MEDICINE — M D

GENERAL GOALS OF THE RESIDENCY TEACHING - TRAINING PROGRAM IN MEDICINE

The main goal of the training program is to produce physicians with the necessary knowledge, skill and attitude to diagnose and manage in a cost effective manner, a wide range of clinical problems in internal medicine as seen in the community or in secondary/tertiary care setting. Special emphasis is placed on the relatively common and treatable disorders. Possession of clinical skills required for making a diagnosis is given utmost importance.

As a result of training in General Internal Medicine, the physician should become competent in the use of the various diagnostic tests, and interpret their results intelligently, keeping in mind their costeffectiveness.

In addition, a physician trained in General Internal Medicine should have learnt adequate skills in communication and teaching. Although maximum emphasis in the training program is given to the acquisition of skills necessary for diagnosis, management and prevention of medical disorders, it is considered desirable for the Junior Residents to be familiar with the fundamentals of research methodology. In order to be considered a competent internist, a resident in medicine must posses humanistic qualities, attitudes and behavior necessary for the development of appropriate patient-doctor relationship.

SPECIFIC AIMS AND OBJECTIVES OF THE JUNIOR RESIDENT TRAINING PROGRAM IN INTERNAL MEDICINE

As a result of the training under this program, at the end of 3 years of postgraduate training, a resident must acquire the following knowledge, skills and competencies:

1. A thorough knowledge of epidemiology, natural history, pathological abnormalities, clinical manifestations, and principles of management of a large variety of systemic medical disorders of adults and elderly, affecting any organ system.
2. A thorough knowledge of the practical aspects and methods of prevention and protection against nosocomial infections from (i) patient-to-patient (ii) patient-to-health care worker HCW) (iii) HCW-to-patient; in any health care setting.
3. Thorough knowledge, skill and competence to diagnose correctly and manage rationally a wide

range of clinical problems of general internal medicine, using traditional methods of recording an accurate and thorough history and performing a detailed physical examination.

4. Skills and competence to conduct himself/herself ethically during the process of collecting the relevant data base, and be able to establish a healthy doctor-patient relationship by maintaining a sympathetic attitude and upholding the dignity ( ) of the patient. He/she must have learnt the skills of promoting verbal communication with the patient and winning his/her confidence.
5. Skill and competence to choose and interpret correctly the results of the various routine investigations necessary for proper management of the patient. While ordering these investigations, a resident must be able to understand the sensitivity, specificity and the predictive value of the proposed investigation, as well as its cost-effectiveness in the management of the patient.
6. Skills and competence to perform commonly used diagnostic procedures, namely, lumbar puncture, bone marrow aspiration/biopsy, liver/nerve/muscle/skin/kidney/pleural biopsy, fine needle aspiration cytology of palpable lumps, pleural/pericardial/abdominal/joint fluid aspiration; take an electrocardiogram tracing, and be able to interpret their findings.
7. Skill and competence to choose and interpret correctly the results of specialized investigations including radiologic, ultra-sonographic, biochemical, haemodynamic, electro-cardiographic, electro-physiological, pulmonary functional, hematological, immunological, nuclear isotope scanning and arterial blood gas analysis results.
8. Skill and competence to provide consultation to other medical and surgical specialities and subspecialities, whenever needed.
9. Skill and competence to function effectively in varied clinical settings, namely, ambulatory care, out-patient clinic, in-patient wards, or emergency/critical care.
10. Skill and competence to take sound decisions regarding hospitalization, or timely referral to other consultants of various medical subspecialities recognizing his limitations in knowledge and skills in these areas.
11. Proficiency in selecting correct drug combinations for different clinical problems with thorough knowledge of their pharmacological effects, side-effects, interactions with the other drugs, alteration of their metabolism in different clinical situations, including that in the elderly.
12. Skill and competence to administer intensive care to seriously ill patients in collaboration with specialists from other areas. Should have acquired adequate skills in cardiopulmonary resuscitation, endotracheal intubation, setting up a central venous line, using a defibrillator, and providing basic ventilator support. The resident in medicine must become familiar with the basic monitoring equipments in the critical-care area of the medicine ward, and should be able to interpret the information provided by the correctly.
13. Skill and competence to advise on the preventive, restorative and rehabilitative aspects of medicine, including those in the elderly, so as to be able to counsel the patient correctly after recovery from an acute or chronic illness.
14. Skill and competence to understand research methodology in clinical medicine and to undertake a critical appraisal of the literature published in various medical journals and be able to apply the same in the setting in which the resident is working.
15. Skill and competence to work cohesively in a team of medical and paramedical personnel and maintain discipline and healthy interaction with the colleagues.

16. Skill and competence to communicate clearly and consciously, and teach other junior residents, medical students, nurses and other paramedical staff, the theory as well as the practical clinical skills required for the practice of medicine.

Training Program : Schedule

The Junior Residents in medicine under go the following rotation-training during their 3 years' course towards M D (Med.):

(i)	Medicine Units	:	6 months in each unit (Total: 18 months)
(ii)	Nephrology	:	2 months
(iii)	Gastroentrology	:	3 months
(iv)	Casualty	:	2 months
(v)	EHS	:	2 months
(vi)	Cardiology	:	4 months
(vii)	Neurology	:	4 months
(viii)	Endocrinology	:	1 months
	Total	**:**	**36 months**

MEDICAL UNITS

To simplify the functioning and for ensuring that all the faculty members of the department participate equally in the general internal medicine teaching and patient – care program, the 75 beds of the department of Medicine have been divided in three functional clinical units (Medicine Unit I, II and III). Ten of these beds have facilities for critical care (presently [December 1994] under construction, should become intensive care of the patients etc. These beds, available for use by all the 3 units, have been placed in ward C2. Each unit consists of 4-6 faculty members, 2 senior residents, 5-6 junior residents, and 1-4 intern at any given time.

FUNCTIONS OF THE MEDICAL UNITS

The clinical units in the department of medicine have the following main functions:

1. Provide casualty - emergency consultation coverage for all the patients attending AIIMS-Casualty with problems of general internal medicine on days when the units is "On - Call". The same medical unit also provides emergency consultation service for the patients of AIIMS hospital and attached "Centres" who may require general internal medicine consultation.
2. Provide coverage for the Out-patient service in the forenoons, and on fixed days in a week.
3. Provide In-patient admission and management facilities to all the patients who get admission from the out-patient, casualty-emergency or get transferred to general medicine beds from other clinical areas of the hospital; on the days when that medical unit is "on-call".
4. Although the 3 clinical units in medicine function in close co-ordination, and cooperation, each unit has independent beds (except the critical care beds which will be shared by all the 3 units). These units are entirely independent as far as the patient-care is concerned.

