

GENERAL SURGERY

COURSE SPECIFICATIONS

FACULTY OF MEDICINE, CAIRO UNIVERSITY, 2016



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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General Surgery
Course Specifications 2016

Cairo University
Faculty of Medicine
Department of General Surgery

Course title: General Surgery
(Code): 616

- Departments offering the course:
 - Departments of general surgery:
 - 25 a & b
 - 27 a & b
 - 30 a & b, and
 - 11 a & b)
 - Vascular surgery department 29 a & b
 - Plastic surgery department 28 a & b
 - Skill lab provided in the LRC
 - Urology departments 17 a & b
 - Orthopedic departments:
 - 18 a & b
 - 20 a & b
 - Neurosurgery department 26 a & b
 - Cardiothoracic surgery departments a & b
 - Anesthesiology department lecture hall, and
 - Radiology department lecture hall.
- Fifth and sixth academic year of M.B.& B.Ch. program: 2016-2017
- Date of specification approval _____

A) Basic Information:

A.1: Allocated marks: 900

- 5th year 60 marks
 - 10 marks long case with the examiner
 - 15 marks clinical skill exam (on 3 cases each with 5 true or false questions)
 - 5 marks attendance, distributed as follows:
 - 1-3 → 5/5
 - 4 → 4/5
 - 5 → 3/5
 - 6 → 2/5
 - 7 → 1/5

- >7 days with an official excuse, he/she is exempted from attending the exam, and have the word محروم written in front of his name and is not allowed to repeat the exam with another group.
 - 30 marks on 30 MCQ's in the first Saturday after they finish their rotation for half an hour held in the examination hall at 1pm
- 6th year 150 marks:
 - 45 general surgery round
 - 20 MCQ at the end of the academic year
 - 5 vascular surgery
 - 5 plastic surgery
 - 5 pediatric surgery
 - 5 skill lab
 - 20 urology
 - 20 orthopedics
 - 10 anesthesiology
 - 10 neurosurgery
- Final exam 690
 - Paper I 150 marks
 - Paper II 150 marks
 - Paper III 150 marks
 - 80 short case, clinical skills
 - 70 long case
 - 20 operative
 - 30 radiology
 - 20 surgical anatomy
 - 20 surgical pathology

A.2: Course duration:

- 5th year: 6 weeks
- 6th year: 20 weeks divided into
 - 10 weeks general surgery rotation
 - 10 weeks vascular, plastic, pediatric surgery and skill lab rotations

A.3: Teaching hours:

- 5th year: 110 hours
 - Theoretical: 20 hours
 - Practical: 60 hours
- 6th year: 496 hours
 - Theoretical and tutorials: 190 hours
 - Practical: 306 hours

B) Professional Information:

B.1- Vision:

We shall be guiding the region in surgical undergraduate education, postgraduate training, community service and research.

B.2- Mission:

Is to perk up the country's health status by graduating knowledgeable skillful and honorable doctors.

B.3- Overall Aim of the Course:

- To provide the student with the knowledge, and skills which enable him/her to identify, analyze, manage and/or refer clinical surgical problems in order to provide efficient, cost effective and humane patient care.
- To provide the student with an appropriate background covering the common and/ or important surgical emergencies.
- To enable the student to detect cancer at an early stage.
- To enable the development and application of appropriate professional attitudes, ethical principles and communication skills.

B.4- Intended Learning Outcomes (ILOs):

B.4.a- Knowledge and understanding.

On successful completion of the course, the student should be able to:

1. Recognize basics of surgical ethics. (a.14)
2. Describe the anatomy of surgically important structures, organs and regions. (a.1)
3. Describe the histology of surgically important tissues. (a.1)
4. Describe the physiology of surgically important organs and systems. (a.1, 2)
5. Describe the principles of molecular biology and wound healing. (a.2)
6. Describe the microbiology and parasitology of surgically important pathogens and their treatment. (a.6, 7)
7. Describe the first aid and definitive management of surgical emergencies. (a.7)
8. Describe the principles of surgical nutrition. (a.7)
9. Describe the principles of organ transplantation. (a.7)
10. Describe the epidemiology, etiology, pathophysiology, pathology, complications and prognosis of the various common and important surgical diseases and disorders. (a.5, 6)
11. Describe the clinical picture, investigations and differential diagnosis of the various common and important surgical diseases and disorders. (c.6)

12. Identify the principles of early detection of cancer. (a.10)
13. Describe the prophylaxis and treatment of the various common and important surgical diseases and disorders. (a.7)
14. Describe the pharmacological basis of surgically important medications. (a.7)
15. Describe prevention of HCV and HIV transmission, sterilization of metal and non-metal instruments, handling and preservation of specimens, and management of disposables. (a.15)
16. Describe the procedures and minimally-invasive techniques used in the treatment of surgical diseases. (a.7)
17. Describe the principles of operative intervention including indications for intervention, preoperative preparation, principles of general and local anesthesia, principles of the operations, and postoperative care and complications. (a.7)
18. Describe palliative care for untreatable surgical conditions. (a.7)
19. Describe the theoretical basis of evidence based medicine (EBM). (a.8)
20. Define principles of clinical audit. (a.16)
21. Describe the principles of clinical trials and statistics. (a.5)

B.4. Professional skills (b, c, d, and e).

