

All India Institute of Medical Sciences

# AIIMS RESIDENTS' MANUAL



**All India Institute of Medical Sciences  
(A.I.I.M.S.)**

**Residents' Manual**

## **Disclaimer**

**This manual was last updated in 2005**

**All India Institute of Medical Sciences  
(A.I.I.M.S.)**

**Residents' Manual**



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## FOREWORD

Resident doctors are the direct interface of a teaching hospital with the patients and their inputs can critically determine the outcome of care.

Working in a large tertiary care institute places several demands upon them in the efficient discharge of their responsibilities. Often it is seen that the best of their efforts in the application of medical skills and technology can be marred by lack of co-ordination amongst different departments involved in patient care. This can be offset to a large extent if all the procedures and rules are first put in place and then followed.

An essential pre-requisite to ensure co-ordination is the awareness of such procedures by all the Resident doctors involved in the team effort of present day multi-disciplinary health care. This type of “systems” orientation and approach in clinical management shall lend credible benefits to both the doctors in enhancing their effectiveness, as also the patients who are the direct beneficiaries by improving their level of satisfaction.

Prof P Venugopal  
Dean  
A.I.I.M.S.

# Use from Letterhead





## PREFACE

All India Institute of Medical Sciences (A.I.I.M.S.) comprising of main hospital and the specialty centers is dedicated to state-of-the-art patient care, research and medical education in the country. The hospital services are the most visible component of the Institute services to the nation, because of the definitive cure, care and relief of pain and suffering of the patients.

The faculty and the team of Resident Doctors are the strength of the hospital services. The Residents' Manual of the Institute offers broad guidelines for reference by the Doctors & staff who are new to the AIIMS community and it has been compiled with the contribution from faculty members of various department.

Ever since the publication of last edition of Residents' Manual two decades back, our institute has grown in many dimensions with the addition of several services and departments.

There had been a long felt need to update this manual by providing a comprehensive source of information to the Residents' Doctors which shall help in their smooth initiation to the institutes' procedures in the early days of their residency.

Besides it also shall serve a useful referral source for different departments faculty, Resident Doctors, Nurses and other staff members both directly and indirectly related with patient care, in a multi-disciplinary setting. The compilation of this manual would not have been possible without the valuable contributions from the faculty of various departments who helped in giving it a conclusive shape. Given the enormous range of services available in AIIMS, it was not an easy task to assimilate all that is relevant to users in a single source of information. We may have overlooked some facts, which we hope the users will bring to our notice, and shall be incorporated in future edition.

The guidance provided by Resident Manual Committee under the Chairmanship of Dr. CS Pandav is gratefully acknowledged. The Residents' Manual has been prepared under the supervision of the Dean, AIIMS. *The intention in this work is modest; we hope it will help Doctors & Staff during their induction and later in serving years.*

Dr. R.K.Sarma  
Dr. Aarti Vij



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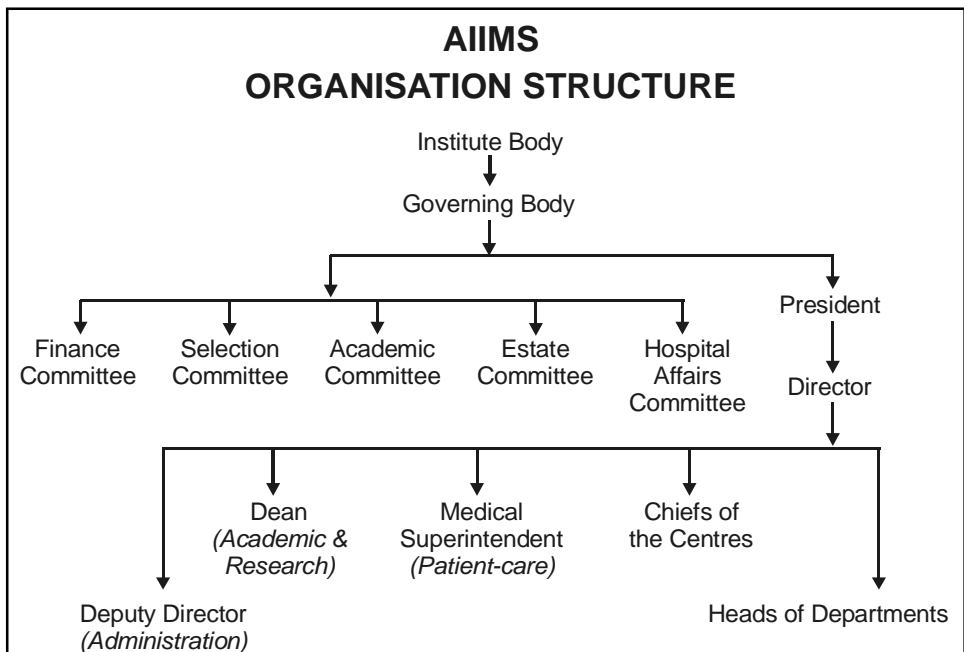
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## INTRODUCTION TO AIIMS

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All India Institute of Medical Sciences was established in 1956 as an autonomous Institution of national importance by an Act of Parliament with the objective to develop teaching at undergraduate and postgraduate level in medical education in all disciplines so as to demonstrate a high standard of medical education for medical colleges and other allied institutions in India, to bring together at one place the education facilities of highest order for training of personnel in all important branches of health activity; and to attain self sufficiency in postgraduate medical education.

### ORGANISATIONAL STRUCTURE OF INSTITUTE



The Institute has comprehensive facility for teaching, research and patient care. As provided in the Act, AIIMS conducts teaching programmes in medical and para-medical courses both at undergraduate and postgraduate levels and awards its own degrees. Teaching and research are conducted in 42 disciplines. In the field of medical research, AIIMS is a premier institute, having more than 600 research publications by its faculty and researchers in a year. AIIMS also runs a college of nursing and trains students for B.Sc. (Hons.) Nursing and B.Sc. Nursing (Post certificate degrees).

Twenty five Clinical departments including four super specialty centres manage practically all type of disease conditions with support from pre and para clinical departments. However, burn cases, dog bite cases and patients suffering from infectious diseases are normally not admitted in AIIMS hospital. AIIMS also manages 60 bedded hospital in the comprehensive rural health care centre at Ballabgarh in Haryana and provides health cover to about 2.5 lakhs population through this centre of community medicine.

The AIIMS hospital and specialty centres caters to nearly 17,00,000 patients in OPD and 1,00,000 patients were admitted in the hospital at different centres. 1,05,000 surgical procedures are conducted during one year. This includes nearly 2500 heart surgeries, 2500 neuro surgeries, heart transplants, cadaveric kidney transplants. During the last two years, Organ Transplant Programme has taken off very well. AIIMS provides leadership in heart transplant, cadaveric renal transplant and liver transplant in India. Average bed occupancy at AIIMS hospital is 86.2% while average period of hospital stay per patients is 7.7 days. Gross death rate and net death rate are 5% and 2.1% respectively, while overall infection rate is 2.8%.

Over the last few years patient care has assumed equal importance in objectives of institute. The main hospital is spread over 9 floors in 3 different wings i.e. AB, C & D. The patient who require admission to different disciplines and super-specialties of the hospital are admitted in these three wings, while the patient of Cardiology, Cardiac surgery, Neurology and Neurosurgery are catered by CN Centre, patients suffering from ophthalmic ailments go to R.P. Centre while the patients suffering from different malignancies are catered by I.R.C.H. centre. The patients are admitted either through outpatient departments (OPDs) through casualty. These different outpatient departments present in Rajkumari Amrit Kaur OPD Block which is a five storeyed building with regular OPDs for different discipline at different levels (Floors) in the morning hours and the super-speciality clinics in the afternoon hours. The centres have their own outpatient departments. Another route of admission is through Emergency Department (Casualty) which functions round the clock. All type of emergencies are first received by the Emergency

Department barring that of ophthalmology which are taken care of by R.P. Centre having its own Emergency Department. The emergency cases of other centres also first report to the main casualty, from where these cases are then transferred to the respective departments or the centres.

The primary function of patient care lies with the doctors ranging from the senior consultant (faculty) to the senior and junior residents. The support services is the responsibility of the nursing and other non technical staff. After the patient are advised admission by the treating doctors through one of these two routes and have to follow the following tasks. The attendants of the patient or the patient himself has to report in Central Admission and enquiry offices to complete the formalities for the admission and deposit the admission fee. After this exercise, the patient reaches the ward and is admitted over the allotted bed in the ward. The bed of the patient is prepared by the nursing staff. The junior residents in the ward now work out the case and discuss with the senior residents. After the final consultation with the consultant, the patient is advised investigations and treatment in ward is commenced. This is carried out with the help of Nursing and Group-D staff. While in the ward, the patient is looked after by the faculty members and residents also besides the other staff. The residents are both post M.D. Senior Residents and the Residents undergoing postgraduate training, also known as Junior Residents. Some of the departments also have pool officers, project officers, house surgeons and the interns to share duties.

In the ward, nursing staff comprises of one Assistant Nursing Superintendent, who looks after the administration and also coordinates other activities; the sister incharge of the ward who is responsible for the duty roster, equipment maintenance, records, infection control, inservice training, smooth functioning and maintaining liaison for all other activities. These include allocation of work to nurses, supervision of their clinical work, supervision of group-D staff, stores and laundry. The remaining nursing staff perform their duties relating to direct and indirect patient care on rotation in three shifts – A, B and C.

The Group–D employees include hospital attendants and sanitary attendants. They are deployed in shift duties in the wards and besides direct and indirect patient care, they are also involved in housekeeping, maintaining the supplies and equipment, taking patients for special investigations and transporting the samples and specimens to reach the concerned laboratories at right time.

The patient admitted in the ward is the responsibility of the hospital, so not only the departments or wards but also the number of in-house utility and support services have to work constantly for the benefit and comfort of

the patient and his stay in the hospital. The patient is advised different laboratory and radiological investigations which are carried out in different laboratories of different disciplines, at different places in the hospital. Laundry services work continuously for providing clean and washed linen in the wards. CSSD performs two major functions for hospital wards, that is sterilization and packing of trays, packets, drums and different sets used for different procedures in the ward. Blood bank supplies the required blood and its components to the patients after doing a battery of tests on the blood received from the donors. The wards in the hospital also have continuous supply of medical and therapeutic gases and vacuum provided through pipeline from the Manifold room. Diet in the wards is supplied through the Dietary Services Department which not only provides the normal diet to the patients but also different therapeutic diet, like low salt, diabetic, renal, high protein, high carbohydrate diet and so on.

The hospital sanitation is looked after by sanitation department which is meant for the maintenance of cleanliness in the hospital premises. This department is headed by a sanitation officer and has a number of group-D employees.

The Department of Hospital Administration, M.S. Office, Hospital Stores, Billing Section and Hospital Security Services are all contributory towards the welfare of the patients admitted in the hospital.

The patients, once admitted receives all these facilities almost free of cost, except for the nominal fee of Rs.350/- at the time of admission. No fee on account of routine investigations is charged from the patients except for special investigations for which a nominal fees has to be paid. Medicines, disposable items and other medical, surgical and general store items which are available in the hospital stores are provided free of cost to the patient. Only those medicines which are not available in the hospital stores have to be purchased by the patients. That too, if the patient can not afford the medicine prescribed by the doctor then on the recommendations of the consultants, medical social worker and the MHA resident looking after that ward, these are purchased locally for the patient. The patient who cannot afford the admission fees are exempted of this fees too, on the recommendations of Medical Social Worker. The specialty centres, like C.N. Centre, IRCH, Dr.R.P. Centre have developed guidelines and schedule rates for specialty services and the packages system and are indicated in concerned corresponding chapters.

# 2

## **GENERAL INFORMATION**

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### **HOSPITAL LAYOUT**

AIIMS is located in South Delhi at the junction of the Aurobindo Marg and Ring Road. The main entry for the AIIMS hospital is on Aurobindo Marg, just opposite Safdarjung Hospital while the entry for the Institute offices is from the Ring Road (opposite Kidwai Nagar).

As one enters the AIIMS hospital from the Aurobindo Marg, there is a small single storied building right in front. It houses the Central Admission and Enquiry Office, cash counter and a book stall. Behind this building is the large open cemented courtyard which houses the underground water storage tank for the whole hospital. The block just behind it is the AB block ; on its left is the Rajkumari Amrit Kaur OPD block, and on its right is the C block. The westward continuation of the C block is the Private Ward while its eastward extension beyond the junction with the AB block is the D block. The eastward continuation of which extends northwards from the junction of OPD and Teaching Block, which houses the orthopaedics physiotherapy services on the first floor and the hospital laboratory services on the second floor.

There are 8 floors and a basement in the AB block, 9 floors in C and D blocks, 5 floors in the private ward and OPD blocks and 3 floors and a basement in the cross wing.

Table 1 gives the details of the wards, other services and utilities situated in these blocks.

### **PATIENT CARE SERVICES AVAILABLE AT THE AIIMS HOSPITAL**

The patient care services available at the AIIMS hospital are of two types.



One is the care of the patients in general disciplines (like General Medicine, Surgery, Paediatrics, Obstetrics and Gynaecology, Orthopaedics, Otorhinolaryngology, Dental Surgery, Dermatology and Venereology and Psychiatry), which run general OPD's as well as speciality clinics. The teaching programme in these departments lead to award of postgraduate degrees like MS and MD.

The second category is the care of patients by 'speciality disciplines' (like Cancer, Cardiothoracic Sciences, Endocrinology, Neonatology, Gastrointestinal Surgery, Gastroenterology, Neurosciences, Ophthalmology, Paediatric Surgery, Radiotherapy, Rehabilitation and Artificial Limbs, Urology and Nephrology) which provide specialized patient care mostly to the referred patients. The teaching programme in most of these specialties lead to award of super specialization degrees like DM and MCh.

Except Dr. (RP) Centre for Ophthalmic Sciences and Deptt of Rehabilitation and Artificial Limbs (which run the general OPD's too) the rest of these run only special clinics, which is a special feature of the patient care services at the AIIMS hospital.

The centers include Dr. Rajendra Prasad Centre for Ophthalmic Sciences (RPCOS), situated on the left of the main AIIMS hospital ; Cardio Thoracic and Neurosciences Centres situated behind RPCOS, and the Dr. B.R. Ambedkar Institute Rotary Cancer Hospital (IRCH), adjacent to the Cardiothoracic and Neurosciences Centres. While RPCOS is a complete eye hospital providing all the facilities while other centers are functioning only as referral out patient services. For acutely ill patients and patients with any kind of medical or surgical emergency there is provision of round the clock casualty and emergency services. The schedule of different OPD's and clinics functioning at the AIIMS hospital is given in Table 2.

## **HOSPITAL TIMINGS**

Details of the timings of the AIIMS hospital services are given below.

The Following timings are being observed by various services at the AIIMS hospital.

### ***OPD Registration***

8.30 a.m. to 10.30 a.m.

### ***Timing for the Staff at OPD***

8.30 a.m. to 4.40 p.m.

***Afternoon Clinics***

2.00 p.m. to 5.00 p.m.

**Note :** *The registration is done between 1.30 p.m. and 3.00 p.m.*

**CASH COUNTER*****Assistant Cashier***

24 hours – Facility available round-the-clock.

***OPD Nursing Staff***

8.30 a.m. to 4.30 p.m. : Monday to Friday with usual lunch break.

8.30 a.m. to 1.00 p.m. : Saturdays

**HOSPITAL LABORATORY SERVICES*****For Receiving Specimen in the OPD***

8.30 a.m. to 10.30 a.m. : Monday to Friday

8.30 a.m. to 9.30 a.m. : Saturdays

***Lab Services***

8.30 a.m. to 3.30 p.m. : Monday to Friday with usual lunch break.

8.00 a.m. to 11.45 a.m. : Saturdays.

***Radio-Diagnosis***

8.00 a.m. to 3.30 to 3.30 p.m. : Monday to Friday with usual lunch break.

8.00 a.m. to 12.15 p.m. : Saturdays.

***Blood Bank***

9.00 a.m. to 6.00 p.m. : Monday to Friday with usual lunch break.

9.00 a.m. to 5.00 p.m. : Saturdays

8.00 a.m. to 1.00 p.m. : Routine collection of samples

2.00 p.m. to 4.00 p.m. : Thalessemia children

**Note :** *Emergencies round-the-clock.*

***Main Operation Theatre***

8.30 a.m. to 2.30 p.m. : General Anaesthesia Cases

2.30 p.m. to 5.00 p.m. : Local Anaesthesia Cases

**Note :** *Emergencies round-the-clock*

***Central Sterilized Supply Department (CSSD)***

Morning Shift : 7.30 a.m. to 2.30 p.m.

Evening Shift : 2.30 p.m. to 9.00 p.m.

Night Shift : 8.00 p.m. to 8.00 a.m.

### ***Employees Health Services (EHS)***

Morning Shift : 8.30 a.m. to 12.30 Noon : Monday to Friday  
(Registration will stop at 10.30 a.m.)

Evening Shift : 4.30 p.m. to 5.30 p.m.  
(Registration will stop at 5.30 p.m.)

***The Employees Health Services (EHS) remains closed on national holidays. However, the EHS emergency cases are to be attended to by the Casualty Medical Officer. All Sundays/Holidays.***

9.30 a.m. to 10.30 a.m. : All Sundays.

### ***Medical Superintendent's Office***

9.30 a.m. to 5.15 p.m. : Monday to Friday with usual lunch break.

9.30 a.m. to 1.15 p.m. : Saturdays.

### ***Medical Records Section***

9.30 a.m. to 5.15 p.m. : Monday to Friday with usual lunch break.

9.30 a.m. to 1.15 p.m. : Saturdays

### ***Other Sections***

9.30 a.m. to 5.15 p.m. with usual lunch break

### ***Hospital Stores***

9.30 a.m. to 5.15 p.m. : Monday to Friday with usual lunch break.

9.30 a.m. to 1.15 p.m. : Saturdays.

## **ADMINISTRATIVE CONTROL**

Administratively the AIIMS hospital is under the control of the Medical Superintendent (MS) (Int. Tel 4700, 4789, Direct 26588389). For the purposes of administrative assistance in the different areas of the hospital services, separate officers-in-charge have been designated from the Deptt of Hospital Administration.

One MHA Resident is posted in each of the hospital areas. They manage the day-to-day administrative problems of their respective wards/OPDs. They visit the hospital during the morning hours every day and they can be

contacted through the sister-in-charge of the ward. However, for all the administrative problems the officer-in-charge can also be contacted directly at their respective offices, located in the MS Office block.

Beyond office hours and on holidays, an MHA Resident is on duty (Duty Officer) and is available in the Hospital Control Room located on the ground floor of the private ward block (Telephone Int. 3308, 3574 and Direct 265892-79). The Duty Officer is responsible for attending to all the problems of the Hospital Services during holidays and beyond normal working hours.

### Location of Various Services and Wards Hospital Layout

<b>Block/Floor</b>	<b>Services</b>	<b>Internal Tel. No.</b>
AB Block Basement	Mortuary and Engineering Workshop	4401
AB-Ground Floor	Accident and Emergency Services	4405, 4591 26861698
AB-1/1st Floor	Orthopaedics Ward	4710
AB-2/2nd Floor	Gastroenterology Ward	4720
	Haematology Day Care	4931
	Renal Laboratory	4735
AB-3/3rd Floor	Gynaecology Ward; Seminar Room of Medical Disciplines IVF Room	4730
AB-4/4th Floor	Nephrology	4740
	Dialysis Unit	4817
AB-5/5th Floor	Paediatric Surgical Ward and Paediatric Surgery ICU	4750/4751
AB-6/6th Floor	EHS Ward, Endocrinology	4750
AB-7/7th Floor	Surgical Ward, KTP	4470
	Pre-Anaesthesia Room	4790
AB-8/8th Floor	Intensive Care Unit	4781, 3242
	Recovery Room	4680
<b>C-Block</b>	Medical Supdt. Office	4700, 4789, 26861389
Ground Floor	Medical Record Section	4737
	M.S. Establishment	4616
	Welfare Officer	3298
	Chief Nursing Officer	4717
	Dy. Nursing Officer	4705
	Nursing Superintendent's Office	4718
	Sanitation Officer	4367
	Hospital Store	4627
	Seminar Room (Hosp. Admn)	4708
	HOD of Hosp Admn	
C-1/1st Floor	Psychiatry Ward	4712
C-2/2nd Floor	General Medicine and ICU Haematology, ECG	4722 4726

<b>Block/Floor</b>	<b>Services</b>	<b>Internal Tel. No.</b>
C-3/3rd Floor	Mat. OT, Labour Room, Observation Room, Neonatal ICU	4732/4605
C-4/4th Floor	Urology ward	4742
C-5/5th Floor	Paediatric Medical Ward	4752
C-6/6th Floor	Emergency Ward	4762
C-7/7th Floor	Surgical Ward	4772
C-8/8th Floor	Main Operation Theatres 7-12 Matron, MOT	4683/4618
<b>D-Block</b>		
Ground Floor	Blood Bank (Main Hospital)	4438
D-1/1st Floor	Dermatology and Venereology Ward, SCF	4713
D-2/2nd Floor	General Medicine Wards	4723
D-3/3rd Floor	Maternity Ward and post sterilization ward	4733
D-4/4th Floor	Otorhinolaryngology Ward	4743
D-5/5th Floor	Paediatric Medicine and Paediatric ICU	4753/4946
D-6/6th Floor	Emergency Ward, Radiotherapy beds	4763
D-7/7th Floor	Surgical Ward	4773
D-8/8th Floor	Operation Theatres 1-6	4686
<b>Main Operation Theatre</b>		
<b>Reception (9.00 a.m. to 5.00 p.m.)</b>		<b>4685/4683 (C Wing)</b>
Main OT	1	4280
Main OT	2+3	4645
Main OT	4+5	4382
Main OT	6+7	4261
Main OT	8+9	4696
Main OT	10+11	4358
Main OT	Office	4618
<b>Cross Wing</b>		
Ground Floor	A part of Department of Radio-diagnosis	4889/4380
1st Floor	Orthopaedic Physiotherapy Unit	4299
2nd Floor	Hospital Laboratories	4279/4469
<b>Private Wards Wing</b>		
Ground Floor	Hospital Control Room	3308/3574
	Duty Officer	26862279
	Page Room	4662/3324
	Billing Clerk	4746
	Administrative Officer (H)	4721
	Deputy Chief Security Officer	3527
	Security Officer	4780
	Head, Department of Dietetics	4447

<b>Block/Floor</b>	<b>Services</b>	<b>Internal Tel. No.</b>
1st Floor	Private Ward Rooms 101 to 112	4691
2nd Floor	Private Ward Rooms 201-212	4692
3rd Floor	Private Ward Rooms 301-312	4693
4th Floor	Private Ward Rooms 401-412	4694
5th Floor	Private Ward Rooms 502-512	4695
<b>RAK OPD Block</b>		
Ground Floor	OPD Registration/Enquiry	4815
0155	Officer-in-charge, OPD	4818/4826
0156	EHS Injection Room	4257
0157	OPD Injection Room	4815
0158-0160	Central Blood Samples Collection	4278
	Urine and Stool Samples Collection	4450
	Dispensary	4328
	Medical Social Worker	4242
	X-ray Registration Counter	
	Radiotherapy OPD	4206
	Radiotherapy Deptt	4581
	Deptt of Radiodiagnosis	4889
	Deptt of Nuclear Medicine	4210
1st Floor OPD Block	Orthopaedics OPD	4209/3301
	Orthopaedics OT	4334
2nd Floor OPD Block	Medical OPD	4339
	Gastroenterology OPD	4308
3rd Floor OPD Block	Paediatric OPD	4304
	Paediatric Surgery OPD	4356
	Obstetric and Gynaecology OPD	4323
	Obst. & Gynae, Minor OT	4323
	Obst. & Gynae, OPD Counter/Family Planning	4348
4th Floor OPD Block	Otorhinolaryngology OPD	4359
	Dental Surgery OPD	4318
5th Floor OPD Block	Surgical OPD	4329
	Urology OPD	4329
<b>OPD Cross Wing</b>		
1st Floor	Dermatology & Venereology OPD	4351
2nd Floor	Psychiatry OPD	4249
<b>Teaching Block</b>		
Ground Floor	Dean's Office	4833
	Academic Section (PG)	3230
	Academic Section (UG)	4365
1st Floor	Department of Pathology	3227
	Department of Forensic Medicine	3202
2nd Floor	Department of Microbiology	3288

<b>Block/Floor</b>	<b>Services</b>	<b>Internal Tel. No.</b>
3rd Floor	Department of Medicine	4314
	Department of Gastroenterology	4425/4632
	Endocrinology	3237
	Paediatrics	3209
	Obst. & Gynaecology	3221
4th Floor	Department of Psychiatry	3236
	Dermatology and Venereology	3217
	Otorhinolaryngology	4862
	Dental Surgery	3231
5th Floor	Surgery	3206
	Orthopedics	3220
	Urology	4884
	Anaesthesiology	3212
	Medical Illustration Unit	4226
<b>P.C. Block</b>		
Ground Floor	Director's Office	4800/4805
	DDA Office	4704
	Biostatistics Department	4315
	Rehabilitation and Art. Limbs	4398
1st Floor	Anatomy	4237
	Pharmacology	4272
2nd Floor	Physiology	4212
	Reproductive Biology	4395
3rd Floor	Biochemistry	4214
	Biophysics	4222/4223
4th Floor	Paediatric Surgery	4332

# 3

## **OUT-PATIENT SERVICES AND ADMISSION PROCEDURE**

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### **GENERAL OUTPATIENT DEPARTMENT (OPD)**

#### ***Location: Rajkumari Amrit Kaur OPD Block***

The location of the various outpatient departments is given in the chapter one. Working schedule of different outpatients department is given in Annexure-1.

### **REGISTRATION**

A patient becomes eligible for obtaining medical help of this hospital only after getting himself/herself registered. Preliminary registration is done in the waiting hall on the ground floor of the OPD. The registration counter opens from 8.30 a.m. to 10.30 a.m. The patients have to pay Rs.10/- for obtaining the stamped registration card. The patients reach the respective OPD's with these cards where the final registration is done. The patient is then directed to a particular cubicle to be seen by the doctor.

### **FUNCTIONING**

The patients treated in the OPD are usually ambulatory and with minor ailments. Acutely ill patients must not be referred to the outpatient department. They must be managed in the casualty.

In the OPD, a short clinical work up is done and documented on the OPD card. The OPD card is for the patients. It must include a clearly written provisional or definitive diagnosis as well as the advise and treatment given to the patient. A list of investigations planned may also be written on the card for convenience of the patients. Patients are given correctly and completely filled in investigation forms. These forms must clearly show the area of origin (i.e. MOPD, SOPD etc), unit, the name of the patient, registration, number,



diagnosis and the signature as well as the name of the doctor who has filled in the forms. Unless care is taken in filling up the forms correctly the reports may get lost. The laboratories have instructions not to accept incorrectly filled in forms.

It must be explained to the patients that for all the OPD investigations (e.g. blood, urine and stool) there is a Centralised Collection Centre (CCC) in Room No.27, 28 and 29 on the ground floor of OPD, patient should present himself/herself at this room with the investigation forms on any working day between 8.30 a.m. to 10.30 a.m. Payments are to be made for special laboratory tests. The payments have to be made to the cashier in Central Admission Office against a proper receipt before proceeding to the Centralised Collection Centre. The reports of the investigations will automatically reach the respective outpatient departments. The OPD sister-in-charge files the investigation reports in the investigation file of each doctor. This will be possible only if the forms are correctly filled. If you do not find the report in your file, contact the sister-in-charge of the outpatient department.

For X-rays (and related investigations) the patients have to report to the X-ray counter on the ground floor of OPD. For special X-rays, appointments and special instructions are available from the OPD X-Ray counter.

For radioisotope studies (I-131 uptake, scans etc., are by appointments) the patient has to report to the department of Nuclear Medicine which is situated behind the Dispensary, on the ground floor X-ray wing.

In case of an emergency arising in the OPD, the sister-in-charge has been provided with the necessary first-aid, drugs and equipment. After the first aid has been given, it is advisable to shift the patient to the casualty department immediately.

To make things easy for the patients, it is advisable to fix a definite date for the next appointment which should be written down on the OPD cards.

## **REFERRALS FROM OUT-PATIENT DEPARTMENT**

For obtaining the opinion of other specialties, the exact problem for which the patient is being referred must be written down on the OPD card and the patient should be directed to the relevant OPD. Usually there is no need for re-registration of the patient in the out patient department where he or she is being referred. However, if the patient is to be transferred to the other speciality then a new registration number of that OPD will be necessary, but without any payment.

Important : While referring the patient to any other speciality in OPD, please make sure that the result of the investigations done and the list of investigations requested accompany the patient. This will save repetition of

the investigations, your time, your colleague's time and laboratory's time, and will also save further inconvenience to the patient.

### **SPECIAL FEATURES OF PSYCHIATRIC OUT-PATIENT CARE**

The outpatient department of psychiatry functions differently from the other clinical departments. On every working day from 9.00 a.m. to 4.00 p.m. (except lunch hours) the department runs a 'walk-in-clinic'.

During this period a senior resident is available to manage any patient who walks in and treatment is given to the patient. An appointment for further follow up is given for detailed assessment on any Monday, Wednesday or Friday in the OPD, during the routine OPD working hours (same as for other OPDs).

### **SPECIALITY CLINICS**

Most of the speciality clinics are held in the outpatient departments in the afternoons; some are also held in the mornings. Their main purpose is to treat patients with similar diseases, the best possible ambulatory care which a specialist can give. The reference to these clinics come from two sources.

Firstly, patients seen in general OPD, having an obvious problem belonging to a speciality, may be referred to these clinics for further follow up and management. Secondly, at the time of their discharge from our hospital the in-patients may be asked to report to a speciality clinic for follow up treatment. The registration for these clinics is done on the floors where the clinics are held. Patients can also have speciality consultation by taking prior appointment at the respective departmental office.

### **IMPORTANT**

- (i) The procedure for getting the investigations done on speciality clinic patients is exactly the same as for general OPD patients. The investigation forms should boldly and clearly mention the name of the speciality clinic; otherwise the reports may be misplaced. To facilitate the patient care in these clinics the indoor patients being referred to speciality clinics at the time of discharge, should either be given an extra copy of the discharge summary so that the patient can supply it for the clinic records, or the patient may be registered in the clinic even before discharge. This would avoid inconvenience to the patient. The main emphasis is on avoiding the duplication of investigations and providing all the relevant information of the admission workup of the patient to the doctor at the speciality clinic.
- (ii) Speciality clinics should not be used as a 'dumping ground' for the

patients. Patients with minor, trivial or ordinary routine problems should not be referred there.

- (iii) Effort should be made to get the preliminary base line work up done in the OPD. The standard treatment must be started in the OPD by the Interns/Residents. If, after a few weeks of this treatment, the patients is still not relieved, or, if long term follow up is necessary, the patient should be referred to the speciality clinics. It is advisable that in case of any diagnostic problem in a general OPD a consultation with the specialist may be obtained at the OPD level instead of sending the patient to the speciality clinic for registration and follow up. These clinics are already overcrowded. Sending undeserving patients to these clinics will defeat their very purpose.

## A. ADMISSION PROCEDURES

### *For general wards*

Patient needing admission to the wards for further management can be admitted from the OPD directly.

The Senior Residents of the general discipline units are in-charge of admissions. Whosoever wants to admit a patient can send the patient to the admitting Resident with an explanatory note. Admitting Resident will fill in an "admission form" for use of the Central Admission Office. The patient should be instructed to present the form to the clerk at the Central Admission Office.

The Central Admission Office directs the patient to the ward where he or she is to be admitted. Sister-in-charge provides the bed to the patient on presentation of the admission papers (face sheet).

The patient has to deposit Rs. 375/- before he or she can be admitted. This charge can be waived off by the consultant only in exceptional deserving cases. The admission office makes a "face-sheet" of the patient.

*Types of patients to be admitted* : Being an acute care hospital with limited bed strength, only acutely ill patients are admitted in the general wards. However, occasionally a relatively less acutely ill patient is also admitted for investigations and diagnostic work up. Unlike other hospitals only one patient is admitted over one bed and there is no provision for "extra beds" to prevent overcrowding in wards. Therefore, discretion must be exercised and only deserving patients should be admitted.

## INLETS FOR GENERAL WARD ADMISSIONS

- (a) Patients seen in general OPD, who are sick enough or have a diagnostic problem needing detailed investigations, are admitted directly.

- (b) Patients seen in speciality clinics, being run under the purview of general disciplines, needing admission may also be admitted in general wards under the unit-on-call for that day of the week.
- (c) Patients presenting in the casualty with acute and serious illness needing hospitalization can also be admitted in general wards.

### **WHEN AND WHOM NOT TO ADMIT**

- (a) Patients who can be treated and/or investigated at the OPD level as ambulatory patients should not be admitted.
- (b) Ambulatory patients, who are being followed up in clinics run by speciality departments, are not admitted in general wards.
- (c) As a rule, irrespective of the general medical or surgical unit which may have seen the patient on his or her first visit, the patient needing admission due to acute problem on a particular day, is admitted under the unit-on-call for that day of the week. Such an acutely ill patient should not be referred to the unit which saw the patient on his/her first visit and is not on call for that particular day.

*Admission Procedure for the Emergency Wards* : There are two wards C-6 and D-6 for emergency admission only from casualty. The CMO, in consultation with the Senior Resident of the unit-on-call, decides on the admission. The CMO fills in the admission form and directs the patient to the Central Admission Office for admission, as described above. Respective departments should shift their patient from emergency wards within 48 hours failing which their routine OPD admissions will be blocked by the Duty Officer. Several patients are referred to other Govt Hospitals for lack of availability of beds in one hospital. However, some cases such as intubated patient, follow up case of AIIMS or EHS patient, any serious condition likely to be deteriorate further on his way to another hospital, are also given admission on priority. The Duty Officer coordinates their admission going through the hospital ward census, which he/she receives at 8.30 p.m. daily. However, it is the responsibility of the unit (to whom the patient belongs) to transfer the case back to their own ward at the earliest so that admission of other units does not suffer the next day.

*Admission procedure for the private ward* : Generally, Private Wards admissions are "Elective" admissions of patients, who can afford to pay the charges. A consultant advises the admission of the patient to the private wards on the OPD card. These patients are registered and kept on a waiting list. When a room falls vacant, they are informed about the vacancy by post or by telephone and are advised to report on a particular date and time.

Patients being admitted in private ward will have to pay an advance for 10 days charges, at the time of admission i.e. :

**For 'B' Class Rooms Rs.12,200/-**

[Rs.11,000/- Room rent advance of 10 days,  
Rs. 1,000/- Diet charges advance of 10 days &  
Rs. 200/- Admission Charges.]

**For 'A' Class Rooms Rs. 18,200/-**

[Rs.17,000/- Room rent advance of 10 days,  
Rs. 1,000/- Diet charges advance of 10 days &  
Rs. 200/- Admission Charges.]

As the private ward patients are admitted as and when a vacancy arises, it is generally not possible to co-ordinate it with the admission day of the unit to which the consultant belongs. As a result, a particular unit may receive a private ward admission on a day which is not its admission day. The Private Ward Admission Office tries its best to admit the patient on the admission day of a particular unit but sometimes it may not be possible.

*Admission procedures for Employees Health Service (EHS) Beneficiaries :* There are separate but limited number of EHS beds available in AB-6, a few earmarked beds in respective units at Pvt 5<sup>th</sup> floor. An EHS patient needing hospitalization is referred to the relevant general or speciality department for consultation. From there the patient is admitted on EHS beds. If no EHS bed is available the patient may be admitted on the emergency ward beds or even on regular ward beds. However, these patients must immediately be transferred to the EHS beds as soon as they fall vacant.

In no case should an EHS beneficiary be sent to other hospitals without the permission of the Medical Superintendent. Duty officer in control room should be contacted for allotment of EHS beds. These earmarked beds are under the control of Duty Officer in control room. Various departments have earmarked EHS beds in their own departments. EHS patient should get first preference in departmental EHS bed.

## **B. ADMISSION OF THE PATIENTS TO THE HOSPITAL FROM THE SPECIALITY CLINICS**

Two different procedures for different category of patients have been defined.

*Speciality clinics being run within the purview of a full clinical department* (e.g. Medicine, Surgery, Pediatrics, Psychiatry, Obstetrics and Gynecology, Dental Surgery, Orthopedics, Otolaryngology, Dermatology and Venereology);

Patients needing admission are called on the admitting day of respective

units but in case of very sick or emergent case seen in specialist clinics, patient may be referred to casualty for admission on beds of the unit on call for that day. For example, if a patient of chest clinic (department of medicine), which is held on Monday, is very sick and needs admission on Monday, he will be referred to the Casualty where the admitting unit for Monday (say unit-I) will see the case and admit on their beds. The same procedure is to be followed for admission of the patients from the majority of the clinics being run under the purview of general departments.

*Speciality Clinics being run by the Speciality departments (e.g. Endocrinology, Radiotherapy, Gastroenterology, Pediatric Surgery, Nephrology, Gastro Intestinal Surgery and Urology) ;*

Separate beds are available for these departments and they admit directly on their beds

*Admission procedures for the speciality wards and beds :* There are 3 inlets for admission to these wards.

1. From the speciality clinics : Patients seen in the speciality clinics run by the speciality departments may be advised admission to their wards directly. The formalities of admission are the same as described above.
2. From the Casualty : Occasionally a patient seen for the first time in the casualty may have an illness which make him more suitable for admission and care by a speciality department. The CMO may directly, or in consultation with the Senior Resident of the general discipline, call the Senior Resident of the speciality department who may admit the patient directly under his care.
3. Ward Transfers : Occasionally a patient may be admitted to general wards and later due to the special type of care required due to patients illness, he or she may be transferred to the speciality wards, in this case, the bed has to be provided by the concerned speciality.

# 4

## WARD MANAGEMENT

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### FUNCTIONING OF THE WARDS

A patient who gets an admission slip for admission in any particular ward, reports to Central Admission and Enquiry Office for making the 'Face-sheet' which contains the patients' demographic details on payment of requisite amount to hospital cashier. Along with the face sheet and one attendant pass patient reports to the ward at the nursing station where he is handed over patients' instruction form. The treatment of the patient is started as per instructions of consultant/senior resident, which is duly noted down in the 'Instruction Book' of the Nursing staff for compliance. All treatment orders should be mentioned clearly both in case sheet and instruction book along with date, time and without any ambiguity, by the Resident on duty. Telephonic/verbal instructions to the nursing staff should be strictly avoided but under unavoidable circumstances, should be followed by written instructions as well. All routine investigations are done in morning hours and investigation forms for the same are filled the previous night by doctor on duty and handed over to night nurse so that she gets ready for collection of various samples by procuring necessary bottles etc. Blood samples are to be drawn by doctor on duty before going off duty. Routine procedures and dressing for ward patients are to be done preferably in morning hours following the rounds with consultant as maximum number of staff is available during morning hours.

Most drugs and consumables are available in wards and a 'Drug Formulary' containing a list of medicines available in hospital stores is present at the nursing station. As far as possible, medicines may be prescribed from this drug formulary only and a minimal number of prescription slips be given to patients for purchase from outside. In case of non-available medicines for indigent patients or E.H.S. beneficiaries, local purchase may be done on recommendation by consultant and assessment of economic status of

patients by medical social service officer (only for poor patients). This should be done in working hours as hospital stores and offices are open. However, for any emergency purchases for E.H.S. beneficiaries/indigent patients after office hours, the concerned senior resident should send a written consultation to the Duty Officer (duly endorsed by the consultant l/c of the patient) in the Control Room No.12, Ground Floor, M.S. Office who may help to procure the drugs.

### **MEAL TIMES**

Meals are served to patients at the following times. No rounds/procedures may be undertaken during the meal time.

Morning tea	–	6 am
Break fast	–	8 am
Lunch	–	11 am
Dinner	–	7 pm

### **PATIENTS ATTENDANTS & VISITING HOURS**

In general wards, one attendant is allowed to stay per patient. However, attendant are not allowed to stay in Intensive Care unit, treatment rooms, operation theatres and recovery room. At the time of Consultant round, the attendants should leave the ward and wait in waiting area. However, in the pediatrics age group one relative/mother is permitted to stay during the rounds. Visiting hours for all patients – general wards/private wards are 4 pm – 6 pm and should be adhered to.

### **PATIENT – DOCTOR COMMUNICATION**

After the consultant's round patients or their relatives must be informed about the patient's condition and plan of action decided by treating doctors in a language understood by the patients. Consent must be obtained prior to any procedures and should be informed and written. A daily update of patients' condition in all ICU's must be given to their relatives, since relatives are not allowed inside ICU. A Resident on duty must be available in the ward or doctors duty room round the clock.

### **DISCHARGE SLIP**

This contains the complete, precise and accurate summary of the patients hospital medical record and is given to the patient at the time of discharge. Two copies of discharge slip must be made, one is given to patient and the other is returned along with the case sheet to be submitted to Medical Record Section. Discharge Summary is the only official document given to the patient



by the hospital. Therefore, it must truly reflect the highest standards of medical care being given to the patients in this hospital. In no case should the case sheet be handed over to the patient as it is the property of the Hospital. It must be accurate and concise and should include all details of patient like name, age, sex, CR. Number, ward, bed, unit, deptt. & complete diagnosis in block letters. A summary of investigation should be included and in case of X-ray, biopsy, ECG, reference number must be included. The date, time and place/identity of clinic/OPD where the patient has to report for follow up must be included clearly. The advice on discharge must be clear and explained to patient in a language easy to understand by him/her. The discharge slip should be seen and signed by the concerned senior resident. If the patient has to come for follow-up treatment in a speciality clinic, he/she should be registered there before discharge itself.

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## **WORK UP AND MANAGEMENT OF INDOOR PATIENTS**

### ***Case Sheet Maintenance***

Case sheet is an important document for patient care, medical records and medico legal purposes. Case sheet is the property of the hospital. It has to be maintained properly. The final responsibility for the case sheet upkeep is that of Senior Resident.

The following sequence has to be adhered to in arranging the case sheet:-

- (a) Face sheet
- (b) Consent form
- (c) Current treatment orders
- (d) Old treatment orders
- (e) Progress notes (including transfer notes)
- (f) History and physical examination
- (g) Investigation.
- (h) Notes of JR Incharge of bed and Senior Resident
- (i) Instructions of Consultant Incharge
- (j) Opinion of other consultants.

After entering the data and the results of various investigations, the actual forms may be disposed off.

### ***Management of Indoor Patients***

For the purpose of management of indoor patients beds are generally divided

among the Junior Resident for the purpose of treatment and monitoring under the direct supervision of the Senior Resident. Senior Resident is responsible for over all supervision of all patients.

### ***Progress Notes***

Progress notes should be accurate and descriptive and should not contain phrases like "GC good/Fair, pulse normal; every note should be proceeded by date and time. Following guidelines are suggested for writing progress report.

1. For acutely ill patients, progress notes of pulse, respiration, temperature, blood pressure, intake-output, treatment given and other relevant facts should be written round the clock at intervals deemed necessary by Senior Resident (2 hourly, 4 hourly etc.)
2. For routine patients progress is to be written under the "S" "O" "A" "P" headings.

S = Subjective findings.

O = objective findings

A = Assessment

P = Plan of action.

The subjective and objective findings are noted by Junior Residents whereas the assessment and plan of action is decided by Senior Resident in consultation with Consultant Incharge. Daily notes must be noted down by Junior Resident. A fresh progress report should be written:-

- (a) When a sudden change in clinical picture has occurred or some new findings have appeared.
- (b) When there is some relief or disappearance of signs and symptoms spontaneously or consequent to treatment.
- (c) When a drug is stopped or a new drug is started.
- (d) When some important decisions regarding management are taken.
- (e) Prior to invasive procedures.
- (f) Prior to surgery and post surgery.

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### **BED SIDE PROCEDURES**

Usually the following bed-side procedures are carried out on the patients in the wards: pleural tap, ascitic tap, lumbar puncture, bone marrow aspiration and biopsy, liver biopsy, liver abscess aspiration, kidney biopsy, lung biopsy, pleural biopsy, skin biopsy, venous cut down and pericardial aspiration. While

performing these procedures, the following guidelines will be of help to the Residents and Interns.

1. All procedures have to be proceeded by explaining the procedure in clear and simple language to the patients and his/her relative, along with the patients risks if any involved in it. Consent has to be obtained in writing on the proper consent form available with sister positively before proceeding for the procedure.
  2. Procedures should be planned neither late in the evening nor on holiday unless it is an emergency, because more staff is available for management.
  3. For some procedures, patients have to be “nil-orally” for 4-6 hours proceeding the procedure. Procedure should be planned in such a way that patient does not have to wait for longer hours than is necessary.
  4. The surgical instruments required for such procedure are available in Central Sterile Supply Department (CSSD) on demand. Notice must be given 24 hours prior to procedure to the Sister Incharge, so that she can arrange the same from CSSD. Even in emergency it should be assured that the correct instruments are available before patient is prepared for the procedure.
  5. For most of the biopsy tissues, aspirated fluids, etc. special containers are needed. These should be correctly labelled and material dispatched immediately to the concerned laboratory. Most laboratories have fixed hours for receiving samples. It is therefore necessary to plan the procedure in such a way that all samples can be sent the same day.
  6. An emergency tray containing drugs necessary for resuscitation is available in every ward. This emergency tray must be kept at the bedside while performing these procedures.
  7. For some procedures, like liver biopsy, kidney biopsy etc., bleeding time, clotting time are required to be normal before the procedure can be performed. It is also advisable to get blood typing done on these patients before initiating procedures.
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## **PREPARATION OF ANAESTHESIA AND POST OPERATIVE INSTRUCTIONS**

### ***Pre-Anaesthesia Clinic***

The Department of Anaesthesia runs “Pre-Anaesthesia Clinic” three times a week. It is held in Room No. 5054 (Seminar Room) in the Surgery OPD every Monday, Wednesday & Friday from 2 to 5 p.m. It is run by consultant

Anaesthetist with the help of their Senior and Junior Residents. The patients requiring surgery under any kind of Anaesthesia (except local anaesthesia) should be referred to this clinic after doing basic investigations like haemogram, urine routine and microscopy, ECG (for patients above 35 years age), chest X-ray ( all patients requiring general anaesthesia) and any other investigations depending on the nature of the disease. Patients having chest, cardiac, neurological or endocrine problems should be referred to the respective clinics and clearance for Anaesthesia should be taken from the consultant there, before referring the patient to the Pre-Anaesthesia clinic.

