Jinnah Medical & Dental College

Study Guide

SURGERY

MBBS
2021-22

There are no incurable diseases –

Only the lack of will.

There are no worthless herbs-

Only the lack of knowledge

Team Members of Surgery
2021

Name	Committee	Department
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Introduction

Assalam – o – alaikum and a very warm welcome to medical students in the surgery**.** This study guide of surgery has been developed to impart integrated teaching as a part of modular curriculum in Jinnah Medical and Dental College, Karachi. It will be covered in 3 years. This study guide will be focusing on core subject of surgery for undergraduate students of MBBS program.

The students will be provided with the information regarding common conditions and diseases in relation with the underlying diagnosis and therapy, with the emphasis on the science underlying imaging of gastrointestinal tract, urology, orthopedics and neurosurgery. The students will acquire understanding of the principles of management as applied to the gastrointestinal tract and liver, orthopedics, urology and neurosurgery.

Rationale

Multiple teaching modalities will be employed to solidify and integrate knowledge of basic sciences with clinical problem solving, and further hone the decision-making skills of students.

General Learning Objectives

By the end of the Surgery rotation, students will be able to:

- Describe the basic principles of Surgery in relation to diagnosis and management
- Discuss the anatomy of gastrointestinal tract & liver, bones and joints, urinary tract system
- Demonstrate knowledge of the structural, functional, and congenital abnormalities, inflammatory pathology and neoplastic diseases of GIT & liver, urogenital system and vascular system
- Recognize the modalities available and their indications to image the GIT, UGS, NS and Trauma victims
- List differential diagnosis for GIT disorders
- List differential diagnosis for urogenital system
- Formulate a management plan
- Demonstrate knowledge of the various mechanism of trauma, diagnostic modalities and management protocols
- Discuss the developmental and acquired causes of different external and internal hernias and their management

JMDC CURRICULUM FRAMEWORK: MBBS 1-5 YEARS

Year 1	**Module 1**	**EOM**	**Module 2**	**EOM**	**Module 3**	**EOM**	**Module 4**	**EOM**	**Module 5**	**EOM**	**Module 6**	**EOM* End of Exam**						
	Foundation-1 8 weeks		Blood-1 4 weeks		Locomotor-1 8 weeks		Respiratory-1 4 weeks		CVS-1 4 weeks		GIT-1 4 weeks							
2	**Module 7**	**EOM**	**Module 8**	**EOM**	**Module 9**	**EOM**	**Module 10**	**EOM**	**Module 11**	**EOM**	**Module 12**	**EOM**						
	Head & Neck-1 **5** weeks		Neurosciences-1 **7** weeks		Special Senses **3** weeks		Endocrine-1 **5** weeks		Reproductive-1 **4**weeks		Urinary-1 **5**weeks							
3	**Module 13**	**EOM**	**Module14**	**EOM**	**Module15**	**EOM**	**Module16**	**EOM**	**Module17**	**EOM**	**Module 18**	**EOM**						
	Foundation 2 10 weeks		Blood-2 5weeks		Locomotor-2 4 weeks		Respiratory-2 4 weeks		CVS-2 5 weeks		GIT-2 7weeks							
	Clinical Rotations (Each Batch)										**WT** = Ward test**							
R1	**Medicine 2 weeks**	**WT**	**Psychiatry 2weeks**	**WT**	**Surgery 2 weeks**	**WT**	**Orthopedics 2 weeks**		**OBS/ GYN 2 weeks**		**Pediatrics 2 weeks**		**Eye 2 weeks**	**WT**	**Ent 3 weeks**	**WT**		
R2	**Medicine 2 weeks**		**Psychiatry 2weeks**		**Surgery 2 weeks**		**Orthopedics 2weeks**		**OBS/ GYN 2 weeks**		**Pediatrics 2 weeks**		**Eye 2 weeks**		**Ent 3 weeks**			
4	**Module 19**	**EOM**	**Module 20**	**EOM**	**Module 21**	**EOM**	**Module 22**	**EOM**	**Module 23**	**EOM**	**Module 24**	**EOM**	**Lectures ENT/ EYE**					
	Orthopedics 7 weeks		**Reproductive-2 7 weeks**		**Neuroscience-2 9 weeks**		**Genetics 1 week**		**Dermatology 2 weeks**		**Rehabilitation 2 weeks**							
	Clinical Rotations (Each Batch)																	
R1	**Medicine 3 weeks**	**WT**	**Psychiatry 3 weeks**	**WT**	**Surgery 3 weeks**	**WT**	**Orthopedics 3 weeks**	**WT**	**OBS/ GYN 3 weeks**	**WT**	**Pediatrics 3 weeks**	**WT**	**Eye 3 weeks**	**WT**	**Ent 3 weeks**	**WT**		
R2	**Medicine 3weeks**	**WT**	**Surgery 3weeks**		**WT**	**Eye 3weeks**		**WT**	**Ent 3weeks**		**WT**							
	LECTURES																	
5	**Medicine**		**Surgery**		**OBS/Gynae**		**Pediatrics**											
	Clinical Rotations																	
R1	**Medicine 4 weeks**		**Surgery 4 weeks**		**OBS/ GYN 4 weeks**		**Pediatrics 4 weeks**											
R2	**Medicine 5 weeks**		**Surgery 5 weeks**		**OBS/ GYN 5 weeks**		**Pediatrics 5 weeks**											

MAIN CONTENT AREAS

Basic Principles

1. Metabolic response to surgery
2. Shock and blood transfusions
3. Wounds healing & tissue repair
4. Tissue engineering & regeneration
5. Surgical infection
6. Tropical infections & infestations
7. Basic surgical skill & anastomoses
8. Principals of Laparoscopic & Robotic surgery
9. Principle of Pediatrics Surgery
10. Principles of oncology
11. Surgical audit & research
12. Surgical ethics & Law
13. Human factors, Patient safety & Quality improvement
14. Diagnostic imaging
15. Tissue & Molecular diagnosis
16. Preoperative care including High risk surgical patients
17. Anesthesia & pain relief
18. Nutrition & fluid therapy
19. Post-operative care
20. Day care surgery
21. Trauma
22. Early assessment & management of severe trauma
23. Traumatic brain injury
24. Neck & spine
25. Torso Trauma
26. Skin & Subcutaneous tissue
27. Burns
28. Plastic & reconstructive surgery
29. The Thyroid gland
30. The parathyroid gland
31. The adrenal glands & other abdominal endocrine disorders
32. Breast
33. Arterial disorders
34. Venous disorders
35. Lymphatic disorders

GIT& HEPATOBILIARY TRACT

1. Abdominal wall, Hernia & Umbilicus

2. The Peritoneum, Omentum, Mesentery & Retroperitoneal Space
3. The Esophagus
4. Stomach & Duodenum
5. Bariatric & Metabolic surgery
6. The Liver
7. The Spleen
8. The Gall bladder & Bile ducts
9. The Pancreas
10. The Small intestine
11. The large intestine
12. Intestinal Obstruction
13. The rectum
14. Anus & Anal Canal

UROLOGY

1. Urinary symptoms & Investigations
2. Kidneys & Ureter
3. The Urinary Bladder
4. Prostate & Seminal Vesicle
5. The urethra
6. Testis & Scrotum
7. Foleys catheterization

ORTHOPEDICS

1. Fracture
2. Musculoskeletal diseases
3. Trauma
4. Back pain
5. Bone Tumors

NEUROSURGERY

1. Introduction of Neuro critical care
2. Congenital disorders of CNS: Neural tube defect
3. Hydrocephalus & its management
4. Traumatic spinal cord injury
5. Raised intracranial pressure (ICP)
6. Brain tumors
7. Spinal tumors

Competencies assessed in this module

K=Knowledge

S=Skill

A=Attitude

Teaching / Learning Methods

The teaching learning sessions of the final year will be of diverse types:

a. Large group interactive sessions (LGIS)
b. Small group teaching will include tutorials, case – based learning session. (SGD)
c. Problem – based learning sessions. (PBL)
d. Case based discussions (CBD)
e. Practical session,
f. Clinical Rotations,
g. Bedside Teaching
h. Clinical rotations at STH and MCJH,
i. Skill laboratories,
j. Seminars: on different topics, in which students will make oral presentations on different aspects of the allocated topic.
k. Self-directed learning sessions: This is the time during which students are expected to revise what they have learnt in the class, clear their concepts by consulting different textbooks, reference material and prepare their assignments and projects.

Students Assessment

There is continuous assessment of students throughout the year in the form of **Mini CEX** (Mini Clinical Evaluation Exercise) and **DOPS** (Direct Observation of Procedural Skill).

4 to 6 sessions for each of the student take place.

