



Program
MCh Gastrointestinal
Surgery
(Revised with effect from 2016-2017 onwards)

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GOAL

To produce competent specialist and teachers in gastrointestinal Surgery. They should be able to identify the general problems related to gastrointestinal surgery in the community, Should have a broad vision of popularize this specialty, keeping abridge the newer developments and participating in research related to GI surgery.

At the end of the course, the learner

1. Should have mastered most of competency, pertaining to gastrointestinal surgery that are required to be practiced at the secondary and tertiary levels of the health care delivery system
2. Should be aware of the cotemporary advances and developments in the discipline concerned
3. Should have acquired a spirit of scientific enquiry and should be oriented to the principles of research methodology
4. Should have acquired the basic skills in teaching of medical and paramedical professionals

PROGRAM OUTCOMES & PROGRAM SPECIFIC OUTCOMES

Program Outcomes

PO1. Competency, pertaining to gastrointestinal surgery required to be practiced at the secondary and tertiary levels of the health care delivery system

PO2. Awareness about the cotemporary advances and developments in the discipline concerned

PO3: Should have acquired a spirit of scientific enquiry and should be oriented to the principles of research methodology

PO4: Should have acquired the basic skills in teaching of medical and paramedical professionals

Programme Specific Outcomes

PSO1: Awareness of the importance of GI surgery as a specialty in the context of health need of community

PSO2: The attitude to practice gastrointestinal surgery ethically

PSO3: Understanding of the basic sciences relevant to gastrointestinal surgery

PSO4: Ability to diagnose and manage majority of the conditions in the specialty concerned on the basis of clinical assessment and appropriate investigations

PSO5: Competency to plan and advice measures for the prevention and rehabilitation of patients from diseases and disabilities pertaining to GI surgery

PSO6: Demonstration of empathy and human approach towards patients and their family

PSO7: Ability to play the assigned role in the implementation of national health programmes effectively and responsibly.

PSO8: The ability to train post graduate students after MS General Surgery or DNB in general surgery, in gastrointestinal surgery, so that they gain expertise in managing the diseases of gastrointestinal tract and acquire skills.

PSO9: Ability to actively participate in research in disorders of GI tract.

PSO10: The attitude to keep them abreast in scientific developments related to gastrointestinal diseases

Training system

Full time residency for 3 years

Training Methods

1. Clinical teaching in outpatient clinics, emergency room and operation theatres
2. Clinical teaching in ward and beside presentations
3. Seminars, journal clubs, morality and morbidity conferences and audits
4. Teleconferences with other premier gastrointestinal surgery centers in the country and abroad.
5. Inter departmental sessions as radiology meet, Sessions with medical gastroenterologists, clinico pathological discussions, tumour board meeting etc
6. Treatment planning sessions
7. Observing, assisting and performing GI surgical operations
8. Paper presentations at conferences
9. Preparations of manuscripts for publications

Daily academic programme

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8 to 9	Medical surgical meeting	Topic discussion/case presentation	Journal club/ seminars	Oncology conference	Pathology conference	Radiology
9 to 9.30	ICU teaching ward rounds with intensivists					9 to 10 Teleconference once in a month
						10 – 1pm detailed ward rounds with all staff
Till 5 pm	Clinics, ward rounds and theatre by rotation 2-3 pm one Wednesday in a month – Teleconference with other premier GI Centres					2 to 4 pm journal club, morality meeting with intensivists, topic

5 to 6	Teaching ward rounds	presentation alternating once in 3 weeks
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Course content

1. Basic medical sciences relevant to GI surgery, including embryology, anatomy, physiology, pathology, pharmacology
2. Medical gastroenterology as relevant to the practice of surgery.
3. Surgical gastroenterology including the etiology, pathophysiology and management of disorders of gastrointestinal tract, liver, biliary tract and spleen.
4. Congenital and acquired diseases of gastrointestinal system and the management.
5. Basic knowledge relating to principles and practice of laproscopic surgeries
6. Principles and basics of liver and other organ transplantation
7. Principles and relevance of radiological procedures as contract images, ultrasound, CT scans, MRI scans, Nuclear medicine scans and PET scans and their interpretations
8. Principles of management of sepsis
9. Principles of critical care, fluid and electrolyte management
10. Basic principles of emergency surgeries and trauma
11. Recent advancements in the field of GI surgery and minimally invasive surgery
12. Preparation of papers for presentation at scientific conferences and publication
13. Introduction of organizational skills in developing department and newer facilities
14. Development of proper attitudes towards patients, subordinates, colleagues and seniors
15. Knowledge of computers and their application in clinical practice
16. Basic research methodology, documentation, statistical techniques and ethical aspects of research.

