

## CLINICAL CENTER RESIDENCY II (ML0178)

### 1. language

English

### 2. course contents

Coordinator: Prof. PIETRO FAMILIARI

Year Course: 5

Semester: 1

UFC: 9

Modules and lecturers:

- ANESTHESIOLOGY AND EMERGENCY MEDICINE I (ML0183) - 1 UFC - ssd MED/41

Prof. Paolo Maurizio Soave, Massimo Antonelli, Gaetano Draisci

- FROM DIAGNOSIS TO CLINICAL CARE II (ML000117) - 3 UFC - ssd MED/09

Prof. Giovanni Gambassi, Raimondo De Cristofaro, Carmine Cardillo

- GENERAL SURGERY III (ML0182) - 2 UFC - ssd MED/18

Prof. Pietro Familiari, Fausto Rosa, Valerio Cozza

- GENERAL SURGERY PROFESSIONAL TRAINING (ML0180) - 1 UFC - ssd MED/18

Prof. Andrea Di Giorgio, Andrea Tringali, Valerio Cozza, Fausto Rosa, Antonio La Greca

- INTERNAL MEDICINE PROFESSIONAL TRAINING (ML0179) - 1 UFC - ssd MED/09

Prof. Marcantonio Negri, Massimo Montalto, Alberto Tosoni, Maria Anna Nicolazzi,

Donatella Brisinda, Eleonora Gaetani

- PHARMACOLOGY II (ML0181) - 1 UFC - ssd BIO/14

Prof. Paolo Montuschi, Cesare Mancuso

### 3. BIBLIOGRAPHY

From Diagnosis To Clinical Care II: All of the documentation presented in classroom, including PPT, PDF, videos, movies, URL, websites etc. should be considered mandatory learning material and it will be made available to the students.

The reference textbook for a more systematic learning are

*Current Medical Diagnosis and Treatment – 55<sup>th</sup> edition Lange, 2016*

*Harrison's principles of internal medicine, McGraw Hill, 19<sup>th</sup> Edition.* Although students are encouraged to consolidate and elaborate the learning from classroom material into more systematically treated textbook chapters, the acquisition of the textbook should only be considered optional.

General Surgery Textbook of Surgery, Elsevier, 21<sup>st</sup> Edition

Current Diagnosis and Treatment Surgery, Lange – McGraw Hill, 15<sup>th</sup> Edition

Pharmacology and Gilman's. The Pharmacological basis of Therapeutics. 12<sup>th</sup> Edition

Katzung B.G. and Vanderah T.W. Basic and Clinical Pharmacology. 15th Edition, McGraw-Hill, USA, 2021.

Anesthesiology and emergency medicine:

Miller, Lorraine M. Sdrales, Ronald D. (2013). Miller's anesthesia review (2nd ed.). Philadelphia, PA: Elsevier/Saunders. ISBN 9781437727937.

Basics of Anesthesia. 7th Edition Authors: Manuel Pardo, Ronald Miller - Elsevier – 2017

Tintinalli's emergency medicine: a comprehensive study guide

Civetta, Taylor, & Kirby's Critical Care Medicine, 5e Editor-in-chief A. Joseph Layon, Edited by Andrea Gabrielli, Mihae Yu and Kenneth E. Wood Hardback

9781469889849 October 2017, 1984 pages

Rhodes A, Evans LE, Alhazzani W, Levy MM, Antonelli M, Ferrer R, Kumar A, Sevransky JE, Sprung CL, Nunnally et Al. Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016. Intensive Care Med. 2017 Mar;43(3):304-377. doi: 10.1007/s00134-017-4683-6. Epub 2017 Jan 18.

The Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3). Singer M, Deutschman CS, Seymour CW, Shankar-Hari M, Annane D, Bauer M, Bellomo R, Bernard GR, Chiche JD, Coopersmith CM, Hotchkiss RS, Levy MM, Marshall JC, Martin GS, Opal SM, Rubenfeld GD, van der Poll T, Vincent JL, Angus DC. JAMA. 2016 Feb 23;315(8):801-10. doi: 10.1001/jama.2016.0287. The Berlin definition of ARDS: an expanded rationale, justification, and supplementary material.

Ferguson ND, Fan E, Camporota L, Antonelli M, Anzueto A, Beale R, Brochard L, Brower R, Esteban A, Gattinoni L, Rhodes A, Slutsky AS, Vincent JL, Rubenfeld GD, Thompson BT, Ranieri VM. Intensive Care Med. 2012 Oct;38(10):1573-82.

