

GENERAL SURGERY

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Syllabus for MBBS Part III Surgery

GOAL

The broad goal of the teaching of undergraduate students in surgery is to produce graduates capable of delivering efficient first contact surgical care, by equipping them with appropriate knowledge, skill and attitude.

OBJECTIVE

a.Knowledge: At the end of the course, the student should be able to:

1. Describe aetiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies, in adults and children.
2. Define indications and methods for fluid and electrolyte replacement therapy including blood transfusion.
3. Define asepsis, disinfection and sterilization and recommended judicious use of antibiotics.
4. Describe common malignancies in the country and their management including prevention
5. Enumerate different types of anesthetic agents, their indications, mode of administration, contraindications and side effects.
6. Understand basic medical ethics, medicolegal aspects and communication

b. SKILLS

1. Obtain a proper relevant history and perform a humane and thorough clinical examination including internal examinations (per-rectal) and examination of all organs / systems in adults and children.
2. Arrive at a logical working diagnosis after clinical examination.
3. Order appropriate investigations keeping in mind their relevance (need based) and cost effectiveness.
4. Plan and institute a line of treatment which is need based, cost effective and appropriate for common ailments taking into consideration:
 - a. Patient,
 - b. Disease,
 - c. Socio-economic status,
5. Recognize situations which call for urgent or early treatment at secondary and tertiary centres and make a prompt referral of such patients after giving first aid or emergency treatment.

6. Demonstrate empathy and humane approach towards patients, relatives and attendants, by effective communication skills, involving the patients' surgical condition its management and outcome.

7. Develop a proper attitude towards, colleagues and other staff.

c.Integrated Teaching

Vertical integration with Pathology(Normal and abnormal cells, Malignancy chronic infections etc), **Microbiology**(Wound infections, Hospital acquired Infections, Resistance to antibiotics etc), **Anatomy**(Applied anatomy of head and neck groin abdomen leg etc), **Bio-chemistry**(Basis of diagnosis of conditions related to HPB, Tumour markers)

Horizontal Integration with other surgical specialties such as plastic(ulcers skin cover scars etc), **urology**(BPH with hernias etc),**neurosurgery**(trauma and head injuries)**and pediatric surgery**(congenital surgical conditions etc)

TEACHING HOURS

Clinical Postings Theory Teaching Hours

26 Weeks 300 Hours

Introduction -2 weeks		1) Didactic Lectures	- 200 hrs
		A. Pre-Final	40
		B. Final	160
4 weeks	- Regular	2) Seminars	- 52 hrs
8 weeks	- Prefinal	3) Workshops/Video Presentations	- 18 hrs
12 weeks	- Final	4) Group Discussions	- 30 hrs

TEACHING METHODOLOGY

Involve observer ship in surgical teaching - Video demonstrations(clinical examination and clinical cases), **surgery exposes**(pictorial teaching of surgical conditions) **AV aids – clinical and theory classes – ward demonstrations at bedside clinics**(clinical signs) – **theory classes – short answer tests**(Theory of surgery) – **evaluation– and continuous internal assessment**(Clinical examination).

THEORY SYLLABUS

The must know, desirable know, nice to know in the ratio of 60:30:10

vide annexure1

PRACTICAL SYLLABUS At a skills lab

Laboratory Skills using aids- mannequins models etc. IV access Blood taking IM injection Male and female catheterization.

REFERENCE LEARNING BOOKS

- | | | | |
|----|-------------------|---|---|
| 1. | Bailey & Love's | - | Short Practice of Surgery |
| 2. | Das | - | Clinical Methods in Surgery |
| 3. | Hamilton Bailey's | - | Demonstration of Physical Screening in Clinical Surgery |
| 4. | Pye's | - | Surgical Handicraft. |

THEORY EXAMINATION**Paper III – Surgery including Orthopedics****Section A**

- | | |
|------------------|-------------------------|
| 1. Essay | 1 x 10 marks = 10 marks |
| 2. Brief Answers | 3 x 5 marks = 15 marks |
| 3. Short Notes | 3 x 2 marks = 6 marks |

Total 31 marks

Section B (Orthopaedics)