Practical training

1. Clinical assessment of patients in the outpatient department and making a provisional diagnosis.
2. Choosing and carrying out relevant investigations, initially with the help of seniors and later independently
3. Preparing the patient for surgery, carrying out the necessary investigations and consultations with other allied departments as and when required
4. Assisting gastrointestinal procedures initially, doing simple operations under supervision and later independently. Performing major operations under guidance.
5. Managing patients in the post operative period in the ICU and later in ward.

6. Gaining experience in emergency situations in the ICU and managing emergency gastrointestinal cases.
7. Management of abdominal trauma
8. Management of sepsis
9. Basic principles of critical care
10. Preparation of patients progress notes, discharge summaries.
11. Collection and compilation of patient data for research purposes
12. Following up the patients in the out outpatient department.
13. Carry out medical research, audits

Training in other institutions

Candidates in 3rd year should visit other GI centers of excellence in the recognized by MCI for about 4 weeks to observe their practices and understand the difference in approaches to various GI surgical problems.

Log Book

The candidate shall be keeping a logbook of the work done prospectively (surgical procedures performed, assisted, case presentations and other academic activities) and this has to get certified before appearing for examination.

Dissertation

Candidate will prepare a research dissertation on a pertinent subject, and submit it 6 months before completion of the course. Publication of the same will also be encouraged.

COURSES

Paper -I Basic Sciences as Applied to Gastroenterology(Applied Anatomy, Applied Physiology, Microbiology and Clinical Pharmacology) Course M5GS1

CO1: Knowledge of applied anatomy as relevant in the practice of GI surgery.

CO2: Knowledge of applied physiology as relevant in the practice of GI surgery.

CO3: Knowledge of applied Clinical Pharmacology as relevant in the practice of GI surgery.

CO4: Knowledge of applied Microbiology as relevant in the practice of GI surgery.

CO5: Knowledge of medical gastroenterology as relevant to the practice of surgery.

Basic medical sciences relevant to GI surgery, including embryology, anatomy, physiology, pathology, pharmacology, microbiology and Medical gastroenterology as relevant to the practice of surgery.

Paper -II Surgical Gastroenterology - General (Course M5GS2)

- CO1: Knowledge of surgical gastroenterology including the etiology, pathophysiology and management of disorders of gastrointestinal tract, liver, biliary tract and spleen.
- CO2: Knowledge of congenital and acquired diseases of gastrointestinal system and the management.
- CO3: Knowledge of principles of management of sepsis
- CO4: Basic knowledge relating to principles and practice of laproscopic surgeries
- CO5: Principles of critical care, fluid and electrolyte management
- CO6: Basic principles of emergency surgeries and trauma
- CO7: Skill in the clinical assessment of patients in the outpatient department and making a provisional diagnosis.
- CO8: Ability to chose relevant investigations and prepare the patient for surgery.

**Surgical gastroenterology including the etiology, pathophysiology and management of disorders of gastrointestinal tract, liver, biliary tract and spleen
Congenital and acquired diseases of gastrointestinal system and the management.**

Introduction to Minimal Invasive Surgical concepts

Basic knowledge relating to principles and practice of laproscopic surgeries

Principles and basics of liver and other organ transplantation ,

Principles of post transplant care

Post transplant complications and its management

Principles of management of sepsis , Principles of critical care, fluid and electrolyte management

Paper -III Surgical Gastroenterology related to the Hepatobilliary and Pancreatic Diseases Course M5GS3

- CO1: Principles and basics of liver and other organ transplantation
- CO2: Principles and relevance of radiological procedureds as contract images, ultrasound, CT scans, MRI scans, Nuclear medicine scans and PET scans and their interpretations
- CO3: Ability to manage the patients in the post operative period in the ICU and later in the ward.
- CO4: Competency to manage abdominal trauma.
- CO5: Ability to follow up the patients in the out outpatient department.

