Title: DISEASES OF THE CARDIOVASCULAR RESPIRATORY APPARATUS

<table>
<thead>
<tr>
<th>Code</th>
<th>MC 5101</th>
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<tr>
<td>ECTS Credits</td>
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<tr>
<td>Teaching Format</td>
<td>Lectures and practical training</td>
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<td>Semester/Year</td>
<td>1st/5th</td>
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<td>Assessment/ Exam Type</td>
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<td>Teaching Hours</td>
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<td>Lectures:</td>
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<td>Bed-side teaching (BST):</td>
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<td>FTE</td>
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<td>Preconditions</td>
<td>All the exams of the first three years</td>
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Contents
A) CARDIOLOGY
- Anamnesis
- Clinical examination in Cardiology
- Correlations between symptoms and signs in clinical examination
- Instrumental Diagnostics: ECG, chest X-ray, ultrasound, nuclear cardiology, hemodynamic tests
- Basic notions of Cardio - Physiopathology
- Heart failure: classification, causes, pathogenesis, diagnosis and treatment
- Major congenital heart disease
- Pulmonary embolism
- Pulmonary heart disease
- Infective endocarditis
- Pericarditis
- Pathologies of Myocardio and myocarditis
- Mitral valvular-pathologies
- Aortic valvular pathologies
- Tricuspidalica valvular-pathology and valvular diseases
- Electrophysiology of arrhythmias
- Bradycardia
- Cardiac arrhythmia
- Syncope
- Sudden Death
- Risk factors and Atherogenesis
- Primary prevention of ischemic heart disease
- Basic principles of Patho-physiology of coronary circulation
- Heart disease: classification and clinical syndromes
- Mechanisms and consequences of myocardial ischemia
- Chronic Ischemic Heart
- Acute coronary syndromes: unstable angina and heart attack

OPTIONAL ACTIVITIES
- Pathogenesis, diagnosis and clinical aspects of metabolic syndrome
- Role of C-reactive protein in primary and secondary prevention of ischemic heart disease
- Pathogenesis, diagnosis and clinical aspects of cardiac stunning and myocardial function
- Mechanisms and clinical significance of Myocardial Preconditioning
- Percutaneous treatment of congenital and acquired heart disease
- Role of implantable defibrillator therapy and synchronization in therapies of patients with severe heart failure

TRAINING ACTIVITIES
- Anamnesis in cardiology
- Cardiovascular clinical examination
- Reading and interpreting Electrocardiography
- Electrocardiographic diagnosis of acute myocardial infarction myocardial hypertrophy, Sinoatrial Block and ventricular tachyarrhythmias
- Reading and interpretation dell’ECG stress and Holter
- Reading and interpreting normal echocardiogram
- Echocardiographic diagnosis of left ventricular dysfunction and major valvulo-pathology
- Reading and interpretation of cardiac catheterization, right and left
- Reading and interpretation of myocardial Scintigraphy
- Reading and interpretation of coronary Angiography
- Reading and interpretation of electrophysiological study

B) MEDICAL ANGIOLOGY
- Deep vein thrombosis
- Pulmonary embolism: ethiopathogenetic clinical and therapeutic aspects
- Peripheral arterial diseases
- Cerebral vascular

**LEARNING ACTIVITIES**

- The clinical management of patients with Trombofilia
- Clinical evaluation and diagnostic approach of patients with deep vein thrombosis
- Clinical evaluation and diagnostic approach of patients with Peripheral arterial diseases

C) VASCULAR SURGERY

- Acute and chronic arterial diseases of limb
- Aneurysms
- Visceral arterial diseases
- Cerebrovascular insufficiency
- Arterio-venous Fistulas and vascular congenital disorder
- Chronic venous insufficiency of lower limbs
- Deep vein thrombosis and pulmonary embolism: surgical aspects
- Lymphatic diseases of the limbs
- Vascular Trauma

**OPTIONAL ACTIVITIES**

- Seminars on Surgical Phlebology
- Thrombo-embolic disease
- Varicocele

**LEARNING ACTIVITIES**

- Identify and describe peripheral wrists features
- Identify the murmurs of vascular origin
- Identify signs of venous insufficiency of lower limbs
- Assess and manage trophic lesions of vascular origin
- Attend operations of vascular surgery

