

CURRICULUM FOR D.M. COURSE

IN

GASTROENTEROLOGY

MAHARASHTRA UNIVERSITY OF HEALTH SCIENCES

NASHIK

SECTION –I

(Goals)

The aim of the course is to develop human resources and personnel in the field of Gastroenterology who shall

- i) provide the health care to the patients needing diseases of the gastrointestinal tract and liver disease
- ii) teach and train future undergraduate and postgraduate medical students and junior doctors in Gastroenterology and Hepatology in Medical Colleges, Institutions and other Hospitals.
- iii) carry out and guide research to improve the practice of the art and science of Gastroenterology and Hepatology
- iv) have management capabilities to manage personnel and budgets etc. to make health more cost-effective.
- v) organise health teams to provide care during natural or man-made calamities.

(Objectives)

Departmental objectives: At the end of the DM Gastroenterology course, students shall be able to:

i) practice the art and science of Gastroenterology and Hepatology in his/her field of practice and seek and provide consultation as required. He will have knowledge, skill and attitude to provide comprehensive GI / liver disease care.

ii) conduct researches and communicate the findings, results and conclusion to his fraternity.

iii) acquire necessary skills of teaching and training his junior colleagues and medical students.

iv) keep abreast with the latest developments by self-learning and /or participating in continuing Medical Education programmes.

v) organize and manage administrative responsibilities for routine day to day work as well as new situations including natural and on man-made accidents/calamities etc. and be able to manage situations calling for emergency interventions in the sphere of renal care and also routine problems in their areas.

Vi) exhibit awareness of the importance of audit and the need for considering cost-effectivity in patient management.

Vii) Deliver preventive and rehabilitative care.

SECTION II:

Course content

Since the students are trained with the aim of practicing as independent gastroenterologists, this course content will be merely a guideline. They have to manage all types of cases and situations and seek and provide consultation. The emphasis shall therefore be more on the practical management of the problem of the individual cases and the community within the available resources.

1. Applied basic sciences knowledge relevant to the field of Gastroenterology and Hepatology.
2. Investigative techniques, selection and interpretation of results
3. Pathogenesis of GI and liver diseases.
4. Nutrition in GI diseases
5. Diagnosis and management of diseases of the GI tract (Esophagus, stomach, duodenum, small intestine, large intestine) and liver
6. Systemic diseases with GI and liver involvement
7. Pancreatic diseases.
8. Acute and chronic liver diseases due to congenital alcohol, viruses, metabolic problems, toxins and drugs
9. Hepatic failure (diagnosis & management)
10. Principles and practice of, diagnostic and therapeutic endoscopy (upper GI, Colonoscopy, ERCP)
11. Liver transplantation
12. Recent advances in Gastroenterology and Hepatology
13. Biostatistics & clinical epidemiology
14. Preventive Gastroenterology and Hepatology
15. Management of GI emergencies like upper and lower GI bleed, Acute pancreatitis, hepatic encephalopathy and cholangitis
16. Psychological factors in GI diseases.

SECTION – III:

Teaching / Learning Methods And Activities

Throughout the course of training the emphasis shall be on acquiring knowledge, skill and attitudes through first hand experiences as far as possible.

The emphasis will be on self learning rather than on didactic lectures.

The entire period shall be 'in service' training programme based on the concept of 'learn as you work' principle.

The teaching learning activities would consist of -

Participating in rounds – patient management

- 1) Presentation of cases to the faculty with discussion
- 2) Preparation and presentation of P.G. lectures on allotted topics
- 3) Journal clubs
- 4) Clinic pathological exercise by rotation.

However to reinforce the learning the following methods shall be used to acquire knowledge, skills and attitudes.

1. Lectures prepared and presented by students under supervision.
2. Seminars, symposia, panel discussion of suitable topics, moderated by teachers.
3. Journal clubs moderated by teachers
4. Clinicopathological conferences.
5. Medical audit/fatality case discussion, meetings.
6. Pedagogic training programmes (intramural & extramural)
7. Inter-departmental meetings/discussions of interesting cases
8. Preparation and presentation of a dissertation
9. Patient care work in OPD, wards and dialysis unit.

The students shall be provided facilities to manage cases of higher and greater complexity by allowing them graded responsibility as the course progresses.

Each P.G would have an opportunity to present at least 5 P.G. lectures per year and 8-10 journal clubs per year in addition to about 20-25 cases during the clinical meetings.

They shall also be allowed to perform procedures under supervision and /or delegated authority depending on the experience and proficiency gained. The Heads of units and other consultants and guides shall be in-charge of the supervision and delegation of authority and responsibility to work.

