

2012

Surgery Curriculum

DUBAI MEDICAL COLLEGE

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Dubai Health Authority -DMC

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INTRODUCTION

The clinical traditions of the Faculty of Medicine, Dubai Medical College have been maintain during the past 25 years and have inspired the mission of the Department of Surgery. These objectives address the major commitments of the Department to the medical school and to Surgical Education.

Medical education is a complex mixture of medical and professional education, to expected master basic principles and theories as well as to obtain sufficient knowledge and experience to practice clinical medicine. The education must convey the continually expanding body of medical science and act as a preparation for a lifetime of competent and thoughtful interactions with patients at a time of rapid change in technology and societal needs.

To meet these educational goals, the Faculty of Medicine must be at once conservative and creative. There is a generally accepted need to preserve certain fundamental principles that the rational practice of medicine rests on namely a firm understanding of the basic medical sciences. Yet the great advances in medicine, the need to reasonably limit the number of years of formal education, the increasing number and complexity of special fields, and the diversity of interests and talents among students all demand continual examination and evaluation of our educational aims and process.

The Curriculum in Surgery is aimed at providing students with a clear and concise overview of the surgical teaching in the clinical phase of their studies at the DMC which is carried out at the **Dubai Health Authority Hospitals** (Rashid Hospital, Dubai Hospital and Latifa Hospital) and the Primary Health Centers in Dubai. The Curriculum is simply a road map for the extensive areas of knowledge that students much master to obtain a broad education in clinical surgery. This contains information on clinical attachments, lecture series, tutorials, exam timetables and academic calendar year.

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MISSION STATEMENT OF THE FACULTY OF MEDICINE DUBAI MEDICAL COLLEGE

The mission of the Faculty of Medicine & Health Sciences is:

- **Student Mission**

To educate medical students in the acquisition of the knowledge, skills and attitudes necessary for a lifetime of learning, personal development and contribution to society

- **Staff Mission**

To promote continuing personal and professional development through the provision of an organization of cultural excellence, opportunity and reward.

MISSION STATEMENT OF THE DEPARTMENT OF SURGERY

The mission of the **Department of Surgery** is:

1. To establish, develop and perpetuate programmes of education and service.
2. To have an excellent undergraduate teaching programme for the medical students to obtain their Bachelor in Surgery.
3. To inculcate leadership qualities, enthusiasm and the capacity to critically evaluate new information and the flexibility to synthesize the information into adaptation in practice.
4. To train competent, safe, moral and ethical good students and good doctors.

AIMS & OBJECTIVES

The aims and objectives are to educate students in surgery and to enable them to practice surgery safely and conscientiously, initially under the supervision of their senior colleagues.

To provide medical students with an understanding and appreciation of the art and science of surgery.

In Particular, the aim of the Programme is:

- To inculcate the spirit of dedication, concern and empathy among students, by building thoughtful and skillful professional clinicians upon the sound foundation of the basic medical sciences.
- To develop doctors who will have the background, skills, knowledge, understanding and appropriate attitudes to specialize in whatever area of medical science suits their talents.
- To provide excellence in undergraduate teaching
- To direct and guide students to focus on the prime importance of patient care
- To teach students to become proficient in clinical history taking and physical examination.
- To instruct the students to formulate a differential diagnosis for common clinical presentations.
- To inform students about the indications for and interpretation of basic laboratory, radiological and other investigations.
- To educate the students about the management of common surgical diseases.

TEACHING FORMAT

The principal contribution of the Department is to teaching surgery for attainment of MBChB .

However, it also contributes to other aspects of medical education in the 3rd, 4th and 5th year. Students attend clinical sessions in the wards and clinics related to the subjects they are studying.

The Department of Surgery also contributes to other programmes at the request of other Faculties. The Department is responsible primarily for the instruction of the undergraduate course in surgery for the Final Medical Examination (the programme begins following the third year medical examination).

Students commence a clinical clerkship in the hospital in late March/ early April. During this time, they rotate through various surgical consultant- led teams. They are encouraged to develop the skills of clinical history taking and physical examination by attending patients on the ward as well as taking part in the various other clinical and educational activities of the teams to which they are attached. Formal teaching consists of lectures, clinical demonstrations and tutorials.

The teaching settings that occur in the undergraduate teaching include the following:

Lectures

The formal lecture schedule is delivered in the fourth medical year and this course is supplemented :

- 1) at the end of third year with an introductory lecture series and 2) at the start of the final medical year with a two-week series of revision/update lectures on the core topics in Surgery.