Epub 2012 Aug 25. Erratum in: Intensive Care Med. 2012 Oct;38(10):1731-2.

Acute respiratory distress syndrome: the Berlin Definition. ARDS Definition Task Force, Ranieri VM, Rubenfeld GD, Thompson BT, Ferguson ND, Caldwell E, Fan E, Camporota L, Slutsky AS. JAMA. 2012 Jun 20;307(23):2526-33. doi: 10.1001/jama.2012.5669.

#### 4. LEARNING OBJECTIVES

*Knowledge and understanding* (Dublin 1) – The integrate course is geared toward the acquisition of the following knowledge and understanding:

Integrated clinical care and management in emergency, sub-intensive, acute, continuing and transitional care

Physiology and pathophysiology of sepsis and septic shock

Diagnosis and treatment of dyspnea and acute respiratory failure, acute exacerbations of chronic obstructive pulmonary disease and asthma exacerbations

Main principles of general anesthesia, regional anesthesia and pain management

Mechanisms of nociceptive transmission, methods of pain assessment, the pharmacology of pain transmission and modulation, and principle of interventional pain management

Pharmacological management of anaphylactic shock

Evaluation and management of critically ill and traumatized patients: triage, clinical assessment, pre-hospital and hospital response during a major incident; non-operative management of patients, diagnostic techniques in emergency surgery, and basics of emergency surgery

Assessment, diagnosis and treatment of the main causes of acute abdomen, and other challenging situations in emergency surgery

Diagnosis and management of patients with peripheral artery disease, porphyria,

hemochromatosis, vasculitis, pleuro-pericarditis, metabolic syndrome.

Management of parenteral, and oral anticoagulants, including antidotes and treatment of spontaneous bleeding, and management of anticoagulation in the perioperative time.

Appropriate use of diagnostic techniques, findings interpretation and integration into patient management.

*Applying knowledge and understanding* (Dublin 2)– The students will learn how to apply the acquired knowledge to the understanding and applying them in the management of common clinical scenarios in the emergency, sub-intensive, acute, continuing and transitional care settings.

*Making judgements* (Dublin 3) – Students will be instructed on how to master clinical reasoning to synthesize data toward a prioritized differential diagnosis, working diagnosis, and plan; progressively they will develop abilities on how to autonomously make judgments and take decisions when facing the integrated clinical care and management of patients in various clinical scenarios. Students will learn how to make the correct diagnosis, within a list of potential differential diagnoses, and how to choose the most appropriate therapeutic strategy.

*Communication skills* (Dublin 4) – The students will acquire the skills to illustrate and discuss critically the clinical cases in the context of a multidisciplinary team. The students will learn how to present and contextualize risks and benefits of the different, diagnostic techniques and pharmaceutical and surgical therapies. At the end of the course, they should be able to appropriately communicate and discuss the choices made during the diagnostic process, the care methods and clinical decisions.

*Learning skills* (Dublin 5) – Throughout the course, the students will mature abilities about how to consolidate and extend their knowledges beyond the usual teaching program and learn about continuing medical education and how to remain updated in the rapidly evolving field of biomedical science.

## 5. prerequisites

This course is designed to be a natural prosecution of the Clinical Center Residency I. Student should have already appropriate knowledge of anatomy, physiology, general and systematic pathology, and of the basic principles of surgery; they should have acquired a certain level of clinical awareness. Students should have gained, during the previous training, practical, professional skills, and problem-solving skills.

## 6. TEACHING METHODS

The course consists of traditional classroom lectures, case-based learning, interactive learning, and self-study along with autonomous and tutor-guided professional training in the different clinical units.

*Knowledge and understanding* – During traditional classroom teaching the students will be stimulated to interact with the tutors and other students, and review the previously acquired individual knowledges, and translate them into a new level of integration.

*Applying knowledge and understanding* – During classroom lectures and especially during the professional training, the students will be encouraged in the application of their acquired knowledge and understanding, into the clinical scenarios that will be proposed. Cooperation between students and tutors, will be particularly stimulated.

*Making judgements* – During classroom lectures and even more specifically during the professional training, the students encouraged to participate in the clinical decision making of the most common clinical scenarios, from the diagnostic processes to the therapeutic choices. The students will be stimulated to directly interact with patients, when appropriated and indicated.

*Communication skills* – Students will be requested to play an active role during classroom lectures and interact with questions and answers as well as in role-playing scenarios. During the activities of professional training, the students will be stimulated to present and discuss real clinical cases with the other students, by using an appropriate medical language, and by maturing communication skills with patients.

