sciences, (v) Member, Governing Council, Royal College of Surgeons, Edinburgh (Indian Chapter), (vi) Member, Staff Council, AIIMS, (vii) Member, Dean's Committee, AIIMS, (viii) Member, Editorial Board NPCB, Ministry of Health and Family Welfare, Government of India, New Delhi.

**Professor Rasik B. Vajpayee:** Awarded Best of Show Award for the annual meeting video programme, Annual meeting of American Academy of Ophthalmology, 2004; Awarded the S.N. Mitter Oration by the Delhi Ophthalmological Society, 2004; Awarded the L.P. Agarwal Oration by the Delhi Ophthalmological Society, 2004; Chief Instructor, Instruction Course at the annual meeting of the American Academy of Ophthalmology, New Orleans, 23–26 October 2004; Reviewer: *Journal of Cataract and Refractive Surgery*, *Graefe's Archives for Clinical and Experimental Ophthalmology*, *Clinical and Experimental Ophthalmology*, *Indian Journal of Ophthalmology*, *American Journal of Ophthalmology*, *Postgraduate Journal of Medicine*, 2003–2004.

**Professor Nargis F. Jaffery:** Continued to be: (i) Reviewer, Scientific papers/projects for ICMR, (ii) Expert in 'State Crisis Group' for chemical accidents (emergency, planning, preparedness and response) by the Government of the National Capital Territory (NCT) of Delhi, (iii) Member (expert), Central Crisis Group, Alert System, Red Book (Government of India, Ministry of Environment and Forests), (iv) Expert Member, Task Force, Central Council for Research in Ayurveda and Siddha (Department of AYUSH, Ministry of Health and Family Welfare, Government of India), New Delhi.

**Professor Y.R. Sharma:** Vice-President, Local Organizing Committee, DOS, April 2004; Continued to be: (i) Member, EHS Advisory Committee, AIIMS, (ii) Member, Horticulture and Sanitation Committee, AIIMS.

**Professor Pradeep Sharma:** Selected on Doctor NDTV online of the NDTV channel, 2004; Member, *Indian Journal of Strabismology and Pediatric Ophthalmology*, 2004; Editorial Consultant, *Indian Journal of Strabismus and Pediatric Ophthalmology*, 2004; Member, Editorial Board, *DOS Times*, New Delhi, 2004.

**Professor Ramanjit Sihota:** Awarded (jointly with Dr T. Dada and Dr V. Gupta) a Silver Plate for a poster presentation at the 7th European Glaucoma Society Congress, Florence, Italy, 30 May–4 June 2004. Continued to be Member, Glaucoma Advisory Council, ICMR.

**Dr N.R. Biswas:** Secretary, Clinical Pharmacology of the Indian Pharmacological Society for 2005–2008.

**Dr J.S. Titiyal:** Awarded the Distinguished Resource Teacher of the Society by the Delhi Ophthalmological Society, April 2004; Expert Committee Member, Council of Scientific and Industrial Research (CSIR), New Delhi, May 2004; Advisor to the Union Public Service Commission, Specialist Ophthalmology Board, New Delhi, July 2004; Awarded Major (Dr) S.C. Dutta Oration on ‘Limbal stem cell graft in corneal disorders’ by the Ophthalmological Society of West Bengal, XXXV Annual State Conference, Kolkata, October 2004.

**Dr G.V.S. Murthy:** President, Indian Alumini Group of ICEH, London, 2004; Reviewer for the *Indian Journal of Ophthalmology*. Continued to be (i) Member, Academic Resources Advisory Committee of the National Programme for Control of Blindness, (ii) Member, Editorial Board of *NPCB Bulletin*, (iii) Member, Editorial Board of the *Journal of Community Eye Health* (Indian Edition), (iv) Secretary, Eye Care Initiative, a forum for public health ophthalmologists in India, (v) Member, Editorial Committee of the *Journal of Ophthalmology-UP*, (vi) Member of INDIACLEN.

**Dr Sanjeev K. Gupta:** Awarded for outstanding services to the people of India in the field of Community Ophthalmology by the National Society for the Prevention for Blindness—India, New Delhi, 2003–2004. Continued to be (i) Treasurer, Eye Care Initiative, a forum for public health ophthalmologists in India, (ii) Member of INDIACLEN, (iii) Member, Research Committee, AIIMS.

**Dr Radhika Tandon:** Elected Chairperson of the North Zone Eye Bank Association of India; Member, Core Group for the introduction of OSCE style examination by the National Board of Examinations.

**Dr Rajpal:** Chief Coordinator, National Board of Examinations, May 2004. Continued to be Executive Member, Ocular Trauma Society of India.

**Dr Seema Sen:** Awarded a Fellowship at the Doheny Eye Institute, University of Southern California, Los Angeles, February 2005; Member, International Society of Ocular Oncology.

**Dr Sanjay Sharma:** Nominated a Fellow of the Royal College of Radiologists (FRCR), London, November 2004.

**Dr Namrata Sharma:** Awarded Best of Show Award as a co-author of the video ‘Keratoglobus: Tuck it in’ for the annual meeting video programme, Annual Meeting of the American Academy of Ophthalmology, 2004; Awarded 100 DCRS credit prints at the Delhi Ophthalmological Society Annual Meeting, April 2004; Co-instructor, Instruction Course at the Annual Meeting of the American Academy of Ophthalmology, New Orleans, 23–26 October 2004; Member Executive, Delhi Ophthalmological Society for the year 2004–2005; Reviewer for the *Postgraduate Journal of Medicine*, 2004–2005.

**Dr Pradeep Venkatesh:** Awarded the Professor Narsing Rao award for the Best Paper presentation at the Annual meeting of the Uveitis Society of India (USI), Chandigarh, 2004.

**Dr Tanuj Dada:** Awarded (jointly with Professor R. Sihota and Dr V. Gupta) a Silver Plate for the Best Poster presentation at the 7th European Glaucoma Society Congress, Florence, Italy, 30 May–4 June

2004; Awarded (jointly with Professor R. Sihota, Dr V. Gupta and Dr D. Tuli) the A.C. Agarwal Trophy for the Best Free Paper at the DOS Meeting, New Delhi, 3–4 April 2004.

**Dr Jasbir Kaur:** Continued to be Expert Member, Task Force, Central Council for Research in Ayurveda and Siddha (Department of AYUSH, Ministry of Health and Family Welfare, Government of India), New Delhi.

**Dr Viney Gupta:** Awarded (jointly with Professor R. Sihota, Dr T. Dada and Dr D. Tuli) the A.C. Agarwal Trophy for the Best Free Paper at the DOS Meeting, New Delhi, 3–4 April 2004; Awarded (Jointly with Professor R. Sihota and Dr T. Dada) a Silver Plate for the Best Poster presentation at the 7th European Glaucoma Society Congress, Florence, Italy, 30 May–4 June 2004.

### **Significant events**

In appreciation of the Centre's exemplary contribution towards elimination of avoidable blindness in India, Chief, Dr R.P. Centre received an award on World Sight Day, October 2004.

The day care facility was made operational and a total of 2352 admissions were made in this facility.

Under the National Programme for Control of Blindness, the National Surveillance Unit has been established in Community Ophthalmology w.e.f. 1.4.2004. Funded by the WHO, this unit is responsible for coordination with all the Sentinel Surveillance Units across the country, compilation of data and periodic analysis, and supervision and monitoring.

The National Registry of Eye Care infrastructure and Human Resources was developed and published by the NPCB in collaboration with the Community Ophthalmology Section, Dr R.P. Centre. A similar registry for paediatric eye care services, corneal blindness and refractive errors is being developed, in collaboration with ORBIS India w.e.f. 1.4.2004.

The National Eye Donation Awareness Fortnight was held from 25 August to 8 September 2004.

A facility for keratoprosthesis surgery was introduced for patients not suitable for corneal transplantation.

A telemedicine facility on the ground floor adjacent to Casualty, Dr R.P. Centre has been established.

The Clinical Pharmacokinetic Laboratory has been upgraded with the latest equipment.

A tissue and cell culture/stem cell culture facility is being established at Ocular Biochemistry, Dr R.P. Centre.

Various units have been reshuffled (dated 2 September 2004) and the OPD days have also been rescheduled. Each unit basically has their single designated wards with 36 beds each, the beds being common for men, women and paediatric patients.

The dispensing time at the Pharmacy has been extended from 8.30 am to 6.00 pm without a lunch break.

A Glaucoma Laboratory was established with facilities for a nerve fibre analyser by GDx, optic disc tomography by HRT-II, achromatic perimetry (HVF), shortwave automated perimetry, frequency double perimetry (FDPT), ultrasound biomicroscopy (UBM), ocular blood flow tonometry, pneumatic tonometry.

## **VISITING SCIENTISTS**

1. Dr Akash Patnaik, USA.
2. Professor Astrid Fletcher, London School of Hygiene and Tropical Medicine, UK.
3. Ms Christine Stroebel, Quality Assurance Specialist at ORBIS International, New York.
4. Dr D.B. Dhaulakhandi, Department of Ophthalmology and Visual Science, Kentucky Eye Centre, University of Louisville School of Medicine, USA.
5. Professor Giovanni Maraini, University of Parma, Italy.
6. Dr G.V. Rao, Country Director of ORBIS International, India.
7. Dr I.P. Bhagwat, Senior Programme Manager, ORBIS International National, India.
8. Mr Jason Woody, Lions Eye Bank, Florida, USA.
9. Dr Liu, UK.
10. Dr Monica Camparini, University of Parma, Italy.
11. Ms Preeti Singh, Training Specialist, ORBIS International National, India.
12. Mr R.D. Thulasiraj, Executive Director, LAICO, Madurai.
13. Professor S.D. Varma, Director of Research, Department of Ophthalmology, University of Maryland, Baltimore, USA.
14. Dr S. Lalitha, Aravind Eye Hospital, Madurai.
15. Ms Suzanne Sebert, DC 10 FEH Director, ORBIS International National, New York.
16. Ms Tania Cigogni, Staff Nurse, ORBIS International National, New York.
17. Professor Usha Chakravarthy, Queen's University, Belfast, Northern Ireland.
18. Ms Venus Barak, Administrative Coordinator, ORBIS International National, New York.
19. Dr Vittorio Sylvestri, Queen's University, Belfast, Northern Ireland.
20. Ms Weahua Li, Staff Ophthalmologist, ORBIS

## 11.1 B.B. Dikshit Library

### Professor-in-Charge

P. Chopra  
(up to 31 May 2004)

R.L. Bijlani  
(w.e.f. 1 June 2004)

### Chief Librarian

R.P. Kumar

### Librarians

Pupinder Kumari

Banwari Lal

## EDUCATION

### Continuing Medical Education

1. Around 10 students of Master of Library Science (MLibSc) from Sri Venkateswara University, Tirupati visited the library on 21 March 2005 to observe its working.
2. A batch of around 45 Bachelor of Library Science (BLibSc) and MLibSc students from Panjab University, Chandigarh visited the library on 22 March 2005 to observe its working.
3. A batch of fellows of WHO–NCD training programme was briefed about the working of the library for 3 days (15–17 December 2004).
4. Two WHO fellows from the Institute of Paramedical Science, University of Medical Technology, Myanmar visited the library in November 2004 to observe its working.

### Timings and membership

The library is being kept open round the clock (24 hours) on all days of the week including Sundays and holidays w.e.f. 1 August 2003. It has 2000 regular members on its roll. On an average, 685 readers consult the library every day.

### Services

The library continued to extend the following services to the users. These services are not only modernized and updated but also further strengthened.

#### *Books alert service*

This is a monthly listing of new books, monographs and pamphlets added to the library.

#### *Periodical alert service*

This is a fortnightly listing of new periodicals received in the library during the previous fortnight.

#### *Bibliographies on demand*

The staff of the library compiles bibliographies on various topics as and when demanded by the readers.

### ***Interlibrary loan services***

Interlibrary loan services with several local libraries are being maintained to help users to procure documents that are not available in the library.

### ***Reprographic services***

During the year, 1,89,830 pages were xeroxed on a payment basis as a service to the readers.

### ***CD-ROM printout services***

During the year, 1454 computer printouts containing abstracts of articles were made available to the readers on a payment basis.

### ***Book bank***

The Book Bank continues to serve undergraduates and Interns. The total membership of the Book Bank is 53. The Book Bank has 2411 books which are issued on a long-term basis to the students.

### ***Microforms section***

The library is equipped with two microfilm readers and one microfilm/microfiche reader-cum-printer. The library has 1627 microforms in its collection.

### ***Audiovisual section***

The library has four colour television sets and four video cassette recorders. The number of video cassettes available in the library is 314. This section also has four audio cassettes playback decks and 125 audio cassettes. The number of floppy diskettes is 262.

### ***CD-based service***

The library has different databases on CD-ROM, i.e. MEDLINE, BIOETHICSLINE, CINAHAL and NEUROSCIENCES. Different encyclopaedias and dictionaries have also been acquired on CD-ROM. The number of titles on CD-Disc is presently more than 528.

### ***CD-NET***

A CD-NET workstation became operational in the library in January 1993. At a time, 18 users can search the different databases loaded in a CD-NET tower with 28 drives. The library is among the few pioneers in the country to install such a facility.

### ***Library automation***

The library has ALPHA Digital Personal Workstation DPW 433 AU with sixteen terminals, one laser printer, one line printer and three local dot matrix printers. The various housekeeping operations viz. acquisition, cataloguing, serial control and circulation have been automated. The library is using a commercially available software package named LIBSYS.

### ***Computerized theses search***

About 4785 theses received so far in the library can be retrieved through computer search. Information about theses such as author, title, department, guide's name, co-guides and other bibliographical details have been fed into the computer.

## **Online journals**

The library is receiving 196 online journals from their publishers for consultation by the readers along with their print version.

## **OPAC (Online Public Access Catalogue)**

All the records from 1985 onwards are searchable through computer, 4785 theses received so far in the library can also be retrieved through Online Public Access Catalogue (OPAC). Other databases searchable through OPAC are video cassettes, audio cassettes and compact discs. 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 OPAC.

## **Multimedia**

The library is having two multimedia sets. Few multimedia titles are also available.

## **E-mail**

The library is actively participating in DELNET (Developing Library Network). An e-mail modem has been provided by DELNET for communicating with other libraries. Besides this, the library also has e-mail connection provided by the Institute.

## **Internet**

Internet facility is available in the library from 10.00 am to 10.00 pm from Monday to Friday and till 8.30 pm on Saturdays. Eighteen nodes are available to the users.

## **New additions**

The library added 627 new books to its collection, taking the total to 68,943 books. Also 1600 bound volumes of journals and 902 pamphlets/reports were added to the collection. The total number of bound volumes of journals and reports/pamphlets increased to 62,595 and 16,068, respectively. The library is annually subscribing to 475 journals on various fields of health sciences, 196 of them are also being received online along with their printed version. Twenty journals subscribed on behalf of the National Drug Dependence Treatment Centre, are also being received in the library.

## **New ventures**

1. A documentation centre containing the publications of the faculty was set up.
2. A library containing Hindi books mostly published in health sciences was set up. In the current year, 181 titles in Hindi were added.

## **PUBLICATIONS**

### **Chapters in Books**

1. Srivastava D, Kumar RP. Webometrics: An overview. In: Ambuja R, Raghavan KS, Seetharama S (eds). *Information and knowledge management in health sciences*. New Delhi:Medical Library Association of India; 2004:197–202.

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

**Dr R.P. Kumar** was nominated as a Member of the Indian Association of Special Libraries and Information Centres (IASLIC) for the Golden Jubilee Celebrations Committee; the Member of Advisory Committee of the National Convention of Medical Library Association of India, (MLAI-2004); the Editor-in-Chief of *MLAI Bulletin*, an official organ of the Medical Library Association of India. He was elected as the Secretary of the Medical Library Association of India (MLAI) for the year 2004–06. He continued as the Chief Editor of *MLAI News*, a quarterly publication of the Medical Library Association of India.

Dr Kumar was invited to chair a Scientific Session during the International CALIBER-2005 held at Kochi from 2–4 February 2005. He was invited to deliver a key note address and acted as the Director of the seminar on the ‘Role of professional associations in library development’ organized by the Medical Library Association of India on 29 August 2004 at Pragati Maidan, New Delhi during the Delhi Book Fair. He attended the 9th Biannual Conference of the Australian Society for History of Medicine held at Auckland, New Zealand from 16 to 19 February 2005 and chaired a scientific session.

## 11.2 Cafeteria

### Chairperson

Deputy Director (Administration)

### Faculty-in-Charge

M.P. Sharma  
(up to 30.04.2004)

O.P. Kharbanda  
(w.e.f. 14.05.2004)

### Accounts Officer

R.C. Sharma

### General Manager

S.K. Kaushik

### Deputy General Manager

K.K. Sharma

## AIMS AND OBJECTIVES

The AIIMS Cafeteria, established in 1972, provides wholesome food at reasonable prices to AIIMS employees. In 1983, it was registered with the Director of Canteen, Department of Personnel and Training, Government of India. In October 1991, the Cafeteria was taken over by the Institute and since then all employees are treated at par with AIIMS employees. Since then, the Cafeteria is being run on a No Profit, No Loss basis, without any financial assistance from the Institute.

## MANAGEMENT COMMITTEE

A managing committee is constituted by the Director of AIIMS for policy decisions that pertain to the Cafeteria Department, from time to time. The following are the members of the committee:

- |                                       |                 |
|---------------------------------------|-----------------|
| 1. Deputy Director, Administration    | Chairperson     |
| 2. Dr S. Rastogi                      | Member          |
| 3. Dr V.K. Paul                       | Member          |
| 4. Dr Bir Singh                       | Member          |
| 5. Shri Mayank Sharma, Sr F.A.        | Member          |
| 6. Shri R.G. Garg, F.A.               | Member          |
| 7. Shri Rajesh Kumar, S.E.            | Member          |
| 8. Shri R.C. Sharma, A.O.             | Member          |
| 9. Smt Preeti Ahluwalia, W.O.         | Special Invitee |
| 10. Smt Rekha Sharma, Chief Dietician | Member          |

|  |                  |
|--|------------------|
| 11. Representative of RDA                    | Member           |
| 12. Representative of Officer Association    | Member           |
| 13. Representative of Nurses Union           | Member           |
| 14. Representative of Karamchari Union       | Member           |
| 15. Representative of FAIMS                  | Member           |
| 16. Dr O.P. Kharbanda                        | Member Secretary |
| 17. Shri S.K. Kaushik, General Manager, Cafe | Member           |

Dr M.P. Sharma, who was Faculty-in-charge, Cafe, retired from service w.e.f. 30.04.2004. In his place, Dr O.P. Kharbanda has been nominated by the Director as Faculty-in-charge, Cafe.

### **SERVICE FACILITIES**

The Cafeteria runs 7 units for services to about 9000 employees of the Institute.

1. Main Cafeteria (24 hours service), situated near Jawahar Lal Nehru Auditorium
2. Main Operation Theatre Cafeteria, situated on the 9th Floor of the main hospital
3. CNC Cafeteria, situated on the 2nd Floor of the Centre.
4. Dr R.P.C. O.T. Cafeteria, situated on the 5th Floor of the Centre.
5. Casualty Extension Counter, situated at main casualty.
6. Faculty Room Cafeteria, situated near the Main Cafeteria.
7. Staff Canteen, situated near Dr RPC Eye Centre.

In addition, the Cafeteria provides services to the Director, Deputy Director, Medical Superintendent, Dean and Faculty Members for their day-to-day as well as special requirements for important meetings.

### **STAFF STRENGTH**

Eighty-eight employees are appointed in the Cafeteria Department on regular as well as ad hoc/temporary basis. Catering services are also provided to official meetings, conferences and symposia held at AIIMS.

### **ANNUAL TURNOVER**

The total annual turnover of the Cafeteria Department is approximately Rs 1 crore 22 lakh.

### **DEVELOPMENT ACTIVITIES**

Several changes were brought about in the Cafeteria Department during the year under review.

#### **Extended facility at the CNC Cafeteria**

- Services extended up to 10 pm in two shifts.
- Microwave facility provided.
- New items added in the daily menu.

## **Faculty room**

### ***Ambience***

Several improvements were made to the ambience in the Faculty Room, resulting in many-fold increase of users. Overall, the Faculty Members appreciated the facilities provided here.

### ***Hot food trolley***

A Hot Food service trolley is provided to serve lunch.

### ***Microwave facility***

A microwave facility is provided in the Faculty Room.

## **New equipment installed**

Hot food service trolley, and tea, snacks service trolley is provided for healthy, hygienic services to the Institute employees.

## **New food items introduced**

Low calorie/low cholesterol eatables such as *idli* were introduced.

A special lunch @ Rs 15 per *thali* consisting of the following menu is provided to the Institute employees.

- (a) *Paneer* preparation
- (b) Seasonal vegetable
- (c) *Dal/Chana/Rajma/Kadhi pakora*
- (d) *Rice pulao*
- (e) *Raita/Dahi vada*
- (f) *Roti* (two)
- (g) *Kheer/Halwa/Gulab Jamun/Rasgula*

## **Future plans**

There is a proposal for complete renovation of the Cafeteria, to be equipped with the latest technology to maintain more healthy and hygienic conditions in the Cafeteria Department.

## 11.3 Central Workshop

### Faculty Coordinator

T.P. Singh

### Senior Technical Officer

S.K. Kamboj

### Technical Officers

Rajiv Rastogi

Kalu Ram

Sunder Lal

Harbans Lal

(up to 31.8.2004)

The Central Workshop has been actively engaged in the repair and maintenance of instruments used for medical education, scientific research and hospital services during the period under review. In spite of an increased load of above-mentioned activities, the Workshop has continued to cater for fabrication and design of a number of new instruments.

The Central Workshop has the following Technical Sections:

1. Electronics Section
2. Electrical and Refrigeration Section
3. Mechanical Section
4. Glass Blowing Section
5. Carpentry Section
6. Painting Section

### FABRICATION AND GUIDANCE

The Central Workshop has contributed significantly in research activities of the Institute through the servicing of instruments and fabrications of various gadgets. It has been possible in many cases to design and fabricate some of the items, which were previously imported from abroad by the departments, with locally available components using the know-how in the Central Workshop. A total of 65 jobs of fabrication were completed. The Central Workshop also provides support for the repair and maintenance of various new instruments developed by the Central Workshop as well as those procured from outside.

### REPAIR AND MAINTENANCE

The Central Workshop has been carrying out the repair and maintenance of all types of biomedical instruments which include Electro-Surgical Unit, ECG Machine, PUVA, UV Spectrophotometer, Electronic Weighing Machine, Audiometer, Ultrasound Therapy Unit, OT Light, Tissue Processor, Cold Centrifuge, Light Source, Microscope, Suction Machine, Spares of OT Table and Surgical Equipment installed in various departments, Double Distillation Unit, Alcohol Distillation Glass Apparatus, Glass Moulds and other sophisticated scientific glass instruments.

The Central Workshop has helped in the construction of a hyperbaric chamber for experimental works for the Department of Surgery.

A Perspex sheet chamber with an aluminium frame and multiple access windows was also fabricated by the Central Workshop.

Testicle balls were fabricated by the Central Workshop, which were used by the Department of Paediatric Surgery.

The Central Workshop has also helped the Department of Cardiothoracic and Vascular Surgery for the fabrication of a Camera Mounting Arm.

The Central Workshop has been accepting repairing and painting jobs for all hospital furniture such as Patient Beds, Patient Lockers, IV Stand, Instrument Trolleys, Fowler Beds, etc. In the year 2004–2005, the Central Workshop has attended to a total number of 6692 jobs.

A total of 6750 jobs were completed on repair and fabrication during the period under review.

## 11.4 K.L. Wig Centre for Medical Education and Technology

**Professor-in-Charge**

Kusum Verma

**Coordinator**

Rita Sood

**Educationist**

B.V. Adkoli

**Chief Technical Officer (Scientist IV)**

A.K. Panjanani  
(retired on 30.6.2004)

**Education Media Generalist**

Yogesh Kumar

**Educational Graphic Designer**

Sunita Gadde

To substitute some of the CMET Adjunct Faculty who retired or left the Institute, 10 new members were inducted from various departments, viz. Drs Nalin Mehta (Physiology), Kalpana Luthra (Biochemistry), Manju Aron (Pathology), Arti Kapil, Lalit Dar (Microbiology), S.K. Maulik (Pharmacology), Rajesh Malhotra (Orthopaedics), Rajiv Agarwal (Paediatrics), Rajiva Gupta (Medicine) and Ms Sandhya Gupta (Nursing).

### **EDUCATION**

As a part of the MSc Nursing programme launched by the College of Nursing, 20 lectures were arranged by CMET on 'Educational technology'.

One WHO fellow from Bangladesh, 6 fellows from Sri Lanka and 2 fellows from Myanmar underwent Fellowship Programme at the centre. CMET took part in the WHO-NCD Fellowship Programme organized by AIIMS.

### **Continuing Medical Education**

CMET organized three in-house workshops on 'Enrich your presentation'. The target group consisted of faculty members, senior residents, scientists and secretarial staff from various departments of AIIMS. Two in-house workshops were organized by the AIIMS faculty on 'Principles of teaching learning and assessment' and 'MCQ and item analysis'. A workshop was also held on 'How to write a paper' for the faculty and resident doctors of AIIMS.

CMET organized a 5-day workshop to 'Field test health ethics modules' developed jointly by CMET and other SEARO countries in June 2004.

A postgraduate seminar was organized for the Department of Physiology. Two journal club seminars were also organized.

### **National and International Conferences**

- Mr Yogesh Kumar organized workshops on 'Digital Photography' (5 sessions), 'Video Editing' (5 sessions) and 'Enrich Your Presentation' (3 sessions) in collaboration with the International Conference of the Association of Minimal Access Surgeons of India (AMASICON-2005).
- Dr Rita Sood acted as a resource person for the training workshop on 'PPTCT of HIV' and delivered 6 lectures during these workshops in Chennai in October 2004.
- Dr Rita Sood and Dr B.V. Adkoli participated in the preparatory consultation meeting for the establishment of South Asia FAIMER Regional Institute; Christian Medical College, Vellore; 6–7 December 2004.
- Dr B.V. Adkoli delivered a guest lecture on the 'Profile of health educator' during the International Conference on 'Quality Health Care in Changing Environment'; Seth G.S. Medical College of KEM Hospital, Mumbai; 4–6 February 2005.

### **RESEARCH**

#### **Funded Project**

##### ***Ongoing***

1. Health systems reform and ethics. Private practitioners in poor urban neighbourhoods in India, Indonesia and Thailand. Kusum Verma. Funded by DANIDA for 3 years. Funds: Rs 29 lakh.

### **PUBLICATIONS**

#### **Journals**

1. Mendis L, Adkoli BV, Adhikari RK, Huq MM, Qureshi AF. Postgraduate medical education in South Asia. *BMJ* 2005;**328**:779.
2. Seeberg J, Verma K, Mehta M, Dutta R, Addlakha R. Family autonomy and patient rights to healthcare in an 'Asian values' context. *Folk: J Danesh Ethnographic Soc* 2003;**45**:87–104.
3. Srivastava A, Dhar A, Aggarwal CS Why MCQs? *Indian J Surg* 2004;**66**:246–8.

### **MEDIA PRODUCTION**

#### **Details of media production for the year 2004–2005**

| <b>Type of media produced</b> | <b>Number of requisitions</b> | <b>Quantity</b> |
|-------------------------------|-------------------------------|-----------------|
| Clinical photography          | 534                           | 2,937           |
| X-ray, specimens, gels, etc.  | 693                           | 7,189           |

|   |     |                   |
|---|-----|-------------------|
| Photographic prints (black and white, and colour)                     | 511 | 7,834             |
| Scanning of images  | 659 | 13,423            |
| Video recording, editing (non-linear) including tape to CD conversion | 305 | 305 jobs          |
| Art work and posters—large format, coloured                           | 376 | 376               |
| Book binding, paper cutting and offset printing                       | 17  | 64,00,000 approx. |

CMET also provided photographic and audio coverage to all orations, major events; onscreen presentation facility was extended to the needy departments on specific request.

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Dr Kusum Verma** was invited as a temporary advisor to a workshop by SEARO-WHO to obtain a feedback from PIs and to revise the SEAR Health Ethics Teaching Guidelines held at Bangkok, Thailand in August 2004. As a result of this consultative meeting, modules for teaching ethics have been finalized, and WHO-SEARO is in the process of distributing these to all medical institutions in the region.

**Dr Rita Sood** was conferred Membership of the National Academy of Medical Sciences. She is on the International Advisory Panel for the book *Kumar and Clark's Clinical Medicine* published by Elsevier. She was appointed as Consultant (short-term) to UNICEF for revision of the training modules for 'PPTCT of HIV' Programme of the Government of India.

**Dr B.V. Adkoli**, Educationist, acted as a member of the Expert Committee appointed by the Ministry of External Affairs, Government of India for the preparation of curriculum for the introduction of Emergency Health Management. He was also awarded the degree of Master of Medical Education (MMEd) from the University of Dundee, UK.

**Radhika Tandon**, Additional Professor, Ophthalmology remained on the panel of examiners in Ophthalmology for the Royal College of Surgeons, Edinburgh. She also remained a member of the core group of examiners of the National Board of Examinations for the introduction of OSCE for the final part (Practical) of DNB Ophthalmology.