B.4.b. Practical and Clinical Skills

On successful completion of the course, the student should be able to:

22. Provide first aid measures for injured and critically-ill patients. (b.7)
23. Perform an emergency-directed examination for patients with common surgical emergencies. (b.3)
24. Compose an initial plan of management for stabilization of injured and critically-ill patients. (b.6)
25. Take and record a structured patient-centered history in acute and chronic conditions. (b.2)
26. Perform full physical examination appropriate to age and gender in acute and chronic clinical conditions. (b.3)
27. Construct appropriate management plan for patients with common and important surgical diseases. (b.5)
28. Write safe prescriptions of different types of drugs. (b.9)
29. Order appropriate investigations. (b.5)

Procedures and technical skills acquired under appropriate supervision during undergraduate and house officer training (Annex 2):

By the end of the program, the graduate will acquire the model-based skills (using manikin and simulators) required to:

30. Perform venepuncture and collect blood samples. (b.11)
31. Insert a cannula into peripheral veins. (b.12)
32. Practice enteral, parenteral, inhalational and topical methods for drug administration. (b.13)
33. Perform suturing of superficial wounds. (b.14)

34. Demonstrate competency in cardiopulmonary resuscitation and basic life-support. (b.15)
35. Administer basic oxygen therapy. (b.19)
36. Insert a nasogastric tube. (b.20)
37. Perform bladder catheterization. (b.21)
38. Perform and interpret basic bedside laboratory tests. (b.23)
39. Adopt suitable measures for safety and infection control. (b.25)

B.4.c. Professional Attitude and Behavioral Skills

By the end of the program, the graduates will acquire the skills required to:

40. Adopt an empathic and holistic approach to patients and their problems, taking into consideration beliefs values, goals and concerns. (c.1)
41. Respect the patient's right to know and share in decision making as well as dignity, privacy, information confidentiality and autonomy. (c.2)
42. Understand and respect the different cultural beliefs and values regardless of their disabilities in the community they serve. (c.3)
43. Recognize the important role played by other health care professions in patients' management, respecting their contributions in patient's management regardless of degree or occupation. (c.4)
44. Apply the national code of ethics issued by the Egyptian Medical Syndicate.(c.5)
45. Respect and follow the institutional code of conduct. (c.6)
46. Counsel patients suffering from different conditions as well as their families. (c.7)
47. Recognize one's own limitations of knowledge and skills referring patients to appropriate health facility at the appropriate stage. (c.8)

B.4.d. Communication Skills:

By the end of the program, the graduate will be able to:

48. Communicate clearly, sensitively and effectively with patients and their relatives and colleagues from a variety of health and social care professions. (d.1)
49. Communicate effectively with individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities. (d.2)
50. Cope with situations where communication is difficult including breaking bad news. (d.3)
51. Show compassion to patients and their relatives in situations of stress and grief. (d.4)
52. Honor and respect patients and their relatives, superiors, colleagues and any other member of the health profession. (d.5)

B.4.e. Intellectual Skills

By the end of the program, the graduate will acquire the skills required to:

53. Recognize patients with life/organ-threatening surgical conditions and perform appropriate initial therapy. (e.2)
54. Determine the different strategies for risk management of disease and injury. (e.6)

55. Identify surgically important structures and organs. (e.1)
56. Identify surgical pathology specimens. (e.1)
57. Integrate basic anatomical, physiological and pathological facts with clinical data. (e.1)
58. Integrate the results obtained from history, clinical examination and investigational data into meaningful diagnostic formulation. (e.2)
59. Combine clinical and investigational data with evidence based knowledge and skill of deductive reasoning for clinical problem solving. (e.3)
60. Identify problems, prioritize them, and generate a list of differential diagnosis for each problem. (e.4)
61. Select the most appropriate and cost-effective diagnostic and therapeutic procedure for each problem. (e.5)
62. Use the results of all the tests ordered to modify the problem list and the differential diagnosis accordingly. (e.5)
63. Identify and outline management of patients with surgical emergencies and common surgical diseases requiring long-term follow-up, rehabilitation and pain relief. (e.5)
64. Recognize and cope with uncertainty by accepting and reacting to uncertain situations through proper counseling, consultation and referral. (e.8)