Responsibilities learning activities of Junior Residents

The daily routine for a medicine resident starts at 8.00 am everyday. On Wednesday and Saturday it may be earlier as journal club is held on Wednesday, and Saturday being a half day.

Residents' responsibilities may be discussed under the following headings.

1. O.P.D. Services
2. In-patient care
3. Academic activities

OPD Services

Each resident posted in the medicine department would have two OPD days/week. (see 5.2 for allocation of OPD days).

OPD starts at 9.00 am every day except Sundays and holidays. Residents must be in their OPD cubicle by 9.00 am sharp. It is advisable not to change the cubicle repeatedly as this practice makes it difficult for patients attending for follow up.

The following guidelines may be helpful for optimal and efficient functioning in the medical OPD.

- Residents should see patients one-by-one on first come first service basis to avoid confusion.
- They should evaluate each patient and write the observations on the OPD card with date and signature.
- OPD card is a legal document, hence one should be careful about what one writes on the card.
- Investigations should be ordered as and when necessary using prescribed forms. All investigation form should be carefully and completely filled. Short history, findings and clinical assessment should be clearly outlined on forms meant for radiology, pathology and nuclear medicine.
- Resident should consult the senior resident/consultant in case of any difficulty regarding diagnosis and the management of any case.
- Patient requiring admission according to JR's assessment should be sent to the senior resident on duty for evaluation.
- Patient requiring immediate medical attention should be sent to the casualty services with details of the clinical problem clearly written on the card. Consultant/senior resident on duty in OPD should be fully apprised of the case in person. Ideally, the resident should also brief casualty medical officer regarding the case. All haemodynamically unstable patients should preferably be escorted to the casualty by the resident.
- Only if the patient merits a specialist opinion should the patient be referred to the specialty OPD with the objective of referral and resident's' opinion clearly written on the card.
- Patients with chronic illness may be referred to specialty clinic, if required, for further management and follow up and not for routine diagnostic work up, which should preferably be done in the medical OPD itself.
- Patients should be clearly explained as to the nature of the illness, the treatment advice and the modus operand for getting the investigation done.
- Routine investigation reports reach the investigation file of each room. Reports of X-ray, scans, and pathology investigations reach the sister-in-charge usually by 4-6 days time.
- Resident should specify the date and day when patient has to come for follow up.
- Medical representative should be entertained only after completing OPD work.
- Following are available with the sister-in-charge of OPD
- Instrument(s) (e.g. blood pressure apparatus) issued from the sister should be returned before the OPD.

- BP instruments, torch, tongue depressor, weighing machine special investigation forms (e.g. Histopathology and FNAC forms etc.)
- Emergency first-aid kit.

In-Patient Care

The usual doctor-patient ratio for in-patient services is 1:4-6 which may vary depending on the strength of the residents in the unit. Each Junior resident is responsible and accountable for all the patients admitted under his care.

The following are the general guidelines for the functioning of the junior residents in the ward.

- Detailed work up of the case and case sheet maintenance.
- To organize his/her investigations and collect the reports, if necessary.
- Bedside procedures for therapeutic or diagnostic purpose.
- Presentation of a precise and comprehensive overview of the patients in clinical rounds to facilities discussion with SRs and consultant.
- To obtain opinion of specialists of other medical disciplines, if considered necessary by the senior resident and/or consultant.
- To evaluate the patient twice daily (and more frequently if necessary) and maintain a progress report in case file along the lines mentioned above.
- To establish rapport with the patient for communication regarding the nature of illness and further plan of management *.
- To write instruction about patients' treatment clearly in the instruction book along with time, date and the bed number with legible signature of the resident **.
- To carefully inspect treatment chart of patient daily to check whether physicians instructions are being carried out correctly.
- To hand over responsibility of the patients to the resident on duty, verbally and in written before returning for the day.
- To plan out the work and the next day in advance to facilitate functioning and avoid delays.

*Relatives of the patient should be frequently and appropriately apprised of the clinical progress.

**Treatment chart in the file and staff's treatment book should be frequently tallied, and corrected if necessary.

Admission day: Admission day for a unit starts from 8.00 am of the OPD day and ends at 8.00 a.m. of the next day. Following guidelines should be observed by the resident during the admission day.

- Routine ward work and discharge of patients should be completed by 9.00 am of the admission day.
- Resident should Inform the doctor on duty about the sick patients, giving detailed verbal and written over, including proposed plan of management. Staff on duty should be fully detailed about drugs and I.V. fluid orders of the sick patient(s).
- After attending to OPD duty, resident should check up with the senior resident on duty about the cases allotted to him/her for the work up.
- Before proceeding for lunch resident should make a brief evaluation of the patient should be done.

Vital signs should be immediately recorded in the case sheet as soon as a resident examines a patient. Immediate medical care should be provided if patient is sick. Urgent investigations should be sent, if considered necessary.

- ❖ Resident should work up the patient in detail and be ready with the preliminary necessary investigations reports for the evening discussion with the consultant on call. It would be in order to discuss the clinical details and plan of management of the case, with the SR before the consultants round starts.
- ❖ After clinical round, resident should plan out the investigation for the next day in advance, fill up the forms of the investigations and put them in the staff's record book, after having apprised her.
- ❖ During clinical round, JR and SR should present relatively sicker patient first, to avoid delay in the management.
- ❖ Responsibility of patients should be handed over to the doctor on call personally before returning for the day.
- ❖ In the event of any procedural and logistic problems (e.g. delay in getting a portable X-ray done), SR, consultant or duty officer may be contacted for help.

Doctor on Duty

Duty days for each Junior Resident are allotted according to the duty roster made by the SR and/or consultant every month. No change is permissible unless it is by a mutual consent and in such event senior resident/consultant should be duly informed.