CMET played a major role in organizing Institute Day Exhibition on the theme 'Life-style related diseases'. As a part of the Health Awareness Week organized by the DGHS, Ministry of Health and Family Welfare for the honourable parliamentarians, CMET contributed for the poster session held at Parliament annexe for 1 week (6–11 December 2004). The posters prepared by CMET were also displayed at various premises such as OPD/CN Centre wards and various health exhibitions, such as 'Aspirations 2004' held at Ashok Hotel and 'Health Mela' in the Rai Bareilly district of UP in collaboration with HRIDAY-SHAN.

Assistance was provided by CMET to the Department of CTVS in making video clippings on Cardiac Surgical Procedures, which were published on the CTS website (<http://www.ctsnet.org>).

Two video films were produced for the Paediatric Nephrology Department entitled 'Peritoneal dialysis' and 'Kidney biopsy', which were used for the International Paediatric Nephrology Training course held on 26–28 November 2004 and copies were distributed.

## 11.5 Computer Facility

### **Deputy Director (C.F.)**

R.S. Tyagi

### **Systems Analysts**

S. Kailash

S.N. Ragu Kumar

Satish Prasad

### **Senior Programmers**

Sushil Kumar Meher

Sanjay Gupta

Vinay Pande

V.K.Jindal

### **Programmer**

Hari Shankar

## **EDUCATION**

### **Postgraduate**

Computer programming, covering both the theoretical and practical aspects, was conducted for postgraduate students of Biotechnology, Biophysics and College of Nursing. The department also conducted Bioinformatics classes for students of the Department of Biotechnology. The department provides training for Armed Forces officers deputed to study Medical Informatics in the department. This training is for a period of two years. The department provided more than 90 telemedicine consultancies with various hospitals in the country through satellite.

### **Undergraduate**

A three-month course on the basics of computers, Internet, Windows applications, computer-aided learning, database and Biostatistics was given to BSc (Hons) final year nursing students of the Institute. A computer course for BSc Nursing (Post-certificate) students was also conducted during this year.

### **Continuing Medical Education**

The faculty participated in and delivered lectures on continuing medical education programmes, symposia, international and national conferences during the year. They also guided various software projects of students of Computer Applications (BCA, BE, MCA and MCM) from various engineering colleges in and outside Delhi. The department organized lectures by faculty members of the Institute for medical colleges/hospitals in the country through videoconferencing.

### **National and International Conferences**

#### ***International***

- ‘Barriers to patient flow process management—a study conducted in a premier institute of India’; Rabindra Kumar Sarma, Shyama S. Nagarajan, S. Kailash.

- ‘Managing non-compliance in guideline-based careflow systems’; D.K. Sharma, Shyama S. Nagarajan, R.K. Sarma, S. Kailash.
- ‘Changing health care scenario—role of a premier medical institute’; Shyama S. Nagarajan, Rabindra Kumar Sarma, S. Kailash.
- ‘Issues in health information systems’; Sidhartha Satpathy, Shyama S. Nagarajan, S. Kailash, R.S. Tyagi.
- ‘Implementing electronic health records for PEP HIV/AIDS healthcare workers: Progress and challenges in the 3rd World developing countries’; S.K. Meher. Published in the *Proceedings of the 11th World Congress on Medical Informatics (MEDINFO 2004)* Conference held in San Francisco, California, USA; 7–11 September 2004.
- Socio-cultural and institutional constraints in the adoption process of a new technology: Study of a hospital in India; S.K. Meher, Abinash Panda. Published in the *Proceedings of IT in health care: Sociotechnical approaches*. Second International Conference, Portland, Oregon, USA; 13–14 September 2004.

### **National**

- ‘Medical informatics: Its importance of teaching in medical institutions’; S. Kailash, S. Das, R.S. Tyagi. Accepted for an oral presentation at the 22nd Annual National Conference of the Indian Society for Medical Statistics held at JIPMER, Pondicherry; 21–23 January 2005.
- ‘Telemedicine: AIIMS experience’; R.S. Tyagi, Sanjeev Sharma, S. Das, S. Kailash. Accepted for an oral presentation at the 22nd Annual National Conference of the Indian Society for Medical Statistics held at JIPMER, Pondicherry; 21–23 January 2005.
- ‘Legal issues in telemedicine—a ‘SWOT’ analysis’; S. Satpathy, S. Kailash, M. Mahapatra. Accepted and presented in the International Telemedicine Conference held at Bangalore; 17–19 March 2005.
- Mr S.N. Ragu Kumar attended and presented a paper on Telemedicine analysis at the International Telemedicine Conference held at Bangalore; 17–19 March 2005.
- Mr S.K. Meher presented a paper on ‘Health record today and tomorrow’ at the Annual Conference in Medical Records (Medrecon) in Pondicherry; 10–12 February 2005.

### **RESEARCH**

1. A critical analysis of the existing telemedicine set-up at the All India Institute of Medical Sciences, New Delhi, A project report submitted for the partial fulfilment of the PGDH&HM, IGNOU. S. Kailash, 2004.
2. A study of the functioning of the blood bank of the All India Institute of Medical Sciences, and formulation of a computerized design of its information system interfacing with the Hospital Information System. A project report submitted for the partial fulfilment of PGDH&HM, IGNOU. S. Kailash, 2004.
3. Mainstreaming HIV/AIDS consensus in the ongoing demand reduction programme in South East Asia. S. Kailash—a member of the team of experts and investigator.

4. Internet-based workflow automation system for Faculty cell of AIIMS. Joint Project submitted in partial fulfilment of the MCA and BIS degrees to UP Technology University and GGSIPU, respectively—under the guidance of Mr S.N. Ragu Kumar, in June 2004.

## **PATIENT CARE**

The department computerized and set up a LAN in the Department of Pathology for data entry and generation of reports of various pathological tests done in the OPD.

The department also developed software for the main hospital, CN and CT Centre and the RP Centre.

## **SERVICES**

Software development of the AIIMS Administration Section continued and various modules were maintained. Software maintenance was carried out for the grievance redressal at DD's (Administration) office.

The Research Section is fully automated and running successfully.

### 1. Administration

- Research project management
- Recruitment management
- Project employee management
- Project employee EHS management
- Research fellowship management

### 2. Accounts

- Payroll and tax management
- Grand register
- Cashbook
- Ledger
- TA/DA reimbursement
- Balance sheet

### 3. Store

The department conducted two computerized counselling sessions for PG/MD/MS/MDS for the year 2004–05 with a newly developed GUI software.

Central facilities such as e-mail and Internet facility; medical and educational information access facility; laser printing and scanning; consultancy for software and hardware were maintained.

A facility for telemedicine has been created. Telemedicine services for providing teleconsultancy, video conferencing and continuing medical education to various medical colleges and hospitals around the country continued.

The total number of laser printing provided: 3684

The remote access Internet facility for the faculty on the campus-wide telephone network continued.

The websites [www.aiims.edu](http://www.aiims.edu), [www.aiims.ac.in](http://www.aiims.ac.in) are being maintained by the department.

Creation and maintenance of users' accounts was done for 474 [aiims.ac.in](http://www.aiims.ac.in) domain users.

The total number of visitors to the AIIMS websites was 9,69,927 during 2004–05.

The software modules for the website have been developed in-house. Some of the modules developed are:

| <b>Modules developed</b>  | <b>Number of web pages</b> |
|---|----------------------------|
| Conference and workshop modules for various departments                   | 100                        |
| Maintenance of current events pages                                       | 120                        |
| Tender web module   | 700                        |
| Library web pages   | 9                          |
| Examination cell-related pages  | 98                         |
| Departmental web module pages maintained and newly designed and developed | 800                        |

Software for workflow automation system was developed for the faculty cell of AIIMS.

|  |      |
|--|------|
| Total number of web pages under various modules designed, developed and maintained | 2000 |
| Total number of new internet connections provided to faculty during this year      | 124  |
| Total number of computer network nodes maintained for internet access              | 995  |

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

**Dr R.S. Tyagi** attended a workshop on Drug Abuse and HIV/AIDS in connection with the UNODC–ROSA Project at Dhaka, Bangladesh; 15–18 April 2005; 92nd Indian Sciences Congress in the Information and Communication Science and Technology at Nirma University of Science and Technology, Ahmedabad; 6 January 2005; a meeting on Drug Abuse and HIV/AIDS in connection with the UNODC–ROSA Project at Kathmandu, Nepal; 25–26 May 2004; a meeting on Drug Abuse and HIV/AIDS in connection with the UNODC–ROSA Project at Dhaka, Bangladesh; 22–23 May 2004; a meeting on Drug Abuse and HIV/AIDS in connection with the UNODC–ROSA Project at Colombo, Sri Lanka; 8–9 May 2004; a meeting on Drug Abuse and HIV/AIDS in connection with the UNODC–ROSA Project at Male, Maldives; 6–7 May 2004. He delivered a talk on ‘Medical informatics and telemedicine’ at the Punjab Branch of the Indian Association for Medical Informatics on 24 March 2005; ‘Value addition by IT in health care and the impact of the globalization of services’ at the CTO Forum Mumbai on 4–5 March 2005. He was a special invitee at the 5th International Pure Mathematics Conference 2004 on Algebra, Geometry, Analysis and Mechanics at Islamabad, Pakistan; 20–22 August 2004; the Vice Chancellor’s nominee for the Selection Committee of the School Level Purchase Committee of the JNU; a member of the team of experts to develop software and a consensus on database items and conceptual framework, and to organize regional meetings and training programmes on HIV/AIDS consensus in the ongoing demand reduction programme in South-east Asia; member of the Committee constituted by the Vice Chancellor for e-governance and Survey Board Project at JNU.

**S.N. Ragu Kumar** was selected as a member of the Assessment Committee for ITRC, Lucknow; an external expert for the Technical Advisory Committee for the National Institute of Health and Family Welfare, New Delhi. He delivered a lecture and presentation on ‘Computer-assisted learning and teaching’ at the workshop organized by CMET and another lecture on ‘Effective presentation using computers’ at the workshop organized by CMET.

**S.K. Meher** has conducted workshops on ‘E-health for development in Third World developing countries: Bridging the digital divide’ conducted in ‘Asia Applied Computer Congress’ at Kathmandu, Nepal; 27 October 2004 and in the ‘International Information Technology Conference’ in Colombo, Sri Lanka; 23 November 2004.

**Vinay Pande** delivered invited lectures on ‘Current trends in medical informatics’ in the National Symposium on Medical Informatics and CME on Hospital Information System at MGIMS, Wardha; 6–7 September 2004 and ‘Hospital Information System’, in the Management Development Programme for U.P. Health Systems Doctors, organized by the Academy of Hospital Administration, New Delhi; 18 July 2004. He was elected as an executive committee member of the Indian Association of Medical Informatics and selected as the Assistant Editor of the *Indian Journal of Medical Informatics*.

### **VISITING SCIENTISTS**

WHO fellows from Sri Lanka were given training on computer applications.

## 11.6 Electron Microscope Facility (Department of Anatomy)

**Officer-in-Charge**

Shashi Wadhwa

**Associate Professor**

Taposh K. Das

**Assistant Professor**

T.C. Nag

**Senior Technical Officer**

S.C.P. Sharma

**Technical Officers**

Rajesh Pathania

Manjeet Singh Bathla

### EDUCATION

- A training programme on SEM and TEM was conducted for four MTech students of Amity Institute of Nanotechnology, Amity Campus, Noida from 10 to 15 January 2005.
- Nine MBIotech students of the Department of Biotechnology, AIIMS were given 2 weeks' training from 16 to 31 August 2004.

### Continuing Medical Education

The 20th National Training Programme in Electron Microscopy for Scientific Investigators was held from 22 November to 11 December 2004. The training programme was conducted in two parts:

- *Basic course* (22 November–4 December 2004)

Fifteen Scientific Investigators, selected from 38 applicants, from various parts of the country participated in this course. The course consisted of two weeks' hands-on training on various techniques of biological sample preparation, and operation of SEM and TEM for viewing self-prepared samples.

- *Advanced course* (6–11 December 2004)

Ten Scientific Investigators, selected from 38 applicants, from various parts of the country took part in this course. The course consisted of hands-on training-cum-demonstration of special techniques in electron microscopy, viz. Microwave technique for sample preparation, Immunoelectron microscopy, Cryo-electron microscopy, Stereology and image analysis, and Digital imaging in electron microscopy.

The 17th National Training Programme in Electron Microscopy for Technical Personnel was held from 14 to 26 February 2005. Twelve technical personnel, selected from 65 applicants, from different parts of the country participated in this course.

In all, 18 lectures were delivered by Professor Shashi Wadhwa, Dr Taposh K. Das and Dr T.C. Nag for the participants of the above two courses.

A Summer Training Course in Electron Microscopy for Technical Personnel was held for 6 weeks from 15 May to 30 June 2004. One technician from the National Bureau of Plant Genetic Resources, Pusa, New Delhi was trained in sample processing, microtomy, CPD, sputter coating, TEM and SEM viewing, photography and routine maintenance.

Four guest lectures were delivered for MSc Neurosciences students by Dr T.C. Nag at Jiwaji University, Gwalior on 19 and 20 March 2005.

## **RESEARCH**

### **Funded Projects**

#### ***Ongoing***

1. Role of free radical scavengers and the effect of antioxidants on their levels in patients with ankylosing spondylitis—to investigate the possible role of antioxidants as therapeutic agents in ankylosing spondylitis. Taposh K. Das. Funded by ICMR for 2 years (2005–2006). Funds: Rs 14.23 lakh.

### **Departmental Projects**

#### ***Ongoing***

1. Ultrastructural changes in the ageing human retina.
2. Histopathological changes in the retina in systemic lupus erythematosus.
3. Retinal changes in a victim of accidental head injury—an electron microscope and immunohistochemical study.

### **Collaborative Projects**

#### ***Completed***

1. Electron microscopic changes in acute leukaemia (with Haematology).

#### ***Ongoing***

1. Effects of certain plant extracts on experimentally induced myocardial infarction (with Pharmacology).
2. Arsenic-induced hepatotoxicity in experimental rat. Morphological and biochemical investigations (with Forensic Medicine).
3. Immuno-electron microscopic localization of prospective virulent genes in *M. tuberculosis* H37Rv and knockout strains in different stress conditions (with Biotechnology).
4. Estimation of sialic acid–glycosaminoglycans in patients of ankylosing spondylitis: Development of a possible new diagnostic test (with Orthopaedics).

## PUBLICATIONS

### Journals

1. Mitra B, Ghosh P, Henry SL, Mishra J, Das TK, Ghosh S, *et al.* Novel mode of resistance to *Fusarium* infection by a mild dose pre-exposure of cadmium in wheat. *Plant Physiol Biochem* 2004;**42**:781–7.
2. Nag TC, Wadhwa S. Ontogeny of two calcium-binding proteins (calbindin D-28K and parvalbumin) in the human inferior olivary complex and their distribution in the adults. *J Chem Neuroanat* 2004;**27**:183–92.
3. Saini DK, Malhotra V, Dey D, Pant N, Das TK, Tyagi JS. DevR-DevS is a bonafide two-component system of *Mycobacterium tuberculosis* that is hypoxia-responsive in the absence of the DNA-binding domain of DevR. *Microbiology* 2004;**150**:865–75.

### Chapters in Books

1. Nag TC. On understanding photoreceptor structure in vertebrates: Role of electron microscopy. In: Ghosal SK, Ray D (eds). *Recent advances in animal science research, Vol. III*. Kolkata: Orion Press International; 2004:331–9.

## PATIENT CARE

### Special laboratory facilities

Electron microscope facility for research and patient care availed as follows:

| Facility                         | Users (n) | Specimen analysed |
|----------------------------------|-----------|-------------------|
| Transmission electron microscope | 256       | 1384              |
| Scanning electron microscope     | 219       | 1262              |
| Immuno-electron microscope       | 39        | 101               |

### Community services/camps

Eighty-seven students from Rai Institute, Jamia Milia Islamia and British High School, New Delhi and 61 students from SVS Medical College, Adiyar, Andhra Pradesh, Mamta Medical College, Khammam, Andhra Pradesh and M.D. University, Rohtak, Haryana, visited the Electron Microscope Facility during 2004–2005.

## AWARDS, HONOURS AND SIGNIFICANT EVENTS

**Dr T.C. Nag** received the Hitachi Best Paper Award for poster presentation at the XXVII Annual Meeting of EMSI and Conference on Electron Microscopy and Allied Fields, held at the National Physical Laboratory, Pusa, New Delhi; 1–3 April 2004.

**Dr Nag** participated in the 22nd Annual Conference of the Indian Academy of Neuroscience, held at Jiwaji University, Gwalior; 28–30 January 2005, and presented a paper entitled ‘Retinal changes in accidental head injury. An electron microscope and immunohistochemical study’.

**Professor Shashi Wadhwa and Dr T.C. Nag** became life members of the Association of Gerontology (India). They attended the 12th Annual Conference of Geriatrics held at AIIMS; 5–7 November 2004. Dr T.C. Nag delivered a talk on ‘Ageing changes in the human retina: An electron microscope and immunohistochemical study’. Both of them chaired a session each under the Biology of Ageing in this conference.

**Professor Shashi Wadhwa, Dr Taposh K. Das and Dr T.C. Nag** attended the XXVII Annual Meeting of EMSI and Conference on Electron Microscopy and Allied Fields, held at the National Physical Laboratory, Pusa, New Delhi; 1–3 April 2004. Professor Shashi Wadhwa also chaired a session during this conference.

**Mr Rajesh Pathania and Mr Manjeet Bathla** attended the meeting for EM personnel, organized by SAIF, IIT, Mumbai; 14 June 2004. This meeting aimed to exchange information on various techniques and usage of instruments, and share experiences on various problems related to EM.

**Mr Sandeep Kumar Arya**, Laboratory Technician, SAIF–AIIMS, underwent two days’ training on ‘Morgagni 268-D Transmission Electron Microscope (advanced course)’, organized by Fei/Icon Analytical at the University of Rotterdam, Eindhoven, the Netherlands; 5–6 October 2004.

## 11.7 Experimental Animal Facility

### **Professor-in-Charge**

D.N. Rao

### **Senior Veterinary Officer**

P.K. Yadav

During the year 2004–2005, animals were maintained in this facility. The various activities of this unit are categorized as follows.

### **SMALL ANIMAL FACILITY**

The following small animals have been maintained throughout the year 2004–2005:

|                |      |
|----------------|------|
| Rats           | 3246 |
| Mice (outbred) | 2439 |
| Rabbits        | 176  |
| Guinea pigs    | 48   |

A total of 5909 small animals (rats, mice, rabbits and guinea pigs) were supplied to various departments of the Institute and considerable numbers of animals were also sold to other institutions in and outside Delhi.

### **LARGE ANIMAL FACILITY**

This facility housed 19 sheep for research work conducted by the Microbiology Department.

### **EXPERIMENTAL SURGERY**

One hundred surgical procedures and radiological investigations were performed by various departments of the Institute. These included the Department of Surgery, Biomedical Engineering, Neurosurgery, Paediatric Surgery.

### **Services provided**

A departmental wing has been operational for maintaining animals belonging to Departments of Microbiology, Biomedical Engineering, Biochemistry, Surgery, Biotechnology, Paediatrics, Reproductive Biology, Anatomy, Psychiatry, Pathology and Forensic Medicine. This facility housed experimental animals—rabbits–30, guinea pigs–02, mice–424 and rats–100 belonging to the above departments.

The Experimental Animal Facility provided laboratory facilities to various investigators: vacuum drying of sera, microscope facility and storage of serum samples.

## **EDUCATIONAL PROGRAMME**

Dr P.K. Yadav, Senior Veterinary Officer, EAF and Shri Kanwar Singh, Technical Assistant (Laboratory) gave orientation lectures to the students of BSc Nursing.

Visiting programmes regarding the care of animals have been made by nominees of the CPCSEA who went through all the books and requisition forms as well as form-C for small animals (rats, mice, rabbits, guinea pigs and sheep).

## 11.8 Hostel Section

### Superintendent of Hostels

T.D. Dogra

### Deputy Superintendents of Hostels

S. Datta Gupta  
Minati Choudhary

S.S. Kale  
Meena Aggarwal

Rajpal

### Senior Warden, Hostels

K. Dhaka

The AIIMS hostels have a capacity of over 1200 single rooms, approximately 170 rooms for married personnel, 565 rooms for nurses and nursing students. These are spread over different hostels and residences in the AIIMS Main Campus, Masjid Moth and Ballabgarh, Dayalpur, Chhansa villages.

### GENTS HOSTELS

| S. No. | H. No.                  | Location              | Single | Double/Three/<br>Four seater | Total<br>strength |
|--------|-------------------------|-----------------------|--------|------------------------------|-------------------|
| 1.     | I                       | Main campus           | 64     | 2                            | 68                |
| 2.     | II                      | Main campus           | 57     | 1                            | 59                |
| 3.     | III                     | Main campus           | 71     | 5+0+2                        | 85                |
| 4.     | IV                      | Main campus           | 53     | 7                            | 67                |
| 5.     | V                       | Main campus           | 54     | 5                            | 64                |
| 6.     | VI                      | Main campus           | 71     | 7                            | 85                |
| 7.     | VII                     | Main campus           | 111    | 3                            | 117               |
| 8.     | VIII                    | Main campus           | 108    | 2                            | 112               |
| 9.     | RPC-I                   | Main campus           | 72     | 4                            | 80                |
| 10.    | F-Type<br>(married)     | West Ansari<br>Nagar  |        | 9                            | 18                |
| 11.    | A.V. Nagar<br>(married) | A.V. Nagar            | 80     |                              | 80                |
| 12.    | M.M.R.D.H<br>(single)   | Masjid Moth<br>campus | 144    |                              | 144               |
| 13.    | M.M.R.D.H<br>(married)  | Masjid Moth<br>campus | 42     |                              | 42                |
| 14.    | F.T.A<br>(married)      | A.V. Nagar            | 32     |                              | 32                |

## LADIES HOSTELS

|           |             |    |        |     |
|-----------|-------------|----|--------|-----|
| 1. IX     | Main campus | 62 | 16+0+3 | 106 |
| 2. X      | Main campus | 91 | 2+2+1  | 105 |
| 3. RPC-II | Main campus | 26 | 8+2    | 40  |

## NURSES HOSTEL

|                         |                           |        |  |     |
|-------------------------|---------------------------|--------|--|-----|
| 1. New nursing students | Masjid Moth double seater | 256    |  | 256 |
| 2. Staff                | Masjid Moth               | 82 x 2 |  | 164 |
| 3. Old nurses hostel    | Main campus               | 153    |  | 153 |

## SIGNIFICANT EVENTS

### Gents Hostel

1. New box beds, mattresses, steel chairs, steel tables and sofa sets were purchased for the hostels and T.V. room.
2. Guest rooms were furnished with a wooden bed, mattress, visitor's chair, bedsheet, pillow, curtains, a blanket, bucket, mug and dustbins.
3. Sofas have been upholstered in the T.V. room of the Gents Hostels.
4. Some windows of the rooms were renovated in the M.M.R.D. Hostel.
5. A new snack bar has been opened in Hostel No. 6. This facility will be open round the clock.
6. The store purchase procedure has been rationalized.

### Ladies Hostel

1. Box beds were purchased.
2. A new colour T.V. set was purchased for the R.P.C-II/T.V. room
3. New curtains and a carpet were purchased for the Ladies Hostel T.V. room.
4. Sofas have been upholstered in the T.V. room of the Ladies Hostel.

### Nurses Hostel

1. The latest multimedia computer system with printer was provided to the Hostel Office and a room allotment procedure developed on par with the Hostel Section.
2. The mess dining hall has been extended to provide more space, the visitors room beautified and fancy curtain rods provided with new curtains in the mess, T.V. rooms, sick rooms, guest rooms, reception, office and meeting rooms.
3. A water cooler with a platform was provided, sinks of cold and hot water and old sinks. replaced with new ones in the mess.

4. A newspaper stand, magazine stand and suggestion box were provided in the Hostel and a lift alarm in the lift and fire control room.

#### **FUTURE PLANS**

1. Construction of new hostels (450 gents' single rooms, 100 women's single rooms and 50 rooms for married residents).
2. Computers to be purchased for the Ladies Hostel and Gents Hostel.
3. All shops of the Ladies Hostel to be shifted outside.

## 11.9 Primate Research Facility

### **Professor-in-Charge**

V. Mohan Kumar

### **Senior Veterinary Officer**

P.K. Yadav

The Primate Research Facility (PRF) maintained a colony of primates for research purposes. The PRF handled all the work connected with the Institute's Ethics Committee for the use of animals in research, and also of the Animal Facility Management Committee.

### **CENSUS REPORT**

|  |     |
|--|-----|
| Total number of monkeys at PRF on 1 April 2004       | 143 |
| Number of deaths (due to old age) during the year    | 3   |
| New procurement                                      | Nil |
| Born in the colony                                   | 5   |
| Permanently transferred to CPCSEA for rehabilitation | 48  |
| Total number of monkeys on 31 March 2005             | 97  |

### **REHABILITATION FACILITY**

A programme for rehabilitation of monkeys was started in 2000. All monkeys, which had been used for a period of three years of experiments, were rehabilitated in an open run. In addition to these, old monkeys were also put in this open run. Most of these monkeys were permanently issued to local animal welfare organizations as per instructions from the CPCSEA.

#### **Indoor runs**

The indoor runs, which were increased to 8 by the end of last year, are used for providing exercise to the monkeys caged in this facility. Each monkey, by turn, gets this running space for 24 hours once in a week.

#### **Runs for newborn monkeys**

The three recently constructed runs were used for rearing young monkeys. The monkeys left in the runs had grown faster. The young ones are kept in the runs after weaning.

### **CLINICAL PROCEDURES CONDUCTED**

|   |     |
|---|-----|
| Blood samples collected                         | 186 |
| Physical examination, testing for TB and weight | 84  |
| Haematology                                     | 93  |
| Blood chemistry (urea and sugar)                | 93  |

|   |     |
|---|-----|
| Parasitology (stool examination)  | 51  |
| Other procedures<br>(management of trauma, obstetrics procedures, etc.) | 195 |

### **IMPROVEMENT IN HOUSING CONDITIONS**

All the animal rooms, as well as adjoining verandahs, have been fully renovated by replacing the floor with Kota stone and tiles. This renovation has improved the hygienic condition of the facility.

## 12.1 Finance Division

### Senior Financial Advisor

Mayank Sharma

### Financial Advisor

R.G. Garg

### Finance & Chief Accounts Officers (F & CAO's)

Basanti Dalal

S.P. Mahla

(w.e.f. 14.1.2004)

### Accounts Officers

S.P. Mahla (up to 13.1.2004)

R.C. Sharma

S.K. Gulati

Kishan Gopal

C.L. Raina

S.K. Kedia

N.K. Bajaj

P.K. Sharma

O.P. Saini (w.e.f. 27.4.2004)

R.K. Juneja (w.e.f. 22.9.2004)

Y. Uday Bhasker (up to 14.7.2004)

The Finance Division of the Institute handles the 'Plan' and 'Non-Plan' budget of the Institute and also administers day-to-day financial matters, internal audit, payment of salaries to the faculty and staff, payment of bills, pension and G.P.F. in respect of the employees of the Institute including the Superspecialties/Centres and Research Projects.

The Division is headed by a Senior Financial Advisor, assisted by a Financial Advisor F & CAO's and Accounts Officers.

All matters relating to finance are administered by the above team with the help of other staff members.