### ***Post-Operative Instructions***

After surgery, it is the duty of the operating unit to write clear cut post operative instructions to be followed by the nursing staff. These should include details of any particular position that the patient is to be nursed in. It should also include instructions regarding oral intake, intravenous fluids (type of fluid and amount), management of various indwelling tubes like Ryle's tube, chest and abdominal tubes, Foley's catheter and any other tubes. The antibiotics to be administered should be clearly written along with the dosage and route of administration. The pain killers should also be written clearly as far as their name, dosage and route of administration is concerned. The resident writing the post operative instruction must put his initials and full name underneath. The date and time should also be mentioned clearly.

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## **MINOR OPERATION THEATRES**

### ***Minor Operation Theatre, Deptt. of Urology***

Location – Situated on 5th Floor, Surgical OPD Main wing of the OPD Block.  
Tele No. 4247

### ***Timings***

Monday to Friday	:	8.30 a.m. to 4.30 p.m.
Saturday	:	8.30 a.m. to 2.00 p.m.
Thursdsay	:	Washing Day (Off)

### ***Procedure being done***

The following is the list of some common minor urological operations being done in this operation theaters.

A. Endoscopy : C.P.E. – Cysto Pan Endoscopy  
Optical Internal Urothrotomy.

- B. Diagnostic Biopsies :
- Prostatic biopsy
  - Bladder biopsy
  - Expressed prostatic secretions
- C. Diagnostic procedures :
- Uroflow meters
  - Uro dynamics study
- D. Curative procedures :
- Calibration Dilatation
  - Catheter change,
  - Clean intermittent catheterization CIC
  - D.J. – stent removal
  - D.J. Stenting.

### ***Method of Referring the Patients***

Patients can be referred to Minor O.T. through the following channels

1. From the general OPD – Patients are referred on the same day to minor O.T. for date.
2. From the inpatients wards consultation by Senior Resident for inpatients sent to the Minor O.T. for required procedure. Reports are given to patients on same day, except for EPS (Expressed Prostatic Secretions) for which report reaches from Microbiology Deptt. to OPD.

## **MINOR OPERATION THEATRE, DEPTT. OF E.N.T.**

### ***Location***

Minor O.T. E.N.T., Room No. 4123, is located on IVth Floor ENT/Dental OPD Main wing, Phone No. 4252

### ***Timings***

Monday to Friday : 8.30 a.m. to 4.30 p.m.

Saturday : 8.30 a.m. to 2.30 p.m.

### ***Procedures being done***

- Nasal endoscopy – 0°

- Throat endoscopy – 90°
- Wax syringing
- Tracheostomy Tube change.
- Stich removal/pack removal/nasal packing
- Examination under microscopic section.
- Infra turmeric cauterization

### ***Biopsy***

- Tongue biopsy
- Buccal mucosa biopsy
- Tonsil biopsy

### ***Method of Referring the Patients***

- OPD** – Doctors refer patients from OPD to minor O.T. on same day.
- Wards** – Senior Resident, E.N.T. sends consultation to Minor O.T. procedure is done on same day.
- Report** – is given to patient on same day. Biopsy report reaches OPD after 7 days.
- 

## **MINOR OPERATION THEATRE, DEPTT. OF GYNAECOLOGY & OBSTETRICS**

### ***Location***

Gynaecology, Minor O.T. is located on IIIrd Floor, Room No.6, adjacent to M.T.P. O.T. Room No.6, Rajkumari Amrit Kaur OPD Block, AIIMS.

### ***Timings***

- Monday to Friday : 8.30 a.m. to 4.30 p.m.
- Saturday : 8.30 a.m. to 12.30 p.m.

### ***Procedures performed***

- Endometric aspiration
- Cryo.
- Colposcopy

### ***Referral***

Consultants/ Senior Resident refers patients to Sister Incharge, Minor O.T.

for appointment.

### **Wards**

On respective OPD days, the unit doctor brings patient to Minor O.T for procedure to be done.

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## **MINOR OPERATION THEATRE, DEPTT. OF SURGERY**

### **Location**

Minor O.T. Surgery is located on Vth Floor, Room No.3515, Rajkumari Amrit Kaur, Surgery, OPD Block.

The following is the list of some of the common minor surgical operations being done in this operation theatre.

### **A. Endoscopy**

- Proctoscopy
- Sigmoidoscopy
- Haemorrhoids binding

### **B. Diagnostic biopsies**

1. Lymphnode biopsy (except scalene node)
2. Biopsies from the easily accessible lesions of the oral cavity.
3. Biopsies from integument tumors or other lesions of the skin except suspected malignant melanoma.
4. Testicular biopsy.
5. Muscle biopsy.

### **C. Curative procedures**

1. Excision on common skin lesions, e.g. sebaceous cyst, lipoma benign pigmented neurofibromas, implantation dermoid etc.
2. Minor plastic surgery operations e.g. scar excision, scar revision Z-plasty.
3. Hydrocool, circumcision, anal dilatation.

*Method of referring the patient:*

***Patients can be referred to minor O.T. through the following channels***

1. General OPD
2. In-patients

For any of the above mentioned procedures the patients should be referred to the surgical team 'on-call' for that day of the week. After assessing the patient he/she is sent to the sister-in-charge of the minor O.T. for appointment. When the patient reaches the minor O.T. on the appointed day the intern/residents should make sure that the following things accompany the patients:

1. Case sheet of inpatients admitted to the wards and the OPD card along with the investigation reports of OPD patients.
2. Duly completed histopathology form.

In case of in-patients, the post-operative care is taken by the parent unit. In OPD patients the post-operative care is the responsibility of the surgical unit performing the procedure. One attendant accompanies the patient.

### ***Removal of Stitches***

1. Cases which are stitched in casualty should be directed to the senior member of the surgical team on a particular day of the week for the removal of the stitches. He/she must be asked to carry with him/her the casualty-OPD card. No separate SOPD card is necessary. After examining the stitches the surgeon will direct the case to the surgical dressing room in the surgical OPD (5<sup>th</sup> floor OPD block) room number 5055 where the stitches are removed and dressing done.
2. Children upto the age of 12 years must be directed to the pediatrics surgical OPD (3rd floor OPD Block) in room number 3122 for the removal of the stitches.

### ***Drainage of abscesses***

At present there is no separate operation theatre to carry out major septic procedures. In case of any in-patients developing an abscess the drainage is usually done by contacting the senior surgical resident on-call for that day of the week. For large abscess or patients with additional problems the case would be taken to the septic OT in the Main Operation Theatre wing (OT-12 on VIII floor). The decision to take a septic case up into Main O.T. area will have to be taken by faculty members I/c. of the unit concerned.

All cases suspected of gas gangrene or tetanus infection should be operated in Main O.T. and after every such case Main O.T. Infection Control Sister must be informed.

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## IN PATIENT REFERRALS

At AIIMS, teaching, research and patient care form the triumvirate of objectives. Therefore, in this hospital, patient referral has a connotation different from mere requests for help in the management of patients. A patient may be referred to another doctor or consultant, unit or department because of any of the following reasons:

- (i) To extend the best possible medical care to the patient, by availing of the experience, know-how and facilities of the referred doctor, unit or department.
- (ii) To request the transfer of the patient to the referred unit.
- (iii) To request for any special investigations required to be done.
- (iv) To facilitate and help the referred unit in collecting clinical and research information regarding a disease or a group of diseases in which they might be interested.
- (v) To introduce the patient to the doctor, unit or department which may follow the patient in their specialty clinic after the discharge.
- (vi) For the teaching purpose of interns and residents.

### ***Procedure for Referrals***

A special green coloured consultation form is available for this purpose. It must include;

- (a) Name, bed, ward, CR No. and Unit of the referred patient.
- (b) Name, unit, department to which patient is referred along with time of sending and receiving.
- (c) The reason for which patient is being referred and the relevant history and findings of the same.

Routine referrals are sent in the morning hours to the concerned units/ departments through nursing orderly or handed over personally, depending on gravity of situation. During an emergency, the concerned person may be paged.

### ***Referrals to Duty Officer***

These are done on the regular consultation form under the following conditions:-

1. Requests for transfer of patients between wards especially for new admissions from Casualty to Emergency wards being shifted directly to wards for monitoring and care, have to be endorsed by Duty Officer.

2. Requests for purchase of drugs/consumables for EHS or indigent patients have to be sent to Duty Officer for endorsing and needful.

### ***Special features of referrals to the Department of Psychiatry***

All cases requiring psychiatric assessment are referred to Senior Resident Psychiatry. The Senior Resident may assess and send back to respective department. In case of patients with medical/surgical problems who may need a cognitive assessment as a part of complete clinical work-up (e.g. mental development in case of tumor's syndrome or assessment of IQ), S.R. may further refer these cases to clinical psychologist who will see the patient by appointment.

For the diagnostic assessment of neuro-psychiatric disorders (e.g. dementia) the patient should be referred directly to the neuro-psychiatric clinic or clinical psychologist attached to the Department of Neurology.

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### **DISCHARGE AND FOLLOW SLIP**

For the convenience of patient, it is suggested that patients be informed about their contemplated discharge at least 24 hours in advance. It is advisable to get clearance from other consulting units if they have been monitoring the patient closely. Discharge should be planned in a way that the patient leaves the bed by 11:00 a.m. This facilitates patients' transport to their residence and also allows new patients admitted from OPD to occupy bed without inconvenience. Private Ward patients may also be discharged by 12:00 noon or patients have to pay charges for that day also. Sister Incharge Private Ward should also be informed of discharge of paying patients well in advance to enable her to clear bills in time. There is no restriction about discharge on Sunday/Holidays due to pending settlement of bills for private wards/general wards as hospital cashier is open 24 hours.

Special care is taken for discharge of EHS patients. Ambulance service is available for discharged EHS patients for transport to residence, which is available only till 8:30 p.m. EHS patients should preferably be discharged from wards during the morning and afternoon hours.

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# 5

## **ACCIDENT AND EMERGENCY (CASUALTY) SERVICES**

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### **1. INTRODUCTION**

Accident and Emergency services are rightly considered as the “shop window” of a hospital and because of the real or perceived “emergency”; everyone demands prompt action. Hence it is of utmost importance that doctors posted in the casualty should be calm and composed, and give their best effort as quickly as possible. The objective of this department is to provide medical care to the patient as quickly as possible; thus increasing the patients chances of survival.

### **2. LOCATION**

The Accident and Emergency department is located on the ground floor of the AB wing and the approach is by crossing the main hospital “street”. It is open on all days and provides round the clock services. However, as per the policy of the Institute; all burn cases are sent to Safdarjung Hospital and cases of infectious diseases are sent to Infectious Disease hospital.

### **3. WHO SHOULD GET ATTENTION IN THE CASUALTY**

Casualty is primarily meant for the immediate medical attention and resuscitation of seriously ill patients. They should have priority over less seriously ill patients. However, all patients presenting to casualty must be promptly attended to and the severity and urgency of their ailment assessed.

### **REGISTRATION AND MEDICAL RECORDS OF PATIENTS IN CASUALTY**

All the patients attending casualty are to be registered after a quick preliminary assessment of the medico-legal status and severity and urgency of their

ailment by the resident staff posted there. This is an important point, and clerical work involving registration etc. should never take priority over the provision of urgent attention to acutely ill patient. A casualty ticket is then made in duplicate (using carbon paper) for entering demographic data like name, age, sex, address, date and time of arrival; a casualty registration number (CS number) is allotted and provisional diagnosis is clearly written on it. A summary of all the relevant clinical findings along with the medical aid given, consultations and the progress of the patient is to be noted down on it by the attending doctor/doctors before she/he is referred to general OPD, specialty clinic, admitted or discharged to take medicines at home. The original casualty ticket is handed over to the patient at the time of final disposal; the carbon copy is kept in the casualty record.

### **PATIENTS REQUIRING RESUSCITATION**

Cubicle No. 1 is reserved for this purpose. As one of the major responsibilities of any casualty department is resuscitation, it is mandatory on the part of the Casualty Medical Officer to check all the equipments required for resuscitation and their proper functioning at the beginning of each shift. The Assistant Nursing Superintendent also has the responsibility for sending the equipment checklist of Casualty to Medical Superintendent.

### **PATIENTS REQUIRING AMBULATORY CARE**

Patients needing only ambulatory care should be given necessary first-aid treatment and sent home with appropriate advice written on the casualty ticket. If they are referred to any OPD or specialty clinic, the days, timing and location must be properly explained to the patient and written down on the casualty ticket.

### **PATIENTS REQUIRING SHORT-PERIOD OBSERVATION**

Patients requiring a few hours of close observation (generally, less than 6 hours) to determine the further line of management are to be kept on observation beds in the casualty. These patients remain the responsibility of the CMO and his team of doctors. Proper progress report and all the medications and consultations carried out must also be entered on the casualty papers. By 8 A.M. next morning all such patients occupying casualty observation trolleys must be disposed of and beds vacated by either discharging them with proper instructions (as described above) or admitting them in the hospital wards (as described below). It is the responsibility of the consultants of various units-on-call to make sure that the instructions are followed strictly.

## **PATIENTS REQUIRING HOSPITALIZATION FROM CASUALTY**

Patients considered for hospitalization directly from casualty should be only those who are critically ill and cannot wait for the regular out-patient clinic and would not be benefited by the ambulatory care available in the casualty. Chronic patients with prolonged illnesses who can wait till the regular outpatient clinic, should not be hospitalized from the casualty. Patients needing hospitalization from casualty directly should first be registered at the casualty (as above) and preliminary treatment should be started by the CMO and his team. The Senior Resident of the concerned unit-on-call under whose care the admission is contemplated is called on telephone or via radio-paging system. Before calling the Senior Resident for admission, the CMO should enquire if any bed is vacant either in emergency ward or in the ward of the unit-on call. The patient may be kept waiting for the arrival of the Senior Resident of the unit-on-call if a bed is available for admission. Otherwise there is no need to keep the patient waiting for hours to be told later that there is 'no bed vacant'. It would be most distressing for the patient to be told this after hours of delay. Moreover, the delay in arrival or non-arrival of a particular Senior Resident-on-call should never be an excuse to delay treatment. It must be clearly understood that in casualty the CMO is the final authority and he/she is fully responsible for the complete management of the patient. Therefore, the CMO must behave like the treating doctor and not merely as a medical clerk referring patients from one Senior Resident to the other.

It is also expected that each and every patient visiting the casualty must be seen by the concerned CMO, depending on the nature of the patient's illness, of the Medical or Surgical speciality, at least once, before the patient is finally disposed of.

Under no circumstances the CMO should send these patients to the wards or the operation theatre without their first having been seen or advised by the Senior Resident or Faculty member of the concerned unit-on-call.

## **SENIOR RESIDENT-ON-CALL**

It is the duty of the units-on-call and their Senior Residents to inform the CMO of their whereabouts and the radio-page numbers. They should immediately attend the call and should not wait to finish off the OPD or ward round. They should attend the casualty call before going to OPD/ward or to hostel or residence. They should be available in their duty rooms during the night. If the Senior Resident of the concerned unit does not come to see the patient in the casualty within 30 minutes, the CMO can call the consultant-on-call.

## **INSTRUCTIONS FOR ADMISSION FROM CASUALTY**

### **(a) To the Emergency Wards**

The admissions to the emergency wards are done by the CMO in consultation with the concerned clinical units/departments. However, the CMO is the admitting authority, and he/she should make sure that a bed is available for the admission of the patient before asking him/her to wait for the Senior Resident of the unit-on-call to come down and give final advice on admission. The bed vacancy position can be determined from the vacancy register maintained in the Casualty. It is the responsibility of the CMO and the Senior Resident to ensure that only seriously ill patients are admitted and non-deserving patients are not admitted to the emergency ward. *Seriously ill patient should be accompanied by the House Surgeon posted in the casualty during his transfer to the ward to avoid any mishap on the way.*

If a patient needs observation for more than 6 hours then the patient should preferably be admitted to the Emergency Ward and proper recording of the case should be done as described above. No serious patient needing admission should remain under observation without an admission number and proper case notes.

### **(b) Admission to the General Wards**

If the beds are available in the ward of the unit-on-call then the patients are admitted directly on these beds and not via Emergency Ward. It must be ensured that the various clinical departments/units do not keep beds vacant in their wards while occupying beds in Emergency Wards. No patient shall be admitted on the beds of these units/departments from the OPD unless they have vacated all the patients admitted for more than 48 hours in the Emergency Wards. Only when the CMO is satisfied that there are no patients of the admitting unit awaiting transfer from emergency ward to the regular wards, should he/she admit the patient in emergency ward.

## **TRANSFER OF PATIENTS TO OTHER HOSPITALS**

It is possible that due to the non-availability of beds or due to the special type of medical problems (infections burns) for which other hospitals are earmarked, the patient may be required to be transferred to some other hospitals in the city. In all such cases the CMO must ensure that : (i) proper first aid and adequate treatment has been given; (ii) all the patients and their relatives are properly explained the reason of transfer to the other hospital(s) with the active assistance of the Medical Social Service Officers/guides posted in Casualty (iii) no patient should be transferred to another hospital if the person is so seriously ill that he/she may die on the way or soon after reaching

the other hospital. For such patients a bed must be provided at AIIMS hospital. The MHA resident on-call (Duty officer) would be able to help the CMO in locating a vacant bed in any ward, anywhere in the hospital. In order to receive proper care, such a patient should be transferred on to a bed in the main ward of the admitting unit and a less seriously ill patient of the unit should be transferred to the vacant bed provided by the Duty Officer. This extra bed, however, should definitely be vacated by the next morning by transferring the patient to the beds/unit of the admitting unit/department; or to the beds in the emergency wards.

## **REFERRALS TO SPECIALITY CENTRES**

All acute emergencies of whatever nature arising in any of the centers of AIIMS (including IRCH) can be referred to and from casualty directly. The concerned department of these centres should receive such case without delay and provide immediate medical aid. Such patients should preferably be accompanied by a doctor and the concerned department should be informed about such a case in advance. The decision to transfer such a case will rest with the respective consultants.

### **1. *R.P. Centre for Ophthalmic Sciences***

The centre provides its own round-the-clock casualty service with a junior resident and a senior resident on duty. (Tel. Int. 497. Extn.660110) Ambulatory patients with eye problems requiring urgent ophthalmic evaluation and treatment, may be referred to the resident on duty in the eye casualty service at the centre. Patients with ocular emergency only (such as the eye injury, acute redness severe ocular pain, sudden loss of vision etc.) should be immediately referred to the eye casualty. For patients with multiple problems including multiple ocular injuries together with the ocular trauma and other ocular emergencies, the CMO may call the senior resident (ophthalmology) on-duty for assessment and advice.

### **2. *Neurosurgery***

The department provides a 24 hour coverage for the casualty service through a senior resident who is on call. The CMO is expected to assess every patient and provide the necessary emergency care before calling the senior resident-on-call. If the senior resident is not responding to radio paging contact neurosurgery ward/ICU where the whereabouts of resident-on-call are available. All the patients with the head injury (except those with no history of loss of consciousness and non-neurological deficiency) are to be seen by the Senior Resident, Neurosurgery. All open scalp wounds wherein a compound fracture is suspected must also be referred before suturing of

the wound. As per policy of the hospital, all patients with Glasgow Coma Scale less than or equal to 8; all open compound head injuries with brain and CSF visible and all follow up cases will be admitted under the department of Neurosurgery, either in CN Centre or in the main hospital. Patients with head injury in whom an X-ray of the skull is requested should have an AP view, a Towne's view and a Translateral view. A patient with multiple injuries (i.e. involving chest, abdomen and spine), must be carefully assessed by the CMO, for often the head injury may be minimal. Profound hypotension is not a common occurrence in head injury except in children. Immediate treatment, like I/v infusions, blood transfusions and maintenance of a clear and adequate airway must be carried out by the CMO. If Senior resident is not available the CMO should contact the consultant-on-call.

### **3. Neurology**

Under the following situations the CMO is likely to call the Senior Resident of Neurology for help : (i) Neurological emergencies requiring admission, e.g. meningitis, status epilepticus, acute paraplegia, quadriplegia with bladder symptoms, acute encephalitis etc. (ii) Patients with definite neurological signs and/or symptoms where the diagnosis is not obvious and where the patient may require special investigations. (iii) where the patient requires specific neurologic-therapeutic measures. The patients can be admitted under care of Neurology only after the Senior Resident on call/Consultant has seen and advised admission.

### **4. Cardiothoracic Surgery**

The acute emergencies pertaining to cardiothoracic surgery can be referred to the senior resident of the department by the CMO.

All patients with closed or open thoracic injury, e.g. fracture ribs, stab wounds of chest, traumatic haemopneumothorax, ruptured diaphragm etc. may be referred. A preliminary P.A. chest X-ray should be done before consulting the Senior Resident. Patients with recent (less than 24 hours) arterial embolism may also be referred. But if the limb is obviously gangrenous, patient may be referred to orthopaedic department for amputation. All peripheral vascular injuries where a major artery or vein is involved may also be referred. Only digital pressures should be used for control of bleeding. Clamps or ligatures should not be applied. Patients who develop acute thoracic surgical emergencies (Haemothorax, Pneumothorax) and those who develop acute arterial thrombosis following special diagnostic procedures (arteriography, cardiac catheterisation etc.) may be referred. Old cases and chronic cases should be referred to the various clinics.



Patients with heart disease with an acute problem should at first be referred to the senior resident in cardiology.

### **5. Cardiology**

Patients presenting to the casualty with cardiac emergencies are first evaluated by the CMO and the first-aid management is instituted. An urgent E.C.G. must be done. The CMO in consultation with the Senior Resident of general medicine on-call may decide that the patient requires special services of the cardiology department. Usually the patients requiring cardiac consultations would be those with cardiac arrhythmias and cardiogenic shock. In this situation, the senior resident-on-call from the department of cardiology may be called to the casualty for the evaluation of the patient. Depending upon the bed availability, such patients may be admitted under cardiology. In case of non-availability of beds in cardiology ward, these patients are admitted on emergency or general medicine beds. All the follow-up patients of Cardiology clinic with the clinic registration presenting to the casualty with cardiac problems are looked after by the CMO, who also provides the first-aid. These patients are then directly referred to the senior resident of cardiology on-call for further management. In case of non-cardiac problems the patients are evaluated by the senior resident in medicine on-call.

### **6. Obstetrics and Gynaecology**

The same procedure is followed for IRCH, Paed. Surgery, Obst. & Gynae, Urology, Psychiatry, G.E., Endoscopy.

## **REFERRALS FROM BALLABGARH AND MALVIYA NAGAR CENTRES**

The Institute has urban and rural field practice areas in which it has assumed health care responsibility of the population of these areas. As part of the Institute's policy, it has been decided that whenever a case is referred from Rural Health Services, Ballabgarh or Urban Health Centre, Malviya Nagar, under the Institute, they will be accorded priority for admission. It should be realised by the residents that cases are referred only when they can not be managed locally. If for any reason, these patients are not examined, treated and admitted when referred for admission, it causes great distress to the patient who has come all the way to the Institute on our staff's assurance. This brings disrepute to our Institute and our colleagues. Therefore, in accordance with the Institute policy, patients referred from CRHS, Ballabgarh and urban health centre, Malviya Nagar, carrying official referral slips must be given priority attention and admitted under respective speciality units.

## **ADMISSION OF EHS BENEFICIARY FROM CASUALTY**

- (a) All seriously ill patients will go to casualty where the patients will be examined by the Casualty Medical Officer who will render immediate necessary treatment. If the patient declares that he is an EHS beneficiary, he is to be accepted as such and in case of any doubt, reference can be made to Duty Officer. However, the treatment should proceed as per schedule as if he is an EHS patient.
- (b) The casualty medical officer should call the senior resident of the concerned speciality as is done in case of non-EHS patients. If the patient is gravely ill, the consultant-on-duty should be informed and consulted.
- (c) In the event of death of an EHS beneficiary in casualty between 9 A.M. to 5 P.M. information should be sent to the Office of the Medical Superintendent; and thereafter to the Duty Officer.
- (d) If the EHS beneficiary is to be admitted, admission slip is to be made and signed by the casualty medical officer for admission on vacant EHS beds in AB-6. In case, a vacancy exists in the ward of the admitting unit, the EHS patient can be admitted there. In case, these EHS beds are not vacant, admission on a vacant emergency ward bed is to be made. If there is no vacancy in all these three areas, admission slip should be made by the CMO and sent to Duty Officer who will get the patient admitted on any vacant bed in the Hospital, wherefrom the patient will be shifted to first available vacancy in the three areas mentioned above.
- (e) In case, the EHS beneficiary is entitled to a private ward (paying bed) facility, the officer-in-charge of the private wards should be contacted and if there is a vacancy, admission slip will have to be signed by the treating consultant. If there is no vacancy in private wards at the time of admission, procedure mentioned in paragraph (d) above is to be followed.

## **CLARIFICATION REGARDING PATIENT CARE RESPONSIBILITIES IN THE CASUALTY**

There could be occasions when there is a controversy regarding the unit, departments or discipline to which a patient belongs. The patient may be sick enough to deserve admission but the different department/units may not be agreeing as to who would have the primary responsibility of such a patient. Most of such situations arise in patients with multi-disciplinary problems. General guide-lines for such patients are given below. But as a standing hospital rule, in all such situations, the opinion of the officer-in-

charge of the casualty is final.

### ***Multiple injuries***

In patients with injuries involving abdomen as well as other systems. the general surgical unit on-call would take the primary responsibility of the patient care. The management is carried out in consultation with other concerned departments/units. On the other hand, injuries involving head, neck, chest, pelvis or extremities, the patient will be admitted under the speciality which, because of a particular organ-system being mainly affected in the accident, would take the primary responsibility of the patient. As a rule, a patient with altered sensorium due to head injury will be admitted under Neurosurgery though she/he may be having other system injuries.

### ***Combination of surgical and medical diseases***

In such situations, the problem of immediate importance would decide the primary responsibility. For example, an impending gangrene in a diabetic may primarily need medical care for the control of diabetes while a typhoid patient with acute abdominal perforation would need immediate surgical help.

### ***General medicine versus medical super-specialties***

Medical Superspecialities have clearly indicated the type of patients to be referred to them (guidelines given earlier). All the other cases are to be looked after by the general medicine units.

### ***General surgery and surgical super-specialities***

Surgical super specialties have also given the guidelines for referring the patients to them (given earlier). All the other patients are looked after by the general surgical units.

## **INSTRUCTIONS FOR ACUTELY ILL PATIENTS**

All seriously ill or injured patients brought to the casualty should be promptly attended to and admitted for treatment irrespective of the availability of vacant beds. It is to be noted that no gravely ill patient can be denied attention and admission on the ground of non-availability of beds. Under emergency situations, the CMO can take permission of the Medical Superintendent or the Duty officer to admit a seriously ill patient on any vacant bed in the hospital.

## **INSTRUCTIONS REGARDING DEATHS IN THE CASUALTY**

Patients who die in casualty should be given death certificate by the CMO or the senior resident of the clinical unit. The CMO should ensure that the body is sent to the mortuary with due care and consideration. The CMO should

make every effort to promptly inform the relatives of the patient who dies in the casualty. When the relatives arrive in the casualty, the CMO should show due courtesy and sympathy to them and help them in every possible way in the disposal of the dead body. Use of the hospital telephone by the relatives of the deceased may be permitted in such cases. Every death in the casualty department should be reported in writing and sent directly to the Medical Superintendent, giving particulars of the case and brief resume.

### ***Instructions regarding patients who are dead on arrival at the casualty***

All cases "brought in dead", and where the actual cause of death is not known, should be handed over to the police for suitable action. Action should be initiated as per the DGHS/ Government of India's guidelines, which is as follows :

- (i) The name of such cases should be entered in the casualty attendance register alongwith all the possible details about the dead person obtained from the accompanying relatives whose name and address should also be noted and recorded in the remarks column of the register.
- (ii) In case where death has occurred due to natural causes and there is no suspicion of any foul play, the dead bodies may be handed over to the relatives on their request and this must be recorded with signatures of relatives or attendants.
- (iii) All other cases where death has occurred due to accident, assault, burns, suicide, poison, rape or any other causes where it is suspected that death has not been due to natural causes, must be registered as medico-legal cases (MLC) and the police authorities informed accordingly.
- (iv) In all the above cases, the out-patient tickets and the death reports duly completed, must be forwarded to the M.S. for onward transmission to the Medical Records Section and New Delhi Municipal Committee.

### **INSTRUCTIONS REGARDING MEDICO-LEGAL CASES**

A medico-legal situation is defined as one where there is an allegation, confession or suspicion of causes attributing to body injury or danger to life. The CMO is advised not to enter into any arguments with the patient, relatives or attendants regarding the medico-legal aspects of the case. This problem must be left entirely to the Police Constable on duty. The Casualty Medical Officer's foremost duty is to render medical aid to the patient. All such cases

should be promptly entered in the bound medico-legal case register available in the Casualty. The CMO should see that the register pages have been properly numbered and that each entry is properly and adequately made. Special emphasis should be given to clear and legible entry of the name, address, time of arrival of the patient and to the cause and nature of injury. Signature should be in full with the name of CMO given in capital letters. At least two marks of identification should be carefully entered. A copy of the report and the register should be handed over to the police for safe custody. No unauthorised person, should have access to the medico-legal records (including medico-legal register) without the written consent of Medical Superintendent or any other officer authorised by him. All exhibits of legal importance (gastric lavage etc.) should be immediately sealed and delivered to the police and their signatures obtained in the book. In all medico-legal matters, where the CMO is in need of expert advice, the faculty on call from the Department of Forensic Medicine should be contacted and proper guidance obtained. Medico-legal jurisdiction of AIIMS (East of Aurobindo Marg) includes Lajpat Nagar, Lodhi Colony, Kalkaji, Srinivas Puri, Nizamuddin and Defence Colony. The following points may kindly be considered while dealing with M.L.C. cases.

- (i) Each entry of identification data of patients in the MLC register should be made by the CMO and not by the Police Officer.
- (ii) The MLC reports should be prepared by the CMO's/ACMO's and not by the Interns.
- (iii) Nature of injuries should be recorded in every MLC case.
- (iv) The CMO should write his/her full name in block letters alongwith the signature for adequate identification.
- (v) X-ray reports should be entered within 7 days in MLC register and this can be done easily by the CMO's in the morning shift.
- (vi) X-ray department is requested to provide the X-ray report within 48 hours.
- (vii) Remarks of the specialists should be entered in the MLC register and signed by the specialist with his/her name clearly written in block letters.
- (viii) The police officer posted in the casualty should expedite the completion of all MLC reports within 7 days.

## **OTHER SPECIAL CLINICAL PROBLEMS**

- (a) All patients with burns are sent to the casualty of Safdarjung Hospital.
- (b) All patient with dog-bite and tetanus are also sent to the casualty of

Safdarjung hospital for treatment.

- (c) The patients with infectious diseases like rabies, cholera, diphtheria, etc. are sent to Infectious Diseases Hospital.
- (d) Patients with open pulmonary tuberculosis are sent to the tuberculosis hospital (L.R.S., T.B. Hospital & R B (TB) Hospital, Kingsway Camp.
- (e) Snake-bite treatment is carried out at AIIMS casualty. Polyvalent anti- venom is available in the casualty.
- (f) Special situations : Cases, referred from various courts, police or such other state authorities often present special problems (e.g.Hunger strike). These cases require individual decision on the merit of each case. In such situation the help of Consultant on Call, Deptt. of Forensic Medicine and Toxicology may be sought.

## **CASUALTY OPERATION THEATRES**

There are 2 operation theatres in the casualty. One is for major surgical procedures of general surgery. The other theatre has 2 tables, for stitching of the wounds, debridement of compound fractures, anal dilatations, drainage of abscess and other minor procedures. The resident staff and others should enter the main theatre after changing the shoes, clothes etc. In the minor theatre the resident staff need not do it but just put on the gown and change the shoe. All the surgical procedures irrespective whether they are major or minor, must be done in the Operation Theatre.

## **ISOLATION ROOMS**

Isolation rooms for the treatment of gastroenteritis and hyperpyrexia are available for exclusive use of these patients in the casualty.

## **CASUALTY STAFF AND ADMINISTRATION**

The staff posted in the casualty works in shift basis. There are 3 shifts : 8 A.M. to 1.30 P.M., 1.30 P.M. to 9 P.M. and from 9 P.M. to 8 A.M. During each shift four senior residents, one each from General Medicine, General Surgery, Orthopaedics and Paediatrics are available in Casualty. They are designated as casualty medical officer (CMO's). For all practical purposes the CMO is the officer-in-charge of the casualty on the spot and he/she is entirely responsible for the day to day administration, patient care admissions from the casualty. In addition to these, there are assistant CMO's (ACMO), House Surgeons and Interns are also posted in the casualty to provide help to the CMO. The house surgeon posted in the casualty are also on-call for C-6 and D-6 (Emergency Wards) to cover for any emergency call for very seriously

ill patients, in case the residents of the parent unit are not immediately available. There are three faculty members on the strength of the emergency services who look after the clinical and administrative functioning of the casualty. Besides, faculty members from all the departments are posted for round the clock Casualty duty by rotation.

## **OTHER STAFF POSTED IN CASUALTY**

### **1. Nurses**

The nurses working in the Casualty work under the supervision of an Assistant Nursing Superintendent from 8.30 A.M. to 4.30 P.M and Sister Incharges, during other periods. She is also responsible for the deployment of Group 'D' staff.

### **2. OTA's/ORAs**

OTA's are posted in the Casualty O.T., round the clock to assist in operations. It is their responsibility to check the central suction, oxygen points and other accessories, at the beginning of each shift.

### **3. Medical Social Service Officer/guides**

Are posted in the Casualty round the clock, and are responsible for all social service related areas of work. It is their duty to liaise between doctors and patients.

### **4. Security guards**

Are posted round the clock at the entrance of the Casualty. It is their duty to prevent the entry of more than one attendant inside the Casualty and they are also supposed to take rounds inside at regular intervals to flush out extra attendants. The Asstt. Security Officer should be contacted in case of emergency.

## **GENERAL CONDUCT AND BEHAVIOUR OF CASUALTY STAFF**

Because of the nature of its work, the casualty has the most charged and tense atmosphere. It does not take too much to spark off a controversy with the patients or their relatives. Infact, the majority of the complaints against the hospital have their roots in the type of attention given to the patient in the casualty. At some stage or the other some casualty staff may not have shown due courtesy to the patient or their relatives. Courtesy does not cost anything but creates an enormous amount of good will. It must be understood that the persons visiting the casualty are mentally upset because of the acute illness in their relatives. They need utmost sympathy and courtesy. The casualty

staff is requested to bear this in mind all the time.

To maintain the dignity and the decorum of the casualty all the employees posted in the casualty must put on the proper hospital dress (white coat etc.) display their name plates or special identity cards.

## **PATIENT-CARE RESPONSIBILITIES OF THE CMO AND HIS TEAM**

In the casualty the CMO is functionally a consultant and therefore, he/she must behave like a consultant. The CMO and his/her team must plan and carry out the treatment of the patients in the casualty to the fullest extent entirely on their own. They should not and must not simply become medical clerks referring patient to various senior residents without taking the initiative in treating the patient on their own. In the casualty the entire patient care responsibility is that of the CMO.

## **ADMINISTRATIVE CARE OF CASUALTY**

At the beginning of every shift the CMO must ensure that all the necessary equipment of respiratory and cardiac resuscitation and for emergency surgical and orthopaedic care are in working order. An inventory of these items should be displayed in the resuscitation cubicle (cubicle 1) and daily checking must be done. Resuscitation being one of the major responsibilities of the casualty, the CMO must make regular checks of all the required equipments and their proper functioning at the beginning of every shift.

## **OFFICER IN-CHARGE CASUALTY**

A senior faculty member is in-charge of various patient care related problems arising in the casualty. The officer incharge is responsible for all administrative matters relating to the functioning of the casualty (e.g. cases of dispute regarding the department, unit, speciality or discipline to which a patient belongs). He advises on the inventory of items which must be present in the casualty for use in resuscitation and other emergency situations. He/she also advises on the medical and surgical aspects of the upkeep of casualty and operation rooms and other areas attached to it.

The over all administrative authority of the casualty is that of the Medical Superintendent.





# **CARDIO THORACIC AND NEURO SCIENCES CENTRE**

## **(C.N. CENTRE)**

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### **INTRODUCTION**

Cardio Thoracic & Neuro science centre is a super speciality centre situated within the AIIMS Complex. Cardio Thoracic centre includes Cardiology & Cardio Thoracic Surgery, with 180 beds & Neuro Sciences Centre also with 180 beds for Neurology & Neurosurgery. The OPD is situated at the ground floor of CN centre & is common to both Neuro & Cardiac Sciences. The first to sixth floor of the centre house the ICU's OT's, general wards & private wards while the offices of Cardiology, Cardio Thoracic Surgery, Cardio Thoracic anaesthesia, Neurology, Neurosurgery & Neuro anaesthesia departments are located on the seventh floor.

The Centres are under the direct control of the Chiefs, and is assisted through the Hospital Management Board for the functioning of the various common services & broad policy matters. The Chiefs are delegated with all the powers of administration & financial management of their respective areas by the Director.

### **CENTRAL ENQUIRY & ADMISSION OFFICE**

This facility is shared with the main hospital. Central enquiry and admission office is located near Aurobindo Marg entrance. The main entrance of the CNC has another enquiry counter located at the ground floor which is manned by a receptionist and is functional round the clock.

## **ACCIDENT & EMERGENCY SERVICES OF CNC**

These services are also shared with the main hospital and are located at the department of emergency medicine at AIIMS. Senior & junior residents of all clinical disciplines are available round the clock for emergency consultations. They are stationed in their respective wards and are also available on page. Consultants are also available on page. Facilities for diagnosis and emergency surgery are available round the clock. The Department of Neurosurgery has a large component of Casualty and Emergency Services given its strong commitment to neurotrauma. The Department has a policy of keeping aside 20 beds for neurotrauma cases, and additional beds as and when required are provided by Emergency Services Department for severe head-injured patients. There is one senior resident on round the clock duty for the casualty services (first on call) and another for the inpatients services (second on call).

## **OPD SERVICES & SPECIALITY CLINICS**

CNC is a super speciality health care facility, only referred patients are registered for OPD consultations. The OPD registration counter is located at the ground floor of CNC. The registration fees for those referred from outside is Rs. 10/- but for cases referred from AIIMS Main Hospital there is no separate registration fee. Cardio Neuro OPD & Clinic services run in the morning as well as in the afternoon from Monday to Friday in accordance with the schedule shown in Annexure-1.

## **CASH COUNTER**

The Cash Counter is located in the OPD Complex of CNC next to the OPD registration counter. The cash payment for various investigations and diagnostic procedures is made at Cash Counter Room no. 28-B.

Payment for the following procedures can be made here.

- Blood Tests
- TMT
- Holter
- ECG
- ECHO
- EEG
- CT Scan
- X-ray

Days	Timings
Monday - Friday	8.45 am to 1.00 pm
Lunch	1.00 pm to 2.00 pm
Afternoon	2.10 pm to 4.00 pm

## PATIENTS' ASSISTANCE

1. Medical Social Service Officer  
MSSO's are available at OPD, ground floor of CNC. Exemption of treatment charges and railway concessions for poor patients are available through MSSO counter.
2. Exemption of Payment  
The exemption of payment is done for poor patients, for this, the MSSO should be contacted.

## SCHEDULES OF OPDS & CLINICS OF ALL DEPARTMENTS IN CNC

Refer Annexure-1 for details.

## MEDICAL RECORDS DEPARTMENT

It is stationed in the basement of CNC. It has one of the best preserved hospital archives in India. The medical records of CT Centre & NS Centre are maintained separately. Records of each & every patient visiting the CNC OPD since its inception is maintained manually as a file by a comprehensive process of collection, collation & compilation of data.

## **CARDIO THORACIC CENTRE**

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The centre incorporates the departments of cardiology, cardio thoracic & vascular surgery, cardiac anaesthesia, cardio-radiology, cardio biochemistry & cardiac nuclear medicine. Some important statistics of the department are as follows

OPD attendance:	> 1.1 lac patients
Indoor admission:	nearly 10,000 patients annually
Surgical procedures performed	> 7000 annually
Cardiology diagnostic procedures	> 20000 annually
Cardiology intervention procedures	> 500 annually
Heart transplant cases	20 till now (since 1994)

### **IN PATIENT SERVICES**

The Cardio Thoracic Centre has 180 beds. The bed distribution is as follows:

Private wards CT-6 14+2 Heart transplant.

The charges for private ward admission are Rs. 1200/day + Rs. 100/day as dietary charges. There is one Deluxe room with charges of Rs. 1800/day + Rs 100/day as dietary charges.

Admissions to the private wards are generally elective in nature and are advised by the respective consultants & the room is allotted by Senior Administrative Officer, at Room no. 35, CNC, AIIMS.

General ward beds are located in the three CT Centre wards with the following distribution :

CT 5-31+3 Isolation Rooms for CTVS

CT 4-31+3 Isolation Rooms for CTVS

CT 3-32+2 Isolation Rooms for Cardiology

Admissions to the general wards of CTC are either through the OPD or through one of the departments of AIIMS Main Hospital. The admission charges are Rs. 35/- per day which is the same as AIIMS Main Hospital. At the time of admission the patient is expected to pay Rs. 375/- as an initial deposit.

### **CTVS DEPARTMENT**

Department of Cardio thoracic & vascular Surgery has always been a forerunner in utilizing cutting-edge technology to provide succour to patients.

More precisely, since 1994 nearly 20 heart transplant procedures have been performed. Other surgical procedures performed in the department are open heart surgery, closed heart surgery and various emergency & routine vascular procedures.

### ICU & OT Complex

The CTVS OTs & ICUs are located on the first floor of centre

There are 3 ICUs on the first floor ICU A, B & C

ICU A has 16 beds for CTVS patients

ICU B has 14 beds for CTVS patients

ICU C has 04 beds for Neonates

ICU A & B house immediate post-operative cases.

ICU C is situated between ICU A & B

CTVS OTs are located on the first floor of the CTC.

There are 7 OTs for CTVS.

The timing of OT is 8.30 am to 8.00 pm.

## HOMOGRAFT VALVE BANK

At AIIMS we maintain one of the best valve banks for homograft transplant. Around 600 homograft valve transplants have been performed at AIIMS.

Cryopreservation technology is used for storing the valves. By this technology we can preserve valves for upto a period of 5 years.

## CARDIOLOGY

Cardiac ICU is located on the second floor of the CTC centre.

There is a intensive cardiac care unit for adults & a Paediatric care unit for infants and children.

The Cardiology Department caters to a wide spectrum of diseases & is actively involved in various diagnostic and interventional procedures.

## DIAGNOSTIC SERVICES

Investigative & diagnostic procedures are carried out routinely and by appointments also. Registration form for the requisite investigation should be completed properly and name, age, gender, residence CR, no. & ward/OPD should be clearly mentioned.

Test Procedures	Location	Time Schedule
Hematology & Chemistry	Blood Collection Counter, OPD,	OPD Patients (8.00 am – 10.30 am) Monday-Saturday
Radiology X-ray	Room No.54-A, OPD, CNC	Monday – Friday 8.30 am to 11.00 am Saturday – 8.30 am to 10.00 am
(Ward)	-do-	24 hours
ECG outdoor patients	Room NO. 14, OPD, CNC	Available for OPD patients during OPD days
ECG for indoor patients	-do-	24 hours
Central Lab. Facility	Room No. 53, OPD, CNC (see details ch on lab services)	Blood report 11.00 am to 12.00 noon & 3.00 pm to 4.00 pm
Treatment Rom	Room No. 13, OPD, CNC	
EMG	Room No. 58, OPD, CNC	
Holter	Room No. 48, OPD, CNC	
TMT	Room No. 47, OPD, CNC	
ECHO	Room No. 62, OPD, CNC	
Physiotheraphists CTVS	Room No. 54-A, OPD, CNC	
Dietician	Room No. 15, OPD, CNC	
Nuclear Cardiology Lab.	Room No. 36, OPD, CNC	Muga Test Thallium Test

## PROCEDURE OF REFERRAL FOR ECHO

Patient is seen in Cardiology & CTVS OPD, Senior Resident advises the test which is countersigned by the consultant and the date for ECHO is given by consultant on his day. If the patient is a follow up case, the date is given by the technician in ECHO Lab. For main Hospital, Neurology & other Centres the Consultation is sent to CT3 ward consultant, countersigned by him and referred to ECHO lab for date.

All the ward echo cardiograms are performed on the day they are requested.

Charges are Rs. 100/- for TTE and Rs. 350/- for TEE. The chares have to be deposited at Room no. 28B.

For repeat tests & indoor patients of CNC no deposit is charged.

## Timings

Monday-Friday 8.30 am to 8.00 pm

Saturdays & Sundays On Call

Urgent case are taken up in between as and when required. The report is given immediately.

## HOLTER & TMT

OPD cases are given the date for the investigation by the technician in the Holter Room. For indoor patients and patients referred from other departments the procedure is the same as that for ECHO.

Clinic	Days	Time Schedule
Holter (Room No. 48)	Monday & Saturday	9.00 am to 1.00 pm
TMT (Room No. 47)	Monday & Friday	9.00 am to 1.00 pm
	Tuesday & Thursday	9.00 am to 4.00 pm

Both these tests are done by the Senior Resident posted for them.

Report is given in the afternoon and countersigned by the Consultant.

Holter Report is given after 3 days and is sent to the respective OPD Clinics to be filed in their files.

TMT report is also given after 3 days.

## CATH LAB

The Cath is located on the ground floor at the entrance as an annexe to the main building of the CNC.

There are five labs in all.

Lab no. 1 is meant for electrophysiological procedures (pacemaker implantation).