In addition, there will be **End of ward** examination after completion of clinical rotation in surgery ward which will comprise the following components: -

i. Written Assessment

The theory paper will have components of one – best type multiple – choice questions (MCQs).

ii. OSCE examination:

This will comprise Objective Structured Practical Examination (OSCE) The OSCE will have both observed and non-observed stations. The end of rotation written exam will be of 2 hours duration. This will comprise the following components:

The OSCE will be conducted in batches. The students will be having different patterns of OSCE in the subject's surgery

Summary of marks of each module exam

Theory (BCQs) = 100 marks

OSCE (10 stations) = 100 marks

Total = 200marks

Internal Assessment:

• Continuous monitoring of attendance and practical assessment in short groups.

• It may be in the form of MCQs and OSCE.

• Internal assessment carries 20% weightage

Course Evaluation:

Course evaluation will be obtained through a feedback form which will be posted on the

JMC website

Mandatory Policy:

Eligibility for sitting in Professional Examinations is as follows:

- 75% overall Class Attendance
- 75% Attendance all Clinical Wards with passing marks in all Clinical Ward Tests.
- Minimum 40% aggregate marks on all Internal Examinations (Module Tests, Midterm, Pre-Professional Examinations)
- MBBS 4th& Final Year: CPC Presentation at least once in a year
- Skills Labs: Must be completed with passing marks

Failure to Meet the Eligibility Requirements:

- A Student failing to meet the above listed eligibility for sitting in the professional examination will NOT be allowed to sit in 1st attempt of the Professional Examination.
  The college has the right to withhold all students who however, not met the eligibility requirements from sitting in the 1st attempt.
- Such students who have been withheld from sitting in the 1st attempt of the Professional exam because of failure to meet the eligibility requirements will be allowed only to sit in the retake of that examination.
  It is expected that deficiency in requirements of Professional communication assignments, Behavioral Sciences & Research Module assessments, journal Club presentations, CPC,

Skills Labs must be made up and fulfilled before a student will allowed to sit in the retake exam.

Details of ATTENDANCE POLICY

The CR is responsible to bring attendance sheets from Student Affairs Office to each class. At the end of class, the attendance sheet must be signed and returned by the faculty member to the Student Affairs Office. No attendance sheets from students will be accepted.

These attendances will be compiled together as follows:

LECTURE ATTENDANCE = # Lectures Attended / Total # of Lectures
PRACTICAL ATTENDANCE = # Practical's Attended / Total # of practical
TUTORIAL ATTENDANCE = # Tutorials Attended / Total # of Tutorials

NOTE: All tutorials will be conducted by a Senior Faculty Member (AP or above), assisted by a Junior Faculty Member (Lecturer)

FINAL CLASS ATTENDANCE =

$$\frac{\%\text{Lecture Attendance} + \%\text{Tutorial Attendance} + \%\text{Practical Attendance}}{3}$$

Recommended Reading Material

Surgery

REFERENCE BOOKS:

- Clinical Examination of Surgery by Norman Browse
- Short Practice of Surgery by Baily's and Love
- Washington manual of Surgery
- Surgery on call

Organization

Time requirements: Clinical Medical Sciences

• General surgery	600
• GIT & Hepatobiliary	
• Urology	
• Vascular Surgery	
• Hernias	150
• Traumas	
• Burns	
• Neurosurgery	50
• Critical care	75
• Orthopedics	100

Total = 975 hours

Surgery

Lectures

&

Clinical Rotations

Basic Principles

Sr. No.	LEARNING OBJECTIVES At the end of the clinical rotation the students will be able to:	CONTENT AREA	LEARNING ACTIVITY (Duration)	ASSESSMENT
		METABOLIC RESPONSE TO SURGERY.		
1.	Explain: • classical concepts of homeostasis. • mediators of the metabolic response to injury. • physiological and biochemical changes that occur during injury and recovery. • changes in body composition that accompany surgical injury. • avoidable factors that compound the metabolic response to injury. • concepts behind optimal perioperative care. **(K)**	• Basic concepts in homeostasis. • Changes in body composition following injury. • Avoidable factors that compound the response to injury.	LGIS 50 mins	BCQs
2		SHOCK AND BLOOD TRANSFUSION		
	Describe: • the pathophysiology of shock and ischemia reperfusion injury. • the different patterns of shock and principles and priorities of resuscitation. • appropriate monitoring and end points of resuscitation. • use of blood and blood products, the benefits and risks of blood transfusion. **(K) (S) (A)**	• Shock • Classification of shock • Resuscitation • Hemorrhage • Transfusion	LGIS 50 mins + Demonstrations 30 mins	BCQs + OSCE

3		WOUNDS, HEALING AND TISSUE REPAIR		
	Discuss: • normal healing and how it can be adversely affected • how to manage wounds of different types, of different structures and at different sites • aspects of disordered healing that lead to chronic wounds • the variety of scars and their treatment • how to differentiate between acute and chronic wounds **(K) (S) (A)**	• Normal Wound Healing • Normal healing in specific Tissues • Abnormal Healing • Types of Wounds – Tidy Versus Untidy • Managing the Acute Wound • Some Specific Wounds • Chronic Wounds • Necrotizing Soft-Tissue Infections • Scars • Avoidable Scarring	LGIS 50 mins + Demonstrations 30 mins	BCQs + OSCE
4		TISSUE ENGINEERING AND REGENERATION		
	Narrate: • the potential opportunities afforded by tissue engineering and regenerative medicine • the nature of stem cells, including somatic and adult stem cells, embryonic stem cells, fetal stem cells and induced pluripotent stem cells • the role and range of scaffolds for tissue engineering • the different approaches for seeding scaffolds and bioreactor technology • the main safety issues and current limitations to clinical application **(K) (S) (A)**	• Opportunities • The key areas of underpinning science • Source of cells for tissue engineering • Scaffolds for tissue engineering	LGIS 50 mins + Demonstrations 30 mins	BCQs
5		SURGICAL INFECTION		
6		TROPICAL INFECTION AND INFESTATIONS		

	list: • the common surgical infections and infestations that occur in the tropics Report: • that many patients do not seek medical help until late in the course of the disease because of socioeconomic reasons Describe: • the emergency presentations of the various conditions, as patients may not seek treatment until they are very ill Diagnose and treat • these conditions, particularly as emergencies for those Patients with such an infection who are recently returned from the tropics Report: that the ideal management involves a multidisciplinary approach between the surgeon, physician, radiologist, pathologist and microbiologist. In case of doubt, in a difficult situation, there should be no hesitation in seeking help from a specialist center. **(K) (S) (A)**	• Amoebiasis • Roundworm (Ascaris Lumbricoides) • Filariasis • Hydatid Disease • Leprosy • Mycetoma • Poliomyelitis • Tropical Chronic Pancreatitis • Tuberculosis • Typhoid	LGIS 50 mins + Demonstrations 30 mins	BCQs + OSCE
7		BASIC SURGICAL SKILLS AND ANASTOMOSES		
8		PRINCIPLES OF LAPAROSCOPIC AND ROBOTIC SURGERY		
	Illustrate:	• Extent of Minimal Access Surgery • Surgical Trauma in Open, Minimally		

	• the principles of laparoscopic and robotic surgery • the advantages and disadvantages of such surgery • the safety issues and indications for laparoscopic and robotic surgery • the principles of postoperative care **(K)**	Invasive and Robotic Surgery • Limitations of Minimal Access Surgery • Robotic Surgery • Preoperative Evaluation • Theatre Set Up and Tools • General Intraoperative Principles • Postoperative Care • Discharge Form Hospital • The Principles of Common Laparoscopic Procedures • The Future	LGIS 50 mins	BCQs
9		PRINCIPLES OF PAEDIATRIC SURGERY		
10		PRINCIPLES OF ONCOLOGY		
	Relate: • the biological nature of cancer • that treatment is only one component in the overall management of cancer • the principles of cancer prevention and early detection • the principles underlying non-surgical treatments for cancer Portray: • the principles of cancer etiology and the major known causative factors • the likely shape of future developments in cancer management • the multidisciplinary management of cancer	• What is Cancer? • The Causes of Cancer • The Management of Cancer • Screening • Diagnosis and Classification • Principles of Cancer Surgery • Principles Underlying the Non-Surgical Treatment of Cancer • Radiotherapy • Chemotherapy and Biological Therapies	LGIS 50 mins	BCQs

	• the distinction between palliative care and end-of-life care • the principles of palliative care **(K)**			
11		SURGICAL AUDIT AND RESEARCH		
	Mark out: • the planning and conduct of audit and research • how to write up a project • how to review a journal article and determine its value **(K)**	• Audit and Service Evaluation • Identifying A Research Topic • Statistical Analysis • Evidence-Based Surgery	LGIS 50 mins	BCQs
12		SURGICAL ETHICS AND LAW		
	Express: • the importance of autonomy in good surgical practice • the moral and legal boundaries and practical difficulties of informed consent • good practice in making decisions about the withdrawal of life-sustaining treatment • the importance and boundaries of confidentiality in surgical practice • the importance of appropriate regulation in surgical research • the importance of rigorous training and maintenance of good practice standards **(K)**	• Introduction • Respect for Autonomy • Informed Consent • Practical Application • Matters of Life and Death • Transplantation • Maintaining Standards of Excellence	LGIS 50 mins	BCQs
13		HUMAN FACTORS, PATIENT SAFETY AND		