**FIGURES OF ACTUAL EXPENDITURE FOR THE YEAR 2003-2004 AND 2004-2005 (UNAUDITED)  
AND FINAL BUDGET ESTIMATES FOR 2004-2005 & BUDGET ESTIMATES  
FOR 2005-2006 IN RESPECT OF  
ALL INDIA INSTITUTE OF MEDICAL SCIENCES, NEW DELHI.**

(RS.IN LAKHS)

| HEAD/SUB HEAD                                     | ACTUAL EXPENDITURE |                 |                |                 | FINAL ESTIMATES |                 | BUDGET ESTIMATES |                 |
|---|--------------------|-----------------|----------------|-----------------|-----------------|-----------------|------------------|-----------------|
|   | 2003-2004          |                 | 2004-2005      |                 | 2004-2005       |                 | 2005-2006        |                 |
|   | PLAN               | NON-PLAN        | PLAN           | NON-PLAN        | PLAN            | NON-PLAN        | PLAN             | NON-PLAN        |
| 1   | 2                  | 3               | 4              | 5               | 6               | 7               | 8                | 9               |
| <b>A. (Main Instt.)</b>                           |                    |                 |                |                 |                 |                 |                  |                 |
| Pay & Allow. Incl.<br>LS & PC, stipend etc.       | -                  | 9166.24         | -              | 10205.47        | -               | 10723.00        | -                | 12000.00        |
| Mach. & Equip.                                    | 1692.09            | 223.70          | 2407.68        | 237.84          | 2512.00         | 200.00          | 2357.00          | 225.00          |
| Mat. & Supply                                     | 2100.00            | 5984.93         | -              | 8080.90         | -               | 9165.00         | -                | 9498.00         |
| Maintenance of Bldg.                              | -                  | 410.82          | -              | 513.29          | -               | 500.00          | -                | 600.00          |
| Pension & other<br>pensionary benefits            | -                  | 1268.15         | -              | 1588.76         | -               | 1550.00         | -                | 1650.00         |
| Recoverable Advances                              | -                  | 66.74           | -              | 56.64           | -               | 50.00           | -                | 50.00           |
| House Building Adv.                               | -                  | -               | -              | -               | -               | 50.00           | -                | 50.00           |
| Instt. Research Grant                             | -                  | 12.00           | -              | 12.00           | -               | 12.00           | -                | 12.00           |
| Books & Publication<br>(M. & S.)                  | 127.16             | -               | 142.71         | -               | 125.00          | -               | 125.00           | -               |
| Conference/Symposia                               | -                  | 50.00           | -              | 50.00           | -               | 50.00           | -                | 50.00           |
| <b>TOTAL (A)</b>                                  | <b>3919.25</b>     | <b>17182.58</b> | <b>2550.39</b> | <b>20744.90</b> | <b>2637.00</b>  | <b>22300.00</b> | <b>2482.00</b>   | <b>24135.00</b> |
| B. CAPITAL BLDG.                                  | 1058.46            | -               | 1184.51        | -               | 1455.00         | -               | 7530.00          | -               |
| <b>TOTAL A &amp; B</b>                            | <b>4977.71</b>     | <b>17182.58</b> | <b>3734.90</b> | <b>20744.90</b> | <b>4092.00</b>  | <b>22300.00</b> | <b>10012.00</b>  | <b>24135.00</b> |
| <b>TOTAL A &amp; B</b>                            | <b>4977.71</b>     | <b>17182.58</b> | <b>3734.90</b> | <b>20744.90</b> | <b>4092.00</b>  | <b>22300.00</b> | <b>10012.00</b>  | <b>24135.00</b> |
| 1   | 2                  | 3               | 4              | 5               | 6               | 7               | 8                | 9               |
| C. SUPERSPECIALITIES                              | 3423.06            | 2862.74         | 1452.77        | 4519.69         | 1300.00         | 4250.00         | 2283.00          | 5095.00         |
| D. Dr. R.P. Centre                                | 600.00             | 1950.73         | 610.44         | 2248.60         | 600.00          | 2025.00         | 1000.00          | 2425.00         |
| E. Dr.B.R.A. I.R.C.H.                             | 698.76             | 883.95          | 269.72         | 1064.37         | 307.00          | 925.00          | 3201.00          | 1095.00         |
| F. TRAUMA CENTRE                                  | 495.00             | -               | 686.18         | -               | 825.00          | -               | 2599.00          | -               |
| G. P.E.T.   | 423.52             | -               | 936.37         | -               | 1051.00         | -               | -                | -               |
| H. CENTRE FOR<br>DENTAL EDUCATION<br>AND RESEARCH | 12.70              | -               | 519.31         | -               | 425.00          | -               | 2005.00          | -               |
| <b>TOTAL (A TO H)</b>                             | <b>10630.75</b>    | <b>22880.00</b> | <b>8209.69</b> | <b>28577.56</b> | <b>8600.00</b>  | <b>29500.00</b> | <b>21100.00</b>  | <b>32750.00</b> |
| I. DAC  | 279.21             | -               | 360.35         |                 |                 |                 |                  |                 |
| J. N.A.C.O.<br>(Dr. Ashok Kumar)                  | 3.38               | -               | 2.61           |                 |                 |                 |                  |                 |
| <b>GRAND TOTAL (A-J)</b>                          | <b>10913.34</b>    | <b>22880.00</b> | <b>8572.65</b> | <b>28577.56</b> | <b>8600.00</b>  | <b>29500.00</b> | <b>21100.00</b>  | <b>32750.00</b> |

## GRANTS & DONATIONS (2004-2005)

(Rs. in Lakhs)

| <b>S.NO.</b> | <b>HEAD</b>                | <b>PLAN</b>    | <b>NON-PLAN</b> |
|--------------|----------------------------|----------------|-----------------|
| 1            | AIIMS                      | 8200.00        | 25000.00        |
| 2            | D.A.C.                     | 310.00         |                 |
| 3            | N.A.C.O. (DR. ASHOK KUMAR) | 2.61           |                 |
| 4            | Dr. B.R.A.I.R.C.H.         | 25.00          |                 |
|              | <b>TOTAL</b>               | <b>8537.61</b> | <b>25000.00</b> |

**REVENUE RECEIPT**

**BREAK UP OF BUDGET RECEIPTS FOR 2004-2005 AND ESTIMATE FOR 2005-2006 FOR AIIMS,  
INCLUDING SUPERSPECIALITY, DR. R.P. CENTRE AND LR.C.H.**

(RS. IN LAKHS)

| S.NO. | HEAD/SUBHEAD  | ACTUAL RECEIPT<br>DURING 2004-2005 | ESTIMATED RECEIPT<br>2005-2006 |
|-------|---|------------------------------------|--------------------------------|
| 1     | COLLEGE/HOSTEL  | 17.32                              | 18.00                          |
| 2     | RENT & WATER CHARGES                                      | 74.66                              | 75.00                          |
| 3     | HOSPITAL RECEIPT<br>INCLUDING E.H.S. &<br>REVOLVING FUNDS | 2099.26                            | 2132.00                        |
| 4     | RECOVERABLE ADVANCES                                      | 171.95                             | 175.00                         |
|       | <b>TOTAL</b>  | <b>2363.19</b>                     | <b>2400.00</b>                 |

**STATEMENT SHOWING REVENUE RECEIPT FOR THE YEAR 2004-05 OF AIIMS**

**(Rs. in Lakhs)**

| <b>HEAD</b>               | <b>AIIMS(M)</b> | <b>C.N. CENTRE</b> | <b>R.P. CENTRE</b> | <b>I.R.C.H.</b> | <b>TOTAL</b>   |
|---------------------------|-----------------|--------------------|--------------------|-----------------|----------------|
| Hospital Receipts         | 827.97          | -                  | 676.33             | 53.02           | 1557.32        |
| Interest                  | 123.86          | 4.22               | 2.46               | -               | 130.54         |
| Rent                      | 74.66           | -                  | -                  | -               | 74.66          |
| Fee                       | 17.32           | -                  | -                  | -               | 17.32          |
| E.H.S.                    | 90.47           | -                  | -                  | -               | 90.47          |
| Private Ward              | -               | 143.79             | -                  | -               | 143.79         |
| X-Ray                     | -               | 7.78               | -                  | -               | 7.78           |
| Ultra Sound               | -               | 0.99               | -                  | -               | 0.99           |
| C.T. Scan                 | -               | 8.67               | -                  | -               | 8.67           |
| Levy Charges              | -               | 3.88               | -                  | -               | 3.88           |
| Thallium Test             | -               | 43.36              | -                  | -               | 43.36          |
| Blood Test/Lab. Test      | -               | 41.23              | -                  | -               | 41.23          |
| Cardiac Test Collection   | -               | 34.64              | -                  | -               | 34.64          |
| Recoverable Advances      | 137.37          | 25.82              | 8.59               | 0.17            | 171.95         |
| I.R.C.H. (Revolving Fund) | -               | -                  | -                  | 36.59           | 36.59          |
| <b>TOTAL</b>              | <b>1271.65</b>  | <b>314.38</b>      | <b>687.38</b>      | <b>89.78</b>    | <b>2363.19</b> |

**ALL INDIA INSTITUTE OF MEDICAL SCIENCE  
RECEIPTS & PAYMENT ACCOUNT  
FOR THE YEAR 2004-2005**

| <b>RECEIPTS</b>                   |           |  | <b>PAYMENTS</b>                     |  |            |
|-----------------------------------|-----------|--|-------------------------------------|--|------------|
| <b>1 OPENING BALANCES</b>         |           |  | 1                                   | Grants transferred to the Centres/Schemes Cell |            |
| <b>A Cash at bank</b>             |           |  | <b>A Dr. R.P. Centre</b>            |  |            |
| i) AIIMS (MAIN) 164793790         |           |  | i) PLAN                             | 60000000                                       |            |
| ii) Scheme Cell                   | 20426715  |  | ii) Non-Plan                        | 152500000                                      | 212500000  |
| iii) R.P. Centre                  | 14069683  |  | <b>B C.N. Centre</b>                |  |            |
| iv) C.N. Centre                   | 68537525  |  | i) Plan                             | 158400000                                      |            |
| v) CT Patient A/c                 |           |  | ii) Non-Plan                        | 400000000                                      | 558400000  |
| a) Bank                           | 12532136  |  | <b>C N.D.D.T.C.</b>                 |  |            |
| b) FDR                            | 200000000 |  | i) Plan                             | 31000000                                       |            |
| vi) Angiography A/c               |           |  | <b>D Scheme Cell</b>                |  |            |
| a) Bank                           | 3657418   |  | i) Grants                           | 270000000                                      |            |
| b) FDR                            | 85000000  |  | <b>E Dr.B.R.A.I.R.C.H.</b>          |  |            |
| vii) Gamma Knife patient A/c      |           |  | i) Plan                             |  |            |
| a) Bank                           | 5245015   |  | a) Received from Ministry           | 2500000  |            |
| b) FDR                            | 70000000  |  | b) Grant from AIIMS                 | 23226000                                       |            |
| viii) Neuro Surgery patient A/c   |           |  | ii) Non-Plan                        | 92500000                                       | 118226000  |
| a) Bank                           |           |  | <b>2 ADMINISTRATIVE EXPENDITURE</b> |  |            |
| b) FDR                            |           |  | <b>AIIMS (MAIN)</b>                 |  |            |
| 5710082                           |           |  | a) i) Salaries (Non-Plan)           | 1004559797                                     |            |
| 12000000                          |           |  | ii) Add salary for the year 2003-04 |  | 177668     |
| ix) Dr.B.R.A.I.R.CH. 10017685     |           |  | paid now                            |  |            |
| x) a) N.D.D.T.C.                  | 8526619   |  | iii) Less amount due                | -525234  | 1004212231 |
| b) UNDCP                          | 402801    |  | but not paid                        |  |            |
| xi) Hostels                       |           |  | b) Travelling Allowances            | 10802178                                       |            |
| a) Cash in hand                   | 13423     |  | c) i) Stipend                       | 4723123  |            |
| b) Cash at bank                   | 36077     |  | ii) Add Stipend for the             | 146146   |            |
| c) FDR's                          | 1271404   |  | year 2003-2004                      |  |            |
| <b>B CASH IN HAND (IMPREST)</b>   |           |  | paid now                            |  |            |
| i) AIIMS (Main)                   | 436650    |  | iii) Less amount due                | -39355   | 4829914    |
| ii) Dr. R.P. Centre               | 8000      |  | but not paid                        |  |            |
| iii) C.N. Centre                  | 40000     |  | d) Leave salary & Pension           |  | 461742     |
| <b>C AMOUNT LYING UNDISBURSED</b> |           |  | contribution                        |  |            |
| i) AIIMS (Main)                   | 1413611   |  | e) Pensionary Benefits              |  | 158892986  |
| ii) Scheme Cell                   | 357398    |  |                                     |  |            |
| iii) R.P. Centre                  | 126876    |  |                                     |  |            |

|                                       |            |  |                           |
|---------------------------------------|------------|--|---------------------------|
| iv) C.N. Centre                       | 669985     | <b>3 Office Contingency</b>            |                           |
| v) CT Patient A/c                     | 1677362    | i) During 2004-2005                    | 397318612                 |
| vi) Angiography A/c                   | 1093721    | ii) Undisbursed of                     | 10897972003-2004 paid now |
| vii) Gamma Knife patient A/c          | 300000     | iii) Less amount due but-              | 415957397992452 not paid  |
| viii) Neuro Surgery patient A/c734500 |            | <b>4 Mat. &amp; Supply (Non-Plan)</b>  | 372768631                 |
| <b>D POOR PATIENT A/C</b>             |            | <b>5 Mach. &amp; Equip. (Non-Plan)</b> | 23783540                  |
| i) AIIMS (Main)                       |            | <b>6 Furniture &amp; Fixture</b>       | 30132                     |
| a) Cash/Bank                          | 595415     | <b>7 Books &amp; Publications</b>      |                           |
| b) FDRs                               | 327078     | a) Assets                              | 14243210                  |
| ii) Dr.B.R.A.I.R.C.H.                 |            | b) Consumables                         | 129100 14372310           |
| a) Cash/Bank                          | 163105     | <b>8 Employees Insuranc</b>            | 2778409                   |
| iii) Dr. R.P. Centre                  |            | Scheme                                 |                           |
| a) Cash/Bank                          | 207709     | <b>9 G.P.F.</b>                        | 176014526                 |
| b) FDRs                               | 100000     | <b>10 Maintenance of buildings</b>     | 51328800                  |
| iv) N.S. Centre                       |            | <b>11 Recoverable Advances</b>         |                           |
| a) Cash/Bank                          | 48263      | a) Car                                 | 554400                    |
| b) Imprest                            | 500        | b) Scooter/Motor Cycle                 | 891800                    |
| <b>E PATIENT TREATMENT A/C</b>        |            | c) Bicycle                             | 7500                      |
| i) AIIMS                              | 10558630   | d) House Building Advance              | 3827100                   |
| ii) Dr.B.R.A.I.R.C.H.                 | 13609245   | e) Computer                            | 383230                    |
| <b>2 GRANTS FROM GOVT. OF INDIA</b>   |            | <b>12 Expenditure out of grant</b>     |                           |
| <b>a) NON-PLAN</b>                    |            | received for specific                  |                           |
| i) AIIMS (Main)                       | 1855000000 | purpose (Scheme Cell)                  |                           |
| ii) R.P.C                             | 152500000  | i) Appendix-A                          | 236535466                 |
| iii) C.N.C.                           | 400000000  | ii) Add undisbursed for                | 357398                    |
| iv) Dr.B.R.A.I.R.C.H.                 | 925000000  | 2003-2004 paid now                     |                           |
| <b>b) PLAN</b>                        |            | iii) Less undisbursed                  | -121866 236770998         |
| i) AIIMS (Main)                       | 578374000  | for 2004-2005                          |                           |
| ii) RPC                               | 600000000  | <b>13 Post Partum</b>                  | 281925                    |
| iii) CNC                              | 158400000  | Programme                              |                           |
| iv) Dr.B.R.A.I.R.C.H.                 | 23226000   | (Incentive money)                      |                           |
| c) Dr.B.R.A.I.R.C.H.                  | 2500000    | <b>14 PLAN</b>                         |                           |
| d) N.D.D.T.C.                         | 31000000   | a) Machinery & Equipment               | 163094830                 |
| e) N.A.C.O.                           | 261088     | b) Building Construction               | 112368779                 |
| <b>3 Miscellaneous Receipts</b>       | 77937675   | <b>15 Advance Payments</b>             |                           |
| <b>4 Hospital Receipts</b>            | 82796949   | a) Mat. & Supply (NP)                  | 14398172                  |
| <b>5 Interest</b>                     | 12385692   | b) Mach.&Equip.(Plan)                  | 171280133                 |
| <b>6 Rent</b>                         | 7465570    | c) P. & A.O. etc. for Bldg.            | 6082168                   |
| <b>7 Tution Fee/Exam. Fee</b>         | 1731924    | material                               |                           |
| <b>8 Employees Health</b>             | 9047350    | d) Ty./Contigent Advances              | 2489032                   |
| Scheme (EHS)                          |            | e) Private firms for stores            | 7039972                   |
|                                       |            | f) M/s. H.S.C.C. for Trauma            | 68618000                  |
|                                       |            | Centre                                 |                           |

|      |  |            |     |                                      |            |
|------|--|------------|-----|--------------------------------------|------------|
| 9    | Pot Fund   | 107648     | g)  | M/s. H.S.C.C. for Dental College     | 51931487   |
| 10   | Employees Insurance Scheme   | 2865376    | h)  | P&PAO for procurement of Stores      | 300000     |
| 11   | GPF  | 176014526  | 16  | Security Deposit/<br>Earnest Money   | 10084513   |
| 12   | Out side recoveries  | 106194433  | 17  | Outside recoveries                   | 108166636  |
| 13   | Security Deposits/<br>Earnest Money  | 22667189   | 18  | Investment of Short-Term<br>Deposits | 1200000000 |
| 14   | Caution Money  | 41500      | 19  | <b>NACO</b>                          |            |
| 15   | Leave Salary &<br>Pension contribution   | 240717     | i)  | Salary                               | 78000      |
|      |  |            | ii) | Mat. & Supply                        | 183085     |
| 16   | <b>Recoverable Advances</b>  |            | 20  | Misc. Donations<br>(Appendix-D)      | 10636322   |
| a)   | Car  | 1432546    | 21  | Pot Fund                             | 145714     |
| b)   | Scooter/Motor Cycle  | 2438074    | 22  | P.M.R. ADIP Scheme                   | 297181     |
| c)   | Bicycle  | 7565       | 23  | Revolving Funds                      | 19149733   |
| d)   | H.B.A.   | 9459925    |     |                                      |            |
| e)   | Computer   | 398512     |     |                                      |            |
| 17   | <b>NACO</b><br>Generated from<br>test charges                                    | 35000      |     |                                      |            |
| 18   | Post Partum<br>Programme<br>(Incentive money)                                    | 400000     |     |                                      |            |
| 19   | Encashment of short<br>term deposits   | 1200000000 |     |                                      |            |
| 20   | Grants received for 316596681<br>specific purpose<br>Appendix-A<br>(Scheme Cell) |            |     |                                      |            |
| 21   | <b>Schemes</b>   |            |     |                                      |            |
| i)   | Grants   | 270000000  |     |                                      |            |
| ii)  | Others   | 12554490   |     |                                      |            |
| iii) | Transferred from AIIMS   | 8456737    |     |                                      |            |
| 22   | Misc. Donations<br>(Appendix-D)  | 10256868   |     |                                      |            |
| 23   | Revolving Funds  | 32946017   |     |                                      |            |

**DR. RAJENDER PRASAD CENTRE FOR  
OPHTHALMIC SCIENCES**

|                       |           |
|-----------------------|-----------|
| <b>1 GRANT-IN-AID</b> |           |
| i) Plan               | 60000000  |
| ii) Non-Plan          | 152500000 |

|                          |         |
|--------------------------|---------|
| <b>2 GRANT-IN-AID</b>    |         |
| i) ICMR                  | 505185  |
| ii) USP                  | 1226303 |
| iii) Savers              | 1100000 |
| iv) Surgeries            | 1275000 |
| v) Indeye                | 4569659 |
| vi) ORBIS                | 1075628 |
| vii) Manage              | 628405  |
| viii) CODBIL             | 420000  |
| ix) NAB                  | 718200  |
| x) LCIF                  | 319500  |
| xi) NPCB-NSU             | 400000  |
| xii) NPCB-SSU            | 155000  |
| xiii) RIP                | 19350   |
| xiv) AEH                 | 93000   |
| xv) MBDL                 | 103356  |
| xvi) DOS                 | 225000  |
| xvii) CSIR               | 1587164 |
| xviii) NIAF              | 415000  |
| xix) CRP                 | 100800  |
| xx) DBCS                 | 15500   |
| xxi) Phakie IOL          | 270000  |
| xxii) Allergan           | 289131  |
| xxiii) Neema-Pilot Study | 11600   |
| xxiv) Workshop           | 122547  |

|  |          |
|--|----------|
| <b>3 Hospital Receipts</b>               | 67633200 |
| <b>4 Security Deposits</b>               | 110000   |
| <b>5 Interest on Recoverable Advance</b> | 246363   |
| <b>6 Misc. Receipts</b>                  | 1339376  |
| <b>7 AIIMS Recovery Received</b>         | 28979956 |
| <b>8 Outside Recovery</b>                | 14824384 |
| <b>9 Recoverable Advance</b>             |          |
| a) Car                                   | 43096    |
| b) Scooter                               | 250737   |
| c) Cycle                                 | 65300    |
| d) HBA                                   | 499930   |
|  | 859063   |

**DR. RAJENDER PRASAD CENTRE FOR  
OPHTHALMIC SCIENCES**

|                                    |  |           |           |
|------------------------------------|--|-----------|-----------|
| <b>1</b>                           | i) Pay & allowances                          | 138299509 |           |
|                                    | ii) Festival Advance                         | 373500    |           |
|                                    | iii) Festival Advance recovered              | -414537   |           |
|                                    | iv) Undisbursed Salary for 2003-04 paid now. | 126876    | 138385348 |
| <b>2</b>                           | Travelling Expenses                          |           | 698574    |
| <b>3</b>                           | Office Expenses                              |           | 2978061   |
| <b>4</b>                           | Capital Works                                |           | 2010011   |
| <b>5</b>                           | Maintenance of Buildings                     |           | 2315795   |
| <b>6</b>                           | Mat. & Supply                                |           | 76503134  |
| <b>7</b>                           | Mach. & Equip. (Non-Plan)                    |           | 367042    |
| <b>8</b>                           | Refund of Security                           |           | 110000    |
| <b>9 Mach. &amp; Equip. (Plan)</b> |  |           |           |
|                                    | i) Actual Payment                            | 15805909  |           |
|                                    | ii) Advance Payment made to Foreign Purchase | 41651598  | 57457507  |
| <b>10</b>                          | Furniture & Fixtures                         |           | 522820    |
| <b>11</b>                          | PAYMENT TOWARDS RPC NON SCHEME               |           |           |
|                                    | i) ICMR                                      | 318319    |           |
|                                    | ii) USP                                      | 1001240   |           |
|                                    | iii) Savers                                  | 978272    |           |
|                                    | iv) Surgeries                                | 930698    |           |
|                                    | v) ORBIS                                     | 551447    |           |
|                                    | vi) Manage                                   | 494950    |           |
|                                    | vii) CODBIL                                  | 420000    |           |
|                                    | viii) NAB                                    | 113609    |           |
|                                    | ix) LCIF                                     | 97331     |           |
|                                    | x) NPCB-NSU                                  | 236917    |           |
|                                    | xi) NPCB-SSU                                 | 84272     |           |
|                                    | xii) RIP                                     | 25405     |           |
|                                    | xiii) AEH                                    | 93000     |           |
|                                    | xiv) MBDL                                    | 10000     |           |
|                                    | xv) DOS                                      | 153361    |           |
|                                    | xvi) CSIR                                    | 1609378   |           |
|                                    | xvii) NIAF                                   | 112145    |           |
|                                    | xviii) CRP                                   | 92000     |           |
|                                    | xix) DBCS                                    | 5000      |           |
|                                    | xx) Phakie IOL                               | 213954    |           |
|                                    | xxi) Allergan                                | 201384    |           |
|                                    | xxii) Neema-Pilot Study                      | 11600     |           |

|  |         |          |
|--|---------|----------|
| xiii) Workshop                               | 122547  |          |
| xxiv) DST                                    | 67083   | 7943912  |
| <b>12 Indeyes</b>                            |         |          |
| i) Pay & Contingencies                       | 2793403 |          |
| ii) Advance Payment made to Foreign Purchase | 1052673 | 3846076  |
| <b>13 AIIMS Recovery Remitted</b>            |         | 28979956 |
| <b>14 Outside Recovery</b>                   |         | 14824384 |
| <b>15 Recoverable Advances</b>               |         |          |
| a) Scooter                                   | 227000  |          |
| b) Cycle                                     | 1500    |          |
| c) HBA                                       | 175000  | 403500   |

### CARDIO-THORACIC & NEURO SCIENCES CENTRE

|  |           |
|--|-----------|
| <b>1 GRANT-IN-AID</b>                          |           |
| a) Plan  |           |
| (i) For C.N. Centre                            | 152500000 |
| (ii) For Stem Cell Facility                    | 5900000   |
| b) Non-Plan                                    | 400000000 |
| <b>2</b>                                       |           |
| a) Misc. Receipts                              | 3937943   |
| b) Private Ward                                | 14378674  |
| c) X-Ray                                       | 777890    |
| d) C.T.Scan charges                            | 866820    |
| e) Ultra sound                                 | 99000     |
| <b>3 Interest</b>                              | 422044    |
| <b>4 Security Deposit/<br/>Earnest Deposit</b> | 4186000   |
| <b>5 Donations</b>                             | 920272    |
| <b>6 Refund and Recoveries</b>                 | 849953    |
| <b>7 Neurology Patient A/c</b>                 | 16607161  |
| <b>8 Thallium Test</b>                         | 4335500   |
| <b>9 Heart Transplant Donation</b>             | 50000     |
| <b>10 Levy charges</b>                         | 388270    |
| <b>11 Rent Charges</b>                         | 653941    |

### CARDIO-THORACIC & NEURO SCIENCES CENTRE

|  |           |           |
|--|-----------|-----------|
| <b>1 ADMINISTRATIVE EXPENDITURE</b>                |           |           |
| a) i) Salary (Non-Plan)                            | 280708903 |           |
| ii) Less amount due but not paid during 2004-2005  | -39170    |           |
| iii) Payment of un-disbursed salary for 2003-2004  | 478064    | 281147797 |
| <b>b) Wages</b>                                    |           | 15528130  |
| <b>c) Travelling Allowance</b>                     |           | 1236487   |
| <b>2 Stores (Non-Plan)</b>                         |           |           |
| a) Mat. & Supply                                   |           | 122171591 |
| b) ORBO  |           | 554627    |
| <b>3 Plan</b>                                      |           |           |
| a) Mach. & Equipment                               |           | 135441467 |
| b) Stem Cell                                       |           | 4289228   |
| c) Furniture & Fixtures                            |           | 244587    |
| <b>4 Building maintenance</b>                      |           | 6327438   |
| <b>5 Building construction</b>                     |           | 5302274   |
| <b>6 i) Office Contingencies</b>                   | 1436834   |           |
| ii) Payment of un-disbursed amount for 2003-2004   | 63141     |           |
| iii) Less amount due but not paid during 2004-2005 | -3933     | 1496042   |

|    |                        |          |    |   |          |
|----|------------------------|----------|----|---|----------|
| 12 | AIIMS Recovery         | 2600131  | 7  | <b>Recoverable Advance (Non-Plan)</b>                       |          |
|    |                        |          |    | a) Car  | 360000   |
| 13 | Outside recovery       | 22784597 |    | b) Scooter/Motor Cycle                                      | 120000   |
|    |                        |          |    | c) Bi-Cycle   | 16500    |
| 14 | a) GPF                 | 50438134 |    | d) Computer   | 130000   |
|    | b) GPF remited to PAO  | 58600    |    | e) House Building Advance                                   | 2284250  |
| 15 | Recoverable Advances   |          | 8  | Institute Recovery  | 4800     |
|    | a) Car                 | 485945   |    |   |          |
|    | b) Scooter/Motor Cycle | 578265   | 9  | Refund of Security Deposit                                  | 1395000  |
|    | c) Bicycle             | 3450     |    |   |          |
|    | d) Computer            | 14420    | 10 | Heart Transplant  | 48792    |
|    | e) House Building      | 1499894  |    |   |          |
| 16 | Transport              | 564      | 11 | Neurology Patient A/c                                       | 8138045  |
| 17 | Cardio Test            | 3464235  | 12 | Blood Test  | 3672824  |
| 18 | Blood Test             | 4123415  | 13 | Cardio Test   | 3112378  |
| 19 | Institute Recovery     | 4800     | 14 | Thallium Test   | 4968573  |
|    |                        |          | 15 | AIIMS Recovery  | 2600131  |
|    |                        |          | 16 | Outside recovery  | 22783159 |
|    |                        |          | 17 | a) GPF  | 50438134 |
|    |                        |          |    | b) GPF remited to PAO                                       | 58600    |
|    |                        |          | 18 | Angiography patient A/c against adjustment of previous year | 30000    |

#### C.T. PATIENT A/C

|     |  |           |           |
|-----|--|-----------|-----------|
| 1a) | Patient's Receipts during 2004-2005                            | 231664524 |           |
| b)  | Patient's Refunds 2004-2005                                    | -43252569 |           |
| c)  | Poor Patient's treatment out of interest earned during 2004-05 | 1502621   | 189914576 |
| 2   | Interest during 2004-2005                                      | 10334908  |           |
|     | Poor Patient's treatment expenditure 04-05                     | -1502621  | 8832287   |

#### C.T. PATIENT A/C

|   |                    |           |
|---|--------------------|-----------|
| 1 | Purchase of Stores | 181671900 |
| 2 | Bank Charges       | 16286     |
| 3 | Fresh Cheque       | 500       |

**ANGIOGRAPHY PATIENT A/C**

|      |                             |           |           |
|------|-----------------------------|-----------|-----------|
| 1 a) | Patient's Receipts          | 166916746 |           |
|      | 2004-2005                   |           |           |
| b)   | Patients refunds            | -21284471 |           |
| c)   | Poor Patient's              | 425000    | 146057275 |
|      | treatment out of interest   |           |           |
|      | earned during 2004-05       |           |           |
| 2a)  | Interest during             | 5183765   |           |
|      | 2004-2005                   |           |           |
| b)   | Poor                        | -425000   | 4758765   |
|      | Patient's treatment         |           |           |
|      | expenditure 04-05           |           |           |
| 3    | Received from CNC A/c 30000 |           |           |
|      | against Sh.Dalchand Verma,  |           |           |
|      | Cashier (CNC)               |           |           |