Labs no. 2, 3 & 4 are for cardiac diagnostic and interventional procedures (angiography, angioplasty, valvular heart disease etc.).

Lab no. 5 is for peripheral intervention and diagnostic tests (DSA).

The Cath Lab remains operational from 8 am to 8 pm (Monday to Friday), & 8 am to 2 pm (Saturday).

For Emergency requirements it is made operational even at night.

The following procedures are performed at the Cath Lab:

Coronary angiography and coronary interventions.

Valvular interventions.

Paediatric Cardiology catheterisations & interventions.

Pacemaker implantations.

Electrophysiological tests and ablations.

Peripheral diagnostic tests & interventions.

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## DEPARTMENT OF NEUROSURGERY

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### INTRODUCTION

The Department of Neurosurgery is performing a large number of varied surgical procedures of brain, spine and peripheral nerves. Operating more than 3000 cases annually, today it is considered one of the best neurosurgical centers in Asia, with all the modern facilities. The Department has 2 clinical units.

### DAY CARE

Day Care services are at present provided to only few patients requiring either Gamma Knife, diagnostic evaluations such as DSA, or very minor operative interventions, such as aspiration/removal of reservoirs or release of flexor retinaculum for Carpal Tunnel Syndrome. Other procedures requiring local anesthesia such as biopsies of intracranial lesions are admitted for a day.

### INDOOR ADMISSIONS

There are facilities for admission into General or Private Wards. Neurosurgery Department has the following wards and ICUs:

NSI ICU B: NS Unit II (1st floor)

NSI ICU C: NS Unit I (1st floor)

NS2 Ward: NS Unit II (2nd floor)

NS3 Ward: NS Unit I (3rd floor)

The Private Ward (NS6; 6th floor) is shared between Neurology and Neurosurgery departments. The procedure of General Ward admissions is for the patient to attend OPD and take a date for admission after advice by the treating Consultant. This date is based on the disease and admission category, which is decided by the treating Consultant on the basis of need for urgency. There are basically two types of dates depending on severity of illness. The first is the Routine category which includes:

- Cranial date
- Spinal date
- Peripheral Nerve date

The Urgent admission category includes the following;

- As soon as formalities completed date
- Priority date
- Fixed date



The second category dates are given only after the cases are evaluated again by two senior most faculty in each unit, who approve of the decision of urgent category admission.

Thereafter, the Senior Resident in charge of admissions gives the actual date. As there is frequently a backlog, patients/attendants are usually advised to find out the current admissions date from the Department office and come accordingly.

The Office of Chief, Neurosciences Centre, does Private Ward admissions directly.

## **INVESTIGATIVE AND DIAGNOSTIC PROCEDURES**

These are performed by the Departments of Neurology (Electrodiagnostic evaluations such as EMG, EEG, etc.), Neuroradiology (Radiographs, Ultrasound, Doppler, CT scan, MRI, MRS, MRA, DSA, etc.) and Neurochemistry (all general biochemistry tests, and hormonal evaluations).

## **GAMMA KNIFE**

It was started in May 1997, since then the Department has provided Gamma Knife treatment to patients, which constitutes the largest experience in this country. The innovative technique involves aiming the converging electromagnetic (cobalt-60) radiation beams precisely onto the target (a tumor, AVM, or other) thus saving the normal brain tissue from any sizeable radiation dose. It involves fixing a frame onto the head, subsequent MRI (and DSA for AVMs) and lastly delivery of the radiation inside the machine after planning of the precise radiation delivery to the target. The unique value of this treatment lies in its great accuracy, with the error margin of much less than a millimeter. It is a purely non-invasive procedure and patient has just to lie down while the treatment is completed. Gamma Knife procedures are currently performed twice a week, and is basically a day care procedure with the patient being discharged after the treatment. The cost of the procedure is Rs. 75,000. More than 850 patients have been provided this facility till date.

## DEPARTMENT OF NEUROLOGY

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### OUT PATIENT DEPARTMENT

The OPD is located in the ground floor in the OPD wing in the C.N. Centre. The Department runs an OPD every day of the week. This is evenly distributed between the two units of Neurology as per schedule given below:- (*refer to Annexure I*)

**Unit-I** : Monday, Wednesday, Friday

**Unit-II** : Tuesday, Thursday, Saturday

The Registration timings are between 8:30 a.m. to 10.30 a.m. Appointments for consultants can be taken from the Neurology Office at telephone no.6864851,6561123 Extn.3252 during office hours.

There are many speciality clinics run by the Neurology Department.

<b>Days</b>	<b>Speciality Clinic</b>
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Wednesday	: Cognitive disorder clinic, intractable epilepsy Clinic, Stroke clinic.
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Saturday	: Movement disorders clinics, Neuro-Immunology and Neuromuscular disorder Clinic and stroke clinic.
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Tuesday	: Sleep disorders clinic.
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### DAY CARE

Patients requiring muscle biopsy and short term care for intrathecal injections are evaluated with only a short admission.

### INPATIENT ADMISSION

The patients are given date of admission from the OPD and admitted on priority depending on the urgency of the clinical situation and bed vacancy. Generally a uniform pattern is adhered to. There is often a backlog to be cleared and is a constant source of enhancing performance. The private ward admission are done by the Office of Chief, Neuro-Sciences Centre. Admissions into the ICU are carried out from the casualty directly or from the ward.

### INVESTIGATIVE AND DIAGNOSTIC PROCEDURES

These are performed by the Department of Electrophysiology (Neurology), Electromyography (EMG), Electroencephalography (EEG), Video EEG, Evoked potentials (EP), i.e. Visual EP and auditory EP are performed. Nerve

conductions are performed routinely. Special investigation like intracranial magnetic stimulation, are done as research tools. An autonomic function lab is also being set up. Neuroradiology department assists in radiographs, ultrasounds, Doppler, CT Scan, MRI, MRS, MRA, DSA, etc.) and Neurochemistry with biochemistry tests, hormonal evaluations, dry levels, etc.

### **SPECIAL ACTIVITIES CARRIED OUT ARE**

1. Botox injections: Every Friday afternoon in NS-5 ward for patients with movement disorder.
2. Deep brain stimulation for selected cases with movement disorders.
3. Epilepsy surgery for intractable surgically remediable epilepsies.
4. Code red for acute stroke within three hours with TpA.

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## NEUROPATHOLOGY LABORATORY

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This laboratory provides the histopathology report on all (i) tissue biopsies sent from Neurology and Neurosurgery, (ii) frozen section biopsies.

- Incharge : Faculty-In-Charge, Neuropathology Laboratory  
Location : Room No.1083-A, First Floor, Teaching block  
(Internal Ph. No.3371)  
Timings : 9.30 am – 5.00 pm – Monday to Friday  
9.30 am – 1.15 pm – Saturday

### INVESTIGATION

Histopathological studies on brain tumors, muscle and nerve as well as reporting on the biopsies in emergency (frozen section) during operations is carried out in this laboratory. The usual routine stain employed is haematoxylin and eosin. However, special staining procedures are available where required. For this the final choice is that of the pathologist.

### PROCEDURE

- Routine Tissue Biopsies : These should be submitted to the following laboratory  
Main Histopathology Lab. : First Floor, Teaching Block, Room No.1066-A/1079 (Internal telephone no.4282)  
Grossing Room : First Floor, Teaching Block, Room No.1078

### TIMINGS

- Main Histopathology Lab : 9.30 am to 5.00 pm - Monday to Friday  
9.30 am to 1.15 pm - Saturday  
Grossing Room : 10.00 am to 4.30 pm - Monday to Friday  
(Specimen receiving time) : 10.00 am to 2.30 pm - Saturday

All large specimens should be sent immediately and fresh (unfixed) to the laboratory. Other specimens should be sent fixed in formalin which should have been obtained from the surgical pathology laboratory. Do not squeeze specimens to force them into small bottles. The minimum amount of fixative required should be 20 times the volume of the specimen. The strength of formalin used is 1 in 10. The surgical pathology requisition forms are obtainable from the laboratory. The form must be filled in detail to enable complete clinicopathological correlation of the case. Incomplete forms are not entertained. A payment of Rs.15 should be made at the central admission enquiry office of AIIMS, otherwise the case will be filed for 'want of payment'

and no report issued.

Please be careful in handling the specimens. Minimum handling should be done to avoid rendering the tissue useless for histopathology study.

- (i) **Muscle Biopsy** : The actual size of the specimen should be 3 × 2 × 1 in a large muscle from an adult. Naturally from a small muscle or from a child, a smaller sample may have to be taken, but too small a biopsy may not be diagnostic. Prior appointment should be taken from the Neuropathology Laboratory (Internal phone no.3371). The muscle biopsy will be collected fresh from the ward and divided into 3 pieces - one will be fixed in 10% neutral buffered formalin; second in 2.5% glutaraldehyde and third piece will be snap frozen in isopentane pre-cooled in liquid nitrogen.
- (ii) **Collection of Reports**: The reports automatically reaches the respective ward and concerned OPDs and the Neurosurgery and Neurology offices of the neurosciences Centre. The usual time for reporting of the tissue is by the third day after receiving the same.
- (iii) **Frozen Section**: This is done routinely or all days during the working hours of the laboratory. However, in case the surgical team planning an operation where an emergency reports on histology of the tissue removed will be required on a holiday or off time. They must give prior information to the laboratory.

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## NEURORADIOLOGY

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### LOCATION

The department of Neuroradiology at AIIMS, New Delhi is situated at the Ground floor of the C.N.Center building and provides neuroimaging & neuro-intervention services to in-patients and out patients of the hospital.

Services provided by the department are the following:

- (i) OPD wing caters to conventional X-ray requirements of OPD patients as well as indoor patients – 2 rooms (Room No. 51, 52)
- (ii) Special investigations are carried out in DSA rooms (Single plane, Biplane angiography units) and Ultrasound room.
- (iii) Computed Axial Tomography (CT) room,
- (iv) PACS server room provides image networking & archival.

### AVAILABLE INVESTIGATIONS

The department provides imaging services ranging from plane x-rays, Ultrasound, Computerized Tomography, MRI, diagnostic vascular studies as well as all types of vascular and nonvascular neuro-interventional procedures.

### TIMINGS AND REGISTRATION

Requests for imaging are filled out by concerned clinical units, which is then scrutinized by residents in the department and necessary procedures are carried out tailored to the requirement. All such requests are complied with the same day in most instances. Approved hospital charges for such procedures is paid at the cashiers' counter.

### CONVENTIONAL X-RAYS

OPD and the indoor cases have separate registration for conventional X-rays. All OPD cases are registered at the OPD X-ray counter (adjacent to room no 56.) Depending upon the requisition either the X-ray is done on the same day or the patient is given an appointment (date and time). All Indoor patients requiring US/Doppler/CT are investigated either on the same day or next day.

### SPECIAL INVESTIGATIONS

All special investigations are done with prior appointment except those admitted through casualty when it may be done any time. Requisition forms for different special investigations are filled out by the clinical unit. Appointment

is given on an appointment slip detailing the time and the room number where the investigation will be done, pre-procedural instruction if any to be followed by the patient and signed consent to be provided by the patient wherever intravenous/intra-arterial contrast needs to be administered or an interventional procedure is planned-

- (a) Investigations under fluoroscopy – booked by SR
- (b) Ultrasonography/Doppler- Room no. 10-B
- (c) Computed tomography – room no. 10-B
- (d) Vascular studies (angiography and venography) –Angio room (Neuro Cath Lab)
- (e) All Interventional studies (CT, US or Fluoroscopy guided or Endovascular) – Faculty
- (f) Magnetic Resonance Imaging (MRI) – MRI counter in the department of NMR. Forms are screened by the resident posted in MR.

### **TIMINGS FOR APPOINTMENT**

- (a) General X-ray counter: Open from 8.30 a.m. to 3.30p.m. with lunch break

	<b>Monday-Friday</b>	<b>Saturday</b>
OPD Plain X-rays and special investigations	8.30 A.M. – 3.30 P.M.	8.30 A.M.-11.30 A.M.

- (b) For indoor patients, routine plain X-rays are registered from 8.30 A.M. to 1 P.M. After that only urgent cases are registered up to 3.00 P.M.
- (c) CT appointment forms are received for OPD patients from 8.30 A.M. to 1 P.M. in 10B room, indoor patients requisitions are screened by the senior resident in the CT room and done on the same day.

### **DESPATCH OF X-RAYS/REPORTS**

Plain X-rays of indoor patients are dispatched to their respective wards on the next day in the afternoon. OPD X-rays are dispatched on the 2nd working day after reporting is complete. Films of all the special investigation are filed in the record section of the Neuroradiology department (Room No.11). Patient's report is handed over to the concerned unit during NR conferences.

### **RECORD SECTION AND FILING**

As mentioned above, films of all the special investigation are filed in the record room (Room No.11) and are available to the clinical units for viewing

anytime during working hours. The clinical residents may borrow films from the record section after making necessary entries in the issue register. The same films are to be returned to the record section as early as possible. Records more than 1 year old are filed in the record room newly constructed on the second floor.

## **EMERGENCY IMAGING SERVICE**

The X-ray room in the OPD section is functional round the clock. Senior resident is available from 8.30 a.m. to 4.30 p.m. A senior resident is available on duty daily with a faculty member (on call) from 4.30 P.M. to 8.30 A.M. next day. Emergency special investigations i.e. US, CT etc. are also done round the clock. The portable X-ray services for non-ambulatory indoor patients are also provided round the clock.

## **ADMINISTRATIVE WING (Room No. 10B, 14, 15)**

Conference room, administrative office, residents' room and office of faculty members are located in this wing.

The regular interdepartmental conferences is held twice or thrice a week with individual clinical units in Neurology & Neurosurgery in the conference room of the department of Neuroradiology.

## **CLINICAL NEURORADIOLOGY**

### ***MRI***

MRI requisition is screened by senior resident to tailor the procedure according to the clinical need in consultation with the faculty. The resident's responsibility includes:

- Receiving all requisitions
- Scrutinize these requisitions to check if necessary clinical information has been given & whether the investigation asked for is appropriate in the context of clinical details
- Specifically check if the patient has any of the following implants before giving an appointment
  1. Cardiac pacemaker
  2. Cerebral aneurysm clip
  3. Metal implant
  4. Neuro stimulator
  5. Hearing aid
  6. Any metal shrapnel in the body



- Check all relevant previous investigations which could have a bearing on the procedure at the appointed time
- Arrange for sedation or general anaesthesia wherever required. Check for drug allergy in case contrast administration is necessary
- Tailor the procedure and review the findings in consultation with the faculty

### **NEURO-MR PROCEDURES CURRENTLY UNDERTAKEN BY THE DEPARTMENT**

- Imaging of brain, spinal cord, cranial nerves, peripheral nerves & plexi using 2D & 3D MR techniques including specialized sequences such as FLAIR, FLASH, FSE, CISS etc.
- Neurovascular imaging (MR Angiography)
  - MR Arteriography for arterial diseases
  - MR Venography for veno-occlusive diseases
- Functional MR imaging – perfusion/diffusion imaging, MR spectroscopy, BOLD imaging etc.
- Dynamic MRI for elucidating enhancement patterns & time-density variations in tumours such as in the pituitary tumours, CSF flow studies & kinematics in Cranio Vertebral Junction anomalies etc.
- MR imaging for Gamma-knife treatment of cerebral SOLs & AVMs.

### **COMPUTERIZED TOMOGRAPHY**

Junior residents are posted in CT suite to learn all CT procedures & senior residents are required to supervise & tailor procedures according to the clinical requirement in consultation with faculty

- CT procedures undertaken by the department:
- CT Brain and spine
- CT Myelography
- CT Cisternography
- CT guided interventional procedures-Biopsies and chemotherapy
- CT guided stereotaxy

### **DIGITAL SUBTRACTION ANGIOGRAPHY**

Junior residents are posted in CT suite to learn all CT procedures & senior residents are required to supervise & tailor procedures according to the clinical requirement in consultation with faculty. Residents are also required to assist faculty in special procedures in the angio suite.

Angiographic procedures undertaken by the department:

- Diagnostic cerebral angiogram (four vessel angiography), stress angiography, balloon occlusion test etc.
- Angiogram for head & neck vascular lesions.
- Spinal angiogram
- Cerebral angiography for Gamma-knife treatment of cerebral AVMs.
- Therapeutic interventional procedures
  - Endovascular management of cerebral & spinal AVMs
  - Endovascular management of cranio-spinal vascular fistulae
  - Endovascular management of cerebral aneurysms
  - Carotid /Vertebro-basilar angioplasty and stenting
  - Percutaneous vertebroplasty & alcohol ablation of spinal haemangiomas

## **ULTRASONOGRAPHY**

Junior residents are posted in US suite to learn all US procedures & senior residents are required to supervise & tailor procedures according to the clinical requirement in consultation with faculty. Residents are also required to assist faculty in special procedures.

- Diagnostic US – Abdomen, pelvis
- Colour Doppler Flow imaging – carotids and peripheral veins
- US guided therapeutic procedures

## CENTRAL LAB. FACILITY (C.N. CENTRE)

Investigations carried out in cardiac biochemistry lab, CNC, Clinical chemistry-all investigations done on beckmann autoanalyzer

<i>Name of the investigation</i>	<i>Methodology</i>	<i>Sample type</i>	<i>Fasting/non fasting state</i>	<i>Time for reporting</i>	<i>Cost/test</i>
Glucose (F, PP, Random)	GOD/PAP	Fluoride oxalate - plasma	Fasting (10 hrs), PP-2hrs after meal	Same day for ward, next day for OPD	15/-
Urea	Enzymatic	Fluoride oxalate- plasma	Fasting not required	Same day for ward, next day for OPD	15/-
Creatinine	Jaffe's method	Fluoride oxalate- plasma	Fasting not required	Same day for ward, next day for OPD	15/-
Calcium	Arsenzo III method	Plain tube -serum	Fasting not required	Same day for ward, next day for OPD	15/-
Phosphate	Phosphomolibdate complex	Plain tube -serum	Fasting not required	Same day for ward, next day for OPD	15/-
Uric acid	Enzymatic	Plain tube -serum	Fasting not required	Same day for ward, next day for OPD	15/-
Sodium	ISE based	Plain tube -serum	Fasting not required	Same day for ward, next day for OPD	15/-
Potassium	ISE based	Plain tube -serum	Fasting not required	Same day for ward, next day for OPD	15/-
Bilirubin-Total Conjugated	Jendrassik Grof method	Plain tube -serum	Fasting not required	Same day for ward, next day for OPD	15/-
Total Protein	Biuret method	Plain tube -serum	Fasting not required	Same day for ward, next day for OPD	15/-
Albumin	Dye binding	Plain tube -serum	Fasting not required	Same day for ward, next day for OPD	15/-
SGOT	Coupled enzymatic reaction	Plain tube -serum	Fasting not required	Same day for ward, next day for OPD	15/-
SGPT	Coupled enzymatic reaction	Plain tube -serum	Fasting not required	Same day for ward, next day for OPD	15/-
Alkaline Phosphatase	Bowers and McComb method	Plain tube -serum	Fasting not required	Same day for ward, next day for OPD	15/-
Amylase	Chromogenic	Plain tube -serum	Fasting not required	Same day for ward, next day for OPD	15/-

## LIPIDS

Tests done on Konelab autoanalyzer

Total Cholesterol	CHOD/PAP-Enzymatic	Plain tube -serum	Fasting-12-14 hrs	Same day for ward, next day for OPD	125/-
Cholesterol-HDL	Precipitation	Plain tube -serum	Fasting-12-14 hrs	Same day for ward, next day for OPD	
Cholesterol-LDL	Calculation using formula	Plain tube -serum	Fasting-12-14 hrs	Same day for ward, next day for OPD	
Triglycerides	GPOD/PAP-Enzymatic	Plain tube -serum	Fasting-12-14 hrs	Same day for ward, next day for OPD	
Lipoprotein(a)	Immunoturbidimetric	Plain tube -serum	Fasting-12-14 hrs	1 week	150/-
Apo(A)	Immunoturbidimetric	Plain tube -serum	Fasting-12-14 hrs	1 week	150/-
Apo(B)	Immunoturbidimetric	Plain tube -serum	Fasting-12-14 hrs	1 week	150/-

## CARDIAC ENZYMES

Tests done on Beckmann Autoanalyzer

CPK	Enzymatic	Plain tube -serum	Non fasting	Same day for ward, next day for OPD	35/-
CPK-MB	Immunoinhibitor	Plain tube -serum	Non fasting	Same day for ward, next day for OPD	125/-
LDH	Enzymatic	Plain tube -serum	Non fasting	Same day for ward, next day for OPD	25/-

## SPECIALISED INVESTIGATIONS

Catecholamine-Adrenaline	ELISA	EDTA tube-plasma	Fasting	15 days	450/-
Catecholamine-Nor Adrenaline	ELISA	EDTA tube-plasma	Fasting	15 days	450/-
Homocystiene	ELISA	EDTA tube-plasma	Fasting	15 days	500/-
Cyclosporine	EMIT	EDTA tube-plasma	Without morning dose of drug	Same day for ward, next day for OPD	500/-
Digoxin	EMIT	Plain tube -serum	Fasting not required	Same day for ward, next day for OPD	150/-
ASLO	Latex agglutination	Plain tube -serum	Fasting not required	Same day for ward, next day for OPD	40/-
CRP	Latex agglutination	Plain tube -serum	Fasting not required	Same day for ward, next day for OPD	25/-

**HORMONES**

Thyroidhormone T3, T4, TSH	ELISA	Plain tube –Serum	Fasting not required	1 week	250/-
Prolactin	ELISA	Plain tube –Serum	Fasting not required	1 week	100/-
Cortisol	ELISA	Plain tube –Serum	Fasting not required	1 week	100/-
Growth hormone	ELISA	Plain tube –Serum	Fasting not required	1 week	100/-

**COAGULATION PROFILE****Done on coagulometers-ACL and DIAGNOSTICA STAGO**

PT	Clot using coagulometer	Citrate	Fasting not required	Same day	15/-
APTT	Clot using coagulometer	Citrate	Fasting not required	Same day	35/-
Protein C	Clot using coagulometer	Citrate	Fasting not required	1 week	150/-
Protein S	Clot using coagulometer	Citrate	Fasting not required	1 week	150/-
D-dimer	Latex	Citrate	Fasting not required	Same day	150/-
Fibrinogen	Clauss method	Citrate	Fasting not required	Same day	150/-

**HAEMATOLOGY**

Haemoglobin	Cyanmethmoglobin method	EDTA	Fasting not required	5/-
TLC and DLC	Cell counter	EDTA	Fasting not required	15/-
ESR	Manual	EDTA	Fasting	

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## **BLOOD TRANSFUSION SERVICES, C.N. CENTRE**

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### **LOCATION**

Ground Floor, C.N. Centre

### **TELEPHONE NOS.**

Internal 4831, Extn. 4287, Direct : 26593625

### **TIMINGS**

BTS is 24 hours service and open round the clock

*For routine requisitions of blood & blood products*

Monday-Saturday      8.00 am to 2.00 pm

*Blood donation timings*

Monday-Friday      9.00 am to 5.30 pm

Saturday      9.00 am to 5.00 pm

### **INTRODUCTION**

Blood Transfusion is an essential part of modern health care and used correctly it can save life and improve health. However, transmission of infectious agents by blood & blood components has focused particular attention on the potential risks of transfusions. Therefore, blood & blood components must be used judiciously and appropriately. Blood and blood components should only be transfused to treat a condition, which may lead to significant morbidity or mortality that cannot be prevented or managed effectively by other means.

### ***Services Provided by the BTS, C.N. Centre***

1. Blood collection indoor/out door from replacement/voluntary donors.
2. Provision of safe blood & blood components for transfusion to patients undergoing routine surgeries as well as catering to emergency requirements
3. ABO Rh grouping, antibody screening, AHG & cross match.
4. Screening all donated blood for transfusion transmitted infections like HIV, HBV, HCV & syphilis.
5. Processing of whole blood collections into blood components ie. RBC'S FFP, platelet, cryoppt.
6. Undertake apheresis procedure using cell separator for donor

apheresis & therapeutic plasma pheresis.

7. To provide in service facility for preoperative autologous blood donation for patients undergoing planned surgeries.

### ***Various Blood components that are available in the Blood Banks are***

1. Red blood cells
2. Leuco reduced red blood cells
3. Fresh Frozen Plasma
4. Recovered plasma
5. Platelet Rich Plasma
6. Platelet concentrate
7. Cryoprecipitate

Single donor components i.e. single donor platelets (SDP), plasma by apheresis are prepared for patients at the time of requirement

### ***Prescribing Blood: A Checklist For Clinicians***

Before prescribing blood or blood products for a patient, ask yourself the following questions.

1. What improvement in the patient's clinical condition am I aiming to achieve?
2. Can I minimize blood loss to reduce this patient's need for transfusion?
3. Are there any other treatments I should give before making the decision to transfuse, such as intravenous replacement fluids and oxygen?
4. What are the specific clinical or laboratory indications for transfusion for the patient?
5. What are the risks of transmitting HIV, hepatitis, syphilis or other infectious agents through the blood products that are available for the patient?
6. Do the benefits of transfusion outweigh the risks for this particular patient?
7. What other options are there if no blood is available in time?
8. Will a trained person monitor this patient and respond immediately if any acute transfusion reactions occur?

9. Have I recorded my decision and reasons for transfusion on the patient's chart and the blood request form?

**Finally, if in doubt, ask yourself the following question:**

10. If this blood was for myself or my child, would I accept the transfusion in these circumstances?

### ***Indications for Transfusion***

#### ***Red blood cells (180-230 ml/bag)***

##### **Anemia, Hb < 7 gm/ dl**

Thalassaemia

Surgical Blood Loss > 15% of blood volume in adults,  
> 10% blood volume in children

Systolic pressure < 100 for, heart rate  
> 100 / min with active bleeding

##### **Platelet Concentrate (40-50 ml/bag) (Platelet increment in stable adults — 5000-7000 / nu/bag transfused)**

Platelet count < 20,000/ ul (Non surgical)

Active bleeding and Platelet count < 50,000 / ul

Platelet count < 50,000 / ul and surgery

Consumption coagulopathy

Massive blood transfusion (vol. trans. in 24 hrs. equals blood vol. of patient)

Liver transplant

##### **Fresh Frozen Plasma (150-200 ml/bag)**

Prothrombin time > 1/1/2 times control

Activated PTT > 55 sec. or > 4 sec. of control, patient for surgery

Massive blood transfusion

Coagulation factor deficiency (< 25% of normal)

Exchange transfusion

##### **Plasma (150-200 ml / bag)**

Replacement following TPE

Extensive Surgery

Massive blood transfusion with RBC

##### **Albumin (5% 100 ml)**

Serum albumin < 3 gm/dl



Replacement fluid after TPE

Liver transplant

### **Cryoprecipitate (100 IU FVIII/bag)**

Haemophilia, vW disease (10-15 ml)

Hypofibrinogenemia

Dysfibrinogenemia

### **Whole Blood\Reconstituted Whole Blood (400 ml/bag)**

Blood loss > 15% of blood volume in adults

>10% of blood volume children

Neonatal exchange

### ***Replacement of Requisitioned Blood***

For smooth & efficient services blood has to be donated by relatives of patients and volunteers. Therefore, it is requested to all the Interns/Residents and Consultants to keep trying to convince the relatives of the patient to donate blood. Without such donations B.T.S. cannot function effectively. It must be noted that the Blood Bank has full authority to refuse the supply of blood if no replacement is forthcoming. All the relatives must be encouraged to donate blood. They must be given a note on a piece of paper with the identity of the recipient patient on whose behalf the relatives are donating blood. After such donations the blood bank provides a 'donation card' to the relatives. This card **MUST BE ATTACHED** with the blood requisition form when blood is being requisitioned for the patient.

### ***Procedure for Obtaining Blood from BTS, C.N. Centre***

*For Routine Surgeries & planned Transfusions*

Requisitions for blood should be sent to the Blood Bank before 2 p.m. a day before planned surgery along with the patient's sample. Surgical procedures requiring large number of blood units/components or in case of patients with rare groups inform the BTS at least 48 hours in advance.

### ***Method of collecting blood sample from the patient for cross match***

Blood for cross match should be drawn by the doctor on duty.

1. If the patient is conscious at the time of taking the sample, ask him or her to identify themselves by given name, family name, date of birth and any other appropriate information.

2. Check the patient's name against:
  - Patient's identity wristband or label
  - Patient's medical notes
  - Completed blood request form.
3. If the patient is unconscious, ask a relative or a second member of staff to verify the patient's identity.
4. Label the sample tube clearly and accurately with the following information at the Patient's bedside at the time the blood sample is being taken
5. Take 5 ml of patients blood sample in a plain test tube without anticoagulant.
  - Patient's given name and family name
  - Patient's date of birth
  - Patient's hospital reference number
  - Patient's ward
  - Date
  - Signature of person taking the sample.
6. In case patient needs more blood after initial transfusion of 3-4 units of blood send fresh blood sample.

### ***Method of Requisitioning Blood/Blood Products From B.T.S.***

Requests for Transfusion must be made by filling out a blood and component requisition form. It must contain sufficient information for positive recipient identification. It should be clearly filled with patients first & last name, age, sex, hospital CR number, diagnosis, history of previous transfusion, pregnancy, details of patients laboratory tests (if done), name of physician Incharge, unit number, date & time should be mentioned. Doctor requisitioning blood must clearly sign the form and write his/her full name in block letters. Blood request forms not filled in completely or are illegible are not accepted. Demand of specific blood components, number of units required and date & time when it is required should be mentioned.

Particulars in the form must match 100% with the particulars on the patients sample. In case of any discrepancy the sample as well as the requisitions are not accepted. Demand of specific blood components, number of units required and date & time when it is required should be mentioned.

In case of emergency or when the patients identification is unknown, patients casualty number as well as the CR number should be mentioned

on the form as well as the sample and be cross referenced with patients name in full when it becomes known.

### ***Method of Release/Issue of Cross Matched Blood***

The Sister In-charge of the ward/O.T. has to fill in patients particulars in the "Ward Indent Book"/"Blood Bank Book". The particulars must tally with the particulars provided in blood requisition form. Nursing orderly coming to the Blood Bank to get the blood/component issued must carry the Blood Bank book duly filled, and an icebox to carry blood & blood component. Blood or components are not issued if icebox is not brought. Person receiving blood has to sign the receipt register.

**Note:** Get blood and blood components issued from the Blood Bank only at the time of transfusion. Do not get them issued much ahead of transfusion as they are to be stored at appropriate temperature and long storage under inappropriate conditions may cause their deterioration & can lead to reactions in the patient.

### ***Storage of Blood in Clinical Areas***

There is risk of bacterial contamination, haemolysis or loss of function of blood products when removed from correct storage condition in the BTS. Blood products must be transported & stored in the correct conditions after issue from BTS & blood products must be administered within the correct time limits.

<b>Component</b>	<b>Storage conditions</b>	<b>Administration</b>
1. Whole Blood (HCT:35% to 45%)	Storage temperature: +2°C to ±6°C in a blood storage refrigerator Transfusion must be started within 30 minutes of removal from refrigerator.	Must be ABO & RhD Compatible with the recipient  * Use standard BT set with filter. * Never add medication to a unit of blood. * Complete transfusion within 4 hours of commencement.
2. Packed red cells (Hct-55% to 75%) volm-150-200ml	- do -	Same as whole blood to improve transfusion flow normal saline (50-100ml) may be added using a Y-pattern infusion set.
3. Platelet concentrate (P.C) prepared from whole blood) vol:50-60 ml	Storage temperature +22°C should be transfused immediately after release from BTS	4-6 units of P.C. should be infused through a fresh standard blood administration set.
	Do not refrigerate platelet bag.	Should be infused over a period of 30 minutes. Give P.C. that

Component	Storage conditions	Administration
		are ABO compatible, whenever possible. Do not give RhD +ve PC to an RhD negative female with child bearing potential.
4. Single donor platelets (thrombopheresed platelets) vol:150-300ml	-do-	ABO compatibility is an important test as high titre anti-A or anti-B in donor plasma used to suspend the platelets may cause haemolysis of recipient's red cells
5. Fresh Frozen Plasma vol: 200 – 300 ml	Once thawed should be infused immediately & If not required for immediate use, should be stored in refrigerator at +2 °C to +6 °C	Must be ABO blood group specific Infuse using a standard blood administrative set as soon as possible after thawing.
6. Cryoprecipitate vol: 10- 20 ml)	Once thawed it should be transfused immediately	No compatibility testing required. After thawing, infuse through a standard BT set

All unused blood products should be returned to the blood bank so that their return and reissue or safe disposal can be recorded

**Red Cell Components**

In red cell transfusion, there must be ABO and RhD compatibility between the donor's red cells and the recipient's plasma.

1. Group O individuals can receive blood from group O donors only.
2. Group A individuals can receive blood from group A and O donors
3. Group B individuals can receive blood from group B and O donors
4. Group AB individuals can receive blood from AB donors, and also from group A, B and O donors.

**Note:** Red cell concentrates, from which the plasma has been removed, are preferable when non-group specific blood is being transfused.

**Plasma and Components Containing Plasma**

In plasma transfusion, group AB plasma can be given to a patient of any ABO group because it contains neither anti A nor anti-B antibody.

1. Group AB plasma (no antibodies) can be given to any A, B&O group patients.
2. Group A plasma (anti-B) can be given to group O and A patients.
3. Group B plasma (anti-A) can be given to group O and B patients.
4. Group O plasma (anti A+anti-B) can be given to group O patients only.

### ***Check List For Giving Blood or Blood Components to a Patient***

Before you give blood or blood component to the patient –

1. Confirm patient's identity with that of the particulars on the issue label i.e. name, CR No., Ward with patients notes.
2. Confirm that the blood or component is compatible, by checking the blood group in patient's notes, issue label and blood bag.
3. Check the expiry date of blood or component.
4. In the patient's notes, record:
  - Date of Transfusion
  - Time of Transfusion
  - No. of unit of blood or plasma given
  - The blood or component unit numbers
5. Sign the patient's notes.

### ***Monitoring the Patient During Administration of Blood Components***

Patients clinical condition must be evaluated before the transfusion is started Temperature, pulse, blood pressure, respiration rate.

Patient should be closely watched during first 15-20 minutes to achieve desired rate of infusion, to look for s/s of any untoward reaction to transfusion. Document patients clinical s/s initially and then every ½ hrs.

### ***Investigating Acute Transfusion Reactions***

1. Immediately report all acute transfusion reactions, with the exception of mild hypersensitivity BTS.

If you suspect a severe life-threatening reaction, seek help immediately from the duty anaesthetist, emergency team or whoever is available and skilled to assist.
2. Record the following information on the patient's notes:
  - \* Type of transfusion reaction.
  - \* Length of time after the start of transfusion that the reaction occurred
  - \* Volume, type and pack numbers of the blood products transfused.
3. Take the following samples and send them to the blood bank for laboratory investigations.

Immediate post transfusion blood samples (1 clotted and 1 anticoagulated:EDTA/Sequestrene) from the vein opposite the infusion site for:

Send Blood unit & infusion set containing red cell & plasma residues from the transfused donor blood.

Complete transfusion reaction report form.

Record the results of the investigations in the patient's records for future follow-up, if required.

### ***Selection of Patients for Autologous Blood Donation***

All patients undergoing planned surgical procedures in which Blood Transfusion is likely.

Should be encouraged to donate their own blood preoperative to be used at the time of surgery. Following criteria should be followed for the selection of patients.

- \* Age – 14-65 years
- \* Haemoglobin – 11gm%, Haematocrit - 35%
- \* Weight – 45 Kg
- \* Patient should not be suffering from any other systemic disease.
- \* Patient can donate 1-4 units preoperatively. More than one unit is collected at a gap of 4 to 5 days and last donation should be atleast 72 hrs. before surgery.
- \* Patient donating more than one unit of blood should be put on oral haematenics till surgery.
- \* Patient should participate in autologous programme willingly and with his/her own consent.

### ***Advantage of Autologous donations***

- No risk of transmissible infections
- No risk of allo immunization
- No risk of Immuno suppression, fewer, post-operative infections.
- No risk of GVHD.

### ***Procedure for Recommending pre-operative autologous donations***

If the patient fulfills the criteria, clinician should explain to the patient benefits of autologous blood & recommend it on his OPD Card or in donor file and send the patient to the Blood Bank.

In the Blood Bank, required autologous form is filled and consent is taken from the patient and his attendant. Dates of autologous donation for the patient are planned by the Medical Officer in the Blood Bank written down on the patients OPD card/file. After autologous blood units are collected for each donation, distinct green colour autologous label & autologous number is put on the OPD card/or indoor file of the patient for identity.

At the time of requisitioning autologous blood, clinician should mention that the patient has donated autologous blood and Blood Bank will send the specific units of blood for transfusion.

### ***Procedure for Requisition of Therapeutic Plasma Exchange***

The requisition form is to be obtained from the Blood Bank, CNC and the required particulars of the patient, investigation reports should be duly filled in along with the Consultant's signature/patient's or attendant's informed consent. The form is to be submitted in the BTS. The instructions regarding preparation of the patient provided with the requisition form is to be followed strictly. After date and time of the procedure is fixed up the patient is shifted to the plasma pheresis room or the ICU. After each procedure patient is to be given the necessary replacement fluids as per instructions.

### ***Getting the right blood to the right patient at the right time***

1. Assess the patient's clinical need for blood and when it is required.
2. Inform the patient and/or relatives about the proposed transfusion treatment and record in the patient's notes that you have done so.
3. Record the indications for transfusion in the patient's note.
4. Select the blood product and quantity required. Use a blood ordering schedule as a guide to transfusion requirements for common surgical procedures.
5. Complete the blood request form accurately and legibly. Write the reason for transfusion so the blood bank can select the most suitable product for compatibility testing.
6. If blood is needed urgently, contact the blood bank by telephone immediately.
7. Obtain and correctly label a blood sample for compatibility testing.
8. Send the blood request form and blood sample to the blood bank.
9. Laboratory performs pre-transfusion antibody screening and compatibility tests and selects compatible units.
10. Delivery of blood products by blood bank or collection by clinical staff.

11. Store blood products in correct storage conditions if not immediately required for transfusion.
12. Check the identity on:
  - \* Patient
  - \* Blood product
  - \* Patient's documentation
13. Administer the blood product.
14. Record in the patient's notes:
  - \* Type and volume of each product transfused
  - \* Unique donation number of each unit transfused
  - \* Blood group of each unit transfused
  - \* Time at which the transfusion of each unit commenced
  - \* Signature of the person administering the blood.
15. Monitor the patient before, during and on completion of the transfusion.
16. Record the completion of the transfusion.
17. Identify and respond immediately to any adverse effect. Record any transfusion reactions in the patient's notes.





# **DR. B. R. AMBEDKAR INSTITUTE ROTARY CANCER HOSPITAL**

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## **INTRODUCTION**

The IRCH is one of the four Centers in AIIMS and has been developed as a 150-bed Regional Cancer Centre for Northern India. Its departments/Units provide specialized state-of-the-art management of cancer patients which include.

- Radiation Oncology
- Surgical Oncology
- Medical Oncology
- Laboratory Oncology
- Anesthesiology
- Radiodiagnosis
- Medical Physics

## **DEPARTMENTS**

### ***Radiation oncology***

The facilities include linear accelerator, cobalt teletherapy, simulator, intractivity brachytherapy, interstitial brachytherapy, treatment planning system and various mould room facilities. The deptt. has facilities for Stereotactic Radio Surgery (SRS) & Stereotactic Radiotherapy (SRT). The department has postgraduate (MD) and PhD programmes.

### ***Surgical oncology***

The department of surgical oncology up caters to patients with solid tumors, and is actively involved in providing following patient care services: Staging

and management planning of solid tumors and coordinating the multimodality management; Diagnostic and therapeutic endoscopies. Minor operative procedures and vascular access procedures for prolonged chemotherapy. Major oncologic surgical procedures like radical resections of solid tumors (head and neck, GIT, thorax, hepatobiliary, gynaecologic, breast, bone and soft tissue). Reconstructive surgery head & neck soft tissue sarcomas, breast, etc. Coordinated activities like malignancies interstitial brachytherapy, intraluminal brachytherapy, intraperitoneal chemotherapy etc.

The research activities carried out by the department include clinical trials involving multimodality management of common solid tumors. Basic research in collaboration with basic science departments of AIIMS in the field of oncology. Maintenance of solid tumors data base.

Teaching & training facilities in the department comprise of comprehensive three year residency training in surgical oncology including endoscopic procedures for oncology patients. Short term & long term fellowship/training for sponsored candidates from Armed forces and state governments and WHO fellows. Basic surgical oncology training & teaching to M.D. radiotherapy and D.M. medical oncology students.

### ***Medical Oncology***

This department provides comprehensive chemotherapy to patients with both hematological and solid tumors using the most advanced and aggressive treatment protocols. The department also performs on an average 2-3 blood stem cell transplants per month both autologous and allogeneic. For most of the cancers protocols with departments of Radiation & Surgical oncology are being carried out as part of multidisciplinary approach to cancer. The department runs a 3-year DM & PhD programme.

### ***Laboratory Oncology***

Laboratory Oncology is the tumor pathology set-up of IRCH. It is currently dealing only with hematological malignancies, where it provides highly specialized diagnostic service, and training to postgraduate students of Pathology, Medicine, Pediatrics and Medical Oncology. Due to the uniqueness, and sophistication of the investigation facilities offered, Laboratory Oncology Unit attracts referrals from several departments of AIIMS notably Pediatrics, Medicine, Orthopedics, Dermatology, Nephrology, CN Center & R.P. Center.

### ***Anesthesiology***

Anesthesiology is responsible for pre, intra and post operative care for radiotherapy, surgical oncology patients posted for surgery, bone marrow harvesting and other invasive procedures for pediatric patients of medical

oncology. The Unit of anesthesiology is involved with intensive and critical care of all patients of IRCH admitted in radiation oncology, surgical oncology and medical oncology. Radiation oncology anesthesia services are used for pediatric radiotherapy/selectron brachytherapy operation theatre. Anesthesiology runs pain clinic twice a week on Wednesday and Friday, at 2 P.M. and gives palliative care to terminally ill cancer patients. Anesthesiology Unit also works in collaboration with CANSUPPORT (NGO) for home care of all the terminally sick patients besides being involved in clinical trials and basic research.

### ***Radio diagnosis***

The department of Radio-diagnosis at Intra venous pyelography IRCH provides the facilities of routine x-rays as well as special investigations. The latter includes IVP, ultrasonography, mammography, CT scan and image guided interventional procedures. No prior appointment is required for routine x-rays, however, it is required for special investigations. The appointment for special investigation can be obtained from radiology booking counter located at the ground floor.

Facilities of colour doppler, contrast studies, angiography and MRI to the IRCH patients are provided by the main department of Radiodiagnosis, AIIMS. Appointments for these procedures can be directly obtained from main department. Similarly, all types of radiological services after working hours and on Sundays/holidays are also provided by the main department of Radio-diagnosis, AIIMS to the IRCH patients.

### **MEDICAL PHYSICS**

The coverage to patient care activities in Radiotherapy, Radiodiagnosis and radiation safety aspects at institute level are looked after by this unit. The staff posted in radiotherapy is responsible for physics related work namely dose calculations, 3 dimensional dose distribution, treatment planning etc. The other activities are blood bag irradiation, quality control tests on diagnostic equipment, Radiation output measurements, sensitometric checks, advice in inadvertent exposure in pregnancy and Radiation surveys.

Medical Physics unit also provides teaching program in the subject of "Radiation Physics" for M.D. and B.Sc (Hons.) medical technology students of Radiodiagnosis department.

### **OPD's**

The IRCH OPD's / clinics are run both independently by the various departments/units of IRCH as well as in conjunction with some departments of AIIMS Main Hospital.

The OPD registration counter is located along with IRCH Admission counter on the ground floor of the IRCH building.

Patients may register in the IRCH OPD if they have been referred from any department of AIIMS or from outside. The registration fee for those referred from outside is Rs. 10/. For cases referred from AIIMS Main Hospital there is no separate registration fee.

IRCH/OPD /Clinic services as runs in the morning as well as in the afternoon, Mondays to Fridays in accordance with the schedule shown in Appendix. There is no OPD on Saturday. Registration time for the morning clinics 8.30 AM to 11.30 AM and that for the afternoon clinics is 1.00 PM - 3.30 PM.

