

**D. M. Cardiology**

## **Course Contents**

### **Goal**

At the end of the course, the candidate should be able to perform diagnostic and therapeutic interventions independently.

### **Essential Knowledge**

All aspects of cardiology starting from basic medical sciences related to cardiology to recent advances in cardiology.

### **Graded Responsibility in care of patients and operative works**

I Year : Basic medical sciences related to cardiology and general management of cardiac problems.

II Year: All aspects of clinical cardiology and diagnostic procedures

III Year : Recent advances including all interventional procedures and six months special training in one of the following.

- a) Adult Cardiology
- b) Paediatric Cardiology
- c) Electrophysiology
- d) Interventional Cardiology

### **Teaching and Learning Activities**

A candidate pursuing the course should work in the institution as a full time student. No candidate should be permitted to run a clinic / laboratory / nursing home while studying postgraduate course. Each year should be taken as a unit for the purpose of calculating attendance.

Every student shall attend teaching and learning activities during each year as prescribed by the department and not absent himself/herself from work without valid reasons.

A list of teaching and learning activities designed to facilitate students acquire essential knowledge and skills outlined is given below. Depending on the facilities available, any or all of these methods may be employed.

1. **Lectures** : Lectures are to be kept to a minimum. They may, however, be employed for teaching certain topics. Lectures may be didactic or integrated.
  - a. Didactic lectures: Recommended for selected common topics for students of all specialties. Few topics are suggested as examples:
    - 1) Medical code of conduct and medical ethics
    - 2) National health and disease control programmes
    - 3) Communication skills etc.

These topics may preferably taken up in the first few weeks of the 1<sup>st</sup> year.

- b. Integrated Lectures: These are recommended to be taken by multidisciplinary teams for selected topics, eg. Jaundice, Diabetes mellitus, Thyroid etc.
2. **Journal Club**: Recommended to be held once a week. All the students are expected to attend and actively participate in discussion and enter in the Log Book relevant details. Further, every candidate must make a presentation from the allotted journal(s) of selected articles at least four times a year and a total of 12 presentations in three years. The presentations would be evaluated using check lists and would carry weightage for internal assessment. A time table with names of the student and the moderator should be announced at the beginning of every year.
3. **Subject Seminar**: Recommended to be held once a week. All the students are expected to attend and actively participate in discussion and enter in the Log Book relevant details. Further, every candidate must present on selected topics at least four times a year and a total of 12 seminar presentations in three years. The presentations would be evaluated using checklists and would carry weightage for internal assessment. A timetable for the subject with names of the student and the moderator should be scheduled at the beginning of every year.
4. **Student Symposium** : Recommended as an optional multi disciplinary programme. The evaluation may be similar to that described for subject seminar.
5. **Ward Rounds**: Ward rounds may be service or teaching rounds.
  - a. Service Rounds: students should do ward wounds every day for the care of the patients. Newly admitted patients should be worked up by the students and presented to the seniors the following day.
  - b. Teaching Rounds: Every unit should have ‘grand rounds’ for teaching purpose. A diary should be maintained for day today activities by the students.

Entries of (a) and (b) should be made in the Log Book.

6. **Clinico-Pathological Conference**: Recommended once a month for all students. Presentation be done by rotation. If cases are not available due to lack of clinical postmortems, it could be supplemented by published CPCs.
7. **Inter Departmental Meetings**: Strongly recommended particularly with departments of Pathology and Radio-Diagnosis at least once a week. These meetings should be attended by students and relevant entries must be made in the Log Book.

8. **Teaching Skills:** students must teach post graduate students by taking demonstrations, bedside clinics, tutorials, lectures etc). Assessment is made using a checklist by faculty). Record of their participation be kept in Log Book. Training of students in Educational Science and Technology is recommended.
9. **Continuing Medical Education Programmes (CME):** At least 2 state level CME programmes should be attended by each student in 3 years.
10. **Conferences:** Attending conferences is optional. However it should be encouraged.