**ANGIOGRAPHY PATIENT A/C**

|   |                      |           |
|---|----------------------|-----------|
| 1 | Purchased for stores | 163405134 |
| 2 | Bank Charges         | 3299      |
| 3 | Fresh cheques        | 12000     |

**GAMMA KNIFE PATIENT A/C**

|   |                    |          |           |
|---|--------------------|----------|-----------|
| 1 | Patient Receipts   | 16601700 | 2004-2005 |
|   | Refund to Patients | -941000  | 15660700  |
| 2 | Interest           |          | 8709528   |
| 3 | Cancelled Cheque   |          | 119100    |
|   | 2003-2004          |          |           |

**GAMMA KNIFE PATIENT A/C**

|   |                     |          |
|---|---------------------|----------|
| 1 | Purchase for Stores | 30315514 |
| 2 | MRI Charges         | 1268000  |
| 3 | TLD Services        | 2800     |
| 4 | Bank Charges        | 1120     |

**NEURO SURGERY PATIENT A/C**

|   |                  |          |          |
|---|------------------|----------|----------|
| 1 | Patient Receipts | 38042000 |          |
|   | 2004-2005        |          |          |
|   | Patient Refund   | -4977700 | 33064300 |
|   | 2004-2005        |          |          |
| 2 | Cancelled Cheque |          | 2000     |
|   | 2003-2004        |          |          |

**NEURO SURGERY PATIENT A/C**

|   |                     |          |
|---|---------------------|----------|
| 1 | Purchase for Stores | 22123393 |
| 2 | Bank charges        | 195.00   |

**NATIONAL DRUG DEPENDENCE  
TREATMENT CENTRE (N.D.D.T.C.)**

|   |                       |          |
|---|-----------------------|----------|
| 1 | Grant-in-Aid (DAC)    | 31000000 |
| 2 | Misc. Receipts        | 38556    |
| 3 | Hosp. Receipts        | 329575   |
| 4 | Interest on F.D.R.    | 16440    |
| 5 | I. Tax (Cash Deposit) | 1062     |
| 6 | Security Deposit      | 65000    |
| 7 | Institute Recoveries  | 4235978  |
| 8 | Outside Recoveries    | 1318342  |

**NATIONAL DRUG DEPENDENC TREATMENT  
CENTRE (N.D.D.T.C.)**

|    |                       |          |
|----|-----------------------|----------|
| 1  | Salary                | 17682594 |
| 2  | Mat. & Supply         | 8462867  |
| 3  | Mach. & Equip.        | 4159138  |
| 4  | Wages                 | 2301840  |
| 5  | Furniture & Fixture   | 344197   |
| 6  | Building construction | 1773505  |
| 7  | Security Deposit      | 50000    |
| 8  | Books                 | 1250151  |
| 9  | Institute Recoveries  |          |
|    | Remitted              | 4218698  |
| 10 | Outside Recoveries    | 1318342  |

**NATIONAL DRUG DEPENDENCE  
TREATMENT CENTRE (N.D.D.T.C.)  
(UNDCP PROJECT)**

1 Grant-in-Aid 1267600

**NATIONAL DRUG DEPENDENCE  
TREATMENT CENTRE (N.D.D.T.C.)  
(UNDCP PROJECT)**

|  |        |        |
|--|--------|--------|
| a) i) TA/DA                                      | 460262 |        |
| ii) TA/DA refund                                 | -84145 | 376117 |
| b) Office Contingency                            |        | 22178  |
| c) Honorarium                                    |        | 38500  |
| d) i) Stationary                                 | 44587  |        |
| ii) Refund                                       | -8378  | 36209  |
| e) Refreshment                                   |        | 71938  |
| f) Hiring Accommodation<br>at AIIMS to Ghaziabad |        | 129200 |
| g) Postage & Courier                             |        | 15544  |

**Dr. B.R.A. INSTITUTE ROTARY CANCER  
HOSPITAL**

|  |          |
|--|----------|
| <b>1</b> Grant in Aid                  |          |
| a) Plan                                |          |
| i) From Institute(Main)                | 23226000 |
| ii) National Cancer<br>Control Program | 6262655  |
| b) Non-Plan                            | 92500000 |
| <b>2</b> Hospital Receipts             | 5302105  |
| <b>3</b> Revolving Funds               | 3658500  |
| <b>4</b> ICMR (DCR)                    | 375810   |
| <b>5</b> Medical Oncology Receipts     | 409300   |
| <b>6</b> AIIMS recoveries received     | 11922149 |
| <b>7</b> Recoverable Advances          |          |
| i) Scooter Advance                     | 4800     |
| ii) Car Advance                        | 12000    |
| <b>8</b> Outside Recoveries            | 6206996  |

**Dr.B.R.A. INSTITUTE ROTARY CANCER  
HOSPITAL**

|  |         |          |
|--|---------|----------|
| <b>1</b> Pay & Allowances                |         | 59939141 |
| <b>2</b> TA/DA                           |         | 898676   |
| <b>3</b> Contingency Bills               |         | 925187   |
| <b>4</b> Revolving Fund                  |         | 2304434  |
| <b>5</b> Custom Duty                     |         | 836210   |
| <b>6</b> Security Services               |         | 1503957  |
| <b>7</b> Maintenance of Building         |         | 1798666  |
| <b>8</b> Material & Supply               |         | 38528134 |
| <b>9</b> Medical Oncology Lab.           |         | 300600   |
| <b>10</b> Car Advance                    |         | 150000   |
| <b>11</b> H.B.A.                         |         | 87750    |
| <b>12 Plan</b>                           |         |          |
| i) Mach. & Equipments<br>Advance payment |         | 15900696 |
| ii) Mach. & Equip. received              |         | 2649641  |
| iii) Furniture & Fixtures                |         | 3158800  |
| <b>13 Building</b>                       |         |          |
| i) Manifold System (HSCC)                | 1800000 |          |
| ii) NDMC                                 | 2626000 | 4426000  |
| <b>14</b> AIIMS Recoveries<br>Remitted   |         | 11922149 |
| <b>15</b> Outside Recoveries<br>Remitted |         | 6206996  |

**POOR PATIENT ACCOUNTS**

|                             |        |
|-----------------------------|--------|
| i) a) AIIMS                 | 146780 |
| ii) R.P. Centre             | 13175  |
| a) Interest on FDR's        | 5095   |
| iii) (a) I.R.C.H.           | 264722 |
| (b) Interest on FDR's       | 8087   |
| iv) N.S. Centre<br>Donation |        |

**POOR PATIENT ACCOUNTS**

|                 |        |
|-----------------|--------|
| i) AIIMS        | 182678 |
| ii) R.P. Centre | 185468 |
| iii) I.R.C.H.   | 58532  |
| iv) N.S. Centre | 24042  |

**PATIENT TREATMENT ACCOUNTS**

|                        |          |
|------------------------|----------|
| 1 (a) AIIMS            | 27891450 |
| (b) Interest           | 407015   |
| 2 a) Dr.B.R.A.I.R.C.H. | 25615053 |

**PATIENT TREATMENT ACCOUNTS**

|                       |          |
|-----------------------|----------|
| i) AIIMS              | 26452532 |
| ii) Dr.B.R.A.I.R.C.H. | 24604102 |

**HOSTELS**

|                            |        |
|----------------------------|--------|
| a) Receipts during 2004-05 |        |
| I) Security Deposits       | 271000 |
| ii) Misc. Receipts         | 7597   |
| iii) Interest earned       | 2366   |
| iv) Interest on FDR's      | 162159 |

**HOSTELS**

|                      |        |
|----------------------|--------|
| a) Security refunds  | 264450 |
| b) Misc. Expenditure | 43544  |

**CLOSING BALANCES****A CASH AT BANK**

|  |           |
|--|-----------|
| i) a) AIIMS(Main)  | 118822691 |
| b) Unspent Balance of<br>Specific Grants remained<br>with AIIMS (Main) | 112927426 |
| ii) Schemes Cell   | 74902476  |
| iii) Dr. R.P. Centre   | 18988109  |
| iv) C.N. Centre  | 88193471  |
| v) C.T. Patient A/c  |           |
| (a) Bank   | 6267675   |
| (b) FDRs   | 225000000 |
| vi) N.D.D.T.C.   | 3970240   |
| vii) Angiography A/c   |           |
| a) Bank  | 2176746   |
| b) FDRs  | 75000000  |

|                           |          |
|---------------------------|----------|
| viii) UNDCP               | 980715   |
| ix) I.R.C.H.              | 8360963  |
| x) Gamma Knife Pt. A/c    |          |
| a) Bank                   | 946909   |
| b) FDRs                   | 67500000 |
| xi) Neuro Surgery Pt. A/c |          |
| a) Bank                   | 7387294  |
| b) FDRs                   | 22000000 |

**B CASH IN HAND (IMPREST)**

|                     |        |
|---------------------|--------|
| i) AIIMS (Main)     | 458650 |
| ii) Dr. R.P. Centre | 8000   |
| iii) C.N. Centre    | 40000  |

**C AMOUNT LYING UNDISBURSED**

|                  |        |
|------------------|--------|
| i) AIIMS (Main)  | 980546 |
| ii) C.N. Centre  | 43103  |
| iii) Scheme Cell | 121866 |

**D POOR PATIENT ACCOUNT**

|                      |        |
|----------------------|--------|
| i) AIIMS (Main)      |        |
| (a) Cash/Bank        | 559517 |
| (b) FDR's            | 327078 |
| ii) IRCH             |        |
| Cash/Bank            | 377382 |
| iii) Dr. R.P. Centre |        |
| Cash/Bank            | 140511 |
| iv) N.S. Centre      |        |
| Cash at Bank         | 56793  |

**E PATIENT TREATMENT A/C**

|              |          |
|--------------|----------|
| i) AIIMS     | 12404563 |
| ii) IRCH     |          |
| a) Cash/Bank | 8620196  |
| b) FDRs      | 6000000  |

**F HOSTELS**

|                  |         |
|------------------|---------|
| i) Cash in hand  | 8038    |
| ii) Cash at Bank | 106431  |
| iii) FDR's       | 1341563 |

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**TOTAL** **8118144031**

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**TOTAL** **8118144031**

**(R.G. Garg)**  
**Financial Advisor**

**(P. Venugopal)**  
**Director**

**ALL INDIA INSTITUTE OF MEDICAL SCIENCE  
INCOME AND EXPENDITURE ACCOUNT  
FOR THE YEAR 2004-2005**

| <b>EXPENDITURE</b>  |   |            | <b>INCOME</b>   |                                     |            |
|---|---|------------|---|-------------------------------------|------------|
| <b>AIIMS (MAIN)</b>   |   |            | <b>AIIMS (MAIN)</b>   |                                     |            |
| <b>NON-PLAN</b>   |   |            | <b>GRANT-IN-AID</b>   |                                     |            |
|   |   |            | Non-Plan  |                                     | 1853226658 |
| <b>1</b>  | Salaries  | 1004559797 | <b>REVENUE RECEIPTS</b>                                       |                                     |            |
| <b>2</b>  | Stipend   | 4723123    | <b>1</b>  | Hospital Receipts                   | 82154239   |
| <b>3</b>  | Travelling Allowances                               | 10802178   | <b>2</b>  | Tution Fee and Exam. Fee            | 1731924    |
| <b>4</b>  | Pensionery Benefits                                 | 158892986  | <b>3</b>  | Employees Health Scheme             | 9047350    |
| <b>5</b>  | Mat. & Supply<br>Non-Plan                           | 405612760  | <b>4</b>  | Rent                                | 7465570    |
| <b>6</b>  | Office Contingency                                  | 399661966  | <b>5</b>  | Interest                            | 12385692   |
| <b>7</b>  | LS & PC           461742<br>Less Receipts   -240717 | 221025     | <b>6</b>  | Miscellaneous Receipts              | 77937675   |
| <b>8</b>  | M. & E (NP)   | 23783540   | <b>DR. RAJENDER PRASAD CENTRE FOR<br/>OPHTHALMIC SCIENCES</b> |                                     |            |
| <b>9</b>  | Maintenance of Buildings                            | 51328800   | <b>1</b>  | Non-Plan Grant in aid               | 152500000  |
| <b>DR. RAJENDER PRASAD CENTRE FOR<br/>OPHTHALMIC SCIENCES</b> |   |            | <b>2</b>  | Hospital Receipts                   | 67633200   |
| <b>1</b>  | Salary and Wages                                    | 138258472  | <b>3</b>  | Interest on Recoverable<br>Advances | 246363     |
| <b>2</b>  | Travelling Allowances                               | 698574     | <b>4</b>  | Misc. Receipts                      | 1339376    |
| <b>3</b>  | Material & Supply                                   | 76503134   | <b>CARDIO-THORACIC &amp; NEURO SCIENCES<br/>CENTRE</b>        |                                     |            |
| <b>4</b>  | Office Expenses                                     | 2978061    | <b>1</b>  | <b>Grant-in-Aid</b><br>Non-Plan     | 400000000  |
| <b>5</b>  | Maintenance of Buildings                            | 2315795    | <b>2</b>  | <b>Revenue Receipts</b>             |            |
| <b>6</b>  | M. & E (NP)   | 367042     | a)  | Hosp. Receipts                      | 16122384   |
| <b>CARDIO-THORACIC &amp; NEURO SCIENCES<br/>CENTRE</b>        |   |            | <b>CARDIO-THORACIC &amp; NEURO SCIENCES<br/>CENTRE</b>        |                                     |            |
| <b>Non-Plan</b>   |   |            | <b>Non-Plan</b>   |                                     |            |
| <b>1</b>  | Salary & Wages                                      | 296237033  |   |                                     |            |
| <b>2</b>  | Travelling Exp.                                     | 1236487    |   |                                     |            |

|   |                           |           |   |   |         |           |
|---|---------------------------|-----------|---|---|---------|-----------|
| 3   | Material & Supply         | 122726218 | b)  | Amount received from outside patients 2003-2004 | -483342 |           |
| 4   | Office Contingency        | 1436834   |   |   |         |           |
| 5   | Maintenance of Buildings  | 6327438   | c)  | Amount due 2003-04                              | 236860  | 15875902  |
|   |                           |           | 3   | Misc. Receipts                                  |         | 3937943   |
|   |                           |           | 4   | Rent Charges                                    |         | 653941    |
|   |                           |           | 5   | Refund & Recoveries                             |         | 849953    |
|   |                           |           | 6   | Interest Earned                                 |         | 422044    |
|   |                           |           | 7   | Levy Charges                                    |         | 388270    |
|   |                           |           | 8   | Transport                                       |         | 564       |
| <b>C.T. PATIENT A/C</b>                                       |                           |           | <b>C.T. PATIENT A/C</b>                                       |   |         |           |
| 1   | Purchase for Stores       | 181671900 | 1   | Patient's Receipts                              |         | 189914576 |
| 2   | Bank Charges              | 16286     | 2   | Interest during 2004-2005                       |         | 8832287   |
| <b>ANGIOGRAPHY PATIENT A/C</b>                                |                           |           | <b>ANGIOGRAPHY PATIENT A/C</b>                                |   |         |           |
| 1   | Purchase for Stores       | 163405134 | 1   | Patient's Receipts                              |         | 146057275 |
| 2   | Bank Charges              | 3299      | 2   | Interest during the year 2004-2005              |         | 4758765   |
| <b>GAMMA KNIFE PATIENT A/C</b>                                |                           |           | <b>GAMMA KNIFE PATIENT A/C</b>                                |   |         |           |
| 1   | Purchase of Stores        | 30315514  | 1   | Patient Receipts                                |         | 15660700  |
| 2   | MRI Charges               | 1268000   | 2   | Interest  |         | 8709528   |
| 3   | TLD Services              | 2800      | 3   | Cancelled Cheques                               |         | 119100    |
| 4   | Bank Charges              | 1120      |   |   |         |           |
| <b>NEURO SURGERY PATIENT A/C</b>                              |                           |           | <b>NEURO SURGERY PATIENT A/C</b>                              |   |         |           |
| 1   | Purchase of Stores        | 22123393  | 1   | Patient Receipts                                |         | 33064300  |
| 2   | Bank Charges              | 195       | 2   | Cancelled Cheque                                |         | 2000      |
| <b>NATIONAL DRUG DEPENDENCE TREATMENT CENTRE (N.D.D.T.C.)</b> |                           |           | <b>NATIONAL DRUG DEPENDENCE TREATMENT CENTRE (N.D.D.T.C.)</b> |   |         |           |
| 1   | Salary                    | 17509794  | 1   | Grant-in-aid (Plan)                             |         | 31000000  |
| 2   | Wages                     | 2301840   |   | Mach. & Equip.                                  |         | -4159138  |
|   |                           |           |   | Building  |         | -1773505  |
|   |                           |           |   | Furniture                                       |         | -344197   |
|   |                           |           |   | Books   |         | -128472   |
| 3 i)  | Material & Supply 2004-05 | 8462867   | 2   | Misc. Receipts                                  |         | 39618     |
| ii)   | Add on a/c of             |           | 3   | Hospital Receipts                               |         | 329575    |



**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
BALANCE SHEET AS ON 31.3.2005**

| LIABILITIES  | 2004-05    | 2003-04 | ASSETS   | 2004-05    | 2003-04   |
|--|------------|---------|--|------------|-----------|
| <b>AIIMS (MAIN)</b>                                    |            |         | <b>AIIMS (MAIN)</b>  |            |           |
| <b>1 BALANCE</b>                                       |            |         | <b>1 CASH IN HAND</b>  |            |           |
| a) Amount due but not paid (AIIMS CASHIER)             | 980546     | 1413611 | a) Imprest (AIIMS CASHIER)   | 458650     | 436650    |
| b) Amount due but not paid (Scheme Cell)               | 121866     | 357398  | b) Amount due but not paid with (AIIMS CASHIER)                    | 980546     | 1413611   |
| <b>2 CAPITAL GRANTS FROM GOVT. OF INDIA</b>            |            |         | c) Amount due but not paid (Scheme Cell)                           | 121866     | 357398    |
| i) Upto 2003-2004                                      | 4585695181 |         | <b>2 Cash at Bank</b>  |            |           |
| ii) During 2004-05 (AIIMS)                             | 578374000  |         | a) (i) AIIMS (Main)  | 118822691  | 98463045  |
| iii) Non-Plan Capitalisation                           | 1773342    |         | (ii) Unspent Balance of Specific Grants remained with AIIMS (Main) | 112927426  | 66330745  |
| iv) Less on account of Mach. & Equip. condemned        | -40082323  |         | b) Scheme Cell   | 74902476   | 20426715  |
| v) Less Books weeded out during 2004-05                | -5089      |         | <b>3 GPF BANK ACCOUNT</b>  | 14725784   | 140118417 |
| vi) Less Furniture condemned during 2004-05            | -434803    |         | <b>4 Investment</b>  |            |           |
| vii) Correction due to para 2.2.2.4 of SAR for 2003-04 | -547408    |         | i) (Appendix-C)  | 1341210996 |           |
|  |            |         | ii) Correction due to Para 5.8 of SAR for 2003-04                  | 2131       |           |
|  |            |         | iii) Correction due to Para 5.8 of SAR                             |            |           |





|           |                                  |          |        |  |            |           |
|-----------|----------------------------------|----------|--------|--|------------|-----------|
| <b>18</b> | Revolving funds                  | 32946017 | -      | MACH. & EQUIP<br>(PLAN & NON-PLAN)               |            |           |
| <b>19</b> | P.P. Programme                   |          |        | a) Upto 2003-2004                                | 271949301  |           |
|           | a) Upto 2004-05                  | -2205    |        | b) During 2004-2005                              | 171280133  |           |
|           | b) Receipts during<br>2004-05    | 400000   |        | c) Less equip. recd.                             | -276279432 | 166950002 |
|           | c) Expenditure<br>during 2004-05 | -281925  | 115870 | <b>B</b> Mat. & Supply (Plan & Non-Plan)         |            |           |
|           |                                  |          |        | a) Upto 2003-2004                                | 21595193   |           |
|           |                                  |          |        | b) During 2004-2005                              | 14398172   |           |
|           |                                  |          |        | c) Less M. & S. received<br>during 2004-2005     | -29726779  | 6266586   |
|           |                                  |          |        |  |            | 21595193  |
|           |                                  |          |        | <b>C</b> P. & PAO<br>(for procurement of stores) |            |           |
|           |                                  |          |        | a) Upto 2003-04                                  | 3052189    |           |
|           |                                  |          |        | b) During 2004-05                                | 300000     |           |
|           |                                  |          |        | c) Adjustment of advances<br>made during 2004-05 | -295360    | 3056829   |
|           |                                  |          |        |  |            | 3052189   |
|           |                                  |          |        | <b>D</b> Ty. Contigent Adv.                      |            |           |
|           |                                  |          |        | a) Upto 2003-2004                                | 2438354    |           |
|           |                                  |          |        | b) During 2004-2005                              | 2489032    |           |
|           |                                  |          |        | c) Adj. during 2004-2005 of<br>previous year     | -2343354   | 2584032   |
|           |                                  |          |        |  |            | 2438354   |
|           |                                  |          |        | <b>E</b> Private Firms for stores                |            |           |
|           |                                  |          |        | a) Upto 2003-2004                                | 5635318    |           |
|           |                                  |          |        | b) during 2004-2005                              | 7039972    |           |
|           |                                  |          |        | c) Less adj. during<br>2004-2005                 | -2692890   | 9982400   |
|           |                                  |          |        |  |            | 5635318   |
|           |                                  |          |        | <b>F</b> M/s. H.S.C.C. for Trauma<br>Centre      |            |           |
|           |                                  |          |        | a) Upto 2003-2004                                | 347250000  |           |
|           |                                  |          |        | b) during 2004-2005                              | 68618000   |           |

|              |  |            |            |            |
|--------------|--|------------|------------|------------|
| c)           | Correction due to para 2.2.1.1 of SAR for 2003-04            | -139267098 |            |            |
| d)           | Adjustment of advances                                       | -229380364 | 47220538   | 347250000  |
| <b>G</b>     | M/s H.S.C.C. for Dental College                              |            |            |            |
|              | (i) Upto 2003-04   | 2020000    |            |            |
|              | (ii) during 2004-05  | 51931487   | 53951487   | 2020000    |
| <b>H</b>     | NDMC for augmenting L.T-Line in Eastern & Western Campus     |            | 12755500   | 12755500   |
| <b>I</b>     | Delhi Vidyut Board for Installation of 11 K.V.A. Sub-Station |            | 3362787    | 3362787    |
| <b>13 i)</b> | Books & Publications   |            |            |            |
|              | a) Upto 2003-2004  | 129330919  |            |            |
|              | b) During 2004-2005  | 14243210   |            |            |
|              | c) Less books weeded out during 2004-2005                    | -5089      | 143569040  | 129330919  |
| ii)          | Books donated  |            |            |            |
|              | a) Upto 2003-2004  | 81867      |            |            |
|              | b) During 2004-2005  | 2145       | 84012      | 81867      |
| <b>14</b>    | Building Construction  |            |            |            |
| <b>(A)</b>   | AIIMS (Main)   |            |            |            |
| a)           | Upto 2003-2004   | 1495812491 |            |            |
| b)           | during 2004-2005   | 112368779  |            |            |
| c)           | Add Adjustment of Advance payment                            | 6232663    | 1614413933 | 1495812491 |

|                            |  |            |           |
|----------------------------|--|------------|-----------|
| <b>(B) Trauma Centre</b>   |  |            |           |
| (a)                        | Correction due to para 2.2.2.1 of SAR for 2003-04      | 139267098  |           |
| (b)                        | Adjustment of advances during current year             | 229380364  | 368647462 |
|                            |  |            | -         |
| <b>15 Advance Payments</b> |  |            |           |
| i)a                        | Municipal Corp. of Delhi for removal of Jhuggies       | 104747000  |           |
| b                          | Advance adjusted                                       | -104747000 | 0         |
| ii)                        | Indian Iron & Steel Co.                                |            | 572139    |
| iii)                       | Tata Iron & Steel Co.                                  |            | 654154    |
| iv)                        | Hindustan Steel Ltd.                                   |            | 520295    |
| v)                         | Indian Iron & Steel Co.                                |            | 594000    |
| <b>16 Land Account</b>     |  |            |           |
| (a)                        | As per last B/S  | 8085263    |           |
| (b)                        | Adjustment on a/c of removal of jhuggies               | 104747000  | 112832263 |
|                            |  |            | 8085263   |
| <b>17 Vehicles</b>         |  |            |           |
| i)                         | Vehicle (purchased for AIIMS)                          |            |           |
| a)                         | Up to 2003-2004  | 31955265   |           |
| b)                         | During 2004-2005                                       | -          |           |
| c)                         | Less correction due to para 2.2.2.4 of SAR for 2003-04 | -547408    | 31407857  |
|                            |  |            | 31955265  |
| ii)                        | Vehicles donated for AIIMS                             |            |           |
| a)                         | Up to 2003-2004  | 3036507    |           |
| b)                         | During 2004-2005                                       | -          | 3036507   |
|                            |  |            | 3036507   |

|           |   |          |          |  |          |
|-----------|---|----------|----------|--|----------|
| <b>18</b> | Advance payment to P&AO for purchase of Building Material |          |          |  |          |
| a)        | Upto 2003-2004  | 31182019 |          |  |          |
| b)        | During 2004-2005  | 6082168  |          |  |          |
| c)        | Less Adjustment in 2004-2005                              | -6232663 | 31031524 |  | 31182019 |
| <b>19</b> | Hospital receipts recoverable from outside patients       |          |          |  |          |
| a)        | Up to 2003-04   | 4289948  |          |  |          |
| b)        | During 2004-05  | 4746329  |          |  |          |
| c)        | Amount recd. 2004-05                                      | -5389039 | 3647238  |  | 4289948  |
| <b>20</b> | Revolving Fund  |          | 19149733 |  | -        |
| <b>21</b> | P.P. Programme  |          |          |  | 2205     |

**DR. RAJENDER PRASAD CENTRE FOR OPHTHALMIC SCIENCES**

|          |   |           |           |  |           |
|----------|---|-----------|-----------|--|-----------|
| <b>1</b> | Balances  |           |           |  |           |
|          | Amount due but not paid                           | -         |           |  |           |
| <b>2</b> | Capital Grant from Govt. of India                 |           |           |  |           |
| a)       | Upto 2003-2004                                    | 467670394 |           |  |           |
| b)       | During 2004-2005                                  | 60000000  |           |  |           |
| c)       | Mach. Condmmned during 2004-2005                  | -10658863 |           |  |           |
| d)       | Correction due to para 2.2.1.3 of SAR for 2003-04 | 238789    | 517250320 |  | 467670394 |
| <b>3</b> | NPCB as per last year Balance Sheet               |           | 25629000  |  | 25629000  |