10. Attend and participate in conference, workshops, field visits, camps, technical exchange programmes etc., and share knowledge and experience with others.

Dissertation:

A subject for dissertation would be allotted to the P.G. within the first 6 months after joining. The emphasis on dissertation work would be on review of literature, maintaining a record of references, preparation of a plan of study, documentation of aims, planning the methodology, collection, documentation and analysis of data, comparison of data obtained with others in literature, drawing conclusions and writing a summary. The subject of dissertation must be prospective. Analysis of less than 25 cases would not be permitted unless it is a rare disease. The dissertation topics should be discussed in a department meeting prior to completion of 6 months and protocol of study is to be approved by the Department faculty. 4 copies of completed dissertation after appropriate certifications by the guide and co-guide should be submitted at the end of the 2½ years (There will therefore be 2 complete years after submission of protocol and the final dissertation, eg- A candidate who has been admitted to the course in August 2006 would submit his dissertation by end of January 2009.) The dissertation shall be evaluated independently by the internal examiners and two external examiners under the following heading:

- 1) Approved
- 2) Not approved

In all cases the approval shall be given before 3 months of the date of appearing for the examination and this will be essential before the candidate is allowed to appear for the written examination.

Publishing data in a peer reviewed journal is desirable and will be credited in the intramural assessment

Leave

Attendance

Since it is a resident in house work as you learn programme, it is desirable that candidates should have 100% attendance to enable this objective to be achieved. However a minimum of at least 80% attendance per year would be required before they are allowed to appear for the examination.

Affective Domain

Development of attitude is a very important part of training. It would be the constant endeavor of the faculty to develop desirable attitudes in the P.G. trainees during the course by personal examples, interaction and group discussion. Constant watch will be maintained during their work in the wards to ensure that this objective is being met. Although there will be no formal evaluation of attitude, some aspects of this domain would be covered during the formative evaluation as per the enclosed proforma for continued internal assessment.

ALLIED SPECIALITIES POSTINGS:

There will be a continuous interaction between the Gastroenterology department and the allied departments to ensure that the students achieve these skills during their peripheral postings.

AFFECTIVE DOMAIN

Development of attitude is an very important part of surgical training. It would be the constant endeavour of the faculty to develop desirable attitudes in the P.G. trainees during the course by personal examples, interaction and group discussion. Constant watch will be maintained during their work in the wards to ensure that this objective is being met. Although there will be no formal evaluation of attitude some aspects of this domain would be covered during the formative evaluation as per the enclosed proforma for continued internal assessment.

SECTION IV

Organisation of course

1. Admission: shall be through a competitive written examination of the objective variety conducted by state entrance board.

2. Eligibility: MD in General Medicine or Pediatrics

3. Number of students: Each year students will be enrolled maintaining a teacher/students ratio of 1:1.

4. iii) Duration of course shall be of 3 years after completion of MD or equivalent degree. A minimum of 80% attendance and achievement of satisfactory standards in both theoretical and clinical Gastroenterology and Hepatology would be mandatory before being send up for the University examination.

5. Structured Training Programme

1st Year - Out patient / Inpatient management

- Gastroenterology clinical diagnosis
- Patient education
- Assisting & managing emergencies
- Starting research activity & Biomedical Statistics
- Computer data entry
- Teaching Undergraduate students
 - Diagnostic UGI endoscopy under supervision
 - Liver biopsy, ascetic tapping

2nd Year - In addition to patient management

- Patient counseling
- Gastroenterology clinical diagnosis
- Attending surgeries
- Radiology & pathology training
- Nuclear Medicine
- Diagnostic UGI endoscopy, therapeutic UGI endoscopy and diagnostic colonoscopy, assisting in therapeutic biliary/pancreatic endoscopy
- Computer data entry
- Teaching Undergraduate (MBBS), Postgraduate (MD Medicine) and 1st year DM students

3rd Year - Out patient / Inpatient management

- Diagnostic therapeutic UGI endoscopy and colonoscopy, assisting in therapeutic biliary/pancreatic endoscopy

- Patient counseling

- Finalization & submission of research projects

- Teaching and Guiding Undergraduate (MBBS), diploma, Postgraduate (MD Medicine) and 1st year & 2nd year DM students.

iv) **Leave:** Residents would be entitled to 30 days leave in the first year and 36 days each in the second and third years of residency.

v) **Rotation:**

During the training period. The resident would be required to rotate through clinical gastroenterology, hepatology, diagnostic and therapeutic endoscopy. In

addition, he/she will spend some time in rotations through allied specialities

(pathology, radiology, laboratory medicine etc.) Extramural rotations (Institutions outside the city of Mumbai) or elective rotations for a maximum period of 3 months will be possible during the 3rd year of training.