**SCHEDULE OF OPD'S /CLINICS'S (Also refer Appendix-1) 4411 - phone no.**

DAYS	MORNING	AFTERNOON
	<i>New case 8.30 AM to 11.00 AM</i> <i>Old case 8.30 AM-11.30 AM</i>	<i>New case 1.00 PM to 3.00 PM</i> <i>Old case 1.00 PM to 3.30 PM</i>
Monday	CHEMOTHERAPY EVALAUTION Dr. (Mrs) V. Kochupillai Dr. Lalit Kumar Dr. Atul Sharma  PAEDIATRIC ONCOLOGY (POC) Dr. L.S. Arya Dr. T. Seth	BREAST CANCER CLINIC (BCC) Dr. P.K. Julka / Dr. N.K. Shukla Dr. V. Raina/ Dr. Jyoti Dr. SVS Deo  HEAD & NECK (A) (H&N) Dr.P.K. Julka Dr. N.K. Shukla, Dr. SVS Deo Dr. Atul Sharma HEAD & NECK ONCOLOGY (B) (H&N) Dr. S. Bahadur Dr. G.K. Rath Dr. B.K. Mohanti Dr. Atul Sharma GYNAECOLOGY (A) Dr. Neerja Batla Dr. S. Chander Dr. Lalit Kumar
Tuesday	RADIOTHERAPY EVALUATION (RT)	Dr. G.K. Rath Dr. S. Chander Dr. B.K. Mohanti SURGICAL ONCOLOGY OPD Dr. N.K. Shukla Dr. SVS Deo

<b>DAYS</b>	<b>MORNING</b> <i>New case 8.30 AM to 11.00 AM</i> <i>Old case 8.30 AM-11.30 AM</i>	<b>AFTERNOON</b> <i>New case 1.00 PM to 3.00 PM</i> <i>Old case 1.00 PM to 3.30 PM</i>
Wednesday	CHEMOTHERAPY EVALUATION Dr. V. Raina / Dr. Jyoti Dr. (Mrs.) L Bijlani Dr. A. Sharma	LYMPHOMA LEUKEMIA CLINIC (LL) Dr. (Mrs.) V. Kochupillai Dr. V. Raina/ Dr. Jyoti Wadhwa Dr. Lalit Kumar Dr. Atul Sharma Dr. Tulika Seth  GASTRO-INTESTINAL CLINIC (GIC) Dr. N.K. Shukla/Dr. V Raina Dr. BK. Mohanti/Dr. SVS Deo Dr. Atul Sharma  GYNAECOLOGY (B) Dr. Sunesh Kumar Dr. Lalit Kumar Dr. S. Chander  PAIN CLINIC Dr. Sushma Bhatnagar
Thursday	CHEMOTHERAPY EVALUATION  Dr. L. Bijlani Dr. Lalit Kumar Dr. Tulika Seth  UROLOGY MALIGNANCY CLINIC Dr. N.P. Gupta Dr. Atul Sharma	BONE & SOFT TISSUE CLINIC (B&ST) Dr. N.K. Shukla Dr. L. Bijlani, Dr. B.K Mohanti Dr. SVS Deo  PAEDIATRIC (SURGERY) (PAED (S) Dr. Sandeep Agarwal Dr. L.S. Arya Dr. Tulika Seth  LYMPHOMA LEUKEMIA CLINIC (LL) Dr. Vinod Kochupillai, Dr. Raina/Dr. Jyoit Dr. Lalit Kumar, Dr. Atul Sharma, Dr. Tulika Seth
Friday	CHEMOTHERAPY EVALAUTION (CTE) Dr. Vinod Kochupillai Dr. V. Raina,/ Dr. Jyoti  RADIOTHERAPY EVALUATION (RT) Dr. G.K. Rath Dr. S. Chander, Dr. B.K. Mohanti	BREAST CANCER CLINIC (BCC) Dr. P.K. Julka, Dr. NK Shukla, Dr. V. Raina, Dr. SVS Deo Dr. Jyoti Wadhwa  HEAD & NECK ONCOLOGY (B ) Dr. S. Bahadur, Dr. G.K. Rath Dr. B.K. Mohant, Dr. A. Sharma  PAIN CLINIC (PC) Dr. Sushma Bhatnagar

## **CASUALTY/EMERGENCY SERVICE**

IRCH offers no separate casualty service. IRCH patients needing attention outside OPD hours must attend the AIIMS Accident and Emergency services in main hospital. The Casualty Medical Officers (CMO's) are expected to page the Senior Resident on call. There are separate senior residents on call for Surgical, Radiation & Medical oncology.

## **DAY CARE**

Patients needing infusion of chemotherapeutic drugs or other treatment lasting a few hours are admitted in the day care service. All patients are discharged by 8 PM the same day.

## **INDOOR ADMISSION**

The Indoor Admission Counter is located along with the OPD registration on the ground floor of the IRCH building. Patients get admitted to the IRCH wards through IRCH OPD or through direct transfer from one of the wards of AIIMS. Arrangements for the latter type of admission is worked out between the treating unit in AIIMS main hospital and appropriate department of IRCH.

Admission charges are Rs. 35/- per day as for the AIIMS Main Hospital. The patient is required to pay Rs. 375/- as the initial deposit, followed later from time to time with the remaining amount.

## **REFERRAL FOR LABORATORY TESTS**

The IRCH laboratory Oncology Unit accepts referrals for detailed work-up of leukemia and myeloma not only from IRCH but also the AIIMS main hospital. To facilitate the work of clinical residents, there is only one referral form (white) for all specialized hematological investigations, which can be obtained from Room No. 8, ground floor, IRCH. This form must be sent with every sample (except hemogram and clinical chemistry) and should be complete with patient registration and clinical details. Clarification and reports can be readily had over the telephone.

*The laboratory is located at three places:*

Room No. 8, ground floor, IRCH. Ext: 3358

Room No. 6, first floor in the laboratory wing of IRCH. Ext: 4988

Room No. 10, second floor – Dr. Rajive Kumar's office and sign out room. Ext. 4439

## **PATIENT ASSISTANCE**

### ***Medical Social Service Officer***

Medical Social service officers are available at a counter in the ground floor of IRCH. Exemption of treatment charges and railway concession for poor cancer patients (plus one attendant) are available through this.

***Trolleys and wheel chairs*** are available at the IRCH entrance.

***Ambulance*** is available round the clock to take IRCH patients to other areas within AIIMS if required and if advised by the treating doctor.

***Inquiry counter*** located on the ground floor.

Some voluntary organization; Cancer Sahyog, Cancer Foundation and Indian Ostomy Association exist. Details regarding these can be had from the Medical Social Service Officer.

### ***Payments***

Payment for OPD registration is done at the OPD registration counter. Payment for indoor patients including day care admission is made at IRCH office cash counter.

Payment for radiotherapy Rs. 750/- for the entire course of Teletherapy and / or Brachytherapy Rs. 750/- for entire is made in the IRCH office. Rs. 75,000/- is charged for Stereotactic Radio Surgery (SRS) & Stereotactic Radiotherapy (SRT).

### ***Exemption of payment***

Exemption of payment is done for poor patients. For this, the Medical Social Service Officer should be contacted.

Exemption of Hospital charges (Admission & Investigation) is authorized by the consultants of the concerned unit or Chief or Consultant Hospital Administration.

Exemption of Radiotherpay is done by a Committee. The Medical Social Service Officer should be contracted for the same.

No.	TEST	SAMPLE	TIMINGS	REPORTS	REMARKS
1.	Hemogram, ESR Retic count	2 ml PB in EDTA	Registration: 8.45 AM - 10 AM (Mon-Fri) (No. of samples is resgriected) <b>(Red form)</b>	Same day from 11.30 AM onwards in batches	1) For IRCH and POC
2.	Clinical chemistry (only collection)	5 ml PB in plain test tube, 2 ml PB in sugar vial	Registration: 8.45 AM - 10 AM (Mon-Fri) (No. of samples is resgriected) <b>(Yellow form)</b>	Next day at 11.30 AM (not on Saturdays)	1) For IRCH and POC 2) Samples are sent to dept. of Lab Medicine for processing
3.	P smear and B marrow examination	Unstained / stained slides	<b>Room No. 8, Gr Floor, (Tel 3358)</b> Received till 4 PM (Mon-Fri), 12.30PM (Sat) PS made in lab till 12 noon (Mon-Fri), 10.30AM (Sat) <b>(White form)</b>	Next working day by 4PM (unless special tests are required which are put in batches)	1) Contact senior residents if urgent report is required (Tel: 4439) 2) Lab decides on cytochemical tests to be put based on the PS and BM findings
4.	Cytochemistry	Unstained slides (‘control’ slides required for LAP)			
5.	CSF cytopspins for leukemia / lymphomas	2-5 ml CSF in plain vial	<b>Room No. 8, Gr Floor, (Tel 3358)</b> 10 AM - 3 PM (Mon-Fri) 10 AM - 12 noon PM (Sat) <b>(White form)</b>	Next working day by 4 PM (unless special tests are required)	
6.	FNAC lymph nodes for hematological malignancy				Contact senior residents for appointment
<b>MYELOMA LAB ROOM NO. 6, FIRST FLOOR, IRCH TEL : 4988</b>					
7.	Serum electro- phoresis and immunofixation	5 ml PB in plain test tube (not vial)	10 AM - 4 PM (Mon-Fri)	Tests are put in batches; Electrophoresis reports are usually available within 3 working days	Contact Mr. Omdutt Sharma



<b>No.</b>	<b>TEST</b>	<b>SAMPLE</b>	<b>TIMINGS</b>	<b>REPORTS</b>	<b>REMARKS</b>
8.	Urine electro-phoresis	Morning first sample (30 ml) in a clean bottle (not necessarily sterile)	10 AM - 12.30 PM (Sat) <b>(White form)</b>		for more information
9.	Beta2 micro-globulin levels	2 ml PB in plain test tube		Tests are put in batches	Contact Ms. Sangeeta Joshi for more information
<b>FLOW CYTOMETRY LAB ROOM NO. 8, GROUND FLOOR, IRCH TEL : 3358</b>					
10.	Immuno-phenotyping and MRD analysis of leukemia	4-8 ml PB or BM in EDTA	10 AM - 4 PM (Mon-Fri) 10 AM - 12.30 PM (Sat) (White form)	Flow cytometry reports are usually available within two working days	Contact Dr. Rajive Kumar / Dr. Paresh Jain / senior residents for date and urgent report
11.	PNH studies	2 ml PB in EDTA			
12.	Stem cell quantitation				

## **DR. RAJENDRA PRASAD CENTRE FOR OPHTHALMIC SCIENCES**

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Dr. Rajendra Prasad Centre for Ophthalmic Sciences, named after the first President of India, Dr. Rajendra Prasad was established in 1967 as a National Centre of Ophthalmic Sciences :-

1. To stimulate research in Ophthalmology at its highest level.
2. To develop a pattern of post graduate education in Ophthalmology.
3. To undertake training of the Ophthalmologists, etc.
4. To create facilities for the training of health personnel in Preventive Ophthalmology.
5. To provide facilities for research in Ophthalmology:-
  - (a) Clinical research
  - (b) Experimental research
  - (c) Development of new instruments and appliances (diagnostic and therapeutic).
6. To provide facilities for the training of personnel for the rehabilitation of the blind.
7. To provide facilities for refresher courses in ophthalmology for practicing ophthalmologists and general practitioners.
8. To provide facilities for the training, organisation and research in Eye Bank, including corneal grafting and tissue transplantation.

### **CENTRE AS AN APEX ORGANISATION**

Dr. Rajendra Prasad Centre for Ophthalmic Sciences has been recognized as the Apex Organisation by the Government of India under the National programme for the Control of Blindness. The Centre also assists the Ministry

of Health in short term and long term planning and evaluation of the programme. It also undertakes and plans epidemiological investigations and provides technical leadership to the entire nation in the field of eye care.

## **SUB-DIVISIONS OF THE CENTRE**

The major sections of Dr. Rajendra Prasad Centre for Ophthalmic Sciences comprise of:

- a) Clinical Section
- b) Supportive Clinical and Paraclinical section.
- c) Community Ophthalmology
- d) Faculty and Resident Training

### **A. CLINICAL SECTION**

There are **six clinical sections**, each catering to general ophthalmic care and having subspecialties under each

- (a) Section I:
  - (i) Retina
  - (ii) Medical Ophthalmology including laser.
  - (iii) Uvea
- (b) Section II:
  - (i) Vitreoretinal Surgery
  - (ii) Trauma
- (c) Section III:
  - (i) Eye Bank including Keratoplasty
  - (ii) Lens including India Ocular Lens (IOL) implantation
  - (iii) Contact Lens
- (d) Section IV:
  - (i) Contact lens and cornea
  - (ii) Refractive corneal surgery
  - (iii) Glaucoma
- (e) Section V:
  - (i) Paediatric Ophthalmology
  - (ii) Ophthalmoplasty and Tumours
- (f) Section VI:
  - (i) Squint

- (ii) Neuro Ophthalmology
- (iii) Glaucoma

## **B. VARIOUS CLINICAL AND PARACLINICAL SECTIONS**

Presently the centre has the following sections:

- (a) Clinical disciplines of Ocular Anaesthesia and Ophthalmic Radiology
- (b) Paraclinical disciplines of
  - (i) Ocular Pathology
  - (ii) Ocular Microbiology
  - (iii) Ocular Biochemistry
  - (iv) Ocular Pharmacology

## **C. COMMUNITY OPHTHALMOLOGY**

A special cell has been created to serve the community needs and to organize Mobile Comprehensive Eye Health Care Camps. The community Ophthalmology section is providing comprehensive eye care services at 10 slum areas and another P.H.C. at Dakshinpuri, Trilokpuri.

Also the District of Gurgaon (Haryana) has been adopted to eradicate backlog of cataract and to control eye diseases.

## **D. FACULTY AND RESIDENT TRAINING**

The Centre is under the direct control of Chief of the Centre. The Chief is delegated with all the power at administration and financial management of the centre by the Director AIIMS. Besides him, there are 33 Faculty Members in various sections of the Centre.

The Centre runs possibly the world's largest Residency Programme. Residents are provided accommodation in the hostels of the Centre specially earmarked for them to give round the clock services to the patients.

The Senior Residents are appointed after their specialisation in ophthalmology and are given intensive training and increasing responsibilities in patient care, teaching and research. They are also given opportunities to adopt specific super-specialty training during their tenure of three years.

## **HOSPITAL SERVICES**

The special features of the Hospital services are:

Round the Clock Emergency Service which includes:

- (i) An exclusive round the clock emergency service (Eye casualty)

- (ii) Glaucoma Screening Cell
- (iii) Eye Collection and Eye Bank.

### ***Causality (Room No. 61, 62)***

The Centre runs its own casualty service, where the emergency cases and those which come after the O.P.D. hours are attended. A junior resident, senior resident and a faculty member are available round the clock. There are 15 beds earmarked for casualty cases. The casualty wing has an attached operation theatre.

Realising the importance of ocular infections as an ocular disaster, an 'Ocular infection Cell has been created in the casualty area which provides immediate investigative support and urgent meticulous treatment in corneal ulcer cases and other cases of ocular infection.

### ***O.P.D. and Specialty Clinics***

Daily forty cabins are run to provide the ophthalmic services in the Out Patient Department. A special cell for refraction provides prescription for glasses.

The special feature of the O.P.D. is an appointment system. Every patient is given an approximate appointment time for examination, and allotted to a doctor for advice and follow up.

Fifteen specialty clinics are run in the afternoon, which cater to the specific problems of cases requiring investigations and eye care. In these clinics patients are examined, investigated and treated for the specific diseases related to subspecialties. Here, every patient gets the advice of an expert in that field of ophthalmology. After the treatment, patients are referred back to their treating doctor.

### ***Indoor***

There are 300 beds including casualty beds. Of these, 4 beds are reserved for E.H.S. beneficiaries, 15 for emergency cases, 3 under Chief's pool and 20 paying ward rooms.

A wing exclusively meant for paediatric patients is on the 4th floor.

### ***Operation Theatres***

The Centre has a minor operation theatre for O.P.D. and 9 main operation theatres for ward patients. The main operation theatres are equipped with all types of specialised instruments for surgery including keratoplasty, retinal detachment, ophthalmoplasty, squint, besides glaucoma, cataract etc. The operation theatre is equipped with operating microscopes and is fitted with a closed circuit T.V. system. Besides other operative appliances, it is also

equipped for vitrectomy and lensectomy operations. Phacoemulsification is being used for cataract surgery. As a no stich/one stich technique is used, an earlier rehabilitation of patients is generally possible.

Ocular Pharmacy and Dispensary (Room No. 629 a,b / 630 - Manufacturing pharmacy) (Room No. 14- dispensary).

Pharmacy at the Centre dispenses drugs to the patients admitted in wards and to the out patients. The Pharmacy Manufacturing Section manufacturers eye drops under strict quality control measures using the modern technology of micropore filtration.

### ***Medical Records Section***

The work of this section has been divided basically into the sections (i) Indoor records (ii) O.P.D. records including speciality clinics.

The Record section is following the unitary method, i.e., awarding of a single number to the patient attending the O.P.D. and the speciality clinics so that all the records are found in one life.

### ***Clinical Investigative Laboratories***

The Centre is running a central investigative laboratory where various sophisticated investigations are made available to the patients. Located in the O.P.D. block, these services have been divided into various specialised laboratories.

### ***Laser Section (Room No. 58)***

Lasers are advanced technology equipments that are used in noninvasive treatment of certain eye diseases. Argon-Kryopton Laser is a coagulative types of Laser that is primarily used in the treatment of diabetic retinopathy, "Eales disease, retinal breaks, age related macular degeneration, Iris cysts etc. The second type of Laser available with us is Nd-YAG Laser. This is cutting type of Laser, which is useful for treatment of angle closure glaucoma and for creating openings in after cataracts.

Patients come at a pre-fixed time and receive treatment as an out-patient procedure.

### ***Excimer Laser Section (Room No. 101 & 102)***

This is a sophisticated microsurgery used to alter the focusing power of the cornea using a laser beam and can be used for treatment of myopia, hyperopia and astigmatism. The primary aim of the surgery is to make the subject less dependent or free of spectacles.

### ***Contact Lens Section (104)***

The contact lens caters to the prescription of contact lenses and has its own manufacturing unit. The students are trained in various techniques of contact lens fitting.

### ***Ocular Radiology Section (53)***

The centre has its own radiology section which is equipped to carry out ocular radiological investigations including macrodacryocystography, orbital phlebography and foreign body localisation.

### ***Orthoptic Section (24)***

A well equipped orthoptic section runs at this centre. This also caters to the training of paramedical personnel (Ophthalmic Technicians). B.Sc. (Hons. In ophthalmology) students, who are given practical as well as theory training. It has all the sophisticated instruments used for diagnosis and therapy of ocular motility disorders (squint and amblyopia).

### ***Optometry Section (105)***

The optometry section caters to the training of Ophthalmic Assistants and B. Sc (Ophthalmic Technique) students who are given practical training in the optometry section for manufacturing of glasses.

### ***Medical Social Welfare Section (125)***

Social services are provided in various areas of the hospital like O.P.D., Wards, Clinics and casualty.

A regular enquiry counter in the O.P.D. is being manned by guides. Patients are directed or helped by this section, for Rly concessions, hospital charges, rehabilitation, counselling, spectacle frames etc.

Financial assistance is also provided to the needy persons from the poor patients fund.

### ***Ocular Microbiology Section (704-710)***

The section continues to render diagnostic laboratory support for various infective conditions of the eye.

The section also provides diagnostic facilities for Herpes Simplex Keratitis and Acanthamoeba Keratitis.

### ***Ocular Pharmacology Section (621-632)***

Ocular Pharmacology Section is actively engaged in teaching the under graduate students in the research and development of new drugs and drug

delivery systems. Active research is being conducted on (1) evaluation of herbal drugs in medical therapy of corneal ulcers, conjunctivitis and trachoma (2) evaluation of PHMB in Acanthamoeba keratitis (3) Liposomal drug delivery for antibacterial and anticancer drugs (4) Development of MK medium and modified RPC media for long term storage of cornea.

Many specialised items that have been developed at this section include pilocarpine, piloclonidine, fluorescein strips, rose bengal strips etc.

### ***Ocular Biochemistry Section (605 - 611)***

Ocular biochemistry section is engaged in research on biochemical and immunological aspects of eye diseases. These include uveitis, corneal ulcer, risk factors in age related senile cataract and congenital cataract as well as evaluation of the effect of extended wear of various types of contact lenses. Emphasis is on developing of microquantitative procedures for analysis of ocular fluid like aqueous humour, tears and subretinal fluid.

### ***Ocular Pathology Section (722 - 733)***

This section is providing diagnostic services to the centre which include clinical pathology, histopathology and cytopathology. Apart from rendering laboratory support to the hospital, the section is actively involved in the Centre's research and teaching programmes. This section has developed an ocular pathology museum and a teaching aids set.

### ***Rehabilitation of the Blind***

The centre is undertaking, rehabilitation of the blind. It involves teaching the art of daily living. It also provides different types of vocational training to the blind patients. Rehabilitation of the blind is done in their own surroundings e.g., in the eye camps conducted in the rural set up. Simple vocations like chair canning, rope making candle making, etc. are taught.

### ***Audio Visual Unit***

The Centre has its own medical illustration and photography unit for undertaking all types of clinical, anterior segment, fundus photography and microphotography work. This unit now also has a side camera for making slides from computers.

### ***National Eye Bank (60)***

The National Eye Bank is situated at the centre and has voluntary donor list. A junior and a senior resident are available round the clock to collect eyes from the donors.



<b>Name of the Lab</b>		<b>Room No.</b>
Cornea Service Lab	Also known as the cornea lab, it is equipped with an ultrasonic pachymeter, phtoelectric keratoscope, specular microscope autokeratometer and corneal topography system. These specialised instruments are used to facilitate the surgery for myopia - Radial Keratotomy and other surgeries to correct astigmatism. This also acquired a nerve fibre analyser recently.	102 & 106
Low Vision cum Rehabilitation Clinic	Low vision cum rehabilitation clinic is run in this laboratory. Those patients whose vision cannot be improved by other means are given low vision aids and rehabilitation.	104
Glaucoma Investigation Lab	The Glaucoma Investigating Lab A houses a Friedman analyser, two Humphrey field analysers and Octopus automated perimeter. All these instruments are computerised field detect screening devices. It also houses the Goldmann Perimeter. The Glaucoma investigative Lab B and Lab C, are equipped with the Goldmann and Lister perimeter along with a separate room housing the Applanation tonometer. A tonometer standardisation lab is proposed to be set up in the near future.	105
Abblanation Tonometry Lab	This lab is equipped with instruments like Slit Lamp and Abblanation Tonometer.	132
USG Lab	This lab houses the new ophthalmic ultrasound machine - the Ophthascan, along with the Roper Hall for detection of foreign bodies, Echo scan and Humphrey, A/B scan system, which has the facility of video printout.	136
IOL Work up Lab.	This lab is equipped with the Autorefractor, Laser Interferometer and Projection Vertexometer, A-scan biometer and keratometer to calculate intraocular lens power in cataract surgery.	155
Electro-physiological laboratory	Known as the electrophysiological laboratory, it possesses the equipment to carry out electrophysiological tests, ERG, EOG, VER, Latest computerised machines have been acquired for carrying out these tests accurately.	156
Retina Service Lab.	This houses the digital imaging system for retinal exaination the 'Image Net'. It provides most advanced database search and display capabilities in support of ophthalmological diagnosis and	157

<i>Name of the Lab</i>		<i>Room No.</i>
	treatment. Non mydriatic Retinal Camera: This provides accurate retinal photographs for help in research, diagnosis and treatment. In this laboratory 'Indirect Ophthalmoscopy' along with Fluorescein Angiography of the posterior segment and Fundus Photography are performed.	
Advanced Glaucoma Lab	Equipped with the latest equipment, it has: heidlberg Retinal Tomogram, Ocular blood flow tonometry, Stereophotography, Nerve fiber analyser and digital imaging system.	612-616
Advanced Cornea Lab	Equipped with: Orbscan, Ant. Segment digital camera Auto Refractometer, Video slit lamp, Bometer, Hand held keratometer, Confocal microscope, Non contact tonometer, Deep freezer for preserving tissues.	617-619

### ***Community Eye Research***

The Centre has established a section of Community Ophthalmology. The section helps in developing community approach in training, organisation of comprehensive eye care services and research health care delivery system.

### ***Experimental Ophthalmology (132a)***

The Centre is well equipped for carrying out experimental research on various aspects of ophthalmology. A well equipped experimental operating theatre has been provided with operating microscopes. An annexe for housing the animals for observation procedures on monkeys, rabbits mice, etc are undertaken for experimental research.

In the National surgical skill development centre set up recently, facilities for learning phacoemulsification, vitrectomy, keratoplasty, etc. in goat's eye are available.

The residents are given practice surgery exercises of phacoemulsification under the supervision of faculty members. They learn to perfect the technique of microsurgery.

### **TRAINING COURSES CONDUCTED AT THE CENTRE**

- M.D. Ophthalmology
- Under-graduate training (MBBS)
- B.Sc. (Hons) Ophthalmic Techniques
- Post doctoral workshop/National Seminars/symposia
- Foregin collaboration/exchange activities

## OTHERS

### ***Community Eye Services***

#### **Mobile Ophthalmology Unit (Room. 794 / 791-794)**

To reach the unreached, the Centre is conducting studies on the utilization of community participation and alternative approach for eye health care. The Mobile Unit has taken up the distt. of Gurgaon (Haryana) for an intensive drive to remove the backlog of cataract. Besides this, it provides services to Delhi, distt. Sonapat, Ghaziabad and Faridabad. For the first time, extracapsular cataract extraction with intraocular lens (IOL), implantation was done at camps.

#### ***Chlamydia Laboratory (Room 706, 708)***

##### **The Laboratory aims**

- (i) provide laboratory diagnostic facilities for ocular, genital and respiratory chlamydial infections.
- (ii) to provide laboratory support for prevention of blindness and ocular morbidity due to trachoma and other chlamydial ophthalmia.
- (iii) to provide laboratory support for study of epidemiology of different human chlamydia infections.
- (iv) to conduct research in different aspects of chlamydiae i.e. pathogenicity, immunology. Vaccine development etc.
- (v) last but not the least, dissemination of knowledge about chlamydiae among scientific community. The laboratory is working towards fulfilling these aims.

All the available laboratory diagnostic tests for chlamydia infections viz antigen detection, antibody detection, tissue culture isolation, and cytological examination are being routinely carried out in this laboratory.

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## APPENDIX

### LOCATION OF SERVICES

#### ***Ground Floor***

<b>S. No</b>	<b>Room No.</b>	<b>Functions</b>
1.	1	Consultant Cabin
2.	2	Waiting Room
3.	3	Consultant Cabin

4.	4	Class IV Gent's Staff Room
5.	5a,b	Resident Cabin
6.	6a,b	Resident Cabin
7.	7a,b	Refraction
8.	8	Medical Record Department
9.	9	Ladies Toilet
10.	10	Gents Toilet
11.	14	Treatment Room (i) Intra Ocular Tension (ii) Stitch Removal, (iii) B.P. Check- Up (iv) Dressing, (v) Syringing, (vi) Dilation
12.	15	Dispensary
13.	16a,b	Refraction Cabin
14.	17a,b	Resident Cabin
15.	18a,b	Resident Cabin
16.	19	Consultant Cabin
17.	20	Consultant Cabin
18.	21	Waiting Room
19.	22	Consultant Cabin
20.	23	Sister Incharge OPD.
21.	24	Orthoptic Section
22.	25,26	Eye Exercise / Orthoptic Section
23.	27	Sample Collection (Blood/Urine)
24.	28	Squint Clinic
25.	30	Consultant Cabin
26.	31	Waiting Room
27.	32	Consultant Cabin
28.	33	Consultant Cabin
29.	34a,b	Resident Cabin
30.	35a,b	Resident Cabin
31.	36a,b	Refraction Cabin
32.	37a,b	Refraction Cabin
33.	38a,b	Resident Cabin
34.	39a,b	Resident Cabin
35.	40	Class IV Ladies Staff Room
36.	41	Consultant Cabin
37.	42	Waiting Room
38.	43	Consultant Cabin
39.	45	Glaucoma & Cornea Clinic Cabin
40.	53	x-ray Facility, Plain x-ray, Special Investigation, D.C.G. & Limbal Ring.
41.	58	Laser Room:

		(i) Yag Laser Capsulotomy (After Cataract)
		(ii) Yag P.I. (Glaucoma)
		(iii) Focal Laser (Retinal, Detachment)
		(iv) P.R.P. Laser (Diabetes Pts)
		(v) PDT for SRNV
		(vi) TTT for ARMD
		Machines:
		(i) Alcon India-Argon Laser
		(ii) Zeiss-Argon Laser & Yag Laser
		(iii) Coherent Argon Laser, DiodeLaser.
42.	60	Eye Bank
		(i) Registration
		(ii) Eye Donation-Pledge Card
43.	61,62	Casualty & Emergency (CMO)
44.	63	District Blindness, Control Society (NPCB)
45.	64	Control Room:
		Sanitary Supervisor Room & Civil Eng. Complaint Room
46.	65	Minor O.T.
		(i) Stitch Remove
		(ii) Emergency Surgery (Minor Surgery)
47.	66	Admission Office
		(i) Reception-Cum-Enquiry
		(ii) Security Supervisor Cabin
48.	67	Library (O.R.A. Library)
49.	70	Lift Staff Rest Room
50.	71-75	Surgical Store
51.		Electrical Complaint Room
52.		A.C. Complaint Room
53.		Electrical Engineer Room
54.		Wards Record Room
55.		Civil Engineer Room
56.		Carpenter Room
57.		Staff Room

### **First Floor**

58.	101,102	Lasik Surgery Room
59.	104	Contact Lens Room
		(i) Contact Lens Lab. & Mfg.
		(ii) Contact Lens Clinic (2pm)
		(iii) Low Vision Aid Clinic (2pm)
		(iv) Lens Clinic & P.K. Clinic
		(v) Low Vision Aid Lab (LVA)

60.	105	Visual Field Test (i) Humphrey Visual Field (HVF) (ii) Goldmann Perimetry Octopus 1-2-3.
61.	106	Cornea Service Lab Cornea Topgraphy Specular Microscopy
62.	108	Spectacle (Optical) Shop
63.	109,110	Cash Counter (All Type of Hospital Charges)
64.	111	A.I.O.S. Office
65.	114	Dy. Nursing Suptt. Room
66.	115	Office N.S.P.B. India.
67.	116	Account Office (NSPB)
68.	117,118	Ladies Toilet
69.	119,120	Gents Toilet
70.	121,123	Asst. Architect Office
71.	122	Secretary General NSPB Office
72.	124	Sanitary Inspector Office
73.	125	Medical Social Service Officer Room.
74.	126	Nursing Supt. Room
75.	127	Dept. NUS. Supt.
76.	128	P.A. To MS
77.	129	Medical Supt. Office
78.	130	Dietician Room
79.	131	Artist Room
80.	132	Applanation Tonometry/ Indirect Ophthalmoscopy/ Electro Cardiography (ECG) Colour Vision Check Up
81.	132a	Surgical Skill Centre Development Centre (NSSDC)
	132b	Optical Workshop
82.	135a	Assistant Civil Engineer
83.	136	Ultrasound Lab USG, HVF, & EUA (Children)
84.	137	(i) Zoom Photo Slit (ii) Slit Lamp (iii) US Pachymeter (iv) Non-Contact Tonometr

		Auto Refractometer
		Applanation Tonometry (At)
85.	155	I.O.L. Lab.
		(i) U.S. Biometer
		(ii) Vertexometer
		(iii) Auto refractometer
		(iv) Keratometer
86.	156	Electro diagnostic Lab.
		VER, ERG, EOG.
87.	157	F.A. Lab
		(i) Fundus Camera (Two)
		(ii) Fundus Photograph
		(iii) Fluorescein Angiography
		(iv) Imagine System
88.	S-1	Dr. Tanuj Dada (Asstt. Prof.)
89.	S-2	Dr. Neelam Pushker (Asstt. Prof.)
90.	S-3	Dr. Namrata Sharma (Asstt. Prof.)
91.	S-4	Dr. Pradeep Venkatesh (Asstt. Prof.)
92.	S-5	Dr. Shinde
93.	S-6	Blank
94.	S-7	Uveitis Project (Unit – I)

### **First Floor**

#### *Ward - I – B*

#### *Male Ward*

Unit: - iv & iii

Unit: - iii,                      Beds No.        152-170

Unit: - iv,                      Beds No.        137-151

#### *Ward - i – A*

#### *Male Ward*

Community Ophtha.      Beds No.        101-106

Unit: - vi                      Beds No.        107-125

Unit: - iv                      Beds No.        129-134

Causality Beds:            Beds No.        135-136

M.S. Phool:                Beds No.        126-128

#### *Wing 'C'*

173. HINDI Unit

174. Accounts Section

175. Audit Section

176. Bill Clark (Pvt. Ward) Cash Section  
 177. Accounts Officer  
*Wing 'D'*  
 179. Dispatch Section (Dialing Dak Distribution)  
 180. Store Officer  
 181. Computer Facility  
 182. —Do Above—  
 183. Photo State Room  
 184. V.I.P. Room  
 185. P.A. to Chief  
 186. Chief Office  
 187. P. Ps. To Chief  
 188. PA to Admin.  
 189. Admin. Officer  
 190. Suptt. Office (Establishment Section)

### ***Second Floor***

<i>Ward - ii – A</i>		<i>Male Ward</i>
Unit- v	Beds No.	201-219
EHS Beds	Beds No.	220-221
Causality	Beds No.	222-228
<i>Ward - ii – B</i>		<i>Male Ward</i>
Unit- i	Beds No.	237-247 249-250
Unit- ii	Beds No.	248 251-270

### *Wing 'D'*

Pvt. Ward

All Units: Beds No. 281-290

### *Wing 'C'*

Room No.

272. Store, Medicine, Bed-Sheet Etc.  
 273. Prof. VK Dada  
 274. —Do above—



275. PA to Prof. VK Dada

276. Coffee Room

277. – Do Above —

### **Third Floor**

*Ward - iii – A* *Female Ward*

Unit: - iii & iv

Unit: - iii Beds No. 301-314

Unit: -iv Beds No. 315-330

Community Ophtha. Beds No. 331-336

*Ward - iii – B* *Female Ward*

Units - i & ii

Unit - i Beds No. 337-349

368-370

Unit - ii Beds No. 350-365

EHS Beds Beds No. 366-367

#### *Wing 'C' Faculties Room*

Room No. Dr's Name

372. Dr. Mandeep S. Bajaj (Associate Prof.)

373. Dr. Raj Pal (Associate Prof.)

374. Dr. R. Madan Anaesthesia (Additional Professor)

375. Asstt. Nursing Supdt.

376. Dr. Sudarshan Khokhar (Associate Prof.)

377. Dr. Anita Panda (Additional Prof.)

*Wing 'D'* *Pvt. Ward*

All Units: - Beds No. 381-392

EHS Beds No. 381a-381b

### **Fourth Floor**

*Ward - iv – A*

Unit-v & vi

Unit-vi Beds No. 401-415

Unit- v Beds No. 416-430

Causality Beds No. 431-436

*Ward iv-B**Children Ward*

Units i, ii, iii, iv, v, &amp; vi

Unit i	Beds No.	437-440
Unit ii	Beds No.	441-443 & 470
Unit iii	Beds No.	462-469
Unit iv	Beds No.	458-461
Unit v	Beds No.	444-450
Unit vi	Beds No.	451-457

*Wing 'C'*

- 472. Dr. Mahesh Chandra (Addl. Prof.)
- 473. Dr. Dinesh Talwar (Asso. Prof.)
- 474. Dr. J.S. Titiyal (Asso. Prof.)
- 475. Dr. Radhika Tandon (Asso. Prof.)
- 476. Dr. Harsh Kumar (Addl. Prof.)
- 477. Dr. Lalit Verma (Addl. Prof.)

*Wing 'D'*

- 480. Dr. S.P. Garg (Addl. Prof.)
- 481. Dr. Pradeep Sharma (Addl. Prof.)
- 482. Dr. S.M. Betheria (Addl. Prof.)
- 484. Dr. H.C. Aggarwal (Prof. U-vi)
- 485. Dr. Vimla Menon (Addl. Prof.)
- 486. P.S. Room
- 487. Dr. R.V. Azad (Prof.)
- 488. Dr. H.K. Tiwari (Prof.)
- 489. P.S. Room
- 490. Dr. Gosh (Prof.)
- 492. Dr. R.B. Vajpayee (Prof.)
- 493. Dr. Y.R. Sharma (Addl. Prof.)
- 494. Dr. Ramanjit Sihota (Addl. Prof.)

***Fifth Floor****Operation Theatre*

- Faculty Room (Changing room)
- Senior Resident Female Room

Senior Resident Male Room  
 Junior Resident Female Room  
 Junior Resident Male Room  
 Nursing Incharge Room  
 Nursing Orderly  
 Surgical Store  
 Instrument workshop (508)  
 Laundry  
 O.T. Incharge

### **Six Floor**

#### *Wing 'A'*

603-604. Laboratory  
 605. Laboratory  
 606. Laboratory  
 607. Store  
 608-609. Office  
 610. Dr. Nargis F. Jaffery (Additional Professor)  
 611. Office

#### *Wing 'D'*

612-616. Advanced Glaucoma Lab  
 617-619. Advanced Cornea Lab  
 620-621. Photography Section  
 Medical Store

#### *Wing 'B'*

623. Experimental Lab  
 624. Dr. N.R Biswas (Addl. Professor)  
 625. MK Media MFG Lab  
 626. Conference Room  
 627. Pharmaco Kinetics Lab.  
 628. Chief Pharma. Office  
 629. Store I  
 629a,b. Manufacturing Pharmacy  
 630. Toilet

- 631. Distribution Room
- 632. Manf. Pharmacy
- 633. Quality Control Room
- 634. WHO ADR Monitoring Centre
- 635. Store II

*Wing 'C'*

*Lecture Theater (Recording Room)*

**Seventh Floor**

*Wing 'A' Micro Biology Section*

- 704. Tissue Culture Lab.
- 705,703. Media Room
- 706. Chlamydia Antigen
- 707. Dr. Gita Satapathy (Additional Professor)
- 708. Chlamydia Reference Lab.
- 709. Microbiology Section
- 710. Office

*Wing 'C'*

*Leacture Theater*

*Wing 'D' Community Ophthalmology*

- 781. MOU Staff
- 782. Mobile Ophthalmology Unit, Health Education & MOU Staff
- 784. Indo-U K Project
- 785. Dr. Sanjeev Kr. Gupta (Associate Professor)
- 786. MOU Staff
- 787. Dr. G.V.S. Murthy (Associate Professor)
- 788. Saminar Room
- 791. Visiting Faculty
- 792. Library & Resume
- 793. Visit Project Staff
- 794. Mobile Ophthalmology Unit

*Wing 'B' Pathology Lab*

- 722. Sr. Tech. Officer
- 723. Clinical Pathology Lab.

- 724. Dr. Seema Sen (Assistant Professor)
- 725. Computer Room & Photomicrography
- 726. Record Room
- 727. Store
- 730. Museum
- 731. Histopathology
- 732. Dr. Seema Kashyap (Assistant Professor)
- 733. Conference Room

# **ORGAN RETRIEVAL BANKING ORGANISATION (ORBO)**

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## **INTRODUCTION**

Medical advances in the field of transplant immunology; surgical management and organ preservation have made the transplantation of vital organs, a viable approach to the management of diseases causing irreversible organ failure.

Transplant has meant a significant improvement in quality of life, offering the opportunity for many organ recipients to resume healthy and productive lives. For renal patient's transplantation offers the opportunity to resume a normal life, no longer subjected to daily dialysis treatment. For heart and liver patients, for whom there is no support such as dialysis, transplantation is there only chance of survival.

AIIMS has facilities for Heart, Lung, Liver, Kidney and Cornea transplants.

**Organ Retrieval Banking Organisation is a national facility and nodal centre for facilitating transplant programme in India.**

## **OBJECTIVES OF ORGAN RETRIEVAL BANKING ORGANISATION ARE:**

1. To encourage organ donations.
2. To ensure fair and equitable distribution of human organs
3. To ensure optimum utilization of human organs.

## **FUNCTIONS**

1. Maintains the list of patients waiting for transplants of different organs.
2. Registration of donors
3. To match the recipients with donor whenever a donor is available in any hospital.

4. Coordination of all activities from procurement of organs to transplantation,
5. Dissemination of information to all concerned hospitals, organizations, and individuals.
6. Creating awareness, promotion of organ donation and transplantation activities.

## **DONOR REGISTRATION**

Donor Form and Donor Cards are available at ORBO. Donor forms can also be downloaded from the ORBO website. Filled up donor cards get a registration number from ORBO.

## **IDENTIFICATION OF POTENTIAL DONORS**

Senior Resident/Resident on duty in ICU's and all acute wards will identify and screen potential cadaver donors and inform Organ Retrieval Banking Organisation at **Internal Phone Number 3444** or on **Special Direct Line 1060** following which the Medical Social Service Officer on duty at ORBO will co-ordinate all the activities from organ donation to transplantation. The basic information about potential donor is; Name, Age, Blood Group, Weight, Sex, Diagnosis may be intimated immediately for early activation, following which the medical history, clinical condition, medication and lab. Data can be evaluated.

Motivation and education of next of kin/relatives will be done by the Physician In-charge and the ORBO staff.

## **ORBO NETWORK**

ORBO has established a network with all hospitals in Delhi including Govt. and Private hospitals. Later on this will be extended at a National Level. Whenever a donor is available in any hospital in Delhi, the information will be sent to ORBO where after processing and matching the donor with recipients, the respective hospitals, doctors and patients are informed. List of Nodal Officers from each hospital is available at ORBO. ORBO is also working in close association with Non Government Organisation's in Delhi to create awareness and promote Organ Donation amongst public.

## **LOCATION**

Organ Retrieval Banking Organisation complex is located between the R.P. Centre and C.N. Centre.

## **TIMINGS**

Organ Retrieval Banking Organisation is functioning round the clock and

manned by Medical Social Service Officer.

## **CONTACT NUMBERS**

Internal Line : 3444

Direct line : 26593444

Special Direct Telephone Line: 1060, for public enquiries related to organ donation and transplantation.

Fax : 26567402

Email : orboindia@yahoo.com

Website : www.orbo.org

## **WHAT IS ORGAN DONATION?**

There are two ways of organ donation

- (i) **Living related donors:** only immediate blood relations (brother, sister, parents, children and first cousins) can donate as per the Transplantation of Human Organ Act 1994. Living donor can donate only few organs, one kidney (as one kidney is capable of maintaining the body functions), a portion of pancreas (as half of the pancreas is adequate for sustaining pancreatic functions) and part of the liver (as the few segments that are donated will regenerate after a period of time) can be donated.
- (ii) **Cadaver Organ donor** can donate all organs after brain death.

## **WHICH ORGANS AND TISSUES CAN BE DONATED?**

The major donor organs and tissues are Heart, lungs, liver, pancreas, kidneys, eyes, heart valves, skin, bones, bone marrow, connective tissues, middle ear, and blood vessels. Therefore one donor can possibly give gift of life to many terminally ill patients who would not survive other wise.

## **WHAT IS BRAIN DEATH?**

It is the irreversible and permanent cessation of all brain functions. Most cases of brain death are the end result of head injuries, brain tumours patients from Intensive care units, organs of such patients can be transplanted in organ failure patients to provide them new lease of life.

## **HOW IS BRAIN DEATH DIAGNOSED?**

According to the Transplantation of Human Organs Act 1994 Section 3, brain stem death will be certified by a board of medical experts consisting of the following namely:

- a) Director, AIIMS or Faculty Hospital Administration
- b) An independent registered medical practitioner, being a specialist from



the panel of names approved by the Appropriate Authority as specified in the Act;

- c) A neurologist or a neurosurgeon
- d) The specialist treating the person whose brain-stem death has occurred.

**For the diagnosis of brain stem death the following guidelines are recommended:**

*Diagnosis of brain death*

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1. Preconditions  
Comatose patient, on ventilator  
Positive diagnosis of cause of coma (irremediable structural brain damage)
  2. Exclusions  
Primary hypothermia (<35 degree C)  
Drugs  
Severe metabolic or endocrine disturbances
  3. Tests  
Absent brain stem reflexes  
Apnoea (strictly defined)
- 

The two sets of tests are carried out at the interval of at least 6-12 hrs. Legal time of death is the time at which the second set of test is carried out. As soon as they have completed their first examination the specialists concerned should write down their findings in the patients case sheet. The entry should confirm that a disconnection test for apnea has been performed. It is advised that the PaCo<sub>2</sub> be estimated at the end of the disconnection period and the result recorded. It is sound and helpful to perform the disconnection test as the last of the tests of brain stem function.

**HOW QUICKLY SHOULD THE ORGANS BE DONATED?**

Healthy organs should be transplanted as soon as possible after brain death.

**WHO CAN BE A DONOR?**

Anyone, regardless of age, race or gender can become an organ and tissue donor. If donor is under the age of 18, consent of his parent or legal guardian is required. Medical suitability for donation is determined at the time of death.

**WHO CAN GIVE CONSENT FOR ORGAN DONATION AFTER BRAIN DEATH?**

Donors who have during their lifetime consented for organ donation in writing in presence of two witnesses (at least one of whom is a near relative) should carry their donor cards with them and also express their wishes to their near and dear ones. In case of no such consent or donor pledge form was filled before death, then the authority to give consent for organ donation lies with

the person lawfully in possession of the dead body. Doctor should always ask permission for organ donation from the family even if a signed donor card is available.

### **WHICH TERMINAL DISEASES CAN BE CURED BY TRANSPLANT?**

Here are some terminal diseases which can be cured by the transplant:

Heart	-	heart failure
Lungs	-	terminal lung illnesses
Kidneys	-	kidney failure
Liver	-	liver coma & failure
Pancreas	-	diabetes
Eyes	-	blindness
Heart valve	-	valvular disease
Skin	-	burn patient

### **WHO WILL RECEIVE DONATED ORGAN?**

Vital organs will be transplanted into those individuals who need them most urgently. Organs are matched to recipients on the basis of medical suitability, urgency of transplant, duration on the waiting list and geographical location.

### **IS THERE ANY CHARGE TO FAMILY FOR ORGAN DONATION?**

No, there is no charge nor payment for organs/tissues used in transplantation. Organ donation is a true gift.

### **DOES ORGAN/TISSUE REMOVAL AFFECT CREMATION/ BURIAL ARRANGEMENTS OR DISFIGURE THE BODY?**

No. The removal of organs or tissues will not interfere with customary funeral or burial arrangements. The appearance of the body is not altered. A highly skilled surgical transplant team removes the organs and tissues, which can be transplanted to other patients. Surgeons stitch up the body carefully, hence no disfigurement occurs. The body can be viewed as in any case of death and funeral arrangements need not be delayed.

### **WHAT IS LEGAL POSITION ON ORGANS DONATIONS?**

It is legal by law. The Govt. of India has enacted the "Transplantation of Human Organs Act 1994" in Feb. 1995, which has allowed organ donation and legalised brain death.

"The Transplantation of Human Organs Act 1994" prohibits the sale of

human organs and tissues. Violators are subject to fines and imprisonment.

### **AUTHORITY FOR REMOVAL OF HUMAN ORGANS IN CASE OF UNCLAIMED BODIES IN HOSPITAL**

1. In the case of a dead body lying in a hospital and not claimed by any of the near relatives of the deceased person within forty-eight hours from the time of the death of the concerned person, the authority for the removal of any human organ from the dead body which so remains unclaimed may be given, in the prescribed form, by the person in charge, for the time being, of the management or control of the hospital, or by an employee of such hospital or prison authorized in this behalf by the person in charge or the management or control thereof.
2. No authority shall be given if the person empowered to give such authority has reason to believe that any near relative of the deceased person is likely to claim the dead body even though such near relative has not come forward to claim the body of the deceased person within the time.