**DR. RAJENDER PRASAD CENTRE FOR OPHTHALMIC SCIENCES**

|          |                                  |         |          |  |          |
|----------|----------------------------------|---------|----------|--|----------|
| <b>1</b> | CASH IN HAND                     |         |          |  |          |
| a)       | Imprest                          |         | 8000     |  | 8000     |
| b)       | Undisbursed amount               |         | -        |  | 126876   |
| <b>2</b> | Cash at Bank                     |         | 18988109 |  | 14069683 |
| <b>3</b> | RECOVERABLE ADVANCE              |         |          |  |          |
| a)       | Car                              |         |          |  |          |
| i)       | Upto 2003-04                     | -260647 |          |  |          |
| ii)      | Paid during 2004-05              | -       |          |  |          |
| iii)     | Recovery received during 2004-05 | -43096  |          |  |          |





|                                 |          |        |        |  |  |           |
|---------------------------------|----------|--------|--------|--|--|-----------|
| c) Expenditure during 2004-2005 | -84272   | 70728  |        |  |  |           |
| <b>17 RIP</b>                   |          |        |        |  |  |           |
| a) Upto 2003-2004               | 17277    |        |        |  |  |           |
| b) During 2004-2005             | 19350    |        |        |  |  |           |
| c) Expenditure during 2004-2005 | -25405   |        |        |  |  |           |
|                                 |          | 11222  | 17277  |  |  | 6816719   |
|                                 |          |        |        |  |  | 41651598  |
|                                 |          |        |        |  |  | -19113772 |
|                                 |          |        |        |  |  | 29354545  |
|                                 |          |        |        |  |  | 6816719   |
| <b>18 AEH</b>                   |          |        |        |  |  |           |
| a) Upto 2003-2004               | -        |        |        |  |  |           |
| b) During 2004-2005             | 93000    |        |        |  |  |           |
| c) Expenditure during 2004-2005 | -93000   | 0      |        |  |  |           |
| <b>19 MBDL</b>                  |          |        |        |  |  |           |
| a) Upto 2003-2004               | -        |        |        |  |  |           |
| b) During 2004-2005             | 103356   |        |        |  |  |           |
| c) Expenditure during 2004-2005 | -10000   | 93356  |        |  |  |           |
| <b>20 DOS-NPCB</b>              |          |        |        |  |  |           |
| a) Upto 2003-2004               | 268605   |        |        |  |  |           |
| b) During 2004-2005             | 225000   |        |        |  |  |           |
| c) Expenditure during 2004-2005 | -153361  | 340244 | 268605 |  |  |           |
| <b>21 CSIR</b>                  |          |        |        |  |  |           |
| a) Upto 2003-2004               | 22214    |        |        |  |  |           |
| b) During 2004-2005             | 1587164  |        |        |  |  |           |
| c) Expenditure during 2004-2005 | -1609378 | 0      | 22214  |  |  |           |
| <b>22 NIAF</b>                  |          |        |        |  |  |           |
| a) Upto 2003-2004               | 198430   |        |        |  |  |           |
| b) During 2004-2005             | 415000   |        |        |  |  |           |
| c) Expenditure during 2004-2005 | -112145  | 501285 | 198430 |  |  |           |
|                                 |          |        |        |  |  | 76352     |
|                                 |          |        |        |  |  | 76352     |
|                                 |          |        |        |  |  | 0         |
|                                 |          |        |        |  |  | -1052673  |
|                                 |          |        |        |  |  | 1052673   |
|                                 |          |        |        |  |  | -1052673  |
|                                 |          |        |        |  |  | 0         |
|                                 |          |        |        |  |  | -         |

|           |  |         |        |       |
|-----------|--|---------|--------|-------|
| <b>23</b> | <b>CRP</b>                             |         |        |       |
| a)        | Upto 2003-2004                         | -       |        |       |
| b)        | During 2004-2005                       | 100800  |        |       |
| c)        | Expenditure during 2004-2005           | -92000  | 8800   |       |
| <b>24</b> | <b>DBCS</b>                            |         |        |       |
| a)        | Upto 2003-2004                         | -       |        |       |
| b)        | During 2004-2005                       | 15500   |        |       |
| c)        | Expenditure during 2004-2005           | -5000   | 10500  |       |
| <b>25</b> | <b>CEP-Phakie IOL</b>                  |         |        |       |
| a)        | Upto 2003-2004                         | 30274   |        |       |
| b)        | During 2004-2005                       | 270000  |        |       |
| c)        | Expenditure during 2004-2005           | -213954 | 86320  | 30274 |
| <b>26</b> | <b>Allargan International</b>          |         |        |       |
| a)        | Upto 2003-2004                         | 30865   |        |       |
| b)        | During 2004-2005                       | 289131  |        |       |
| c)        | Expenditure during 2004-2005           | -201384 | 118612 | 30865 |
| <b>27</b> | <b>Neema-International Pilot study</b> |         |        |       |
| a)        | Upto 2003-2004                         | -       |        |       |
| b)        | During 2004-2005                       | 11600   |        |       |
| c)        | Expenditure during 2004-2005           | -11600  | 0      | -     |
| <b>28</b> | <b>Workshop</b>                        |         |        |       |
| a)        | Upto 2003-2004                         | 21019   |        |       |
| b)        | During 2004-2005                       | 122547  |        |       |
| c)        | Expenditure during 2004-2005           | -122547 | 21019  | 21019 |
| <b>29</b> | <b>DST</b>                             |         |        |       |
| a)        | Upto 2003-2004                         | 67083   |        |       |
| b)        | During 2004-2005                       | -       |        |       |

|   |         |         |         |
|---|---------|---------|---------|
| c) Expenditure during 2004-2005             | -67083  | 0       | 67083   |
| <b>30 WHO Short term Training Programme</b> |         |         |         |
| a) Upto 2003-2004                           | 41191   |         |         |
| b) During 2004-2005                         | -       |         |         |
| c) Expenditure during 2004-2005             | -       | 41191   | 41191   |
| <b>31 Evaluation Study on glaucoma</b>      |         |         |         |
| a) Upto 2003-2004                           | 65800   |         |         |
| b) During 2004-2005                         | -       |         |         |
| c) Expenditure during 2004-2005             | -       | 65800   | 65800   |
| <b>32 Refund of Security Deposits</b>       |         |         |         |
| a) Upto 2003-2004                           | 2136000 |         |         |
| b) During 2004-2005                         | 110000  |         |         |
| c) Expenditure during 2004-2005             | -110000 | 2136000 | 2136000 |
| <b>33 AIIMS Remittance</b>                  |         |         |         |
| a) As per last year                         | 214410  |         | 214410  |
| b) Outside recoveries                       | 11923   | 226333  | 11923   |
| <b>34 District Blindness Suvey</b>          |         |         |         |
|   |         | -       | 0       |
| <b>35 CRP A/c</b>                           |         |         |         |
|   |         | -       | 0       |
| <b>34 Sight A/c</b>                         |         |         |         |
|   |         | -       | 0       |
| <b>34 AMD A/c</b>                           |         |         |         |
|   |         | -       | 0       |
| <b>35 NPCB-RAS</b>                          |         |         |         |
|   |         | -       | 0       |
| <b>36 AIIMS Research Grant</b>              |         |         |         |
|   |         | -       | 0       |

**CARDIO-THORACIC & NEURO SCIENCES  
CENTRE**

**CARDIO-THORACIC & NEURO SCIENCES  
CENTRE**

|          |   |            |            |            |          |   |            |            |
|----------|---|------------|------------|------------|----------|---|------------|------------|
| <b>1</b> | Balance   |            |            |            | <b>1</b> | Cash in hand                                      |            |            |
|          | Amount due but not paid (cashier)                 |            |            |            | a)       | Imprest (CTNS-Cashier) 2004-2005                  | 40000      | 40000      |
| a)       | Salary  | 39170      |            |            | b)       | Amount due but not paid                           | 43103      | 541205     |
| b)       | Office Contingency                                | 3933       | 43103      | 541205     | c)       | Amount received but not credited                  | -          | 128780     |
| <b>2</b> | Capital Grant from Govt. of India                 |            |            |            | <b>2</b> | Cash at Bank                                      | 88193471   | 68537525   |
| i)       | Upto 2003-2004                                    | 1959575160 |            |            | a)       | Computer  | 221980     | 106400     |
| ii)      | During 2004-2005                                  | 158400000  |            |            | b)       | Car   | 1035594    | 1161539    |
| iii)     | Less Machinery condemned                          | -16231992  |            |            | c)       | Cycle   | 13050      | -          |
| iv)      | Correction due to para 2.2.2.7 of SAR for 2003-04 | -8086752   | 2093656416 | 1959575160 | d)       | Scooter   | 1103393    | 1561658    |
|          |   |            |            |            | e)       | House Building Advance                            | 11169326   | 10384970   |
| <b>3</b> | Cost of the vehicle donated by Sai Bhakta Samaj   |            | 613384     |            | <b>4</b> | Mach. & Equip.                                    |            |            |
| i)       | Upto 2003-2004                                    | -          |            |            | i)       | Upto 2003-2004                                    | 1501663169 |            |
| ii)      | During 2004-2005                                  | 7225       |            |            | ii)      | During 2004-2005                                  | 124850303  |            |
| iii)     | Less Expenditure                                  | -7225      | 0          | 0          | iii)     | Less Machinery condemned                          | -16154462  |            |
| <b>5</b> | Neurology Patient A/c                             |            |            |            | iv)      | Correction due to para 2.2.1.4 of SAR for 2003-04 | 364000     |            |
| i)       | Upto 2003-2004                                    | 3531515    |            |            | v)       | Correction due to para 2.2.2.7 of SAR for 2003-04 | -8087452   | 1501663169 |
| ii)      | Receipt during 2004-2005                          | 16607161   |            |            |          |   | 1602635558 |            |
| iii)     | Less refund/Exp. 2004-2005                        | -8138045   | 12000631   | 3531515    |          |   |            |            |
| <b>6</b> | Outside recoveries                                |            |            |            |          |   |            |            |
| i)       | Upto 2003-2004                                    | 303170     |            |            |          |   |            |            |
| ii)      | 2004-2005 (+)                                     | 1438       | 304608     | 303170     |          |   |            |            |



|           |  |        |   |       |  |         |
|-----------|--|--------|---|-------|--|---------|
| <b>13</b> | i) Amt. received from Dal Chand, Cashier           | 30000  |   |       | <b>9</b> Vehicles                                    |         |
|           | ii) Less amount transferred to Angiography Pt. A/c | -30000 | 0 | 30000 | i) Ambassador Cars                                   | 1412570 |
|           |  |        |   |       | ii) Ambulance ORBO                                   |         |
|           |  |        |   |       | iii) Cost of the vehicle donated by Sai Bhakta Samaj | 613384  |
|           |  |        |   |       |  | 2025954 |
|           |  |        |   |       |  | 1412570 |
|           |  |        |   |       | <b>10</b> Furniture & Fixture during 2004-05         | 244587  |
|           |  |        |   |       |  | -       |

**C.T. PATIENT A/C**

|          |                |           |           |           |
|----------|----------------|-----------|-----------|-----------|
| <b>1</b> | Fixed Deposits |           |           |           |
| a)       | 2003-2004      | 200000000 |           |           |
| b)       | 2004-2005      | 25000000  | 225000000 | 200000000 |
| <b>2</b> | Cash in hand   |           | -         | 1677362   |
| <b>3</b> | Cash at Bank   |           | 6267675   | 12532136  |

**ANGIOGRAPHY PATIENT A/C**

|          |   |           |          |          |
|----------|---|-----------|----------|----------|
| <b>1</b> | Cash recoverable from Sh. Dal Chand Verma, Cashier          | 3275441   |          |          |
|          | Received from CNC A/c against Sh. D.C. Verma (Cashier, CNC) | -30000    | 3245441  | 3275441  |
| <b>2</b> | Fixed Deposits  |           |          |          |
| a)       | 2003-2004   | 85000000  |          |          |
| b)       | 2004-2005   | -10000000 | 75000000 | 85000000 |
| <b>3</b> | Cash in hand  |           | -        | 1093721  |
| <b>4</b> | Cash at bank  |           | 2176746  | 3657418  |

**GAMMA KNIFE PATIENT A/C**

|          |               |          |          |          |
|----------|---------------|----------|----------|----------|
| <b>1</b> | Fixed Deposit |          |          |          |
| a)       | 2003-2004     | 70000000 |          |          |
| b)       | 2004-2005     | -2500000 | 67500000 | 70000000 |
| <b>2</b> | Cash in Hand  |          |          | 300000   |
| <b>3</b> | Cash at Bank  |          | 946909   | 5245015  |

**NEURO SURGERY PATIENT A/C****NEURO SURGERY PATIENT A/C**

|          |                |         |         |         |
|----------|----------------|---------|---------|---------|
| <b>1</b> | Fixed Deposits |         |         |         |
| a)       | 2003-04        | 1200000 |         |         |
| b)       | 2004-05        | 1000000 | 2200000 | 1200000 |
| <b>2</b> | Cash in hand   |         | -       | 734500  |
| <b>3</b> | Cash at bank   |         | 7387294 | 5710082 |

**NATIONAL DRUG DEPENDENCE TREATMENT CENTRE (N.D.D.T.C.)****NATIONAL DRUG DEPENDENCE TREATMENT CENTRE (N.D.D.T.C.)**

|          |   |           |           |  |
|----------|---|-----------|-----------|--|
| <b>1</b> | Capital fund of DAC                               |           |           |  |
| a)       | Upto 2003-2004                                    | 115135207 |           |  |
| b)       | Mach. & Equip.                                    | 4159138   |           |  |
| c)       | Furniture   | 344197    |           |  |
| d)       | Building  | 1773505   |           |  |
| e)       | Books   | 128472    |           |  |
| f)       | Correction due to para 2.2.2.4 of SAR for 2003-04 | -858000   | 120682519 |  |

|          |   |          |         |         |
|----------|---|----------|---------|---------|
| <b>1</b> | Cash at Bank                                      |          | 3970240 | 8526619 |
| <b>2</b> | Mach. & Equip.                                    |          |         |         |
| a)       | Upto 2003-2004                                    | 14291211 |         |         |
| b)       | During 2004-2005                                  | 4159138  |         |         |
| c)       | Correction due to para 2.2.1.4 of SAR for 2003-04 | 1031871  |         |         |
| d)       | Correction due to para 2.2.1.5 of SAR for 2003-04 | -693467  |         |         |

|   |  |        |        |        |  |          |          |          |
|---|--|--------|--------|--------|--|----------|----------|----------|
| 2 | Institute Recovery                                   | 113215 | 113215 | 113215 | e) Correction due to para 2.2.2.6 of SAR for 2003-04 | -94936   | 18693817 | 14291211 |
|   | i) Upto 2003-04                                      | -      |        |        |  |          |          |          |
|   | D) During 2004-05                                    |        |        |        |  |          |          |          |
| 3 | Security Deposit                                     | 50000  |        |        | 3 Adv. For purchase of Mat. & Supply Upto 2003-04    | 1270440  |          | 1270440  |
|   | a) Upto 2003-04                                      |        |        |        |  |          |          |          |
|   | b) Refund 2004-05                                    | -50000 |        |        | b) Less adjustment                                   | -1270440 |          |          |
|   | c) Receipt 2004-05                                   | 65000  | 65000  | 50000  | c) During 2004-2005                                  | 1121679  | 5450218  | 5321746  |
| 4 | Books & Publication                                  |        |        |        | a) Upto 2003-04                                      | 5321746  |          |          |
|   | a) Upto 2003-04                                      |        |        |        | b) Adjustment 2003-04                                | 128472   |          |          |
| 5 | Furniture & Fixture                                  |        |        |        | a) Upto 2003-2004                                    | 1651811  |          |          |
|   | a) Upto 2003-2004                                    |        |        |        | b) During 2004-2005                                  | 344197   |          |          |
|   | b) During 2004-2005                                  |        |        |        | c) Adjustment 2003-04                                | 38961    | 2034969  | 1651811  |
| 6 | Building Construction                                |        |        |        | a) Upto 2003-2004                                    | 90070708 |          |          |
|   | a) Upto 2003-2004                                    |        |        |        | b) During 2004-2005                                  | 1773505  | 91844213 | 90070708 |
| 7 | Vehicles   |        |        |        | a) Upto 2003-04                                      | 3187461  |          |          |
|   | a) Upto 2003-04                                      |        |        |        | b) Correction due to para 2.2.2.3 of SAR for 2003-04 | 693467   |          |          |
|   | b) Correction due to para 2.2.2.3 of SAR for 2003-04 |        |        |        | c) Correction due to para 2.2.2.4 of SAR for 2003-04 | -858000  | 3022928  | 3187461  |
| 8 | Outside Recoveries                                   |        |        |        |  |          | 40708    | 40708    |
| 9 | Car Advance  |        |        |        | a) 2004-05   | 172800   |          |          |
|   | a) 2004-05   |        |        |        | b) Recovery  | -17280   | 155520   | -        |
|   | b) Recovery  |        |        |        |  |          |          |          |

**NATIONAL DRUG DEPENDENCE TREATMENT CENTRE (N.D.D.T.C.) (UNDCP PROJECT)**  
Opening balance

402801

402801

**NATIONAL DRUG DEPENDENCE TREATMENT CENTRE (N.D.D.T.C.) (UNDCP PROJECT)**  
Cash at Bank

980715

**Dr.B.R.A. INSTITUTE ROTARY CANCER HOSPITAL**

|          |  |           |  |
|----------|--|-----------|--|
| <b>1</b> | Balance amount due but not paid                                      |           |  |
| <b>2</b> | Capital Grant  |           |  |
| a)       | During 2003-2004   | 763002359 |  |
| b)       | i) From Institute(M)   | 23226000  |  |
|          | ii) National Cancer Control Program                                  | 6262655   |  |
| c)       | Add. Mach. & Equip. as per para 2.2.1.4 of SAR for 2003-04           | 4886148   |  |
| d)       | Less furniture & fixtures as per para 2.2.1.6 of SAR for 2003-04     | -502782   |  |
| e)       | Less Mach. & Equip. condemned as per para 2.2.2.7 of SAR for 2003-04 | -1051000  |  |
| f)       | Correction due to para of SAR for 2003-04                            | 10949     |  |

795834329

763002359

**Dr.B.R.A. INSTITUTE ROTARY CANCER HOSPITAL**

|          |   |           |         |
|----------|---|-----------|---------|
| <b>1</b> | a) Cash at Bank   |           | 8360963 |
|          | b) Undisbursed amount   |           | -       |
| <b>2</b> | Furniture & Fixtures  |           |         |
| a)       | Upto 2003-2004  | 7756927   |         |
| b)       | During 2004-2005  | 3158800   |         |
| c)       | Less adjustment as per audit para 2.2.2.6 of SAR for the year 2003-04 | -502782   |         |
| d)       | Add difference as per B/S 2003-04                                     | 10949     |         |
| <b>3</b> | Scooter Advance   | 6800      |         |
|          | Less  | -4800     | 2000    |
| <b>4</b> | Car Advance & HBA   | 237750    |         |
|          | Less  | -12000    | 225750  |
| <b>5</b> | Mach. & Equip.  |           |         |
| a)       | Upto 2003-2004  | 409415342 |         |
| b)       | Add goods received during 2004-2005                                   | 3485851   |         |
| c)       | Add advance adjusted during 2004-05                                   | 26483225  |         |

10017685

10423894

7756927

|          |                        |          |         |        |          |           |
|----------|------------------------|----------|---------|--------|----------|-----------|
| <b>3</b> | Revolving Fund         |          |         |        |          |           |
| i)       | Upto 2003-04           | 511129   |         |        |          |           |
| ii)      | Add During 2004-05     | 3658500  |         |        |          |           |
| iii)     | Less payment 2004-05   | -2304434 | 1865195 | 511129 | 4886148  |           |
| <b>4</b> | Medical Oncology (Lab) |          |         |        |          |           |
| i)       | Upto 2003-04           | -        |         |        |          |           |
| ii)      | During 2004-05         | 409300   |         |        |          |           |
| ii)      | Less M&S received      | -300600  | 108700  | -      | -1051000 | 409415342 |

**6 Advance Payment on account of Mach. & Equip.**

|          |                                       |           |          |        |           |           |
|----------|---------------------------------------|-----------|----------|--------|-----------|-----------|
| a)       | During 2003-04                        | 34851308  |          |        |           |           |
| b)       | During 2004-05                        | 15900696  |          |        |           |           |
| c)       | Less advances adjusted during 2004-05 | -26483225 | 24268779 |        |           | 34851308  |
| <b>7</b> | Building Construction                 |           |          |        |           |           |
| a)       | Upto 2003-2004                        | 292979544 |          |        |           | 292979544 |
| b)       | During 2004-2005                      | 4426000   |          |        | 297405544 |           |
| <b>8</b> | Vehicle                               |           |          |        |           |           |
| i)       | Upto 2003-2004                        |           |          | 741321 |           | 741321    |
| ii)      | During 2004-05                        |           |          | -      |           |           |

**POOR PATIENT A/C**

|          |                 |        |  |  |  |        |
|----------|-----------------|--------|--|--|--|--------|
| <b>1</b> | AIIMS (Main)    |        |  |  |  |        |
| a)       | Opening Balance | 595415 |  |  |  | 595415 |
| i)       | Cash/Bank       | 327078 |  |  |  |        |
| ii)      | FDR's           |        |  |  |  |        |

**POOR PATIENT A/C**

|          |              |        |  |  |        |        |
|----------|--------------|--------|--|--|--------|--------|
| <b>1</b> | AIIMS (Main) |        |  |  |        |        |
| a)       | Cash/Bank    | 595415 |  |  | 559517 | 595415 |
| b)       | FDR's        | 327078 |  |  | 327078 | 327078 |



**PATIENT TREATMENT ACCOUNTS**

|          |                          |           |          |  |          |
|----------|--------------------------|-----------|----------|--|----------|
| <b>1</b> | <b>AIIMS</b>             |           | 10558630 |  | 10558630 |
| a)       | Opening Balance          | 10558630  |          |  |          |
| b)       | Receipts                 | 27891450  |          |  |          |
|          | (i) Grants               |           |          |  |          |
|          | (ii) Interest            | 407015    |          |  |          |
|          | (iii) Payments           | -26452532 |          |  |          |
| c)       | Closing Balance          |           | 12404563 |  |          |
| <b>2</b> | <b>Dr.B.R.A.I.R.C.H.</b> |           |          |  |          |
| a)       | Opening Balance          | 13609245  |          |  | 13609245 |
| b)       | Receipts                 |           |          |  |          |
|          | i) Grants                |           |          |  |          |
|          | ii) Cheque Cancelled     | 25615053  |          |  |          |
|          | iii) Payments            | -24604102 |          |  |          |
| c)       | Closing Balance          |           | 14620196 |  |          |

**PATIENT TREATMENT ACCOUNTS**

|          |                          |         |          |  |          |
|----------|--------------------------|---------|----------|--|----------|
| <b>1</b> | <b>AIIMS</b>             |         | 12404563 |  | 10558630 |
| <b>2</b> | <b>Dr.B.R.A.I.R.C.H.</b> |         |          |  |          |
| a)       | Cash/Bank                | 8620196 |          |  | 13609245 |
| b)       | FDR's                    | 6000000 |          |  |          |

**HOSTELS**

|      |                             |         |        |  |        |
|------|-----------------------------|---------|--------|--|--------|
|      | Security Deposits           |         |        |  |        |
| i)   | Upto 2003-04                | 149250  |        |  |        |
| ii)  | receipts during 2004-05     | 271000  |        |  |        |
| iii) | less refunds during 2004-05 | -264450 | 155800 |  | 149250 |

**HOSTELS**

|          |              |         |  |  |         |
|----------|--------------|---------|--|--|---------|
| <b>1</b> | Cash in hand | 8038    |  |  | 13423   |
| <b>2</b> | Cash at Bank | 106431  |  |  | 36077   |
| <b>3</b> | FDR's        | 1341563 |  |  | 1271404 |

**EXCESS OF INCOME OVER EXPENDITURE**

|          |   |           |           |           |  |
|----------|---|-----------|-----------|-----------|--|
| <b>1</b> | <b>DR. R.P. CENTRE</b>  |           |           |           |  |
| i)       | Upto 2003-04  | 3923183   |           |           |  |
| ii)      | During 2004-05  | 597861    |           |           |  |
| iii)     | Net effect of rectification of misclassification {recoverable advance S.No.3(Assets)} | 551215    |           |           |  |
| iv)      | Adjustment due to para 2.2.1.3 of SAR for 2003-04                                     | 30018     |           |           |  |
| v)       | Adjustment due to para 2.2.1.4 of SAR for 2003-04                                     | 599162    | 5701439   | 3923183   |  |
| <b>2</b> | <b>C.T. PATIENT A/C</b>   |           |           |           |  |
| i)       | Upto 2003-04  | 214209498 |           |           |  |
| ii)      | Excess of income over expenditure during 2004-05                                      | 17058177  | 231267675 | 214209498 |  |
| <b>3</b> | <b>ANGIOGRAPHY PATIENT A/C</b>  |           |           |           |  |
| i)       | Upto 2003-04  | 93026580  |           |           |  |
| ii)      | Less excess of expenditure over income during 2004-05                                 | -12604393 | 80422187  | 93026580  |  |
| <b>4</b> | <b>GAMMA KNIFE PATIENT A/C</b>  |           |           |           |  |
| i)       | Upto 2003-04  | 75545015  |           |           |  |
| ii)      | Less excess of expenditure over income during 2004-05                                 | -7098106  | 68446909  | 75545015  |  |

**EXCESS OF EXPENDITURE OVER INCOME**

|          |  |          |          |          |  |
|----------|--|----------|----------|----------|--|
| <b>1</b> | <b>AIIMS (Main)</b>                                |          |          |          |  |
| i)       | Upto 2003-2004                                     | 10417115 |          |          |  |
| ii)      | Correction due to para 2.2.1.4 of SAR for 2003-04  |          |          |          |  |
| a)       | Furniture  | -70263   |          |          |  |
| b)       | Mach. & Equipt.                                    | -3448778 |          |          |  |
| iii)     | Correction due to para 2.2.2.6 of SAR for 2003-04  | 30670    |          |          |  |
| iv)      | Correction due to para 5.8 of SAR for 2003-04      | -82150   |          |          |  |
| a)       | Correction due to para 5.8 of SAR for 2003-04      | -2131    |          |          |  |
| v)       | During 2004-05                                     | 15637067 | 22481530 | 10417115 |  |
| <b>2</b> | <b>C.N. Centre</b>                                 |          |          |          |  |
| i)       | Excess of expenditure over income upto 2003-04     | 17397069 |          |          |  |
| ii)      | Excess of expenditure over income upto 2004-05     | 5835393  |          |          |  |
| iii)     | Adjustment against SAR para 2.2.2.8                | 589750   |          |          |  |
| iv)      | Adjustment against para 2.2.1.4 of SAR for 2003-04 | -47000   |          |          |  |
| v)       | Adjustment against para 2.2.1.4 of SAR for 2003-04 | -364000  | 23411212 | 17397069 |  |

|          |   |          |                    |                   |  |  |  |                    |                   |
|----------|---|----------|--------------------|-------------------|--|--|--|--------------------|-------------------|
| <b>5</b> | <b>NEURO SURGERY PATIENT A/C</b>                      |          |                    |                   |  |  |  |                    |                   |
| i)       | Upto 2003-04  | 18444582 |                    |                   |  |  |  |                    | 7744561           |
| ii)      | Excess of income over expenditure during 2004-05      | 10942712 | 29387294           | 18444582          |  |  |  | 13160407           | 7744561           |
| <b>6</b> | <b>N.D.D.T.C.</b>                                     |          |                    |                   |  |  |  |                    |                   |
| i)       | Upto 2003-04  | 9062282  |                    |                   |  |  |  |                    | 5415846           |
| ii)      | Less excess of expenditure over income during 2004-05 | -4564620 |                    |                   |  |  |  |                    |                   |
| iii)     | Correction due to para 2.2.1.4 of SAR for 2003-04     | 1031871  |                    |                   |  |  |  |                    |                   |
| iv)      | Correction due to para 2.2.1.4 of SAR for 2003-04     | 38961    |                    |                   |  |  |  |                    |                   |
| v)       | Correction due to para 2.2.2.6 of SAR for 2003-04     | -94936   | 5473558            | 9062282           |  |  |  |                    |                   |
| <b>7</b> | <b>NATIONAL DRUG DEPENDENCE TREATMENT</b>             |          |                    |                   |  |  |  |                    |                   |
|          | <b>PROJECT (UNDCP)</b>                                |          |                    |                   |  |  |  |                    |                   |
| i)       | During 2004-05  |          | 577914             | -                 |  |  |  |                    |                   |
| <b>8</b> | <b>HOSTEL</b>   |          |                    |                   |  |  |  |                    |                   |
| i)       | Upto 2003-04  | 1171654  |                    |                   |  |  |  |                    |                   |
| ii)      | During 2004-05  | 128578   | 1300232            | 1171654           |  |  |  |                    |                   |
|          |   |          | <b>10845085422</b> | <b>9832621642</b> |  |  |  | <b>10845085422</b> | <b>9832621642</b> |

**Note:**

1. The accounts have been prepared on actual Receipts and Expenditure basis.
2. No depreciation on Mach. & Equipment, vehicles etc. has been provided as the Institute is fully funded by the Govt.
3. A statement showing by various project Investigators during 2004-05 is attached at Appendix-A-I. It may be mentioned that on completion of Research Projects, the equipment are either returned to the funding agencies or are used in the Departments.
4. Institute is exempted from Income-Tax under Section 8G(5)(vi) of the Income Tax Act, 1961.