### **Rotation and posting in other departments**

1. Cardiac surgery department - 1 month
2. Cardiac Anesthesiology department - 1 month
3. Nuclear cardiology - 1 month
4. Electrophysiology - 1 month
5. Paediatric cardiology - 3 month

### **University examination**

***Eligibility:*** The following requirements should be fulfilled by every candidate to become eligible to appear for the final examination.

***Attendance, Progress and Conduct:*** Every student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, Case presentation, clinics and lectures during each year as prescribed by the department and not absent himself/herself from work without valid reasons.

Every candidate shall maintain a work diary and Log Book for recording him/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the Head of the department and Head of the Institution and among other things forms the basis for certifying satisfactory progress. The Log Book if demanded be presented in the University clinical or viva-voce examination.

Every candidate should have fulfilled the minimum attendance requirement prescribed by the Medical Council of India and respective University (80% of the training during each academic year of the course. Provided further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80 % attendance of training period every year).

### **Scheme of Examination**

The examination shall consist of:

- Written papers (theory),
- Clinical examination and

- Viva-voce.

### **1. Written Examination (Theory)**

There shall be four question papers, each of three hours duration. Each paper shall consist of two long essay questions each question carrying 20 marks and 6 short essay questions each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers. Details of distribution of topics for each paper will be as follows:

**Part I** : Principles and Practice of Cardiology – Basic Science bearing cardiology

**Part II** : Coronary Artery Diseases

**Part III** : Congenital and Rheumatic Heart Diseases

**Part IV** : Other Cardio Vascular Diseases

**Note:** The distribution of topics shown against the papers are suggestive only.

### **2. Clinical Examination:**

It should aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate should examine at least one long case and two short cases. The total marks for clinical examination shall be 200.

### **3. Viva Voce:**

Viva Voce Examination shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 100.

D. M. Cardiology	Theory	Clinical/Practical	Viva-voce	Grand Total
	400	200	100	700

## Monitoring Learning Progress

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only also helps teachers to evaluate students, but also students to evaluate themselves. The monitoring be done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects. Checklists are given in Chapter IV.

The learning out comes to be assessed should included: (i) Personal Attitudes, (ii) Acquisition of Knowledge, (iii) Clinical and operative skills, and (iv) Teaching skills.

i) ***Personal Attitudes.*** The essential items are:

- Caring attitudes
- Initiative
- Organisational ability
- Potential to cope with stressful situations and undertake responsibility
- Trust worthiness and reliability
- To understand and communicate intelligibly with patients and others
- To behave in a manner which establishes professional relationships with patients and colleagues
- Ability to work in team
- A critical enquiring approach to the acquisition of knowledge

The methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

ii) ***Acquisition of Knowledge*** : The methods used comprise of 'Log Book' which records participation in various teaching / learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors. Some of the activities are listed. The list is not complete. Institutions may include additional activities, if so, desired.

*Journal Review Meeting (Journal Club):* The ability to do literature search, in depth study, presentation skills, and use of audio- visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist (see Model Checklist – I)

*Seminars / Symposia:* The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio- visual aids are to be assessed using a checklist (see Model Checklist-II)

*Clinico-pathological conferences* : This should be a multidisciplinary case study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a check list similar to that used for seminar.

*Medical Audit:* Periodic morbidity and mortality meeting be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

iii) ***Clinical skills***

*Day to Day work* : Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills (see Model Checklist III).

*Clinical meetings* : Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list (see Model checklist IV).

*Clinical and Procedural skills* : The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book. (Table No.3)

*iv) Teaching skills* : Candidates should be encouraged to teach postgraduate medical students , if any. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students (See Model checklist V)

vi) *Periodic tests*: The departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. The tests may include written papers, practicals / clinicals and viva voce.

vii) *Work diary / Log Book*- Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.

viii) *Records*: Records, log books and marks obtained in tests will be maintained by the Head of the Department and will be made available to the University or MCI.