### **AUTHORITY FOR REMOVAL OF HUMAN ORGANS FROM BODIES SENT FOR POST-MORTEM EXAMINATION FOR MEDICO-LEGAL OR PATHOLOGICAL PURPOSES**

Where the body of a person has been sent for post-mortem examination.

1. for medico-legal purposes by reason of the death of such person having been caused by accident or any other unnatural causes; or
2. for pathological purposes.

The person competent under this Act to give authority for the removal of any human organ from such dead body may, if he has reason to believe that such human organ will not be required for the purpose for which such body has been sent for post-mortem examination, authorize the removal, for therapeutic purposes, of that human organ of the deceased person provided that he is satisfied that the deceased person had not expressed, before his death, any objection to any of his human organs being used, for therapeutic purposes after his death or, where he had granted an authority for the use of any of his human organs for therapeutic purposes after his death, such authority had not been revoked by him before his death.

***Organ donation and transplant co-ordination is a process that requires the synchronized involvement of a large number of different health care professionals, specialists and organizations in order to be successful. ORBO is striving to transform cadavers into real donor and channel the distribution of organs and tissues to the most suitable recipients.***

## **COMPREHENSIVE RURAL HEALTH SERVICES PROJECT BALLABGARH (CENTRE FOR COMMUNITY MEDICINE)**

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It is commonly known as BHC or more simply as “Ballabgarh”. It is a collaborative project between State Government of Haryana and AIIMS. The overall administration is under AIIMS. It now consists of a sixty bedded hospital and two primary health centers at Chhainsa and Dayalpur. The project is looked after by Professor / Additional Professor in community medicine and one to two faculty members from community medicine are present to assist him. Approximately, 150 employees of the Institute are currently working at Ballabgarh.

Ballabgarh Hospital

The following services are provided

### **ROUTINE OUTPATIENTS: DAILY**

- (a) General outpatients – Medicine/Surgery/Gynaecology
- (b) Child Welfare Centre – Paediatrics
- (c) Ophthalmology
- (d) Dental

### **SPECIAL WEEKLY OPDS**

- (a) ENT – twice a week
- (b) Epilepsy Clinic – Once a week
- (c) Rehabilitation – twice a week
- (d) Psychiatry – once a week
- (e) Paediatric surgery – once a week

## **AFTERNOON CLINICS**

- (a) ANC clinics – thrice a week
- (b) NCD clinic – once a week
- (c) Nutrition Rehabilitation clinic – once a week

The senior residents from specialities of medicine, surgery, gynaecology & obstetrics, pediatrics, anaesthesia and ophthalmology maintain their residence at Ballabgarh for providing emergency care to patients. Interns and junior residents posted in community medicine are the other doctors providing services here. Necessary hostel facilities have been created for the same.

## **PRIMARY HEALTH CENTRES**

PHC Dayalpur is situated about 9 kms from Ballabgarh and PHC Chhainsa a further 10 KM down. Each of the PHC caters to roughly 38,000 population and has five subcentres. The curative care is provided through the daily outpatients clinic at the PHC and the weekly extension clinics at the Subcentres. The preventive and promotive services like immunization, antenatal care, communicable disease control are all provided through the team of male and female multipurpose workers present at the subcentre. These services are provided at domiciliary level by regular visits to the village by the workers. An innovation here is that the full demographic and health information is maintained as electronic database in the computers.

## **TRAINING ACTIVITIES**

The categories of people and their duration of posting is given below:

Postgraduates in Community medicine – Fifteen Months; Seven and half months each at Ballabgarh and Dayalpur/Chhainsa.

Interns – Three months ; one and half months each at Ballabgarh and Dayalpur/Chhainsa

Medical Undergraduates – Six weeks at Ballabgarh

BSc Nursing students – Four weeks at Ballabgarh

Post Certificate Nursing Students – Three weeks at Dayalpur.

## **DRUG DEPENDENCE TREATMENT CENTRE**

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The 'Drug Dependence Treatment Centre' (DDTC) at AIIMS is the national centre for drug dependence treatment services. The centre is temporarily located at Deen Dayal Upadhyaya Hospital. A new building on a plot of 10 acres is coming up at CGO complex, Ghaziabad to house this centre. The centre is providing drug dependence treatment services at the hospital as well as at the community level. The centre is involved in the training of doctors from all over the country in the field of drug dependence. The centre also proposes to start a course on 'De-addictive behaviour'. The centre has been involved in front line research in collaboration with national and international agencies. The faculty of the centre has also been involved in the academic and research programmes of the department of Psychiatry.

The senior residents of the department of Psychiatry and the DDTC are rotated at both the places to give them an opportunity to get varied experience. The junior residents (academic) are posted for 6 months at DDTC. Mess facility is available at the DDTC.

### **OPDs**

The OPDs at the DDTC are run on all the six days. There is no registration fee for the patients who seek treatment at the centre. Two or three consultants are available in the OPD on all the working days.

### **WALK-IN CLINIC SERVICES**

The walk-in-clinic is run at the DDTC from 9-00 A.M. to 4-00 P.M. with a break for lunch from 1-00 P.M. to 2-00 P.M. from Monday to Friday. However, on Saturday, the walk-in-clinic is run from 9-00 A.M. to 1-00 P.M. Senior residents manage the patients in the walk-in-clinics.

## **COMMUNITY CLINICS**

The community clinics are run by the DDTC in two slum colonies at Sagar Pur (near Janak Puri), New Delhi from Monday to Friday and at Pandav Nagar (near Patel Nagar), New Delhi on Saturday.

## **INDOOR SERVICES**

DDTC has a 30 bedded indoor unit at present but the number of beds will go up to 50 once the separate building, under construction at the CGO complex, Ghaziabad is complete. The inpatient unit is guarded at the entry and the exit points by security persons round the clock. The patients are not allowed to leave the ward during their inpatient stay. The only ways the patients can leave the ward are (i) when he is discharged, (ii) he goes against medical advice, and (iii) he is discharged on disciplinary ground. The indoor patients also have access to a recreation room, which provides facilities for games, exercises and a television.

## **SPECIAL TREATMENT SERVICES AVAILABLE**

- (i) Maintenance treatment (agonist as well as antagonist) for opioid dependence.
- (ii) Disulfiram therapy for alcohol dependence
- (iii) Psychological interventions : Psychoeducation group therapy, motivation enhancement therapy, relapse prevention, occupational rehabilitation.

## **PSYCHOLOGICAL SERVICES AVAILABLE**

The centre has a clinical psychologist who not only conducts relevant psychological tests on the patients, but also assists the treatment team in the management of the patients.

## **LABORATORY SERVICES**

The centre has well equipped laboratories for biochemical and haematological investigations. There is a separate laboratory for screening drugs of abuse (including opioids, benzodiazepines, cannabinoids, barbiturates, pheniramine, promethazine, cocaine, methaqualone) in biological fluids. The centre also has a pre-clinical laboratory where psychopharmacological studies are being undertaken.

## **TRANSPORT FACILITY**

The DDTC provides transport facility to its staff for commuting between A.I.I.M.S. and DDTC.

**PATIENT ASSISTANCE**

1. Medical Social Service Officers: Medical Social Service Officers apart from providing assistance to the patients in the hospital, make home visits also when required. They are also involved in the management of the patients as a member of the team headed by the psychiatry consultant.
2. Ambulance services
3. Guards



## LABORATORY SERVICES

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The location of different labs in the main hospital are given as under:

Central Lab	: Room No. 15, 2nd Floor, OPD Block
Lab Medicine Department	: 2nd Floor, OPD Block
Microbiology Lab	: Room No. 25, 2nd Floor, OPD Block
Bacteriology Lab	: Room No.2071, 2nd Floor, Teaching Block
Cytopathology Lab	: Room No. 1069, First Floor, Teaching Block (Cross Wing)
Histopathology Lab	: Room No.1066, First Floor, Teaching Block

### **NB:**

To know the location of all other labs attached with the respective clinical, para-clinical departments in the main hospital as well as the centers, please refer to the chapters on the departments/centres and AIIMS Hospital Telephone Directory.

### **CYTOPATHOLOGY LABORATORY**

This laboratory is mainly concerned with establishing the diagnosis of malignancy by examining the exfoliated cells in vaginal smears, sputum, bronchial specimens and various body fluids like pleural peritoneal, CSF, urine etc. Laboratory also performs fine needle aspiratory cytology on all body sites.

In-charge : Faculty-in-charge, Cytopathology laboratory.

Location : First floor, cross wing of the teaching block, Room No.1069, Int Tel.4393.

**Specimen Receiving Time**

1. For Sputum : 9 a.m. to 10.30 a.m.
2. All other specimens :  
Monday to Friday : 9.00 a.m. to 12.30 p.m.  
2.00 p.m. to 4.00 p.m.  
Saturday : 9.00 a.m. to 12.00 noon

**Investigations**

- (a) Detection of malignancy in vaginal smears, sputum, bronchial washings, serous fluids, CSF, Urine, oesophageal and gastric aspirations/brushings.
- (b) Fine needle aspiration of swellings in different sites.
- (c) Guided aspirates by appointment with radiology department.

*Procedure for getting the investigations done:* There are two types of forms available:

- (a) For exfoliative cytology, and
- (b) for fine needle aspiration biopsy.

The appropriate form must be filled.

**Instructions for sending specimens**

- (i) The specimen MUST be accompanied with a completed Exfoliative cytology or Aspiration cytology requisition form. The form must give the following particulars
  - (a) Patients' and Fathers'/ Husbands' name clearly.
  - (b) Age and sex of the patient.
  - (c) Clinicians name and place where the report is to be dispatched (OPD or Ward).
  - (d) Date and time of collection of specimen.
  - (e) Relevant clinical history and investigations.
  - (f) Previous cytology/histology reports and accession numbers.
- (ii) Payment must have been done.

*For exfoliative cytology :* The interns/residents are advised to contact the laboratory for instructions for collecting the samples and details regarding fixative to be used/special container for the samples.

*For aspiration biopsy :* The resident should send the patient with the appropriate form filled in detail to the fifth floor surgical OPD by 11.00 AM on

week days and by 10.30 AM on Saturdays for an appointment for aspiration.

*Collection of Reports* : Routine reports are available within 24 hours.

- (a) Specimens received in the laboratory till 12.30 pm would be reported next morning; while specimens received in the afternoon would be reported after 36 hours.
- (b) If the clinical information is not provided or payment not made, then the reports would be delayed.

Urgent reports can be given on the same day on special request.

## **HISTOPATHOLOGY (SURGICAL PATHOLOGY) LABORATORY**

This laboratory provides the histopathology report on all (i) routine tissue biopsies (ii) frozen section biopsies.

Incharge : Faculty-In-Charge, Surgical Pathology Laboratory

Location : Main Histopathology Lab: First floor, Teaching block,  
Room No.1066-A/1079 (Internal telephone no.4282)

Grossing Room : First floor, Teaching Block, Room No.1078

*Timings* :

Main Histopathology Lab. : 9.30 am to 5.00 pm. – Monday to Friday  
9.30 am to 1.15 pm - Saturday

Grossing Room : 10.00 am to 4.30 pm – Monday to Friday

(Specimen receiving time) : 10.00 am to 2.30 pm – Saturday

### ***Investigation***

Routine histopathological studies as well as reporting on the biopsies in emergency (frozen section) during operation is carried out in this laboratory. The usual routine stain employed is haematoxylin and eosin. However, special staining procedures are available where required. For this the final choice is that of the pathologist.

### ***Procedure***

- (i) *Routine Tissue Biopsies*: All large specimens should be sent immediately and fresh (unfixed) to the laboratory. Other specimens should be sent fixed in formalin which should have been obtained from the surgical pathology laboratory. Please do not squeeze specimens to force them into small bottles. The minimum amount of fixative required should be 20 times the volume of the specimen. The strength of formalin used is 1 in 10. The surgical pathology requisition forms are obtainable

from the laboratory. The form must be filled in detail to enable complete clinicopathological correlation of the case. Incomplete forms are not entertained. A payment of Rs.15 should be made at the central admission enquiry office of AIIMS, otherwise the case will be filed for 'want of payment' and no report issued.

Surgical pathology specimens cannot be obtained repeatedly. Please be careful in handling the specimens. Minimum handling should be done to avoid rendering the tissue useless for histopathology study.

- (ii) *Muscle Biopsy*: The actual size of the specimen should be 3 × 2 × 1 in a large muscle from an adult. Naturally from a small muscle or from a child, a smaller sample may have to be taken, but too small a biopsy may not be diagnostic. Prior appointment should be taken from the Neuropathology Laboratory (Internal phone no.3371) The muscle biopsy will be collected fresh from the ward and divided into 3 pieces – one will be fixed in 10% neutral buffered formalin; second in 2.5% glutaraldehyde and third piece will be snap frozen in isopentane pre-cooled in liquid nitrogen.
- (iii) *Liver and Kidney Biopsy*: The biopsy specimen should be first laid on a piece of filter paper, soaked in 10% neutral buffered formalin and allowed to adhere. The specimen is then immediately floated in a bottle containing large volume of the same fixative.
- (iv) *Testicular biopsy*: Testicular biopsy may be sent in Bouin's fixative.

### **Collection of Reports**

The reports automatically reaches the respective wards and the concerned OPDs. The usual time for reporting of the tissue is by the third day after receiving the same Liver, kidney and bone biopsies are reported on the fourth day.

### **Frozen Section**

The surgical team planning an operation where an emergency report on histology of the tissue removed will be required, must inform the laboratory a day before the procedure. Frozen section can also be reported during off hours if prior information is given to the laboratory.

### **Rapid processing**

In case of transplant patients, if report is required on the same day, the laboratory may be informed a day before, then, arrangements for processing tissue by rapid vacuum method will be done.

**GENETICS UNIT, DEPARTMENT OF PAEDIATRICS, AIIMS*****Tests/procedures*****Biochemical tests**

Aminoacid chromatography of urine and plasma, CSF

Ceruloplasmin estimation

Serum alpha 1 anti-trypsin estimation

Phenylalanine estimation in Serum

Blood Ammonia estimation

Amniotic fluid AFP assay

Amniotic fluid or urine 2D for MPS

Chemical test in urine

Electrophoresis for MPS Amniotic fluid

Galactosemia quantitative enzyme assay

Galactosemia screening

Leucocyte enzyme assay

MPS spot test on urine

Maternal Serum AFP assay

Maternal serum HCG assay

MS estriol

Triple marker

Prenatal diagnosis by enzyme assay

Urine/Plasma aminoacid screening

Leucocyte enzyme assay for Hurler (MPS)

**DNA diagnostic tests**

Prenatal Diagnosis of DMD by Deletion studies

Deletion studies in DMD

Prenatal Diagnosis/Carrier screening by linkage studies in DMD

DNA based mutation Detection in thalassemia

Prenatal diagnosis of thalassemia

Xmn polymorphism study

DNA studies in SMA

Prenatal Diagnosis of SMA

Carrier detection of hemophilia A/B

Prenatal diagnosis of hemophilia A/B

Screening for CAH/Prenatal Diagnosis of CAH

Diagnosis of Sickle Cell by mutation analysis

Prenatal diagnosis of Sickle cell anemia

Fragile X PCR studies

### **Cytogenetic tests**

Prenatal diagnosis by cord blood

Chromosomal study of blood/bone marrow (karyotyping)

Chromosomes from CVS or amniotic fluid culture

Fibroblasts grown from skin or gonad

### ***Endocrine Path Lab. (Room No. 1091-B)***

1. Immunohistochemical tumor markers for thyroid neoplasma: thyrolobulin, calcifonin, cytokeratin-19, galectin etc.
2. Immuniohistochemical markers for diagnosis of lymphohematopoietic malignancies in V some marrow trephine biopsies: CD79a, CD3, CD34, MPO, CD68, Kappa and Lambda light chain etc.

## **BACTERIOLOGY LABORATORY**

Location : 2nd Floor, teaching Block, R. No 2071.

Internal Telephone No(s) : (Tel 4237), (Tel 4289)

### ***Time and Place of Receiving Samples***

All the clinical specimen from indoor and outdoor for culture of aerobic bacteria and antibiotic sensitivity are received in room no. 24, ward no 9 in the OPD block on the 2nd Floor till 11 A.M. on all days except on Saturday when it is closed half an hour earlier. No specimen would be received directly in the lab except for those collected by invasive methods, or in the O.T. or any other precious sample after discussing with the faculty concerned till 4-30 P.M. on all days and upto 12-30 p.m. on Saturdays.

### ***Requisition Forms***

The blue colored forms of the Microbiology department should be filled up properly providing the relevant clinical information. History of antibiotic intake, previous culture reports and the proper address where the report is to be despatched should be clearly mentioned . Without this information the sample may not receive adequate attention.

### ***If a Preliminary Report is Required please Fill in two Forms***

Gram stain report available for samples sent in the morning in case of fluids, exudates, CSF and any other, if required. -Contact Dr. Arti Kapil, Dr. Bimal Das, or Senior resident in the Bacteriology Lab.

### ***Rejection Criteria For Improper Samples***

1. Leaking containers/blood stained containers or Open mouth containers.
2. Missing identification.
3. Unknown time delay.
4. Inappropriate request e.g Folley's catheter tip, oral swabs etc.\*

\*can be discussed with the faculty on phone if some clarifications are sought or considered relevant in certain situation.

5. Incomplete forms (It is important to write relevant clinical details. It helps in carrying out proper procedure and giving a useful report) Mention antibiotics given and if any special cases are required to be tested.

The Forms should not be Blood Stained.

### **Collection and Transport of Samples**

#### ***General***

1. No leakage of samples should be there - all samples to be properly stoppered or plugged .
2. Preferably collected before antibiotics are started.
3. Prevention of contamination of specimen with externally present organisms or normal flora while collecting.
4. Collect in sterile appropriate containers as follows
  - (i) Blood - Blood culture bottles with screw cap having central hole with a washer which is covered with adhesive tape
  - (ii) Urine - Sterile, wide mouth screw cap container
  - (iii) Sputum - Sterile, wide mouth ,screw cap container
  - (iv) CSF, pleural, Peritoneam fluid or other fluid - Sterile, wide mouth, screw cap container.
  - (v) Faeces - clean wide mouth container
  - (vi) Swabs from throat other wound/discharge and high vaginal - sterile swabs in penicillin vials or test tubes properly plugged. Do not break off the end of the swab stick, let it project out
  - (vii) Tissues - Sterile container (never place in formalin)

#### **Blood**

1. Should be drawn under aseptic conditions
2. Clean the skin with savlon, apply 2% Iodine, or 10% povidone, wait for a minute and draw the blood. Clean the iodine with alcohol or spirit
3. Draw out 5 ml of blood for one blood culture bottle containing 50 ml of BHI broth. For paediatric age group, 1 ml in 10 ml of BHI broth in

MaCartney's bottles may be added, if available. Otherwise the same inoculum may be added to 50 ml medium also

4. Transport to laboratory if not possible to keep in incubator. If not available keep at room temperature  
Never Refrigerate.

### **Urine**

1. Mid-stream urine sample is collected after giving proper instructions to the patient.
  - (a) clean the genitalia properly
  - (b) collect a "clean-catch" mid-stream urine sample in a sterile bottle. Do not touch the inner side of the cap or bottle.
2. Transport immediately to the lab. if more than half an hour delay is expected. Refrigerate at 4°C. It should be processed within 3-4 hours of collection.
3. Catheterised patients - Do not collect from collection bag or after opening the closed drainage. Clean a area over the collecting tubes and puncture with the help of a sterile needle and syringe .and draw out the sample.
4. Suprapubic aspiration under aseptic techniques may be done in infants and where mid stream results are doubtful.

### **CSF/Other Normally Sterile Body Fluids**

1. Collect under aseptic condition and transport immediately to the laboratory
2. They should not be refrigerated if delay in transport is expected . Keep at room temperature

### **Pus, other Discharge, and other Swabs**

1. Do not apply antiseptics before collection. Clean with Normal saline.
2. In case of discharge, 1-2 ml of sample in a sterile penicillin vial is preferable to swab.
3. If swabs are sent, 2 swabs in sterile container should be sent one for direct examination and one for culture.
4. Vaginal swabs should be high vaginal swabs preferably collected after actual visualisation. It should not touch the sides of the vaginal wall.
5. Throat swab (2 in numbers) should be collected under direct visualisation without touching the tongue or buccal mucosa. In cases of suspected diphtheria - Mention clearly at the right corner of the form.

### **Sputum**

1. "Coughed up" specimen after rinsing the mouth may be sent in a screw



capped container.

2. May be refrigerated up to 3-4 hours

## **Stool**

1. Place a small quantity in a wide mouth clean bottle. If mucus or flakes present - must be included.
2. Rectal swabs - only if stool is not possible

## **Catheters and Tips**

Mark the junction of Skin and Catheter, withdraw the catheter a little and cut it at about 1 cm distal to the mark and send 5 cm length of the catheter in sterile container. Transcutaneous part is a better sample than the tip in case of long catheters.

## **Reports**

### ***Blood Culture***

#### *Preliminary Report*

Wherever a growth of suspected pathogen is detected, it should be communicated. In case of suspected contaminated sample e.g. ASB or more than 3 types of bacteria, diphtheroids, or Coag Neg Staph a repeat sample should be requested.

If Salmonella is suspected slide agglutination done and reported.

### **Final Report**

48 hours if no growth is suspected. In case of positive cultures. The final report with identification and sensitivity is dispatched.

### **Additional Report**

The report after 10 days and 3 weeks is sent only if positive for suspected pathogenic bacteria.

### **Cerebrospinal Fluid**

*Smear report* as - Pus cells and Bacteria present (Specify morphology and gram stain)

\*If smear suggestive of meningitis - direct sensitivity may be put up

\*Convey the preliminary report on telephone

*Final report* after 48 hours

### **Other Sterile Fluids**

Other sterile fluids are treated similar to CSF

**Stool**

Direct Hanging drop if *V. cholerae* is suspected. If positive, immediately send a preliminary report

**24 hours**

1. Suspected *Salmonella*/*Shigella* colonies are identified and reported.
2. Pure growth of any other Gram Neg. Bacteria in Children less than 3 years is identified and reported.
3. Pure growth of staphylococci is reported.
4. *Vibrio cholerae* is reported. If present.

**48 hours**

If none of the above is positive - Report as "No *Salmonella*/*Shigella*/*Vibrio* grown.

A comment on normal flora can be made, if relevant.

**Pus, Exudates and Wound Swabs Catheters/Drainage Tubes Tissues*****Preliminary Report***

Direct Smear If positive and suggestive of presence of bacteria a preliminary report may be despatched.

*48 hrs* – Final report

**Sputum/Endotrachealsecretions/Bronchoalveolar Coverage etc**

*48 hours* - final report. (BAL quantitative culture on special request)

**Nasal Swab/Throat Swab*****Throat Swab***

Direct smear is only made if throat swab from suspected. Diphtheria case is sent Albert's stain is done and preliminary report sent.

Culture for B haem strepto cocci

**High vaginal Swab/Endo-Cervical Swab/urethral swabs**

- 1) Smear may be made if indicated and on special request
- 2) Culture report after 48 hrs..

**Urine**

$10^4$  bacteria/ml. We consider this as significant.

# LABORATORY MEDICINE DEPARTMENT

## *Clinical Microbiology Division*

<i>Investigation</i>	<i>Sample</i>	<i>Container</i>	<i>Collection Place</i>	<i>Test Method</i>	<i>Test Schedule</i>	<i>Reporting Schedule</i>	<i>Remarks</i>	<i>Charges</i>
1. Urine- (Routine)- Protein, Sugar & Microscopy	First, clean catch urine- 30-50 ml	Clean transparent	Room # 28, OPD	Semi-auto + Microscopy	Daily	Next day	Please see the enclosed instructions	Rs. 20 each panel
2. Urine- for Sugar, protein, ketones, Bile salts, Bile pigments, nitrites, Hemoglobin, pH, S.G. urobilinogen	-Do-	-Do-	-Do-	Strip test + Manual	-Do-	-Do-	-Do-	
3. Urine- (Special) Porphyrins, Bence-Jones protein, Myoglobin, Methaemoglobin, Chyle etc.	-Do-	-Do-	-Do-	Manual	On request	-Do-	-Do-	
4. Fecal examination routine with occult blood	5-10 gm fresh faeces	Clean, transparent wide mouth	-Do-	Manual + Microscopy	Daily	-Do-	Please see the enclosed instructions	
5. Sputum for AFB – ZN stain (concentration/ floatation methods)	10-20 ml sputum	Clean, transparent, wide mouth	-Do-	Manual + Microscopy	-Do-	-Do-	Please see the enclosed instructions	
6. Semen analysis	Lab. ejaculation	Clean, transparent wide mouth	-Do-	Manual + Microscopy	-Do-	-Do-	Please see the enclosed instructions	
7. Blood /Bone marrow/splenic aspirate for parasites	5, ml blood / aspirate	Sterile, plain	Lab. Medicine	Manual + Microscopy	-Do-	-Do-	Please see the enclosed instructions	

<i>Investigation</i>	<i>Sample</i>	<i>Container</i>	<i>Collection Place</i>	<i>Test Method</i>	<i>Test Schedule</i>	<i>Reporting Schedule</i>	<i>Remarks</i>	<i>Charges</i>
8. Urine for Culture and sensitivity	10-20 ml fresh urine	Sterile	Room No. 28, OPD	Manual + Microscopy	Daily	Next day	Please follow instruction	Rs. 50 each panel
9. TPHA/ELISA for syphilis	5 ml blood	Plain	Room No. 27, OPD	Manual/ semi-auto	On request	3-4 days	Please send only highly clinically suspected cases	
10. HBsAg detection	-Do-	-Do-	-Do-	Semi-automated-ELISA	1,3, 5*	Next day	-Do-	
11. Bone marrow/splenic Aspirate for Leishmania smears & culture	0.5-1 ml aspirate	Sterile	Lab. No. 25, Phone ext 4397	Manual	Please enquire	Same day-15 days	Send aspirate with peripheral blood sample in EDTA	Rs. 100 each test
12. Diagnosis of opportunistic infections by IFA	Please enquire	Please enquire	-Do-	Manual	Please enquire	Variable	Contact on 4397/4977 Before sending the sample	
13. Stool for Vibrio cholera with use of anti-sera	2-3 ml fecal sample	Sterile, transparent	-Do-	Manual	Daily	2 hours	—	
14. rK-39 (Leishmania serology ELISA)	5 ml blood	Sterile, plain	-Do-	Manual	Please enquire	Please enquire	Contact on 4397/4977 Before sending the sample	
15. HIV Antibody detection	5 ml Blood	-Do-	Room No.	Semi-Automated-ELISA	1, 3, 5*	Next day	*1, Mon, 3, Wed, 5, Fri	
16. TB antibody (either IgG/IgM/IgA)ELISA	-Do-	-Do-	-Do-	-Do-	On request	Variable	Urgent cases same day Pre-test counseling is a must.	

<i>Investigation</i>	<i>Sample</i>	<i>Container</i>	<i>Collection Place</i>	<i>Test Method</i>	<i>Test Schedule</i>	<i>Reporting Schedule</i>	<i>Remarks</i>	<i>Charges</i>
17. Chlamydia antibody (IgG/IgM) detection	-Do-	-Do-	-Do-	-Do-	On request	Please enquire	Antibody detection has very poor diagnostic value	
18. Hepatitis A Virus antibody detection	-Do-	-Do-	-Do-	-Do-	Please enquire	-Do-	—	
19. Toxoplasma DAT	-Do-	-Do-	-Do-	-Do-	On request	-Do-	—	
20. Toxoplasma IgG	-Do-	-Do-	-Do-	-Do-	Every Tue. and Thurs.	4-5 days	Only as reference	
21. Toxoplasma IgM	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-	—	
22. Rubella IgG	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-		
23. Rubella IgM	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-		
24. CMV IgG	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-		
25. CMV IgM	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-		
26. HSV-1 IgG	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-		
27. HSV-2 IgG	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-		
28. HSV 1/2 IgM	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-		
29. Antibody to Parvo virus B-19	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-	—	Rs. 200 each panel
30. HIV Antigen (p24) detection	-Do-	-Do-	-Do-	-Do-	-Do-	3 days	Only recently expose cases	
31. Hepatitis E Virus antibody detection	-Do-	-Do-	-Do-	-Do-	-Do-	weekly		
32. Hepatitis C Virus antibody detection	-Do-	-Do-	-Do-	-Do-	-Do-	Next day		

<i>Investigation</i>	<i>Sample</i>	<i>Container</i>	<i>Collection Place</i>	<i>Test Method</i>	<i>Test Schedule</i>	<i>Reporting Schedule</i>	<i>Remarks</i>	<i>Charges</i>
33. Toxoplasma IgA detection	-Do-	-Do-	-Do-	-Do-	On request	Variable		
34. Anti-HBc IgM antibody detection	-Do-	-Do-	-Do-	-Do-	1, 3, 5*	-Do-		
35. Anti-HBs antibody detection	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-		
36. Hepatitis B-e antigen	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-		
37. Bacterial and Cryptococcal antigen detection by latex agglutination test	Sterile fluid, CSF/ Urine	Sterile, transparent	Lab. No. 25, Phone ext 4397	Manual	On request	same day		
38. Experimental mice inoculation for diagnosis of infection	-Do-	-Do-	-Do-	Manual	On request	Variable	Only mice use	
39. TORCH Complete panel (IgG or IgM)	5 ml blood	-Do-	Room No. 27, OPD	Semi-automated, ELISA	1,3,5*	8-10 days	Please provide complete details of patient/ investigations	Rs. 400 for each panel
40. Blood and other sterile body fluids for Bacterial and fungal culture with drug sensitivity-aerobic/anaerobic/FAN	5-10 ml blood/sterile fluid	Ask for the specific bottle	Lab. No. 25, Phone ext 4397	Semi-automated Bact/ Alert technique	Daily	Variable	Services available on Holidays and Sundays also	

<i>Investigation</i>	<i>Sample</i>	<i>Container</i>	<i>Collection Place</i>	<i>Test Method</i>	<i>Test Schedule</i>	<i>Reporting Schedule</i>	<i>Remarks</i>	<i>Charges</i>
41. Sputum, Lymphnode aspirate or other tissues for Mycobacterium (TB) culture and sensitivity by automated System	5-10 ml sputum or 0.2-1 ml aspirate/ tissue	Sterile	Lab. No. 25, Phone ext 4397	Semi-automated MGIT-960 (bac-tec) method	Daily	Variable 10-30 days	Only select patients. Please contact in advance	Rs. 500 each test
42. HCV-RIBA test	Please enquire	-Do-	-Do-	Manual	Please enquire	Please enquire	Only as confirmatory test	
43. HIV Western blot/ Line Immunoassay	-Do-	-Do-	-Do-	Manual	-Do-	-Do-	-Do-	
44. PCR for Leishmania on various clinical samples	-Do-	Please enquire	-Do-	Semi-automated	-Do-	-Do-	-Do-	
45. PCR for MDR –TB and species specific sequences	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-	
46. PCR for Cyto-megalovirus infection	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-	
47. PCR for Toxoplasma	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-	-Do-	

### Details of Tests Performed by the Hematology Section

<i>Investigation</i>	<i>Sampling</i>			<i>Assay</i>		<i>Reporting</i>	<i>Remarks</i>
	<i>Vol</i>	<i>Vial</i>	<i>Time</i>	<i>Place</i>	<i>Method</i>	<i>Schedule</i>	
Hb						Same day evening	For ESR fasting is necessary
TLC							
Platelet count							
RBC count					Electronic blood cell counter		
Hct							
MCV							
MCHC							
MCH							
RDW	2 ml	EDTA	8.30 to 10.30 am (sat. upto 9.30 am)	Deptt of Lab Med. Room No.23 (OPD) Room No.22 (Ward)			
ESR							
P.S. (Morphology) Retic count Malaria parasite							
Only PS	Finger prick		8.30 to 10.30 am.	"	Manual	Within 30 minutes	
Only Hb	Finger prick						



<i>Investigation</i>	<i>Sampling</i>			<i>Assay</i>		<i>Reporting</i>	<i>Remarks</i>
	<i>Vol</i>	<i>Vial</i>	<i>Time</i>	<i>Place</i>	<i>Method</i>	<i>Schedule</i>	
<b>Emergency Lab</b>							
Hb	2 ml	EDTA					
TLC	EDTA		Round the clock	Emergency Lab	Manual Within 2 hours		
Platelets	Blood						
PS for MP							
Urine sugar	10 ml of Urine	Clean vessel	Round the clock	Emergency Lab	Dipstick method	Within 1 hour	
Urine protein							
Urine letone							
Microscopy (On request)							
Plural/Peritoneal fluid exam. Microscopy and cell count	10 ml of fluid	Clean vessel	Round the clock	Emergency Lab	Manual method	Within 2 hours	
CSF	2 ml	Clean vessel	Round the clock	Emergency Lab	Manual method	Within 2 hours	
Gm staining of CSF							Gm staining is done by resident themselves

## **RADIO-DIAGNOSIS SERVICES**

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### **LOCATION**

The Department of Radio-diagnosis at the All India Institute of Medical Sciences, New Delhi is situated at the Ground Floor of the main hospital building and caters for the huge imaging services to both the in-patients and the out-patients of the main hospital. The neuro-radiology and cardiac-radiology imaging services are under separate departments and located at the cardio-thoracic and the neuro-sciences block. Imaging services for the Ophthalmology patients are available at the Dr. Rajendra Prasad Centre for Ophthalmic Sciences. Similarly, imaging services for patients attending the Institute Rotary Cancer Hospital (IRCH) are located at the IRCH block itself.

The main Department of Radio-diagnosis is spread over a large area :

- (i) The OPD wing has all the conventional X-Ray units catering mostly to the OPD patients - 6 rooms.
- (ii) Special investigation wing – has angiography unit, fluoroscopy unit, mammography unit and indoor conventional X-Ray units.
- (iii) Ultrasound (US) and Orthopaedic Section - have two rooms of which one room is for the conventional orthopaedic X-Rays and other room is for US.
- (iv) Computed Tomography (CT) Section - has two spiral CT scanners, one US unit and film digitizer.
- (v) Casualty Section - has one conventional X-Ray room and one US room.

### **AVAILABLE INVESTIGATIONS**

The Department provides all possible imaging services i.e conventional

radiology, US, CT, MRI, vascular studies and all types of interventional procedures.

**Timings And Registration :** *Patients sent with the request for an imaging service carry an appropriate requisition form which are available to the clinicians, both in the OPD as well as in all the Wards. Patients make payment for the investigation (except those exempted by appropriate authority) to the cashier stationed at the X-Ray counter/central admission office.*

## CONVENTIONAL PLAIN X-RAYS

The OPD and the indoor cases have separate registration counters for conventional X-Rays.

- (a) All OPD cases are registered at the OPD X-Ray counter. Depending upon the requisition either the X-Ray is done on the same day or the patient is given an appointment (date and time). Patients are guided to the respective X-Ray rooms from the X-Ray counter.
- (b) All indoor patients are registered at a counter near room no. 84. X-Rays are done on the same day.

## SPECIAL INVESTIGATIONS

All special investigations are done with prior appointment except those in emergency situation when it may be done any time during 24 hours as and when required. Requisition forms for different special investigations are to be filled by the clinician. Appointment is given on a proper appointment slip detailing the time and the room number where the investigation will be done, any pre-procedural instruction to be followed by the patient and consent to be signed by the patient where contrast will be administered or an interventional procedure will be done -

- (a) Investigations under fluoroscopy - general X-Ray counter
- (b) Intravenous urography, MCU, oral cholecystography - general X-Ray counter
- (c) Hysterosalpingography (HSG) - appointment given by Deptt. of Obst. & Gynae.
- (d) Ultrasonography - general X-Ray counter
- (e) Computed tomography - counter in CT Wing (Room No.8)
- (f) Vascular studies (angiography and venography) - Angio. Room (Room No.80)
- (g) Interventional studies - respective room depending upon the image guidance to be used
- (h) Magnetic Resonance Imaging (MRI) - MRI counter in Deptt. of NMR..

## TIMINGS FOR APPOINTMENT

- (a) General X-Ray Counter : Open from 8.30 A.M to 4.00 P.M with lunch break.

	Monday – Friday	Saturday
OPD Plain X-Rays and all special investigations	8.30 A.M - 3.00 P.M	8.30 A.M-11.30 A.M

- (b) For indoor patients, routine plain X-Rays are registered from 8.30 A.M to 1.00 P.M. After that only urgent cases are registered upto 3.00 P.M.
- (c) CT appointment forms are received from 8.30 A.M to 1.00 P.M. in the CT wing.

## CONVENTIONAL PLAIN X-RAYS

### LOCATION

#### **OPD patients**

<i>Investigation</i>	<i>Room No.</i>
1. Large Chest and cervical spine	60
2. Miniature Chest X-Rays	21
3. All other plain X-Rays	61
4. Orthopaedics X-Rays	42, 17
5. Dental X-Rays	43

#### **Indoor Patients**

1. All plain X-Rays (Pvt.Ward + Paediatrics)	74
2. All plain X-Rays, rest of the wards	84
3. Dental X-Rays	43
4. Miniature Chest X-Rays	21

#### **Special investigations for OPD and Ward patients**

1. Fluoroscopic investigations i.e Barium Studies (swallow, meal, enema), sinograms, T.T.C, HSG	44 for OPD 75 for indoor and paediatrics
2. IVU, Adult MCU, OCG	78
3. Paediatric MCU	39
4. Ultrasonography	18 for OPD & indoor 8 special procedures and pediatrics

5. Computed Tomography	8	
6. Vascular studies	80	
7. Interventional studies		
CTguided		} Angiographic room
US guided		
In respective imaging		
Fluoroscopy guided		
8. Mammography with intervention	76	
9. MRI		Department of NMR

## DISPATCH OF X-RAYS/REPORTS

Plain X-Rays of indoor patients are dispatched to their respective wards on the same day in the afternoon. OPD X-Rays are dispatched on the 2nd or 3rd day.

Films of all the special investigation are filed in the record section of the Radiology Department (Room No. 73) and the report is sent to the respective OPD or Ward.

## RECORD SECTION AND FILING

As mentioned above, films of all the special investigation are filed in the record room (Room No. 73) and are available to the clinical units for viewing anytime during working hours. Films may be borrowed from the record section after making necessary entries in the issue-register by the clinical residents. The same films are to be returned to the record section as early as possible.

## EMERGENCY IMAGING SERVICE

The X-Ray room in the casualty section is functional round the clock. A Junior Resident is available from 8.30 A.M to 8.30 P.M. A Senior Resident is available on duty daily with a faculty member (on call) from 4.30 P.M to 8.30 A.M next day. All the plain X-Rays (including medico legal cases) of the casualty patients are done in the casualty X-Ray room throughout 24 hours. Emergency special investigations i.e US, CT, angiography, IVU, barium etc. are also done round the clock depending upon the clinical indication for the casualty and indoor patients. After the routine working hours urgent plain X-Rays of the indoor patients are performed in the casualty X-Ray room and the portable services for very sick indoor patients are also provided round the clock.

## ADMINISTRATIVE WING (room numbers 69 to 71)

Conference room, X-Ray museum, administrative office, residents' room

and office of some faculty members are located in this wing.

The Department of Radio-diagnosis holds inter departmental radiology conference once a week with most of the clinical units. The problematic, interesting and some routine images of the OPD and the indoor patients are discussed by consultants and residents of radio-diagnosis and the respective clinical unit. Thus the non-radiology clinical residents get wide exposure to imaging modalities and their interpretation in the background of clinical findings. They are also trained about the algorithmic approach to utilize imaging services in a given clinical problem.

# **MAGNETIC RESONANCE IMAGING (MRI)**

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## **MRI & MRS SERVICES**

MRI is the new medical diagnostic technology that uses a strong magnetic field and radio waves to allow physicians to explore the human body. The images produced can help the doctor to detect and define the differences between healthy and diseased tissues. MRI is a multi-planar non-invasive procedure, which gives superior soft tissue contrast resolution compared to CT. In addition, special procedures like MR angiography, MR cholangiogram, contrast enhanced angiography, CSF flow imaging, functional MRI to study brain functions, diffusion and perfusion MRI are also being carried out routinely.

## **FACULTY-IN-CHARGE**

Head of the Department of Nuclear Magnetic Resonance.

## **LOCATION OF THE MRI FACILITY**

The MRI facility of the Department of NMR is located on the ground floor behind the Cath Lab. complex of the C.N. Center and on the back side of the Jawahar Lal Nehru Auditorium.

## **REQUISITION & PROCEDURE**

For MRI investigation, an appointment is necessary. Preference is given to indoor patients. Requisition form filled by the clinical faculty/Sr. Resident is screened by one of the concerned three radiology departments, namely, Department of Radio-diagnosis / Department of Neuro Radiology (for Neurosciences Center) / Department of Cardiac Radiology (for Cardiothoracic Center).

Information related to the patients' illness and relevant investigations conducted have to be provided in the requisition form available in the OPD/ward. Special care has to be taken while requisitioning MRI of patients on life support. Anesthesia has to be arranged by the clinician. Patients with pacemaker or any ferromagnetic metallic implants cannot be imaged. Artificial valve, artificial limb & artificial joint may be contra-indications. After all these screening procedures, an appointment date is given by the radiographer of the MRI facility.

Patient has to make necessary payment to the cashier at the central admission office. This challan form is also issued at the reception counter of the MRI facility.

Receipts of payment made and the challan form duly endorsed issued by the cashier are to be submitted at the reception counter of the MRI facility. Original receipt is returned to the patient after endorsement.

## TIME SLOTS FOR THE SCREENING DEPARTMENTS

Working hours	Monday to Friday Saturday	8.00 A.M. to 8.00 P.M. 8 A.M. to 3 P.M.
Department of Cardiac Radiology	Monday to Thursday	12 Noon to 2 P.M.
Department of Neuroradiology	Monday & Thursday Tuesday & Wednesday	2 P.M. to 7 P.M. 8 A.M. to 12 Noon
Department of Radiodiagnosis	Monday & Thursday Tuesday & Wednesday	8 A.M. to 12 Noon 2 P.M. to 7 P.M.
MRI for Gamma Knife Surgery	Wednesday & Friday	8 A.M. to 10 A.M.
MRI for X-knife Surgery	Saturday	2 P.M. to 3 P.M.
MR Spectroscopy	Friday Saturday	10 A.M. to 7 P.M. 8 A.M. to 2 P..M.

## PREPARATION FOR THE TEST

Patient should report at the reception counter at the fixed time of appointment with all records of previous investigations like CT-scan, X-ray, Ultra Sound, etc. and reports/hospital discharge summary, if any. Patient should report in plain-clothes free from metallic hooks, pins, bangles, nose pin, etc. must be removed beforehand. Sometimes, an MRI study may take 1 hour or more. It should be kept in mind before making other appointments. If cardiac monitoring is required at the time of MR scanning, adult male patients should report with their chest hair removed. Light food may be taken before MRI scan only if it is not restrained for the Anesthesia purpose.



## MRI CHARGES

	<i>Indoor (Rs.)</i>	<i>Outdoor (Rs.)</i>
MRI of any one part (Routine or Advanced application like MRA/MRV/MR colangiogram etc.)	2,500	3,000
Supply of films on Additional Payment (as per rules)*	500	500
Each additional part (Routine or advanced application)	1,500	1,500
Contrast charges		
Children below 12 Years	1,500	1,500
Patients 12 Years & above	2,600	2,600
MRS for research	3,000	3,000

\*As per rules, films are not issued to patients. Under special circumstances on written requests made before the scanning, films are issued on additional payment as per rules.

## REPORT

Report of MRI scan is provided to the patient by the concerned screening department after 3 days. MRI reports of Radio diagnosis can be had from the reception counter of MRI facility. MRI reports of Neuro-Radiology & Cardiac Radiology can be had from the record room of the respective center during their working hours.

Films of MRI scans are filed in the record rooms of the respective screening departments and are available to the units for viewing during working hours. They may be borrowed on permission from the respective head of the screening department.

## **BLOOD TRANSFUSION AND BLOOD BANK SERVICES (MAIN HOSPITAL)**

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Blood Transfusion is one of the most important therapeutic measures and can be life saving for the patients. The benefits of a blood transfusion must always be weighed against the risks of transfusion associated illness. The screened blood is always safe is not true. So use blood when it is absolutely necessary.

For prescribing blood a checklist for clinicians is given below:-

Before prescribing blood or blood products for a patient ask yourself the following questions.

1. What improvement in the patients clinical condition am I aiming to achieve?
2. Do the benefits of transfusion outweigh the risk for this patient?
3. Have I recorded my decision and reasons for transfusion on the patients chart and blood request form?
4. Is there any other treatment I should give before making the decision to transfuse?
5. What are the specific clinical laboratory indications for transfusion for this patient?
6. What are the risks of transmitting HIV, hepatitis, syphilis or other infectious agents through this transfusion?

If in doubt ask yourself the following:-

If this blood was for myself or my child would I accept the transfusion in these circumstances.

### ***Products available***

Red Blood cell, Paediatric unit leuco-reduced RBC, Platelets, O-ve RBC in

AB Plasma, fresh frozen plasma, plasma, cryoprecipitate, Albumin 5% and reconstituted whole blood.

### ***Procedure for obtaining blood for transfusion***

**Routine:** 24 hours in advance. All routine requests to reach blood bank by 1:00 p.m. Use separate sheets for each component.

**Urgent:** Same day

**Immediate:** Within 10 min (in case life saving)

### ***Drawing blood for typing and cross-matching.***

Minimum 5 ml of recipient's blood should be collected in pre-labelled gun taped clean sterile test tube of 12 × 100 mm diameter without any anticoagulant. Only liver transplant or accident victims require large volume of blood. Test tubes may be obtained from blood bank counter each time the patient sample is sent to the blood bank. The label should clearly indicate name of recipient, age, sex, central registration (CR) number, ward, bed numbers and the signature of the doctor who drew the blood. The test tube should be labelled before the blood sample is put in by the doctor who draws the blood.