**(R.G. GARG)**  
**FINANCIAL ADVISOR**

**(P. VENUGOPAL)**  
**DIRECTOR**

## ALL INDIA INSTITUTE OF MEDICAL SCIENCES

STATEMENT SHOWING THE RECEIPTS, EXPENDITURE OF THE GRANTS RECEIVED  
DURING THE YEAR 2004-2005

| S. No. | Funding Agency                          | Opening Balance |        | Receipt  | Total     | Expenditure | Adj. | Opening Balance |        | Undisbursed Expenditure |
|--------|---|-----------------|--------|----------|-----------|-------------|------|-----------------|--------|-------------------------|
|        |   | Credit          | Debit  |          |           |             |      | Credit          | Debit  |                         |
| 1.     | ICMR                                    | 9973865         | 0      | 42893543 | 52867408  | 33650336    |      | 19217072        | 0      | 26823                   |
| 2      | C.S.I.R.                                | 7045860         | 0      | 23401049 | 30446909  | 22115508    |      | 8331401         | 0      | 0                       |
| 3      | D.S.T.                                  | 7143067         | 0      | 60357851 | 67500918  | 50118658    |      | 17382260        | 0      | 0                       |
| 4      | UNICEF                                  | 287450          | 0      | 0        | 287450    | 0           |      | 287450          | 0      | 0                       |
| 5      | D.B.T.                                  | 7148009         | 0      | 98829749 | 105977758 | 32591456    |      | 73386302        | 0      | 0                       |
| 6      | CIPLA                                   | 16853           | 0      | 0        | 16853     | 3880        |      | 12973           | 0      | 0                       |
| 7      | W.H.O.                                  | 1375650         | 0      | 21694486 | 23070136  | 22870046    |      | 200090          | 0      | 20043                   |
| 8      | CTC/ICDS                                | 0               | 64789  | 0        | -64789    | 0           |      | 0               | 64789  | 0                       |
| 9      | U.G.C.                                  | 125252          | 0      | 1456045  | 1581297   | 1814629     |      | 0               | 233332 | 0                       |
| 10     | Indian Council of Agriculture Research. | 14860           | 0      | 0        | 14860     | 44889       |      | 0               | 30029  | 0                       |
| 11     | Domainan Chemicals                      | 0               | 663    | 0        | -663      | 0           |      | 0               | 663    | 0                       |
| 12     | Ministry of Health and Family welfare   | 9009763         | 0      | 10738332 | 19748095  | 12925295    |      | 6822800         | 0      | 0                       |
| 13     | Ministry of Environment & Forest        | 0               | 393949 | 0        | -393949   | 27750       |      | 0               | 421699 | 0                       |
| 14     | Dabur Research Foundation               | 1157410         | 0      | 649599   | 1807009   | 501085      |      | 1305924         | 0      | 0                       |
| 15     | M.R.C. - U.K.                           | 217670          | 0      | 0        | 217670    | 0           |      | 217670          | 0      | 0                       |
| 16     | DEPTT. OF ELECTRONICS                   | 0               | 575663 | 200000   | -375663   | 455332      |      | 0               | 830995 | 0                       |
| 17     | Ministry of H.R.D. (DWCD)               | 0               | 4579   | 0        | -4579     | 0           |      | 0               | 4579   | 0                       |
| 18     | Himalaya Drug Co.                       | 42119           | 0      | 160000   | 202119    | 141936      |      | 60183           | 0      | 0                       |

|    |  |         |       |         |         |         |  |         |       |   |
|----|--|---------|-------|---------|---------|---------|--|---------|-------|---|
| 19 | International Atomic Energy Agency       | 1136822 | 0     | 1637388 | 2774210 | 1674182 |  | 1100028 | 0     | 0 |
| 20 | Deptt. of Atomic Energy                  | 0       | 33733 | 0       | -33733  | 0       |  | 0       | 33733 | 0 |
| 21 | Serdia Pharma Company                    | 0       | 11752 | 4564    | -7188   | 0       |  | 0       | 7188  | 0 |
| 22 | Convatee Sayibb                          | 1081    | 0     | 0       | 1081    | 0       |  | 1081    | 0     | 0 |
| 23 | Rajiv Gandhi Foundation                  | 0       | 9608  | 0       | -9608   | 0       |  | 0       | 9608  | 0 |
| 24 | Hind Chemicals                           | 47997   | 0     | 0       | 47997   | 0       |  | 47997   | 0     | 0 |
| 25 | Directorate of Education (NSS)           | 0       | 6322  | 0       | -6322   | 8563    |  | 0       | 14885 | 0 |
| 26 | Ministry of Welfare                      | 0       | 9013  | 0       | -9013   | 823     |  | 0       | 9836  | 0 |
| 27 | Roussel Sci. Instt.                      | 0       | 1577  | 0       | -1577   | 0       |  | 0       | 1577  | 0 |
| 28 | Serum Instt. Of India                    | 0       | 49058 | 0       | -49058  | 577     |  | 0       | 49635 | 0 |
| 29 | KGMC Medical College                     | 446948  | 0     | 0       | 446948  | 0       |  | 446948  | 0     | 0 |
| 30 | Deptt. Of Ocean Development              | 0       | 5680  | 0       | -5680   | -36     |  | 0       | 5644  | 0 |
| 31 | Torrent Pharma                           | 0       | 51312 | 0       | -51312  | 0       |  | 0       | 51312 | 0 |
| 32 | Deptt. of Rural Development              | 132405  | 0     | 0       | 132405  | 157909  |  | 0       | 25504 | 0 |
| 33 | INDO-US                                  | 6813364 | 0     | 1994997 | 8808361 | 2809136 |  | 5999225 | 0     | 0 |
| 34 | Vipassana Sadhna Sansthan                | 10049   | 0     | 0       | 10049   | 0       |  | 10049   | 0     | 0 |
| 35 | Indo—French Centre for Advanced Research | 0       | 60014 | 0       | -60014  | 0       |  | 0       | 60014 | 0 |
| 36 | Ford Foundation                          | 506092  | 0     | 0       | 506092  | 64260   |  | 441832  | 0     | 0 |
| 37 | Indian Epilepsy Research Association     | 52022   | 0     | 0       | 52022   | 0       |  | 52022   | 0     | 0 |
| 38 | Ministry of food and Civil Supplies      | 170327  | 0     | 0       | 170327  | 0       |  | 170327  | 0     | 0 |
| 39 | Prakash Health and Research Foundation   | 0       | 120   | 0       | -120    | 0       |  | 0       | 120   | 0 |
| 40 | Lapra-UK                                 | 20      | 0     | 0       | 20      | 11297   |  | 0       | 11277 | 0 |
| 41 | National Institute of Immunology         | 78664   | 0     | 0       | 78664   | 0       |  | 78664   | 0     | 0 |

|    |   |         |        |          |          |          |          |         |       |
|----|---|---------|--------|----------|----------|----------|----------|---------|-------|
| 42 | Fulford India Ltd.                                      | 75167   | 0      | 878000   | 953167   | 862813   | 90354    | 0       | 0     |
| 43 | National Institute of Biological                        | 15000   | 0      | 0        | 15000    | 0        | 15000    | 0       | 0     |
| 44 | Infar (India) Ltd.                                      | 49236   | 0      | 0        | 49236    | 0        | 49236    | 0       | 0     |
| 45 | National Thalassaemia Welfare Society                   | 47117   | 0      | 382200   | 429317   | 372747   | 56570    | 0       | 0     |
| 46 | Australian International Development Assistance Bureau  | 0       | 43190  | 0        | -43190   | 0        | 0        | 43190   | 0     |
| 47 | INCLEN  | 0       | 513456 | 217123   | -296333  | 1743121  | 0        | 2039454 | 50000 |
| 48 | Park-Davis  | 0       | 1011   | 0        | -1011    | 0        | 0        | 1011    | 0     |
| 49 | Institute of Cancer Research UK co-ordination Committee | 767918  | 0      | 0        | 767918   | 94097    | 673821   | 0       | 0     |
| 50 | Hoechst India Ltd.                                      | 0       | 3105   | 0        | -3105    | 0        | 0        | 3105    | 0     |
| 51 | Central Council for Research in Yoga And Naturopathy    | 466490  | 0      | 1381239  | 1847729  | 1499304  | 348425   | 0       | 0     |
| 52 | A.S.T.A   | 0       | 14963  | 0        | -14963   | 0        | 0        | 14963   | 0     |
| 53 | Ranbaxy /Eililly & company Pvt Ltd                      | 959790  | 0      | 510928   | 1470718  | 645007   | 825711   | 0       | 0     |
| 54 | Biomed Pvt. Ltd.  | 0       | 4744   | 0        | -4744    | 0        | 0        | 4744    | 0     |
| 55 | Smithline Beecham Pharma                                | 0       | 108018 | 0        | -108018  | 0        | 0        | 108018  | 0     |
| 56 | Rockefeller Fondation                                   | 3658161 | 0      | 0        | 3658161  | 0        | 3658161  | 0       | 0     |
| 57 | National Institute of Health                            | 4455730 | 0      | 23724264 | 28179994 | 11782417 | 16397577 | 0       | 0     |
| 58 | Norad   | 0       | 98793  | 2295000  | 2196207  | 2181459  | 14748    | 0       | 0     |
| 59 | Central lab of Netherland                               | 11131   | 0      | 0        | 11131    | 0        | 11131    | 0       | 0     |
| 60 | RLU ( Orient Steel Industries)                          | 0       | 40642  | 0        | -40642   | 0        | 0        | 40642   | 0     |
| 61 | NIE   | 7332962 | 0      | 8700519  | 16033481 | 6230968  | 9802513  | 0       | 0     |
| 62 | SAFA  | 12133   | 0      | 0        | 12133    | 0        | 12133    | 0       | 0     |
| 63 | E.I.P.  | 0       | 150    | 0        | -150     | 0        | 0        | 150     | 0     |
| 64 | I.E.C.  | 0       | 757    | 0        | -757     | 0        | 0        | 757     | 0     |
| 65 | Foster Parents Plan It.                                 | 9211    | 0      | 0        | 9211     | 0        | 9211     | 0       | 0     |

|    |   |         |         |         |          |         |   |   |   |         |         |       |
|----|---|---------|---------|---------|----------|---------|---|---|---|---------|---------|-------|
| 66 | Family Planning Foundation                    | 1983    | 0       | 0       | 0        | 1983    | 0 | 0 | 0 | 1983    | 0       | 0     |
| 67 | Sarabhai Chemicals                            | 1236    | 0       | 0       | 0        | 1236    | 0 | 0 | 0 | 1236    | 0       | 0     |
| 68 | INSA  | 577481  | 0       | 30000   | 607481   | 15000   | 0 | 0 | 0 | 592481  | 0       | 0     |
| 69 | Delhi Police                                  | 35      | 0       | 0       | 35       | 0       | 0 | 0 | 0 | 35      | 0       | 0     |
| 70 | TCL Bombay                                    | 0       | 1264    | 0       | -1264    | 0       | 0 | 0 | 0 | 0       | 1264    | 0     |
| 71 | Hindustan Antibiotic Ltd.                     | 83      | 0       | 0       | 83       | 0       | 0 | 0 | 0 | 83      | 0       | 0     |
| 72 | Indira Gandhi National                        | 0       | 122     | 0       | -122     | 0       | 0 | 0 | 0 | 0       | 122     | 0     |
| 73 | SRB-Clinical Pharmacology                     | 0       | 2847025 | 0       | -2847025 | 0       | 0 | 0 | 0 | 0       | 2847025 | 0     |
| 74 | West Midland Regional Centre Services, UK     | 0       | 504     | 0       | -504     | 0       | 0 | 0 | 0 | 0       | 504     | 0     |
| 75 | I.C.S.R.                                      | 14870   | 0       | 0       | 14870    | 0       | 0 | 0 | 0 | 14870   | 0       | 0     |
| 76 | Andaman/Nicobar                               | 4192    | 0       | 0       | 4192     | 0       | 0 | 0 | 0 | 4192    | 0       | 0     |
| 77 | Asia Media Liasion (India)                    | 9190    | 0       | 0       | 9190     | 0       | 0 | 0 | 0 | 9190    | 0       | 0     |
| 78 | M/S Jagsonpal Pharma                          | 0       | 13869   | 0       | -13869   | 0       | 0 | 0 | 0 | 0       | 13869   | 0     |
| 79 | Panacea biotech Ltd.                          | 187242  | 0       | 174000  | 361242   | 274564  | 0 | 0 | 0 | 86678   | 0       | 0     |
| 80 | The Dr,Willimar Sachwabe Arzneimittel Germany | 14489   | 0       | 0       | 14489    | 0       | 0 | 0 | 0 | 14489   | 0       | 0     |
| 81 | Rhone-Poulence India Ltd.                     | 86      | 0       | 0       | 86       | 0       | 0 | 0 | 0 | 86      | 0       | 0     |
| 82 | Somduitt Builders Ltd.                        | 579     | 0       | 0       | 579      | 0       | 0 | 0 | 0 | 579     | 0       | 0     |
| 83 | Hindustan Lever Ltd.                          | 7479    | 0       | 0       | 7479     | 7910    | 0 | 0 | 0 | 0       | 431     | 0     |
| 84 | Revolving Funds for Drugs. / SNMC             | 317602  | 82529   | 77000   | 312073   | 455     | 0 | 0 | 0 | 311618  | 0       | 0     |
| 85 | Atomic Energy Regulation Board                | 989977  | 0       | 250400  | 1240377  | 380880  | 0 | 0 | 0 | 859497  | 0       | 0     |
| 86 | Bhart Electrical Ltd.                         | 0       | 77862   | 0       | -77862   | 0       | 0 | 0 | 0 | 0       | 77862   | 0     |
| 87 | Sandoz  | 0       | 179842  | 0       | -179842  | 0       | 0 | 0 | 0 | 0       | 179842  | 0     |
| 88 | Pfizer Ltd.                                   | 2359840 | 0       | 1446713 | 3806553  | 2658041 | 0 | 0 | 0 | 1148512 | 0       | 25000 |
| 89 | Buyer India Ltd.                              | 0       | 16002   | 0       | -16002   | 0       | 0 | 0 | 0 | 0       | 16002   | 0     |
| 90 | NATCO Ltd.                                    | 0       | 4000    | 0       | -4000    | 0       | 0 | 0 | 0 | 0       | 4000    | 0     |

|     |   |         |        |         |         |         |         |        |   |
|-----|---|---------|--------|---------|---------|---------|---------|--------|---|
| 91  | University and National Cancer Instt. of Maryland | 1354502 | 0      | 1105493 | 2459995 | 1553397 | 906598  | 0      | 0 |
| 92  | Haryana Govt. (Distt, Sirsa)                      | 0       | 3123   | 0       | -3123   | 0       | 0       | 3123   | 0 |
| 93  | Glaxo India Ltd.                                  | 0       | 8376   | 0       | -8376   | 0       | 0       | 8376   | 0 |
| 94  | Ministry of Defence (D.R.D.O)                     | 392859  | 0      | 250000  | 642859  | 486660  | 156199  | 0      | 0 |
| 95  | Cynamid India Ltd.                                | 7410    | 0      | 0       | 7410    | 0       | 7410    | 0      | 0 |
| 96  | Reckitt and Column                                | 0       | 1405   | 0       | -1405   | 0       | 0       | 1405   | 0 |
| 97  | MBI Kits.   | 0       | 219    | 0       | -219    | 0       | 0       | 219    | 0 |
| 98  | Becton and Dickinson India                        | 0       | 17     | 0       | -17     | 0       | 0       | 17     | 0 |
| 99  | Nova Nordisk India                                | 188003  | 0      | 0       | 188003  | 0       | 188003  | 0      | 0 |
| 100 | Central Pollution Control Board                   | 0       | 3017   | 0       | -3017   | 0       | 0       | 3017   | 0 |
| 101 | Bureau of Police Research and Development         | 0       | 23433  | 0       | -23433  | 0       | 0       | 23433  | 0 |
| 102 | Office of Salt Commission Jaipur                  | 37049   | 0      | 0       | 37049   | -12000  | 49049   | 0      | 0 |
| 103 | Univesity of Nottingham                           | 9229    | 0      | 0       | 9229    | 0       | 9229    | 0      | 0 |
| 104 | Unichem India Ltd.                                | 0       | 204704 | 0       | -204704 | 0       | 0       | 204704 | 0 |
| 105 | NAMS  | 12086   | 0      | 0       | 12086   | 0       | 12086   | 0      | 0 |
| 106 | Norweign University                               | 750648  | 0      | 1115300 | 1865948 | 818274  | 1047674 | 0      | 0 |
| 107 | European Union                                    | 252891  | 0      | 0       | 252891  | 8920    | 243971  | 0      | 0 |
| 108 | Indian Institute of Technology                    | 1829203 | 0      | 0       | 1829203 | 0       | 1829203 | 0      | 0 |
| 109 | International Cystic Febrosis                     | 14287   | 0      | 0       | 14287   | 0       | 14287   | 0      | 0 |
| 110 | CONARD, USA                                       | 86356   | 0      | 1731932 | 1818288 | 1808456 | 9832    | 0      | 0 |
| 111 | The Cancer Foundation                             | 0       | 464399 | 0       | -464399 | 0       | 0       | 464399 | 0 |
| 112 | Novartis India Ltd.                               | 653274  | 0      | 102508  | 755782  | 63796   | 691986  | 0      | 0 |
| 113 | National Institute for Population                 | 258901  | 0      | 0       | 258901  | 0       | 258901  | 0      | 0 |
| 114 | Atlas-Trail, U.K.                                 | 832006  | 0      | 20000   | 852006  | 32920   | 819086  | 0      | 0 |
| 115 | Duke University Medical Centre                    | 205588  | 0      | 0       | 205588  | 0       | 205588  | 0      | 0 |
| 116 | National Institute for Mental Health              | 676043  | 0      | 0       | 676043  | 194     | 675849  | 0      | 0 |

|     |   |         |        |         |         |        |   |         |        |   |   |
|-----|---|---------|--------|---------|---------|--------|---|---------|--------|---|---|
| 117 | Indian Council for Culture Relation                   | 47357   | 0      | 0       | 0       | 47357  | 0 | 0       | 47357  | 0 | 0 |
| 118 | Lupin Lab   | 428003  | 0      | 0       | 428003  | 0      | 0 | 428003  | 0      | 0 | 0 |
| 119 | Maharishi Ayurveda                                    | 88467   | 0      | 226316  | 314783  | 353011 | 0 | 0       | 38228  | 0 | 0 |
| 120 | Nicholes India Ltd Mumbai                             | 28103   | 0      | 0       | 28103   | 0      | 0 | 28103   | 0      | 0 | 0 |
| 121 | UN International Drug Control Programme               | 973561  | 0      | 0       | 973561  | 0      | 0 | 973561  | 0      | 0 | 0 |
| 122 | Dupher Interfrom Ltd                                  | 19290   | 0      | 0       | 19290   | 0      | 0 | 19290   | 0      | 0 | 0 |
| 123 | Hoechst Marian Russel                                 | 146724  | 0      | 0       | 146724  | 0      | 0 | 146724  | 0      | 0 | 0 |
| 124 | Ministry of Home Affair                               | 0       | 57403  | 0       | -57403  | 0      | 0 | 0       | 57403  | 0 | 0 |
| 125 | Russan Pharma Ltd Mumbai                              | 0       | 119727 | 0       | -119727 | 0      | 0 | 0       | 119727 | 0 | 0 |
| 126 | Central Council for Research in Ayurveda & Sidha      | 173802  | 0      | 909488  | 1083290 | 519683 | 0 | 563607  | 0      | 0 | 0 |
| 127 | Global Forum for Health and Research                  | 0       | 299460 | 0       | -299460 | 0      | 0 | 0       | 299460 | 0 | 0 |
| 128 | Nucron Pharma Ltd.                                    | 66902   | 0      | 0       | 66902   | 0      | 0 | 66902   | 0      | 0 | 0 |
| 129 | Terry Fox Foundation.                                 | 1216738 | 0      | 0       | 1216738 | 411210 | 0 | 805528  | 0      | 0 | 0 |
| 130 | Ministry of Social Justice and Empowerment            | 113198  | 0      | 299550  | 412748  | 321914 | 0 | 90834   | 0      | 0 | 0 |
| 131 | Quintiles Spectral India                              | 437002  | 0      | 1944347 | 2381349 | 937483 | 0 | 1443866 | 0      | 0 | 0 |
| 132 | United Nation Industrial Development                  | 95946   | 0      | 0       | 95946   | 0      | 0 | 95946   | 0      | 0 | 0 |
| 133 | Mustrad Research And Promotion Center                 | 104771  | 0      | 0       | 104771  | 120130 | 0 | 0       | 15359  | 0 | 0 |
| 134 | National Institute of Management                      | 0       | 16625  | 0       | -16625  | 0      | 0 | 0       | 16625  | 0 | 0 |
| 135 | Ministry of Communication and Information& Technology | 1371217 | 0      | 2538000 | 3909217 | 815729 | 0 | 3093488 | 0      | 0 | 0 |
| 136 | University of Bergan                                  | 0       | 112865 | 0       | -112865 | 0      | 0 | 0       | 112865 | 0 | 0 |
| 137 | Shantha Biotechics Pvt Ltd                            | 0       | 44866  | 0       | -44866  | 1644   | 0 | 0       | 46510  | 0 | 0 |
| 138 | Zydas Healthcare Ltd                                  | 87835   | 0      | 0       | 87835   | 0      | 0 | 87835   | 0      | 0 | 0 |

|     |   |         |        |        |   |         |        |   |         |        |   |
|-----|---|---------|--------|--------|---|---------|--------|---|---------|--------|---|
| 139 | Life Sciences Research Board                  | 375219  | 0      | 0      | 0 | 375219  | 0      | 0 | 375219  | 0      | 0 |
| 140 | Jamia Milia Islamia                           | 40691   | 0      | 0      | 0 | 40691   | 0      | 0 | 40691   | 0      | 0 |
| 141 | Ferrosan, Denmark                             | 65603   | 0      | 0      | 0 | 65603   | 0      | 0 | 65603   | 0      | 0 |
| 142 | University of Queensland                      | 22700   | 0      | 0      | 0 | 22700   | 0      | 0 | 22700   | 0      | 0 |
| 143 | University of Delhi                           | 0       | 309857 | 0      | 0 | -309857 | 0      | 0 | 0       | 309857 | 0 |
| 144 | Oxford University                             | 0       | 475337 | 500000 | 0 | 24663   | 315391 | 0 | 0       | 290728 | 0 |
| 145 | Federation of Obstetric & Gynaecological      | 89849   | 0      | 0      | 0 | 89849   | 160841 | 0 | 0       | 70992  | 0 |
| 146 | United Nation Development Programme           | 3657    | 0      | 0      | 0 | 3657    | 10000  | 0 | 0       | 6343   | 0 |
| 147 | National Cancer Research U.S.A.               | 430381  | 0      | 0      | 0 | 430381  | 0      | 0 | 430381  | 0      | 0 |
| 148 | Aimil Pharmaceutical India Ltd.               | 0       | 37725  | 219080 | 0 | 181355  | 217012 | 0 | 0       | 35657  | 0 |
| 149 | U.S.V. Ltd.                                   | 0       | 20270  | 0      | 0 | -20270  | 0      | 0 | 0       | 20270  | 0 |
| 150 | Pharmacia India Pvt. Ltd                      | 0       | 38186  | 0      | 0 | -38186  | 0      | 0 | 0       | 38186  | 0 |
| 151 | Heinz Nutrition Foundation India              | 22120   | 0      | 0      | 0 | 22120   | -2250  | 0 | 24370   | 0      | 0 |
| 152 | International Pancia Ltd.                     | 34718   | 0      | 0      | 0 | 34718   | 0      | 0 | 34718   | 0      | 0 |
| 153 | National Council of Applied Economic Research | 157098  | 0      | 0      | 0 | 157098  | 0      | 0 | 157098  | 0      | 0 |
| 154 | SGPGIMS                                       | 414957  | 0      | 0      | 0 | 414957  | 0      | 0 | 414957  | 0      | 0 |
| 155 | Caltaq Laboratories Ltd.(U.S.A)               | 13500   | 0      | 0      | 0 | 13500   | 0      | 0 | 13500   | 0      | 0 |
| 156 | Jastok Hospital & Research Center             | 35000   | 0      | 0      | 0 | 35000   | 0      | 0 | 35000   | 0      | 0 |
| 157 | INCTR USA                                     | 1156153 | 0      | 0      | 0 | 1156153 | 0      | 0 | 1156153 | 0      | 0 |
| 158 | Ortho Clinical Diagnostic                     | 25000   | 0      | 0      | 0 | 25000   | 0      | 0 | 25000   | 0      | 0 |
| 159 | Indian Institute of Sciences, Bangalore       | 446901  | 0      | 0      | 0 | 446901  | 61920  | 0 | 384981  | 0      | 0 |
| 160 | Society for Innovation & Development          | 15840   | 0      | 0      | 0 | 15840   | 0      | 0 | 15840   | 0      | 0 |

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|-----|---|--------|--------|--------|---------|--------|---|--------|--------|---|---|
| 161 | FOGSI-Rhoge India                                 | 0      | 67114  | 0      | -67114  | 0      | 0 | 0      | 67114  | 0 | 0 |
| 162 | Development Co. Pharmaceuticals Ltd (U.K)         | 0      | 28247  | 0      | -28247  | 450427 | 0 | 0      | 478674 | 0 | 0 |
| 163 | Nottingham Health Care                            | 0      | 9200   | 0      | -9200   | 0      | 0 | 0      | 9200   | 0 | 0 |
| 164 | International Consortium for Mental Health Policy | 0      | 277844 | 0      | -277844 | 35475  | 0 | 0      | 313319 | 0 | 0 |
| 165 | Emcure Pharmaceutical Ltd.                        | 18091  | 0      | 16090  | 34181   | 21376  | 0 | 12805  | 0      | 0 | 0 |
| 166 | Neon Laboratories Ltd.                            | 95064  | 0      | 0      | 95064   | 0      | 0 | 95064  | 0      | 0 | 0 |
| 167 | Delhi State Control Society                       | 0      | 20485  | 92000  | 71515   | 71475  | 0 | 40     | 0      | 0 | 0 |
| 168 | Bharat Biotech International Ltd                  | 16831  | 0      | 0      | 16831   | 0      | 0 | 16831  | 0      | 0 | 0 |
| 169 | L.G. Chemicals India Pvt Ltd.                     | 37020  | 0      | 85371  | 122391  | 122741 | 0 | 0      | 350    | 0 | 0 |
| 170 | Wockhardt, Mumbai                                 | 20924  | 0      | 100000 | 120924  | 63026  | 0 | 57898  | 0      | 0 | 0 |
| 171 | NSD (Security Deposit)                            | 463000 | 0      | 789650 | 1252650 | 426000 | 0 | 826650 | 0      | 0 | 0 |
| 172 | INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD          | 6190   | 0      | 0      | 6190    | 0      | 0 | 6190   | 0      | 0 | 0 |
| 173 | Eactirm   | 255600 | 0      | 0      | 255600  | 0      | 0 | 255600 | 0      | 0 | 0 |
| 174 | Alkem Laboratories Ltd.                           | 58091  | 0      | 0      | 58091   | 58075  | 0 | 16     | 0      | 0 | 0 |
| 175 | Endocrina   | 21600  | 0      | 0      | 21600   | 0      | 0 | 21600  | 0      | 0 | 0 |
| 176 | Helpage India                                     | 5966   | 0      | 66975  | 72941   | 39975  | 0 | 32966  | 0      | 0 | 0 |
| 177 | National Accreditation                            | 115360 | 0      | 0      | 115360  | 0      | 0 | 115360 | 0      | 0 | 0 |
| 178 | Johnson & Johnson                                 | 25000  | 0      | 0      | 25000   | 0      | 0 | 25000  | 0      | 0 | 0 |
| 179 | Beijing Toshiba Pharmaceuticals Co. Ltd.          | 213115 | 0      | 185310 | 398425  | 190480 | 0 | 207945 | 0      | 0 | 0 |
| 180 | Lyon, France                                      | 193703 | 0      | 0      | 193703  | 14403  | 0 | 179300 | 0      | 0 | 0 |
| 181 | C.P.W.W. Jersulam                                 | 66733  | 0      | 0      | 66733   | 45241  | 0 | 21492  | 0      | 0 | 0 |
| 182 | Aventis Pharma India (ACENTIS)                    | 0      | 16472  | 103539 | 87067   | 133225 | 0 | 0      | 46158  | 0 | 0 |
| 183 | Alcon Research Ltd., U.S.A.                       | 15744  | 0      | 0      | 15744   | 0      | 0 | 15744  | 0      | 0 | 0 |

