Degree Course in Medicine and Surgery

Course: General Surgery
Scientific Disciplinary Sector: SSD MED/18
CFU Number: 10

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PREREQUISITES

Background knowledge of cervical, thoracic and abdominal anatomy.
Physiology, physiopathology, common signs/symptoms, and principal diagnostic techniques are required.

LEARNING OBJECTIVES

Acquiring adequate knowledge of surgical pathologies, learning the methodological tools for a correct clinical diagnosis, interpreting laboratory tests, instrumental tests, invasive and non-invasive endoscopic and radiological procedures, and the most appropriate personalized surgical treatments.
Ability to analyze and solve clinical problems of a surgical nature by evaluating the relationships between benefits, risks, and costs based on the principles of evidence-based medicine.

LEARNING OUTCOMES

Knowledge and understanding – The course is based on the acquisition of the following knowledge and understanding:
- knowledge of diagnostic criteria and the principles of treatment concerning general and oncologic, thoracic, bariatric, endocrine, and breast surgery;
- appropriate use of diagnostic techniques, findings interpretation, and integration into patient management.
- knowledge of surgical indications, timing, strategies, approaches, operative planning, techniques, and complications.
Background knowledge of cervical, thoracic, and abdominal anatomy, physiology and Physiopathology, as well as common signs/symptoms and principal diagnostic techniques, is required.

Knowledge and understanding
To know the diseases of surgical interest affecting the various systems.
To know the necessary clinical and surgical methodology for dealing with the main diseases of surgical interest.

Knowledge of risk-management in surgery

Applying knowledge and understanding
To know how to interpret invasive and non-invasive laboratory, instrumental, endoscopic and radiological examinations to perform the most appropriate personalised surgical treatment.
Learn how diagnostic instruments work, when to use them and how to perform them.

Communication skills
Explain arguments orally in an organised and coherent manner.
Use of appropriate scientific language in accordance with the topic of discussion.

Making judgements
Recognise the importance of in-depth knowledge of topics in accordance with appropriate medical education.
Identify the fundamental role of correct theoretical knowledge of the subject in clinical practice. Recognise the possible applications of acquired skills in the future career.
Assess the importance of the acquired knowledge in the general medical education process.

COURSE SYLLABUS

THORACIC SURGERY

Introduction to the Thoracic Surgery
Lung cancer: Epidemiology, clinical presentation, diagnosis, staging, and treatment of non-small

Cell Lung Cancer.
General features and technical aspects of pulmonary resections.
Secondary tumors of the lung. Surgical indication in pulmonary metastases.
Pleural disease: Epidemiology, clinical presentation, diagnosis, staging and treatment of malignant pleural mesothelioma. Surgical principles in benign and malignant pleural effusion.
Pneumothorax: Diagnosis and management of the patient with primary or secondary spontaneous pneumothorax. Tension pneumothorax. Placement and management of pleural drainage.
Benign and malignant tracheal disease. Surgical principles of tracheal resection and

reconstruction. Diagnosis and management of tracheoesophageal fistula.
Thoracic Trauma: Blunt and penetrating injuries of the chest wall, pleura and lungs. Diaphragmatic injuries.
Primary mediastinal tumors and syndromes associated with mediastinal lesions: Epidemiology, clinical presentation, diagnosis, staging and treatment of thymic tumors.
Acute mediastinal infections. Mediastinal involvement in caustic ingestion.

GENERAL SURGERY

Clinical presentation, patient selection, preoperative assessment and surgical approach of right colon cancer, left colon cancer, rectal cancer, esophageal cancer, gastric cancer, small bowel cancer, pancreatic cancer, peritoneal cancer, retroperitoneal cancer and sarcomas.
Functional and benign surgical diseases of the esophagus, stomach, duodenum and small bowel. Diseases and anomalies of the diaphragm: hiatal hernia, diaphragmatic hernias, post-traumatic hernias.