- ➢ Resident on duty has to report for duty at 8.00 am and take detailed over from the previous doctor on duty with especial reference to sick patients.
- ➢ He should carry the pageboy during his duty hours. The custody and maintenance of the working condition of page boy is the responsibility of the junior resident on duty for the day. 'Page Boy' should be tested repeatedly during the day with a test call especially during taking over and leaving the ward for any purpose. Response to a page call should be immediate by telephone or preferably in person. A resident should never ignore a page call.

  (Not responding to "page" may invite disciplinary action).
- ➢ The resident on duty for the admission day should know in detail about all sick patients in the wards, and relevant problems of all other patients, so that he could face an emergent situation effectively. 7.2.2.d. Admission during night should be worked up and managed according to the suggested guidelines, with intensive monitoring of sick patients.
- ➢ In morning, detailed over (written and verbal) should be given to the next resident on duty. This practice should be irrigidly observed.
- ➢ If a patient is critically sick, discussion about management may be done with SR or consultant at any time, e.g. before or after usual time or evening round.
- ➢ The doctor on duty should be available in the ward throughout the duty hours, except during meal times when he is preferably covered by a colleague or intern especially if any patient is critical. He should inform the sister before leaving the ward.

In case of New Admission/Transfer

This is done usually with the knowledge of senior resident on call. If patient is sick the doctor on call should accompany the patient from the casualty or another ward. Initial evaluation and stabilization of

the patient should be carried out pending detailed evaluation.

Care of Sick Patients

Case of sick patients in the ward takes precedence over all other routine work for the doctor on duty. Patients in critical condition should be meticulously monitored round the clock and records maintained. Treatment alterations should be done by doctor on duty in consultation with the Senior Resident, and Consultant, if necessary.

If Patient Merits ICU Care

If patient merits ICU care then it must be discussed with the Senior Resident and Consultant. Consultation should be sent to SR/Consultant Anesthesia or they are contact on phone for evaluating the patient, and transfer to ICU.

Discharge of the Patient

Patient should be informed about his/her discharge about 24 hours in advance. It should be planned in such a manner that patient vacates bed by 11 AM-12 Noon in the morning. Certainly, discharge on Sundays and other holidays are to be avoided.

Discharge summary should be precisely, but comprehensively, written. It should be noted that this document is carried by the patient wherever he/she goes for consultation, or following up hence, incomplete or incorrect information should be avoided. Apart from giving salient points in history and examination, resident should record important management decisions, and ensuring hospital course in a proper manner. Investigations should be properly written, giving dates and numbers of various pathological and radiological tests. Complete diagnosis, complications and procedures done during hospital stay should be duly recorded. Most important part of the discharge summary is the final advice given to the patient. Complete details of dietary advice (preferably with a diet chart), mobilization plan, and instructions regarding activity or exercise should be written, names of drugs, and dosage should be legibly written, giving the timing and duration of treatment. Patient should be briefed regarding date, time and location of OPD/Clinic for the follow up visit. Three copies of discharge summary should be made, one for the patient, second to be attached in the case sheet, and third for unit record or for the follow-up OPD. Discharge summary made by Junior Resident should be carefully checked and corrected by the Senior Resident and/or consultant.

In Case of Death

In case it is anticipated that a particular patient may not survive, relatives must be informed about the critical condition of the patient beforehand. In the event of death of a patient inform the nearest available relative and explain the nature of illness. Follow up death summary should be written in the file. Face sheet notes and must be filled up and the sister-in-charge should be requested to send the body to the Mortuary from where the patient's relatives can collect the body. If it was an MLC case, death certificate has to be prepared in triplicate and body handed over to mortuary and the local police authorities should be informed. No death certificate is given to their relatives of the medico-legal from the wards.

In case Autopsy is Required

Autopsy should be attempted for all patients who have died in this hospital especially so if patient died of undiagnosed illness, unexpected deaths and in conditions where the diagnosis may have a bearing in the health of the relatives/hospital staff. Post-mortem is routinely done in the event of medico-legal cases. Resident should explain the procedure to the relatives emphasizing the need for it. They should fill up the consent form for autopsy after doing all the necessary formalities. The Junior Residents of Pathology on

duty should be informed by page or written call, after checking their duty roster. Senior Resident and consultant of the medical unit should be informed about the autopsy. Resident should try to organize and expedite the process to ensure good compliance by the relatives. Autopsy consent form, autopsy request form and case sheet should be sent to the mortuary, with the dead body.

Bedside Procedure

Various bedside procedures like pleural tap, ascetic tap, liver biopsy, and bone marrow examination etc. need to be performed by a medical resident if indicated for diagnosis and management of the patient. The following guidelines should be observed strictly:

- Verify the indication for the procedure from SR and/or consultant. Record this in the case sheet.
- Rule out contraindications like low platelet count, prolonged prothrombin time, etc.
- Plan the procedure during routine working hours, unless it is an emergency special containers for collecting the material should be ensured before starting the procedure.
- Explain the procedure with its complications to the patient and his/her relative and obtain written consent on a proper form. 7.2.9.e. Perform the procedure under strict aseptic precautions using standard techniques. Emergency tray containing essential drugs, with IV fluid bottles and cardiac defibrillator should be made ready near the bed of the patient.
- Dispatch sample(s) in appropriately labeled containers with complete investigations forms, check if the payment for the investigation has already been made to the appropriate laboratories during the recommended hours.
- Make a brief note on case sheet with the date, time, nature or procedure and immediate complications, if any.
- Monitor the patient and watch for complication(s)
- Write the reports of the procedure performed with lab Ref.No. in the case sheet.

Academic Activities

During Junior Residency, post Graduates is not only expected to provide proper patient care, he/she is also supposed to acquire academic knowledge and skills in the field of Internal Medicine.

Case Discussions

This is held twice a week with the unit consultants at a predetermined convenient time. The Junior Resident prepares a case and discusses in detail with the consultant. Interview is then taken by the consultants, on the pattern of final PG examination. The candidate is assessed and given marks on the standardized proforma (see 11.2 and 12.1).

Radiology Conference

This is held in the radiology department once a week separately for each unit where all the radiological investigations of the admitted patients are discussed in detail. The discussion should be recorded in the case file of the respective patients.

Mortality Conference

This is held in the doctor's duty rooms/seminar rooms once a week for each unit where the details of the patients who died the previous week are discussed. The objective of this activity is to understand the management of critically ill patients, identify administrative and personal lacunae and lapses if any, and provide future guidelines for similar patients.