## **Log book**

The log book is a record of the important activities of the candidates during his training, Internal assessment should be based on the evaluation of the log book. Collectively, log books are a tool for the evaluation of the training programme of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate.

**Format for the logbook** for the different activities is given in Tables 1,2 and 3 . Copies may be made and used by the institutions.

**Procedure for defaulters**: Every department should have a committee to review such situations. The defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right.

## Format of Model Check Lists

### Check List -1. MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Student:

Name of the Faculty/Observer:

Date:

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Article chosen was					
2.	Extent of understanding of scope & objectives of the paper by the candidate					
3.	Whether cross references have been consulted					
4.	Whether other relevant publications consulted					
5.	Ability to respond to questions on the paper / subject					
6.	Audio-Visual aids used					
7.	Ability to defend the paper					
8.	Clarity of presentation					
9.	Any other observation					
	<b>Total Score</b>					



**Check List - 2. MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS**

Name of the Student:

Name of the Faculty/Observer:

Date:

<b>Sl. No.</b>	<b>Items for observation during presentation</b>	<b>Poor 0</b>	<b>Below Average 1</b>	<b>Average 2</b>	<b>Good 3</b>	<b>Very Good 4</b>
1.	Whether other relevant publications consulted					
2.	Whether cross references have been consulted					
3.	Completeness of Preparation					
4.	Clarity of Presentation					
5.	Understanding of subject					
6.	Ability to answer questions					
7.	Time scheduling					
8.	Appropriate use of Audio-Visual aids					
9.	Overall Performance					
10.	Any other observation					
	<b>Total Score</b>					

### Check List - 3

#### MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD / OPD

(To be completed once a month by respective Unit Heads including posting in other departments)

Name of the Student:

Name of the Unit Head:

Date:

Sl. No.	Points to be considered:	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Regularity of attendance					
2.	Punctuality					
3.	Interaction with colleagues and supportive staff					
4.	Maintenance of case records					
5.	Presentation of cases during rounds					
6.	Investigations work up					
7.	Beside manners					
8.	Rapport with patients					
9.	Counseling patient's relatives for blood donation or PM					
10.	Over all quality of Ward work					
	<b>Total Score</b>					

**Check List – 4                      EVALUATION FORM FOR CLINICAL PRESENTATION**

Name of the Student:

Name of the Faculty:

Date:

Sl. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Above Average 3	Very Good 4
1.	Completeness of history					
2.	Whether all relevant points elicited					
3.	Clarity of Presentation					
4.	Logical order					
5.	Mentioned all positive and negative points of importance					
6.	Accuracy of general physical examination					
7.	Whether all physical signs elicited correctly					
8.	Whether any major signs missed or misinterpreted					
9.	Diagnosis: Whether it follows logically from history and findings					
10	Investigations required					
	▪ Complete list					
	▪ Relevant order					
	▪ Interpretation of investigations					
11.	Ability to react to questioning Whether it follows logically from history and findings					
12.	Ability to defend diagnosis					
13.	Ability to justify differential diagnosis					
14.	Others					
	<b>Grand Total</b>					

## Check List - 5

### MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

Sl. No.		Strong Point	Weak Point
1.	Communication of the purpose of the talk		
2.	Evokes audience interest in the subject		
3.	The introduction		
4.	The sequence of ideas		
5.	The use of practical examples and/or illustrations		
6.	Speaking style (enjoyable, monotonous, etc., specify)		
7.	Attempts audience participation		
8.	Summary of the main points at the end		
9.	Asks questions		
10.	Answers questions asked by the audience		
11.	Rapport of speaker with his audience		
12.	Effectiveness of the talk		
13.	Uses AV aids appropriately		





## LOG BOOK

**Table 3 : Diagnostic and Operative procedures performed**

Name:

Admission Year:

College:

<b>Date</b>	<b>Name</b>	<b>ID No.</b>	<b>Procedure</b>	<b>Category O, A, PA, PI*</b>

- \* Key:**
- O - Washed up and observed
  - A - Assisted a more senior Surgeon
  - PA - Performed procedure under the direct supervision of a senior surgeon
  - PI - performed independently

### Model Overall Assessment Sheet

Name of the College:

Academic Year:

Check List No	Particulars	Name of Student and Mean Score				
		A	B	C	D	E
I	Journal Review Presentations					
II	Seminars					
III	Clinical work in wards					
IV	Clinical presentation					
V	Teaching skill practice					
Total Score						

Note: Use separate sheet for each year.