- | | |
|------------------|-------------------------|
| 1. Essay | 1 x 10 marks = 10 marks |
| 2. Brief Answers | 3 x 5 marks = 15 marks |
| 3. Short Notes | 2 x 2 marks = 4 marks |

Total 29 marks

Paper IV– Surgery including Anaesthesia**Question****Marks**

- | | |
|---------------|-------------------------|
| Long question | 1 x 10 marks = 10 marks |
| Case scenario | 1 x 10 marks = 10 marks |
| Brief Answers | 6 x 5 marks = 30 marks |
| Short Notes | 5 x 2 marks = 10 marks |

Total - 60 marks

PRACTICAL EXAMINATION

Surgery

1. Long case	1 no	`	=	30 marks(45 minutes)
2.Short case	2 nos	15 x 2	=	30 marks(30 minutes)
3.OSCE	3nos	5x3	=	15 marks(10-15 minutes)

Total - 75 marks

eg of OSCE one station to be interactive with a patient or role play

Long Case (History 5,Clinical signs 5 Diagnosis 5 Investigations 5 Discussion 5 Management 5)

Short Case (Diagnosis 5, Investigations 5, Management 5)

Orth

1.Short case	2 no	10 x 2	=	20 marks
2.OSCE	1 no	5 x 1	=	5 marks

Total - 25 marks

Eg of OSCE to be observed as student examines

Viva Voce as present 20 marks(15 for surgery 5 for ortho)

5 marks each

1. X-rays
2. Operative surgery and instruments
3. Pathology Specimens

Ortho – 5 marks

FORMATIVE ASSESSMENT

QUARTERLY REPORT WITH ATTENDANCE MANDATORY FROM THIRD YEAR ONWARDS

INTERNAL ASSESSMENTS (60 marks)

Third semester - 10 marks- One test (Theory 5 and Practical 5)
(First 12 Chapters Bailey and Love)

Fifth and Seventh semester - 15 marks – one test (Theory 10 and Practical 5)
(Chapters 13-32)

Eighth and Ninth semester	-	25 marks – two tests (Theory 15 and Practical 10)
(Chapters 42, 43, 48 Neck, 49-81)		
Log Book	-	10 marks

INTERNAL ASSESSMENTS TEST UNIT WISE TO BE DONE

Suggested guidelines for conduct of OSCE for continuous assessment during clinical course
see annexure 2 – To conduct Clinical Examination Model for IA at the end of the every final year posting by the concerned unit.

MEDICAL ETHICS INCLUDING

- Consent for surgery
- Dangerously ill patient intimation
- Human rights including confidentiality

Syllabus -Annexure 1

Part I

PRINCIPLES

1. Must know

- a. Shock and blood transfusion
- b. Wounds, tissue repair and scars
- c. Basic surgical skills
- d. Surgical infection
 - Prophylactic antibiotics
 - Bacteria involved in surgical infection
- e. Patient Safety
- f. Surgery in the tropics
 - Amoebiasis
 - Ascariasis
 - Filariasis
 - Hydatid cyst
 - Leprosy
 - Typhoid
 - Tuberculosis

2. Desirable to know

- a. Metabolic response to injury
- b. Anastomosis
- c. Principles of paediatric surgery
- d. Principles of oncology

- e. Clinical research
- f. Surgical ethics and law
- g. Surgery in the tropics
 - Poliomyelitis
 - Tropical Chronic Pancreatitis
 - Mycetoma

3. Nice to know

- a. Principles of laparoscopic and robotic surgery
- b. Surgical audit

Part II Investigations and Diagnosis

Must Know

- a. Tissue Diagnosis
- b. Diagnostic investigation X-ray, USG

Desirable to know

- a. Diagnostic imaging CT, MRI

Nice to know

- a. Gastrointestinal Endoscopy

Part III Peri-operative Care

Must Know

- a. Preoperative Preparation
- b. Basic Anaesthesia
- c. Nutritional fluid therapy
- d. Post operative Care

Desirable to know

- a. Care in the operating room
- b. Perioperative management of high risk patient