Section V

EVALUATION

Shall consist of formative and summative assessment.

Formative assessment.

The purpose of continuous course assessment is mainly.

- i) To ensure the habits of regularity, punctuality and disciplined working amongst postgraduates.
- ii) To give periodic feedback regarding their performance for med course correction steps to enhance their learning in various area i.e. patient care, research teaching, administration etc.
- iii) To monitor attainment of clinical and technical skills to ensure adequacy of training.
- iv) To be available to the internal examiner at the time of final examinations to discount the possibility of a single adverse performance influencing the pass or fail situation by using it to give an idea of the continued performance of the candidate during the three years of training to the external examiners, so that candidates who have otherwise been rated as satisfactory in their internal evaluation can be given more chances in the final examinations to more questions and overcome the adverse effects of doing badly in any one case. However, internal evaluation marks cannot directly be used for influencing the outcome of the summative assessment in the course of using it to fail a candidate who has otherwise done well in the final examinations or to pass a candidate who has done consistently bad in several cases.

Procedure of formative evaluation.

Formative evaluation will be carried out over the following 6 activities of the P.G. resident.

The exact mode of evaluation may be modified by the department. A suggested proforma for internal assessment is enclosed in annexure 1

- 1) Ward work. This will be done by the consultants in the unit concerned at intervals of 6 months.
- 2) Case presentation
- 3) P.G. Lecture
- 4) Journal club
- 5) Internal Assessment Exams

Theory: 100 marks

Practical: 100 marks

- 6) General assessment of affective function attitude by medical & paramedical staff.

Summative Assessment

Summative assessment consists of two parts:

Evaluation of thesis/dissertation prepared by the candidates and

Final examination consisting of 4 papers theory papers and Clinical Evaluation.

Thesis/dissertation

All candidates on admission will be allotted to one of the department faculty who have fulfilled the requirement to be guides for purposes of guiding Dissertation/thesis. The topic for dissertation shall be finalized and discussed in the departmental faculty meeting and allotted to the individual candidates before the completion of 6 months after admission. The purpose of dissertation is to develop in the candidate the ability to perform an independent study keeping the principles and research methodology in mind. The candidate will therefore work on the prospective problem either within the department or in collaboration with other departments. There will be continuous monitoring of the dissertation work by the guides and co-guides and by the other department staff throughout the course. The candidate will present the progress of the dissertation to the faculty at regular intervals. The completed dissertation should be submitted 6 months before final examination. The dissertation shall be evaluated independently by the internal examiners and two external examiners under the following heading:

1. Approved
2. Not approved

In all cases the approval shall be given 3 months before the date of appearing for the examination and this will be essential before the candidate is allowed to appear for the written examination.

Eligibility for appearing in the DM Examination.

Student should satisfy all the following criteria

- Equal to or more than 80% attendance
- Satisfactory Internal Assessment
- Approval of dissertation

University Examination:

WRITTEN EXAMINATION: (As per Direction No. 01/2008 dtd. 26/05/2008)

Though the Evaluation is by marks, the result will be declared only as “pass” and “fail” as there is no provision of giving mark list to the trainee. A candidate is declared “pass” if he acquires more than 50% marks or more in both theory and practical/viva voce individually

Candidates appearing for the second time are not required to submit another dissertation.

Criteria for medal will be based on the following

1. Highest Scoring student
2. The minimum marks attained by the highest scoring student should be 75% for qualifying for medal/merit

Annexure II:
Proformas for Internal Evaluation
Evaluation form for Postgraduates
Clinical Work

(To be completed once in 6 months or 1 year by respective Unit Heads)

Name: Date:

Points to be considered:

1. Punctuality
2. Regularity of attendance
3. Quality of Ward Work
4. Maintenance of case records
5. Presentation of cases during rounds
6. Investigations work-up
7. Bedside manners
8. Rapport with patients
9. Undergraduate teaching (if applicable)
10. Others:

Guidance for Scoring: 1 2 3 4 5

Poor Below Average Above Very Good

Avg. Avg.

Score: ()

Signature:

Proformas for Internal Evaluation

Evaluation form for Postgraduates Postgraduate Seminar

Name: Date:

Signature:

1. Presentation
2. Completeness of preparation
3. Cogency of presentation
4. Use of audiovisual aids
5. Understanding of subject
6. Ability to answer questions
7. Time scheduling
8. Consulted all relevant literature
9. Overall performance
10. Others:

Guidance for Scoring: 1 2 3 4 5

Poor Below Average Above Very Good

Avg. Avg.