Seminars – Case Scenarios

These lectures are delivered by Consultants within their own discipline and take the form of didactic lectures. The subject matter of the lecture is circulated in advance so the students can prepare it.

Seminars – Student’s Oriented

Students in the final medical year are assigned to a ‘Rotating Seminars’ group and received throughout the year from up to different 6 tutors within the area of surgery. A fixed topic is usually discussed by the tutors and as such they function as an adjunct to the formal lecture schedule delivered in Fourth Med. Students in both Fourth year and Final year are attached to surgical teams throughout the year and receive regular tutorials from the members of these teams in addition to the above mentioned seminars, as detailed in the individual team timetables.

TEACHING ROUNDS

Bedside instruction is the basic element of teaching in the teaching rounds. The student meets the patient and learns to integrate the impressions that point to a diagnosis. Students learn that, through a rational evaluation of significant findings and an understanding of the mechanisms of the disease, a meaningful diagnosis can be made. Students learn to correlate the impressions of the physical examination and the history with simple, carefully evaluated laboratory tests that strengthen or modify their analysis of the patient's problems.

Through seminars, conferences, demonstrations, and lectures including ward rounds and clinical-pathological/radiological correlation discussions, emphasis returns to analysis of the mechanisms that express themselves as symptoms in the history and signs in the physical examination.

The student learns by participating, under close supervision, in all phases of the patient's care from admission to the hospital through final discharge and follow ups.

CLINICAL ATTACHMENT

Students in Fourth and Fifth Year are assigned to all surgical teams for a period of 10 weeks whereby they attend Outpatients, Theatre, Surgical Day Ward, ward rounds, case conferences and interdisciplinary meetings.

In these attachments, students are exposed to a wide spectrum of surgical diseases. By following patients through their initial presentation, they observe the evolution and resolution of surgical disease processes. Teaching at the bedside, in particular, brings students and patients together for their mutual benefit. The attachments give the students the opportunity to actively expand their knowledge, develop technical and clinical skills and initiate relationships with patients, residents, faculty and staff.

The Department of Surgery engages in an array of different teaching modalities ranging from conventional didactic lectures, patient oriented bedside tutorials and out-patient clinic to interactive problem-solving style discussions.

Skills

The following skills are taught as part of the undergraduate programme.

Communication

Is clearly vital attribute for any doctor. The department of surgery encourages and teaches Communication skills and supports and subscribes to initiatives to improve communication skills in medical students and indeed as interns in their pre-registration year.

Presentation skills

Are developed throughout the course, both to small and large groups. The clinical examination section of the final surgical examination requires the student to present their findings formally to their examiners, making it important for students to develop these skills.

Practical Skills such as hand scrubbing

Working in groups

Is a vital part of the practice of medicine, both in hospitals and in the community. All through their clinic attachments, students are attached to clinical teams and are encouraged to take part in team activities. They are also taught extensively about the modern multidisciplinary nature of surgical decision-making and therapy.

ASSESSMENT OF EXAMINATION

Assessment of the performance is principally by examination both at the end of the Final Medical Examination, students are also assessed at the end of each rotation.

The following methods are used for the Final Medical Examinations

- Written examination
 - ✓ MCQ (Single Best Answer)
 - ✓ Case Scenarios and Principles
- OSCE 1 – Clinical Skill (unmanned)
- OSCE 2 – Clinical Skill (manned)
- Clinical Examination
- Continuous Assessment: clinical attachment, MCQ's, OSCE

Students are exposed to 5 sets of two examiners (surgical and physician) during clinical examinations. MCQ's are optically read. The continuous assessment process begins with the clinical skills attachment to the end of the three terms.

Students Attendance

Student attendance is vital for clinical medicine modules and this is checked at all tutorial sessions. Students must attend at least 80% of their sessions to be allowed to sit their exams. The attendance of each student is also discussed with the clinical tutor. A written explanation of absence is encouraged for the students file.

- Monitored and documented – Allocated **10%** of marks

Formative Assessment → Throughout the course – Allocated **10%** of marks

Summative Assessment → Final combined Surgical/Medical/PHC, clinical encounter examination at the end of the 5th year (**marks ___%**)

- a)** MCQ – 120 MCQ (best out of 5) based on a clinical scenarios (marks ___%)
- b)** OSCE – 12 unmanned stations (marks ___%)
- c)** OSCE – 8 manned stations (marks ___%)
- d)** Combined clinical encounter examination (marks ___%)

RECOMMENDED READING

There are a number of surgical textbooks currently available. Each textbook is written in a different format and may not be suitable for every student. We recommend that student go into a medical book shop and read a passage on one topic from a number of different textbooks to find one that suits them.