B.4.f. General and Transferable Skills

By the end of the program, the graduate will acquire the skills required to:

65. Adopt the principles of lifelong learning needs of the medical profession. (f.1)
66. Use computers efficiently in reaching biomedical information to remain current with advances in knowledge and practice. (f.2)
67. Present information clearly in verbal, written, and electronic forms. (f.3)
68. Communicate ideas and arguments effectively. (f.4)
69. Work effectively within a multidisciplinary team. (f.5)
70. Manage time and resources effectively and set priorities. (f.6)
71. Apply simple statistical methods. (f.7)
72. Apply English language as needed for appropriate learning and communication in relation to medicine. (f.8)

C) Specific Information:
C.1. Fifth year course specifications:

C.1.5 : Course contents:

Topic	Lectures (hrs)	Practical (hrs)	Total (hrs)	% of Total
1- General skills		15	15	18.75
2- Thyroid	8	15	23	28.75
3- Breast	4	15	19	23.75
4- Hernias	6	15	21	26.25
5- Surgical ethics	2		2	2.5
Total	20	60	80	100

C.1.6: Teaching and learning methods:

C.1.6.a: Methods used:

1. Clinical classes
2. Lectures
3. Staff rounds
4. Illustrated lecture

C.1.6.b: Teaching plan:

- Lectures: Students are divided into 2 groups, and lectures are given on Sundays and Wednesdays from 9-11 am
- Practical classes: Divided into 12 groups and provided from 11 am – 1pm.

5 th year	Hours / week	Total hours
1- Lectures	4/week x 5 weeks	20
2- Practical	10/week x 6	60
Total		80

C.1.7: Students Assessment methods:

C.1.7.a: Attendance criteria: Faculty bylaws

C.1.7.b: Assessment Tools:

Tool	To assess ILO number:
Written examination	1-22, 71, 72
Practical examination	22-52, 72

C.1.7.c: Time schedule: Faculty bylaws

Event	Week
1- First half	Mid September
2- Clinical exam	At the end of the rotation
3- MCQ exam	First Saturday after the end of the rotation
4- Second half	Mid March
5- Clinical exam	At the end of the rotation
6- MCQ exam	First saturday after the end of the rotation

C.1.7.d: Grading system:

Grade	Exam type	Marks allocated	
5 th year	Clinical	30	60
	MCQ	30	

N.B.1: The minimum passing & Passing grades (Faculty bylaws).

N.B.2: Formative assessment:

Students know their marks in the trial exams for clinical skills which is done one week before the end of the rotation.

C.1.7.e : Examination description:

Exam	Exam type
Clinical exam	Clinical skills* and long case
Theoretical exam	MCQ

* Clinical skills exam, the student is asked to perform local examination of a case for 2-3 minutes, then he/she shifts to the next station to answer 5 true or false questions on the clinical findings in the case.

C.2. Sixth year course specifications:

C.2.5: Course contents:

Topic	Lectures (hrs)	Tutorial / Small group discussion (hrs)	Practical (hrs)	Total (hrs)	% of Total
General skills*	X	10	20	30	6.04
1- Wound healing and management	3		1	4	0.8
2- Major trauma and the multiple-injured patient	3	2	2	7	1.41
3- Fluid electrolyte and acid-base balance	2	1	1	4	0.8
4- Acute hemorrhage hemostasis and blood transfusion	2	1	1	4	0.8
6- Shock	4	1	1	6	1.2
7- Surgical infections	3	1	2	6	1.2
8- Burns and the principles of plastic surgery	2	1	2	5	1
9- Surgical nutrition	2	1	1	4	0.8
10- Tumors and transplantation	2			2	0.4
12- Skin and subcutaneous tissue	2	3	10	15	3.02
13- Arterial disorders	4	3	10	17	3.42

14- Venous disorders	2	3	10	15	3.02
15- Lymphatic system	2	3	10	15	3.02
16- Muscles, tendons, fascia, hands and feet	2	2	4	8	1.6
18- Surgery of nerves	2	2	4	8	1.6
19- Scalp, skull and brain	X		8	8	1.6
20- Face, lips, palate, mouth, cheek and tongue	2	2	4	8	1.6
23- Salivary glands	2	5	10	17	3.41
24- The neck	2	5	10	17	3.41
26- Endocrine surgery	6	6	20	32	6.43
27- Breast	4	6	20	30	6.03
28- Cardiothoracic surgery	X		15	15	3.01
29- Esophagus	3	1	2	6	1.2
30- Stomach and duodenum	3	1	2	6	1.2
31- The liver	3	4	10	17	3.41
32- Billiary system	3	4	10	17	3.41
33- Pancreas	3	2	4	9	1.8
34- Spleen	3	4	10	17	
35- Peritoneum, omentum and mesentery	3	1	2	6	1.2
36- Intestine	5	1	2	8	1.6
37- Pediatric surgery	3	4	10	17	3.41
38- Appendix	2	1	2	5	1
39- Anal canal	3		X	3	0.6