Competency in understanding radiological procedureds such as contract images, ultrasound, CT scans, MRI scans, Nuclear medicine scans and PET scans and their interpretations Basic principles of critical care , Preparation of patients progress notes, discharge summaries , Collection and compilation of patient data for research purposes

Paper -IV Recent Advances in Surgical Gastroenterology and Proctology Course M5GS4

- CO1: Knowledge of recent advancements in the field of GI surgery and minimally invasive surgery
- CO2: Ability to prepare papers for presentation at scientific conferences and publication

CO3: Introduction of organizational skills in developing department and newer facilities

CO4: Knowledge of computers and their application in clinical practice

Knowledge about latest advancements and latest research papers of GI surgery in an international setting and the ability to prepare and present papers for presentation at scientific conferences

Recent advances in the field including the introduction of robotic surgery

Methods to improve stoma site hygiene

Knowledge about Natural Orifice Transluminal Endoscopic Surgery (NOTES)

Soft Skills (Course M5GS5) – Elective Course

CO1: Knowledge of basic research methodology, documentation, statistical techniques and ethical aspects of research.

CO2: Competency to work as a team leader.

CO3: Knowledge of medical ethics and etiquette.

CO4: Development of proper attitudes towards patients, subordinates, colleagues and seniors

CO5: Attitude to be a lifelong learner.

CO6: Ability to be an effective teacher/communicator.

STUDENT ELIGIBILITY

MS or DNB in General Surgery, or any other qualifications recognized as equivalent by the Medical council of India or the National Board of examinations.

EXAMINATION PATTERN

Candidate will have an internal assessment at the end of first two years and there will be one examination at the end of three years of the training. In each of these exams, the assessment of the trainee for the award of MCh in gastrointestinal Surgery will be done in four parts.

a)Written Examination:

There will be four papers, each of THREE HOURS duration.
Paper I: Basic medical sciences related to surgical Gastroenterology.
Paper II: Basic principles of surgical gastroenterology
Paper III. Regional and systemic GI surgery
Paper IV: Current trends and recent advances in surgical gastroenterology
Including transplantation

PRACTICAL/ OPERATIVE, CLINICAL AND VIVA VOCE

Assessment of Logbook and dissertation

Clinical Examination:

1. Long case – 1 hour
2. Short case – A selection of short cases covering a wide range of problems (1 hour)
3. Clinical ward round

Viva voce:

This is to assess the competences of the candidate in interpreting various diagnostic aids, Pathology specimens, slides and surgical instruments, radiological images of relevance to the subject are to be identified and discussed to evaluate analytical skills in all settings and their appropriateness.

SUGGESTED READING

Although no specific books are prescribed, and the candidate is expected to read extensively in the field, the following are suggested.

1. Biological basis of Modern Surgical practice – Sabiston
2. Shackelford's Surgery of the Alimentary tract
3. Surgery of Colon and Rectum – Coreman
4. Surgery of anus rectum and colon – MRB Keighley
5. Nyhu's mastery of surgery
6. Maingot's abdominal operations
7. Bumgart's- Surgery of the liver and biliary tract
8. Surgery of Pancreas – Trede and Carter
9. Art of Laparoscopic Surgery – C Pa;anivelu
10. Cuschieri laparoscopic biliary surgery
11. Pathophysiology, diagnosis and management of gastrointestinal and liver diseases
Sleisnger and Fordtrans

Suggested Journals

1. Archives of Surgery
2. British Journal of Surgery
3. Annals of Surgery
4. American Journal of Surgery
5. Americal journal of Gastroenterology
6. Gut
7. Journal of GI surgery
8. Hepatogastroenterology
9. Indian Journal of Gastroenterology
10. Indian Journal of Surgery
11. Surgical clinics of North America
12. Lancet
13. Transplantation
14. Diseases of Colon and Rectum
15. New Indian Journal of Medicine
16. GI Suregry Annual

MODEL QUEESTION PAPERS

**Paper I – BASIC SCIENCES AS APPLIED TO GASTROENTEROLOGY
(APPLIED ANATOMY, APPLIED PHYSIOLOGY MICROBIOLOG AND
CLINICAL PHRMACOLOGY)**

Time : Three hours

Maximum:100marks

Theory : Two hours and forty minutes

Theory: 80 marks

M.C.Q. : Twenty minutes

M.C.Q : 20 marks

Answer All Questions:

1.Essay questions:

1. Discuss the anatomical and physiological aspect of anti – reflux mechanism (20)
2. Discuss the pathophysiology of pain in chronuc pancreatitis (15)
- 3.Total Mesocretal Excision(TME) (15)

II. Write short notes on :

(6x5=30)

1. Thromboelastography
2. Chromoendoscopy
3. CA 19-9
4. Gultamine
5. Abdominal compartment syndrome
6. Liver preservation solution

Paper II – SURGICAL GASTROENTEROLOGY –GENERAL

Time: Three hours

Maximum: 100 marks

Theory: Two hours and forty minutes

Theory : 80 marks

M.C.Q : Twenty minutes

M.C.Q : 20 marks

Answer All Questions

I. Essay questions

1. Discuss the management of option in Buddchiari syndrome (20)
2. Discuss the management of Incidental Gallbladder cancer detected following Laparoscopic Cheolecystectomy (15)
3. Discuss the management of Post EPT complications (15)

II Short notes:

(6 x5-30)

- a) Peripheral Intrahepatic Cholangio Carcinoma
- b) Gracioloplasty
- c) GIST
- d) Extraintestinal manifestationsn of ulcerative colitis
- e) Cystopericystectomy
- f) DVT prophylaxis in GI Surgical patient

Paper III – SURGICAL GASTROENTROLOGY RELATED TO THE HEPATO
BILLIARY AND PANCREATIC DISEASES

Time: Three hours

Maximum: 100 marks

Theory: Twenty minutes

Theroy:80 marks

M.C.Q : Twenty minutes

M.C.Q : 20 marks

Answer ALL questions

I. Essay :

1. Discuss the current management of options in a case of hepatocellular Carcinnoma in a Cirrhotic (20)
2. Discuss the merits and demerits of pre-ooperative drainage malignant biliary obstruction (15)
3. Discuss the management of Pseudocyst of the pancreas

II. Short notes

(6x5=30)

1. MRCP Vs.ERCP
2. Corrosive gastric stricture management
3. Asymptomatic Gall stone disease
4. Surgery for morbod obesity
5. Classification of Choledochal CYST
6. Pouch – Vaginal fistula

Paper IV – RECENT ADVANCES IN SURGICAL GASTRO –ENTEROLOGY AND PROCTOLOGY

Time : Three hours

Maximum marks : 100 marks

Theory : Two hours and forty minutes

Theory: 80 marks

M.C.Q: Twenty minutes

M.C.Q. : 20 Marks

Answer ALL questions

I. Essay questions:

1. Discuss the current status of Radical Esophagectomy for Esophageal Carcinoma (20)
2. Discuss Portal biliopathy (15)
3. Discuss the role of Laparoscopy in the management of GI cancers. (15)

II. Short notes:

1. Domino Liver transplant
2. IPMT.
3. Current status of mechanical bowel preparation in colorectal surgery.
4. Brain stem death
5. Somatostatin Receptor Scintigraphy
6. Small bowel diverticulae

LOG BOOK

CERTIFICATE

Dr..... has completed the three year course in M.Ch GI Surgery of Amrita Vishwavidyapeetham in Amrita Institute of Medical Sciences, Edapally, Kochi from to
His conduct and character are.....

Head of department

Principal

Medical Director

STUDENT INFORMATION

Name

Sex:

DOB

Father's Name

Residential Address

Permanent Address

Contact number

E mail id

Academic qualifications

Degree

Year

Institution & University

Registration number

Service details (if any)

Achievements

Papers presented/ published

Academic Activities

Monday	GI – Medical Gastro Meeting
Tuesday	Case Presentation
Wednesday	Approach to In house Clinical Problems
Thursday	GI – Tumor board Meeting
Friday	GI – Pathology Meeting
Saturday	GI – Radiology Meeting & Auditing

Conference Attended

National and international conferences

Regional and State conferences

Papers presented

Publications

Abstracts of presentations and papers

Weekly academic schedule
Academic Activities presented

GI and Medical Gastro Meeting

M.Ch GI Surgery

GI And Oncology Meeting

GI and Pathology Meeting

Academic activities Attended

Surgical procedures assisted and performed

Minimally invasive procedures assisted and performed

Liver Transplants

Radiology Procedures observed

Medical gastro procedures observed