# Medical Ethics

## Sensitisation and Practice

### Introduction

There is now a shift from the traditional individual patient, doctor relationship, and medical care. With the advances in science and technology and the needs of patient, their families and the community, there is an increased concern with the health of society. There is a shift to greater accountability to the society. Doctors and health professionals are confronted with many ethical problems. It is, therefore necessary to be prepared to deal with these problems. To accomplish the Goal (i), General Objective (ii) stated in Chapter II (pages 9 & 10), and develop human values it is urged that *ethical sensitisation* be achieved by lectures or discussion on ethical issues, clinical case discussion of cases with an important ethical component and by including ethical aspects in discussion in all case presentation, bedside rounds and academic postgraduate programmes.

### Course Contents

1. *Introduction to Medical Ethics*
  - What is Ethics
  - What are values and norms
  - Relationship between being ethical and human fulfillment
  - How to form a value system in one's personal and professional life
  - Heteronomous Ethics and Autonomous Ethics
  - Freedom and personal Responsibility
2. *Definition of Medical Ethics*
  - Difference between medical ethics and bio-ethics
  - Major Principles of Medical Ethics
    - Beneficence = fraternity
    - Justice = equality
    - Self determination (autonomy) = liberty
3. *Perspective of Medical Ethics*
  - The Hippocratic oath
  - The Declaration of Helsinki
  - The WHO Declaration of Geneva
  - International code of Medical Ethics (1993)
  - Medical Council of India Code of Ethics
4. *Ethics of the Individual*
  - The patient as a person
  - The Right to be respected
  - Truth and Confidentiality
  - The autonomy of decision
  - The concept of disease, health and healing
  - The Right to health
  - Ethics of Behaviour modification
  - The Physician – Patient relationship
  - Organ donation

5. *The Ethics of Human life*
  - What is human life
  - Criteria for distinguishing the human and the non-human
  - Reasons for respecting human life
  - The beginning of human life
  - Conception, contraception
  - Abortion
  - Prenatal sex-determination
  - In vitro fertilization (IVF), Artificial Insemination by Husband (AIH)
  - Artificial Insemination by Donor (AID),
  - Surrogate motherhood, Semen Intrafallopian Transfer (SIFT),
  - Gamete Intrafallopian Transfer (GIFT), Zygote Intrafallopian Transfer (ZIFT),
  - Genetic Engineering
  
6. *The Family and Society in Medical Ethics*
  - The Ethics of human sexuality
  - Family Planning perspectives
  - Prolongation of life
  - Advanced life directives – The Living Will
  - Euthanasia
  - Cancer and Terminal Care
  
7. *Profession Ethics*
  - Code of conduct
  - Contract and confidentiality
  - Charging of fees, Fee-splitting
  - Prescription of drugs
  - Over-investigating the patient
  - Low – Cost drugs, vitamins and tonics
  - Allocation of resources in health cares
  - Malpractice and Negligence
  
8. *Research Ethics*
  - Animal and experimental research / humanness
  - Human experimentation
  - Human volunteer research – Informed Consent
  - Drug trials
  
9. *Ethical workshop of cases*
  - Gathering all scientific factors
  - Gathering all human factors
  - Gathering all value factors
  - Identifying areas of value – conflict, Setting of priorities,
  - Working out criteria towards decisions

### **Recommended Reading**

Francis C.M., **Medical Ethics**, 1 Ed, 1993, Jaypee Brothers, New Delhi