*Learning skills* –Beyond the classroom lessons and the professional training, self-learning will be encouraged, and the students will be stimulated to use the most renowned on-line platforms, software and web-based applications

## 7. OTHER INFORMATIONS

*none*

## 8. METHODS FOR VERIFYING LEARNING AND FOR EVALUATION

The final exam will consist of a multiple-choice questions (MCQ) evaluation (test items) based on topics of all teaching modules. Items to be administered during the final exam will address issues related to the content of each disciplines (modules) and the number of items for each discipline will be proportional with the number of CFU/hours administered during the course.

The final evaluation test will consist of 50 MCQs. Candidates will have 70 minutes to answer all the questions.

The test will include 7 MCQ for Anesthesiology and Emergency Medicine; 7 MCQ for Pharmacology II; 22 MCQ for Internal Medicine III and IV; 14 MCQ for General Surgery III.

Vote will be calculated in proportion to the number of correct answers provided, and will vary between “<18” (insufficient) and “30 with laude” (outstanding).

To pass, the student should reach a threshold of correct answers above 50% in each discipline.

The final vote will be calculated on the number of correct answers along the scheme below

<28	insufficient
28	18
29	19
30	20
31	21
32	22
33	23
34-35	24
36-37	25
38-39	26
40-41	27
42-43	28
44-45	29
46-48	30
49-50	30+L

## 9. program

### ***Anesthesiology and emergency medicine I***

Sepsis and septic shock: diagnosis and emergency treatment

Acute respiratory failure: diagnosis and emergency treatment

General principles of Anesthesia:

General anesthesia

Regional anesthesia and pain management (Spinal, Epidural, & Caudal Blocks, Peripheral Nerve Blocks)

Preoperative assessment

Pharmacological principles

Postoperative pain management

Pain medicine

Anatomy and physiology: mechanisms of nociceptive transmission

Pharmacology of pain transmission and modulation

Methods of pain assessment

Principles of interventional pain management

Disaster medicine

Medical response to major incidents and disaster: triage, pre hospital and hospital response

Advanced hazmat support in chemical and radiological disasters

### ***From Diagnosis To Clinical Care II***

Vasculitis

Hemoptysis – case scenario to discuss about angiomatosis and Rendu-Osler

Thrombophilia and cancer

(un)explained gastro-intestinal bleeding – case scenario to discuss acquired vW (Heyde syndrome)

ESUS

Arterial Hypertension: initial approach and resistant hypertension

Acute renal failure and hematuria

Pulmonary hypertension

Peripheral artery disease and limb ischemia

The heart of the matter (Libman-Sacks endocarditis)

From New England Journal of Medicine (ISSN 0028-4793, editor Massachusetts Medical Society)

- Case 9-2017
- Case 37-2021
- Case 7-2022
- Case 16-2022
- Case 17-2022
- The after-dinner dip
  
- 57-year old man with confusion, fever and malaise and weight loss
- 65-year old man with syncope, dyspnea and leg edema

- 41-year old woman with visual disturbances and headache
- 44-year old man with joint pain, weight loss, and chest pain
- 30-year old man with fatigue, rash, anemia and thrombocytopenia
- 70-year old woman with gradually progressive loss of language in conjunction with 62-year old with memory loss and odd behavior
- 64-year old woman with cognitive impairment, headache and memory loss

### **General surgery III**

Foreign bodies and caustic ingestion

Non-operative treatment of perforations (spontaneous, traumatic, iatrogenic)

Assessment and initial treatment of the acutely ill patient: which is a surgical patient?

Diagnostic techniques in emergency surgery

Emergency surgery techniques

Surgical critical care

Assessment, diagnosis and treatment of the main causes of acute abdomen (appendicitis; cholecystitis;

diverticulitis; pancreatitis; bowel obstruction and perforation; complicated incisional hernias)

Difficult challenges in emergency surgery (necrotizing soft tissue infections, Rescue surgery, C-diff colitis; intestinal ischemia; differential diagnosis of pelvic conditions in females)

Assessment and Primary Care of Traumatized Patient.

Drug-induced gastric lesions

Hernia and other lesions of the abdominal wall

Acute mesenteric ischaemia

### **Pharmacology II**

Pharmacological treatment of acute exacerbations of chronic obstructive pulmonary disease (COPD)

Pharmacological treatment of acute asthma exacerbations

Pharmacological treatment of anaphylactic shock

Anticoagulant drugs

Pharmacological treatment of spontaneous or provoked bleeding and peri surgery management in anticoagulant-treated patients

Lipid-lowering agents