		QUALITY IMPROVEMENT		
14.		DIAGNOSTIC IMAGING		
	Discuss**:** • the advantages of good working relationships and close collaboration with the imaging department in planning appropriate investigations • the basic principles of radiation protection and know the law in relation to the use of ionizing radiation; • the principles of different imaging techniques and their advantages and disadvantages in different clinical scenarios • the role of imaging in directing treatment in various surgical scenarios. **(K) (S) (A)**	• Introduction • How to request imaging • Interpreting images • Hazards of Imaging • Hazards of Ionizing radiation **Diagnostic Imaging** • Basic principles of imaging methods o Conventional radiology o Ultrasound o Computed tomography o Magnetic resonance imaging o Nuclear medicine **Imaging in Abdominal Surgery** • Imaging in common surgical scenarios **Imaging in Oncology** • Imaging in Oncology o Tumor o Nodes o Metastases	LGIS 50 mins	BCQs + OSCE
15.		TISSUE AND MOLECULAR DIAGNOSIS		
	List: • the value and limitations of tissue diagnosis • how tissue samples are processed • the role of histology and cytology	• Introduction • Tissue specimens • Histology • Cytology • Fresh tissue • Frozen section specimen • Cytology specimen	LGIS 50 mins + SGD 1 hour	BCQs

	Explicate: • the role of additional techniques used inclinical practice, including special stains, immunohistochemistry and molecular pathology • the principles of microscopic diagnosis, including the features of neoplasia • the importance of clinic-pathological correlation • management issues **(K)**	**Principles of Microscopic Diagnosis** • Diagnosis of malignancy • **Assessment** • Light microscopy • Histological assessment • Cytological assessment • Screening • Specimen adequacy		
16.		PREOPERATIVE CARE INCLUDING THE HIGH-RISK SURGICAL PATIENT		
	Illustrate: • The organization of the preoperative care and the operating list to understand preoperative preparation for surgery: • surgical, medical and anesthetic aspects of assessment • how to optimize the patient's condition • how to identify and optimize the patient at higher risk • the importance of critical care in management • how to take consent • how to organize an operating list **(K) (S) (A)**	• Introduction • Patient assessment • History taking • Examination • Examination specific to surgery • Investigations **Specific Preoperative Problems and management** • Cardiovascular disease • Hypertension, ischemic heart disease (HID) and coronary stents • Dysrhythmias • Implanted pacemakers and cardiac defibrillators • Valvular heart disease • Anemia and blood transfusion • Respiratory disease • Gastrointestinal disease • Genitourinary disease	LGIS 50 mins + SGD 1 hour + Bedside Teaching 1 hour	BCQs + OSCE

		• Endocrine and metabolic disorders • Coagulation disorders • Neurological and psychiatric disorders • Musculoskeletal disorders • Airway assessment • Preoperative assessment in emergency surgery **Assessment of the High-Risk Patient** • **Factors contributing to risk** • Management of risk • Identification of the high-risk patient • Optimization of the high-risk patient • Minimizing the impact of surgery in the high-risk patient **Consent** **Arranging Theatre list**	LGIS 50 mins + SGD 1 hour	BCQs + OSCE
17.		ANESTHESIA AND PAIN RELIEF		
	Specify: • techniques of anesthesia and airway maintenance • methods of providing pain relief • local and regional anesthesia techniques • the management of chronic pain and pain from malignant disease	• Key principles of Anesthesia • Preparation for Anesthesia • General Anesthesia • Regional Anesthesia • Chronic pain management	LGIS 50 mins	BCQs

	(K)			
18.		NUTRITION AND FLUID THERAPY		
	Portray: • the causes and consequences of malnutrition in thesurgical patient • fluid and electrolyte requirements in the pre- and postoperative patient • the nutritional requirements of surgical patients and the nutritional consequences of intestinal resection • the different methods of providing nutritional support and their complications **(K) (S) (A)**	**Nutritional Assessment** • Laboratory techniques • Body weight and anthropometry • Fluid and Electrolytes **Nutritional Requirements** **Fluid and Nutritional Consequences of Intestinal Resection** **Artificial Nutritional Support** **Parenteral Nutrition**	LGIS 50 mins + CBD 60 mins	BCQs + OSCE
19.		POST-OPERATIVE CARE		
	Detail**:** • what is required to deliver immediate postoperative care • what are the common postoperative problems seen inthe immediate postoperative period? • how to predict and prevent common postoperative complications. • how to recognize and treat common postoperative complications • the principles of enhanced recovery • a system for discharging patients **(K) (S) (A)**	• Immediate postoperative care • Postoperative observations **System-Specific Postoperative Complications** • Respiratory system • Cardiovascular system • Renal and Urinary system • Central nervous system **General Postoperative Complications** • Bleeding • Deep vein thrombosis • Pulmonary embolus	LGIS 50 mins + SGD 1 hour LGIS 50 mins + SGD 1 hour	BCQs + OSCE BCQs + OSCE

		• Fever • Wound dehiscence **Surgery-Specific Complications** **General Postoperative Problems and Management**		
20.		DAY CARE SURGERY		
	Relate: • the concept of the day surgery pathway • the importance of patient selection and preoperative assessment • basic principles of anesthesia for day surgery • the spectrum of surgical procedures suitable for day surgery • postoperative management and discharge arrangements **(K)**	• Day Surgery **Models of Care** • Office-based care **Selection Criteria** • Medical Criteria • Surgical Criteria **Preoperative Assessment** **Perioperative Management** **Elective Day Surgery** **Emergency Day Surgery**	LGIS 50 mins	BCQs
21.		TRAUMA		
	Express • the timeline concept in trauma management • how to assess a trauma problem • how to respond to a trauma problem • how to select early total care and damage control surgical strategies **(K) (S) (A)**	• Definition of Trauma • The magnitude of the problem • The management of Trauma • The significance of time in the outcome **Assessment and Response**	LGIS 50 mins + Demonstrations 30 mins	BCQs + OSCE

		• The assessment of trauma **The Response of Trauma** **Local Protocols and Guidelines**		
22.		EARLY ASSESSMENT AND MANAGEMENT OF SEVERE TRAUMA		
	Relate: • to identify and assess the severely injured patient • early treatment goals for multiply injured patients • understand the role of permissive hypotension, tranexamic acid and massive transfusion protocols • understand the principles of damage control surgery (DCS) versus early total care (ETC). **(K) (S) (A)**	• Role of the trauma team • Primary survey • Secondary survey	LGIS 50 mins + Demonstrations 30 mins	BCQs + OSCE
23.		TRAUMATIC BRAIN INJURY		
	Explain: • the physiology of cerebral blood flow and the pathophysiology of raised intracranial pressure • the classification and assessment of head injury • management and sequelae of minor and mild traumatic brain injury • medical and surgical management of moderate and severe traumatic brain injury **(K) (S) (A)**		LGIS 50 mins + Demonstration 30 mins	BCQs + OSCE
24.		NECK AND SPINE		

	Depict: • the accurate assessment of spinal trauma • the basic management of spinal trauma and the major pitfalls • the pathophysiology and types of spinal cord injury • the prognosis of spinal cord injury, factors affecting functional outcome and common associated complications **(K)**	• Anatomy of the Spine and Spinal cord • Patient assessment • Pertinent history • Physical examination • Classification and management of spinal and spinal cord injuries • Patho-physiology of spinal cord injury • Rehabilitation and patient outcome •	LGIS 50 mins	BCQs
25.		TORSO TRAUMA		
	Explicate**:** • that the management of trauma is based on physiology as well as anatomy (as in general surgery) • the gross and surgical anatomy of the chest andabdomen • the pathophysiology of torso injury • the strength and weaknesses of clinical assessment in the injured patient • the use of special investigations and their limitations • the operative approaches to the thoracic cavity • the special features of an emergency room thoracotomy for hemorrhage control • the indications for and techniques of the trauma laparotomy • the philosophy of damage control surgery • the management of trauma to the pelvis. **(K) (S) (A)**	• Thoracic injury • Emergency Thoracic Surgery • Abdominal injury • The Pelvis • Damage control	LGIS 50 mins + SGD 1 hour	BCQs + OSCE

26.		SKIN AND SUBCUTANEOUS TISSUE		
	Explain**:** • the structure and functional properties of skin • the classification of vascular skin lesions • the cutaneous manifestations of generalized disease as related to surgery • the classification of benign skin tumors • the management of malignant skin tumors **(K) (S) (A)**	• Functional Anatomy and physiology of skin • Congenital/genetic disorders • Cutaneous manifestations of generalized disease • Infections • Skin and soft tissue cysts **Skin Tumors** • Benign lesions • Premalignant lesions • Malignant lesions • Vascular lesions	LGIS 50 mins + SGD 1 hour	BCQs + OSCE
27.		BURNS		
	Assess • the area and depth of burns Narrate • methods of calculating the rate and quantity of fluids to be given • techniques for treating burns and the patient • the pathophysiology of electrical and chemical burns **(K) (S) (A)**	• The pathophysiology of burn injury • Injury to the airway and lungs **Immediate care of the burn patient** • Pre-hospital care • Hospital care • Assessment of the burn wound • Fluid resuscitation • Treating the burn wound • Additional aspects of treating the burned patient • Surgery for the acute burn wound • Minor burns / Outpatient burns • Non-Thermal burn injury	LGIS 50 mins + Demonstrations 30 mins	BCQs + OSCE

