

## SURGERY RESIDENCY II (ML0212)

### 1. language

English.

### 2. course contents

Coordinator: Prof. MARGARITORA STEFANO

Year Course: 5°

Semester: 2°

UFC: 17

Modules and lecturers:

- CARDIAC SURGERY (ML0223) - 1 cfu - ssd MED/23

Proff. Antonio Amodeo, Massimo Massetti

- CARDIAC SURGERY PROFESSIONAL TRAINING (ML0217) - 1 cfu - ssd MED/23

Proff. Giovanni Alfonso Chiariello, Piergiorgio Bruno, Gianluigi Perri

- CLINICAL PHYSIOLOGY II (ML0220) - 1 cfu - ssd BIO/09

Prof. Lucia Leone

- GENERAL SURGERY IV (ML0225) - 1 cfu - ssd MED/18

Prof. Roberto Persiani

- GENERAL SURGERY PROFESSIONAL TRAINING (ML0213) - 1 cfu - ssd MED/18

Proff. Gabriele Sganga, Alberto Biondi, Alfonso Wolfango Avolio

- GENERAL SURGERY V (ML0226) - 1 cfu - ssd MED/18

Proff. Salvatore Agnes, Alfonso Wolfango Avolio, Gabriele Spoletini

- ORTHOPAEDICS AND ORTHOPAEDIC SURGERY (ML0227) - 2 cfu - ssd MED/33

Proff. Giulio Maccauro, Ivan De Martino

- ORTHOPAEDICS AND ORTHOPAEDIC SURGERY PROFESSIONAL TRAINING (ML0214) - 1 cfu - ssd MED/33

Proff. Luca Proietti, Simone Cerciello, Ivan De Martino, Carlo Perisano, Giulio Maccauro

- PHYSICAL MEDICINE AND REHABILITATION (ML0228) - 1 cfu - ssd MED/34

Prof. Luca Padua

- PHYSICAL MEDICINE AND REHABILITATION PROFESSIONAL TRAINING (ML0215) - 1 cfu - ssd MED/34

Proff. Alessia Rabini, Loredana Maggi

- THORACIC SURGERY (ML0221) - 1 cfu - ssd MED/21

Proff. Stefano Margaritora, Filippo Lococo

- THORACIC SURGERY PROFESSIONAL TRAINING (ML0216) - 1 cfu - ssd MED/21

Proff. Filippo Lococo, Venanzio Porziella, Elisa Meacci

- UROLOGY (ML0224) - 1 cfu - ssd MED/24

Proff. Emilio Sacco, Francesco Pinto

- UROLOGY PROFESSIONAL TRAINING (ML0219) - 1 cfu - ssd MED/24

Proff. Angelo Totaro, Emilio Sacco, Francesco Pinto

- VASCULAR SURGERY (ML0222) - 1 cfu - ssd MED/22

Proff. Yamume Tshomba, Giovanni Tinelli

- VASCULAR SURGERY PROFESSIONAL TRAINING (ML0218) - 1 cfu - ssd MED/22

Proff. Fabrizio Minelli, Giovanni Tinelli, Claudio Vincenzoni, Tommaso Donati, Yamume Tshomba

### 3. BIBLIOGRAPHY

- DeVita et al.; Cancer: Principles & Practice of Oncology
- Shields et al.; General Thoracic Surgery
- Ruvolo: Principi di Cardiochirurgia.
- Conn: Cardiac Surgery in the Adult.
- Khonsari, Cardiac Surgery: saveguards a pitfalls in operative technique
- Cronenwett and Johnston (Eds.): Rutherford's Vascular Surgery 8<sup>Th</sup> Edition
- Sabiston Textbook of Surgery, 19th Edition. The Biological Basis of Modern Surgical Practice
- Smith and Tanagho's general urology

### 4. LEARNING OBJECTIVES

Knowledge and understanding – The integrate course is based on the acquisition of the following knowledge and understanding:

- knowledge of diagnostic criteria and the principles of treatment concerning thoracic, vascular, cardiac, urological and general surgery; orthopedics and physical medicine.
- appropriate use of diagnostic techniques, findings interpretation and integration into patient management.
- knowledge of surgical indications, timing, strategies, approaches, operative planning, techniques, and complications.

Applying knowledge and understanding – The students will acquire knowledge and understanding of specific diseases, developing competence in the management of the most common clinical scenario concerning thoracic, vascular, cardiac, urological and general surgery; orthopedics and physical medicine.

Making judgements – The course aims at providing the students with the skills necessary to manage diagnostic and clinical data and to allow for a differential diagnosis, in order to apply correct diagnostic processes and therapeutic strategies for the diseases presented during the course.

Communication skills – The students will develop the ability to discuss on clinical practice, practical aspects of diagnostic and treatment options of clinical cases, as well as the attitude for multidisciplinary teamwork.

Learning skills – The students are going to develop learning abilities and to deepen their knowledge, through textbooks, e-learning materials and thanks to interactive lectures during which they will be invited to raise their doubts and questions. The importance of a continuous updating of knowledge and of clinical practice will be stressed, according to the concepts of evidence based medicine and best practice.

The course is divided in 2 different modules that are strongly integrated to each other.

The aim of the course is to:

1. Introducing the students of Medicine and Surgery to the basic principles of cardiovascular and thoracic surgery, general and transplantation surgery and urological surgery and to the techniques and technologies used for the surgical treatment of the different disease.
2. Transferring to the students the practice basics of surgery in the ward and in the operative theater.

## 5. prerequisites

Background knowledge of cardiovascular, thoracic, abdominal and orthopedics anatomy, physiology and physiopathology as well as of common signs/symptoms and principal diagnostic techniques is required.