### ***Blood requisition***

The blood sample should be sent to the blood bank accompanied with a 'blood requisition form'. Correctly filled, which must tally with the label on the blood sample. The instructions for filling the form must be carefully read.

For genuine emergency, the request must be signed by Senior Resident. Emergency facility should not be misused as only emergency staff is posted.

The reverse of each blood request form gives a 'prescribing blood – checklist for clinicians and indications for transfusion. This must be read and followed while ordering blood and component. Blood can transmit serious and fatal disease.

### ***Blood replacement***

Blood bank does not manufacture blood but depends upon the donation of blood from relatives of patients and voluntary blood donors. Therefore, all the residents and consultants should motivate the relatives of the patient to donate blood. Without such donations blood bank can not function effectively. However, if a patient genuinely has no relatives a consultation may be sent to C.M.O. (Blood Bank) requesting for blood without replacement. Undue pressure to provide replacement donor should be avoided as it forces patients

to seek help from touts or professional blood sellers. When the relatives agree to donate blood they must be given a note on a piece of paper with the identity of the recipient (name ward/Bed No.) patient on whose behalf the relatives are donating blood.

### ***Blood donation timings***

9 a.m. – 6 p.m. on week days.

9 a.m. – 5 p.m. on Saturday.

After such donations the blood bank provides a donation card to the relatives. This card must be attached with the blood requisition form and card no written on the form when blood is being requisitioned for that patient.

### ***How to get the blood issued from blood bank***

The Sister incharge of the ward has to fill in the particulars of the recipient in the “ward indent” book. The particulars must tally with the details given by the doctor on the blood requisition form.

The doctor who is going to transfuse must cross-check the label on the tube with that of the cross match label which is provided with each bag. Details of patient on cross match form must tally with the details in patient’s case sheet. Do not add anything to the blood. 30 min is the maximum time, from issuing blood from the blood bank to start transfusion. Information regarding transfusion must be filled before the transfusion is started. During the first ½ hours, it should be run slowly at the speed of 3 ml per minute. Later if there is no reaction and if patient’s condition permits the speed of transfusion can be increased to 10 ml/min or even more.

### ***Transfusion reaction***

The following should be done:

1. Stop transfusion and start I/V crystalloid infusion.
2. Do a clerical check of blood bag, cross match form and patient’s chart for patient’s details, blood bag numbers, blood group on bag and cross match label.
3. Fill in reaction details in transfusion reaction form available at nursing station.
4. Collect 5ml. of patient blood in plain test tube and 1 ml. of patient’s blood in EDTA bottles.
5. Send Transfusion Reaction form, blood samples and blood bag with attached transfusion set to the blood bank.

Can we store blood in the domestic refrigerator?

- (a) May be stored
  - (i) compartment under the chiller
- (b) No storage
  - (i) Freezer
  - (ii) Chiller
  - (iii) Door
  - (iv) Lowest compartment
- (c) Blood can be kept at room temperature for max. 30-60 min. after issuing the blood from the blood bank.
- (d) Hot towels should never be used to warm the blood
- (e) In routine transfusion blood need not be warmed
- (f) Please do not keep the platelet concentrate in the domestic refrigerator keep them at room temp. and try to transfuse within two hours.
- (g) For F.F.P. (Thawed)
  - Transfuse immediately.
  - Do not store in domestic refrigerator
  - If not used within two hours return it to the blood bank.

***For single donor platelets***

1. A request in the name of CMO – Blood Bank should be sent giving details of patients.
2. The donor should be healthy and should fulfill the following criteria:
  - No H/o Aspirin intake in last one week.
  - No H/o. joint pain/CA intake.
  - No H/o. long standing bleeding.
  - No. H/o cardiac/resp. problem.
  - Hb. 12.5 gm%
  - Platelet count. 1,50,000/-cum.
  - All infection markers should be negative  
(This should be done on the day of aphaeresis)

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## CONTROL ROOM

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Control Room, is the hub of administrative activities in the hospital. It is located in the ground floor of Department of Hospital Administration near M.S. Office, Room No.12, Internal phone No(s). 3308, 3574. It is manned by a Resident Administrator 24 hours a day on rotation. The resident on duty in Control Room is called the “Duty Officer” and they act on behalf of Medical Superintendent after office hours and on holidays.

Duty Officer coordinates and supervises the various activities in the hospital. The nature and scope of activities of Duty Officer is wide and varied ranging from settling disputes, referrals, purchasing life saving drugs, arranging beds for very serious patients, coordinating activities for providing VVIP Emergency care, disaster and security related activities of the hospital.

All the important events which take place during the duty hours of Duty Officer are recorded in the Report Book which is put up to the Medical Superintendent every morning at 9.00 hours.

### **FUNCTIONS OF DUTY OFFICER**

#### ***Shortage of beds***

As per the policy guidelines all seriously ill patients needing admission and who can not be transferred to the other hospital are to be accommodated in the hospital, even if no bed is available with the admitting clinical unit. In such a situation, the Senior Resident of the admitting clinical unit or the Casualty Medical Officer should seek help from Duty Officer in locating a bed in any ward of the hospital (periphery), where optimal care can be provided.

Ideally, such patients should be admitted in the emergency ward. However, in the scenario of non-availability of bed the Duty Officer is authorized to put such a patient on any vacant bed available in the hospital.

***Admission Blocking***

To monitor and maintain effective control of bed utilization of emergency ward, every morning, the Duty Officer blocks the routine admission of departments who have occupied the emergency/peripheral beds beyond 48 hours. The Senior Resident of the admitting unit should shift the patients from beds he has occupied in emergency/periphery beyond 48 hours to his own ward to get the block released for routine admissions.

***Referrals***

For referral of patients from AIIMS Casualty to other government hospitals because of non-availability of beds, the CMO/MSSO shall contact the Duty Officer. He/she shall discuss with the hospital where the patient has to be shifted and arrange the logistics in the form of a vehicle under his/her control and instruct the MSSO to shift the patients to other hospitals within the municipal limits of Delhi.

***Communicable diseases***

As per hospital policy no communicable disease patient should be admitted without an isolation facility or shall be shifted to the Infectious Disease Hospital, Kingsway Camp/TB Hospital, Mehrauli. Duty Officer shall help to arrange an isolation or provide an ambulance for transporting such a patient to the said hospitals.

***Absence of personnel***

In the case of absenteeism of housekeeping personnel, ECG technician and radiographer the Sister I/c. of the ward/O.T./Casualty should contact the sanitary hawaldar/page the radiographer/ECG technician. If the things are not sorted out inspite of the efforts of Sister in-charge, then they will report to the Duty Officer. The Duty Officer then should ascertain the cause of problem and take necessary action.

***Admission of E.H.S. patients***

The Duty Officer allots beds for an EHS patient in AB6 ward or in the earmarked EHS beds of the various departments and maintains a list of EHS OPD admission. In the absence of a bed for a serious EHS patient, the Duty Officer shall be contacted to locate a bed anywhere in the hospital over and above the maintained earmarked beds or have the earmarked beds vacated if they have been occupied by non-EHS patients.

***Conflict between two parties***

Conflict between residents, resident and staff, resident and patient, staff

and patient etc. which could not be sorted out locally should be brought to the notice of the Duty Officer. He/She should try and speak to both the parties to diffuse the conflict or to arrive at an amicable solution.

### ***Shortage of supply***

It is the responsibility of the Sister I/c. of the ward/O.T./Casualty to arrange their supplies from the hospital store. In the absence of a particular item/any new item the resident should inform the Sister I/c. who in turn shall arrange it from stores or contact the Duty Officer for a local purchase during odd hours.

### ***Engineering problems***

It is the responsibility of the Sister I/c. of the ward to make complaints in the engineering enquiry for any minor/major repair. If these faults are not rectified within a reasonable time, the users will inform the Duty Officer alongwith the complain number and time of complaint. Duty Officer's should ascertain the reasons for delay and if not satisfied shall directly communicate to concerned executive engineer for the needful.

### ***Security problem and patient absconding***

In all the cases the Security and Duty Officer both should be informed. Information to the Duty Officer shall aid in expediting the security Officer's intervention.

### ***Preservation of body and embalming***

During odd hours, the Duty Officer can give permission for keeping the body in the mortuary after verifying the death certificate and police clearance certificate.

For embalming during odd hours the Duty Officer shall coordinate with the consultant in Anatomy and provide transportation to the team and facility.

### ***VVIP Emergency and Disaster***

The Duty Officer receives an information from police SPG for VVIP emergency and for any disaster from media or any other source. The Duty Officer initiates VVIP emergency and disaster plan by paging the concerned committees. After initiation he is responsible to coordinate the activities and arrange for logistic support to aid the doctors and nurses for putting the patients in wards where optimal care can be provided.

***Duty Officer in Control Room is responsible to ensure the smooth functioning of the policy and guidelines of hospital.***



## BONE DENSITOMETRY

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### INTRODUCTION

Bone Densitometry investigation facility for bone mineral density study functions under the Deptt of Endocrinology.

### LOCATION

Room No 58 on the verandha of Rajkumari Amrita Kaur OPD block.

### DAYS OF AVAILABILITY

The facility is available for OPD & indoor patients on limited number of working days as per the following schedule: -

1. Mondays & Wednesdays – 9:00 AM to 1:00 PM & 2:00 PM to 5:00 PM
2. Tuesdays – 9:00 AM to 1:00 PM

### PROCEDURE FOR REQUESTING THE STUDY

Due to the limited availability of the facility, referrals for bone densitometry studies should be for the bare minimum and only if essential. ***Serum studies of the patient for Calcium, Phosphorous and Alkaline Phosphatase are essential pre-requisites and the investigation values are required to be endorsed on the requisition form.*** The doctor will issue patients requiring Bone Densitometry the specified requisition slip for the investigation. The patient will be required to deposit the amount as applicable for the study in advance towards the cost of the test at the cash counter in the Central Admission Office and obtain a receipt for the same. Following obtaining the cash receipt, the patient would be required to report to Room No 58 in OPD block where an appointment for the Bone Densitometry will be scheduled.

On the appointment date the patient should report to Room No 58 in the OPD 15 minutes before the scheduled time. In case of OPD patients, the investigation reports will be sent direct to the referring OPD. The respective ward will collect investigation report of indoor patients from Room No 58 on next day after 2:00 PM.

### **CHARGES FOR BONE DENSITOMETRY STUDY**

- (a) Single site study - Rs 400/-
- (b) Two sites study - Rs 600/-
- (c) Three sites study - Rs 800/-
- (d) Whole body study - Rs 1000/-

In the case of poor and indigent patients, facility for exemption of charges would be available as per current practice.

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## NUCLEAR MEDICINE

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### LOCATION

Department of Nuclear Medicine is located in the Ground Floor of Amrit Kaur OPD Block adjoining the Department of Radiodiagnosis. Another section is located on Ground Floor of CNC center Room No 36. There are two beds in isolation room of Ward D6 for nuclear medicine department. Thyroid Clinic runs on Mon. Wed, & Friday in Room 57 A & 57D .Bone Palliation clinic is run in Room 54.

### *Area wise distribution of work*

<b>S. No.</b>	<b>Room No</b>	<b>Function</b>	<b>Access/Tel</b>	<b>Contact</b>
1.	47	Imaging	Main Dept 3446/3210	JR/SR
2.	48	WB Iodine, Gallium & MIBG	Main Dept 3530/3210	JR/SR
3.	49	Whole Body Imaging & SPECT	Main Dept 3446/3210	JR/SR
4.	50	Whole Body Imaging & SPECT	Main Dept 3446/3210	JR/SR
5.	51	Reporting & seminar Room	Main Dept 3446/3210	
6.	59	GFR,RBC Mass Cr. Studies <b>Appointments</b> Thyroid Uptake	From OPD Corridor Internal	STO/LDC
7.	59B	Dispensing Room for Iodine, RIA,C <sup>14</sup> Urea Breath Test	From OPD Corridor Internal	JR/SR
8.	36 CNC	Cardiology	CNC G F 4761	JR/SR
9.	In Patients	D6 Ward Isolation Room (Only for Iodine Therapy)	4763	JR/SR

**Available Investigations System wise**

<b>Specialty/ System</b>	<b>Indication</b>	<b>Study</b>	<b>Room</b>	<b>Patient Preparation</b>	<b>Day</b>
<b>Cardiology</b>	Coronary Artery Disease	Stress Thallium	36 CNC	Nil Orally Stop Beta Blockers for 72 Hrs	Tues/Wed
	Cardio Myopathies	Resting LV Functions MUGA	36 CNC	Nil	Mon/Fri Satur
	Congenital Heart Disease	Resting LV RV Functions	36 CNC	Nil	Mon/Fri Satur
	Infarct Avid imaging	PYP Scanning	36 CNC	Nil	Every Day
<b>Neurology</b>	Epilepsy	Brain SPECT both Ictal and Inter-ictal	49	Ictal SPECT only for In Patients	Wed
	Stroke	Brain SPECT	49	Nil	Wed
	Space occupying	Brain SPECT	49	Nil	Wed/Thurs
	Radionecrosis Vs recurrence	Brain SPECT	49	Nil	
<b>Osteology</b>	Metastasis	Whole Body Bone Scan	49-50	Nil	Mon/Tues Fri
	Primary Tumor	Whole Body Bone Scan	49-50	Nil	Mon/Tues Fri
	Metabolic Bone Disease	Whole Body Bone Scan	49-50	Nil	Mon/Tues Fri
	Osteomyelitis	Localized	49-50	Nil	
	Bone Graft	Localized	49-50	Nil	
	Infection	Localized	49-50	Nil	
	Low Back Ache	Bone SPECT	49-50	Nil	
<b>Endocrinology</b>	Thyroid Disorders		48		
	Ca Thyroid	Whole Body Scan	48		Mon/Tues
	Hyper-parathyroid	Parathyroid	36 CNC		Tues/Wed
	Adrenal	MIBG Scan	48		Date
	Neuro endocrine tumors	Octreotide scan	48		
	Iodine Uptake	RAIU	59	Nil orally	Mon/Thur
<b>Urology &amp; Nephrology</b>	Obstructive Uropathy	Renal Dynamic Scan	47	Normal Hydration	Mon/Wed Fri
	Congenital Disease	Renal Dynamic Scan	47	Normal Hydration	Mon/Wed Fri
	Pyelonephritis	Renal Dynamic Scan	47	Normal Hydration	Mon/Wed Fri
	Kidney Transplant	Renal Dynamic Scan	47	Normal Hydration	Any Day

<b>Specialty/ System</b>	<b>Indication</b>	<b>Study</b>	<b>Room</b>	<b>Patient Preparation</b>	<b>Day</b>
	Tumor	Renal Dynamic Scan	47	Nil	
	Trauma	Renal Dynamic Scan	47	Nil	
	Ectopic Kidney	Renal Scan	47	Nil	
	Cyclo-sporine toxicity	Renal Dynamic Scan	47	Nil	
	Reflux	DRCG	47	Full Bladder	Satur
<b>G.E.</b>	GE Reflux	Reflux	47-49	Nil Orally	Thur
		Meckel's Diverticulum	47-49	Nil	
	G I Bleed	Blood Pool	47-49	Nil Orally	
<b>Hepato biliary</b>	Jaundice			Nil	Thur
	Choledochal Cyst	HIDA Scan	47	Nil	
	Cholecystitis		47	Nil	
	Gall Stone		47	Nil	
	Ca Gall Bladder	HIDA Scan	47	Nil	
	Bile Leak	HIDA	47	Nil	
	Trauma	HIDA	47	Nil	
<b>Oncology</b>	Primary	W Body Scan	49-50	Nil	Mon/Wed Fri
	Secondries	W Body Scan	49-50	Nil	
<b>Therapy</b>	Ca Thyroid	I 131	59 D6	To be given	
	Graves Disease	I 131	59 D6	To be given	
	Bone Palliation in Secondries	P 32; Strontium 89 Sm. 153	54	To be given	
	Arthritis	<sup>90</sup> Y Radio-synovectomy	59	To be given	
<b>Infection &amp; PUO</b>	Occult	WBC Scan	49-50	Nil	Every Day
	Follow up	Dextran	49-50	Nil	
		WB Gallium Scan	50		
<b>Emergency</b>	Torsion Testis	Testicular scan	47	Nil	Every Day
	Cholecystitis	Hepatobiliary	47	Nil	
	G I Bleed	Blood Pool	47	Nil	
	Blunt Injury Abdomen	Dynamic imaging	47	Nil	
	Pulmonary Embolism	Perfusion	47	Nil	
<b>In vitro</b>	GFR.RBC survival, RIA Red cell Mass		59	Nil	Date
<b>Misc.</b>	Lymph-scintigraphy	Lymphatic	49-50	Nil	Date

***Timing and Registration***

Appointments are given every day from 9 AM to 4.30 PM in Room No 59. Registration of the test in the assigned room is done on the day of the test in the room where test is to be done at 9 AM. Test is carried out on first cum first basis and if special scan is required JR/SR gives the instructions

***Reports***

Indoor reports are made available on same day and are to be collected from Room 51 Reporting cum Seminar room. OPD reports are ready within 48-72 hours and are to be collected from Room No 51 by the patient.

***Record***

All the scans are stored on Magneto-Optical Discs for retrieval Some scan are available on x-ray films.

## **HOSPITAL INFECTION CONTROL**

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The Residents should understand the modes of transmission of various infections in a hospital setting and practice preventive measures. Accordingly, the fundamental principles of preventing hospital infections can be followed by practicing “Universal Precautions” or Standard Precautions. According to this all the patients are considered potentially infectious and precautions should be taken when handling any fluid or secretions or exudates etc. of any patient irrespective of the status of infection. Components of standard precautions are:-

1. Proper hand washing
2. Use of protective barriers
3. Aseptic Techniques
4. Proper disinfection
5. Sterilization and proper waste disposal

### **HAND WASHING**

Hand washing is a single most effective method to decrease hospital infections. Proper hand washing with soap and water (for 15-20 sec.) should be practiced in the wards after examining an infected patient, before and after touching a patient in any high risk area, before and after performing any invasive procedure on the patients.

Only in emergency an alternative hand rub containing alcohol 70% should be used.

### **GLOVES**

Gloves are the most important barrier. They can be sterile if some procedure

is to be undertaken or unsterile if the resident has to only protect his hands from getting contaminated. They are not a substitute to hand washing and hands must be washed after removal of gloves. Gloves will not protect against needle stick injuries or injuries due to sharps and hence all pre-cautions must be taken to prevent injuries due to sharps.

## **ASEPTIC TECHNIQUES**

All the invasive procedures including putting up I/v lines, B/M aspirates, Urinary catheters, intubations, L.P. etc. should be done under all aseptic techniques. The instruments (critical) entering sterile body sites (like blood, tissues CSF etc.) should be autoclaved if reusable or should be disposable pre-sterile. The instruments (semi critical) touching the skin or intact mucous membranes like endoscopes should be disinfected between patient use for at least 30 min. in glutaraldehyde. This should be followed by reusing in distilled water.

- (i) The disinfectants should be used at the right concentration for right time. Many bacteria can actually multiply in sub-optimal concentration of the disinfectants.
- (ii) All the spillages of blood or other infectious material from the patient should be immediately covered with an absorbent paper, pour 1% hypochlorite, leave it for 10-15 min and then mop dry after approximately discarding the paper with a gloved hand.

## **BLOOD BORNE INFECTIONS IN HOSPITALS AND NEEDLE STICK INJURIES**

Three infections need special mention Hepatitis B virus, hepatitis C virus and HIV. Risk of transmission of HIV is probably 100 times lower than that of HBV with HCV falling between HBV and HIV.

Vaccine against HBV is available and must be taken by all the staff members. This is an individual's responsibility.

### ***For any needle stick injury during procedures, following steps should be followed***

1. Squeeze blood out from injury site immediately.
2. Wash with soap and water
3. Apply antiseptic lotion.
4. Report to Casualty Medical Officer.
5. For further investigation and prophylaxis, the Officer Incharge, should be contacted.



## HOSPITAL INFECTION CONTROL COMMITTEE

The committee undertakes surveillance of hospital acquired infections and Antibiotic resistance. It monitors the hospital environment and sterilization procedure to ensure proper disinfection and sterilization methods. This system also helps in identifying outbreaks of infection in order to implement early intervention.

### OT. DISCIPLINE

- (i) The operative work in various operation theatres may be completed within the allotted time.
- (ii) The lists of operations planned to be conducted on a particular day should be submitted before 12.00 noon on the preceding day to the assistant matron-MOT. This will enable her to order the preparation of the various sets of instruments and packs required for the particular operation well in time to catch the sterilization process in the CSSD. This will avoid stuffing of the sterilizers and running into the last hours.
- (iii) Assistant Matron-MOT should ensure that the sets are not too tightly packed and are not larger than 13"x9". She should further ensure that the drums are properly closed and packed. (Tray size 18"x12").
- (iv) All sets which need sterilization should have a double covering. Singly packed set will not be received by the CSSD.
- (v) All the rubber goods should be separately packed and it should be indicated on outside of the packs that the particular pack contains rubber goods.
- (vi) The assistant matron should also ensure that the gloves, gowns, drapes, sheets, towels and other cotton clothes used in the operation theatre area are checked for the presence of holes. Wherever these are detected, they should be immediately repaired and where repair is not possible, the same may please be condemned. None of the above material with holes should either be sent for sterilization or issued to the surgeons. We have no deficiency of linen in the hospital.
- (vii) Gowns, gloves and other sterilized material to be used for a particular operation only should be kept on trolley covered by sterilized sheet. When the particular operation is over, the sterilized sheet over trolley should be changed and the sterilized set for next operation spread over it.

- (viii) No person or whatever status and function should come into or leave the sterilized area without observance of already laid down precautions of dress, footwear etc. Assistant matron in-charge MOT is directly responsible for this.
- (ix) No person unconnected with operation theatres and its working should enter the operation theatre areas without the permission of the Officer In-charge Main O.T.

## **MEDICAL RECORDS, CERTIFICATES AND ATTENDANT PASSES**

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The AIIMS hospital has a well-documented medical records section (Int.Tel. #4737). This is located on the ground floor of C-wing, near M.S. Office. Dr. R.P. Centre for Ophthalmic Sciences, the Cardiothoracic and Neurosciences Centre and the Institute-Rotary Cancer Hospital have separate record sections.

### **IN-PATIENTS RECORDS**

Admission slips contain the name of the patient, age, sex, diagnosis, the ward and unit in which the patient is admitted should be written clearly. The admitting resident should sign and write his full name in block letters.

### **CASE SHEET**

The final diagnosis, secondary diagnosis and complications should be written in block letters on the front page of the case-sheet. This is because the personnel working in the medical record section are non-medical and they would not be able to fill in these details. The operative procedure should be written in block letters on the face-sheet. The date of discharge is extremely important. Therefore, it should be written on the face-sheet. The date and time of anaesthesia administered, if any, must also be mentioned. The result or outcome must be marked or circled in the "result" column on the face-sheet. The column of cause of death should be filled up and a 'tick' mark must be made on the column of autopsy, if the autopsy has been performed. Case sheet should be signed by the senior resident.

### **DISCHARGE SUMMARY**

The discharge summary should be prepared in triplicate. Care must be taken to ensure that the carbon copy attached to medical record sheet is legible

as this would be a permanent record. Efforts may please be made to use the proper sheets for specific purpose. These are available with the nurse. Each sheet used must contain the central registration (CR) number, the name of the patient, the identity of the treating unit, ward and bed number. The death certificate, death report and birth report must be filled in duplicate correctly as per record of the original case-sheet. It is to be signed by the senior resident with his/her full name in block letters.

The Life Insurance forms sent to the professor-in-charge or to the senior residents must be immediately attended to and special care should be taken not to lose it. All the Life Insurance forms are routed through the medical record section. No such forms should be entertained directly by the residents. All case records duly completed must be passed on promptly to the Medical Records Officer. Incomplete records bring bad name to the treating unit and the Hospital Administration. Case-sheet taken on loan from the medical records section should be returned within 15 days from the date of issue.

### **REPORTING OF COMMUNICABLE/DANGEROUS DISEASES**

Communicable/dangerous diseases e.g. dengue, cholera, malaria, encephalitis etc., and others as notified from time to time should be reported to Medical Record Officer (H) as soon as they are detected, diagnosed or admitted in OPD, Casualty and ward so that the same could be transmitted to the concerned health authorities. The report should be countersigned by the concerned HOD or consultant.

### **RECORDING IN THE CASUALTY MEDICO LEGAL REGISTER**

For the medico legal cases (MLC) attending casualty, residents who are posted as CMOs or ACMOs in the Casualty should record the findings correctly and clearly in the casualty medico legal register. The resident should sign it and write his or her full name in block letters, the parent Department and the unit to which he/she belongs.

### **THE ATTENDANT PASSES**

For each patient, irrespective of whether he/she is admitted to the general or paying ward, one attendant pass is issued from the Central Admission & Enquiry Office at the time of admission. Only one attendant having the pass is permitted to stay with the patient in the wards.

For patients attending casualty one attendant pass, on recommendation of the treating doctor is issued from casualty registration counter for each patient allowing one relative/attendant to stay with the patient inside the casualty.

## THE MEDICAL AND FITNESS CERTIFICATES

The forms for medical and fitness certificates are available in the OPD, EHS, Casualty and the in-patient ward. The intern/ Resident-in-charge of the patient fills up the form and gets it counter-signed by the consultant, senior resident, the CMO or the medical officer-in-charge of the EHS. Then the patient is instructed to deposit Rs.10/- with cash counter at the central admission office/Hospital where he/she is given a receipt for the same. However, EHS beneficiaries are not charged for the certificate. With the receipt the patient goes to the counter at the OPD area "Registration for Medical and Fitness Certificates" for counter signature.

## TIMINGS

The certificates can be obtained between 8:30 AM and 12:00 Noon on the working days from the Officer-in-charge at the central OPD registration counter, ground floor, OPD block, (Int.Tel. #4239).

**Note :** The hospital does not provide any facility for writing a 'will' by a patient. Also, except for the medical certificate and the subsequent fitness certificate, the Interns and the Residents are not authorized to entertain any request for other certificates e.g. certificate for sanity, sexual adequacy etc.

## **DEATH, NECROPSY, MORTUARY, MEDICO LEGAL SERVICES AND EMBALMING**

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In the event of the death in the wards of this hospital an adhesive plaster bearing the name of the patient in indelible ink is put on the right wrist of the deceased.

Two sets of the Death Certificates should be prepared and signed by the Resident (Senior or Junior) concerned. In the case of M.L.C., the death certificate should be marked M.L.C. at the top and the MLC information slip be filled up by the Sister-in-charge/Staff Nurse on duty and sent to the Police Officer in the Casualty, for further necessary action. Then the dead body is to be sent to the mortuary with a copy of the 'Death Slip'. The other copy of the 'Death Slip' with rest of the papers of the Death Certificate are sent to the Central Admission Office. The staff in CAO completes the 'Death Register' from the Death Certificate.

The CAO will issue the 'death slip' to the relative of the deceased after stamping 'The Body may be released' and obtain the signature of the relative/friend in the Death Register.

The staff in mortuary will handover to the relatives of the deceased the dead body along with the death slip which was sent to them earlier, in exchange of the death slip from the CAO, keeping this as an acknowledgement from the relative(s).

In case the body is sent to the mortuary and the next of kin/relatives are not present. Then with the help of details on the death information slip the Central Admission Office informs the relatives/next of kin by telephone or telegram. On their arrival the body is handed over to them from the mortuary, the procedure for this being the same as described above.

## **DISPOSAL OF UNCLAIMED BODIES**

In case there is no claimant/relative to take possession of the body for 72 hours from the time of notification of death by telephone/telegram, the mortuary attendant will inform the Department of Forensic Medicine and Toxicology. All non M.L.C. bodies are disposed by Forensic Department through a Hospital Attendant, who is given Rs.500/- as traveling allowance. All M.L.C. unclaimed bodies are handed over to the police for disposal.

## **MEDICO-LEGAL CASES**

Whether a given case is or is not a medico-legal case is recorded at the time of admission on the face-sheet. If a medico-legal case dies in the hospital the dead body is handed over to police constable posted in the Casualty. Alternatively, the body may be delivered to the police authorities who may have brought the case to this hospital. This is done only after obtaining a proper acknowledgement from the police. The medico-legal cases in which the report has been prepared in some other hospital but which are brought here for special treatment, should be admitted through the Casualty. At the Casualty all the necessary entries should be made in the medico-legal register and then the case sent to the ward. The CMO must be informed of all the discharges and deaths of the medico-legal cases by the treating Residents. This is to enable the CMO to inform the police immediately and to make the necessary entries in the medico-legal cases from the wards. It should only be given to the police authority. The police authorities are initially informed on telephone about the arrival, discharge or death of a medico-legal case. Written information is to be sent to the police station as early as possible by the CMO. The record of a medico-legal case must be maintained in the Casualty.

## **AVAILABILITY OF MORTUARY VANS IN DEATH**

The mortuary vans are available from various crematorium in Delhi. The charges can be enquired from them. Private vans are also available at mortuary gate and can be arranged. However, AIIMS hospital does not provide for any mortuary van service. It has to be arranged only by relatives/attendants of the deceased.

## **NECROPSIES (AUTOPSIES)**

Autopsy is a very important procedure to confirm the diagnosis made before death, to learn if any mistakes were committed and to understand and establish clinico-pathological correlations. Residents should make greater efforts to obtain autopsies on every fatal case.

## **PROCEDURES**

Autopsies can be performed at any time of the day or night. Two Residents are always on duty from the department of pathology whose duty roster is available in the Casualty. Prosectors are available round the clock.

During working hours (9.30 a.m. to 5.00 p.m. Monday to Friday, and 9.30 a.m. to 1.00 p.m. on Saturdays), the call may be directed to the Department of Pathology:

1. Obtain the name of the pathology Resident on call.
2. Send the following documents to the pathology resident:
  - Autopsy consent form
  - Autopsy request form
  - Case sheet
3. Have the body sent to the mortuary.

## **EMBALMING SERVICES**

Embalming services are available round the clock. It is done by Department of Anatomy. In working hours, Deptt of Anatomy may be contacted. After office hours, duty officers may be contacted to initiate embalming team to come to hospital.



## HOSPITAL BILLING SERVICES

### INTRODUCTION

The Hospital Billing Services are responsible for billing patients for various patient care services (user charges) as per the prescribed rates and for settling of the payments.

### Components, Location, Services Provided & Hours of Operation

<i>Establishment</i>	<i>Components</i>	<i>Location</i>	<i>Tele No</i>	<i>Services Provided</i>	<i>Hours of Operation</i>
Main Hospital	Cashier Central Admission Office	Near Main Entry Gate	4990	Receives payments for user charges for patient care activities related to OPD & Indoor patients of Main Hospital, general ward patients of CTNS Centre & specialised investigations conducted by central facilities excluding X-Rays & USGs	Round the clock
	Billing Section	Room No. 11 Ground Floor Private Ward Block	4746	Maintains billing details of Private Ward patients, Processes patient care bills of CGHS beneficiaries for reimbursement requirements, Disburses funds for poor patient received under the National Illness Assistance Fund (NIAF), Accepts advance payment by private ward patients opting for purchase of consumables through Drug Procurement Cell (DPC).	During working hours
	Cashier X-Ray Registration Counter	Ground Floor OPD Block	4378	Receives payments for X-Rays & USGs from OPD patients	During working hours

<i>Establishment</i>	<i>Components</i>	<i>Location</i>	<i>Tele No</i>	<i>Services Provided</i>	<i>Hours of Operation</i>
CTNS Centre	Cashier	Room No. 35 Ground Floor OPD Block	4235	Admission charges of private ward patients  Receive package (user) charges for various treatment procedures	During working hours
	Cashier	Counter No. 3  Ground Floor OPD Block	—	Accept payment of user charges for investigations of OPD patient & certain charges of indoor patients  Processing of bills of CGHS beneficiaries for reimbursement requirements	During working hours
RP Centre	Cashier	Room No. 109 1st Floor OPD Block	3009	Receives payments for admission & patient care activities related to RPC	During working hours
BAIRCH	Cashier	Room No. 109 1st Floor OPD Block	4665	Receives payments for admission & patient care activities related to BAIRCH	During working hours

## BILLING PROCESS IN MAIN HOSPITAL

**OPD Patients.** On being advised investigations, OPD patients are then required to deposit the appropriate charge for the tests with the Cashier in the Central Admission Office/X-Ray Registration Counter and obtain cash receipt and an endorsement to the effect on the investigation form. The patient is then required to report to the appropriate laboratory/room along with the investigation form for conduct of the test, or an appointment may be scheduled for a later date.

## INDOOR PATIENTS IN GENERAL WARD

Advance payment is recovered from the patient at the time of regular admission at the following rate: -

- Admission charge-Rs 25/-
- Bed and diet charges @ Rs 35/- per day and is recovered for 10 days
- Total advance deposited is Rs 375/-

If the patient is discharged before 10 days then the balance of bed and diet charge is refunded. If the stay is prolonged beyond 10 days then further payment of bed and diet charge is received from time to time.

For short admission, Rs 60/- is recovered towards one day charge i.e. admission charge of Rs 25/- and bed and diet charge of Rs 35/-.

Patients who are advised admission are required to make advance payment to the Cashier in the Central Admission Office. A cash receipt is issued and endorsement to the effect is made on the admission slip. The patient then reports with the admission slip to the Central Admission Office for getting the Face Sheet made for admission to the hospital. Advance deposited for regular admission is for ten days. In case the patient's admission extends beyond 10 days, then he is given a slip by the ward sister to deposit a further advance payment with the Cashier in the Central Admission Office. The process of payment for specialised tests is same as that for OPD patients. At the time of the discharge of the patient, the sister in the ward gives the patient a slip with the details for final settlement of his payment. Balance amount, if any, is refunded to the patient.

### **INDOOR PATIENTS IN PRIVATE WARD**

Such patients make the advance payment for admission as per the procedure for admission to the General Ward. Subsequently, details of investigations carried out and the consumables expended on the patient are intimated by the floor sister to the Billing Section on the ground floor of Private Ward. Here the details of the charges incurred by the patient are maintained. Payment of these charges is made to the Cashier in the Central Admission Office and the receipt obtained is submitted to the billing section for finalisation of the patient's bill.

Advance payment is recovered from the Private Ward patients at the time of admission as per the following rate: -

#### ***'A' Class Room***

- Admission charge Rs 200/-
- Bed and diet charges @ Rs 1,800/- per day and is recovered for 10 days
- Total advance deposited is Rs 18,200/-

#### ***'B' Class Room***

- Admission charge Rs 200/-
- Bed and diet charges @ Rs 1,200/- per day and is recovered for 10 days
- Total advance deposited is Rs 12,200/-

If the patient is discharged before 10 days then the balance is refunded. If the stay is prolonged beyond 10 days then further payment is received from time to time.

**EXEMPTION OF CHARGES**

EHS patients are exempted all forms of patient care charges except diet charge in case of beneficiaries admitted in the private ward.

Provision exists for exemption of charges in the case of poor and indigent patients based on recommendation by Medical Social Worker and as approved by faculty member.

## **COMPUTER FACILITY**

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### **INTRODUCTION**

The Computer Facility was created in the year 1989 with the objective of providing education, research and patient care services at AIIMS.

### **LOCATION**

This facility is located in the teaching block of the main hospital on the Ground Floor near the Office of the Director, AIIMS. This facility is open from 8.00 am till 2.00 am mid night for internet access and usage in house. This facility is however available round the clock on the network and through Remote Access Services. Internal telephone number: 4674, 3570, 3580 & 4626.

### **VARIOUS SERVICES PROVIDED**

Teaching on Computer Basics and Programming Languages for B.Sc (Hons.) Human Biology, B.Sc. (Hons.) and Post Certificate Nursing Students, MD (Biophysics) and M.Biotech students.

Training on Computer Applications for various categories of employees of AIIMS on the basis of requirement.

Training programme for Internet and E-mail usage.

Project and Thesis guidance for students from the Institute and external engineering/Post graduate Computer Science students.

Need base Software development for departments.

The department has developed AIIMS web-site for the Institute where information of various activities of the Institute are updated by the respective departments on regular basis. The department provides for web search and literature access through the Internet. The access to e-Journals and E-Periodicals by the Institute is also provided to students and faculty of the Institute.

## **INFORMATION AND COMMUNICATION SYSTEM**

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Nursing station in each ward and other important hospital areas are provided with an internal telephone. The important numbers have been referred to at various places in the manual and the AIIMS internal telephone directory. It is expected that the doctors on duty leave their whereabouts with the nursing station in the respective wards. They should also write it down on the black-board provided in the duty rooms as well as in the wards. The list of the Interns and Residents working in a unit/department must be put up on the duty room notice board and in the wards along with details about their hostel room or residential quarter number and telephone number, if any.

Efforts must be made to utilize the telephone and wireless paging system more effectively for contacting doctors. All the Residents on duty are required to sleep in the Duty Room of the ward. It is most important to remember that the doctor-on-call must regularly inform the nurse in the wards regarding his whereabouts.

Any problem in the running of the wards and patient-care, which the Intern/Resident deem necessary for bringing to the notice of the MS, should be discussed with the consultant and who then should present the problem to the MS. In emergency, to sort out administrative problems in the hospital (e.g. problems other than patients' sickness and management etc.), the Duty Officer should be contacted directly. The duty officer is available in the control room (Tel. Int. 3308, 3574, Direct – 6862279) beyond office hours and on Sundays and holidays.

Difficulty in communication between the private wards and Resident Doctors has been often noted due to the relative seclusion of these wards. It is advised that clear instructions regarding the whereabouts of the doctor-on-duty should be left with the nurse. Also, a written or typed duty schedule

with addresses and telephone nos. of the members of the treating units should be displayed on the notice board on the various floors of the private wards.

**Important :** *In case of emergency, if the Resident-in-charge of the unit/ department is not available, any nearest available doctor can be called by the nurse or the attendant. The doctor must start the emergency treatment. Meanwhile efforts should be made to contact the Resident concerned. When visiting the library, the Residents must leave a note with the librarian so that they can be contacted easily in case of a telephone call.*

## PAGING SYSTEM

Wireless Paging System is installed for contacting essential medical and administrative staff in case of emergency. It is a vital link between the hospital and the page holder during emergency. Effective utilization of the paging system depends on the involvement and cooperation of the page holders.

The range of the paging system is 5 km from the page control desk, located adjacent to the hospital control room. Page receivers, popularly called 'PAGER' are issued to all clinical departments for use by the Residents and Consultants-on-duty, and a few Senior Consultants and Administrators on VVIP duty.

Custody and safety of the 'Pager' is the responsibility of the page holder. Proper handing-over/taking-over should be ensured. The pager should not be left unattended. Loss or damage to pager will entail disciplinary action and recovery of the cost (Rs.14,000/-) from the person who is carrying the pager.

Test calls will be given by the page control desk every day to confirm serviceability of all the pager. Receipt of 'test call' and page message should be acknowledged by the page holders to the page control desk (Internal Tel 4662, 3324). In order to ensure serviceability of their pager, the page holders are required to request the page control desk daily for test calls. Batteries for the page boy are supplied by the paging control room. Periodic and regular replacement of batteries is the responsibility of the page holder. If the pager is found defective, it should be deposited for repair at the page control desk and a proper receipt obtained.

City wide pagers have been provided to VVIP consultants and experts for organ transplantation programme.

To page the concerned pager by telephone extension, please follow instructions:-

- Lift handset dial the number 3259.

- Press the star button.
- Dial the pager number to whom you have to page.
- Dial the message code 90.
- Dial the contact number (4 digit number)
- Press the star button.
- Then keep the receiver.

The paging directory is available with the paging control room and the officer- in-charge paging services.



## **WELFARE SERVICES & PUBLIC RELATIONS**

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### **MEDICAL SOCIAL SERVICES UNIT**

The social services unit has Medical Social Service Officer's (MSSO) posted in various wards, OPD etc. The hub of activities of Medical Social Services unit is located in Room No. 9, Ground Floor, RAK OPD Block. Medical Social Service Officer from M.S.S.U. are posted in various wards OPDs and Casualty. Besides this there are M.S.S.O. who are specially posted to some departments like Orthopaedics, Psychiatric, PMR, Pediatrics, Blood Bank, CNC, IRCH, RPC and De-addiction. The Centres have their own M.S.S.O. who co-ordinate with the main departments. Apart from the MSSO's there are social guides who are posted in the OPD registration counter and the inquiry counter of subsidiary waiting area of each OPD in all the five floors.

Any resident may contact the Medical Social Service Unit, Room No. 9, Phone No. 4242 or M.S.S.O. of the respective department for assistance in any of the following functions.

1. Guiding the patients regarding hospital services in various areas.
2. Rehabilitation of known/unattended patients.
3. Counseling & redressal of grievances of patients.
4. Extending financial assistance for treatment, surgery, rehabilitation of the poor and needy.
5. Arranging for temporary stay of outstation patients.
6. Vocational guidance & arranging wheel chairs, tricycles, artificial limbs and other aids and appliances.
7. Providing railway concession forms.
8. Organising blood donation camps.
9. Assessment of socio-economic status of patients and make suitable

recommendation & exemption of hospital charges.

10. To determine altruism in organ donation.
11. Maintaining liaison with welfare agencies and charitable organizations for resource mobilizations for patient welfare activities.
12. Mobilize logistic support in case of any disaster.

## **EMPLOYEES WELFARE**

Employees' welfare activities are looked after by the Employees Welfare from R.No. 3A, phone no. 3298 in the Deptt. Of Hospital Administration.

***The Welfare Officer at AIIMS is involved in the following activities concerning patients and employees:***

### ***Patients***

Counselling, redressal of grievances, extending financial assistance for treatment, surgery and rehabilitation of poor and needy patients, arranging orthopaedics aids and appliances, artificial limbs, wheelchairs, tricycles, hearing aid etc. for poor patients and rehabilitation of destitutes/children in orphanages and other welfare homes, mobilisation of resource for example for construction of dharamshalas for out station patients, donation of ambulances, assistance for education, organisation of blood donation camp and heart checkup camp etc.

### ***Employees***

Counselling, redressal of grievances, crisis management and resource mobilisation. Promotion of welfare activities for the employees with regards to their amenities such as benevolent schemes, cafeteria, creches, shelter for rest, cultural, recreation and sports, living conditions, opening of Kendriya Bhandar and Mother Dairy outlets, livery for karamchari staff, EHS facilities etc.

Co-ordinating In-service training program and group orientation program for employees, organising vocational training programs and workshops for the employees and their wards, assistance for education/scholarships, dealing with appointment on compassionate grounds and extending supportive services to the Medical Institute Residents Welfare Association. Maintaining liaison with welfare agencies and charitable organization for promotion of patients and employees welfare activities.

### ***Employees Welfare Service provided by Labour Officer***

The Labour Officer is deputed from Ministry of Labour. The Labour Officer's Office is at Establishment in Administrative Block, 1st Floor, Establishment

Section (D.O.), Tel. No.3680.

***The Labour Officer's function is to***

1. Maintain the Industrial Relation in the hospital.
2. Coordinating the diffusion of the employee's strike.
3. Bringing to the notice of the management of the grievances of (individual/collective) the employees.
4. Process the agenda submitted by unions for discussion & negotiation.
5. Liaison between the management & the employees.
6. Coordinating the improvement of working conditions of the employees.
7. Provision of amenities like canteen, shelter for rest, crèches, drinking water & toilet facilities.
8. Supervision & provision of employees' safety, health education & corrective treatment thereof.
9. Providing welfare facilities such as housing, social & recreational facilities.
10. To make available to the dependents of workers scholarship, uniforms, midday meals etc.
11. To encourage formation of Consumers' Cooperative Stores, Cooperative Thrift/Credit Society, Housing Cooperative Society.
12. To assist in allotment of houses to workers in the colony as well as in the operation of transport from townships to workers' place of work.
13. Organisation of de-addiction services for drugs and alcohol where necessary.
14. To promote personal and environmental hygiene.
15. Provision of amenities such as sickness and benevolent schemes, pension and superannuating funds, to assist in payment of gratuity, loans, etc. and in provision of legal advice to workers.
16. To keep the workers informed of changes in rule and regulations regarding their service conditions or on matters of importance concerning workers.
17. Principal adviser to the head of establishment on industrial relations, personnel management and labour welfare functions.

18. To assign the duties and functions amongst the Labour Officers in the establishment in consultation with the head of the establishment.

## **PUBLIC RELATION**

All India Institute of Medical Sciences has a public relation and protocol department which functions as an interface between the Institute and the media and public. It is located adjacent to the Computer Facility in pre-clinical block, phone no. 3400 looks after the medical relationship, promotional activities, protocol functions relating to the visit of VIPs and foreign delegates, official publications, dissemination of information and advertisement. He is the official spokesperson of the Institute.

Any event or incidence, which is likely to attract media or public attention, should be brought to the notice of Chief, P & PR immediately. Any photography or video shooting of the hospital area including wards and laboratories must have specific clearance from him. For giving any interview or issuing any statement to the media regarding the services and facilities at AIIMS standard guidelines need to be followed. The faculty in-charge of Public Relations + Protocol is appointed from the Department of Hospital Administration.

## **DIETARY SERVICES**

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The hospital dietary services provide nutritionally adequate and quality food to all indoor patients with emphasis on the therapeutic and special diets, thus improving the health status. It also imparts training to Dietetics interns, medical students, nursing students and para-medical staff in the field of nutrition.

### **LOCATION**

The office of the Chief Dieticians is located on Ground Floor of the Private Ward Block, Room No.8 (Int. Tel. No.4447).

The main kitchen is situated on the ground floor between CSSD and Central Cafeteria (Int. Tel.No.3585, 4749).

### **TIMINGS**

- (a) The dietary prescription and counselling to all indoor patients is taken care between 9.30 a.m. to 5.00 p.m. during all working days, Saturday being half days.
- (b) The nutritional counselling for outdoor patients referred from different departments is carried out in Room No. 22, Medical OPD, IInd floor. The timings of the nutritional clinic are as follows:-

General Nutrition clinic – Monday to Saturday  
11.00 a.m. to 12.30 p.m.