28.		PLASTIC AND RECONSTRUCTIVE SURGERY		
	Classify**:** • spectrum of plastic surgical techniques used torestore bodily form and function • relevant anatomy and physiology of tissues used in reconstruction • various skin grafts and how to use themappropriately • principles and use of flap • plastic surgery to manage difficult and complex tissue loss. **(K)**	**Classification** • The reconstructive toolbox • Grafts • Flaps • Skin substitutes • Tissue expansion **Treatment and complications** • Split-thickness skin grafts • Flaps **Future Trends** • Vascularized composite allografting (VCA)	LGIS 50 mins	BCQs
29.		THE THYROID GLAND		
	Explain: • the development and anatomy of the thyroid gland • the physiology and investigation of thyroid function • to select appropriate investigations for thyroid swellings	• Surgical Anatomy • Physiology • Thyroid imaging • Fine-needle aspiration cytology • Thyroid enlargement • Simple goiter	LGIS 50 mins + SGD 1 hour + Bedside Teaching	BCQs + OSCE + DOPs

	• when to operate on a thyroid swelling • thyroidectomy • risks and complications of thyroid surgery **(K) (S) (A)**	**HYPERTHYROIDISM** • Thyrotoxicosis • Surgery for Thyrotoxicosis • Neoplasms of the Thyroid • Benign tumors • Malignant tumors • Surgical treatment for differentiated thyroid cancer **THYROIDITIS** • Chronic lymphocytic (autoimmune thyroiditis)	1 hour	
30.		THE PARATHYROID GLANDS		
	Mark out: • the anatomy of the parathyroid glands • the physiology of calcium regulation • the underlying causes of hypercalcemia and appropriate emergency management • the etiology, presentation, investigation and management of primary hyperparathyroidism and associated special cases • the etiology, presentation, investigation and management of secondary and territory hyperparathyroidism • the etiology and management of parathyroid carcinoma. **(K) (S) (A)**	• Anatomy of the parathyroid glands • Primary hyperparathyroidism • Management strategies **SPECIAL CASES** • Lithium-induced hyperparathyroidism • Familial syndromes • MEN 1-associated hyperparathyroidism • MEN 2-associated hyperparathyroidism **Secondary Hyperparathyroidism** • Diagnosis • Management **Tertiary Hyperparathyroidism**	LGIS 50 mins + SGD 1 hour	BCQs + OSCE

		Parathyroid Carcinoma **Persistent Hyperparathyroidism** **Recurrent Hyperparathyroidism**		
31.		THE ADRENAL GLANDS AND OTHER ABDOMINAL ENDOCRINE DISORDERS		
	Detail**:** • the anatomy and function of the adrenal and other abdominal endocrine glands • the diagnosis and management of these endocrine disorders • the role of surgery in the management of these endocrine disorders **(K) (S) (A)**	**Adrenal Glands** • Anatomy • Function of the adrenal glands • Disorders of the adrenal cortex • Primary hyperaldosteronism Conn's syndrome • Cushing syndrome • Adrenocortical carcinoma • Congenital adrenal hyperplasia (adrenogenital syndrome) • Adrenal insufficiency • Disorders of the adrenal medulla and neural crest-derived tissue • Malignant pheochromocytoma • Surgery of the adrenal glands **Pancreatic Endocrine Tumors** • Function of the endocrine pancreas • Insulinoma	LGIS 50 mins + SGD 1 hour	BCQs + OSCE

		Gastronome (Zollinger-Ellison syndrome) **Non-functional endocrine pancreatic tumors** **Neuroendocrine Tumors of the stomach and small bowel** • Definition and physiology • Pathology • Neuroendocrine tumors of the stomach • Neuroendocrine tumors of the small bowel **Multiple Endocrine Neoplasia's** • Multiple endocrine neoplasia type 1		
32.		BREAST		
	Specify**:** • appropriate investigation of breast disease • breast anomalies and the complexity of benign breast disease • the modern management of breast cancer **(K) (S) (A)**	• Comparative and surgical anatomy • Investigation of breast symptoms • The Nipple **Benign Breast Disease** • Congenital abnormalities • Acute and sub-acute inflammations of the breast • Aberrations of normal development and involution **Breast Cyst** • Fibroadenoma • Phyllodes tumor • When the diagnosis of carcinoma is in doubt	LGIS 50 mins + SGD 1 hour + Bedside Teaching 1 hour	BCQs + OSCE + DOPs

		• Risk of malignancy developing in association with benign breast pathology • Carcinoma of the Breast • Paget's disease of the nipple • Staging of breast cancer • Prognosis of breast cancer • Treatment of cancer of the breast • Phenomena resulting from lymphatic obstruction in advanced breast cancer • Breast reconstruction • Familial breast cancer		
33.		ARTERIAL DISORDERS		
	Outline**:** • the nature and associated features of the occlusive peripheral arterial disease • the investigation and treatment options of occlusive peripheral arterial disease • the principles of management of the severely ischemic limb • the nature and presentation of peripheral aneurysmal disease, particularly of the abdominal aorta • the investigation and treatment options for peripheral aneurysmal disease • the arteritis and vasospastic disorder **(K) (S) (A)**	• Arterial stenosis and occlusion • Investigation of arterial occlusive disease • Operations for arterial stenosis or occlusion • Gangrene • Acute arterial occlusion • Acute limb ischemia • Amputation • Aneurysm **Arteritis and Vasospastic conditions** • Thromboangitis obliterans (Berger's disease) • Raynaud's disease	LGIS 50 mins + SGD 1 hour	BCQs + OSCE
34.		VENOUS DISORDERS		
	express:			

	• venous anatomy and the physiology of venous return • the path-physiology of venous hypertension • the clinical significance and management of superficial venous reflux • the management of venous ulceration • venous thromboembolism **(K) (S) (A)**	• The anatomy of the venous system of the lower limb • Venous path-physiology • Varicose veins • Venous leg ulcer • Pelvic congestion syndrome • Venous thromboembolism • Congenital venous anomalies • Venous entrapment syndromes • Venous injury • Venous Tumors	LGIS 50 mins + SGD 1 hour	BCQs + OSCE
35.		LYMPHATIC DISORDERS		
	Describe: • the main functions of the lymphatic system • the development of the lymphatic system • various causes of limb swelling • etiology, clinical features, investigations and treatment of lymphoedema. **(K) (S) (A)**	• Anatomy and Physiology of the Lymphatic System • Acute inflammation of the Lymphatics • Lymphoedema • Primary Lymphoedema • Secondary Lymphoedema • Investigation of Lymphoedema • Management of Lymphoedema	LGIS 50 mins + SGD 1 hour	BCQs + OSCE

	GIT & HEPATOBILIARY TRACT			
36.		ABDOMINAL WALL, HERNIA AND UMBILICUS		
	Relate: • basic anatomy of the abdominal wall and its weaknesses • causes of abdominal hernia • types of hernia and classification • clinical history and examination findings in hernia • complications of abdominal hernia • non-surgical and surgical management of hernia including mesh • complications of hernia Surgery • other abdominal wall conditions **(K) (S) (A)**	**The Abdominal Wall** • Basic anatomy and function related to pathology **Abdominal hernia** • Anatomical causes of abdominal wall herniation • Common principles in abdominal hernia • Clinical history and diagnosis in hernia case • Examination of hernia • Investigation for hernia • Management principles • Surgical approaches to hernia **Specific Hernia types** 1-**INGUINAL HERNIA** • Diagnosis of an inguinal hernia • Management of inguinal hernia • Complications of inguinal hernia	LGIS 50 mins SGD 1hour + Bedside Teaching 1 hour LGIS 50 mins + DOPs + CBD	BCQs BCQs + OSCE + Mini-CX + DOPs BCQs + OSCE

		2-SPORTSMAN'S HERNIA	LGIS 50 mins	BCQs
		3-FEMORAL HERNIA • Diagnosis of femoral hernia **4-VENTRAL HERNIA**	LGIS 50 mins SGD 1 hour	BCQs + OSCE
		5-UMBILICAL HERNIA • Umbilical hernia in children • Umbilical hernia in adults	LGIS 50 mins + SGD 1 hour	BCQs + OSCE + Mini CX
		6-**EPIGASTRIC HERNIA** • Clinical features • Treatment • Surgery	LGIS 50 mins + SGD 1 hour + Bedside Teaching	BCQs + OSCE
		7-**INCISIONAL HERNIA** • Incidence and etiology • Clinical features • Treatment • Principles of Surgery	LGIS 50 mins	
		8-**SPIGELIAN HERNIA** **9-LUMBAR HERNIA** **10-PARASTOMAL HERNIA**	LGIS 50 mins	BCQs + OSCE + Mini-CX