40- Review subjects	3	1	2	6	1.2
41- Abdominal wall and hernias	3	7	20	30	6.03
42- Urology	X		15	15	3.01
43- Testes and scrotum	2	4	10	16	3.21
44- Orthopedics	X		15	15	3.01
45- Amputations	1	1	2	4	0.8
46- Surgery of the spine and spinal cord	X		7	7	1.4
47- Minor procedures	X		Pending skill lab		
48- Anesthesia	X		15	15	3.01
Total	96	94	306	496	100

*General skills refer to topic I in the curriculum includes history taking, general examination, local examination, description of a swelling and an ulcer, documentation, presenting cases, investigating, problem solving, treating, communicating, ethical behavior, and continuous learning.

C.2.6: Teaching and learning methods:

C.2.6.a: Methods used:

1. Tutorials
2. Clinical classes
3. Lectures
4. Emergency rounds
5. Staff rounds
6. Illustrated lecture
7. Outpatient clinic
8. Case study
9. Burn

C.2.6.b: Teaching plan:

- Lectures: Students are divided into 2 groups between medicine and surgery, and lectures are given on Sundays and Tuesdays from 2-4 pm
- Surgery students are further divided into 2 groups
 - 10 weeks general surgery

- These students are distributed over 8 departments
- Tutorials are provided from 8:30 – 9:30
- Clinical teaching from 9:30 – 11:30
- 10 weeks surgical subspecialties
 - Plastic surgery, tutorials and clinical teaching schedule like those for the general surgery rotation
 - Vascular surgery, tutorials and clinical teaching schedule like those for the general surgery rotation
 - Pediatric surgery, tutorials and clinical teaching schedule like those for the general surgery rotation
 - Skill lab where students are trained on basic life support and some bedside procedures
- Special surgery: students are divided into 7 groups, provided 1 hour daily from 12:30 to 1:30 pm

6 th year	Hours / week	Total hours
1- Lectures	96/course	196
2- Small group teaching / tutorials	5	
3- Practical general surgery (10 weeks)	10	100
4- Practical plastic surgery (3 weeks)	10	30
5- Practical vascular surgery (3 weeks)	10	30
6- Practical pediatric surgery (3 weeks)	10	30
7- Practical skill lab (1 week)	6	18
8- Urology (3 weeks)	5	15
9- Orthopedics (3 weeks)	5	15
10- Emergency (3 weeks)	5	15
11- Neurosurgery (3 weeks)	5	15
12- Cardiothoracic surgery (3 weeks)	5	15
13- Radiology (2 weeks)	5	10
14- Anesthesiology (3 weeks)	5	15

C.2.7: Students Assessment methods:

C.2.7.a: Attendance criteria: Faculty bylaws

C.2.7.b: Assessment Tools:

Tool	To assess ILO number:
Written examination	1-22, 71, 72
Oral examination	53-64, 67, 68, 72
Practical examination	22-52, 72

C.2.7.c: Time schedule: Faculty bylaws

Event	Week
1- First half of the academic year	Mid September to mid March
2- Mid-year exam	One MCQ exam at the middle of July
3- Second half of the academic year	Mid march to end of July
4- Practical exam	One at the end of each clinical round
5- Final exam	October

C.2.7.d: Grading system:

Grade	Exam type	Marks allocated	
6 th year	Specials	60	100
	Clinical round exam	40	
	Emergency surgery	10	
	MCQ	40	

N.B.1: The minimum passing & Passing grades (Faculty bylaws).

N.B.2: Formative assessment: Students know their marks in the trial exams for Clinical skills exam which is done in each surgical rotation.

C.2.7.e : Examination description:

Exam	Description
1- End of round exam	Clinical skills and long case
2- End of year	MCQ

C.3. Final Exam description

Exam type	Exam Description	Grade
Final written	<p>Paper 1 150 marks, 3 hours' exam on volume I except esophagus and stomach plus urology 20 marks plus anatomy 5-10 marks (Problem solving, short answer questions and essays)</p> <p>Paper 2 150 marks 3 hours' exam on volume II excluding urology, including orthopedics 20 marks, the spine, and optional anesthesia 5 marks (Problem solving, short answer questions and essays)</p> <p>Paper 3 150 marks 3 hours' exam MCQ on volumes I and II including 10 questions urology and 10 orthopedics.</p>	450
Final clinical	Clinical skills exam 80 marks	150
	Long case 70 marks	
Final oral	Operative (Oral discussion) (20 marks)	90
	Radiology (True/False questions on Powerpoint presentation of pictures) (30 marks)	
	Anatomy (True/False questions on Powerpoint presentation of pictures) (20 marks)	
	Surgical pathology (True/False questions on Powerpoint presentation of pictures) (20 marks)	