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|-----|--|--------|-------|---------|---------|---------|---------|---------|---|
| 184 | Dr. Reddy's Laboratories Pvt. Ltd.             | 0      | 19046 | 150125  | 131079  | 95752   | 35327   | 0       | 0 |
| 185 | Glenmark Laboratories Pvt. Ltd.                | 12341  | 0     | 0       | 12341   | 8560    | 3781    | 0       | 0 |
| 186 | Hindustan Latex Family Planning Promotion      | 55145  | 0     | 34000   | 89145   | 21901   | 67244   | 0       | 0 |
| 187 | The Population Council                         | 145085 | 0     | 0       | 145085  | 1734822 | 0       | 1589737 | 0 |
| 188 | University of Toronto                          | 156170 | 0     | 0       | 156170  | 0       | 156170  | 0       | 0 |
| 189 | Antisense Pharma GmBH German and Siro          | 42967  | 0     | 1570125 | 1613092 | 778136  | 834956  | 0       | 0 |
| 190 | Charak Pharma (P)Ltd.                          | 74727  | 0     | 250000  | 324727  | 195641  | 129086  | 0       | 0 |
| 191 | USAID-Indiacen                                 | 104881 | 0     | 7543355 | 7648236 | 7066229 | 582007  | 0       | 0 |
| 192 | Group of awareness on compliance to medication | 18406  | 0     | 0       | 18406   | 18406   | 0       | 0       | 0 |
| 193 | National Institute of Oceanography             | 0      | 35020 | 500000  | 464980  | 504895  | 0       | 39915   | 0 |
| 194 | INST. OF NUCLEAR MEDICINE & ALLIED SCIENC      | 82938  | 0     | 0       | 82938   | 65299   | 17639   | 0       | 0 |
| 195 | SAVING NEWBORN LIVES, USA                      | 872223 | 0     | 536395  | 1408618 | 728844  | 679774  | 0       | 0 |
| 196 | DANIDA RESEARCH COUNCIL                        | 0      | 0     | 410000  | 410000  | 241607  | 168393  | 0       | 0 |
| 197 | CASE WESTERN RESERVE UNIVERSITY                | 0      | 0     | 0       | 0       | 162     | 0       | 162     | 0 |
| 198 | THE MICRONUTRIENT INITIATIVE, ASIA             | 0      | 0     | 1002251 | 1002251 | 380770  | 621481  | 0       | 0 |
| 199 | Ministry of health And Family Welfare(N.A.C.O) | 0      | 0     | 274500  | 274500  | 34255   | 240245  | 0       | 0 |
| 200 | UNIVERSITY OF ALBAMA BRINGAM, USA              | 0      | 0     | 2480625 | 2480625 | 74419   | 2406206 | 0       | 0 |
| 201 | Ministry of External Affairs                   | 0      | 0     | 220400  | 220400  | 280750  | 0       | 60350   | 0 |
| 202 | Indian council of Philosophical Research       | 0      | 0     | 40500   | 40500   | 500     | 40000   | 0       | 0 |
| 203 | FACSIMILE TRANSMITTAL                          | 0      | 0     | 0       | 0       | 8769    | 0       | 8769    | 0 |
| 204 | Sterling Synergy System (P) Ltd.               | 0      | 0     | 202800  | 202800  | 154068  | 48732   | 0       | 0 |

|     |  |                 |                |                  |                  |                  |                  |                 |               |   |
|-----|--|-----------------|----------------|------------------|------------------|------------------|------------------|-----------------|---------------|---|
| 205 | Reliance Clinical Research Services (P) Ltd. | 0               | 0              | 146170           | 146170           | 146170           | 14232            | 131938          | 0             | 0 |
| 206 | INTAS Pharmaceuticals Ltd.                   | 0               | 0              | 52711            | 52711            | 39714            | 12997            | 0               | 0             | 0 |
| 207 | KLPF,USA                                     | 0               | 0              | 1610000          | 1610000          | 163496           | 1446504          | 0               | 0             | 0 |
| 208 | Vulimini Ramalingaswami Foundation           | 0               | 0              | 290000           | 290000           | 142389           | 147611           | 0               | 0             | 0 |
| 209 | Texas A&M Research Foundation (TAMRF) USA    | 0               | 0              | 2078675          | 2078675          | 1527183          | 551492           | 0               | 0             | 0 |
| 210 | Biomerieux India (P)Ltd.                     | 0               | 0              | 82029            | 82029            | 25936            | 56093            | 0               | 0             | 0 |
| 211 | Media Lab Asia                               | 0               | 0              | 471950           | 471950           | 262905           | 209045           | 0               | 0             | 0 |
| 212 | University of Warwick U.K                    | 0               | 0              | 171360           | 171360           | 5140             | 166220           | 0               | 0             | 0 |
| 213 | National AIDS Control Organisation           | 0               | 0              | 1004000          | 1004000          | 548138           | 455862           | 0               | 0             | 0 |
|     | <b>Grand Total:</b>                          | <b>94801582</b> | <b>8044122</b> | <b>337607908</b> | <b>424365368</b> | <b>236535466</b> | <b>199893927</b> | <b>12064025</b> | <b>121866</b> |   |

(R.G. GARG)  
FINANCIAL ADVISOR

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
RESEARCH SECTION**

**Statement of Expenditure Made for Purchasing Equipment  
during the Financial Year 2004-2005**

| <b>S.No.</b> | <b>Code No.</b> |                     |          | <b>Amount</b> |
|--------------|-----------------|---------------------|----------|---------------|
| 1            | N536            | DR. A.C.AMMINI      | OCT'2004 | 28,600.00     |
| 2            | N536            | DR. A.C.AMMINI      | DEC'2004 | 4,000.00      |
| 3            | N536            | DR. A.C.AMMINI      | JAN'2005 | 8,779.00      |
| 4            | N536            | DR. A.C.AMMINI      | MAR'2005 | 62,678.00     |
| 5            | N536            | DR. A.C.AMMINI      | MAY'2004 | 11,134.00     |
| 6            | N716            | DR. A.C.AMMINI      | FEB'2005 | 18,088.00     |
| 7            | N681            | DR. A.K.DEORARI     | NOV'2004 | 112,320.00    |
| 8            | N681            | DR. A.K.DEORARI     | JUL'2004 | 87,637.00     |
| 9            | N681            | DR. A.K.DEORARI     | AUG'2004 | 81,600.00     |
| 10           | N690A           | DR. A.K.DINDA       | SEP'2004 | 113,160.00    |
| 11           | N690A           | DR. A.K.DINDA       | OCT'2004 | 51,704.00     |
| 12           | N690A           | DR. A.K.DINDA       | MAR'2005 | 395,305.00    |
| 13           | N659            | DR. A.K.MAHPATRA    | MAY'2004 | 57,200.00     |
| 14           | D131            | DR. A.SRINIVASAN    | MAR'2005 | 93,500.00     |
| 15           | N597            | DR. ALKA KRIPLANI   | JAN'2005 | 58,199.00     |
| 16           | N693            | DR. ANOOP MISHRA    | AUG'2004 | 61,500.00     |
| 17           | N693            | DR. ANOOP MISHRA    | OCT'2004 | 343,353.00    |
| 18           | D167            | DR. B.K.DAS         | OCT'2004 | 207,775.00    |
| 19           | D157            | DR. BENU DHAWAN     | OCT'2004 | 69,004.00     |
| 20           | D157            | DR. BENU DHAWAN     | MAR'2005 | 78,784.00     |
| 21           | N482            | DR. C.S.BAL         | MAY'2004 | 62,800.00     |
| 22           | N482            | DR. C.S.BAL         | MAR'2005 | 53,500.00     |
| 23           | D169            | DR. D.N.RAO         | MAR'2005 | 30,800.00     |
| 24           | N682            | DR. D.N.RAO         | AUG'2004 | 63,596.00     |
| 25           | N682            | DR. D.N.RAO         | SEP'2004 | 298,620.00    |
| 26           | I414            | DR. DEBABRATA GHOSH | NOV'2004 | 8,850.00      |
| 27           | N406            | DR. G.S.PANT        | OCT'2004 | 5,150.00      |
| 28           | N406            | DR. G.S.PANT        | MAR'2005 | 74,890.00     |
| 29           | C606            | DR. GITA SATPATHY   | MAR'2005 | 179,303.00    |
| 30           | I413            | DR. H.K.PRASAD      | MAR'2005 | 9,405.00      |

|    |      |                       |          |            |
|----|------|-----------------------|----------|------------|
| 31 | N612 | DR. J.N.PANDE         | MAR'2005 | 231,400.00 |
| 32 | C608 | DR. J.S.TYAGI         | JAN'2005 | 4,336.00   |
| 33 | C608 | DR. J.S.TYAGI         | MAR'2005 | 483,286.00 |
| 34 | N590 | DR. J.S.TYAGI         | MAR'2005 | 639,290.00 |
| 35 | N493 | DR. JAYASREE SENGUPTA | AUG'2004 | 7,000.00   |
| 36 | N493 | DR. JAYASREE SENGUPTA | SEP'2004 | 47,342.00  |
| 37 | D148 | DR. JYOTSNA VERMA     | SEP'2004 | 23,000.00  |
| 38 | N678 | DR. K.ANAND           | JUL'2004 | 9,900.00   |
| 39 | N678 | DR. K.ANAND           | AUG'2004 | 3,900.00   |
| 40 | N678 | DR. K.ANAND           | MAY'2004 | 22,500.00  |
| 41 | N678 | DR. K.ANAND           | JUN'2004 | 29,950.00  |
| 42 | N707 | DR. K.ANAND           | JAN'2005 | 71,360.00  |
| 43 | N709 | DR. K.ANAND           | FEB'2005 | 14,200.00  |
| 44 | I358 | DR. K.K.VERMA         | AUG'2004 | 9,500.00   |
| 45 | I358 | DR. K.K.VERMA         | MAR'2005 | 31,000.00  |
| 46 | N675 | DR. KIRAN KUCHERIA    | JUL'2004 | 447,598.00 |
| 47 | N695 | DR. KIRAN KUCHERIA    | FEB'2005 | 30,726.00  |
| 48 | N319 | DR. M.K.BHAN          | JUL'2004 | 4,460.00   |
| 49 | D161 | DR. M.R.RAJESWARI     | JAN'2005 | 80,346.00  |
| 50 | N625 | DR. M.V.PADMA         | MAR'2005 | 11,550.00  |
| 51 | N605 | DR. MADHURI BEHARI    | JUL'2004 | 19,344.00  |
| 52 | D156 | DR. MINU BAJPAI       | MAY'2004 | 389,550.00 |
| 53 | D156 | DR. MINU BAJPAI       | JAN'2005 | 181,546.00 |
| 54 | D156 | DR. MINU BAJPAI       | FEB'2005 | 334,405.00 |
| 55 | N640 | DR. N.C.CHANDRA       | NOV'2004 | 96,358.00  |
| 56 | N591 | DR. N.K.ARORA         | OCT'04   | 2,490.00   |
| 57 | N591 | DR. N.K.ARORA         | SEP'04   | 2,369.00   |
| 58 | N593 | DR. N.K.ARORA         | NOV'2004 | 18,480.00  |
| 59 | N685 | DR. N.K.ARORA         | JAN'2005 | 3,250.00   |
| 60 | N685 | DR. N.K.ARORA         | SEP'2004 | 240,647.00 |
| 61 | N685 | DR. N.K.ARORA         | OCT'2004 | 139,000.00 |
| 62 | D152 | DR. N.R.JAGANNATHAN   | DEC'2004 | 92,000.00  |
| 63 | N674 | DR. NIKHIL TANDON     | MAY'2004 | 76,076.00  |
| 64 | I421 | DR. NEENA KHANNA      | MAR'2005 | 2,650.00   |
| 65 | N713 | DR. NEENA KHANNA      | DEC'2004 | 31,000.00  |
| 66 | N601 | DR. NEERJA BHATLA     | JUN'2004 | 214,812.00 |
| 67 | N652 | DR. NEERJA BHATLA     | OCT'2004 | 38,897.00  |

|     |      |                     |          |            |
|-----|------|---------------------|----------|------------|
| 68  | N652 | DR. NEERJA BHATLA   | AUG'2004 | 301,000.00 |
| 69  | N652 | DR. NEERJA BHATLA   | SEP'2004 | 12,450.00  |
| 70  | N634 | DR. NEETA SINGH     | AUG'2004 | 13,529.00  |
| 71  | N634 | DR. NEETA SINGH     | DEC'2004 | 7,020.00   |
| 72  | N563 | DR. P.K.JULKA       | NOV'2004 | 19,600.00  |
| 73  | N489 | DR. PRADEEP SETH    | MAY'2004 | 57,400.00  |
| 74  | N632 | DR. PRATIMA RAY     | MAY'2004 | 10,304.00  |
| 75  | N632 | DR. PRATIMA RAY     | AUG'2004 | 12,960.00  |
| 76  | N632 | DR. PRATIMA RAY     | OCT'2004 | 63,939.00  |
| 77  | N632 | DR. PRATIMA RAY     | DEC'2004 | 805,988.00 |
| 78  | N632 | DR. PRATIMA RAY     | JAN'2005 | 252,212.00 |
| 79  | N632 | DR. PRATIMA RAY     | FEB'2005 | 1,500.00   |
| 80  | N284 | DR. R.M.PANDEY      | NOV'2004 | 150,417.00 |
| 81  | N567 | DR. R.S.TYAGI       | AUG'2004 | 11,725.00  |
| 82  | I399 | DR. RAJESH MALHOTRA | NOV'2004 | 94,300.00  |
| 83  | N530 | DR. RAKESH KUMAR    | MAR'2005 | 86,650.00  |
| 84  | N578 | DR. RAMA CHAUDHARY  | MAY'2004 | 47,900.00  |
| 85  | N572 | DR. RANDEEP GULERIA | JUN'2004 | 45,500.00  |
| 86  | N671 | DR. RANDEEP GULERIA | NOV'2004 | 94,300.00  |
| 87  | N702 | DR. RANI KUMAR      | OCT'2004 | 582,100.00 |
| 88  | I391 | DR. RANJU RALHAN    | SEP'2004 | 138,000.00 |
| 89  | I391 | DR. RANJU RALHAN    | MAR'2005 | 74,159.00  |
| 90  | N333 | DR. RENU SAXENA     | MAR'2005 | 83,550.00  |
| 91  | C605 | DR. ROHINI HANDA    | MAR'2005 | 59,900.00  |
| 92  | N487 | DR. S.K.KAPOOR      | SEP'2004 | 32,600.00  |
| 93  | N487 | DR. S.K.KAPOOR      | DEC'2004 | 61,160.00  |
| 94  | N703 | DR. S.K.MAULIK      | FEB'2005 | 383,822.00 |
| 95  | N703 | DR. S.K.MAULIK      | MAR'2005 | 297,960.00 |
| 96  | D173 | DR. S.K.PANDA       | MAR'2005 | 87,760.00  |
| 97  | N710 | DR. S.K.PANDA       | MAR'2005 | 135,262.00 |
| 98  | N651 | DR. S.K.SHARMA      | MAY'2004 | 9,945.00   |
| 99  | N690 | DR. S.K.SHARMA      | FEB'2005 | 12,700.00  |
| 100 | N690 | DR. S.K.SHARMA      | MAR'2005 | 464,324.00 |
| 101 | N705 | DR. S.K.SHARMA      | MAR'2005 | 12,700.00  |
| 102 | C609 | DR. S.S.CHAUHAN     | MAR'2005 | 84,706.00  |
| 103 | D177 | DR. SAVITA YADAV    | FEB'2005 | 112,048.00 |
| 104 | D177 | DR. SAVITA YADAV    | MAR'2005 | 42,000.00  |

|     |       |                           |          |                      |
|-----|-------|---------------------------|----------|----------------------|
| 105 | D022A | DR. SHASHI WADHWA         | MAR'2005 | 3,146,830.00         |
| 106 | N646  | DR. SHASHI WADHWA         | NOV'2004 | 0                    |
| 107 | N646  | DR. SHASHI WADHWA         | MAR'2005 | 29,970.00            |
| 108 | N725  | DR. SHINJINI BHATNAGAR    | MAR'2005 | 115,000.00           |
| 109 | N691  | DR. SHOBHA BROOR          | MAR'2005 | 1,439,320.00         |
| 110 | D134  | DR. SUJATA SHARMA         | JUL'2004 | 48,595.00            |
| 111 | D170  | DR. SUJATA SHARMA         | DEC'2004 | 213,861.00           |
| 112 | D170  | DR. SUJATA SHARMA         | FEB'2005 | 43,749.00            |
| 113 | I013  | DR. SUNEETA MITTAL        | MAR'2005 | 10,000.00            |
| 114 | N602  | DR. SUNEETA MITTAL        | DEC'2004 | 34,728.00            |
| 115 | N620  | DR. SUNEETA MITTAL        | AUG'2004 | 3,192.00             |
| 116 | N437  | DR. UMA BANERJEE          | AUG'2004 | 82,445.00            |
| 117 | I375  | DR. UMESH KAPIL           | AUG'2004 | 34,400.00            |
| 118 | N430  | DR. V.RAINA               | JUN'2004 | 116,610.00           |
| 119 | N430  | DR. V.RAINA               | SEP'2004 | 85,800.00            |
| 120 | N481  | DR. V.RAINA               | DEC'2004 | 92,900.00            |
| 121 | N481  | DR. V.RAINA               | MAY'2004 | 2,375.00             |
| 122 | N656  | DR. VEENA KALRA           | OCT'2004 | 188,718.00           |
| 123 | N029  | DR. Y.D.SHARMA            | MAR'2005 | 77,293.00            |
| 124 | N052  | DR. Y.D.SHARMA            | JAN'2005 | 42,925.00            |
| 125 | N052  | DR. Y.D.SHARMA            | MAR'2005 | 413,899.00           |
| 126 | I403  | DR. Y.K.JOSHI             | DEC'2004 | 15,490.00            |
| 127 | I420  | DR. LALIT DAR             | MAR'2005 | 48,300.00            |
| 128 | N672  | DR. CHETAN D. PATEL       | FEB'2005 | 137,500.00           |
| 129 | D164  | DR. MADHABANANDA KAR      | FEB'2005 | 134,000.00           |
| 130 | D166  | DR. SAMPATH MUKHOPADHAYAY | JAN'2005 | 61,580.00            |
| 131 | D166  | DR. SAMPATH MUKHOPADHAYAY | MAR'2005 | 299,760.00           |
| 132 | D174  | DR. B.R MIRDHA            | MAR'2005 | 470,208.00           |
| 133 | N498  | DR. ARVIND BAGGA          | JUL'2004 | 108,324.00           |
| 134 | N498  | DR. ARVIND BAGGA          | JAN'2005 | 69,120.00            |
| 135 | N498  | DR. ARVIND BAGGA          | MAR'2005 | 8,532.00             |
| 136 | N089  | DR. R.K SHARMA            | JAN'2005 | 42,660.00            |
|     |       | <b>TOTAL</b>              |          | <b>19,198,226.00</b> |

**(R.G. GARG)**  
**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>AMOUNT</b> |
|--------------|--|---------------|
| 1            | CTC/ICDS   | 64789         |
| 2            | U.G.C.   | 233332        |
| 3            | Indian Council of Agriculture Research.                | 30029         |
| 4            | Domainan Chemicals                                     | 663           |
| 5            | Ministry of Environment & Forest                       | 421699        |
| 6            | DEPTT.OF ELECTRONICS                                   | 830995        |
| 7            | Ministry of H.R.D. (DWCD)                              | 4579          |
| 8            | Deptt. of Atomic Energy                                | 33733         |
| 9            | Serdia Pharma Company                                  | 7188          |
| 10           | Rajiv Gandhi Foundation                                | 9608          |
| 11           | Directorate of Education (NSS)                         | 14885         |
| 12           | Ministry of Welfare                                    | 9836          |
| 13           | Roussel Sci. Instt.                                    | 1577          |
| 14           | Serum Instt. Of India                                  | 49635         |
| 15           | Deptt. Of Ocean Development                            | 5644          |
| 16           | Torrent Pharma   | 51312         |
| 17           | Deptt. of Rural Development                            | 25504         |
| 18           | Indo—French Centre for Advanced Research               | 60014         |
| 19           | Prakash Health and Research Foundation                 | 120           |
| 20           | Lapra-UK   | 11277         |
| 21           | Australian International Development Assistance Bureau | 43190         |
| 22           | INCLEN   | 2039454       |
| 23           | Park-Davis   | 1011          |
| 24           | Hoechst India Ltd.                                     | 3105          |
| 25           | A.S.T.A  | 14963         |
| 26           | Biomed Pvt. Ltd.                                       | 4744          |
| 27           | Smithline Beecham Pharma                               | 108018        |
| 28           | RLU ( Orient Steel Industries)                         | 40642         |
| 29           | E.I.P.   | 150           |
| 30           | I.E.C.   | 757           |

|    |   |         |
|----|---|---------|
| 31 | TCL Bombay                                | 1264    |
| 32 | Indira Gandhi National                    | 122     |
| 33 | SRB-Clinical Pharamacology                | 2847025 |
| 34 | West Midland Regional Centre Services, UK | 504     |
| 35 | M/S Jagsonpal Pharma                      | 13869   |
| 36 | Hindustan Lever Ltd.                      | 431     |
| 37 | Bhart Electrical Ltd.                     | 77862   |
| 38 | Sandoz                                    | 179842  |
| 39 | Buyer India Ltd.                          | 16002   |
| 40 | NATCO Ltd.                                | 4000    |
| 41 | Haryana Govt. (Distt, Sirsa)              | 3123    |
| 42 | Glaxo India Ltd.                          | 8376    |
| 43 | Reckitt and Column                        | 1405    |
| 44 | MBI Kits.                                 | 219     |
| 45 | Becton and Dickinson India                | 17      |
| 46 | Central Pollution Control Board           | 3017    |
| 47 | Bureau of Police Research and Development | 23433   |
| 48 | Unichem India Ltd.                        | 204704  |
| 49 | The Cancer Foundation                     | 464399  |
| 50 | Maharishi Ayurveda                        | 38228   |
| 51 | Ministry of Home Affair                   | 57403   |
| 52 | Russan Pharma Ltd Mumbai                  | 119727  |
| 53 | Global Forum for Health and Research      | 299460  |
| 54 | Mustrad Research And Promotion Center     | 15359   |
| 55 | National Institute of Management          | 16625   |
| 56 | University of Bergan                      | 112865  |
| 57 | Shantha Biotechics Pvt Ltd                | 46510   |
| 58 | University of Delhi                       | 309857  |
| 59 | Oxford University                         | 290728  |
| 60 | Federation of Obstetric & Gynaecological  | 70992   |
| 61 | United Nation Development Programme       | 6343    |
| 62 | Aimil Pharmaceutical India Ltd.           | 35657   |
| 63 | U.S.V. Ltd.                               | 20270   |
| 64 | Pharmacia India Pvt. Ltd                  | 38186   |
| 65 | FOGSI-Rhoge India                         | 67114   |
| 66 | Development Co. Pharmaceuticals Ltd (U.K) | 478674  |

|    |   |                 |
|----|---|-----------------|
| 67 | Nottingham Health Care                            | 9200            |
| 68 | International Consortium for Mental Health Policy | 313319          |
| 69 | L.G. Chemicals India Pvt Ltd.                     | 350             |
| 70 | Aventis Pharma India (ACENTIS)                    | 46158           |
| 71 | The Population Council                            | 1589737         |
| 72 | National Institute of Oceanography                | 39915           |
| 73 | CASE WESTERN RESERVE UNIVERSITY                   | 162             |
| 74 | Ministry of External Affairs                      | 60350           |
| 75 | FACSIMILE TRANSMITTAL                             | 8769            |
|    | <b>Grand Total:</b>                               | <b>12064025</b> |

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
STATEMENT SHOWING THE DONATIONS & INVESTMENT AS ON 31-3-2005**

| S.NO. | PARTICULARS & MODE OF INVESTMENT   | AMOUNT OF DONATION | AMOUNT OF INVESTMENT |
|-------|--|--------------------|----------------------|
| 1     | AIIMS ROTARY CANCER HOSPITAL   | 700000             | 700000               |
| 2     | MISC DONATION FOR THE DEPTTO OF ONCOLOGY UNDER DR. A.K. SARAYA (FIXED DEPOSIT) | 8000               | 8000                 |
| 3     | R.S. NANDA (UNIT TRUST)  | 78274              | 78274                |
| 4     | ANNONYMOUS DONORS  | 70000              | 70000                |
| 5     | DR. B.B. DIXIT LIB.  | 10000              | 13700                |
| 6     | CHACHAMA DONORS  | 150000             | 199600*              |
| 7     | MJ. GENERAL S.L. BHATIA  | 10000              | 9800                 |
| 8     | MJ. GENERAL AMIR CHAND   | 150000             | 149660               |
| 9     | DR. K.L. WIG(UNIT TRUST)   | 15000              | 14910                |
| 10    | ZENITH FINANCE & CO.(UNIT TRUST)   | 6000               | 6000                 |
| 11    | KAMANI CHARITY TRUST(UNIT TRUST)   | 5000               | 5100                 |
| 12    | SARUP CHAND HANS RAJ   | 20000              | 19500                |
| 13    | RAJ KUMARI AMIRT KAUR(FIXED DEPO.)   | 25000              | 25000                |
| 14    | KATHERINE SORAL FROYMAN  | 5000               | 5000                 |
| 15    | DR.S.L. KALRA  | 6000               | 5800                 |
| 16    | R.L. RAJGARHIA(FIXED DEPOSIT)  | 850000             | 850000               |
| 17    | SMT. PRAKASH WATI DONATION   | 13800              | 13800                |
| 18    | SMT. KRIPAL KAUR(UNIT TRUST)   | 6000               | 5908                 |
| 19    | SMT. KAUSHALYA THAPAR(UNIT TRUST)  | 12000              | 12017                |
| 20    | SH. G.D. JHANGINI(FIXED DEPOSIT)   | 25500              | 25602                |
| 21    | LALA KHUSHI RAM(FIXED DEPOSIT)   | 247753             | 247753               |
| 22    | SMT. BRIJ RAJ SAWHENY(UNIT TRUST)  | 22501              | 22472                |
| 23    | S.P. VIRMANI(FIXED DEPOSIT)  | 1500               | 1500                 |

|    |   |         |            |
|----|---|---------|------------|
| 24 | EAST INDIA COMMERCIAL PVT.LTD.<br>CALCUTTA (FIXED DEPOSIT)    | 3200000 | 2800000    |
| 25 | DR. KANTI KAPILA(UNIT TRUST)                                  | 10079   | 10002      |
| 26 | DR. V. RAMALINGASWAMI(UNIT TRUST)                             | 8000    | 7996       |
| 27 | DR. S. SABHARWAL(UNIT TRUST)                                  | 10000   | 9951       |
| 28 | DR. N.H. KASWANI(UNIT TRUST)                                  | 10000   | 9990       |
| 29 | DR. B.K. ANAND(UNIT TRUST)                                    | 5000    | 4995       |
| 30 | DR. V. HINGORANI  | 15000   | 15000      |
| 31 | KUMUDINI KRISHNA MOORTHY                                      | 15000   | 15000      |
| 32 | G.R. RADHAKRISHNA (SARASWATI<br>MEMORIAL ORATION, unit Trust) | 20000   | 19987      |
| 33 | P.L. TANDON(FIXET DEPOSIT)                                    | 15000   | 15000      |
| 34 | XV INTERNATION CONGRESS OF<br>PEDIATRICS (UNIT TRUST)         | 40000   | 40000      |
| 35 | RAM LOBHAYA DONATION(F.D.)                                    | 15000   | 15000      |
| 36 | G.PF.   | -       | 1332437693 |
| 37 | SUBHASH MEMORIAL FOUNDATION<br>(V.L. TELEKAR DONATION)        | 10101   | 10101      |
| 38 | SMT. INDIRA SATYANAND   | 10000   | 10000      |
| 39 | SH. K.V. SUBA RAO   | 10000   | 10000      |
| 40 | NEWZELAND HIGH COMMISSION                                     | 10000   | 10000      |
| 41 | AKHILESH MITTAL(SUMITH MOHAN<br>SADAN DAYAL TRUST)            | 20000   | 20000      |
| 42 | PREMALATA KAPOOR  | 10000   | 10000      |
| 43 | DWARKA PRASAD TRUST   | 50000   | 50000      |
| 44 | LATE. SH. D.R. BAHRI  | 15000   | 15000      |
| 45 | SEWA RAM  | 15000   | 15000      |
| 46 | FACULTY BENEVELENT FUNT                                       | 60065   | 60065      |
| 47 | VCERANGE MEMORAIL TRUST                                       | 50000   | 50000      |
| 48 | SH. DORABJI TRUST   | 10000   | 10000      |
| 49 | CORPUS FUND   | 30000   | 30000      |

|              |   |                |                   |
|--------------|---|----------------|-------------------|
| 50           | AIIMSONIANS   | 10000          | 10000             |
| 51           | SARLA ATAM PRAKASH  | 15000          | 15000             |
| 52           | K.L. WIG RESEARCH FOUNDATION                                      | 100000         | 100000            |
| 53           | KAMLA B.K. ANAND  | 100000         | 100000            |
| 54           | V.K. MITTAL   | 130000         | 130000            |
| 55           | SNEHLATA SONI   | 15000          | 15000             |
| 56           | AIIMSONIAN OF AMERICA   | 129850         | 129850            |
|              | AIIMSONIAN OF AMERICA   | 151630         | 151630            |
|              | AIIMSONIAN OF AMERICA   | 126471         | 126471            |
| 57           | SMT. LEELA WATI SALWAN  | 15000          | 15000             |
| 58           | BINEY ROHTAGI & SMT. SHAKUNTALA                                   | 36000          | -                 |
| 59           | DR. D.K. GUPTA  | 100000         | 100000            |
| 60           | J.R. CHAWLA   | 15000          | 15000             |
| 61           | URMIL SHARMA IN R/O SHYAM SHARMA                                  | 15000          | 15000             |
| 62           | SMT. SUSHILA WATI MALHOTRA  | 500000         | 500000            |
| 63           | BASATI DEVI   | 100000         | 100000            |
| 64           | ORTHO PAEDICS FUND  | 250000         | 250000            |
| 65           | DR. S.B. ROY  | 125000         | 125000            |
| 66           | MR. R.V. KANDHARI   | 100000         | 100000            |
| 67           | DR. B.K. KAPOOR   | 125000         | 125000            |
| 68           | SMT. SAVITRI UGGARSEAN  | 100000         | 100000            |
| 69           | VIMAL LAUMAS  | 200000         | 200000            |
| 69.1         | MRS. PROMIDA BAJAJ  | 200000         | 200000            |
| 69.2         | MRS. PROMIDA BAJAJ { FOR TREATMENT<br>OF BREAST CANCER PATIENTS } | 200000         | 200000            |
| <b>TOTAL</b> |   | <b>8959524</b> | <b>1341013127</b> |

\* FD was got renewed including interest earned earlier.