		11-TRAUMATIC HERNIA **12-RARE EXTERNAL HERNIAS** **Umbilical conditions in the Adult** • Chronic infection • Chronic fistula **General infection of the abdominal wall** • Synergistic gangrene • Cutaneous fistula • Abdominal compartment syndrome • Neoplasms of the abdominal wall	LGIS 50 mins LGIS 50 mins	BCQs BCQs BCQs
37.		THE PERITONEUM, OMENTUM, MESENTERY AND RETROPERITIONEAL SPACE		
	Explain: • the causes and complications of localized and generalized peritonitis • the clinical features of peritonitis and intraperitoneal abscess • the principles of surgical management in patients with peritonitis and intraperitoneal • the causes and • pathophysiology of ascites • the pathophysiology and complications of adhesion formation • the spectrum of mesenteric and retroperitoneal conditions **(K) (S) (A)**	**Peritonitis** • Microbiology • Localized peritonitis • Diffuse peritonitis • Clinical features • Management **Special forms of Peritonitis** • Bile peritonitis • Spontaneous bacterial peritonitis • Tuberculous peritonitis **Intraperitoneal Abscess**	LGIS 50 mins + SGD 1 hour LGIS 50 mins LGIS	BCQs + OSCE BCQs BCQs

		Ascites • Pathophysiology • Clinical features **Tumors of the peritoneum** • Primary tumors • Secondary tumors **Adhesions** • Pathophysiology **The omentum** **The Mesentery** • Ischemia • Inflammation **Mesenteric Cysts** **The retroperitoneal space** • Retroperitoneal fibrosis	50 mins LGIS 50 mins LGIS 50 mins LGIS 50 mins LGIS 50 mins	+ OSCE BCQs BCQs BCQs + OSCE BCQs + OSCE
38.		THE OESOPHAGUS		
	Depict: • anatomy and physiology of the esophagus and their relationship to disease • the clinical features, investigations and treatment of benign and malignant disease with particular reference to the common adult disease **(K) (S) (A)**	• Symptoms • Dysphagia • Odynophagia • Regurgitation and reflux • Chest pain • Investigations **Perforation**	LGIS 50 mins + SGD 1 hour + Bedside Teaching 1 hour	BCQs + OSCE BCQs

		Barotrauma (spontaneous perforation, boerhaave's syndrome • Penetrating injury • Foreign bodies • Instrumental perforation • Treatment of Esophageal perforation	LGIS 50 mins SGD 1 hour + Bedside Teaching	+ OSCE + Mini-CX
		Mallory-Weiss Syndrome **Corrosive in injury**	LGIS 50 mins	BCQs
		Gastro-Esophageal Reflux disease • Clinical features • Diagnosis	LGIS 50 mins	BCQs
		Barrett's esophagus (columnar lined lower esophagus	LGIS 50 mins + Bedside Teaching	BCQs + OSCE
		Paraoesophageal (Rolling) Hiatus Hernia	LGIS 50 mins	BCQs
		Neoplasms of the Esophagus • Benign tumors • Malignant tumors • Clinical features • Investigation	LGIS 50 mins	BCQs + OSCE
		Treatment of malignant tumors	LGIS	

		• Principles **Treatment of curative intent** **Two Phase Esophagectomy (abdomen and Right Chest, IVOR Lewis)** **Trans hiatal Esophagectomy (without Thoracotomy)** **Neoadjuvant Treatments with Surgery** **Non-surgical treatments** **Motility disorders and Diverticula** • esophageal motility disorders Achalasia • Treatment • Pneumatic Dilatation	50 mins LGIS 50 mins LGIS 50 mins LGIS 50 mins	BCQs BCQs
39.		STOMACH AND DUODENUM		
	Describe: • the gross and microscopic anatomy and pathophysiology of the stomach in relation to disease • the most appropriate techniques to use in the investigation of patients with complaints relating to the stomach and duodenum • the critical importance of gastritis and Helicobacter pylori in upper gastrointestinal disease	• Physiology of the Stomach and duodenum • Gastroduodenal motor activity • Investigation of the Stomach and duodenum • Helicobacter Pylori **GASTRITIS** • Autoimmune gastritis	LGIS 50 mins + SGD 1 hour LGIS 50 mins	BCQs BCQs +

	• how to investigate and treat peptic ulcer disease and its complications • and recognize the presentation of gastric cancer and understand the principals involved in its treatment • about the causes of duodenal obstruction and the presentation of duodenal tumors**(K) (S) (A)**	• H. pylori gastritis • Reflux gastritis • Erosive gastritis • Stress gastritis **PEPTIC ULCER** **DOUDENAL ULCERATION** • Gastric ulcers • Malignancy in gastric ulcers • Clinical features of peptic ulcers • Clinical examination • Surgical treatment of uncomplicated peptic ulceration • The complications of peptic ulceration **Hematemesis and Melaena** • Bleeding peptic ulcers • Stress ulceration **Gastric Outlet Obstruction** **Gastric polyps** **Gastric Cancer** • Incidence • Etiology • Clinical features • Site • Pathology • Staging • Lymphatic drainage of the stomach	+ Bedside Teaching 1 hour LGIS 50 mins + SGD 1 hour LGIS 50 mins + SGD 1 hour LGIS 50 mins + SGD 1hour + Bedside Teaching 1 hour LGIS 50 mins	Mini-CX BCQs + Mini-CX BCQs + OSCE BCQs + OSCE BCQs

		Total Gastrectomy **Gastrointestinal Stromal Tumors** **Gastric Lymphoma** **Duodenal Tumors** • Benign duodenal tumors • Duodenal adenocarcinoma • Zollinger-Ellison syndrome **Duodenal Obstruction**		
40.		BARIATRIC AND METABOLIC SURGERY		
	Depict: • severe and complex obesity is • rationale for surgery and the concept of metabolic surgery • eligibility and NICE guidelines • multidisciplinary assessment • the common operations and how they work • how to assess and treat perioperative complications • follow-up nutritional supplements and biochemical monitoring **(K)**	• Rationale • Eligibility **Principles of setting up a Bariatric/Metabolic Surgery service**	LGIS 50 mins	BCQs
41.		THE LIVER		

	Explain**:** • the anatomy of the liver • the signs of acute and chronic liver disease • the investigation of liver disease • the management of liver trauma • the management of liver infections • the management of colorectal liver metastases • the management of hepatocellular carcinoma **(K) (S) (A)**	**Anatomy of the Liver** • Ligaments and peritoneal reflections • Liver blood supply • Structures in the hilum of the liver • Division of structures at the hilum • Venous drainage of the liver • Segmental anatomy of the liver	LGIS 50 mins	BCQs
		Acute and Chronic Liver Disease • Liver function and tests • Acute liver failure • Chronic liver disease	LGIS 50 mins + SGD 1 hour	BCQs + OSCE
		Imaging the Liver • Ultrasound	LGIS 50 mins	BCQs
		Liver Trauma • General • Diagnosis of liver injury • Initial management of liver injuries 1-Penetrating 2-Blunt trauma • The surgical approach to liver trauma	LGIS 50 mins	BCQs + OSCE
		Portal Hypertension • Management of bleeding varices	LGIS 50 mins + SGD 01 hour	BCQs

		Chronic Liver Conditions • Budd-Chiari syndrome • Primary sclerosing cholangitis • Primary biliary cirrhosis • Carole's disease	LGIS 50 mins	BCQs
		Liver Infections • Ascending cholangitis • Pyogenic liver abscess	LGIS 50 mins + SGD 1 hour + Beside Teaching 1 hour	BCQs + OSCE + DOPs
		Liver Tumors • Surgical approaches to resection of liver tumors	LGIS 50 mins	BCQs
		Benign Liver Tumors • Hemangiomas • Colorectal liver metastases • Hepatocellular carcinoma	LGIS 50 mins	BCQs
42.		THE SPLEEN		
	Detail: • the functions of the spleen • the common pathologies involving the spleen • the principles and potential complications of splenectomy • the potential advantages of laparoscopic splenectomy	**Embryology, Anatomy and Physiology** Functions of the Spleen Investigation of the Spleen Congenital Abnormalities of the Spleen	LGIS 50 mins LGIS 50 mins	BCQs + OSCE