Journal Clubs *(see Post Graduates Seminars In Medicine)*

This is important teaching activity is held on every Wednesday morning at 8.00 a.m. in Medicine seminar room, 3rd floor, teaching block. One resident prepares a 40 min discussion on an allotted topic under the guidance of a preceptor. All residents are supposed to attend it regularly.

Clinical Combined Round (CCR)

Every Tuesday at 2.30 p.m. CCR is held in LT III to discuss interesting case/procedure/surgery seen by a department. Two departments (one surgical and one medical) present, for 30 min each an interesting case/procedure with brief review of literature.

Clinical Grand Round (CGR)

This is a centralized teaching activity held at 4.00 p.m. on Tuesday in LT III where the research activity carried out by a department is presented. The total duration is one hour.

Clinics-Pathological Conference (CPC)

In CPC, one senior faculty member from AIIMS, or any other medical college, discusses an unusual clinical case in detail, and gives his clinical diagnosis. Faculty member from department of pathology follows up the discussion with the final diagnosis.

Other Research Activities

A resident is free to involve himself/herself with other ongoing research activities with any consultant of the department.

Specialty clinics

There are 3 officially recognized specialty clinics being run under the algis of the department of medicine. These are as follows:

Name of the Clinic	*Time and Day*	*Place*
Rheumatology Clinic	Wednesdays, 2 PM onwards	M.O.P.D.
Chest Clinic	Friday, 2 PM onwards	- do -
Geriatric Clinic	Friday, 2 PM onwards	- do -

The following is the arrangement for providing the resident staff for running of these clinics:

Rheumatology Clinic : Resident staff of Unit 2

Chest Clinic : Resident staff of Unit 2

Geriatric Clinic : Resident staff of Unit 3

Faculty members with interest/expertise/training in the subspecialty, irrespective of the General medicine unit to which they may be attached, attend and run these clinics.

Referral of Patients to these Clinics

As these clinics provide long-term follow-up, only those patients should be referred to these clinics who are really committed to avail of this facility. For simple consultation for reaching a diagnosis it is advisable that the residents carry out the preliminary work-up in the medical out-patients department itself and take the help of the consultants/Senior Resident to chalk out the management plan rather than to "dump"

the patient to these clinics without even the preliminary diagnostic work up. Over-loading these specialty clinics with patients coming only for getting a diagnosis or "second opinion" will be a waste of resources of these clinics.

Investigational Facilities and their utilization

AIIMS hospital is one of the most well-equipped hospitals in the country. However, it the responsibility of the ward team to requisition only the relevant investigations after a careful analysis of the clinical problem. The approach should be positive (to confirm the clinical diagnosis) rather negative (to exclude some remote possibility). The so-called "routine" investigations must be kept to a minimum. The habit of not planning investigations in "EMERGENCY" must be strongly discouraged. It hampers with the proper functioning of the hospital laboratories and results the reliability of the laboratory results because of load which cannot be handled.

Medico-Legal Responsibilities of the Residents and Interns

As mentioned in the beginning of this document, Residents and Interns are advised to carefully read and learn the medico-legal responsibilities as related to their day-to-day work in the AIMS hospital from the AIIMS Hospital "Residents' Manual". They must be very sure of the formalities and steps involved in making the correct death certificates, mortuary slips, medico-legal entries, requisition for autopsy etc. Similarly, they must be fully aware of the ethical angle of their responsibilities and should carefully learn how to take legally valid consent for the different hospital procedures/therapies etc.

TEACHING AND OTHER ACTIVITIES IN DEPARTMENT OF MEDICINE

POST GRADUATES SEMINARS IN MEDICINE

Day and Time : Wednesdays 8 to 9 am.

Participation

By rotation, the JRs in medicine are allotted topics covering recent advances in medicine. The list is prepared and circulated at the beginning of each session. Faculty members from the department of medicine and the various subspecialties act as preceptors for these seminars. The JRs must contact the preceptors at least 3 weeks before the proposed seminar and carefully chalk out the out-line of the presentation. They must search adequately through the literature and work under the close guidance and supervision of their preceptor(s) and rehearse adequately in advance in order to give a satisfactory presentation with in terms of content and delivery.

After the end of the seminar, the JR is required to submit the properly edited write-up, prepared with the help of the preceptor, within 3 weeks to a faculty member deputed for this purpose. The document must have relevant recent references on the topic discussed. The department is making spiral-bound "Medicine Seminar" volumes for the departmental library. (The first such volume is available from July-December 1993 session).

TEACHING AND TRAINING PROGRAMME IN EACH MEDICAL UNIT

Teaching and Training Schedule of Medicine Unit I

Day and Time	Exercise
Friday 12 noon to 1 p.m.	Radiology Conference
Friday 4 p.m. onwards	Formal case presentation by JRs

Saturday 11.30 am	Case sheet audit; Caseoriented problem onwards solving discussion.
Service and teaching morning ward rounds	Tuesday, Wednesday, Friday, Saturday.
Evening emergency and teaching round	Monday and Thursday

Teaching and Training Schedule of Medicine Unit II

Monday - 2.30 noon - 3.00 pm : Mortality Conference Case sheet audit

Monday - 3.00 pm - 4.00 pm : formal case presentation by JRs

Tuesday - 12 noon - 1.00 pm : Radiology Conference

Wednesday - 2.00 pm onwards : Rheumatology Clinic

Thursday - 2.00 pm - 5.00 pm : Chest Clinic

Friday - 3.00 pm - 4.00 pm : formal case presentation by JRs

Service and Teaching morning ward round - Monday, Tuesday, Thrursday, and Friday.

Evening emergency and teaching round - Wednesday and Saturday.

Teaching and Training Schedule of Medicine Unit III

Monday - 12 noon - 1 p.m. - Case presentation

Wednesday - 12 noon - 1 p.m. - Radiology conferece

Thursday - afternoon - Hematology conference & Clinic

(2.00 p.m. onwards)

Friday - afternoon - Geriatric clinic

(2.00 pm onwards)

Saturday - Case-sheet audit, mortality conference and "topic" - oriented discussions.

Service and teaching morning ward round - Monday, Wednesday, Thursday and Saturday.

Evening emergency and teaching round - Tuesdays and Fridays. In addition to postings in the 3 general internal medicine units, the Junior Residents are posted in different subspecialty departments namely Neurology, Cardiology, Gastroenterology, Nephrology, endocrinology as well as Casualty and Employee's Health Service, for training. (see 4.0). At the end of each specialty posting, a formative assessment of JRs held taken and supervised by consultant of that particular specialty (see 12.1). The details of the training programmed in these departments, are as follows.