Each student should have a minimum of four types of surgical book: a large text or reference book, a pocket book (to be read on the wards, at outpatients or in theatre), a physical signs/examination technique book and a self-assessment book. The following are some of the more popular books available and used by students currently.

Textbooks:

1. Baily and Love – Short Practice of Surgery
 - Russell
2. An Introduction to the Symptoms and Sign of Surgical Disease
 - Norman L. Browse
3. The Manual of clinical objectives in Surgery
 - Symptoms and Problem-based Approach
 - Prof. Abdul Jabbar Mehdi Salih- DMC Publication

CANCELLATIONS

There are mechanisms in place to avoid lecture or tutorial cancellation.

Lectures

If any consultant cannot attend a scheduled Lecture, then the Lecturers in Surgery will give the lecture. If the lecture is to be rearranged then the class reps will be notified as to the change in plans. The Class reps will then notify the class through the Group Email or at another lecture if possible.

Rotating Tutorials

The rotating tutorials are divided among the Lecturers in Surgery to ensure that they occur. If for some reason that a Tutor cannot attend then the Lecturers in Surgery will give the tutorials on the particular core topic.

The course will emphasize the following competencies:

- 1- Communication skills
- 2- Team work Skills
- 3- Basic clinical skills
- 4- Management of common and chronic health problems
- 5- Evidence Based Medicine
- 6- Self-directed learning

Key Topics

KEY TOPICS

Key Topics in General Surgery

UNITS

I. GENERAL PRINCIPLES : LECTURES

1. Nutrition
2. Wound Healing
3. Fluids & electrolytes
4. Haemostasis & transfusion therapy
5. Influence of co-existing disease
6. Radiological imaging
7. Pre-operative assessment
8. Post-operative care
9. Drains, Tubes and Catheters
10. Anaesthesia, Critical Care & Pain Management
11. **Skin & Soft Tissue tumours**
 - 11.1 Benign skin lesions
 - 11.2 Malignant skin lesions and Melanoma
 - 11.3 Soft tissue masses and Sarcomas

32

II.

GLANDS & NECK SWELLINGS

SALIVARY

2

1. Neck swellings
2. Salivary gland disorders

UNITS

III. ENDOCRINE : SEMINARS

1. *Thyroid (Seminars Student Oriented)*

2

- 1.1 Evaluation of thyroid disorders
- 1.2 Specific thyroid disorders
- 1.3 Hyperthyroidism
- 1.4 Hypothyroidism
- 1.5 Thyroiditis
- 1.6 Thyroid nodules
- 1.7 Thyroid neoplasms
- 1.8 Complications of thyroid surgery

2. *Parathyroid (Seminars Students Oriented)*

2

- 2.1 Hyperparathyroidism
- 2.2 Parathyroidectomy
- 2.3 Parathyroid autotransplantation
- 2.4 Complications of parathyroid surgery
- 2.5 Parathyroid carcinoma

3. *Adrenal (Seminars Students Oriented)*

2

- 3.1 Adrenal cortex tumours

- 3.2 Adrenal medulla tumours
- 3.3 Adrenocortical carcinoma

4. Endocrine Tumours & Carcinoid : LECTURE

1

UNITS

IV. BREAST DISEASE : SEMINARS

1. History & Presentation of breast disorder (Seminars Students Oriented)

1

- 1.1 Triple assessment
- 1.2 Breast imaging
- 1.3 Breast biopsies

2. Nonmalignant breast conditions (Seminars Students Oriented)

1

- 2.1 Fibrocystic disease
- 2.2 Breast cysts
- 2.3 Fibroadenoma
- 2.4 Breast pain
- 2.5 Nipple discharge
- 2.6 Breast infections
- 2.7 Gynecomastia
- 2.8 Breast conditions during pregnancy

3. Malignant breast disease (Seminars Students Oriented)

1

- 3.1 Noninvasive breast pathology
- 3.2 Surgical reconstruction following mastectomy
- 3.3 Breast conservative surgery/wide local excision
- 3.4 Sentinel lymph node biopsy
- 3.5 Axillary clearance
- 3.6 Breast reconstruction
- 3.7 Adjuvant systemic therapies
 - 3.7.a Chemotherapy

- 3.7.b Hormonal therapy
- 3.7.c Immunotherapy
- 3.7.d Local radiotherapy

UNITS

V. OESOPHAGEAL DISORDER: SEMINARS

1. *Oesophageal (Seminars Students Oriented)*

2

- 1.1 Hiatus hernia
- 1.2 GERD
- 1.3 Barrett's Oesophagus
- 1.4 Oesophageal carcinoma
- 1.5 Oesophageal diverticulae
- 1.6 Functional disorder of the oesophagus
- 1.7 Oesophageal strictures
- 1.8 Caustic ingestion
- 1.9 Complications of oesophageal surgery