**(R.G. GARG)**  
**FINANCIAL ADVISOR**

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
DETAILS OF MISC. DONATION ACCOUNTS FOR THE YEAR 2004-2005**

| S.NO. | DEPARTMENT                                       | OPENING BALANCE<br>AS ON 1-4-2004 | GRANT | TOTAL  | EXPENDITURE | CLOSING BALANCE<br>AS ON 31-3-2005 |
|-------|--|-----------------------------------|-------|--------|-------------|------------------------------------|
| 1     | R. & A.L.  | 19475                             | -     | 19475  | -           | 19475                              |
| 2     | Psychiatry                                       | 28495                             | -     | 28495  | -           | 28495                              |
| 3     | Haematology                                      | 33046                             | -     | 33046  | 14672       | 18374                              |
| 4     | Orthopaedics                                     | 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     | Dr.B.R.A.I.R.C.H.<br>(Dr. V. Kochupillai)        | 10460                             | -     | 10460  | -           | 10460                              |
| 10    | Leprosy<br>(Dr. L.K. Bhutani)                    | 115785                            | -     | 115785 | -           | 115785                             |
| 11    | A.K. Basu/Dr. Raina<br>Dr.B.R.A.I.R.C.H.         | 17651                             | -     | 17651  | -           | 17651                              |
| 12    | C.N. Centre<br><br>Purchase of Ambulance         | 20418                             | -     | 20418  | -           | 20418                              |
| 13    | B.B. Dixit Library                               | 3324                              | -     | 3324   | -           | 3324                               |
| 14    | Employees Welfare<br><br>Fund                    | 125139                            | -     | 125139 | -           | 125139                             |
| 15    | PMR Poor Fund                                    | 46199                             | -     | 46199  | -           | 46199                              |
| 16    | Surgery Deptt.                                   | 501                               | -     | 501    | -           | 501                                |
| 17    | K.L. Wig CMET<br>(Ford Foundation)               | 29821                             | -     | 29821  | 17800       | 12021                              |
| 18    | N. MEDICINE                                      | 19571                             | -     | 19571  | -           | 19571                              |
| 19    | C.E.U.   | 30000                             | -     | 30000  | -           | 30000                              |
| 20    | A.I.D. Marrow<br>Registry<br>Dr. N.K. Mehra, HLA | 50000                             | -     | 50000  | -           | 50000                              |
| 21    | I.C.G.E.B.<br>(Dr. T.P. Singh)                   | 444630                            | -     | 444630 | -           | 444630                             |
| 22    | Dr. Veena Kalra                                  | 115200                            | 23000 | 138200 | -           | 138200                             |

|              |   |                |                 |                 |                 |                |
|--------------|---|----------------|-----------------|-----------------|-----------------|----------------|
| 23           | Liver Clinic<br>Deptt. of Gastro.   | 2865           | -               | 2865            | -               | 2865           |
| 24           | M.I. Urology<br>Dr. N.P. Gupta  | 4982           | -               | 4982            | -               | 4982           |
| 25           | Dr. N. Kochupillai<br>(Poor Young Diabetic<br>Patient (Endo &<br>Metabolism)) | 120000         | -               | 120000          | -               | 120000         |
| 26           | Paed. Genetics  | 114788         | 855648          | 970436          | 807850          | 162586         |
| 27           | Cochlear (ENT)  | 946759         | 9378220         | 10324979        | 9796000         | 528979         |
| <b>TOTAL</b> |   | <b>2550872</b> | <b>10256868</b> | <b>12807740</b> | <b>10636322</b> | <b>2171418</b> |

**(R.G. GARG)**  
**FINANCIAL ADVISOR**

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES****2004-2005**

| <b>S.NO.</b> | <b>MISCELLANEOUS DEPOSITS</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> |

**(R.G. GARG)**  
**FINANCIAL ADVISOR**

## **12.2 Audit Report on the accounts of All India Institute of Medical Sciences, New Delhi for the year 2004-05**

### **Introduction**

The All India Institute of Medical Sciences (Institute) was established in November 1956 under All India Institute of Medical Sciences Act, 1956. The main objectives of the Institute are to provide:

- Undergraduate and postgraduate teaching in the science of modern medicines and other allied sciences including biological sciences.
- Facilities for research in various branches of such sciences, establish and maintain one or more medical college, dental college, nursing college and well equipped hospital etc. and hold examinations and grant degrees, diplomas and other academic distinctions and titles

The accounts of the Institute are audited under Section 19(2) of the Comptroller and Auditor General's (Duties, Powers and Condition of Service) Act, 1971 read with Section 18(2) of the All India Institute of Medical Sciences Act, 1956.

During 2004-05 the Institute received grants of Rs. 250.00 crore under Non-plan and Rs. 82.00 crore under Plan from Government of India, Ministry of Health and Family Welfare. In addition, the Institute received plan grants amounting to Rs. 0.25 crore for Institute Rotary Cancer Hospital (IRCH), Rs. 3.10 crore for National Drugs Dependence Treatment Centre and Rs. 0.03 crore for National Aids Control Organisation. Out of the grant received during the year, the organisation could utilize a sum of Rs. 376.88 crore (Plan : Rs. 82.10 crore and Non-Plan: Rs. 285.78 crore) leaving a minus balance of Rs. 35.88 crore (Plan : Rs. 35.78 crore and Non-Plan : Rs. 0.10 crore) as on 31 March 2005.

### **Comments on Accounts**

#### **2. Balance Sheet**

##### **Liabilities**

##### **2.1 Overstatement of Liabilities**

The Institute decided in April 2004 that amounts recovered from patients by 12 departments on account of tests conducted were to be credited to a 'Revolving fund' and utilised for the maintenance of equipment and purchase of spares and consumables in these departments. During 2004-05, Rs. 3.29 crore generated by the various departments on account of tests conducted were carried forward from the Receipts and Payments Account to the liability side of the Balance Sheet as on 31 March 2005 under the head 'Revolving fund'. An expenditure of Rs. 1.92 crore was incurred during the year on maintenance of equipment, purchase of spare parts and consumables out of the above amount. This expenditure was accounted for on the assets side of the Balance Sheet under the head 'Revolving fund', which was irregular. This amount should have been directly deducted from the 'Revolving Fund' depicted on the liability side of the Balance Sheet. Failure to do this resulted in overstatement of liabilities and assets by Rs. 1.92 crore.

## 2.2 Understatement of liabilities

Cardio-thoracic and Neurosciences Centre (CNC) of the Institute maintains Angiography patient account, C.T. patient account, Gamma knife patient account and Neuro surgery patient account. The receipts of these departments consist of charges received from the patients and interest earned from FDRs made out of these receipts in C.T. patient and Angiography patient account. At the close of the financial year, the balances in this account should be the amounts which have to be refunded to the patients who did not turn up for treatment or balances on account of excess receipts. The Balance Sheet of the Institute shows assets as under:

| (Rs. in crore) |                       |        |
|----------------|-----------------------|--------|
| S. No.         | Name of the account   | Amount |
| 1              | Angiography Patient   | 8.04   |
| 2              | C.T. Patient          | 23.13  |
| 3              | Gamma knife Patient   | 6.84   |
| 4              | Neuro Surgery Patient | 2.94   |

Liability in respect of these four accounts has not been shown in the accounts. The liability side of the Balance Sheet shows excess of income over expenditure of these amount in all the four accounts.

The Institute should have ascertained the exact liability towards patients as on 31 March 2005 and depicted it distinctly as 'refundable to the Patients' on the liability side of the Balance Sheet. Any surplus left thereafter was to be depicted as excess of income over expenditure in respect of these accounts. This was pointed out in the previous years' audit reports also.

### Assets

## 2.3 Understatement of assets

**2.3.1** Balance Sheet of the Institute (Main) as on 31 March 2005 depicted cost of land and building at Rs. 209.59 crore (Land-Rs. 11.28 crore and Building- Rs. 198.31 crore). The records relating to acquisition of land and construction of building viz. details of land acquired and its cost, number of buildings and built up area etc. were not made available to audit. Similar observations about non maintenance of Land and Building record and non accounting of cost of land acquired for Trauma Centre and National Drug Dependence Treatment Centre (NDDTC) during April 2000 at a cost of Rs. 1.96 crore were made during the previous year (2003-04) but the Institute has not taken any corrective action so far.

**2.3.2** Test check of records of Research section revealed that the Institute had procured assets (machines and equipment) worth Rs. 1.92 crore during 2004-05. These assets were acquired out of the grants received from Government organisations and private bodies during the last several years for implementation of special schemes. The assets acquired by the Research section were, however, not depicted in the Balance Sheet of the Institute. This resulted in understatement of assets to that extent. Similar lapse had been pointed out in the previous years' audit reports also as machines and equipment amounting to Rs. 3.24 crore, Rs. 1.76 crore and Rs. 3.20 crore acquired during 2001-02, 2002-03 and 2003-04 respectively were not accounted for in the assets accounts. It is once again reiterated that all such assets should be accounted for in the Balance Sheet of the Institute.

**2.3.3.** Vehicle statement of IRCH Centre provided to audit revealed that a Tata Sumo was donated to it (cost not available). The vehicle was not however accounted for in the accounts of IRCH. This resulted in understatement of assets to that extent. The estimated cost of donated vehicle should be ascertained and included in the vehicles account.

**2.3.4** Test check of records revealed that items of capital nature (machinery, equipment and furniture) purchased by different centres of Institute have been booked in the accounts as recurring contingent expenditure under the head ‘Material and supply’ as detailed below:

**(Rs. in lakh)**

| <b>Name of the centre</b> | <b>Amount</b> | <b>Remarks</b>  |
|---------------------------|---------------|---|
| AIIMS (Main)              | 24.24         | Vr.No.S-5913, 5914 & 5915, 4283, 6033, 6912, 7276, 4054 |
| Dr. R.P. Centre           | 7.40          | Vr. No. S-604 & S-376                                   |
| CNC                       | 17.12         | Vr.No. S 1414, 1444 and 1491                            |
| IRCH                      | 36.02         | 1536/LC and others                                      |
|                           | <b>Total</b>  | <b>84.78</b>  |

This resulted in understatement of assets by Rs 84.78 lakh and overstatement of expenditure by the corresponding amount.

## **2.4 Overstatement of assets**

**2.4.1** The Institute depicted Rs. 36.47 lakh and Rs. 19.79 lakh under the head ‘Hospital receipts recoverable/amount due from outside patients’ in the Institute (Main) account and Cardiac and Neuro Centre (CNC) account respectively, on the assets side of the Balance Sheet as on 31 March 2005 which includes Rs. 30.30 lakh and Rs. 17.43 lakh pertaining to period 1978-79 to 2003-04, respectively.

Considering the fact that the outstanding amount pertained to the periods as far back as 1978-79, the Institute should take effective steps either to recover these amounts or consider their write-off so that assets are not unduly inflated. This was pointed out by the audit in the previous year’s audit report (2003-04) but no action has been taken by the Institute.

### **2.4.2 Outstanding advances against suppliers**

The Institute had been making advance payments to various firms for purchase of building material. It was noticed that advances of Rs. 3.10 crore were lying unadjusted as on 31.3.2005, which includes Rs. 2.49 crore pertaining to period 1968-69 to 2003-04.

Failure of the Institute to obtain adjustment accounts even after lapse of about 37 years resulted in unnecessary overstatement of current assets. The Institute should take immediate and effective steps to either recover or obtain adjustment accounts for the outstanding advances from the respective firms.

### 2.4.3 Advances with other agencies

Reconciliation of balances in respect of following advances given for the purpose indicated against each has not been done nor confirmation of balances obtained and shown to audit:

| (Rs. in lakh) |                    |  |         |
|---------------|--------------------|--|---------|
| Sl. No.       | Name of the firm   | Purpose for which advance is given             | Amount  |
| 1.            | M/s CPWD           | Construction of C. N. Tower                    | 1208.00 |
| 2.            | M/s HSCC           | Construction of Trauma Centre                  | 472.21  |
| 3.            | M/s H.S.C.C.       | Construction of Dental College                 | 539.51  |
| 4.            | N.D.M.C.           | Augmenting L.T. line in Eastern, Western Court | 127.56  |
| 5.            | Delhi Vidyut Board | Installation of 11 KW sub-station              | 33.63   |

**2.4.4** The Institute has depicted 'Machinery and equipment' (Plan and Non-plan) worth Rs. 42.58 crore under Dr R.P. Centre on the assets side of the Balance Sheet as on 31 March 2005. This includes machinery and equipment worth Rs. 26.91 lakh condemned by the Condemnation Committee of the Institute during 2004-05. This resulted in overstatement of assets by Rs. 26.91 lakh.

### 2.5 Misclassification of assets

**2.5.1** The Institute had depicted Rs. 44.26 lakh under IRCH 'Building construction' on the assets side of the Balance Sheet as on 31 March 2005. This amount includes Rs. 26.00 lakh (Security deposit) and Rs. 0.26 lakh (connection fee including installation of energy meter) paid to New Delhi Municipal Council for release of 1300 KW electrical load to IRCH. The payment of 'Security deposit' – Rs. 26.00 lakh and 'Connection fee' – Rs. 0.26 lakh should have been treated as 'Current assets' on the assets side of the Balance Sheet and 'Revenue expenditure' in the Income and Expenditure account, respectively. Failure to do so has resulted in understatement of 'Current assets' and 'Expenditure' by Rs. 26.00 lakh and Rs. 0.26 lakh respectively.

Similarly, Rs. 18.00 lakh paid for cabling and associated works in the IRCH building was booked under the final head 'Building construction' instead of treating it as 'Advance payment'. This resulted in understatement of 'Advance payment' and overstatement of 'Building construction' by Rs. 18.00 lakh.

**2.5.2** Rs. 74.64 lakh paid to New Delhi Municipal Council on account of advance payment for the work "H.T. Transformers and cable charges" was accounted for in the Annual Accounts under the head "Building construction" instead of 'Advance payment'. This resulted in overstatement of the balances under 'Building construction' by Rs. 74.64 lakhs and understatement of the same amount under 'Advance payment'.

**2.5.3** The charges on account of payment of custom duty for clearing foreign consignment was being deposited by various departments with the main store of Institute and the expenditure was being accounted for under the final head 'Machinery and Equipment' instead of 'Advances pending final adjustment'. Scrutiny of records revealed that Rs. 32.49 lakh deposited by the various departments of the Institute with AIIMS (Main-store), as detailed below, had not been adjusted as of 31.3.2005. This resulted in overstatement of expenditure under the head 'Machinery and equipment' by Rs. 32.49 lakh and understatement of expenditure under 'advances' by the corresponding amount.

(Rs. in lakh)

| S. No. | Name of the Department | Amount       |
|--------|------------------------|--------------|
| 1      | AIIMS (Main)           | 20.74        |
| 2      | CNC                    | 2.82         |
| 3      | IRCH                   | 1.09         |
| 4      | Dr. R.P. Centre        | 7.84         |
|        | <b>Total</b>           | <b>32.49</b> |

Similarly, Rs. 15.99 lakh deposited by the Research Section towards payment of Custom duty with the Main Store were accounted for by the Research Section under the head 'establishment charges' instead of 'advances' resulting in understatement of assets by Rs. 15.99 lakh and overstatement of expenditure to that extent.

**2.5.4** Test check of records revealed that consumable items of Rs. 9.41 crore nature purchased by CNC Centre of the Institute have been accounted for under the head 'Machinery and equipment' instead of 'Material and supply'.

This resulted in overstatement of assets under 'Machinery and equipment' by Rs 9.41 lakh and understatement of expenditure by the corresponding amount.

### **3. Receipts and Payments Account**

#### **Receipts**

#### **3.1 Overstatement of receipts**

**3.1.1** A residual balance amount of Rs. 37.63 lakh out of the National Cancer Control Programme (NCCP) grant of Rs. 50.00 lakh received from Ministry of Health and Family Welfare during 2003-04 could not be utilised by IRCH centre during the same financial year and the Ministry was requested to permit IRCH to utilise the unspent balance during 2004-05 for which Ministry's permission was received in July 2004. The IRCH centre booked this amount again as receipt in the Receipt and Payment Account for the year 2004-05. This resulted into overstatement of receipt, as this amount was already accounted for during 2003-04 by the IRCH centre in their closing balance as on 31 March 2004.

### **4. General**

#### **4.1 Security deposit/Earnest money and Caution money**

Institute (main) account depicted Rs. 5.96 crore and Rs. 10.20 lakh under the head "Security deposit/ Earnest money" and 'Caution money', respectively on the liability side of the Balance Sheet as on 31 March 2005. The year-wise, party-wise and item-wise details of these deposits were not made available to audit. In the absence of details, the authenticity of the figures of Rs. 5.96 crore and Rs. 10.20 lakh shown under these heads could not be verified in audit.

#### 4.2 Expenditure against grants received for specific purpose

Balance Sheet of the Institute (Main) depicted liability of Rs. 19.99 crore (Appendix-A) in respect of schemes being carried out by the Institute which were funded by other Government Organisations and Private Bodies. The liability of Rs. 19.99 crore includes balance of Rs. 1.08 crore in respect of 65 schemes though these projects have been completed/closed during 2004-05 or in previous years. Year-wise break-up of these closed projects was not made available to audit.

#### 4.3 Variation between Broadsheet and Balance Sheet

Test-check of records relating to 'recoverable advances' of the Institute (Main) revealed that the amount of advances as shown in the Balance Sheet as on 31 March 2005 did not tally with those appearing in the Broadsheet of the Institute, as per details given below:

(Amount in Rs.)

| Type of Advances | As per Balance Sheet | As per Broadsheet | Difference |
|------------------|----------------------|-------------------|------------|
| Cycle            | 134598               | 148919            | 14321      |
| Car M.           | 3742240              | 4135825           | 393585     |
| Cycle/Scooter    | 3191879              | 3461422           | 269543     |
| House Building   | 40797232             | 41629265          | 832033     |
| Computer         | 1809793              | 1821658           | 11865      |

The differences needed reconciliation.

#### 4.4 Assets register

As per Rule 149 (3) of General Financial Rules, Undertaking/Organisations/Bodies which are mainly financed by the grants from Government are required to maintain a 'Register of Asset' in form GFR 19 wherein all assets of permanent nature and machinery and equipments having a life of not more than five years and costing Rs. 10,000/- and above should find place.

It was observed that no centralised asset register/stock register was being maintained by the Institute (Main) or by the different Centres. Also no schedule of the fixed Assets general was being appended to the annual accounts. In the absence of the requisite asset register(s) and the relevant details of the assets not having been appended to the annual accounts, the correctness of the figures depicted in the annual accounts could not be verified in audit.

Similarly, records relating to assets acquired by way of gifts, donations etc., valuation of such assets and information on whether these have been accounted for in the annual accounts for the year 2004-05 have also not been furnished to audit. In the absence of this, the correctness of the value of assets appearing in the Balance Sheet could not be verified in audit. This was pointed out in previous year's audit report also but the institute has not taken any corrective action.

#### 4.5 Previous year's figures not indicated in the accounts

The Institute has only shown current year's figures in the Receipts & Payments Account and in Income & Expenditure Account. Previous year's figures have not been depicted although the Institute was required to show previous year's figures also in the accounts as per new format of accounts.

#### **4.6 Depreciation of assets**

Balance Sheet as on 31 March 2005 depicts the asset accounts at their book value of acquisition and does not exclude obsolete, unusable, irreparable and condemned assets and also does not take into account depreciation. The asset accounts are overstated accordingly. The Institute should provide for depreciation in the accounts.

#### **4.7 Accounting policies**

The Institute is required to append to the annual accounts 'Significant accounting policies' to indicate those items, if any, accounted for on cash basis, fixed assets inventory valuation etc. The Institute is also required to append 'Notes on Account' to indicate exemption from statutory enactments, treatment of contingent liabilities, etc. Such disclosures by the Institute will introduce transparency in accounts. The Institute has not appended the 'significant accounting policies' and 'notes on accounts' despite this been pointed out in audit reports since 1999-2000.

#### **4.8 Non-maintenance of accounts on accrual basis**

The Institute maintains its accounts on cash basis. The system of accounting should be on accrual basis so that Income and Expenditure Account and Balance Sheet make a meaningful depiction of a true and fair view of the financial position. An accrual based common format of accounts for the Central Autonomous Bodies has been devised by Government of India, Ministry of Finance to bring about uniformity and transparency in accounts. This new format was to be adopted by AIIMS from the year 2003-04 onwards as per Comptroller and Auditor General of India's Office U.O. letter No.295-Audit II/23-2004 dated 11.10.2004 addressed to the Government of India, Ministry of Health and Family Welfare, Department of Health.

#### **4.9 Schedule regarding investments**

AIIMS has not appended a detailed schedule of investments with the Annual Accounts giving details of investments viz. dates of investments, amount invested, bank/financial institute, rate of interest and period of investments. It is suggested that in future a schedule containing above information may be appended with the Annual Accounts along with a certificate regarding physical verification of all investments at the close of the year

#### **4.10 Bank Reconciliation Statement**

The position of the Bank Reconciliation Statement as on 31 March 2005 relating to different centres of the Institute revealed the following:

- (a) Cheques issued by the centres viz. CNC, R.P. Centre, AIIMS (Main), Angiography and CT Patient Account for Rs. 46.59 lakh pertaining to the years 1999-2000 to 2003-04 had become time barred as on 31.3.2005 and as such the same are required to be cancelled, which had not been done in the accounts of the year ending 31 March 2005.
- (b) Further the bank has not given credit for cheques for Rs. 97.11 lakh deposited during the years 1989-90 to 2003-04 by CNC, R.P. Centre, AIIMS (Main), Angiography and CT Patient Centres. The fact that credits have not been given by Bank in respect of cheque deposited as far back as 1989-90 could be a cover for misappropriations, frauds etc. Effective steps may be taken to reconcile these differences with the bank.

#### **4.11 Sundry debtors**

Balance Sheet of Dr. RP Centre as on 31 March 2005 depicted Rs. 0.76 lakh under the head 'Sundry Debtors'. The age-wise details of debtors were not furnished to audit. It was stated by the Centre that the details for the debtors were not available with the Centre.

The Institute stated (November 2005) that efforts were being made to liquidate the Sundry Debtors and would be shown to next audit.

#### **4.12 Value of library books not verified in audit**

The Institute's Library had 68,943 books and 62595 Journals valued at Rs. 14.36 crore as on 31 March 2005. Similarly, the value of books at the Drug De-Addiction Centre of the Institute's Library was Rs. 54.50 lakh as on 31 March 2005. However, the correctness of the value of books shown in the balance sheet could not be verified, as the progressive total of the value of the books was not worked out in the Accession Register.

#### **5. Net impact**

The net impact of the comments given in the preceding paras is that as on 31 March 2005 assets were understated by Rs. 69.00 lakh and liabilities, expenditure & receipts were overstated by Rs. 1.92 crore, Rs. 1.05 crore, and Rs. 38 lakh, respectively.

**Place: New Delhi**  
**Dated :19.12.2005**

**Director General of Audit**  
**Central Revenues**

## AUDIT CERTIFICATE

I have examined the Receipt and Payment, Account and Income and Expenditure Account for the year ended 31 March 2005 and the Balance Sheet as on 31 March 2005 of All India Institute of Medical Sciences, New Delhi. I have obtained all the information and explanation that I have required and subject to the observations in the appended Audit Report, which inter-alia contains the following major audit observations, majority of which have been persistent over the year.

- Liabilities and assets were overstated by Rs. 1.92 crore. **(Paragraph 2.1);**
- Cost of the land acquired during April 2000 at a cost of Rs. 1.96 crore had not been reflected in the accounts **(Paragraph 2.3.1);**
- Assets worth Rs. 10.12 crore procured during 2001-02 to 2004-05 out of grants received from Government and private organisations had not been accounted for in the annual accounts. **(Paragraph 2.3.2);**
- Assets worth Rs. 84.78 lakh procured during 2004-05 had been booked as revenue expenditure instead of capital expenditure resulting in understatement of assets and overstatement of expenditure to that extent. **(Paragraph 2.3.4);**
- Advances amounting to Rs. 2.49 crore paid during to the period 1968-69 to 2003-04 for purchase of building materials had not been adjusted. **(Paragraph 2.4.3)**
- Register of Assets had not been maintained in the prescribed form **(Paragraph 4.4)**

I certify, as a result of my audit, that in my opinion these accounts and Balance Sheet are properly drawn up so as to exhibit a true and fair view of the state of affairs of the All India Institute of Medical Sciences, New Delhi according to the best of information and explanations given to me and as shown by the books of the organisation.

**Place: New Delhi**  
**Dated:19.12.2005**

**Director General of Audit**  
**Central Revenues**

**Para-wise replies to the Audit Report on the Accounts of the All India Institute of  
Medical Sciences, New Delhi for the year 2004-05.**

**2. Balance Sheet**

**Liabilities**

**2.1 Overstatement of liabilities**

Noted. In future, expenditure will be directly deducted from the “Revolving Fund” depicted on the liability side of the Balance Sheet.

**2.2 Understatement of liabilities**

Sincere efforts are always made to refund the amount to patients when due. However, system would be further strengthened.

**Assets**

**2.3 Understatement of assets**

2.3.1 All the relevant records will be furnished to Audit at the time of next audit. Further, cost of the land acquired for Trauma Centre and NDDTC will be depicted in the Annual Accounts for the year 2005-06.

2.3.2 These assets will be taken into accounts only when funding agencies allow this. In this regard all the concerned deptts have been asked to furnish a detailed list of all machinery & equipments, which have been allowed to retain in the Institute by the funding agencies.

2.3.3 Efforts are being made to ascertain the cost of donated vehicle from the I.R.C.H. and the same will be incorporated in the annual account for the year 2005-06.

2.3.4 Vouchers wise details are as under: -

| Sl. No. | Name of the Centre | Remarks   |
|---------|--------------------|---|
| 1.      | AIIMS (Main)       | As spare parts / accessories were purchased in all the vouchers mentioned in the paragraph except Vr. No. 4283 and 7276. Therefore, expenditure was booked under the head “Material & Supply”. However, necessary correction will be made for Rs. 1,81,825/= in the year 2005-06 accounts in respect of Vr. No 4283 & 7276. |

|    |                  |  |
|----|------------------|--|
| 2. | Dr. R. P. Centre | Necessary correction will be made in the annual accounts for the year 2005-06. |
| 3. | CNC              | Necessary correction will be made in the accounts for the year 2005-06.        |
| 4. | IRCH             | Necessary correction will be made in the accounts for the year 2005-06.        |

## **2.4 Overstatement of assets**

2.4.1 As can be seen from the previous year's audit report (2003-04) amounts of Rs. 5.43 lakh and Rs. 2.47 lakh have since been recovered so far in respect of Institute (Main) and C.N.Centre respectively. Efforts are being made to recover the remaining amount.

2.4.2 Efforts are being made to recover / adjust the outstanding advances from the respective firms.

## **2.4.3 Advances with other agencies**

Advances given to the CPWD & HSCC for CN Tower, Trauma center & Dental College is in order as these have been given for ongoing projects are per approved EFCs. They will be reconciled after completion of projects. However, advances given to NDMC & Delhi Vidyut Board are being reconciled as the work has been completed.

2.4.4 Necessary corrections will be carried out in the annual accounts for the year 2005-06.

## **2.5 Misclassification of assets**

2.5.1 Necessary corrections will be carried out in the annual account for the year 2005-06.

2.5.2 Necessary correction will be carried out in the annual account for the year 2005-06.

2.5.3 Figures are being reconciled with the Main Store and necessary correction will be made in the annual accounts for the year 2005-06.

2.5.4 Necessary correction will be made in the accounts for the year 2005-06.

## **3. Receipts and Payments Account**

### **3.1 Overstatement of receipts. RECEIPTS**

3.1.1 Necessary correction will be made in the annual accounts for the year 2005-06.

## **4. General**

#### **4.1 Security deposit / Earnest money and Caution money**

All the concerned depts have been directed to make available all the records to the audit party during their next visit.

#### **4.2 Expenditure against grants received for specific purpose**

All such cases are being reviewed and will be settled.

#### **4.3 Variation between Broad Sheet and Balance Sheet**

The variations are being reconciled and necessary corrections will be made in the annual accounts for the year 2005-06.

#### **4.4 Asset Register**

Matter has already been taken up with the concerned depts and the same will be shown to the Audit Party during their next visit.

#### **4.5 Previous year's figures not indicated in the accounts**

Previous year's figures have already been shown in the Balance Sheet. As regards showing the previous year's figures in the Receipt & Payment Account and Income & Expenditure Accounts also, the same will be shown in the annual accounts for the year 2005-06.

#### **4.6 Depreciation of assets**

As already stated in the previous years, depreciation on assets and corresponding reduction of capital amounts is not being done, as there is no such provision. A copy of the Government orders, if any, providing for depreciation on assets may please be made available for future guidance.

#### **4.7 Accounting Policies**

A note regarding preparation of accounts on actual receipt and expenditure basis, depreciation, income tax exemption etc has already been incorporated in the accounts below the balance sheet. Significant accounting policies will also be mentioned in future.

#### **4.8 Non-maintenance of accounts on accrual basis**

Institute is maintaining its accounts on cash basis since its inception in 1956. Institute has not received any directions / guidelines from the ministry regarding maintenance of accounts on accrual basis. However, this issue is being examined.

#### **4.9 Schedule regarding Investments**

Noted for future compliance.

#### **4.10 Bank reconciliation Statement**

- a). Necessary correction will be made in the accounts for the ear 2005-06.
- b) The matter has already been taken up with the bank and all the concerned F & CAOs / Accounts officers have been asked to personally take up the matter with the bank immediately.

#### **4.11 Sundry Debtors**

Efforts are being made to liquidate the Sundry Debtors. This will be shown during the next audit.

#### **4.12 Value of Library books not verified in audit.**

Relevant records will be furnished to the Audit during their next visit.