Inflammatory bowel diseases (IBD): surgical indications.
Diverticular disease of the colon: surgical treatment options.
Focus on minimally-invasive surgery (laparoscopic, robotic), stoma construction, management and complications, colorectal surgical complications, and ERAS protocol.
Gallstone disease: surgical indications.
Appendicitis: differential diagnosis and treatment options.
Colon polyps: indication for surgical treatment.
Anorectal abscess, fistula-in-ano, pilonidal disease: surgical treatment.
Abdominal wall surgery: inguinal hernia, incisional hernia.

ENDOCRINE AND BARIATRIC SURGERY

Principles of surgery of the thyroid gland (surgical anatomy, hyperthyroidism, nodular goiter, thyroid cancer).
Surgery of the parathyroid glands (surgical anatomy, primary, secondary and tertiary hyperparathyroidism).
Surgery of the adrenal glands (surgical anatomy, Cushing's syndrome, primary hyperaldosteronism, pheochromocytoma, adrenal incidentaloma, adrenocortical carcinoma).

Neuroendocrine tumors of the gastro-entero-pancreatic tract.
Surgery for obesity and related disorders (including diabetes).

BREAST SURGERY

Benign and malignant breast diseases: principles of surgical treatement.
Principles of modern oncoplasty.

COURSE STRUCTURE

The course is divided into 100 hours of classroom teaching divided into two-hour lectures. The lectures will take place with the aid of teaching tools such as presentations organized in

PowerPoint/keynote files with explanatory diagrams, illustrations, and images to describe the clinical pictures and the anatomical and pathophysiological assumptions. Films and animations will be used to integrate the processes described in class. Attendance is mandatory.

COURSE GRADE DETERMINATION

The exam will be based on a cumulative written test with 31 multiple-choice questions (MCQ) concerning all teaching modules with only one correct choice for each quiz. Students will have 60 minutes to take the exam. To pass, it is necessary to answer correctly to a minimum of 18 questions. To get the maximum score (30/30), students should give 30 correct answers. To get "laude" students should give 31 correct answers.
The written test will eventually be integrated with an oral interview to improve the score.

18-20: knowledge and understanding of the topics just sufficient with possible imperfections; Sufficient analytical, synthesis and independent judgment skills.

21-23: knowledge and understanding of routine topics; analytical skills e correct summaries

with coherent logical argumentation.

24-26: reasonable knowledge and understanding of the topics; good skills analysis and synthesis.

27-29: complete knowledge and understanding of the topics; remarkable abilities analysis, synthesis. Good independent judgement.

30-30L: excellent level of knowledge and understanding of the topics. Notable capacity for analysis and synthesis and independent judgement.

OPTIONAL ACTIVITIES

In addition to the lectures, the student will be given the opportunity to participate to seminars, research internships, departmental internships.

READING MATERIALS

- Sabiston Textbook of Surgery, 19th Edition. The Biological Basis of Modern Surgical Practice.
- DeVita et al. Cancer: Principles & Practice of Oncology;
- Shields et al. General Thoracic Surgery;
- Current Surgical Therapy 14th Edition by John L. Cameron MD (Editor), Andrew M. Cameron MD PhD FACS (Editor)
- Schwartz's Principles of Surgery 11th Edition by F. Brunicardi (Author) et al.
- Srb's Manual of Surgery 5th Edition by Sriram Bhat (Author)
- Current diagnosis and treatment Surgery di Gerand Doherty 15 ed. Lange McGraw-Hill education

Other suggested readings

- Zollinger's Atlas of Surgical Operations, Tenth Edition 10th Edition by Robert Zollinger (Author), E. Ellison (Author)
- Netter's Surgical Anatomy and Approaches (Netter Clinical Science) 2nd Edition by Conor P Delaney MCh PhD FRSCI (Gen) FACS (Author)
- Top Knife: The Art and Craft of Trauma Surgery by Dr Asher Hirshberg MD FACS (Author), Dr Kenneth L Mattox MD FACS (Author), Mary K Allen (Editor), Dr Scott Weldon (Illustrator)
- Pocket Guide to the Operating Room Fourth Edition by Maxine A. Goldman BS RN (Author)