2. *Stomach disorders (Seminars Students Oriented)*

2

- 2.1 Peptic ulcer disease
- 2.2 Gastric adenocarcinoma
- 2.3 Primary gastric lymphoma
- 2.4 Benign gastric tumours
- 2.5 Postgastrectomy syndromes
- 2.6 Upper GI haemorrhage

VI. SMALL BOWEL DISORDER : SEMINARS

1. *Disturbances of small bowel physiology(Seminars Students Oriented)*

2

- 1.1 Small bowel obstruction
- 1.2 Infectious diseases of the small bowel
- 1.3 Meckel's diverticulum

- 1.4 Neoplasms
- 1.5 Crohn's disease
- 1.6 Mesenteric ischaemia

UNITS

VII. COLO – RECTAL : SEMINARS

Seminars Students Oriented

3

- 1. Appendicitis
- 2. Normal physiology & disorders of the colon
- 3. Obstruction
- 4. Pseudo-obstruction
- 5. Volvulus
- 6. Diverticular disease
- 7. Lower GI hemorrhage
- 8. Colitis

VIII. COLO-RECTAL CARCINOMA : SEMINARS

1

Seminars Students Oriented

- 1. Inflammatory bowel disease
- 2. Colorectal carcinoma

IX. ANARECTAL : SEMINARS

2

Seminars Students Oriented

- 1. Hemorrhoids
- 2. Pilonidal sinus
- 3. Perianal abscess
- 4. Perianal fistulae
- 5. Female fecal incontinence
- 6. Anal fissure

UNITS

**X. SURGICAL DISEASES OF THE LIVER/
GALL BLADDER/ PANCREAS : SEMINARS**

1. *Liver Tumours (Seminars Students Oriented)*

1

1.1 Hepatic abscess

1.2 Hepatic cysts

1.3 Portal hypertension

2. *Biliary Surgery (Seminars Students Oriented)*

2

2.1. Gall Bladder

2.1.a Cholelithiasis

2.1.b Acute Cholecystitis

2.1.c Choledocholithiasis

2.1.d Ascending Cholangitis

2.1.e Acalculous Cholecystitis

2.1.f Sclerosing Cholangitis

2.1.g Choledochal Cysts

2.1.h Biliary tree tumours

2.1.i Carcinoma of the gallbladder

2.1.j Bile duct injuries

2.1.k ERCP

2.2. Imaging

A. ERCP

i. CT Scan

ii. MRI

iii. MRCP

iv. Sonogram

1

UNITS

3. <i>Pancreas (Seminars Students Oriented)</i>	2
3.1 Acute pancreatitis	
3.2 Chronic pancreatitis	
3.3 Pancreatic carcinoma	
3.4 Congenital pancreatic abnormalities	
3.5 Exocrine pancreatic insufficiency	
3.6 Pancreatic cystic disease	
4. <i>Spleen (Seminars Students Oriented)</i>	1
4.1. Cysts, tumours & abscesses	
4.2. Splenectomy	
a) Trauma	
b) Splenomegaly	
XI. <u>HERNIAE</u> : SEMINARS	2
<i>Seminars Students Oriented</i>	
1. Inguinal hernias	
2. Femoral Hernias	
3. Internal Hernias	
4. Abdominal Wall Hernias	
XII. <u>GENERAL</u> : LECTURES	8
1. Acute Abdomen	
2. Causes of Abdominal Pain	
3. Fistulas	
4. Short Bowel Syndrome	
5. Bariatric Surgery	

6. Trauma & Resuscitation
7. Principles of Transplant Surgery
8. Hereditary Tumour Syndromes & Genetic Counseling

UNITS

XIII. VASCULAR : LECTURES

8

1. *Arterial Disease*

- 1.1 Atherosclerosis (**arterial disease**)
- 1.2 Non-atherosclerotic arterial disease
- 1.3 Carotid artery disease
- 1.4 Acute lower limb ischaemia
- 1.5 Chronic/critical lower limb ischaemia
- 1.6 Abdominal Aortic Aneurysm
- 1.7 Arterial Aneurysmal disease
- 1.8 Endovascular Surgery