	• the benefits of splenic conservation • the importance of prophylaxis against infection following splenectomy **(K) (S) (A)**	Splenic Artery Aneurysm, Infarct and Rupture Splenomegaly and Hypersplenism Neoplasms Splenectomy • Preoperative preparation • Postoperative complications	LGIS 50 mins SGD 1hour LGIS 50 mins	
43.		THE GALLBLADDER AND BILE DUCTS		
	Depict: • the anatomy and physiology of the gallbladder and bile ducts • to be familiar with the pathophysiology and management of gallstones • to be aware of unusual disorder of the biliary tree • to be aware of malignant disease of the gallbladder and bile ducts **(K) (S) (A)**	**Surgical Anatomy and Physiology** • Functions of the gallbladder **Radiological investigation of the Biliary Tract** **Congenital Abnormalities of the Gallbladder and Bile ducts** **Extrahepatic Biliary Atresia** • etiology and physiology • Clinical features • Differential diagnosis	LGIS 50 mins LGIS 50 mins LGIS 50 mins LGIS Session 50 mins + SGD 1 hour LGIS 50 mins + SGD 1 hour + Bedside	BCQs BCQs + OSCE BCQs + OSCE + Mini-CX

		Congenital Dilatation of the Intrahepatic Ducts (Caroli's disease) • Choledochal cyst • Trauma • Torsion of the Gallbladder • Gallstones (Cholelithiasis) **Empyema of the Gallbladder** **The Cholecystoses (Cholesterics, Polyposis, Adenomyomas and Cholecystitis Glandular poriferans)** **Cholecystectomy** • Laparoscopic cholecystectomy • Open cholecystectomy • Complications of cholecystectomy **Choledochotomy** **Primary Sclerosing Cholangitis** **Parasitic infestation of the Biliary Tract** **Tumors of the Bile Duct** • Benign tumors of the bile duct • Malignant tumors of bile duct	Teaching 1 hour LGIS 50 mins SGD 1 hour LGIS 50 mins LGIS 50 mins	BCQs BCQs BCQs BCQs
44.		THE PANCREAS		

	Narrate: • the anatomy and physiology of the pancreas • investigations of the pancreas • congenital abnormalities of the pancreas • assessment and management of pancreatitis • diagnosis and treatment of pancreatitis cancer **(K) (S) (A)**	**Anatomy and Physiology** **Investigations** • Estimation of pancreatic enzymes in body fluids • Imaging investigations **Congenital Abnormalities** • Cystic fibrosis • Pancreas divisum • Annular pancreas • Ectopic pancreas **Injuries to the Pancreas** • External injury **Pancreatitis** • Acute pancreatitis • Chronic pancreatitis **Carcinoma of the pancreas** • Surgical resection • Pancreatoduodenectomy	LGIS 50 mins LGIS 50 mins LGIS 50 mins LGIS 50 mins + SGD 1 hour LGIS 50 mins + SGD 1 hour + Bedside Teaching 1 hour	BCQs BCQs BCQs BCQs + OSCE BCQs + OSCE
45.		THE SMALL		

		INTESTINE		
	Describe: • basic anatomy and physiology of the small intestine • the range of conditions that may affect the small intestine **(K)**	**Physiology of the small intestine**	LGIS 50 mins	BCQs
	Illustrate: • the etiology and pathology of common small intestinal conditions • the principles of investigation of small intestine symptoms • the importance of non-surgical management of small intestinal problems • the principles of small intestinal surgery • that complex intestinal problems are best managed by a multidisciplinary team • the management of acute surgical problems of the intestines **(K) (S) (A)**	**Inflammatory bowel disease** • Crohn's disease (regional enteritis) • Pathogenesis • Endoscopy • Treatment 1-Medical Treatment 2-Surgery for Crohn's disease	LGIS 50 mins + SGD 1 hour	BCQs + OSCE
		Infective Enteritis • Campylobacteriosis • Tuberculosis of the intestine • Actinomycosis • Human immunodeficiency virus	LGIS 50 mins	BCQs
		Tumors of the small intestine • Benign • Malignant	LGIS 50 mins	BCQs
		Connective Tissue Disorders **Vascular anomalies of the intestine** **Stomas** **Loop ileostomy** **End ileostomy**	LGIS 50 mins	BCQs

		Stoma bags and appliances **Complications of stomas** **Conditions causing Malabsorption** **Enterocutaneous Fistula** **Short Bowel Syndrome**	LGIS 50 mins	BCQs + OSCE
46.		THE LARGE INTESTINE		
	Explain**:** • the basic anatomy and physiology of the large intestine • The range of conditions that may affect the large intestine **(K)** Narrate: • The etiology and pathology of common large intestinal conditions • The principles of investigation of large intestine symptoms • The importance of non-surgical management of large intestinal problems • The principles of colonic surgery • That complex intestinal problems are best managed by a multidisciplinary team • The management of acute surgical problems of the intestines **(K) (S) (A)**	**Anatomy of the large intestine** **Physiology of the large intestine** **Tumors of the large intestine** • Benign • Malignant – Colorectal cancer 1-Epidemiology 2-Aetiology 3-Pathology 4-Spread 5- Staging colon cancer 6-Investigation of colon cancer • Surgical Treatment 1-Preoperative preparation 2-Emergency surgery 3-Postoperative care	LGIS 50 mins LGIS 50 mins + SGD 1 hour + Bedside Teaching 1 hour	BCQs BCQs + OSCE + Mini-CX

		Inflammatory dowel disease • Ulcerative colitis • Cancer risk of colitis • Investigations	LGIS 50 mins	BCQs
		Infections of the large intestine • Intestinal amoebiasis • Salmonellosis, Typhoid and paratyphoid • Human immunodeficiency virus (HIV) • Colonic diverticula • Colonoscopy	LGIS 50 mins	BCQs
		Vascular Anomalies of the Intestine • Angiodysplasia • Ischemic colitis	LGIS 50 mins + SGD 1 hour	BCQs + OSCE
		Colostomies • Loop colostomy • End colostomy • Complications of stomas	LGIS 50 mins + SGD 1 hour	BCQs + OSCE
		Functional Abnormalities • Constipation • Irritable bowel syndrome	LGIS 50 mins	BCQs
47.		INTESTINAL OBSTRUCTION		
	Detail**:** • the pathophysiology of dynamic and a dynamic intestinal obstruction	**Pathophysiology** **Strangulation**	LGIS 50 mins +	BCQs + Mini-CX

	• the cardinal features on history and examination • the causes of small and large bowel obstruction • the indications of surgery and other treatment options in bowel obstruction **(K) (S) (A)**	• Closed loop obstruction **Special types of mechanical intestinal obstruction** • Internal hernia • Obstruction form enteric structure • Bolus obstruction • Obstruction by adhesions and bands 1-Adhesions 2-Laparoscopic technique 3-Acute intussusception 4-Volvulus **Clinical features of Intestinal Obstruction** • Dynamic obstruction • Constipation • Other manifestations • Clinical features of intussusception **Imaging** **Treatment of acute intestinal obstruction** **Treatment of adhesions** **Acute intestinal obstruction of the newborn** **Treatment of acute large bowel obstruction** **Treatment of caecal volvulus**	SGD 1 hour + Bedside Teaching 1 hour LGIS 50 mins LGIS 50 mins + Demonstrations 30 mins LGIS 50 mins + SGD 1 hour LGIS 50 mins LGIS	BCQs BCQs + OSCE BCQs + OSCE BCQs BCQs

		Treatment of sigmoid volvulus **Chronic large bowel obstruction** **A dynamic Obstruction** • Paralytic ileus	50 mins	
48.		THE VERMIFORM APPENDIX		
	Explain: • the etiology and surgical anatomy of acute appendicitis • the clinical signs and differential diagnosis of appendicitis • the investigation of suspected appendicitis • evolving concepts in management of acute appendicitis • basic surgical techniques, both open and laparoscopic • the management of postoperative problems • tumors of the appendix and pseudomyxoma peritonei **(K) (S) (A)**	**Anatomy** **Acute Appendicitis** Etiology Pathology Clinical diagnosis Special features, according to position of the appendix Special features, according to age Differential diagnosis Investigation Treatment Postoperative complications **Recurrent Acute Appendicitis** **Neoplasms of the Appendix and Pseudomyxoma Peritonei** • Carcinoid tumor (synonym: argentaffinoma) • Epithelial tumors of the appendix	LGIS 50 mins + SGD 1 hour + CBD 30 mins LGIS 50 mins	BCQs + OSCE + Mini-CX BCQs

49.		THE RECTUM		
	Explain**:** • the anatomy of the rectum and its relationship to surgical disease and its treatment • the pathology, clinical presentation, investigation, differential diagnosis and treatment of diseases that affect the rectum	• Surgical anatomy • Embryology • Blood supply • Venous drainage	LGIS 50 mins + SGD 1 hour	BCQs
	• that carcinoma of the rectum is common and can present with symptoms similar to benign disease with careful evaluation. the principals involved in the management of rectal pathologies **(K) (S) (A)**	**Clinical features of Rectal disease** • Symptoms • Signs • Injuries • Diagnosis • Treatment	SGD 1 hour + Bedside Teaching + Demonstrations 30 mins	BCQs + OSCE
		Foreign bodies in the Rectum **Prolapse** • Mucosal prolapse 1- In adults **Full-thickness prolapse**	LGIS 50 mins + SGD 1 hour	BCQs
		Rectal Evacuation disorder, Rectal Intussusception and Solitary Rectal Ulcer Syndrome (SRUS) • Proctitis • Rectal Polyps • Polyps relevant to rectum	LGIS 50 mins	
		Benign Rectal Lesions • Endometrioma • Hemangioma • Neuroendocrine tumors **Carcinomas** • Pathogenesis	LGIS 50 mins + SGD 1 hour	BCQs + OSCE