TEACHING AND TRAINIING PROGRAMME IN CARDIOLOGY

The period of posting in cardiology is 4 months. A junior Resident, while rotating in the subspecialty of cardiology, undergoes the following clinical/other teaching exercises and acquires knowledge of following procedures/investigations:

Clinical

Clinical work of a resident is closely guided and supervised by the Senior Resident and the consultants.

Ward: Duties include diagnostic case work up and day-to-day management of cases (rheumatic heart disease, ischemic heart disease (IHD), hypertension, congestive heart failure, congenital heart disease etc.)

ICU: Duration 10-15 days. A resident acquires the expertise/knowledge to diagnose and manage acute myocardial infection and its complications, common arrhythmias, cardiogenic shock and pericardial temponade etc. The resident also learn to perform the procedures and investigations (listed below) necessary to manage such patients in appropriate clinical setting.

OPD: Work up and management of common OPD cases (Rheumatic heart disease, ischemic heart disease, congestive heart failure, hypertension etc.)

Teaching

Two formal bedside case presentation by Junior Residents in a month (or more frequent if considered necessary). All formal bedside case presentations in any unit/specialty are supervised strictly by consultant(s).

Total of 3 classes for:

- Interpretation of investigations (ECG, TMT, Halter etc.).
- Principles of haemodynamics
- Procedures (cardioversion, pericardiocentesis etc.)

Procedures

The junior residents are trained to carry out the following common procedures during their cardiology posting:

- ✧ Pericardiocentesis
- ✧ Cardioversion
- ✧ Defibrillation
- ✧ Intensive haemodynamic monitoring (including CVP and arterial line, Swan Ganz catheterisation).
- ✧ Temporary pacemaker insertion

Investigations

During their cardiology posting the Junior Resident is guided and helped in acquiring theoretical and practical knowledge about the following investigations and their interpretation and applications to the various clinical situations:

- ✧ Electrocardiogram
- ✧ TMT
- ✧ Holder monitoring
- ✧ Head-up tilt Test
- ✧ Nuclear cardiology (Technetium, Thallium scans, multigated acquisition * (MUGA) etc).
- ✧ Cardiac catheterisation and Electro-physiological studies.

TEACHING AND TRAINING PROGRAMME IN NEUROLOGY

The period of posting in neurology is 4 months. A Junior Resident, while rotating in the subspecialty of neurology, undergoes the following clinical/other teaching exercises and acquires knowledge and competencies of the following procedures/investigations:

Clinical

Clinical work of a resident is closely guided and supervised by the senior residents and the consultants.

(a) Ward: At the end of the neurology posting the junior resident should be able to carry out diagnostic case work up and day-to-day management of the following cases:

Meningitis, encephalitis, comatose patients, seizures, cerebrovascular accidents, systemic disease with CNS and spinal cord, metabolic and degenerative diseases of nervous system, polymyositis and other muscle disorders etc.

(b) OPD: Twice a week. A Junior Resident is expected to work up patients, discuss them with the consultant(s) and suggest relevant investigations of common neurological problems, some of which are listed above.

Teaching Schedule

a) Formal bedside case presentations by the Junior Residents

- ✧ at regular intervals. (at least 2 for each JR).

b) Formal teaching classes on;

- ✧ Managements of neurological emergencies (with special reference to status epilepticus).
- ✧ Meningitis and cerebral malaria
- ✧ Neurological Imaging

c) Seminars and Journal clubs - once a week

d) Radiology conference - once a week

Procedures and investigations

At the end of the neurology posting the student should be able to perform the following:

- ✧ Muscle biopsy
- ✧ Nerve biopsy

Junior Resident should have practical and working knowledge of the following:

- ✧ Interpretation of plain x-ray-skull, CT scan and MRI scans.
- ✧ Interpretation of EEG record
- ✧ EMG
- ✧ Nerve conduction studies
- ✧ Evoked potential studies
- ✧ Prostigmin test
- ✧ Botulinum toxin injection

TEACHING AND TRAINING PROGRAMME IN GASTROENTROLOGY:

The period of posting in Gastroentrology is 2 months. A Junior Resident, while posted in the subspeciality of Gastroentrology, undergoes the following clinical/other teaching exercises and acquires knowledge of following procedures/investigations:

Clinical

Clinical work of a resident is closely guided and supervised by Senior Residents and consultants.

(a) Ward: By the end of the Gastroentrology posting a Junior Resident should become competent in diagnostic case work up and day-to-day management of the following cases:

Acute viral hepatitis and its complications, chronic hepatitis, cirrhosis of liver and its complications, upper and lower gastrointestinal bleed, hepatic coma, acute abdomen (peritonitis, intestinal obstruction, and pancreatitis etc), liver abscess, inflammatory bowel disease and malabsorption, intestinal tuberculosis and its complications, malignant lesions of liver, gall bladder, stomach, pancreas and intestines etc.

(b) OPD - Nil

Teaching

(a) Formal clinical bedside case presentations and discussions by junior residents - once every 15 days (or more frequent, if considered necessary).

(b) Regular teaching exercise in the department at 12.00 noon, 5 days a week (Monday-Friday)

(c) Gastroentrology lecture series every monday from 5 to 6 p.m.

Procedures

At the end of the posting in Gastroentrology, the Junior Resident should have acquired practical knowledge of/and should be able to carry out the following:

- ✧ Per rectal examination and sigmoidoscopy
- ✧ Nasogastric intubation
- ✧ Ascetic tap
- ✧ Liver biopsy
- ✧ FNAC of abdominal masses (blind as well as under ultrasound guidance)
- ✧ Needle aspiration from liver abscess (blind as well as under ultrasound guidance).

At the end of the Gastroentrology posting the junior resident should have acquired practical knowledge of the following procedures (approximate minimum duration of time to be spent on each procedure is specified in brackets against each).