Nice to know

- a. Day care surgery

Part IV Trauma

Must Know

- a. Early assessment and management of Trauma
- b. Burns
- c. Tarso Trauma

Desirable to know

- a. Emergency Neurosurgery
- b. Maxillofacial Surgery

- c. Plastic & Reconstruction Surgery

Nice to know

- a. Plastic & Reconstruction Surgery

Part V Skin and sub-cutaneous tissue

Must Know

- a. Functional Anatomy and physiology
- b. Skin
 - Benign
 - Malignant
 - Vascular lesion
 - Wounds

Nice to know

- a. Practical and ethical issue

Part VI Head and neck

Must Know

- a. Oropharangeal cancer
- b. Disorders of salivary gland
- c. Pharynx, larynx and neck

Desirable to know

- a. Cleft lip
- b. Cleft palate

Nice to know

- a. Elective neurosurgery

Part VII Breast & Endocrine

Must Know

- a. The Thyroid
- b. The Breast

Desirable to know

- a. Parathyroid gland
- b. Adrenal gland

Nice to know

- a. Other surgical Endocrine Disorders

Part X Vascular

Must Know

- a. Arterial Disorder
 - Arterial stenosis & occlusion
 - Gangrene
 - Amputation
 - Vasospastic conditions
- b. Venous Disorder
 - Anatomy of venous system of the limbs and venous pathology
 - Varicose veins
 - Venous thrombosis
 - Leg ulceration
 - Venous Injury
- c. Lymphatic Disorder
 - Anatomy, Physiology of the lymphatic system
 - Lymphodema

Desirable to know

- a. Angiography
- b. Operation for arterial stenosis and occlusion
- c. Therapeutic Embolization
- d. Aneurysm
- e. Duplex ultrasound
- f. Congenital venous anomalies
 - Axillary vein thrombosis
 - Venous tumor

Nice to know

- a. Endovascular Procedure
- b. Endovenous Laser Ablation
- c. Lymphedema Surgeries

Part IX Abdomen

Must know

- a. History and Examination of the abdomen
- b. Abdominal Wall Hernia and Umbilical Hernia
- c. Ventral Hernia
- d. Oesophageal stricture, Achalasia and Carcinoma Surgical anatomy
- e. Stomach and Duodenum

- f. The liver
- g. The Gall bladder and bile duct
- h. The small and large Intestine
- i. Intestinal Obstruction
- j. Vermiform appendix
- k. The Rectum
- l. The anus anal

Desirable to know

- a. The Peritoneal, Omentum, Mesentery and Retroperitoneal space
- b. The Oesophagus- GERD, Perforation, Congenital Anomaly, FB, Patho physiology
- c. Liver- Trauma, Portal Hypertension
- d. The Spleen
- e. The Pancreas

Nice to Know

- a. Bariatric Surgery
- b. Liver Surgeries
- c. Laparoscopic Hernia Repair

Part X Genito-Urinary**Must Know**

- a. Urinary Symptoms and Investigations
 - Urinary Symptoms
 - Investigation of Urinary tract
 - Anuria
- b. The kidney and Ureter
 - Surgical Anatomy
 - Congenital Anomaly
 - Hydronephrosis
 - Renal Calculi
 - Ureteric Calculus
 - Neoplasm of Kidney
- c. The Prostate
- d. Urethra and Penis
- e. Testis & Scrotum
- f. Urinary bladder

Desirable to know

- a. Seminal vessels
- b. Dialysis
- c. Injuries of kidney and ureter

- d. Carcinoma of bladder
- e. Urinary Diversion
- f. Male factor Infertility

Nice to know

- a. Laparoscopic Renal surgery
- b. PCNL, URS
- c. Endoscopic surgery - Uethrotomy and TURP

Part XI Transplantation**Must Know**

- a. Historical prospective
- b. Graft Rejection

Desirable to know

- a. Immuno-suppressive therapy
- b. Organ Donation

Nice to know

- a. HLA Matching
- b. Tissue Typing
- c. Kidney, Liver, Pancreas and other Transplantation

Surgical Instruments**Must know**

- a. Common instruments used in surgery

Model OSCE weekly tests-Annexure 2

1st Mandatory Observed Clinical Case 15 minutes

First Clinical Year - 1st surgical posting best done weekly by any teacher

Student's Name :