2. *Venous & Lymphatic Disease*

5

- 1.1 Varicose veins
- 1.2 Superficial thrombophlebitis
- 1.3 Deep venous thrombosis (**prevention of DVT in surgical patient**)
- 1.4 Chronic venous insufficiency
- 1.5 Lymphedema

XIV. CARDIOTHORACIC SURGERY : LECTURES

4

1. Congenital Heart Disease
2. Ischemic Heart Disease
3. Acquired Heart Disease
4. Chest Injuries

UNITS

XV. NEUROSURGERY : LECTURES

11

- 1.** Head injuries
- 2.** Glasgow Coma Scale
- 3.** Intracranial pressure
- 4.** Management of the Patient with a head injury
- 5.** Resuscitation
- 6.** Skull fractures
- 7.** Intracranial haemorrhage (epidural, subdural, subarachnoid & intracerebral)
- 8.** Spinal cord trauma
- 9.** Brain tumours
- 10.** Hydrocephalus
- 11.** Intracranial infections

XVI. ORTHOPAEDIC SURGERY : LECTURES

10

1. *General principles of Bone pathophysiology: LECTURES*

1.1. Orthopedics Trauma and Resuscitation

1.2. Fracture

- a.** Classification and Healing
- b.** Clinical features and Radiological investigations
- c.** Principles of management and Complications

2. *Specific Fractures and Dislocations*

- 2.1. a.** Clavicle
- b.** Humerus
- c.** Colles/Smiths
- d.** Scaphoid

- 2.2. a.** Pelvis
- b.** Hip
- 2.3. a.** Femur
- b.** Tibia + Femur
- c.** Calcaneus

2.4. Compartment Syndrome

- 2.4. I. a.** Osteoarthritis
- b.** Infection
- 2.4. II.** Paediatric orthopaedics
- 2.4. III.** Orthopaedic tumours

XVII. PAEDIATRIC SURGERY : LECTURES

8

- 1.** Pediatric fluids, nutrition, resuscitation
- 2.** Pediatric tumours
- 3.** Neonatal surgical problems
 - 3.1.** Congenital diaphragmatic hernia
 - 3.2.** Tracheoesophageal malformations
 - 3.3.** Gastroschisis
 - 3.4.** Necrotizing enterocolitis
- 3.** Pyloric stenosis
- 4.** Hirschsprung disease
- 5.** Intussusception
- 6.** Meckel's diverticulum
- 7.** Aspirated or ingested foreign body

UNITS

XVIII. PLASTIC SURGERY : LECTURES

5

1. 1. Wound Healing
 2. Skin Grafting
 3. Flaps
 4. Reconstruction
-
2. 1. Burns
 2. Assessment of % BSA
 3. Assessment of Depth
 4. Resuscitation of Burn victims

XIX. HAND CONDITIONS : LECTURES

6

1. Hand injuries
2. Ganglions, Mallet finger, Boutonniere deformity & Trigger finger
3. Carpel tunnel syndrome and Duputrens contracture
4. Ulnar / Median / Radial nerve palsy
5. Hand Examination

XX. TOPICS IN UROLOGY : LECTURES

14

- 1. 1.** Renal carcinoma
- 2.** Bladder carcinoma
- 3.** Prostate cancer

- 2. Scrotal Swelling**
 - 2.1.** Testicular torsion, Epididymitis, Undescended testis/
Hydrocele and Varicocele
- 3.** Urinary tract infection
- 4.** Urinary retention – Prostatic Hyperplasia
- 5.** Incontinence and Fistula
- 6.** Trauma
- 7.** Renal tract investigation
- 8.** Haematuria
- 9.** Ureteric obstruction/ Reflux
- 10.** Hydronephrosis

UNITS

XXI. FORENSIC MEDICINE AND TOXICOLOGY : LECTURES

4

1. Medico legal aspect of Medical practice
2. Forensic Medicine
3. Forensic Toxicology

XXII. ENT : SEMINARS

1. *Ear (Seminars Students Oriented)*

2

- 1.1. Anatomy and Physiology
- 1.2. Evaluation of Ear diseases
- 1.3. Investigation of Ear disease and Audio-vestibular tests

2. *Nose and Nasal Sinuses (Seminars Students Oriented)*

2

- 2.1. Anatomy and Physiology
- 2.2. Evaluation of the nose and paranasal sinus

3. *Laryngopharynx (Seminars Students Oriented)*

2

- 3.1. Anatomy and Physiology
- 3.2. Evaluation of Pharyngeal disease
- 3.3. Evaluation of Airway disease

XXI. OPHTHALMOLOGY : LECTURES

3

1. Anatomy and Physiology
2. Method of Examination and equipment
3. Eye Diseases