Special Nutrition clinic – Monday, Wednesday, Friday  
2.00 p.m. to 5.30 p.m.

## **FUNCTIONING OF THE DIETARY SERVICES**

### **1. Clinical**

#### **(A) Indoor patient care**

All the indoor patients are provided meals from the hospital both in the General and the Private wards including the centers.

The General ward food charges are included with the patient's bed charges. The diet for the Private ward patients is optional on extra charges. The General ward patients can also opt for the Private ward diet with extra payment on advance basis.

Daily bed to bed rounds are taken by the dietitians in each ward. After assessing the nutritional status and the disease condition, those patients requiring special dietary modifications are provided with therapeutic diets from the hospital. These patients are also given nutritional counseling alongwith a diet chart to be used subsequently after getting discharged.

#### **(B) Outdoor patient care**

In addition to the general nutrition clinic which is held every day, special nutrition clinics like renal, endocrinology, gastroenterology, cardiac and paediatrics clinics are also conducted.

Individual nutrition counseling is provided depending upon the patient's disease condition. In order to have good dietary compliance, the dietitians give an individualized menu plan in accordance with the family's dietary habits to bring about the therapeutic effectiveness.

### **2. Administrative**

Apart from the clinical responsibility the dietitians also have an administrative role to play, as the hospital dietary service is completely taken care by them. These include the following responsibilities:-

- (a) Monitoring standards of food production.
- (b) Monitoring of food service system.
- (c) Procurement of dry and fresh food supplies.
- (d) Maintenance of safe food storage practices.
- (e) Developing menu plans in accordance with the season and availability.
- (f) Standardization of various recipes and their portion size.
- (g) Cost control.
- (h) Planning strategies to minimize the pilferage and left over food.

- (i) Supervision of departmental sanitation and hygiene.
- (j) Development of diet scales.
- (k) Procurement and maintenance of various equipments.
- (l) Development and maintenance of pertinent records of various stocks.
- (m) Maintenance of indent books and diet summary.
- (n) Checking of employees attendance.

### **3. Nutrition Education to Masses**

In addition to imparting nutritional counseling to the hospital patients, the dieticians are also involved in educating masses through radio talks, public lectures, T.V. programmes and through distribution of pamphlets, diet manuals and other written material on nutrition for educating lay public.

### **MEAL TIMINGS**

1. General ward
2. Private ward

#### **1. General ward timings**

Time	Meal
6.00 a.m.	Bed Tea
8.00 a.m.	Breakfast
11-12 noon	Lunch
3.00 p.m.	Tea
6.30 p.m.	Dinner

#### **Approximate food value**

Calories	–	1700 – 1800
Proteins	–	60-65 gms

#### **2 Private ward meal timings**

Time	Meal
6.30 a.m.	Bed Tea
8.30 a.m.	Breakfast
12.30 p.m.	Lunch
3.30 p.m.	Tea
7.30 pm.	Dinner

**Private ward diet has an option for Indian/European menu. All diets are OUO-vegetarian.**

Calories	–	2000-2200
Proteins	–	60-75 gms

## **THERAPEUTIC DIETS AND ENTERAL FEEDS**

### ***Therapeutic diets***

More and more research work has confirmed the importance of proper dietary intervention in the management of various diseases. In accordance to these findings Dietary Services are well equipped to meet the individualized modified dietary needs of these patients. The modifications can be as follows:-

1. Diets modified in consistency: Required in pre and post operative conditions – clear liquid, full liquid, semisolid.
2. Diets modified in Carbohydrates: Required for Obesity, Diabetes, Hepatitis.
3. Diets modified in Proteins: Required for Chronic renal failure, surgery, hypoproteinaemia and cancer.
4. Diets modified in Fats: Required for Obesity, Coronary artery disease, Hypertension, Hepatitis.
5. Diets modified in Minerals: Required for kidney stones, Anemia, Osteoporosis.

The menus for all the above therapeutic diets are standardized by the dietitians. The concerned dietary staff is trained to cook accordingly, and lay the trays for all patients on therapeutic diets.

## **ENTERAL FEED FORMULA'S**

Kitchen based, blenderized enteral feed formula have also been standardized by the dietitians which can be given orally or through tubes.

These liquid formulas are packed in sterilized 500 ml empty glucose glass bottles, labeled and distributed. These special formula include:-

1. Normal feed providing 1 K cal/ml, and 15 gm protein/bottle.
2. High calorie, high protein feed providing 1.5 K cal/ml and 15-20 gm of protein/bottle.
3. Hepatitis feed providing.
  - (a) 1 K cal/ml. and 15 g vegetable protein/bottle.
  - (b) 0.6 K cal/ml. and 0 g protein



The ingredients used to provide the various nutrients in these feeds are:

Carbohydrates	–	Sugar, Cornflour
Proteins	–	Egg, Milk, high protein supplements
Fats	–	Unsaturated oil

Apart from standardized feed the composition of the feeds can be modified by changing the amount of the various ingredients to meet the individualized nutrition needs of the patients.

### ***Steps Involved In Diet Prescription For Indoor Patients By The Residents***

It is very important part of the Residents duty in the wards to see that their patients are getting the diet prescribed by them. If the following instructions are followed carefully the diet related problems would not arise in the wards.

1. The Residents are requested to give the dietary order for patients in the Instruction book, which are then transferred to the treatment book. The sister on duty in the evening then follows the instructions given in the treatment book and puts it in the diet sheet against each bed number. These diet sheets are sent to the Dietary Department by the nurses. Dieticians take ward rounds according to the orders in the diet sheet and indent different food stuff on the diet sheets against each bed, by number. The distribution of food is done according to these diet sheets.
2. Any specialized need of the patient requiring therapeutic intervention are informed to the dieticians through consultation form.
3. Any change in the initial orders should also be intimated through instruction book.
4. The dietary recommendation to be made by Residents must be comprehensive so that the mistakes are avoided.
5. A normal diet menu is well balanced and more than adequate for general purposes. However, if the patient is suffering from protein calorie malnutrition and/or is hypoproteinemic due to his illness, then he will need a high protein diet.
6. The standard diet for the EHS patients in any ward includes one additional egg or paneer, butter and fruit every day. However, necessary changes will be made accordingly to the disease or nutritional status of the patients.

## HOSPITAL SUPPLY

### INTRODUCTION

The Hospital Stores section is responsible for provisioning various types of supplies required for direct patient care activity and to meet other day-to-day requirement of the various departments and sections of the Main Hospital.

The various types of hospital supplies, their source of availability and indenting schedule are as follows:

<b>Hospital Supply</b>	<b>Source</b>
<b><i>Medical Stores Items</i></b> <ul style="list-style-type: none"> <li>• Drugs</li> </ul>	Medical Store (Telephone No 4429)
<b><i>Crystalloids &amp; Chemical Store Items</i></b> <ul style="list-style-type: none"> <li>• Crystalloids</li> <li>• Chemicals</li> </ul>	Crystalloid Store (Telephone No 4745)
<b><i>Surgical Supplies</i></b> <ul style="list-style-type: none"> <li>• Equipment</li> <li>• Surgical Instruments</li> <li>• Consumables</li> </ul>	Surgical Store (Telephone No 3695)
<b><i>General Stores Items</i></b> <ul style="list-style-type: none"> <li>• Hospital &amp; Office furniture</li> <li>• Cleaning material &amp; consumables</li> </ul>	General Store (Telephone No 3965)
<b><i>Linen Store Items</i></b>	Linen Store (Telephone No 4428)
<b><i>Stationery Store Items</i></b> <ul style="list-style-type: none"> <li>• Forms</li> <li>• Office stationery</li> </ul>	Stationery Store
<b><i>Manifold Supply</i></b> <ul style="list-style-type: none"> <li>• Gas cylinders</li> </ul>	Manifold Dept (Telephone No 4621)

## PROCEDURE FOR DEMAND

Sister in-charge of the various patient care areas initiates the indents as per schedule. The indent should indicate the quantity of each item received last time, balance in hand remaining and fresh demand for accountable medical stores, non-accountable medical stores and other stores. The indent is required to be verified by the Resident Administrator in-charge of the patient care area or the Duty Officer in case there is no assigned Resident Administrator for that area. The indent is then required to be presented to the respective store from where the issue is made based on the availability in the store. In the case of sudden un-anticipated shortage of items, Emergent Indents can be placed at any time.

## PROCEDURE FOR DEMAND OF ITEMS NOT AVAILABLE ON INDENT

Items, which are required to be provided by the hospital to indoor patients and Casualty OPD but are not available on indent, will be put up for local purchase. In addition, all medicine and consumables prescribed to EHS patients are to be provided by the hospital. Rarely the hospital supply is disrupted temporarily and items are not available in the store. In such situation an indent will be submitted to the store to procure them through local purchase specifically in the following cases: -

- **EHS Patients.** All medicine and consumables prescribed are to be provided by the hospital store free of cost, both to OPD and indoor patients. In the case of OPD EHS patients this will be done by the pharmacy and in the case of ward patients, it will be processed by the ward.
- **Casualty OPD.** All medicine and consumable required for emergency care in the Casualty are provided free of cost to the patient. Sister in charge Casualty should ensure that emergency patient care items not available on indent are procured from the hospital store through local purchase.
- **Poor Patients.** In the case of admitted poor patients who are unable to afford costly drugs that are essential for their recovery and which are not provided by the hospital to general patients, a special indent for LP will be submitted along with the recommendation of the Medical Social Worker after due assessment of patients' financial status.

## PROCEDURE FOR LOCAL PURCHASE

All efforts should be made to avoid LP of items and this should be resorted to if the same is inescapable and suitable alternatives are not available in the

hospital. Attempts should be made to tide over the shortage by getting the items on loan if available and can be spared from other wards till hospital supply is restored. Later the loan can be returned once the item is received from the store on normal indent.

Special indent for local purchase should be accompanied with: -

- (a) Details of the patient in case of an EHS beneficiary
- (b) Consultation form initiated by treating Consultant / Senior Resident with remarks of Medical Social Worker in the case of poor patients.
- (c) Requisition with details of the items required in the case of Casualty OPD.

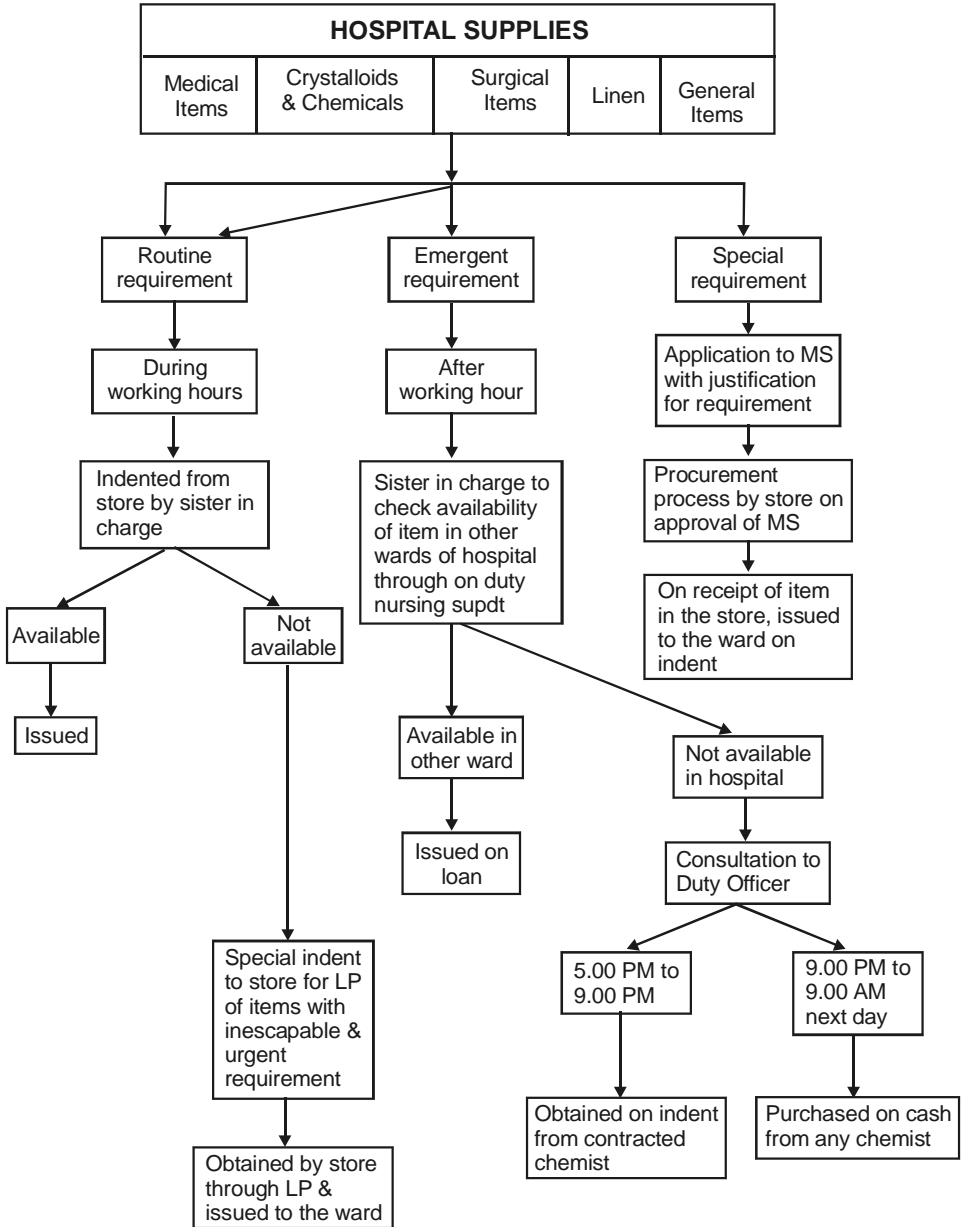
Such special indents will be verified by the Residents Hospital Administrator in-charge of the patient care area, or by the Duty Officer if none is assigned to the area, and signed by him. The indent will then be put up to the officer in-charge (Faculty Hosp Admn) of the respective store for counter signature. The indent is then submitted to the Hospital Store where it is procured through local purchase and issued to the ward.

### **PROCEDURE FOR ISSUE OF DRUGS/CONSUMABLES AFTER WORKING HOURS**

In the case of sudden shortage or requirement of an item not available in the hospital after working hours when the store is closed, the Duty Officer is to be contacted in the Control Room (Telephone No. 3308, 3574, Room No 12, Ground Floor, Private Ward Block) to arrange for it. All efforts should however be made to avoid this situation, particularly in the case of expensive items as the Duty Officer has limited financial means. Therefore, such requirements should be foreseen and arranged through the Hospital Store during the working hours. Before forwarding such a request to the Duty Officer, attempt should be made by the sister in-charge of the ward to obtain the item on loan from any other area in the Hospital. For this purpose the sister in charge can take the help of the on duty Nursing Supervisor. In case the item cannot be arranged on loan from other ward, the Duty Officer should be requested for the same on a consultation form. Until 9:00 PM, Duty Officer will arrange to procure the item from the contracted chemist shop on indent. After 9:00 PM Duty officer will arrange to procure the item on cash payment from any chemist shop, as per the limited financial means at his disposal. In case of EHS patients, if the Duty officer cannot make the procurement, the beneficiary can purchase the item from the market and later seek reimbursement from the Hospital Store.

A schematic diagram of demand procedure for hospital supplies is as follows.

### SCHMATIC DIAGRAM OF DEMAND PROCEDURE FOR HOSPITAL SUPPLIES



## **DISASTER PLAN**

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### **INTRODUCTION**

The disaster plan is a must for every hospital as a disaster can occur anywhere, any time. The drill of the plan should be practiced periodically. No master plan can be evolved to fit every emergency ; but, if executed in a coordinated and disciplined fashion, a general plan of emergency activity could prove extremely helpful in times of disasters, where the sheer volume of casualties arriving in a short span of time becomes a challenging proportion.

### **AIMS AND OBJECTIVES**

To save as many lives as possible by providing best possible medical care under prevailing circumstances.

### **TYPES OF DISASTER (EXPECTED)**

The disasters can be of various types as follows :

1. Vehicular train accidents
2. Air crash
3. Fire in a big multistoried building
4. Floods
5. Building collapse
6. Food poisoning, liquor poisoning and toxic gas poisoning
7. Earthquake
8. Explosions, blasts or bullet injuries
9. Mine accidents
10. Air raids

11. Storms and tornadoes
12. Atomic explosions

## **PROBLEMS TO BE HANDLED**

1. Transportation of victims to the hospital
2. Provision of prompt medical attention
3. Advice on prevention of outbreak of epidemics

## **ORGANIZATION AND OPERATION AT AIIMS**

### ***Disaster Committee***

A.I.I.M.S. Hospital has a Disaster committee under the chairmanship of Director, AIIMS who is also Chairman, Hospital Management Board and consist of following members :

1. Prof. In-charge, Accident Emergency Services
2. Prof. & Head, Deptt. of Orthopaedics
3. Prof. & Head, Deptt. of Surgery
4. Prof. & Head, Deptt. of Medicine
5. Prof. & Head, Deptt. of Forensic Medicine
6. Prof. & Head, Deptt. of Neuro Surgery
7. Prof. & Head, Deptt. of Anaesthesiology
8. Prof. & Head, Deptt. of Radio-Diagnosis
9. Prof. & Head, Deptt. of Gastroenterology
10. The Chief Nursing Officer
11. Medical Superintendent

## **THE ACTUAL OPERATION PLAN**

### ***Head Quarters For Disaster***

Control Room : Room No. 12, Telephone : 26593308, 26589279  
EPABX 3308, 3574.

M.S. Office Telephone : 26594700, 26594789, 26589392  
EPABX 4700, 4789.

## **INFORMATION AND COMMUNICATION**

- Information is received at Police Wireless Control Room which is situated on the ground floor, Private Ward entrance.

- On RAX information, Hot lines in the Control Room from any source.
- Direct arrival to Casualty without any prior intimation.
- Details to be ascertained are :
  - Time and place of occurrence.
  - Nature of occurrence.
  - Approximate number of Casualties.
  - Source of information.
  - Authenticity.

### **ACTIVATING THE PLAN**

On receipt of the information from authentic source the Duty Officer will activate the plan and inform the Director, Medical Superintendent and Security Officer.

Head of the Department of Hospital Administration co-ordinates all the hospital supportive services on call for the day and acts as the Officer-in-charge and the Medical Superintendent acts as the Chief Co-ordinator.

### **RECEPTION CENTRE**

- (a) For moderate load : the present casualty OPD will function as the reception areas.
- (b) For heavy load : Main Hall of Ground Floor OPD will be converted into reception centre. Police and the AIIMS Security personnel will act as Traffic Controllers directing the patient and relatives to the respective reception centres on the orders of the co-ordinator.

### **FIRST-AID AND SORTING (TRIAGE)**

- (a) **For moderate load** : Existing casualty medical team will function for first aid and sorting.
- (b) **For heavy load** : The centre will be manned by 4 teams, each consisting of :
  1. One General surgeon
  2. One Orthopaedic surgeon
  3. One Physician
  4. One Anaesthetist
  5. Two Sisters
  6. Two Nursing orderlies
  7. One Sweeper



8. Two teams of stretcher-bearers each having one stretcher and two stretcher Bearers

The responsibility of First-Aid Centre will be :

- (a) Quickly sorting out casualties into
  - (i) Priority one : Needing immediate resuscitation
  - (ii) Priority two : Immediate surgery
  - (iii) Priority three : Needing first aid and possibly surgery
  - (iv) Priority four : Needing only First-Aid
- (b) Action

Priority one will be attended to in the Casualty deptt. and if need arises will be sent to AB-8, ICU.

Priority two will be transferred immediately to casualty O.T. and M.O.T.

Priority three will be given first aid and admitted if bed is available or transferred to other hospital.

Priority four patients will be given first aid and sent home.

The area marked for conversion into ward : Corridors of AB and D wing first floor.

## **BROUGHT IN DEAD**

Brought in dead or those who may die while receiving resuscitation will be segregated. Temporary morgue for keeping dead bodies will be created in the long verandah opposite the mechanical laundry. Necessary identification and handing over of bodies to the relatives after medico-legal clearance will be done in this area. This will function under care of the Department of Forensic Medicine.

## **ADDITIONAL BED SPACE**

In addition to the area marked on first floor, i.e. corridors of AB & D wing extra bed space will be created as follows :

1. Any vacant beds will be requisitioned by the M.S. for this purpose. The Pre-Anasthasia room adjacent to AB-7 will be utilized for admitting patients as on interim measures.
2. By discharging following categories of patients :
  - (a) Convalescing patients needing only nursing care
  - (b) Pre op Elective surgical cases
  - (c) Patients who can have domiciliary care or OPD advice.

3. Ward side-rooms and seminar rooms of the wards may have to be used temporarily.

## **DRUGS AND EQUIPMENTS**

The Medical store keeper and the Surgical store keeper will be called at once to open the store. As an immediate measure the buffer stock earmarked in the Casualty will be utilised. All essential drugs will be stocked in the medical stores and will be issued on order of the M.S., HOD Hosp. Admin., Duty Officer. Dressing material and items of Surgical stores are similarly kept in reserve. A dozen emergency trays containing life saving drugs will be kept ready in medical stores. For the first few hours the drugs will be requisitioned from emergency stock lying with sister-in-charge at the Casualty. Approximately 400 bottles of different types of crystalloids are kept available at the crystalloid stores for use in such emergencies.

## **EMERGENCY BLOOD BANK**

Efforts shall be made for blood of all the available groups to be stocked in plenty. Volunteers and voluntary organisations will be approached to donate as much blood as possible. The responsibility for this will be that of the B.T.O./the Asst. B.T.O.

## **STAFF**

### ***Medical Staff***

In addition to members of regular clinical units the faculty members of para and pre-clinical disciplines will be asked to render help to assist the clinical staff in managing the casualties. The duty roster of regular consultants and stand-by doctors is to be made available in control room.

### ***Nursing Staff***

A pool of nurses will be created by the Nursing Supdt. so that nursing staff is available at short notice. This pool should consist of nurses staying in the hostel for operational reasons. Duty roster will be sent to Duty Officer by the Nursing Superintendent. One sister will be detailed to take charge of personnel belongings of the patients.

### ***Class IV Staff***

All the available class IV staff will be utilised except for those who are already on duty in emergency areas. Sanitary Superintendent will create a pool from amongst the staff residing in the campus. Duty roster will be sent to Duty Officer by the Sanitary Superintendent.

## **Volunteers**

Volunteers will be invited by co-ordinated effort of the Deputy Medical Supdt. and two MHA Residents if found necessary.

## **DOCUMENTATION CENTRE**

- (a) For small load of casualty : documentation shall be done at the casualty OPD itself.
- (b) For large load of casualty : It is to be established in Ground Floor OPD at the Central Registration Office of OPD. The staff working at registration counter and Nursing staff will be utilized for documentation and identification. Volunteers may also be engaged for this purpose.

## **LINEN AND GENERAL STORES**

The linen and general stores will be opened for emergency issue of items to the wards, PAR and other areas where patients are admitted. As an immediate measure the reserve stock of linen kept in the wards will be utilized. The linen store will have the following items as reserve stock for disaster/emergencies.

A room in D wing of second floor is earmarked for this purpose. Following stores will be transferred to that room

- Mattresses
- Bed sheets
- Blankets
- Pillows & Pillow Covers
- Patient clothing (female)
- Patient clothing (male)
- I.V. Stand
- Oxygen cylinders

## **HOSPITAL SECURITY**

Security of staff, patients and hospital building and equipment being of paramount importance, during such disasters, security officer is required to tune up and organise the security arrangements for this purpose.

## **FOOD SERVICE**

Supply of diet to the patients will start immediately by the staff of the Dietary services under direct supervision of the Head of Dietetics or Dietician-in-

charge of kitchen. Most of the patients for first 24-48 hours will be using only liquid or semi-solids. During this time arrangement can be made for supply of proper meals.

## **AMBULANCES**

All the available ambulances will be kept in operational condition and shall be available at casualty department along with drivers as soon as the state of emergency is declared.

## **INFORMATION SERVICES**

The Faculty Incharge Public Relation Officer (PRO) of the AIIMS will function as Information Officer. In addition, all required information will be available with the Director and Medical Superintendent for communication, if required. All information to Press, Radio and other media, to individuals and organizations, governmental or otherwise, will be issued by him. He will get prior clearance from competent authorities before issuing such information.

## **ENGINEERING AND MAINTENANCE SERVICES**

The engineering section will make sure that the water and electricity is made available without interruption. All the standby electric power generators will be regularly checked, inspected and maintained in excellent serviceable condition. The Junior Engineer on call for the days will co-ordinate the activities, and inform the Superintending Engineer and others.

## **DISCHARGE PROCEDURE**

After appropriate treatment the patients fit to be discharged shall be discharged to go home or to other hospital for convalescence. For all cases discharged the destination will be noted by the hospital and the police informed.

## **SUCCESS OF PLAN**

Disaster is an emergency situation. Timely help of every individual is needed to make this plan a success to reduce the mortality and morbidity. As such the individual and personal consideration take low priority in the face of duty to the profession for the sake of amelioration of human suffering. Regular drills simulation exercises should be carried out for proper implementation of the disaster plan.

## **FIRE FIGHTING GUIDELINES OF AIIMS**

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### **INTRODUCTION**

Among the numerous hazards to human life and property “the fire” has a special place, this becomes all the more special when it involves sick and dependent human beings as in Hospital scenario.

The multi-storey building of the All India Institute of Medical Sciences, therefore, has well laid down safety measures and fire fighting equipments.

### **GRADES OF FIRES**

Fire has been classified into three categories:

#### ***A-Grade Fire***

A-grade fires are caused by an ordinary combustible material like wood, coal, paper, etc. This type of fire is extinguished using fire extinguishers like CO<sub>2</sub>, Water and Sand.

#### ***B-Grade Fire***

B-grade fires are caused by inflammable liquid specially those which are lighter than water. For this purpose, fire extinguishers like Dry Chemical Powder, ABC & AFFF Type fire extinguishers should be used.

#### ***C-Grade Fire***

C-grade fires are caused by electrical faults, either in fittings or in distribution points. The cause of such fires are generally because of the over and excessive loading on the aluminum wiring. CO<sub>2</sub> and halon type fire extinguishers should be used.

## **ELEMENTS OF FIRE SAFETY**

The fire safety programme consists of following elements in chronological order:

- (a) Prevention
- (b) Detection
- (c) Containment
- (d) Evacuation
- (e) Extinguishment

## **ACTION TO BE TAKEN IN CASE OF FIRE IN AIIMS HOSPITAL**

1. Action by employee or worker on the spot.
  - I. To verify the extent of fire outbreak.
  - II. To intimate at once immediate superior present on duty in that area.
  - III. Worker in the area will take immediate action to put off the fire.
  - IV. Sister Incharge/Doctors on duty/Sr. worker on duty to inform Medical Superintendent, Duty Officer, Security Officer-cum-fire Office guard located at main Institute building.

## **ACTION TO BE TAKEN BY SISTER INCHARGE PRESENT ON THE FLOOR, WHO ACTS AS A CONTROLLING AUTHORITY**

### **A. *If small fire***

1. Inform Duty Officer - Tel. No.3308, 3574 & Security Control Room - Tel.No.4780, 3661.
2. Organize few personnel available to extinguish the fire using fire extinguisher or by improvisation.
3. Get all inflammable material removed e.g. spirit, oxygen cylinders, cotton, bandage, rags and mattresses etc. from the site of fire.
4. Put off main switch if there is an electric short circuit.
5. Organize shifting of patients, specially lying cases, with the help of available staff and attendants of patients to places of safety.
6. Get the fire escape route opened.
7. Get the oxygen supply from manifold room stopped and change over to portable oxygen cylinder supply.
8. Ambulant patients to be guided to go to other floors by using staircase.

9. Ask Medical Superintendent's Office/Duty Officer for more manpower.
10. Organise the shifting of non-ambulatory cases first horizontally and then by lifts.

### **B. In case of big fire**

1. Ask some one responsible to inform following:-

Name	Tel. No.
(a) Medical Superintendent	4700, 4789
(b) Duty Officer	3308, 3574
(c) Dy. Chief Security Officer	3527, 4895
(d) Security Control Room	4780
(e) Fire Guards on duty	3661, 4306
(f) Fire brigade	101
(g) Electric Enquiry (E.)	4896, 4731, 4894
(h) Exec. Engineer (E.)	4321
(i) Havaldar Office	4367

2. Fire escape routes to be opened by the key kept in the box, fixed near the fire escape route. If key is not available the lock can be broken and opened.
3. Walking patients will go out horizontally and then by using the staircase to other floors.
4. Lying cases will be shifted away from the site of fire then their rescue will be organized by staff immediately available with guidance from doctor/sisters/senior worker present on the spot, and with the extra manpower which will be sent by Medical Superintendent/Duty Officer
5. Doctors/Sisters/senior most workers present on the spot will assist sister incharge on duty in operation till Security Officer or any other officer deputed by Medical Superintendent/Faculty Hospital Administration/Duty Officer arrives.
6. Activate the Disaster Plan if the fire is of large magnitude.
7. Casualty staff, Residents and consultant on calls to be informed on evacuation plan of arranging first aid.
8. A contact will be established with other hospitals in the city and they will be informed about transfer of Casualties in case it is required.

9. On hearing the fire alarm/Disaster Siren all medical and para-medical staff will report to the assembly point for help.

**Note:**

- (a) While giving information to aforesaid authorities speak clearly without creating 'PANIC' to the patients, staff and to the informer.
- (b) Specify the exact location of the fire indicating its severity.
- (c) While intimating the Delhi Fire Brigade tell them the route they should adopt for an early and easy access to fire location.

**USE OF FIRE EXTINGUISHERS**

At each floor one CO<sub>2</sub>, one water CO<sub>2</sub> and one wall fire hydrant is provided. Appropriate type of fire extinguishers should be used on different types of fires. Do not use water in any electrical fire without switching off the mains. For localized electrical fires, CO<sub>2</sub> fire extinguishers should be used even if the current is on.

**FOR FIRES OTHER THAN ELECTRICAL OR OIL FIRES**

In case fire is on bigger magnitude, then water hoses connected to wall fire hydrant should be used till arrival of the Delhi Fire Brigade.

**PROBLEMS IN EVACUATION**

1. Disabled, unconscious patient, paediatrics cases, psychiatric cases, orthopaedics or post operative cases needs support and special attention.
2. Life support measures like oxygen etc. may be required for patient even during evacuation. Evacuation with ventilatory support is also done.

**GENERAL EVACUATION PLAN**

The general evacuation plan for evacuation from patient care areas will be as under. The evacuation will depend on the site of fire.

**1. Evacuation from C-wing**

- (i) If the fire is towards the D wing end, then evacuate patients through the private ward lift and staircase.
- (ii) If the fire is towards the private ward wing then evacuate down through the fire escape stairs or use central lifts and staircase.
- (iii) Maximum ambulatory patient be evacuated through central stairs.



## 2. *Evacuation from D-Wing*

- (i) When the fire is towards the C wing end, then evacuate all cases through fire escape stairs of D-wing.
- (ii) If the fire is towards the D-wing end then evacuate all ambulatory cases through central stairs/lifts and all lying cases be evacuated horizontally first to the C-wing and then taken down using the private ward lifts/stairs.

## 3. *Evacuation from AB-wing*

- (i) In the event of fire towards D-wing end then evacuate patients through OPD lifts/stairs.
- (ii) If the fire is towards the OPD end then evacuate lying patient through central lifts/stairs, ambulatory cases be sent through the private ward lift/stairs.

## 4. *Evacuation from Private Ward*

- (i) Specific action plan of each ward/department and section to be prepared by respective incharge of ward/department/Section.
- (ii) Mobilize all available manpower for evacuation of lying cases. Seek help of the attendants in arranging evacuation. Utilise available resource like wheel chair, trolleys and stretchers.
- (iii) Evacuate the patients from Fire Exit/Private Ward Stair/Central Stair Cases as per the situation to the safe places.

## 5. *Evacuation from OPDs*

- (i) Mobilize all available manpower for evacuation of lying cases. Seek help of the attendants in arranging evacuation. Utilize available resources like wheel chair, trolleys and stretchers.
- (ii) Evacuate the patients through OPDs Fire Exit/ OPD stair cases/AB Wing/ Central Stair Cases to the safe places.

## **PRIVATE WARD WING**

Specific action plan for each ward/department and section to be prepared by respective Incharge of ward/department/section.

1. Assistance for evacuation: Mobilise all available manpower for evacuation of lying cases. Seek help of the attendants in arranging evacuation. Utilise available resources like wheel charis, trolleys and stretchers.
2. Safe areas for evacuation: The patients be evacuated to any of the safe areas depending on the site of fire if the fire is located to one ward.

3. First aid and supportive management:
  - (i) Activate the Disaster Plan, if the fire is of the magnitude.
  - (ii) Casualty staff, residents and consultant on calls to be informed of evacuation plan for arranging first aid.
  - (iii) An assembly point in front of casualty or OPD complex will be established under casualty staff who will sort out the casualties and allot priorities as specified in disaster plan.
  - (iv) A contact will be established with other hospitals in the city and they will be informed about transfer of casualties in case it is required.
  - (v) On hearing the fire alarm/disaster siren all medical and paramedical staff will report to the assembly point for help.

Assessment of total number of patients needing assistance in evacuation should be made by doctor/nurse on the spot and project additional requirements of manpower, wheelchair, stretcher/trolleys to the MS/Faculty Hospital Administration/Duty Officer.

# **BIO MEDICAL WASTE MANAGEMENT**

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## **I. INTRODUCTION**

The modern hospitals and health care institutions including research centers use a wide variety of drugs including antibiotics, cytotoxics, corrosive chemicals, radio active substances, which ultimately become part of hospital waste. The advent of disposables in the hospitals has brought in its wake, attendant ills i.e. inappropriate recycling, unauthorized and illegal re-use and increase in the quantum of waste.

The issue of improper Hospital Waste Management in India was first highlighted in a writ petition in the Hon'ble Supreme Court; and subsequently, pursuant to the directives of the court, the Ministry of Environment and Forests, Govt. of India notified the Bio-Medical Waste (Management and Handlings) Rules on 27th July, 1998; under the provisions of Environment Act 1986. These rules have been framed to regulate the disposal of various categories of Bio-Medical Waste as envisaged therein; so as to ensure the safety of the staff, patients, public and the environment.

## **II. WASTE MANAGEMENT POLICY**

The Bio-Medical Waste Management policy at AIIMS has been framed to meet the following broad objectives:-

- (i) Changing as aged old "mind set" and attitude through knowledge and training.
- (ii) Defining the various categories of waste being generated in the hospital./health care institution.
- (iii) Segregation and collection of various categories of waste in separate containers, so that each category is treated in a suitable manner to

render it harmless.

- (iv) Identifying and utilizing proper “treatment technology” depending upon the category of waste.
- (v) Creating a system where all categories of personnel are not only responsible, but also accountable for proper waste management.
- (vi) Changing the use patterns from single usage to multiple usage whenever possible.

### III. DEFINITIONS

- (a) **Bio-Medical Waste** : May be defined as “any solid, fluid or liquid waste, including its container and any intermediate product, which is generated during the diagnosis, treatment or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals and the animal waste from slaughter houses or any other like establishments.”
- (b) **Hospital waste** : Refers to all waste, biological or non-biological that is generated from a hospital, and is not intended for further use.
- (c) **Pathological Waste** : Is defined as “waste removed during surgery/autopsy or other medical procedures including human tissues, organ, body parts, body fluids and specimens alongwith their containers.”
- (d) **Infectious waste** : Refers to that portion of Bio-medical waste which may transmit viral, bacterial or parasitic diseases, if concentration and virulence of pathogenic organisms is sufficiently high.
- (e) **Hazardous Waste** : Refers to that portion of Bio-Medical Waste which has a potential to cause hazards to health and life of human beings.

In addition other types of waste generated in hospital area

- (f) **General waste** : Includes general domestic type waste from offices, public areas, stores, catering areas, comprising of newspapers, letters, documents, cardboard containers, metal cans, floor sweepings, and also includes kitchen waste.

### IV HOSPITAL WASTE MANAGEMENT COMMITTEE

A Hospital waste Management Committee has been established at AIIMS in April, 99 with a view to improve and streamline Hospital Waste Management and for smooth implementation of Bio-Medical Waste Management Rules, 98, under the Chairmanship of the Director, with the Medical Superintendent as the Co-Chairman. It is a broad based committee with representative from

Centres and has powers to take decisions on all matters related to Bio-Medical Waste Management at AIIMS.

## V. OPERATIONAL ASPECTS – PLAN OF ACTION

The practical operational aspects regarding proper management of Bio-Medical Wastes has been described under each step starting with the generation and ending with final disposal of wastes.

A. **Generation of wastes:** The following table depicts wastes generated at AIIMS:-

<i>Type</i>	<i>Site of Generation</i>	<i>Disposal by</i>
I Non-hazardous (General)	Offices, Kitchen, Cafeteria, Billing, Administration, Cashier, Rest Rooms, Dharmshala/guest room, Hostels, Residential areas, Pantries in wards, Stores.	Municipal/Civic Authorities
II Hazardous (Infectious and Operation toxic)	Wards, Treatment room, nursing station, Isolation Rooms, theatres, Intensive Care units and recovery room, Labour rooms and clinics, Dental suites, Minor OTs, Blood Bank, Pharmacy and Medical Stores, All laboratories, Animal House, Experimental Centres, OPD treatment rooms, Injection rooms and injection rooms and procedure rooms, Dialysis and Endoscopy centres, CT Scan and MRI rooms, Day care centres; various clinics	AIIMS – as per Bio-Medical Waste Rules

B. **Segregation of Wastes :** Segregation or the separation of different types (categories) of waste by sorting at the point of generation, has been considered as the “key” for the entire process as it allows special attention to be given to the relatively small quantities of infections and hazardous waste, thus reducing the risks and cost of waste management. Conversely small errors at this stage can create lot of subsequent problems.

The segregation is the responsibility of the generator of wastes i.e. the doctor, nurse or para-medical personnel. However in reality this job is always relegated to the sanitation staff; and it becomes a truly Herculean task to segregate or sort out various categories, once they have been mixed up.

## WHAT GOES WHERE? – A GUIDE

Table : Colour coding and type of container for disposal of Bio-Medical waste.

<b>Colour coding</b>	<b>Identification</b>	<b>Waste Category &amp; Constituents</b>	<b>Treatment option</b>
Yellow coloured polythen bags of different sizes in yellow coloured bins/drums	Plastic bag with inscription "for incinerator only" along with symbol of "Biohazard" and "Cytotoxic"	<p><b>Category No.1 – Human Anatomical Waste</b> i.e. all human tissues, organs, body parts which are generated in patient care areas</p> <p><b>Category No.2 – Animal Wastes i.e.</b> All animal tissues, organs, body parts carcasses bleeding parts, fluid, blood and experimental animals used in research, waste generated by veterinary hospitals, discharge from hospitals, animal houses.</p> <p><b>Category No.3 – Microbiology and Biotechnology Wastes i.e.</b> Wastes from laboratory cultures, stocks or specimens of micro-organisms live or attenuated vaccines, human and animal cell culture used in research and industrial laboratories, wastes from production of biologicals, toxins. (If disinfected locally, need not be put into bags)</p> <p><b>Category No.6 – Solid waste i.e.</b> all items contaminated with blood, and body fluids including cotton, dressings, soiled plaster casts, linen, beddings, other material contaminated with blood <i>except plastics, disposables and sharps.</i></p>	Incineration
Blue colour polythen bags of different sizes in blue coloured bins/ drums. Puncture proof container	Inscription on bag "For autoclaving only" with symbol of "Biohazard" and "Cytotoxic" Puncture proof container should be inscribed – "For sharps only".	<p><b>Category No.4 – Waste sharps i.e.</b> All needles, syringes, scalpels, blades, glass etc. they may cause puncture and cuts. (This includes both used and unused sharps)</p> <p><b>Category No.7 – Solid Waste i.e.</b> All wastes generated from disposable items (other than the waste sharps) such as tubings, catheters, intravenous sets etc. (should be cut into smaller pieces)</p>	Autoclaving
Black colour plastic bag of different sizes	No inscription	<p><b>Category No.5 - Discarded Medicines and Cytotoxic drugs i.e.</b> All wastes comprising of outdated, contaminated and discarded medicines should be returned to medical store.</p> <p><b>Category No.9 – Incineration Ash i.e.</b> Ash from incinerator of any bio-medical waste.</p> <p><b>Category No.10 – Chemical Waste i.e.</b> All chemicals used in production of biologicals used in disinfection, as insecticides, etc.</p> <p><b>All General wastes.</b></p>	Secure landfill  Civic authorities

- C. **Collection of waste** Collection of Bio-medical waste should be done as per rules in colour codes plastic bags as mentioned in the earlier table. There is a need to be vigilant so that intermixing of different categories of waste is not done inadvertently by the patients, attendants or visitors. The containers for collection should be strategically located at all points of generation as mentioned in the earlier table.
- D. **Storage of waste** At AIIMS Hospital, waste is stored in the areas of generation (as mentioned in table 1) for an interim period varying from two to twelve hours, after which it is transported for treatment and disposal by the sanitation staff of centralized gang. During this period it is the responsibility of the clinical and para-medical staff to check that there is no segregation and subsequent re-cycling of disposables and other items.
- E. **Transportation of waste** Transportation of Bio-medical waste can be divided into intramural (internal) and extra mural (external) transportation.
- **Intramural (internal) transport** Will be done by the centralized sanitation gang twice in a day in push carts and garbage trolleys to the site of 'old' incinerator, by the side of mortuary.
  - **Extramural (external) transport** will be done by centralized gang of sanitation workers. The waste will be transported in a vehicle to site of incinerator/autoclaving.
- F. **Treatment and Disposal of Hospital waste**
- **Civic Authorities:** Most of the waste (about 80% - 90%) generated in the hospital is general waste which is similar to the waste generated in houses and offices. This waste is non toxic and non infectious, and will be taken by civic authorities.
  - **Incineration** The waste collected in yellow coloured bags are transported to the site of incineration, behind the swimming pool, adjacent to the boundary of AIIMS.
  - **Autoclaving and shredding** The waste collected in blue bags are to be transported to the site of autoclaving and shredding, adjacent to the incinerator for treatment.
  - **Liquid and chemical wastes** These wastes should be disinfected by chemical treatment using at least 1% sodium hypochlorite solution; and then discharged into drains/sewers where it is taken care of by the principle of dilution and dispersal.

## **EMPLOYEES HEALTH SCHEME (EHS)**

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AIIMS is running an Employee's Health Service Scheme to provide medical/health facilities to all its employees and members on contributory basis. The facilities admissible under the Scheme are available to all employees; Central/State Government Employees on deputation and their families.

All the beneficiaries under the Scheme are issued with Identity Cum EHS Card and are allotted an EHS Number. This EHS Number needs to be quoted on all papers and documents pertaining to medical care of the employees and their dependents.

### **ADMINISTRATION AND ORGANIZATION**

Employees Health Scheme is administered by the Director of All India Institute of Medical Sciences. Medical Superintendent/Chairman, Hospital Management Board is directly responsible for the administrative functioning of the Scheme. Medical Officer Incharge, EHS looks after routine working of Employees Health Scheme. Two Medical Officers are responsible for the professional aspects and health services. Two Senior Residents, two Junior Residents from Medicine Department are posted for 2 months on rotation, and 3 House Physicians are posted for a period of 6 months.

### **LOCATION**

The Employees Health Scheme Unit of All India Institute of Medical Sciences is situated on the Ground Floor in the O.P.D. wing.

The Out patient clinic for the Employees is located in the Ground Floor of Main O.P.D. Block. It includes a registration cum reception counter, a dressing and injection room and Doctors chamber for eight Doctors. Other elements of the OPD services are common for employees as well as other patients reporting to AIIMS OPD.



All Employees Health Scheme patients are issued drugs from the Pharmacy. A Faculty Member of the Department of Pharmacology is Incharge of Pharmacy for technical matters. The Pharmacy runs two shifts of duty.

## **COVERAGE**

The Scheme covers the entire population of serving employee, Junior and Senior Residents and their families. To identify the employees, an Identity Card is provided to the employee which gives the particulars of employees as well as his/her family and dependents. The present EHS Cards are basically meant for the identification of the employees and information about his family members. The term family for the purpose of Scheme consists of wife, husband, children, step children and dependent parents residing with the employees. Dependent siblings are also included. Four types of Identity card are issued to different categories of EHS beneficiaries for which a tailor made computer software was developed.

The first type of Identity Card is issued to the Employees working at AIIMS Hospital. It consists of his name, designation, EHS number, place of posting, Date of joining, Date of retirement, Postal address, Telephone number and Blood Group etc. His photograph is automatically printed on this Identity Card through the digital camera via the computer printer.

The second type of Identity Card is being issued to the dependents of employees. This Identity Card consists of the name of the beneficiary, his employee number, designation of employee, Relationship with employee, Date of expiry of card (which depends on the age and relationship of the dependent), Address, Telephone number and Blood Group etc.

The Third type of Identity Card is issued to the temporary employees who are also eligible for the EHS benefits but their service is for a particular duration e.g. the Sr. Residents, Jr. Residents, Research Scientists etc.

The Fourth type of card is the OPD prescription slip issued on a daily basis to the visiting EHS employees/ beneficiaries to the EHS OPD. By feeding his EHS number and name his directory in the computer is automatically opened and a EHS prescription slip is printed with his photograph on the slip.

## **FACILITIES PROVIDED BY THE SCHEME**

Staff clinic established separately is being manned mainly by doctors in the specialty of General Medicine. The services of doctors are available in the staff clinic from 8:30 a.m. to 1:00 p.m. and 2:00 p.m. to 4.30 p.m.

All the employees of All India Institute of Medical Sciences and their families residing within Municipal limited irrespective of distance are entitled

to free medical attendance and treatment in consultation rooms of doctor in EHS. In case of severe illness, they will be entitled to requisition the ambulance car, if available, free of charge.