- ✧ Upper gastrointestinal endoscopy (3 hours)
- ✧ Colonoscopy (1 hour)
- ✧ Ultrasound examination of abdomen (3 hours)
- ✧ Laparoscopy (1 hour)
- ✧ ERCP (2 weeks)

Investigations

At the end of the Gastroentrology posting the Junior Resident should have acquired the theoretical/ practical knowledge about following investigations:

1. Interpretation of plain X-ray of the abdomen, oral cholecystography, barium swallow, barium meal, barium enema, abdominal ultrasound, nuclear scan and CT scan of the abdomen.
2. Interpretation of liver biopsy in common disease (e.g. acute viral hepatitis, cirrhosis of the liver etc.).

TEACHING AND TRAINING PROGRAMME IN ENDOCRINOLOGY:

The period of posting in Endocrinology is 2 months

A Junior Resident, while posted in the subspecialty of endocrinology, undergoes the following clinical/

other teaching exercises and acquires knowledge of following procedures/investigations.

Clinical

Clinical work of a resident is closely guided and supervised by Senior Residents and consultants.

(a) Ward: At the end of the endocrinology posting the junior Resident should be able to do diagnostic case work up the day-to-day management of the following common endocrine disorders; NIDDM and IDDM and their complications, hyperthyroidism and hypothyroidism, Cushing's syndrome, Admission's disease, pituitary disorders (growth retardation, panhypopituitarism) hirsutism and virilisation, pubertal disorders, disorders of fertility and sexual potency etc.

(b) OPD: 3 days per week. A junior Resident is expected to spend 6-8 hours/week in the OPD and work-up common endocrine disorders listed above.

Teaching

(a) Formal bedside case presentations by Junior Residents - once every 2 weeks. (or more frequent if considered necessary)

(b) A formal teaching class on investigations related to endocrine disease

(c) Journal clubs and seminars - Tuesdays and Thursdays 8.15 - 9.15 A.M.

Procedures and investigations

At the end of the endocrinology posting the Junior Resident should have practical knowledge and should be able to carry out following:

(a) Daily glucose monitoring with glucometer

(b) Photomotograms

(c) Stimulation tests (insuling hypoglycemia, RHRH/TRH/ACTH tests)

(d) Suppression tests (dexamethasone suppression tests, GH suppression test)

(e) Other - Prolonged fasting test, water deprivation test, phosphate excretion test, ammonium chloride acidification test etc.

TEACHNIG AND TRAINING PROGRAMME IN NEPHROLOGY

The period of posting in Nephrology is 2 months

A Junior Resident, while posted in the subspecialty of Nephrology, undergoes the following clinical/ other teaching exercises and acquires knowledge of following procedures/investigations:

Clinical

Clinical work of a resident is closely guided and supervised by the Senior Residents and consultants.

(a) Ward: A Junior Resident is trained for carrying out diagnostic case work up and day-to-day management of the following cases:

RPGN (rapidly progressive glomerulonephritis), ARF, CRF, Renal carcinoma, Obstructive uropathy, Congenital renal disorders, Renal calculus disease, Systemic diseases with renal involvement, urinary-tract infection, hypertension, renal transplant management, renal tubulardisorders.

Teaching

(a) Theoretical and practical aspects of peritoneal and haemodialysis.

(b) Fluid and electrolyte management with aspecial referene to renal status.

(c) Journal clubs - Once a week
(d) Nephropathology conference - 2 per month
(e) Nephroradiology conference - once per week
(f) Dialysis - Transplantation review discussion - 1 per week

Procedures

At the end of the posting in Nephrology, the Junior Resident should have acquired the knowledge of and should be able to carry out the following procedures:

- ✧ Renal biopsy
- ✧ Peritoneal dialysis

Investigations

By the end of the Nephrology posting the Junior Resident should have practical and theoretical knowledge of following investigations:

- ✧ Urine examination - essential
- ✧ Serum and urine osmotality
- ✧ Glomerular and renal function test studies.
- ✧ Renal dynamic screening and imaging (esp. renal ultrasound).
- ✧ Immunological tests related to renal diseases
- ✧ Cyclosporin immuno-assay
- ✧ Interpretation of renal biopsy of common renal disease (e.g. Chronic)
- ✧ Glomerulonephritis, chronic pyelonephritis etc.)

TEACHING AND TRAINING PROGRAMME IN EMERGENCY SERVICES

The period of posting in casualty is 2 months.

A Junior Resident, while rotating through Casualty, undergoes the following clinical/other teaching exercises and acquires knowledge of following procedures/investigations:

Clinical

Clinical work of a resident is closely guided and supervised by the Senior Residents and the consultants. At the end of the Casualty posting the Junior Resident should be able to diagnose and manage the following medical problems in the casualty.

Acute myocardial infection, arrthythmias including complete heart block and ventricular tachycardia, cardiogenic asthma and COAD, lobar pneumonia, pneumothorax, massive pleural effusion, pulmonary thromboembolism, peritonitis, diabetic ketoacidosis, yxoedema coma, thyroid crisis, acute renal failure, dyselectrolaemia, metabolic acidosis,
cerebrovascular accidents, epilepsy, meningitis, cerebral malaria, coma, dehydration, diarrhea, septicemia, hypertensive emergencies, common poisonings, drowning, electrical injury etc.

Teaching

(a) Formal case presentation - once a week
(b) Teaching classes on;
    - ✧ cardiopulmonary resuscitation

- ✧ Management of common poisonings
- ✧ Acid - base balance

Procedures

At the end of the Casualty posting, Junior Resident should possess theoretical knowledge of, and should be able to perform the following procedures:

- ✧ External cardiac massage
- ✧ Use of defibrillator
- ✧ Emergency IV canula insertion and cutdown
- ✧ Emergency ryles tube insertion
- ✧ Gastric lavage in case of poisonings
- ✧ Thoracocentesis and thoracic tube insertion (in case of pleural effusion and pneumothorax respectively)
- ✧ Insertion of foley's scatheter (both in males and females)
- ✧ CVP line insertion
- ✧ Assisted ventilation
- ✧ Arterial puncture and canulation of internal jugular, and subclavian.
- ✧ Use of aerosol nebulisers
- ✧ Tracheostomy.

TEACHING AND TRAINING PROGRAMME IN INTENSIVE CARE UNIT (ICU)

During their posting in various medical units, the JR will be posted in the ICU located in C-II ward. This posting for 3 months will be in the second or third of residency training. The unit has modem monitoring facilities as well as volume cycled ventilation with all modes. The blood gas analysis facilities are located in a room in C-II ward (ultrasound room). The residents are required to be physically present in the ICU during their hours of posting, including might duties. This posting is behind to provide an important component in the training of a resident in the Department of Medicine. The residents are required to mention special progress notes and chest used for monitoring patients in the ICU.