2) RESPIRATORY DISEASES

A) RESPIRATORY DISEASES AND RESPIRATORY PHYSIOPATHOLOGY

- Notes on the development and anatomy of the respiratory system; correlations anatomo-radiological and functional. (UDE 115, 132, 133)
- Application of a mechanical model for the study of the respiratory system: work and respiratory dyspnea. (UDE 250, 835)
- Static Mechanism thorax-lung. Determinants of lung volumes. Restrictive Dysfunctional syndromes and parietal parenchymal pattern. (UDE 555)
- Dynamics Properties of respiratory system: the airway resistance, determinants of maximum expiratory flow; dysfunctional obstructive syndrome; limiting concept of 'flow, the dynamic hyperinflation. (UDE 256, 555)
- The function of arterIALIZATION of lung : mixed venous blood; alveolar ventilation and gaseous exchange and the regulation of ventilation, ventilation adjusting plasma pH. (UDE 252, 254, 255, 299)
- The main investigation on the respiratory functional exploration: methods of study, interpretation, testing, clinical applications. (UDE 251, 556, 584, 1203, 1355)
- The main respiratory symptoms and signs: dyspnea, cyanosis, cough, sputum, haemoptysis. features, etiopathogenesis, clinical correlations. (UDE 832, 835)
- The hypoventilation syndrome and alveolar hyperventilation. Sleep apnea. (UDE 557, 1244, 1534)
- The acute respiratory failure (ARDS). (UDE 558)
- The stable chronic respiratory failure and worsening. (UDE 569, 1993, 1994)
- The acquired pneumonia and pneumonias in hospital. (UDE 563, 564)
- The pulmonary tuberculosis. (UDE 560, 561)
- Bronchiectasis. (UDE 563, 565)
- The Atelectasis patent bronchus and occluded bronchus. (UDE 563, 566)
- The bronchial asthma. (EDU 571, 1408, 1480, 1634)
- Chronic obstructive pulmonary disease (BPCO): chronic bronchitis and Emphysema. (UDE 567, 568, 1533, 1634)
- The diffuse infiltrative pulmonary diseases. (UDE 572, 573, 574, 758, 1634)
- The pleural effusions. (EDU 582, 583)
- The pulmonary hypertension, primary and secondary. (UDE 453, 458)
- The Pulmonary embolism: physiopathological and clinical aspects. The acute pulmonary heart. (UDE 488, 489)
- The chronic Cor pulmonale. (UDE 453)
- Lung transplantation. (UDE 580)

Keys: UDE (Elementary Teaching Unit): unit of homogeneous learning content. The number that identifies the individual UDE has to be referred to the Core Curriculum in Med Chir 30th 2005., 1146-1198,

**OPTIONAL ACTIVITIES**

1st Monographic courses on Respiratory Medicine (2 h) 0.25
2nd Seminars on topics relevant to the Respiratory Medicine 0:25
3rd Internship in Clinical Pneumologia (15 h) 0.50
4th Discussion of clinical cases related to the Respiratory Medicine 0:25
5th Certified participation in conferences and congresses pulmonary 0:50
6th Attend the laboratory of Respiratory Pathophysiology (15 h) 0.50

**TRAINING ACTIVITIES:**

a) FIBEROPTIC BRONCHOSCOPY AND BRONCHOALVEOLAR WASHING

Assist to a bronchoscopy and learn about the essential elements of this technique, limitations, the possible side effects, indications, contraindications and expected outcomes. (CON 2 - COM 3 -- ABI 1)

Being able to explain to the patient the procedures and risks of the bronchoscopy. (ABI 3)
Knowing how to interpret key diagnostic reports of endoscopy and bronchoscopy citoistologici. (ABI 3)

b) FUNCTIONAL RESPIRATORY DIAGNOSTICS

Being able to describe briefly the performance and know the Pulmonary Function Tests (spirometry, volumes, CO, bronchodilator test, pharmacological tests ). Knowing how to interpret diagnostic results of spirometry (CON 2 -
c) ARTERIAL BLOOD GAS (ABG)
Know how to take blood for Arterial Blood Gas (dummy). (ABI 3)
Being able to explain the physiopathological mechanisms that causes abnormal acid-base balance of metabolic and respiratory origin. (CON 3 - COM 3)
Know how to interpret pathophysiological-diagnostic parameters in order to identify Arterial blood gas – test alterations of gas, alveolar ventilation and acid-base. (ABI 3)
d) CLINICAL APPROACH TO THE PATIENT IN PNEUMOLOGY
Know how to collect a history pneumology focused. (ABI 2)
Know how to ask relevant questions to patients with respiratory symptoms. (ABI 3).
Know how to perform a complete examination of the chest (3 ABI) and respiratory –system (2 ABI).
Know how to measure the respiratory rate and detect the characteristics of breath (ABI 3).
Know how to calculate the Body Mass Index (ABI 3).
Know how to combine anamnesis with the results of instrumental investigation in order to identify a syndrome (eg., Atelectasis, occluded- broncho patent bronco; pleural effusion, secondary breath - insufficiency) (ABI 3).
Know how to formulate a diagnostic procedure towards reasoned decisions (ABI 3).
Collect a sample of sputum for cytological and biological research. (ABI 2).
Know how to perform a tuberculin intradermareazione with scalar dilutions (ABI 3).
e) NON-GENERAL PHARMACOLOGICAL THERAPY OF THE PATIENTS
Being able to educate acute and chronic patients about indications, method of administration and effects of oxygentherapy 
(ABI 3).
Know how to administer oxygen by mask venturi (ABI 3).
Being able to explain patients Positive end-expiratory pressure (PEEP) or ventilation masked with Continuous Positive Airway Pressure(CPAP) (ABI 2).

Keys:
CON = depth of knowledge: 1 surface, 2 general, 3 detailed
COM = competence: 1 memory, 2 interpretative 3 decision
ABI = skills: 1 theoretical 2 theory and practice, 3 autonomous

B) THORACIC SURGERY
- Diseases of chest
- Pathology of the pleura
- Diseases and mediastinal syndromes
- Congenital and infectious diseases of the lungs
- Benign and malignant neoplasms of lungs
- Trachea: diseases of surgical interest

TRAINING ACTIVITIES:
- Perform a complete physical examination of chest
- Recognize evidences of hypertensive pneumothorax
- Provide directions for the use of oxygen in acute and chronic respiratory insufficiency
- Make a SpO2
- Administer oxygen
- Explain patients the risks of a bronchoscopy, spyrometry
- Assist a bronchoscopy
- Assist operation of thoracic surgery

Objectives

Material/ Equipment required
Identity badge, White coat and stethoscope

Additional Costs
None