### **REGISTRATION TIMINGS**

All patients who need consultation in the staff health clinic are registered in the morning from 8:30 a.m to 10:30 a.m. and 4:30 p.m. to 5:30 p.m. in the evening on all working days except Tuesday and Saturdays when only morning shift functions 8:30 a.m. to 11:30 a.m. and 8:30 to 10:30 a.m. respectively. On Sundays/Holidays the registration timings are 9:30 a.m. to 10:30 a.m., when only the emergency cases are seen.

### **OUT PATIENT SERVICES**

Out patient services are provided in the staff health clinic (Employees Health Unit) to all beneficiaries and their families irrespective of their pay and status. If the physician incharge, after the first examination, feels that the case requires examination by other specialist, he shall refer the case to the specialist with full particulars of the case.

Staff drawing basic pay of (Pre-revised) Rs.2375/- or above may consult specialist in the first instance and for subsequent treatment. They are prescribed treatment on blue slips; Faculty Members can write treatment for themselves and for members of their family on pink slips. Non-medical Faculty members are not allowed to prescribe drugs either for their own use or for others.

### **SPECIAL CONSULTATION AND TREATMENT**

Consultation with specialist for diseases of eye, ear, nose, throat, dental and subsequent treatment shall be obtained on the advice of authorized medical attendant. There is provision of spectacles, hearing aid, artificial limbs etc.

### **INJECTION AND DRESSING ROOM**

All the Employees Health Scheme beneficiaries are given injection in this room. The dressings of the patients are also done here. Injections are also issued to beneficiaries and local purchase of injections and reimbursement of injections is also initiated from this room. One Nursing Sister looks after the functioning of E.H.S. Injection and Dressing room.

### **HOSPITALIZATION**

Cases requiring hospitalization, are admitted. All facilities are provided free of charges. The type of accommodation provided depends upon pay scale of the employees. In case the patient is admitted to the paying wards, the

diet charges are borne by the patients themselves. All investigation facilities including pathological, X-ray etc. are done free of charge. 56 general ward beds in AB-6, 2 beds per unit of all specialties and 4 private ward room are kept reserved for E.H.S. patients.

For the medical facilities provided under the Employees Health Scheme at All India Institute of Medical Sciences, the employees have to contribute compulsorily monthly on a graded scale.

The contribution is recovered on monthly basis. In case the employee is on leave, the contribution is recovered from the employees during the period of duty as well as leave of all kinds other than extra ordinary leave.

## **POLICIES AND PROCEDURES OF E.H.S. AND PHARMACY SERVICE AT AIIMS**

The following are the broad policies and procedures.

1. The staff members drawing a basic salary of Rs.2375/- per month (Pre-revised) and above can consult the clinical specialists directly in various OPDs. Such staff are issued medicines prescribed by the consultant, from the pharmacy.
2. The doctors posted in E.H.S. clinic are authorized to prescribe drugs to E.H.S. beneficiaries.
3. The medicines not listed in Indian/British/U.S. Pharmacopoeia, are not procured or issued by the Hospital.
4. Normally, medicines for only 7 days consumption are issued. However, for long term therapy, medicines upto 1 month use are issued on approval by Medical Officer.
5. The primary role of the pharmacy is to issue medicines (except injectable) to outpatients of the hospital, against the prescription from the attending doctors of AIIMS.
6. The pharmacy receives the drugs from the bulk medical store of the hospital on a fort nightly indent and are stocked in the sub-stores of the pharmacy. The medicines are then issued to the different counters against individual indents of the pharmacists.
7. The staff members and their dependents are supplied all medicines (except injectable) listed in AIIMS Drug Formulary, from the EHS counters, against prescription from EHS doctors.
8. The injectable drugs are administered to EHS patients in the earmarked Injection Room.
9. Normally, medicines outside the Hospital formulary are not issued.

However, in exceptional cases, such drugs are procured and issued only after certification (inescapable) by the treating clinical faculty.

10. In case the prescribed medicine is not available in the pharmacy, the pharmacy is authorized to issue substitute drug of similar pharmacological composition and clinical efficiency.
11. When the drug is prescribed or the substitute is not available in the pharmacy, the medicine is purchased through the Hospital Store and is issued to the patient through local purchase counter of the pharmacy.
12. On some occasions, the medicine, if it is not available even by local purchase, then the patient is asked to buy the medicines and the amount thus spent is reimbursed by the Hospital Store.
13. Retired employees are issued medicine for three months for chronic ailments.

### **DEMAND FOR LOCAL PURCHASE – DISPENSARY E.H.S.**

Normally, after consulting the doctor at the OPD, the patient presents the prescription slip to the pharmacist at the counter. The medicine is issued if available. In case a medicine is not available in the dispensary, then the patient is instructed to go and present the prescription slip of N.A. drug at the separate counter in the dispensary (called for local purchase counter). The pharmacist then fills up a form for local purchase and a number is allotted and the form is handed over to the patient. The prescription is retained at the counter and the patient is asked to collect the medicine on the same day between 3:00 to 4:00 p.m. or the next day between 11:00 a.m. to 12:00 noon.

### **EHS ADVISORY COMMITTEE**

The EHS Advisory Committee as under:-

- |                  |                                                                    |
|------------------|--------------------------------------------------------------------|
| Chair person     | – One Senior faculty member nominated by The Director.             |
| Member Secretary | – Officer Incharge, E.H.S.                                         |
| Members          | – From Faculty, Resident doctors and other Categories of employee. |

The role of E.H.S Advisory Committee are as under:

- (a) To recommend any change in the basic policy regarding the EHS benefits from time to time for improvement of the services.
- (b) To recommend, addition or deletion if any, preparation of drugs or surgical item into the inventory.

- (c) To look into the grievances of employees regarding the quality of service and to incorporate any suggestions if deemed feasible.
- (d) To discuss on any other issue of dispute regarding the benefit and to suggest amicable solution to the administration.
- (e) To discuss any other agenda the Chairperson deems fit to be discussed in the meeting.

## **STUDENTS HEALTH SCHEME**

- Student, when ill is usually seen by a doctor/consultant in the OPD, consultant fills up the EHS slip against the roll no and medicines are to be collected from the EHS counter.
- If any investigation is required, then that is done without any charge against the roll number.
- If admission is required, students are usually given Private Ward Room No.506 for 507 which are basically meant for EHS entitled postgraduates (Junior Residents, MSc and PhD students).

# **CENTRE FOR MEDICAL EDUCATION AND TECHNOLOGY**

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## **INTRODUCTION**

K.L. Wig Centre for Medical Education & Technology provides a state of the art facility of educational technology for effective teaching, besides, a launching pad for mooted faculty development and curricular reforms, both within the Institute and outside. The center is actively engaged in organizing faculty development workshops at the institutional, national and regional level, initiating curricular reforms, providing consultancy and resource personnel to various agencies, besides in-house media production.

## **LOCATION**

The center is situated on the first floor of Jawahar Lal Auditorium (adjoining B.B. Dikshit Library). The media production facility comprises of a central hall, computer graphics work stations, photography unit, video studio and a printing press, all under one roof.

## **MEDIA SERVICES**

The media production facilities consist of clinical photography, video, computer graphics and printing press.

- The photographic unit is well equipped to handle both conventional and digital photography of patients/ operative procedures, specimens, X-rays, gels, etc.
- Scanning of pictures, photographs, slides, X-Rays etc. and their printouts for publication;
- Production of 35 mm slides (Black & White, Blue Toned and Colour).
- Computer based on-screen presentations are prepared in CDs.

- Designing and printing of posters for national and international presentations.
- Video production of rare surgical feats, digitization, editing using non-linear editing; Final product is made available on DVCAM / VHS/ CDs.

## THE PROCEDURE FOR REQUISITIONING CMET FACILITIES

- All jobs related to media production are undertaken through a requisition form duly signed by a faculty member of AIIMS.
- Separate requisition form should be furnished in case of multiple jobs like scanning and printing.
- Media Services provided on “first come, first served” basis. Jobs such as video recording, editing, outdoor coverage etc. require advance booking.
- Each job requires a specific time limit as shown in the table. However, the time limit is subject to variation according to the workload.
- CMET facilities are available free of cost only for the AIIMS Faculty. However in certain cases, the requisitioners are expected to provide consumable materials such as floppy diskettes, CDs, video tapes, special type of printing papers and ink/cartridge in case of bulk requirement.

## QUALITY CONTROL

Steps are taken to constantly update skills/technology at CMET from time to time. However, preparation of high quality learning resource materials depends upon advance planning and close interaction between faculty (or their representatives) and CMET staff. Besides, a system of feed back from the users regarding the quality of materials has been introduced by CMET for ensuring quality control.

## CONTACT PERSONS

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**Table - Media Services Provided at CMET**

<i>Services provided</i>	<i>Remarks</i>	<i>Time Required</i>
<b>Projection Slides</b> <ol style="list-style-type: none"> <li>Exposing colour Power Point slides through slide maker</li> <li>With editing</li> <li>Making B/W or Blue toned slides</li> <li>Manual exposing of color film</li> </ol>	<p>Floppy containing Power Point slides along with color films (chrome-100 ASA) to be supplied</p> <p>-do-</p> <p>Floppy containing Power Point slides to be supplied</p>	<p>1 day</p> <p>3 days</p> <p>3 days</p> <p>3 days</p>
<b>Digital Photography</b> <ol style="list-style-type: none"> <li>Clinical (Bed side, CMET studio or outdoor)</li> <li>X-ray, specimen, Gel will be done at CMET, preferably under the supervision of requisitioner</li> </ol>	<p>Advance booking needed for Bed side/O.T./ outdoor coverage giving details of venue/time</p> <p>CD should be provided with the requisition Separate requisition in case of slides/prints. Collect the digital copy for your record within seven days.</p>	<p>From 10.00-12.00 A.M. &amp; 2:30-4:30 P.M. (Monday to Friday)</p>
<b>Developing and printing</b> <ol style="list-style-type: none"> <li>Supply of black &amp; white prints (laser or bromide) for publication, as per requirement</li> <li>Developing of B/W films supplied</li> </ol>	<ol style="list-style-type: none"> <li>Quantity of prints will be negotiated not more than 24 prints or 6 A-4 Size sheets, subject to journal specification;</li> <li>Floppy/CD/zip drive should be supplied in case of laser print, which will be returned along with prints;</li> <li>In case of bromide prints, negatives should be supplied, if it is not available in the archive of CMET;</li> </ol> <p>Exposed films to be provided</p>	<p>3 days</p> <p>1 day</p>
<b>Scanning</b> <ol style="list-style-type: none"> <li>Slides</li> <li>Photos</li> <li>Negative Strip</li> </ol> <p>Making on-screen presentations</p>	<p>CD or Floppy to be supplied along with material to be scanned. Not more than 24 items to be scanned per requisition;</p> <p>Data Should be provided in Power Point slide form only</p>	<p>1-3 days depending upon the number of images</p> <p>3 days</p>



<i>Services provided</i>	<i>Remarks</i>	<i>Time Required</i>
<b>Posters</b>		
1. Designing, editing and printing posters	Specified papers (DO sheets) and CDs to be supplied by the requisitioner	7 days
2. Taking print out of Titles or posters designed by the requisitioner	Specified papers (DO sheets) and CDs to be supplied by the requisitioner	1 day
<b>Reprography</b>		
1. Making OHP transparency	The floppy or print out to be supplied along with transparency /OHP sheets	1 day
2. Binding (Spiral, comb, hot glue, stapling)	Material (spiral/comb etc.) to be supplied Only for posters work	3 days depending upon quantity of
3. Lamination	The papers, masters, ink etc. to be supplied	1 day
4. Offset Printing	Advance booking, depending upon the quantity	
<b>Video Production</b>		
Video recording of surgical procedures etc. in OT / CMET studio	DVCAM tapes to be supplied Against prior booking only for one recording/ operation per day.	
Video digitizing, editing (Titles, voice over etc.)	Subject to the availability of staff/equipment.	

# **CONSUMER PROTECTION ACT – ITS APPLICATION IN HOSPITALS**

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## **INTRODUCTION**

Our country is a democracy where laws are made for the betterment of the society, and its effectiveness has to be gauged by the extent of its utility to the person for whom it is made. It is a welfare state and thus has to fulfil the constitutional goals of looking after health and safety of citizen. The Consumer Protection Act (CPA) was introduced on 19th December, 1986 in the Lok Sabha. It came into force on 15th August, 1987 and is considered as a dynamic and radical piece of legislation enacted by the Parliament.

## **AIMS AND OBJECTIVES**

To provide better protection to the interests of the consumers and for that purpose, to make provision for establishment of consumer councils and other authorities in order to provide speedy and cheap remedy to the consumers. It safeguards the following rights of consumers;

- (i) The right to safety – This implies the right to be protected against marketing of goods and services which are hazardous to life and property.
- (ii) The right to be informed – about the quality, quantity, potency, purity, standard and price of goods and services.
- (iii) The right to choose – The right to be assured. Wherever possible, to access to a variety of goods and services at competitive prices.
- (iv) The right to be heard and the assurance that consumers interest will receive due consideration at appropriate forum.
- (v) The right to redress i.e. seek redressal against unfair trade practices or unscrupulous exploitation of consumers.

- (vi) The right to consumer education – The right to knowledge and skills needed for taking action.

## **SALIENT FEATURES OF THE ACT**

- I. **Consumer Protection Councils** – These have been envisaged to safeguard the above mentioned rights, at two levels central and state.
- (i) **Central Level** – is known as Central Consumer Protection Council with 150 members and chaired by Minister of Food and Civil Supplies.
- (ii) **State Level** – is known as the State Consumer Protection Council chaired by Minister Incharge of Consumer Affairs of Food and Civil Supplies, as the case may be.
- II. **Consumer Disputes Redressal Agencies** – Under Section 9, the Act envisages setting up a three tier quasi judicial redressal mechanism i.e. –
- (i) District Forum – Established by State Govt. with at least one in each district. Consists of 3 members; (a) A person who has been or is qualified to be a district judge as the President; (b) A person of eminence in field of education, trade or commerce; (c) A lady social worker.
- (ii) The pecuniary jurisdiction of this is upto Rs.5 lakh. Any person aggrieved by an order passed by district forum may appeal to State Commission within 30 days (from date of issue of order).
- State Commission – It is at the level of state and comprises of the members (a) a person who is or has been a judge of a High Court shall be the president; (b) two other members who shall be persons of ability, integrity and standing knowledge alongwith adequate knowledge and experience, one of whom has to be a woman.
  - Jurisdiction: Entertain complaints where value of goods/ services exceeds 5 lakhs rupees but less than Rs.20 lakhs.
  - Appeals against any district forum in the state.
  - Revision petition against district forum.
  - Appeals – Any person aggrieved by order made by State Commission may appeal to National Commission within 30 days.
- (iii) National Commission – Consisting of 5 members at the central

level, situated at New Delhi.

- (a) a person who is or has been a judge of Supreme Court shall be the President.
- (b) Four other members who have the necessary qualification as for district/state commission of which one has to be a women.
  - **Jurisdiction** – Entertain complaints where the value of goods/services and the compensation claimed is more than 20 lakhs.
  - **Appeal** – Any person aggrieved by an order made by National Commission may appeal to Supreme Court within 30 days of date of order. Appeals may be entertained by all the aforesaid even after expiry of said period of 30 days if it is satisfied that there is sufficient cause for not filing it within that period.

(iv) **Miscellaneous Aspects**

- (a) **Limitation Period** – The various redressal agencies shall not admit a complaint, unless it is filed within two years from the date on which the cause of action has arisen. It can be entertained even after two years provided there is sufficient cause for the same.
- (b) **Dismissal of frivolous of vexatious complaints** – where a complaint before any of the fora/commission is found to be frivolous; it shall dismiss the complaint (reason to be recorded in writing) and pass an order that the complainant shall pay to opposite party such cost, not exceeding an amount of Rs.10,000/-
- (c) **Penalties** - If a party or person fails to comply with any order made by District Forum, State or National Commission, shall be punishable (i) with imprisonment for a term more than one month upto three years. (ii) with fine not less Rs.2,000 to Rs.10,000/-.

## RECENT JUDGEMENT OF SUPREME COURT

### *Preamble*

Prior to this landmark judgement a number of cases had been decided in favour of and against doctors working in government organization. In the case of Indian Medical Association Shri V. P. Shantha and others following

matter was deliberated upon and decision reached:-

- Service rendered to a patient by a medical practitioner (except where the doctor gives service, free of charge to every patient) by way of consultation, diagnosis or treatment (both medical and surgical) will fall within the ambit of service.
- The fact that medical practitioners belong to a profession and are regulated by Medical Council of India, does not exclude them from this Act.
- Service rendered at a non government hospital/nursing home where no charges are taken from any person availing the same and all patients (both rich and poor) are treated free; will be outside the purview of service. Payment of a “token” amount for registration purpose only will not alter the position.
- Service rendered at a non government hospital/nursing home where charges are paid by those persons who are availing the facilities and are able to pay; and other poor patients are treated free of cost shall also be treated as ‘service’. Recipient of “free” service would also be a consumer.
- As regards government hospitals; those hospitals where no charge whatsoever is taken from any patient; rich or poor – falls outside the purview of Act. Charging of a ‘token’ amount for registration purposes only will not alter the position. However, services rendered at Government hospitals/dispensaries where some payment is taken from patients who can pay, and poor patients are treated free would also fall within the law. Hence AIIMS falls under the ambit of CPA.

## IMPLICATIONS FOR HEALTH PROFESSIONALS

Since the doctor-patient relationship is a contract, the doctor must provide “reasonable” care. Some area of high risk which need caution are:-

- (a) **Failure to attend to patients** – especially children with acute conditions, which have rapid downhill course.
- (b) **Retention of objects in operation sites** – swabs, packs, instruments can be left behind if proper counting and retrieval is not done.
- (c) **Amputation of wrong limb or digit, extraction of wrong eye or tooth** – the reasons are carelessness in hospital notes, errors in pre-operative skin marking and failure to check the name of the patient in O.T.

- (d) **Therapeutic hazards** – These can be avoided by administration of the right drug in the right dosage, via the right route; and informing patient/attendants of potential risk of treatment.
- (e) **Medical case records** – It is extremely important to fill up the case sheets carefully and properly; as these can be produced in courts as evidence. In complicated cases, negative findings should be mentioned. Special caution should be taken in medico-legal cases.
- (f) **Consultation and referrals** – These should be done in writing wherever required.
- (g) **Channels of communication** – It has often been found that lack of improper communication regarding patients health/illness; leads to litigations. Hence, it is important that patient or attendants should be informed about the diagnosis, treatment and prognosis in simple understandable language.

# **ANNEXURE - I**

## **OPD SCHEDULE**

*Location of Service*

*(updated as of Dated 10-06-2002)*

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Ground floor	:	Hematology, Radiotherapy, Nuclear Medicine, Physical Medicine and Rehabilitation, Sex & Marriage Counselling Clinic
1st floor	:	Orthopaedics, Skin
2nd floor	:	Medicine, Nephrology, Gastroenterology, GI Surgery, Endocrinology, Psychiatry
3rd floor	:	Obstetrics and Gynaecology, Paediatric Medicine, Surgery
4th floor	:	Dental Surgery, ENT
5th floor	:	Surgery, Urology

### **GUIDELINES FOR PATIENTS**

- The Rajkumari Amrit Kaur (RAK) OPD block of main hospital has General and Speciality OPDs of all the clinical departments located on different floors.
- All Patients have to make OPD card against payment of Rs. 10/- at Central Registration on the ground floor from 8.30 AM to 10.30 AM. After making the card, they have to get registered at the registration counter of the OPD depending on the type of sickness.
- The registration timing for General OPD in morning is 8.30 AM to 10.30 AM. and for Speciality clinic from 1.30 PM to 3.00 PM depending on the concerned clinics.
- For consultation in Speciality clinics the patients are either referred from the General OPD or by referral from the outside hospitals

- There are no separate private OPDs but patients can also have Speciality consultation by prior appointments with the respective department on the respective OPD days of the consultants.
- To avoid overcrowding please don't bring more than one attendant.
- Please bring brief medical summary of previous treatment along with all investigations reports etc.
- In case of any problem contact medical social service staff at OPD reception on Ground Floor and also at Room No. 9.

Central Registration Office : 4239 (Tel. Extn.)

Enquiry Office : 4815

<b>DAYS</b>	<b>GENERAL OPD Morning (9 A.M.)</b>	<b>SPECIALITY CLINICS Afternoon (2 P.M.)</b>
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**GROUND FLOOR**

MON, WED & FRI	<b>HEMATOLOGY</b> (Room No. 6,7 Extn. : 3482) Dr. V.P. Chaudhary Dr. R. Kashyap Dr. M. Mahapatra
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**Sex & Marriage Counselling Clinic (Room No. 38, Extn. : 4313)**

MON, WED & SAT.	Dr. Bir Singh
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**PHYSICAL MEDICAL & REHABILITATION (PC Block Annexe, Extn. : 3232)**

MON, WED & FRI	Dr. S.L. Yadav	MON & WED
TUES, THUR & SAT	Dr. U. Singh	<b>Disability Clinic</b>
	Dr. S. Wadhwa	THUR - <b>Prosthetic Clinic</b>
		FRI - <b>Follow up Clinic</b>

**RADIOTHERAPY (Ground Floor Main Radiotherapy OPD, Extn. : 4206)**

MON & WED	Dr. P.K. Julka	<b>Head &amp; Neck Clinic</b>
WED & THUR	Dr. P.K. Julka	<b>Breast Clinic</b>
FRI & SAT	Dr. P.K. Julka	<b>Neuro-Oncology Clinic</b>

**NUCLEAR MEDICINE (Room No. 57-C, 57-D, Extn. : 3530)**

MON & THUR	<b>Thyroid Clinic</b> Dr. C.S. Bal Dr. Rakesh Kumar
WED	<b>Thyroid Cancer</b> Dr. C.S. Bal (New & Old case)
FRI	<b>Pain Clinic</b> 9 AM - 1 PM D.A. Malhotra

**1st FLOOR**

**ORTHOPAEDICS (TEL. : EXTN. : 4209, 3301)**

MON TO FRI : 9.30 - 11.00 AM

SAT : 9.30 - 11.30 AM

**Regn. - Room No. 1 (New Cases), Room No. 2 (Old Cases)**

<b>New Case</b>	<b>Unit-I</b>	THUR	- <b>Polio Clinic</b>
TUE, THUR & SAT	Dr. P.K. Dave		- <b>Scoliosis Clinic</b>
	Dr. S. Bhan		- <b>Disability Clinic</b>



	Dr. A. Jaiswal Dr. R. Malhotra Dr. H.L. Nag Dr. B. Chaudhary	FRI - CTEV	
<b>Old Case -THUR &amp; SAT, New Case</b>	<b>Unit-II</b>		<b>Post-op. Follow-up Case - TUE</b>
MON, WED, FRI	Dr. P.P. Kotwal		MON - T.B. Clinic WED - Hand Clinic - Disability Clinic
<b>Old Case</b>	Dr. S. Rastogi		THUR - Tumour Clinic
WED & FRI	Dr. R. Mittal Dr. C.S. Yadav Dr. V. Gupta		
MON	Post-op. followup Case		

**Orthopaedics Physiotherapy** (Regn. in Room No. 152) MON - FRI 8.30 to 11.30 A.M.  
**Physiotherapy** (MONDAY to SATURDAY) 9 to 1.00 A.M. SAT - 8.30 to 11 A.M.

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**SKIN (Room No. 36-44, Extn. : 4351)**

	<b>O.P.D.</b>	<b>Morning Clinic S.T.D. O.P.D.</b>	<b>Afternoon Clinic</b>
MON	Dr. V.K. Sharma Dr. S. C. Sirka Dr. S. Khandpur	Dr. V.K. Sharma Dr. G. Sethuraman	Dr. V.K. Sharma Dr. N. Khanna Dr. B.K. Khaitan Dr. S. Khandpur
TUE	Dr. N. Khanna Dr. C. S. Sirka Dr. G. Sethuraman	Dr. S. Khandpur	
WED	Dr. V.K. Sharma Dr. B.K. Khaitan Dr. G. Sethuraman	Dr. C. S. Sirka	Dr. B.K. Khaitan Dr. C. S. Sirka Dr. G. Sethuraman
THUR	Dr. N. Khanna Dr. S. Khandpur	Dr. B.K. Khaitan	Dr. V.K. Sharma Dr. N. Khanna Dr. M. Raman Dr. S. Khandpur
FRI	Dr. B.K. Khaitan Dr. C. S. Sirka Dr. G. Sethuraman	Dr. Neena Khanna	Dr. V.K. Sharma Dr. M. Raman Dr. G. Sethuraman Dr. C. S. Sirka
SAT	<b>Case Conference</b> <b>OPD Closed, open only for PUVA Patients</b>		

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**2nd FLOOR**

**MEDICINE (Room No. 15-21, Extn. : 4339)**

WED & SAT	<b>Unit-II</b> Prof. J.N. Pandey Dr. Ashok Kumar Dr. R. Guleria Dr. Rajiv Gupta	THUR	<b>Hematology Clinic</b> Dr. O.P. Malhotra Dr. Rita Sood
TUE & FRI	<b>Unit-I</b> Dr. Rita Sood Dr. R. Handa Dr. Asutosh Biswas	FRI	<b>Geriatric Clinic</b> Chest Clinic Prof. J.N. Pandey Dr. J.P. Wali

MON & THUR	Dr. Uma Kumar <b>Unit-III</b> Prof. S.K. Sharma Dr. A.B. Dey Dr. G.C. Khilnani Dr. Naveet Wig	WED	Prof. S.K. Sharma <b>Rheumatology Clinic</b> Dr. Ashok Kumar Dr. Uma Kumar Dr. Rajiv Gupta Dr. R. Handa
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<b>NEPHROLOGY (Room No. 1-9, Extn. : 4339)</b>			
MON			<b>Renal Clinic</b> Dr. S.C. Dash Dr. S.C. Tiwari Dr. S.K. Agarwal Dr. D. Bhowmick Dr. S. Gupta
TUE	Dr. S.C. Dash		<b>Pre-op. Ground Floor (Hematology OPD)</b>
THUR	Dr. S.C. Dash Dr. S.C. Tiwari		<b>Renal Transplant Counselling (Post-op)</b>
FRI	Dr. S. Gupta Dr. S. K. Aggarwal Dr. D. Bhowmik		2nd floor <b>Renal Vascular Hypertension</b> Dr. S.C. Dash Dr. S.K. Agarwal Dr. S.C. Tiwari
SAT	Dr. S.C. Tiwari		

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<b>GASTROENTEROLOGY (Room No. 23 - 30, Extn. : 4308)</b>			
MON	Dr. R.K. Tondon Dr. A.K. Saraya		<b>Liver Clinic</b> Dr. S.K. Acharya
TUE	Dr. M.P. Sharma Dr. Y.K. Joshi		
WED	Dr. S.K. Acharya Dr. P. Garg		<b>Gall Stone &amp; Pancreas</b> Dr. R.K. Tandon, Dr. Pramod Garg
THUR	Dr. R.K. Tondon Dr. Y.K. Joshi		Dr. Govind Makharia <b>Ulcer</b>
FRI	Dr. M.P. Sharma Dr. A.K. Saraya		Dr. M.P. Sharma Dr. Vineet Ahuja
SAT	Liver Clinic Dr. S.K. Acharya Dr. Y. K. Joshi Dr. Pramod Garg		

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<b>G.I. SURGERY (Room No. 28-30, Extn. : 4308)</b>			
MON			Dr. T.K. Chattopadhaya Dr. G.K. Pandey
WED			<b>G.I. Surgery &amp; Pancreatic Clinic</b> Dr. T.K. Chattopadhaya Dr. P. Sahni
FRI			<b>G.I. Surgery</b> Dr. Girish Pandey, Dr. P. Sahni

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**ENDOCRINOLOGY & METABOLISM (DIABETES) (Room No. 13-23, Extn. : 4398)**

MON, WED &amp; FRI

Dr. A.C. Ammini  
 Dr. N. Kochupillai  
 Dr. A. Sood  
 Dr. N. Tandon  
 Dr. R. Goswami

SAT

**Diabetic Clinic for young****PSYCHIATRY (Room No. 1-24, Extn. : 4249) Room No. 1, 5, 15 (Walk-in-Clinics) Sr.****Resident****New case & followup cases - MON TO FRI****Only followup cases - SAT ONLY**

MON - FRI

**WALK - IN - CLINIC** (Dr. S. Malhotra)

MON

Dr. S. K. Khandelwal  
 Dr. B.N. Tripathi  
 Dr. S. Ramesh  
 Dr. Manju Mehta

TUE

Dr. R. Sagar

WED

Dr. D. Mohan

Dr. R. Sagar

Dr. S. Ramesh

THUR

Dr. S. Ramesh

Dr. S. K. Khandelwal

Dr. B.N. Tripathi

FRI

Dr. D. Mohan

Dr. S. Ramesh

**Child Guidance Clinic**

Dr. Manju Mehta

Dr. R. Sagar

SAT

**(Only Followup cases)** Dr. D. Mohan

Dr. R. Sagar

**3rd FLOOR****OBSTETRICS & GYNAECOLOGY (Room No. 1-4, 10, 12, 14 Extn. : 4323)**

TUE &amp; FRI

**Unit-I**

Prof. S. Mittal (HOD)

Dr. D. Deka

Dr. Renu Mishra

Dr. Vatsala Dhanwal

WED - **Unit-I**FRI - **Unit-II**MON - **Unit-III**

MON &amp; THU

**Unit-II**

Prof. A. Kriplani

Dr. Neerja Batla

Dr. Nutan Aggarwal

Dr. Bhawna

WED &amp; SAT

**Unit-III**

Dr. Suresh Kumar

Dr. K. K. Roy

Dr. Neena Malhotra

**CHILDREN'S OPD (PAEDIATRICS) (Room No. 23-28, 32-34 Extn. : 4304)**

MON &amp; THUR

**Unit-I**

Dr. M.K. Bhan

MON - **Pead Endo** (P.S. Menon,

Dr. Madhulika)

**Genetic Clinic** (M. Kabra)

	Dr. N.K. Arora		<b>Development Clinic</b> (Dr. Dash, Dr. Ghosh)
	Dr. A. Bagga	WED	- <b>High Risk</b> (Dr. A. Deorari)
TUE & FRI	Dr. P. Hari		<b>Gastro</b> (Dr. N.K. Arora)
	<b>Unit-II</b>		
	Dr. V. Kalra	THU	- <b>Neurology</b> (Dr. V. Kalra)
	Dr. A. Deorari		<b>Nephrology</b>
	Dr. M. Kabra		<b>Endo</b> (Dr. P.S.N.Menon)
	Dr. Shefali		<b>Well-Baby Clinic</b> (L.S. Arya)
			<b>Chest Clinic</b>
WED & SAT	<b>Unit-III</b>	FRI	- <b>TB</b> (Dr. S.K. Kabra)
	Dr. L.S. Arya		<b>Gastroenterology</b> (Dr. V. Kalra)
	Dr. S.K. Kabra		<b>Myopathy</b> (Dr. V. Seth)
	Dr. Sameer Bakshi		<b>Rheumatology</b> (Dr. V. Seth)
	Dr. Rakesh		(Dr. S. K. Kabra)

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**CHILDREN'S SURGERY (Room No. 35 - 37 Extn. : 4356)**

TUE & SAT	Dr. D.K. Gupta	MON	- <b>Hydrocephalus</b> (Dr. V. Bhatnagar)
	Dr. M. Srinivas		
	Dr. S. Aggarwal		
WED & FRI	Dr. Mithra	WED	- <b>Paed Urology</b> (Dr. M. Bajpayee)
	Dr. S. Agarwal		
MON	Dr. M. Bajpayee	THU	- Paed Urol Inter Sex Clinic (Dr. D.K. Gupta)
THUR	Dr. V. Bhatnagar	FRI	- <b>Paed Urol Inter Sex Clinic</b> (Dr. V. Bhatnagar) (Dr. M. Srinivas)

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**4th FLOOR**
**DENTAL SURGERY (Room No. 1-6, Extn. : 4318)**

MON, WED & FRI	Dr. N. Shah	MON	- <b>Trigeminal Neuralgia</b>
	Dr. R. Duggal		<b>Prosthodontic</b>
	Dr. V. Jain		<b>Restorative Clinic</b>
	Dr. A.R. Chaudhary		<b>Maxillofacial Clinic</b>
TUE	Dr. H. Prakash	WED & FRI	- <b>Orthodontic</b>
	Dr. O.P. Kharbanda	THUR	- <b>Prosthodontic</b>
	Dr. A.R. Chowdhary		<b>Maxillofacial &amp; CP Clinic</b>
	Dr. V. Jain	MON TO SAT	- <b>Restorative Clinic</b>

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**ENT (Room No. 4101, 4102, 4103, Extn. : 4359)**

Mon & Wed	<b>Unit-II</b>		
	Dr. R.C. Deka	MON	- <b>Vertigo Clinic</b> (Dr. R.C. Deka)
	Dr. N. Jha		(Dr. A. Thakar)
TUE & FRI	<b>UNIT-III</b>		
	Dr. S. C. Sharma	WED	- <b>Audiology &amp; Skull Base</b> <b>Clinic</b>
	Dr. K.K. Handa		
THUR & SAT	<b>UNIT-I</b>	FRI	- <b>Rhinology Clinic</b>
	Dr. S. Bahadur		
	Dr. Alok		

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**5th FLOOR****SURGERY (Room No. 1-10, Tel. Extn.: 4329)**

MON	<b>Unit - I</b>	<b>Follow up on Wed</b>
FRI - 1st & 3rd	Dr. Anurag Srivastav Dr. L.R. Murmu Dr. S. Chumber	
TUE - 1st	<b>Unit-II</b>	<b>Follow up on Thur</b>
SAT - 1st & 3rd	Dr. S. N. Mehta Dr. S. Guleria Dr. V. Seenu	
WED - 2nd	<b>Unit-III</b>	<b>Follow up on Fri</b>
FRI - 2nd & 4th	Dr. S. Bal Dr. Rajendra Prasad	
THUR	<b>Unit-IV</b>	THUR <b>Breast Cancer Clinic</b>
SAT - 2nd & 4th	Dr. Arvind Kumar Dr. S. Aggarwal	& SAT (Dr. A. Srivastav) (Dr. Rajendra Prasad)
MON, WED & FRI	<b>PAC Clinic</b>	
MON to SAT	<b>FNAC</b> (9 A.M. to 1 P.M.)	

**UROLOGY**

MON	Dr. N.P. Gupta Dr. A.K. Hemal Dr. Amlesh Seth
WED	Dr. N.P. Gupta Dr. A.K. Hemal Dr. P.N. Dogra
FRI	Dr. P.N. Dogra Dr. Amlesh Seth

**DR. RAJENDRA PRASAD CENTRE FOR OPHTHALMIC SCIENCES****GENERAL OPD DAYS (9.00 A.M.)**

Days	Name of Faculty	OPD Room No.
		<b>UNIT - I</b>
WED & SAT	Prof. H.K. Tiwari	3
	Dr. S.P. Garg	20
	Dr. Lalit Verma	22
	Dr. Dinesh Talwar	1
	Dr. Pradeep Venkatesh	19
		<b>UNIT-II</b>
MON & THUR	Prof. R.V. Azad	3
	Dr. Y R Sharma	1
	Dr. Atul Kumar	20
	Dr. Rajpal	22
		<b>UNIT - III</b>
TUE & FRI	Prof. R. B. Vajpayee	3
	Dr. J. S. Titiyal	20
	Dr. Radhika Tandon	1
	Dr. Namrata Sharma	22
		<b>UNIT - IV</b>
MON & THUR	Dr. Anita Panda	32
	Dr. Harsh Kumar	30
	Dr. S Khokhar	41

		<b>UNIT - V</b>
TUE & FRI	Prof. S. Ghose	43
	Dr. S. M. Batheria	32
	Dr. Mahesh Chandra	41
	Dr. M S Bajaj	30
	Dr. Neelam Pushkar	33

		<b>UNIT - VI</b>
WED & SAT	Prof. H.C. Aggarwal	41
	Dr. Vimla Menon	43
	Dr. Pradeep Sharma	30
	Dr. Ramanjit Sihota	32
	Dr. Tanuj Dada	33

**SPECIALITY CLINICS (2.00 P.M.)**

<b>Days</b>	<b>Clinic Name</b>	<b>R.No.</b>	<b>Unit</b>
MON & THUR	<b>Trauma Clinic</b>	1	II
	<b>UVEA Clinic</b>	3	I
WED & FRI	<b>O.P. Clinic</b>	20	V
	<b>Neuro-Ophthalmology Clinic</b>	22	VI
	<b>Retina Clinic</b>	30	I
	<b>Cornea Clinic</b>	45	MON IV THUR III
	<b>Squint Clinic</b>	28	VI
	<b>Contact Lens Clinic</b>	104	MON III THUR IV
	<b>Paed. Ophthalmology Clinic</b>	1	V
	<b>Med. Ophthalmology Clinic</b>	20	I
	<b>Vitreo-Retina Clinic</b>	30	II
	<b>Glucoma Clinic</b>	45	WED VI FRI IV
	<b>Lens Clinic</b>	104	III

**INSTITUTE ROTARY CANCER HOSPITAL (Extn. : 4411)**

<b>DAYS</b>	<b>GENERAL OPD</b>	<b>SPECIALITY CLINICS</b>
MON	<b>Morning (9 AM)</b>	<b>Afternoon (2 PM)</b>
	<b>Chemotherapy Evaluation</b>	<b>Breast Cancer</b>
	Dr. (Mrs.) V. Kochupillai	Dr. N.K. Shukla
	Dr. Lalit Kumar	Dr. S.V. Deo
	Dr. Atul Sharma	Dr. Vinod Raina
	Dr. Tulika Seth	Dr. P.K. Julka
	<b>Paediatric Oncology</b>	<b>Head and Neck-Team A</b>
	Dr. L.S. Arya	Dr. N.K. Shukla
		Dr. S.V. Deo
		Dr. (Mrs.) L. Bijlani
		<b>Team - B</b>
		Dr. Sudhir Bhahadur
	Dr. G.K. Rath	
	Dr. B.K. Mohanty	
	Dr. (Mrs.) L. Bijlani	

		<b>Gynaecology Team - A</b> Dr. Neerja Bhatla Dr. Lalit Kumar Dr. Subhash Chander
TUE	<b>Radiotherapy Evaluation</b> Dr. G.K. Rath Dr. Subhash Chander Dr. B.K. Mohanti	
WED	<b>Chemotherapy Evaluation</b> Dr. Vinod Raina Dr. L. Bijlani Dr. Atul Sharma	<b>Lymphoma/Leukemia</b> Dr.(Mrs.) V. Kochupillai Dr. Lalit Kumar <b>Gastro-Intestinal Clinic</b> Dr. N.K. Shukla Dr. S.V. Deo Dr. Vinod Raina Dr. B.K. Mohanty <b>Gynaecology-B</b> Dr. Sunesh Kumar Dr. Lalit Kumar <b>Pain Clinic</b> Dr. Abha Saxena Dr. Anjan Trikha <b>Bone Soft Tissue</b> Dr. S. Rastogi Dr. N.K. Shukla Dr. S.V. Deo <b>Paediatric (Surgery)</b> Dr. L.S. Arya Dr. Sanjeev Agarwal <b>Lymphoma/Leukemia</b> Dr. (Mrs.). V. Kochupillai Dr. Vinod Raina Dr. L. Bijlani Dr. Lalit Kumar
THUR	<b>Chemotherapy Evaluation</b> Dr.Lalit Kumar Dr. (Mrs.) L. Bijlani Dr. Tulika Seth <b>Urology Malignancy</b> Dr. N.P. Gupta Dr. Atul Sharma	<b>Breast Cancer</b> Dr. N.K. Shukla Dr. S.V. Deo Dr. Vinod Raina Dr. P.K. Julka <b>Head and Neck-BH</b> Dr. S. Bahadur Dr. B.K. Mohanti <b>Pain Clinic</b> Dr. Abha Saxena Dr. Sushma Bhatnagar
FRI	<b>Chemotherapy Evaluation</b> Dr. (Mrs.) V. Kochupillai Dr. Vinod Raina  <b>Radiotherapy Evaluation</b> Dr. G.K. Rath Dr. Subhash Chander Dr. B.K. Mohanty	
SAT	<b>No Clinic</b>	

**CARDIO-THORACIC & NEURO-SCIENCES CENTRE (Extn. : 3445, 4658)*****CARDIOLOGY (Ground Floor, Cardiothoracic Centre)***

<b>DAYS</b>	<b>Morning (9 AM)</b>	<b>Afternoon Clinic (2 PM)</b>
<b>MON</b>	<b>Adult - Child Clinic</b> 9 - 10 A.M.  Dr. Anita Saxena Dr. S.S. Kothari	<b>General-OPD (Registration Time)</b> 9.30 - 11.30 A.M. - OLD Cases 11.30 - 1.30 P.M. - New Cases  Dr. S.C. Manchanda Dr. K.K. Talwar Dr. K.C. Goswami Dr.S.S. Kothari Dr. S. Ramamurthy Dr. R. Narang Dr. N. Naik Dr. S. Seth
<b>WED</b>	<b>Arrhythmia Clinic</b> <b>9 - 10 A.M.</b> Dr. K.K. Talwar Dr. R. Juneja Dr. N. Naik Dr. Yadav	<b>General OPD</b>  Dr. K.K. Talwar Dr. V. K. Bahl Dr. Anita Saxena Dr. S.S. Kothari Dr. S. Seth Dr. S. Mishra Dr. Yadav
<b>THUR</b>	<b>Hypertension Clinic</b> <b>9 - 10 A.M.</b> Dr. Mishra Dr. Yadav	<b>Coronary Clinic</b> <b>1 - 2 P.M.</b> Dr. S.C. Manchanda Dr. K.C. Goswami Dr. Narang Dr. S. Mishra <b>Heart Transplant Clinic</b> <b>2 - 3 P.M.</b> Dr. K.K. Talwar Dr. S. Seth Dr. Yadav
<b>FRI</b>		<b>General OPD</b> Dr. S.C. Manchanda Dr. V.K. Bahl Dr. R. Juneja Dr. R. Narang Dr. S. Mishra Dr. N. Naik Dr. Yadav



**CARDIO-THORACIC & VASCULAR SURGERY***(Ground Floor, Cardiothoracic Centre)*

MON	<p><b>General OPD (Registration Time)</b>  <b>9.30 A.M. - 1.30 P.M.</b>            Dr. P. Venugopal            Dr. A. Sampat Kumar            Dr. Balram Airan            Dr. Anil Bhan            Dr. U.K. Chowdhury            Dr. S.K. Chowdhury            Dr. A.K. Bisoi            Dr. P. Vaijanath</p>
WED	<p>Dr. P. Venugopal            Dr. A. Sampath Kumar            Dr. Balram Airan            Dr. Anil Bhan            Dr. U.K. Chowdhury            Dr. S.K. Chowdhury            Dr. A.K. Bisoi            Dr. P. Vaijanath</p>
FRI	<p>Dr. P. Venugopal            Dr. A. Sampath Kumar            Dr. Balram Airan            Dr. Anil Bhan            Dr. U.K. Chowdhury            Dr. S.K. Chowdhury            Dr. A.K. Bisoi            Dr. P. Vaijanath</p>

**NEUROLOGY (Extn. : 4675)***(Ground Floor, Neurosciences Centre)*

MON	<p>Dr. M. V. Padma            Dr. M. Tripathi            Dr. P. Agarwal            Dr. Aehail</p> <p><b>Intractable Elilepsy Clinic</b>            Dr. V. P. Singh</p> <p><b>Neuro-Psychiatry</b>            Dr. Surya Gupta            Dr. S.R. Khendelwal</p>
TUE	<p>Dr. Madhuri Behari            Dr. Kameshwar Prasad            Dr. sumit Singh</p>

	Dr. T. Srivastav Dr. V. Goyal <b>Neuro-Psychiatry</b> Dr. S.K. Khandelwal Dr. Surya Gupta Sleep Disorders Dr. Manvir Bhatia <b>Paediatric Neurology</b> Dr. M.V. Padma Dr. Aehal Dr. P. Agarwal <b>Intractable Epilepsy Clinic</b> <b>Stroke Clinic</b> Dr. M.V. Padma Dr. Madhuri Behari	
WED		
THUR		<b>Intractable Epilepsy Clinic</b> Dr. V. P. Singh <b>Pain Clinic</b> Dr. H.H. Dash
FRI	Dr. Satish Jain Dr. Aehal Dr. P. Agarwal <b>Intractable Epilepsy Clinic</b> Dr. Satish Jain <b>Neuro-Psychiatry</b> Dr. S. K. Khandelwal Dr. Surya Gupta <b>Movement Disorder</b> Dr. Madhuri Behari <b>Neuro-Immunology &amp; Stroke Clinic</b> Dr. Kameshwar Prasad Dr. Summit Singh <b>Pain Clinic</b> Dr. H.H. Dash <b>Neuro-Psychiatry</b> Dr. Surya Gupta	
SAT		

**NEURO-SURGERY***(Ground Floor, Neurosciences Centre)*

MON	<b>Unit-I</b> Dr. V.S. Mehta Dr. Sandeep Vaishya Dr. P.S. Chandra Dr. B.S. Sharma
TUE	<b>Unit-II</b> Dr. A.K. Mahapatra (on leave)

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	Dr. S.S. Kale (on leave)
	Dr. Ojha
	Dr. Suri
THUR	<b>Unit-I</b>
	Dr. V.S. Mehta
	Dr. Sandeep Vaishya
	Dr. P.S. Chandra
	Dr. B.S. Sharma
SAT	<b>Unit-II</b>
	Dr. A. Suri

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**ORGAN RETRIEVAL BANKING ORGANISATION (ORBO)**

Room No. 7, Ground Floor, ORBO Complex, Near C.N. Centre

Ph. : 1060 (Special Direct Tel. Line)

**Registration of patients waiting for Organ Transplants**

**Registration of Donors**

ROUND THE CLOCK

(24 hour a day)

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