Total Marks Distribution:

Grade	Exam type	Marks allocated	
5 th year	Clinical	30	60
	20 Clinical skills 10 Long case		
	MCQ	30	

Grade	Exam type	Marks allocated	
6 th year	Specials: 20 Urology, 20 Orthopedics 10 Anesthesiology 10 Neurosurgery	60	150
	Clinical round exam 20 Clinical skills exam 20 Long case 5 attendance	45	
	Subspecialties, each 5 marks: Vascular, plastic, pediatric surgery, skill lab, surgical emergencies	10	
	MCQ	20	

Grade	Exam type	Marks allocated	
Final written	3 papers x 150 = Paper 1 Paper 2 Paper 3 MCQ's	450	790
Final clinical	80 Clinical skills exam 70 long	150	
Final oral	30 radiology 20 operative 20 anatomy 20 jars	90	
Total		900	

D.8: List of references:

D. 8.1: Basic materials: Department book

D. 8.2: Essential books (text books):

Current Surgical therapy,

Bailey and Love's Short Textbook of Surgery, and

Norman Browse clinical surgery

D. 8.3: Recommended books: Schwartz Textbook of Surgery

D. 8.4: Periodicals, Web sites: <http://www.medicine.cu.edu.eg/beta/en>,
<http://www.ncbi.nlm.nih.gov/pubmed/>

D.9: Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture halls:
- Small group classes
- Skill lab
- Information technology / AV aids
- Library
- Wards

Course coordinator:

Prof. Dr. Hafez Mohammed Hafez

Head of Department:

Prof. Dr. Ahmed Farag Ahmed Farag

Date: 10/10/2016

Appendix A: Minimal clinical cases required.

All cases should include the sheet, investigations (labs, x-rays, ultrasound reports, endoscopy reports ...etc.), and doctor's orders, pre and postoperative care.

Ward Cases:

1. Surgical ethics.
2. General skills (History taking, general examination, description of a swelling and ulcer, local examination of the : skin, subcutaneous tissues, head, neck, upper limb, axilla, chest, breast, abdomen, back, male external genitalia, groin, lower limbs, vascular system, lymphatic system, nervous system).
3. Wound healing, ulcers and pressure sores.
4. Preoperative preparation and postoperative care and complications.
5. Chronic ischemia, gangrene, aneurysms and AAA.
6. DVT, varicose veins, venous ulcers.
7. Lymphadenopathy, lymphedema.
8. Carpal tunnel syndrome.
9. Diabetic foot.
10. Upper limb nerve injury.
11. Cleft lip and palate, lip cancer, carcinoma of the tongue, parotid swellings, submandibular swellings, and neck swellings.
12. All thyroid disease.
13. Cushing syndrome.
14. Breast masses, nipple retraction and discharge, the male breast.
15. Duodenal ulcer.
16. Portal hypertension, hepatocellular carcinoma, liver secondaries, Hydatid disease, chronic calculous cholecystitis, jaundice, and pancreatic tumors.
17. Splenomegaly, blood diseases requiring splenectomy, hypersplenism, hepatosplenomegaly and ascites.
18. Carcinoma of the colon, cancer rectum, ulcerative colitis, fecal fistula, and intestinal stomas.
19. Bleeding per rectum, history taking, examination and investigations of anal lesions, Pilonidal sinus.
20. Any abdominal or inguinoscrotal swelling.
21. Hernias, general principles, inguinal hernia will all its varieties, umbilical hernia with all its varieties, femoral hernia, fatty hernia, and epigastric hernia, and incisional hernia.
22. Abdominal and thoracic incisions.
23. Umbilical nodules.
24. Divarication of the recti.
25. Hydrocele, varicocele, testicular tumors, undescended and ectopic testis.
26. Amputations.

Out patient cases (In addition to the cases above):

1. Acute abscess, postoperative wound infection, boils, cellulitis , and erysipelas.
2. Lymphedema.
3. Burns.
4. Skin and subcutaneous lesions.
5. Superficial vein thrombosis.
6. Acute lymphangitis and lymphadenitis, chronic non-specific lymphadenitis.
7. Ulcers of the tongue, ulcers of the face.
8. Hand infections, ganglions, and ingrowing toe nail.
9. Physiological goiter, thyroiditis, thyroidectomy and hypothyroidism.
10. Mastalgia, mastitis, nipple discharge and retraction, duct ectasia, screening for breast cancer, the male breast, and axillary tail hypertrophy.
11. Morbid obesity.
12. Cholecystectomy.
13. Acute appendicitis.
14. Umbilical discharge.
15. Acute scrotum, epididymitis.
16. Circumcision.