## 6. TEACHING METHODS

Knowledge and understanding – Thanks to the lessons given during the course and teaching materials available on Blackboard, students can achieve the knowledge and understanding of diagnostic criteria, techniques and indications concerning all disease treated during the course. Applying knowledge and understanding – Thanks to the practical activities carried out in the hospital ward and in the operating room, the students will acquire competence in the management of the most common clinical scenario concerning thoracic, vascular, cardiac, urological and general surgery; orthopedics and physical medicine.

Making judgements – The discussion of clinical cases and general clinical and surgical activity allow the student to acquire independent judgment.

Communication skills; learning skills – Meeting colleagues and participating at clinical cases discussion in a multidisciplinary teamwork allow the student to acquire communication and learning skills.

## 7. OTHER INFORMATIONS

During exams, any portable electronic devices, including mobile phones, must be switched off and put over the desk inside an envelope given by the Course Coordinator.

The only exception to this rule is if the Course Coordinator gives specific permission to use any device.

Violations will be referred to the Disciplinary Committee.

## 8. METHODS FOR VERIFYING LEARNING AND FOR EVALUATION

The final exam will take place at the end of the course during the Ordinary session. Students will be challenged with test items that address issues that require integrated knowledge and the basic understanding of disease that required surgical treatment.

The exam will be based on a cumulative written test with multiple-choice questions concerning all teaching modules. A total number of 30 MCQ with one only correct choice for each quiz, proportional to the number of CFU/hours of each teaching module will be administered, with a maximum time of 60 min. To pass, the student should give at least 18 correct answers. To get the maximum score (30/30), the student should give 30 correct answers.

Knowledge and understanding; applying knowledge and understanding, making judgements – The written test with multiple-choice questions based on all teaching modules allows the student to verify the level of learning achieved during the course concerning diagnostic criteria, techniques and indications of all disease treated during the course.

Communication skills; learning skills – The students test their ability to discuss on clinical practice, practical aspects of diagnostic and treatment options of clinical cases thanks to the written test concerning teaching modules of thoracic, vascular, cardiac, urological and general surgery; orthopedics and physical medicine.

## 9. program

### 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. Historical evolution of thoracic surgical approaches.

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.

Practicals: how to assess thoracic surgery patients: pre-operative and post-operative evaluation.

### CARDIAC SURGERY

Introduction to the Cardiac Surgery

Basic concepts of cardiac surgery. Extracorporeal Circulation and Cardiopulmonary bypass: components, physiology and function.

Surgery of Valvular Disease. Aortic and Mitral valve surgery: replacement or repair. Valvular Prosthesis: Mechanical or Biological.

Principles of Minimally Invasive Cardiac Surgery

Surgery of Coronary Artery Disease. Indications to coronary artery bypass revascularization.

Arterial and venous conduit used for coronary artery revascularization.

Surgical treatment of ischemic cardiac disease complications.

Surgery of Heart Failure. Mechanical circulatory device: early and late support. Heart Transplantation.

Surgery on Adult Congenital Heart Disease

Practicals: how to assess cardiac surgery patients: pre-operative and post-operative evaluation;

### VASCULAR SURGERY

Introduction to Vascular Surgery

Aneurysms of the abdominal aorta. Etiology, natural history, clinical presentation, diagnosis, therapeutic options.

Aneurysms of the thoraco-abdominal aorta. Etiology, natural history, clinical presentation, diagnosis, therapeutic options.

Vascular trauma. Blunt and penetrating vascular injuries, diagnosis, and treatment.

Acute limb ischemia and reperfusion-syndrome. Etiology, clinical presentation, diagnosis, therapeutic options.

Peripheral arterial disease. Clinical presentation, diagnosis and staging, therapeutic options.

Carotid-vertebral disease. Clinical presentation, diagnosis and treatments.

Venous disorders of the legs and thromboembolic disease. Clinical presentation, diagnosis and treatment.

Practicals: how to assess a vascular surgery patient: pre-operative and post-operative evaluation.

### GENERAL AND TRANSPLANTATION SURGERY

Clinical presentation, patient selection, preoperative assessment and surgical approach of: right colon cancer, left colon cancer, rectal cancer

Focus on: minimally-invasive surgery, stoma construction, management and complications, colorectal surgical complications, ERAS protocol

Indications and techniques of liver and renal transplantations.

Practicals: how to assess surgical patients: pre-operative and post-operative evaluation.

### UROLOGICAL SURGERY

Introduction to Urological diseases.

General Urology: benign prostatic hyperplasia, urolithiasis, bladder catheterization, urinary tract infections, genitourinary trauma.

Oncologic Urology: benign and malignant renal tumours, adrenal tumours, upper tract urothelial carcinoma, bladder cancer, prostate cancer, testicular tumours, penile cancer.

Functional urology: urinary retention, urinary incontinence, overactive bladder syndrome, bladder pain syndrome/interstitial cystitis.

Andrology: varicocele, hidrocele, erectile dysfunction, male infertility.

Pediatric urology: congenital urogenital malformations, hydronephrosis, vesicoureteral reflux, cryptorchidism.

Practicals: how to assess a urologic patients: pre-operative and post-operative evaluation.

Attendance of outpatient clinics for main diagnostic investigations: cystoscopy, urodynamics, prostate biopsy, radiological imaging.

Attendance of urologic operative theater.

## ORTHOPEDICS AND ORTHOPAEDIC SURGERY

Principles of orthopedics and orthopedic surgery.

## PHYSICAL MEDICINE

Principles of physical medicine and rehabilitation.