During their posting in the ICU, the residents would be expected to acquire the following skills

- ✧ Providing assisted ventilation using correct modes and strategies using modern ventilations.
- ✧ Compute various parameters of lung mechanics and gas exchange.
- ✧ Insert central venous lines using Triple humen catheters, record haemodynosics invasive methods.
- ✧ Make correct decision regarding weaning.
- ✧ To look after the nutritional requirements of the patients.
- ✧ To prevent various complications including barotrauma.

The residents will be evaluated in their performance in the ICU after completion of posting.

EVALUATION OF RESIDENTS

Evaluation of residents for their knowledge and acquisition of attitudes, skills and competencies is a continuous process throughout their 3-year period of training. Evaluation of certain attributes such as interpersonal relationships, professional responsibility, sensitivity to patient's need for comfort, ethical

behavior etc. is closely observed by the teaching faculty during the day-to-day clinical work of the resident.

At the end of each clinical posting in each of the medicine units and the subspecialties mentioned above, the residents are assessed in a formal format (given below) by the faculty staff of the concerned unit/department. This formative assessment of the candidates is taken into account at the time of the final M.D. examination held at the end of the three year term.

THE PROFORMA FOR THE FORMATIVE ASSESSMENT OF THE JUNIOR RESIDENTS IN THE DEPARTMENT OF MEDICINE

This assessment is held at regular intervals during and the posting and at the end of posting of the Junior Resident in the medicine units as well as the subspecialties mentioned earlier.

THE EXAMINATION FORMAT FOR THE FORMATIVE ASSESSMENT OF THE JUNIOR RESIDENTS DURING THEIR TRAINING PERIOD AND ITS COMPONENTS

Part 'A': (Total marks 50)	Marks Awarded	Marks allotted
1. Formal periodic case presentation:		
Case 1:		12.5
Case 2:		12.5
2. Day-to-day clinical work:		25.0
A. Patient Care: 15.0		
(i) Case work up and discussion:	5.0	
(ii) Day-to-day care, punctuality etc.		
B. Attitude, behavior and interpersonal relationship:		
(i) Behavior with patients and relatives		5.0
(ii) Behavior with seniors/staff/colleagues		5.0
Part 'B': (Total Marks 50)		
1. Final case presentation:		20.0
2. Multiple choice questions		10.0
3. Spots:		10.0
4. Short clinical problems		10.0
Grand Total		**100.0**

Final M D Examination

It consist of a written examination, a clinical examination to assess the clinical competencies and skills, and a viva voce examination. The examination is conducted by two internal examiners with the help of two external examiners. Candidates are recommended for the award of M.D. only after they have exhibited acceptable level of competence in all the areas of knowledge, attitudes and skills being evaluated by the examiners and the teaching faculty.

The content of knowledge which is evaluated in the theory examination includes basic sciences as applied to medicine, epidemiology, etiopathogenesis, pathology and clinical manifestations of diseases processes, principles of therapeutics, principles of the management of medical diseases with particular emphasis on newer concepts and recent advances.

There are 4 question papers of 3 hours each. Paper 1 includes questions on "Basic Sciences" as applied to medicine; Paper 2 covers topics of general medicine excluding neurology, therapeutics, infectious disease and tropical medicine; Paper 3 includes general medicine not covered in paper 2; and Paper 4 includes preventive medicine, community medicine, other allied specialties as applied to general medicine.

Written examination may be conducted with the help of traditional essay type question papers, or more objective type of questions requiring short or very short answers. The Department of Medicine, in consultation with the Dean and the residents may recommend any of the above mentioned patterns of written examination, and may vary them over the years depending upon the feedback from several sources.

Clinical examination is the most important part of the evaluation and is aimed at assessing the clinical skills of the candidate and diagnostic reasoning. Entirely objective evaluation of these skills is neither feasible nor desirable. However, in order to test the various skills, the examiners may evaluate the candidates on a structured format, namely, history taking, physical examination, diagnostic reasoning, choice of diagnostic investigations, general management strategies, and general attitude and demeanor towards the patient and the examiners. Patient material selected for examination is usually sufficiently representative of the type of patients for whom an internist may be called upon to give an opinion.

Requirement of Thesis

Currently the residents at the All India Institute of Medical Sciences are required to submit a thesis based on a research protocol developed by them with the help of one or more members of the faculty of the Department of Medicine or allied subspecialties. Introduction to research methodology is considered desirable for the residents so that they can understand the concepts of validity and generalizability of the observed findings. All competent internists must keep themselves in touch with current medical literature. Moreover, they should be able to judge whether the observations reported in the literature would be applicable to their setting or not. Junior Residents who join the department are given the name of faculty member by the office of the department who will guide him/her in the research work leading to the thesis. The allotment of the Junior Residents to different faculty members for guiding the thesis work is done by the department on the basis of a well-designed rotation format and the Junior Residents must follow the same.

The these written by the residents are evaluated and graded by two external examiners in terms of research design, methodology employed, analytical methods used, and validity of the conclusions reached. Although these grades are not added to the theory or clinical assessment, acceptance of thesis as being satisfactory is a pre-requisite for a resident to be able to take the M.D. Examination.

ANNEXURE I

A relevant case work up and good record keeping is the key to good patient care. Record keeping may be uninteresting and laborious but is the cornerstone in the effective and efficient management of the patient.

Case work up

All the cases admitted under the charge of Junior Resident in-charge need to be worked up in detail including clinical, social, personal family and occupational aspects of history. Patients should be examined in detail with special reference to the involved system(s). The resident should make his own diagnosis with differential diagnosis giving full justification for each differential diagnosis. The case is first discussed with the senior resident. Formal presentation in the round, Junior Resident should write down consultant's

opinion on the separate page. He should then chalk out a plan for further investigations and management in a manner outlined below. Senior resident should make a brief note of relevant features, pen down his opinion and plan for further management. Junior Resident may take the help of his colleagues, senior resident/or and consultant so as to divide appropriate course of action. (see also 6.0 and 7.2).

File Keeping

For each admitted patient, a case record file with face sheet is to be meticulously maintained. The following sequence, if properly recorded, may lead to uniform and meaningful medical information.