Appendix B: Operative topics

For each topic, the following items are required:

1. Indications
2. Contraindications (If present)
3. Preoperative preparation
4. Type of anesthesia (General, local, spinal)
5. Incision used, and layers opened
6. Principles of the procedure
7. Structures divided
8. Structures preserved
9. Restoration of continuity (If applicable)
10. Postoperative care
11. Postoperative complications

General operative principles:

- Handling and preservation of specimens.
- Management of disposables.
- Sterilization of metal and non-metal instruments.
- Prevention of HCV and HIV transmission [general blood and body fluids precautions: (Russell et al.: Bailey and Love's Short Practice of Surgery, 24th edition, 2004 p: 141-142)].

Trauma:

- Management of the polytrauma patient [Primary survey (ABCDE), resuscitation, and secondary survey].
- Warfare injuries (simplified mechanisms of injury and principles of management of missile and blast injuries).
- Management of wounds.
- Head injury.
- Maxillofacial injuries.
- Chest trauma.
- Blunt and penetrating abdominal trauma.
- Renal trauma and urethral injuries.
- Principles of closed reduction and external fixation.
- Spinal injuries.
- Fracture pelvis
- Burns.
- Principles of coverage of a skin defect.
- CPR.
- Airway management.
- Suture material.
- Prevention and treatment of bedsores.

Pre and postoperative care:

- Preoperative preparation: Routine investigations, starvation, consent, and preoperative drugs.
- Postoperative care: “VLADITRAM” (Vital signs, labs, activity, diet, IVF, tubes, respiration, antibiotics and analgesics, and medications). Wound care, and management of drains.
- Postoperative complications (Prevention, diagnosis and treatment).

Infections:

- Drainage of abscesses.
- Wound infection.
- Management of: necrotizing fasciitis, Ludwig’s angina and Fournier gangrene.
- Prevention and treatment of cavernous sinus thrombosis.

Vascular:

- Management of acute ischemia
- Management of arterial injuries.
- Prevention and treatment of diabetic foot infection.
- Prevention, diagnosis and treatment of DVT and pulmonary embolism.

Thyroid:

- Management of hyperthyroidism (primary and secondary):
- Management of a case of: solitary thyroid nodule, hypoparathyroidism, and thyroid carcinoma

Breast:

- Management of a case of lactational mastitis, breast lump, breast cysts, fibroadenoma, and breast cancer.

GIT surgery:

- Acute abdomen:
 - Acute appendicitis.
 - Diagnosis and management of perforated duodenal ulcer.
 - Diagnosis and treatment of acute cholecystitis.
 - Management of a case of acute intestinal obstruction.
 - Neonatal intestinal obstruction
- GIT bleeding:
 - Management of hematemesis, melena and bleeding per rectum.
 - Management of bleeding varices.
- Acid peptic disease (medical treatment and indications of surgery in):
 - Peptic ulcer
 - GERD.
- Management of a case of obstructive jaundice.
- Hernias.
- Anals (C/P, differential diagnosis, conservative treatment, indications of surgery, and principles of surgery):

- Anal fissure, hemorrhoids, perianal hematomas, perianal abscesses, fistula-in-ano, and pilonidal sinus and abscess.
- Other topics:
 - Abdominal incisions.
 - Principles and scope of laparoscopic surgery.
 - Management of case of fecal fistula.
 - Stoma care.
 - Dysphagia

Urology:

- Acute insults: Retention of urine, torsion testis, acute scrotum and priapism.
- Obstructive uropathy:
 - Management of a case of hydronephrosis.
 - Management of a case of stone kidney, ureter, bladder or urethra.
 - BPH: diagnosis, investigations, medical treatment and indications of surgery.
- Circumcision: contraindications, technique and complications.
- Management of Undescended testis.

Operations required (indications, contraindications, preoperative preparation, anesthesia, principles of the operation, incision, structures divided, structures preserved, closure, and postoperative care and complications):

- Thyroidectomy with its types.
- Modified radical mastectomy and breast-conservative surgery.
- Appendectomy.
- Cholecystectomy (Open and laparoscopic).
- Herniotomy, herniorrhaphy and hernioplasty.

Appendix C: Radiology topics

Details required for each technique:

Principles of the technique

Indications

Contraindications

Preparation

Information gained

Normal findings

Advantages

Disadvantages

General radiology

Diagnostic imaging: Imaging techniques (Conventional radiography, U/S, C/T, MRI, Radionuclide imaging).

Imaging in: Acute abdomen, oncology, and trauma.

Angiography (Conventional, digital subtraction and MRA):

Atherosclerotic lesions at different levels, arterial stents, hepatocellular carcinoma, hemangiomas, and aneurysms.