Department / Unit :

MOCC Date :

Case :Any Case

Attributes	Poor	Satisfactory	Good	Excellent
Ethics (Introduction of self, explaining the examination procedures etc.)				
History taking under supervision				
Answering Questions on history				

Overall performance /100

*Key for performance: <50% - Poor 50-60% - Satisfactory 60-80% - Good >80% - Excellent
 For guidance only

Mandatory narrative on deficiencies noted. Feedback to be given to the student:

Ethics	History	Interaction with examiner

Preceptor's Name

Signature

Continuous Assessment in Surgery
2nd Mandatory Observed Clinical Case

First Clinical Year – 2nd surgical posting best done weekly by any teacher

Student's Name :

Department / Unit :

MOCC Date :

Case : A swelling and ulcer

Attributes	Poor	Satisfactory	Good	Excellent
Ethics (washing hands, Introduction of self, explaining the examination procedures etc.)				
History given Student to ask 2 questions				
Inspection – Description				
Palpation – Method				
Differential diagnosis				
Interaction with examiner				

Overall performance /100

*Key for performance: <50% - Poor 50-60% - Satisfactory 60-80% - Good >80% - Excellent
 For guidance only

Mandatory narrative on deficiencies noted. Feedback to be given to the student:

Ethics	History	Inspection	Palpation	Differential diagnosis	Interaction with examiner

Preceptor's Name

Signature

Continuous Assessment in Surgery

Mandatory Observed Clinical Case
 2nd clinical year conducted once

Duration : 20 minutes

Student's Name :

Department / Unit :

MOCC Date :

Case Diagnosis :

	Total Marks	Obtained Marks
Observed History taking (5 minutes)	5 marks	
Observed Examination technique (5 minutes)	5 marks	
Differential Diagnosis (2 minutes)	2 marks	
Discussion on Investigations – Details of technique, equipment, materials/dyes used, procedure etc. (3 minutes)	3 marks	
Details of operative/therapeutic procedure – Anaesthesia (type drugs, dosages etc), Incisions, Drains, Sutures, Complications etc. (5 minutes)	5 marks	
General Comments during the posting :		
Attitude, Punctuality, Ethical conduct, appropriately dressed etc.	5 marks	

Total Marks : /25

Mandatory Narrative on deficiencies noted (additional sheets can be used)

History	Examination technique	Diagnosis	Investigation	Details of operative procedure	General Comments

Preceptor's Name

Signature

Continuous Assessment in Surgical Posting

Mandatory Observed Clinical Case – Final Year **weekly** exam 15 minutes by any teacher

Student Name :

Department / Unit :

MOCC Date :

Case Diagnosis :

Attributes	Poor	Satisfactory	Good	Excellent
Approach to patient				
History to be given 4 relevant questions by student on history				
Physical examination technique				
Correlating history and physical findings to formulate diagnosis				
Discussion including investigations and treatment				

Overall performance /100

*Key for performance: <50% - Poor 50-60% - Satisfactory 60-80% - Good >80% - Excellent

Mandatory narrative on deficiencies noted. Feedback to be given to the student:

Approach to patient	History	Physical Examination	Correlating history	Discussion

Preceptor's Name

Signature

Annexure 3

CRRi ORIENTATION

SKILLS	PERFORM INDEPENDENTLY	PERFORM WITH SUPERVISION	ASSIST THE EXPERT	OBSERVE
Obtain a proper relevant history and perform a humane and thorough clinical examination, internal examination(perrectal and pervaginal) and examinations of all organs / Systems in adults and children	yes			
Arrive at a logical working diagnosis after clinical examination	yes			
Order appropriate tests keeping in mind their relevance and cost effectiveness	yes			
Write the complete case record with all necessary details	yes			
Write a proper discharge summary with all relevant information	yes			
Obtain an informed consent for any examination / procedure	yes			
At the end of the session , the learners should be able to perform the following	yes			
Start an IV line and monitor infusion	yes			
Start and monitor blood transfusion	yes			
Venous cut down	yes			
Manage a CVP line	yes			
Conduct CPR(Cardio pulmonary resuscitation)	yes			