		Types of carcinoma spread **Stages of progression** **Treatment**	+ CBD 1 hour	
50.		THE ANUS AND ANAL CANAL		
	Describe: • the anatomy of the anus and anal canal and their relationship to surgical disease and its treatment • the pathology, clinical presentation, investigation, differential diagnosis and treatment of disease that affect the anus and anal canal • that anal disease is common and its treatment tends to be conservative, although surgery may be required • that any damage to the anus, including too aggressive on inappropriate surgery, may render the patient permanently disabled. **(K) (S) (A)**	**Anatomy and Physiology** • Surgical anatomy • Anal canal anatomy • The epithelium and subepithelial structures • Blood supply • Venous drainage • Lymphatic drainage **Examination of the Anus** • Digital examination with the index finger • Proctoscopy • Sigmoidoscopy **Physiological aspects of the Anal sphincters and Pelvic floor and special investigations** • Congenital abnormalities • Postanal dermoid • Pilonidal sinus **Anal incontinence** • Etiology • Operations to reunite divided sphincter muscles	LGIS 50 mins + SGD 1 hour + Bedside Teaching I hour Demonstrations 30 mins LGIS 50 mins LGIS 50 mins	BCQs + OSCE Mini-CX + DOPS BCQs BCQs

		• Operations to augment the anal sphincters **Anal Fissure** • Definition • Clinical features • Treatment • Lateral anal sphincterotomy **Hemorrhoids** • External hemorrhoids **Pruritus Ani** **Anorectal Abscesses** • Etiology • Presentation • Management **Fistula-in-ANO** • Etiology • Presentation • Classification • Special investigations • Surgical management **Hidradenitis Suppurativa** **Condyloma Acuminate (Anal Warts)** **Anal Intraepithelial Neoplasia** **Non-Malignant strictures – Anal Stenosis** **Malignant Tumors** • Malignant lesions of the anus and anal canal	Bedside Teaching 1 hour Bedside Teaching 1 hour LGIS 50 mins + Bedside Teaching 1 hour LGIS 50 mins + SGD 1 hour	BCQs + Mini-CX BCQs + Mini-CX BCQs + OSCE BCQs + OSCE

	UROLOGY			
51.		URINARY SYMPTOMS AND INVESTIGATION		

	Illustrate**:**
	• the significance of Pain, Lower urinary tract symptoms and Hematuria relating to urinary tract pathology
	• the difference between renal pain and ureteric colic
	• the definitions of common lower urinary tract symptoms
	• hematological and radiological diagnostic tests of urinary tract disease
	(K)
		Symptoms
		• Pain
		• Lower urinary tract symptoms
		• Hematuria
		Renal and ureteric pain
		• Renal colic
		• Ureteric colic
		Lower Urinary tract Symptoms
		• Frequency
		• Urgency + Urge incontinence
		• Nocturia
		• Hesitancy
		• Straining
		• Incomplete void
		• Reduced stream
		• Stress incontinence
		Diagnostic tests
		• Creatinine
		• PSA
		• Urine DR
		• Urine culture and sensitivity
		• Ultra sound
		  • X ray
		  • CT scan
		  • Function scan
			LGIS
			50 mins
				BCQs
				+
				OSCE

52.		KIDNEYS AND URETER		
	Express: • and recognize the pathophysiology, sign & symptoms and management of urinary tract stone formation important renal neoplasms and their presentation, Sign	Urinary tract Stone • Etiology • Definition • Pathophysiology • Clinical features • Investigation • Management	LGIS 50 mins	BCQs + OSCE

	and symptoms, diagnosis, staging and treatment. **(K)**	-Open surgery -Endoscopic -Percutaneous Nephro-lithotomy -Shock wave lithotripsy Renal Neoplasm • Etiology • Staging TNM classification • Grading • Para neoplastic syndrome • Investigation • Treatment -Radical Nephrectomy -Medical Therapies		
53.		THE URINARY BLADDER		
	Mark out: • the different types of bladder cancer, Etiology, sign and symptoms, investigation, staging and the principles of management **(K)**	**Bladder Neoplasm** • Etiology • Staging TNM classification • Grading • Clinical Features • Investigation • Treatment -Non-Muscle invasive -Endoscopic -Medical treatment -Muscle invasive -Open surgery	LGIS 50 mins	BCQs + OSCE
54.		THE PROSTATE AND SEMINAL VESICLES		
	Depict: • the relationship of anatomical structure and biochemical function to the development investigation and treatment of benign and malignant disease of the prostate **(K)**	Benign • Etiology • Clinical features • investigation • Medical management • Surgical management - Open surgery - Endoscopic surgery Malignant	LGIS 50 mins	BCQs + OSCE

		• Etiology • Staging TNM classification • Grading • Clinical Features • Investigation • Treatment -Non metastatic -Surgical treatment -Medical treatment - Metastatic - Medical Management		
55.		THE URETHRA		
	Describe: • the etiology, sign and symptoms, investigation and management of urethral stricture **(K)**	-Definition -Causes -Clinical features -Investigation -Treatment • Endoscopic • Open surgery	LGIS 50 mins	BCQs + OSCE
56.		THE TESTIS AND SCROTUM		
	recognize**:** • and manage testicular torsion • and manage the common scrotal swellings (varicocele, hydrocoele and epididymal cysts) and manage testicular tumors **(K)**	Testicular torsion - Pathophysiology - Clinical features - Investigation - Management -conservative -Surgical Scrotal Swellings - Pathophysiology - Clinical features - Investigations - Surgical Management - Conservative management Testicular Tumor • Etiology • Staging TNM classification • Grading • Clinical Features	LGIS 50 mins	BCQs + OSCE

		• Investigation • Treatment Surgical Medical		
57.		FOLEYS CATHETERIZATION		
	Explain**:** • the anatomy of urethra with relation to catheterization • the indication and contraindication of catheterization • how to identify and arrange equipment for catheterization • to demonstrate safe insertion of Foleys catheter • how to safely remove Foleys catheter **(S) (A)**	**Urethra** • Anatomy • Indication of catheterization • Contraindication of catheterization Equipment • Varying sizes Foleys catheter • Lubricating gel • Distal water • Urine bag • 10 cc syringe • Anatomically safe insertion of a Foleys catheter insertion per urethra	Demonstrations 30 mins	OSCE + DOPS

	ORTHOPEDIC			
58.		FRACTURE		
	• Classify the different types of fractures **(K)(S) (A)** • Describe the specific types of fractures (hip fractures, Collis' fracture, pelvic fractures) • Discuss the general principles of management of fractures. • Describe the therapeutic measures for different fractures, principles of fracture treatment in children and common complications of fractures. Discuss the management of fractures and the principles of fracture fixation. **(K)**	• Classification the different types of fractures • Specific types of fractures (hip fractures, Collis' fracture, pelvic fractures) • General principles of management of fractures. • Therapeutic measures for different fractures, principles of fracture treatment in children and common complications of fractures. • Management of fractures and the principles of fracture fixation.	LGIS 50 min LGIS 50 min SGD 1 hour LGIS 50 min SGD 1 hour	BCQs + OSCE
59.		MUSCULOSKELETAL DISEASE		
	Describe: • the clinical features, laboratory tests, and imaging of the following musculoskeletal diseases: i. Rheumatoid Arthritis ii. Seronegative Spondyloarthropathies iii. Systemic Lupus Erythematous iv. Osteoarthritis and Osteoporosis v. Achondroplasia	• Clinical Features • Laboratory tests and Imaging	LGIS 50 mins + Demonstrations 30 mins	BCQs + OSCE

	vi. Osteogenesis imperfect vii. Osteomyelitis viii. Paget's disease (Osteitis Deforms) ix. Bone tumors x. Duchene muscular dystrophy xi. Myotonic dystrophy Develop a treatment plan for Osteoporosis **(K) (S) (A)**			
60.		TRAUMA		
	• Describe the sequence of evaluation of a trauma patient • Describe the criteria for a triage of a trauma patient • Describe the rapid assessment of a patient with spinal trauma • Describe the etiology, pathophysiology, and the appropriate management of patients with spinal cord injury. • Develop a plan for diagnosis and treatment of patients with torso trauma • Classify criteria of pelvic fractures and associated complications. **(K)**	• Sequence of evaluation of a trauma patient • Criteria for a triage of a trauma patient • Rapid assessment of a patient with spinal trauma • Etiology, pathophysiology, and the appropriate management of patients with spinal cord injury. • Diagnosis and treatment of patients with torso trauma	LGIS 50 min LGIS 50 min LGIS 50 min LGIS 50 min + SGD 1 hour LGIS 50 min	BCQs + OSCE
	• Describe the mechanisms, assessment and management of maxilla-facial injuries **(K)**	Mechanisms, assessment and management of maxilla-facial injuries	SGD 1 hour	