Page 1 : Face sheet

1. The details of the patient's name, age, sex, nationality, religion, date of admission, CR Number, address etc. are be filled in by the staff of Central Admission and Inquiry Counter.
2. On admission, Provisional Diagnosis needs to be entered after the initial work up.
3. If there are any previous admission, the corresponding CR No. (s) and date (s) of admission should be entered in the column provided.
4. At the time of discharge, the final diagnosis, secondary diagnosis and complications need to be entered e.g. Appropriate ICD code No. for the disease should also be entered.
5. Operative procedures, if any, with brief note on anesthesia given, should be recorded.
6. Result - The appropriate column on the face sheet need to be ticked or rounded.
7. All the face sheets at discharge, or at the time of death need to be properly filled in and must be duly signed by the senior resident.

Page 2: Problem oriented Medical Records (POMR)

Information collected about a patient is structured into four main components.

(i) Subjective - Record salient points of history

(ii) Objective - Positive and pertinent clinical findings.

(iii) Assessment - This may indicate final diagnosis if evident initially. Alternatively, from the data at hand, a master problem list can be made. This is a dynamic list, and can be altered, dictated and formed from new information (derived from history, examination or investigations). Problems can be classified as active or inactive. The list should be appropriately date. An example of such a problem list is given below.

Master Problem List

No.	*Active*	*Date*	*Inactive*	*Date*
1.	Hypertension	1970	Duodenal ulcer	1973
2.	Diabetes	1972	Recurrent bronchitis	1974
3.	Old myocardial infarction	1980		
4.	Acute Anterior M.I	1-9-93		
5.	Prostatic enlargement	1993		
6.	Smoking			
7.	Obesity			
8.	Type A personality			

(iv) Problem Related Plans - For each problem, plans are displayed as a reflection of physician's responsibility to each problem identified.

Plans are recorded under three categories-

1. Diagnostic i.e., laboratory tests, radiological studies consultations, continued observation etc.
2. Therapeutic i.e., medications, diet, surgery etc.
3. Patient education (Pted) i.e., instruction of the patient in various aspects of self care, education regarding the goal of therapy, the prognosis that has been given etc.

Example

1. Diagnostic - EKG, Enzymes, CXR, Blood sugar. Consultation to Dietition for dietary advice
2. Therapeutic - Nitractes, analogizes, oxygen,thrombolytic therapy. Soft liquid diet, stool softener. Anxiolytics. Control of diabetes and hypertension.
3. Patient Education - Explanation of nature of illness. Later on encourage to lose weight and stop smoking.

Page 3

Treatment chart; following should be duly recorded. The treatment chart should preferably be written in capitals, so that there is less problem in understanding, by other doctors, and paramedical staff.

(i) Date and time of prescription

(ii) Name, strength, dosing pattern of the drug duration of treatment, and changes in above, if any.

(iii) Instructions regarding fluid, electrolyte and nutrition

(iv) Nursing care instructions

(v) Doctor's name with signature and designation

The treatment chart should be rewritten, if major changes are ordered. Resident should supervise and check effective translation of the order by staff nurses on daily basis.

Page 4-5: Investigation Chart

(i) Investigations chart with date, time (if relevant), nature of investigations, result, normal range (if it is not mentioned in the form or is not a routine investigations).

(ii) This chart (if nor already available in a typed format) should be spaced out over 2-3 pages to avoid crowding of various investigations.

(iii) reports of radiological investigations should be comprehensively written giving, data and number of X-rays or scans.

(iv) Similarly, while writing the hispopathology/cytopathology reports, the respective laboratory numbers should be clearly mentioned.

(v) The discussion on these investigations in various conferences should be duly recorded.

(vi) ECG's should be serially pasted in case of coronary artery disease) and detailed.

Page 6 : Consultant's Opinion with Date and Time

Page 6-10: History and Examination (or more pages, if required)

Page 11: (Onwards)

Progress notes should be entered daily for all patients and round the clock for sick patients with special reference to the following points;

(i) Vital signs.

(ii) New symptoms or signs.

(iii) Effect or side effect of any drug(s).

(iv) Investigation plan for the day.

(v) Providers done with reference to nature, time, date, technique used and post intervention monitoring.

(vi) Any blood product received with mention of blood group, reference number, and adverse reactions, if any.

(vii) Assessment of the clinical problems and proposed plan of action based on clinical status of the patient over last 24 hours.

Progress notes can also be detailed in a different manner. These can be structured on the basis of those problems which have been identified. All the problems mentioned need not be entered. An example of the same is given below.

Problem No 6: Acute Anterior M.I.

Date - 6.9.93, Day 5

(1) Subjective finding(s)

Grade 2 dyspnea, No further angina

(2) Objective findings(o) (Including recent relevant investigations)

BP-150/90; Pulse rate-74 per minute, regular; JVP-not raised

Lungs - No crepitations

CVS - No SB

EKG - No fresh changes

(3) Assessment (A)

Stable. Early cardiac catheterization and revascularization.

(4) Plan (p)

(i) Diagnostic - Cardiac catheterisation

(ii) Treatment - Continue nitrates/Diltiazem
Insulin/Cremaffin/Aspirin
Attempt early mobilization.

(iii) Patient education - Education regarding rehabilitation, risk factors and revascularization.

ANNEXURE II

PERIODIC PG ASSESSMENT IN THE DEPARTMENT OF MEDICINE

Name of the P.G. Student :

Period of Posting :

Part 'A' (Total 50 marks)	Marks Awarded	Marks Allotted
(i) Formal Periodic Case Presentation		
1st case		: 12.5
2nd case		: 12.5
(ii) Day-to-day working		: 25 (Total)
(A) Patient Care		: 15 (Total)
(a) Case work up & academic discussion		: 5
(b) Day-to-day care/Follow up of patients Punctuality/Responsibility		: 5
(c) Maintenance of case sheet & progress record		: 5
(B) Interpersonal cooperation		: 10 (Total)
(a) Behavior with patients/relatives		: 5
(b) Behavior seniors/staff/colleagues		: 5
Part 'B'		
(1) Final case presentation (1 case each)		: 20
(2) Multiple Choice Questions		: 10
(3) Spots		: 10
(4) Short Clinical Problems		: 10
Grand Total		**:100**

Date:

Head of the
Department of Medicine
Unit

Head of the
Medicine