Basic life support / ITLS	yes			
Endotracheal intubation	yes			
Pass nasogastric tube	yes			
Perform digital rectal examination and proctoscopy	yes			
Urethral catheterization	yes			
Dressing of the wounds/ ulcers	yes			
Suturing of simple wounds	yes			
Remove small subcutaneous swellings		yes		
Various types of biopsies		yes		
Relieve pneumothorax		yes		
Infiltration , surface and digital nerve blocks		yes		
Incise and drain superficial abscesses		yes		
Manage lacerated wounds		yes		
Control external haemorrhage		yes		
Vasectomy			yes	
Circumcision			yes	
Surgery for hydrocele			yes	
Surgery for hernia			yes	
Injection / banding of piles			yes	
Management of shock			yes	
Assessment and management of burns			yes	
The candidate shall observe all the operations performed by the surgeons by assisting and observing surgeons during general surgical posting				yes

SKILLS for Interns

1. Obtain a proper relevant history and perform a humane and thorough clinical examination including internal examinations (per-rectal and per-vaginal) and examinations of all organs / systems in adults and children.
2. Arrive at a logical working diagnosis after clinical examination.
3. Order appropriate investigations keeping in mind their relevance (need based) and cost effectiveness.
4. Plan and institute a line of treatment which is need based, cost effective and appropriate for common ailments taking into consideration :
 - a. Patient,
 - b. Disease,
 - c. Socio-economic status,
 - d. Institutional / Governmental guidelines.
5. Recognize situations which call for urgent or early treatment at secondary and tertiary centres and make a prompt referral of such patients after giving first aid or emergency treatment.
6. Demonstrate empathy and humane approach towards patients, relatives and attendants.
7. Develop a proper attitude towards patients, colleagues and other staff.
8. Demonstrate interpersonal and communication skills befitting a surgeon in order to discuss the illness and its outcome with patient and family.
9. Establish rapport and talk to patients, relatives and community regarding all aspects of medical care and disease.
10. Write a complete case record with all necessary details.
11. Write a proper discharge summary with all relevant information.
12. Write a proper referral note to secondary or tertiary centres or to other surgeons with all necessary details.
13. Assess the need for and issue proper medical certificate to patients for various purposes.
14. Maintain an ethical behavior in all aspects of medical practice.

15. Appreciate patient's right to privacy.
16. Obtain informed consent for any examination / procedure.
17. Be able to do surface marking of common superficial arteries, veins, nerves and viscera.
18. Assess and manage fluid / electrolyte and acid base imbalance.
19. Adopt universal precautions for self protection against HIV and hepatitis and counsel patients.
20. Start i.v. line and infusion in adults, children and neonates.
21. Do venous cutdown.
22. Give intradermal / S.C. / I.M. / I.V. injection.
23. Insert and manage a C.V.P. line.
24. Conduct C.P.R. (Cardiopulmonary resuscitation) and first aid in newborns, children and adults including endotracheal intubation.
25. Pass a nasogastric tube.
26. Pass a stomach tube and do stomach wash.
27. Perform vasectomy.
28. Perform circumcision.
29. Perform reduction of paraphimosis.
30. Do Proctoscopy.
31. Do injection and banding of piles.
32. Incise and drain superficial abscesses; Do dressings.
33. Manage superficial wounds and do suturing of superficial wounds & wound toilet.
34. Remove small cutaneous / subcutaneous swellings.
35. Control external haemorrhage.
36. Catheterize bladder in both males and females.
37. Perform nerve blocks like infiltration, digital, pudendal, paracervical and field block.
38. Relieve tension pneumothorax by inserting a needle.
39. Insert a flatus tube.
40. Provide first aid to patients with peripheral vascular failure and shock.
41. Assess degree of burns and administer emergency management.

Text Book of choice. Bailey and Love (26th edition at present). The student must know what is, desirable know, nice to know in the ratio of 60:30:10 as per the Bailey and Love's latest textbook and this is included here along with Basic skills to be learned.

LOG BOOK