61.		BACK PAIN		
	• Identify the most common conditions causing back pain • Develop a plan for diagnosis and management of non-traumatic neck and back problems **(K)(S)(A)**	• Most common conditions causing back pain • Diagnosis and management of non-traumatic neck and back problems	LGIS 50 min	BCQs + OSCE
62.		BONE TUMORS		
	• Correlate the pathological findings of bone tumors with their clinical presentation • Justify the diagnosis, investigations and treatment plans for primary bone tumors **(K) (S) (A)**	• Pathological findings of bone tumors with their clinical presentation • Diagnosis, investigations and treatment plans for primary bone tumors	LGIS 50 min	BCQs + OSCE

	NEUROSURGERY			
63.		INTRODUCTION OF NEURO CRITICAL CARE		
	• Define Neuro critical care • Classify Neuro critical care • Discuss the investigations related to Neuro critical care **(K)**	• Neuro critical care • Classification of Neuro critical care • Investigations related to Neuro critical care	LGIS 50 min	BCQs
64.		CONGENITAL DISORDERS OF CNS: NEURAL TUBE DEFECTS		
	• Define Neural tube defects • List the causes of Neural tube defects • classify Neural tube defects • list the investigations related to neural tube defect • Discuss the clinical features & complications of neural tube defect Discuss the management plan of neural tube defect **(K)**	• Neural tube defects • Causes of Neural tube defects • Classification of Neural tube defects • Investigations related to neural tube defect • Clinical features & complications of neural tube defect • Management plan of neural tube defect	LGIS 50 min	BCQs
65.		HYDROCEPHALUS & ITS MANAGEMENT		
	• Define Hydrocephalus • List common symptoms and signs of acute hydrocephalus in children. • List common symptoms and signs of normal pressure hydrocephalus in adults. • Define communicating and non-communicating hydrocephalus • Describe the differences in the treatments **(K) (S) (A)**	• Hydrocephalus • Common symptoms and signs of acute hydrocephalus in children. • Common symptoms and signs of normal pressure hydrocephalus in adults. • Definition of communicating and non-communicating hydrocephalus • Differences in the	LGIS 50 mins + Demonstrations 30 mins	BCQs + OSCE

		treatments		
66.		TRAUMATIC SPINAL CORD INJURY		
	Describe the initial assessment of a patient with head injury **(K) (S) (A)**	• Initial assessment of a patient with head injury	LGIS 50mins + Demonstrations 30 mins	BCQs + OSCE
67.		RAISED INTRA CRANIAL PRESSURE (ICP)		
	• Identify the symptoms and signs of raised ICP • Describe the evaluation of a patient with raised ICP with reference to Space Occupying Lesion (SOL) **(K) (S) (A)**	• Symptoms and signs of raised ICP • Evaluation of a patient with raised ICP with reference to Space Occupying Lesion (SOL)	LGIS 50 mins + SGD 1 hour + PBL	BCQs + OSCE
68.		BRAIN TUMORS		
	• Define brain tumors • Classify brain tumors • List the causes & clinical features of brain tumors • Name the investigations related to brain tumors • Discuss the management plan & complications of brain tumors **(K) (S) (A)**	• Brain tumors • Classification of brain tumors • Causes & clinical features of brain tumors • Investigations related to brain tumors • Management plan & complications of brain tumors	LGIS 50 mins + SGD	BCQs + OSCE
69.		SPINAL TUMORS		
	• Define spinal tumors • Classify spinal tumors • List the causes & clinical features of spinal tumors • Name the investigations related to spinal tumors • Discuss the management plan & complications of spinal tumors **(K)(S) (A)**	• Spinal tumors • Classification of spinal tumors • Causes & clinical features of spinal tumors • Investigations related to spinal tumors • Management plan & complications of spinal tumors	LGIS 50 mins + SGD 1 hour	BCQs + OSCE

Problem Based Learning (PBL)/ Case Based Learning (CBL)

- ___ PBLs /CBLs will be conducted in this module
- CPC is held weekly

Learning Tool	Theme	Case Scenario	Subjects integrated in PBL
PBL 1			Learning objectives will be from all clinical specialties
PBL 2			Learning objectives will be from all clinical specialties

Learning Resources:

The students will be guided to look for the relevant study material from the books, internet guided by each discipline in the study guide in their relevant section in addition to other reference books from the college library

Medical Education Lectures / Workshop

S.NO	Learning Objectives (domain) At the end of session, student will be able to:	Content Areas	Teaching Activity (Duration)	Assessment
1.	How to do Educational Planning **(S)**	Educational Planning	Workshop 3 Hours	–
2.	Writing Educational Objectives (How, What, Why**) (S)**	Educational Objectives	Workshop 3 Hours	
3.	Develop OSPE/OSCE stations **(S)**	OSPE/OSCE Development	Workshop 3 Hours	–
4.	How to do students engagement and Teaching methodologies **(S)**	Student Engagement & Teaching Methodologies	Workshop 3 Hours	
5.	Prepare TOS and Assessment Planning **(S)**	TOS and Assessment planning	Workshop 3 Hours	

TIME TABLE

Jinnah Medical & Dental College
MBBS Final Year 2021 – Batch 21 (TIME TABLE)

Starting Date: March 15, 2021 **Lecture Venue: JMCH AUDITORIUM, KORANGI**

DAY	9:00 – 9:50	10:00-10:50	11:00-12:00	12:00-01:00	01:00-01:30	01:30-02:00	02:10-03:00	3:30pm–9:00am	TEACHING SUPERVISOR
MON	MEDICINE LECTURE	SURGERY LECTURE	BED SIDE TEACHING	CASE DISCUSSION	PRAYERS & LUNCH BREAK	MINI CEX / DOPS	CLINICAL TUTORIAL	NIGHT DUTY of PGs/HOs As Per Dept. Schedule	DR. ADEEL AUCKLOO
TUE	PEDIATRIC LECTURE	GYNECOLGY LECTURE	BED SIDE TEACHING	CASE DISCUSSION	PRAYERS & LUNCH BREAK	MINI CEX / DOPS	CLINICAL SCENARIO DISCUSSION MEDICINE	NIGHT DUTY of PGs/HOs As Per Dept. Schedule	PROF. M. FAROOQ UMER

W E D	**9:00-12:00**	**12:15-01:05**	**01:05-01:30**	**01:30-02:00**	**02:10-03:00**	**3:30pm–9:00am**	**TEACHING SUPERVISOR**
	CLINICAL / OPERATIVE TEACHING IN OPERATION ROOM	**SURGERY LECTURE**	**PRAYERS & LUNCH BREAK**	**CLINICAL SCENARIO DISCUSSION PEDIATRIC**	**CLINICAL TUTORIAL**	**NIGHT DUTY of PGs/HOs** As Per Dept. Schedule	**PROF. M. FAROOQ UMER / DR. TAHA**

T H U R	**9:00 – 9:50**	**10:00-10:50**	**11:00-12:00**	**12:05-01:00**	**01:05-02:00**	**02:00-02:15**	**02:15-03:10**	**3:30pm-9:00am**	**TEACHING SUPERVISOR**
	BED SIDE TEACHING	**CASE DISCUSSION**	**MINI CEX / DOPS**	**CLINCIAL PATHOLOGY CONFERENCE**	**MEDICINE LECTURE**	**PRAYERS & LUNCH BREAK**	**CLINICAL SCENARIO DISCUSSION SURGERY**	**NIGHT DUTY of PGs/HOs** As Per Dept. Schedule	**PROF. ABDULLAH MUTTAQI**
F R I	**BED SIDE TEACHING**	**CASE DISCUSSION**	**MINI CEX / DOPS**	**OBSTETRICS LECTURE**	**JUMMA PRAYERS**			**NIGHT DUTY of PGs/HOs** As Per Dept. Schedule	**DR. TAHA JUNAID**

S A T	**9:00-12:00**	**12:05-01:00**	**01:00-01:30**	**01:30-02:00**	**02:00-03:00**	**3:30pm-9:00am**	**TEACHING SUPERVISOR**

	SKILLS LAB	**DEPARTMENT JOURNAL CLUB**	**PRAYERS & LUNCH BREAK**	**CLINICAL TUTORIAL**	**RESEARCH WORK**	**NIGHT DUTY of PGs/HOs** As Per Dept. Schedule	**DR. SADIQA HAIDER**

1- At the end of each Rotation – Ward Test (it includes both BCQs and OSCE).
2- Midterm Examination – (At the Mid of Academic Year).
3- Pre-Prof Examination – (At the end of the Academic Year).

END of Clinical Rotation

Surgery Test Theory

Surgery Test OSCE