Isotope scans:

V/Q scan, bone scan, isotopic scan in hypersplenism, renograms, ^{99m}Tc scan in thyroid disease (cold and hot nodules), and ^{123}I scan in metastatic thyroid carcinoma.

Orthopedics:

Fractures and dislocations (clavicle, dislocation shoulder, humerus, radius, ulna, pelvis, femur, tibia, fibula, and spine). Bone tumors (osteochondroma, giant cell tumor, osteosarcoma, and metastasis), and osteomyelitis.

Plain x-rays of the head and neck:

Head injury, maxillofacial injuries (Fracture zygoma and mandible). Cervical rib. Skull deposits. Stone salivary gland.

CT/MRI and 3DCT of the head and neck:

Head injury, intracranial tumors, hematomas, parotid tumors, and MRI of neck masses.

Breast:

Mammography, and U/S of benign and malignant lesions (cysts, fibroadenomas, microcalcifications, malignant tumors).

Chest x-ray:

CVP, esophageal atresia, esophageal foreign bodies. Chest trauma: fracture ribs, pneumothorax, tension pneumothorax, hemothorax, hemopneumothorax. Chest tube, post thoracotomy, post sternotomy. Coin shadows, mediastinal tumors, and pneumoperitoneum. Lung abscess, bronchogenic carcinoma.

CT of chest:

Trauma (pneumothorax, hemothorax, hemopneumothorax). Lung abscess, bronchogenic carcinoma, mediastinal tumors.

Plain x-ray abdomen:

Imperforate anus (different levels), duodenal atresia, plain x-ray (Supine and erect) of small and large bowel obstruction, sigmoid volvulus, paralytic ileus. Plain x-ray of gall stones, porcelain gallbladder, and tabes mesenterica.

Upper GI series:

Pharyngeal pouch, cancer esophagus, achalasia, corrosive stricture, sliding hiatus hernia, paraesophageal hernia, varices. Gastric ulcer, duodenal ulcer, gastric cancer, pyloric stenosis, pancreatic pseudocyst, cancer pancreas, and periampullary carcinoma. Congenital hypertrophic pyloric stenosis, and pyloric obstruction.

Ultrasound:

Gallstones. Intra-abdominal collections.

CT, triphasic CT and MRI of the abdomen:

Adrenal tumors, liver trauma, cysts (simple, polycystic, hydatid), abscesses, tumors, metastasis, and dilated intrahepatic biliary radicles. Splenic cysts and rupture spleen. Pancreatic cancer, and cysts. Pelvic and subphrenic abscess, retroperitoneal sarcoma.

Cholangiographies:

ERCP: normal, choledocholithiasis and malignant stricture. PTC: normal choledocholithiasis and malignant stricture. MRCP: normal and showing choledocholithiasis. T-tube cholangiogram, normal, and with residual stones.

Barium meal follow through:

Jejunal diverticulae, and enterocutaneous fistulas.

Barium enema:

Hirschprung's disease, diverticular disease, ulcerative colitis, Crohn's disease, ileocecal TB, polyps, carcinoma of the colon and rectum, ileocecal intussusception.

Urology:

KUB of stone kidney, ureter, bladder, urethra. Bladder schistosomiasis, phlebotomy, metastatic carcinoma of the prostate, hyperparathyroidism (nephrocalcinosis).

IVU Normal, ascending and antegrade pyelography in obstructive uropathy.

Stone kidney, ureter, bladder, urethra. Ectopic kidney, horseshoe kidney, polycystic kidney, hydronephrosis, hydroureter, ureteric stricture. BPH, cancer prostate, renal cell carcinoma, Wilms' tumor, Ca bladder.

CT of renal cell carcinoma and renal trauma.

Limbs: Osteomyelitis in a diabetic foot. Gas gangrene of the lower limb, and hand x-ray in hyperparathyroidism.

Appendix D: Anatomy and physiology topics

Skin

Muscles: sternocleidomastoid, deltoid, pectoralis major, pectoralis minor, latissimus dorsi, rectus abdominis, quadriceps, psoas major.

Aorta

Lower limb arteries

Carotid arteries

Anastomosis around the scapula, hip and knee

Lower limb veins anatomy and physiology

Body Lymphatics

Upper limb nerves

Muscles of the forearm and hand

Sciatic nerve

Parotid and submandibular glands

Thyroid anatomy and physiology

Parathyroid anatomy and physiology

Breast

Adrenals

Abdominal wall

Inguinal canal anatomy and physiology

Esophagus anatomy and mechanism of the lower esophageal sphincter

Stomach anatomy and acid production and protective mechanisms

Appendix

Rectum

Anus and anal canal

Liver anatomy and bilirubin metabolism

Gallbladder and extrahepatic bile ducts

Spleen

Pancreas

The kidneys.