Score: ()

Signature:

Proformas for Internal Evaluation

Evaluation form for Postgraduates Clinical Meeting

Name: Date:

Points to be considered:

1. Completeness of history
2. Whether all relevant points elicited
3. Cogency 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 missed or misinterpreted
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 and interpretation of investigations
11. Overall

Ability to react to questioning – Whether answers relevant and complete

Ability to defend diagnosis

Ability to justify differential; diagnosis

Confidence

Others

Guidance for Scoring: 1 2 3 4 5

Poor Below Average Above Very Good

Avg. Avg.

Score: ()

Signature:

Proformas for Internal Evaluation

Evaluation form for Postgraduates Continuous Evaluation of Dissertation Work

Name: Date:

Points to be considered:

1. Interest shown in selecting a topic
2. Appropriate review
3. Discussion with guide and other faculty
4. Quality of protocol
5. Preparation of proforma
6. Regular collection of case material
7. Depth of analysis/discussion
8. Departmental presentation of findings
9. Quality of final output
10. Defence in Viva
- 11 Others:

Guidance for Scoring: 1 2 3 4 5

Poor Below Average Above Very Good

Avg. Avg.

Score: ()

Signature:

Proformas for Internal Evaluation

Evaluation form for Postgraduates Journal Club

Name: Date:

Points to be considered:

1. Choice of articles
2. Cogency of presentation
3. Whether he has understood the purpose of the article
4. How well did he defend the article
5. Whether cross references have been consulted
6. Whether other relevant publications have been consulted
7. His Overall impression of articles

If good – reasons:

If poor - reasons:

8. Audiovisual aids
9. Response to questioning
10. Overall presentation
11. Others:

Guidance for Scoring: 1 2 3 4 5

Poor Below Average Above Very Good

Avg. Avg.

Score: ()

Signature:

Log (Performance record book)

Maintenance of performance record Log book is mandatory. Certified and assessed copy should be made available at the time of practical examination for review by examiners

Log Book should contain:

1) Certificate duly signed by teacher, head of department, head of institute – stating – Dr...
.....has worked in department from ---- to ---- for a period of 3 years. This performance record book contain authentic record of work done and assessment for last 3 years.

2) Record of training

Name of the trainee

Hospital

Training period

Name of teacher

3) Posting in Gastroenterology

1) Clinical Gastroenterology and Hepatology

2) Diagnostic and Therapeutic Endoscopy

3) Radiology / Surgery / Pathology

4) OPD consultation

Critical care etc

4) Working schedule

5) Teaching programme

Extra mural posting

6) Journal club

Date Article Name of Assessment by faculty

Journal Score / grading(1-5)

Year vol- Signature

7) Seminars

Date Topic / Subject Assessment by faculty

Signature

8) Case presentations:

Date Case Teacher's signature

Assessment score

9) Death Audit / C P C

Date Case discussed Assessment & Signature

Specific procedures in Gastroenterology

1. UGI Endoscopy – Diagnostics 100 Therapeutic 50
2. Colonoscopy – Diagnostics -100 Therapeutic –20
3. ERCP – Diagnostics – 10, assisting in therapeutic ERCP = 50
4. Liver biopsies (25)
5. Ascitic fluid tapping (large volume paracentesis) - 25

Date Name of patient Indoor No Indication Discussion interpretation

Complications observe

14) Teaching activity

Date Topic Class

15) Participation in Research Activity

Name of project Duration

16) Conferences / Workshop attended paper presentation / Publications

Suggested Reading

Text Books:

- 1) Sleisenger and Ford tann's, Text book of gastroenterology and liver diseases VII edition.
- 2) Schiff's diseases of liver IX edition.
- 3) Sheila Sherlock's text book of Hepatobiliary systems.
- 4) Oxford book of clinical hepatology II edition.
- 5) Soehendra Therapeutic Endoscopy
- 6) Motility disorders.
- 7) Liver Transplantation –Medical Surgical issue – Michael Lucey

Reference books:

- 1) Bockus text book of Gastroenterology
- 2) Esophagus: D Castell

Journals:

- 1) Gastroenterology
- 2) Hepatology
- 3) Journal of Gastroenterology and Hepatology
- 4) Gut
- 5) Indian Journal of gastroenterology
- 6) Endoscopy
- 7) GI endoscopy
- 8) Seminars in liver diseases
- 9) GCNA
- 10) Lancet / NEJM / Annals Internal Medicine

Various website and CD-ROM programme which will help in keeping updated are recommended

- 1) Gastrohep. Com
- 2) Medscape. com
- 3) Cochrane reviews