The ureters.

Triangles of the neck

Femoral triangle

Cubital fossa

Appendix E: Surgical pathology topics required

1 Intestines

- Carcinoma of the esophagus.
- Duodenal ulcer.
- Perforated peptic ulcer.
- Carcinoma of the stomach.
- Meckel's diverticulum.
- Crohn's disease.
- Intussusception.
- Acute appendicitis.
- Colonic diverticulae.
- Colon polyps.
- Carcinoma of the colon.
- Carcinoma of the rectum.

2 Hepatobiliary

- Chronic calcular cholecystitis.
- Acute cholecystitis.
- Liver abscess.
- Hydatid disease.
- Liver secondaries.
- Hepatocellular carcinoma.
- Carcinoma of the pancreas.
- Rupture spleen.

3 Urology

- Polycystic kidney.
- Simple renal cyst.
- Renal trauma.
- Hydroureter and hydronephrosis.
- Bilharzial cystitis and ureteritis with stricture of lower end of left ureter and hydroureter.
- Adrenal tumors.
- Renal cell carcinoma (hypernephroma).
- Wilms' tumour.
- Cancer bladder.
- Benign prostatic hyperplasia.
- Testicular tumors.
- Torsion of the testis.
- Hydrocele.

5 Chest & Breast

- Breast cancer.
- Fibroadenoma.

- Breast cysts.
- Aneurysm of the descending thoracic aorta with thrombosis and pressure necrosis of thoracic spine.

6 Head & Neck

- Carcinoma of the tongue.
- Multinodular goiter.
- Solitary thyroid nodule.
- Toxic goiter.
- Carcinoma of the thyroid.

7 Orthopedics

- Giant cell tumor of lower end of femur.
- Periosteal fibroma or fibrosarcoma.
- Osteosarcoma.

8 Vascular

- Aorto-iliac atherosclerosis.
- Aneurysms.
- Lymphadenopathy.

9 Miscellaneous

- Epithelioma.
- Basal cell carcinoma

Appendix F: Pediatric clinical teaching

General skills

- History taking and general examination
- Local examination
- Swellings
- Ulcers
- Document
- Present
- Investigate
- Problem solving
- Treat
- Communicate
- Ethical behavior
- Continuous learning

Cleft lip and palate

Pediatric surgery

- General principles
- Congenital diaphragmatic hernia
- Esophageal atresia and dysphagia Lusoria
- CHPS
- Intestinal obstruction in neonates, infants and children
- Intussusception
- Hirschprung's disease
- Anorectal malformations
- Billiary atresia
- Childhood tumors
- Cystic hygroma
- Sterno-mastoid tumor
- Sacro-coccygeal teratoma

Inguinal hernias

Umbilical hernias

Abdominal incisions

Ureteric abnormalities

Ectopia vesicae

Hypo and epispad

Vesico-ureteric reflux

Wilms' tumor

Undescended testis

Appendix G: Emergency department teaching

Trauma:

- Wound healing and management
- Polytrauma
- Hand injuries
- Nerve injuries
- Scalp injuries
- Head trauma
- Maxillofacial injuries
- Neck injuries
- Chest trauma
- Abdominal trauma Liver and spleen ...etc
- Retroperitoneal hematoma
- Hemorrhage
- Blood transfusion
- Hemostasis

Shock

Fluid and electrolyte balance (ER/ICU)

Infections:

- Acute non-specific surgical infections – General principles
- Acute abscess
- Bacteremia and septicemia
- Superficial Surgical Site Infection (SSSI)
- Tetanus
- Gas gangrene
- Necrotizing fasciitis
- Antibiotics
- Blood and body fluid precautions
- Ludwig's angina
- Breast abscess
- Peritonitis
- Ano-rectal abscess
- Pilonidal abscess

Principles of skin coverage

Surgical nutrition (ER/ICU)

Pre and postoperative care

Diagnostic and interventional radiology

Vascular:

- Acute ischemia
- Arterial injuries
- Gangrene
- DVT
- PE
- Diabetic foot

Cardiac arrest

Upper GI:

Esophageal foreign bodies

Esophageal perforation

Mallory Weiss

Corrosive

Perforated DU

Hematemesis

Hepatobiliary:

Acute cholecystitis

Ascending cholangitis

Acute pancreatitis

Splenectomy

Intestine:

IO

Fecal fistulas

Stomas

Principles of colon surgery

Bleeding per rectum

Acute appendicitis

Acute abdomen

Complicated hernias

Abdominal and thoracic incisions

Urology:

Retention

Hematuria

Renal colic

Anuria

Renal trauma

Bladder injuries

Urethral injuries

Fracture penis

Perinephric abscess

Acute scrotum

Fournier gangrene

Torsion testis

Amputations

Minor procedures