

The Hebrew University of Jerusalem

Syllabus

The respiratory system of the sick person - 96302

Last update 23-12-2023

HU Credits: 3.5

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Medicine

Academic year: 0

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: Ein Karem

Course/Module Coordinator: Dr Joel Reiter

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Coordinator Office Hours: בתיאום מראש

Teaching Staff:

Prof Neville Berkman,
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Dr. alex gileles,
Dr. Hadar Arien-Zakay

Course/Module description:

The course will review the diseases of the respiratory system

Course/Module aims:

The students will attain knowledge and a comprehensive understanding of diseases of the respiratory system, including pathology, pathophysiology, microbiology, genetics, clinical presentation and treatment

Learning outcomes - On successful completion of this module, students should be able to:

Recognize the pathological changes in the lung and respiratory system in disease conditions of the respiratory system.

Understand the pathophysiology of respiratory disorders with emphasis on the physiology of respiration and ventilation.

Describe the microbiological basis of infectious diseases of the respiratory system.

Describe the genetic basis of genetic diseases of the respiratory system.

Be able to describe the clinical presentation of diseases of the respiratory system, epidemiology, presentation, diagnosis and differential diagnosis, treatment, course and prognosis.

Attendance requirements(%):

There is an 80% obligatory attendance in the frontal lectures. Full (100%) attendance is required in the pathology lab and PBL.

Teaching arrangement and method of instruction: Frontal lectures by experts in each field. Pathology labs. Online computerized modules (radiology) and PBL.

Course/Module Content:

1. Diseases of the respiratory system (including pathophysiology) – predominant adult and pediatric diseases:

Asthma, obstructive lung diseases, chronic obstructive pulmonary disease (COPD), tobacco smoke consequences, sleep disorders and sleep related breathing disorders, pneumonia – including immunocompromised, tuberculosis, restrictive lung disease, sarcoidosis, granulomatosis with polyangiitis, organizing pneumonias (OP), pulmonary tumors, pulmonary hypertension and pulmonary embolism. Cystic fibrosis, primary ciliary dyskinesia, bronchopulmonary dysplasia, congenital pulmonary anomalies, respiratory infections in children.

2. Pathology and histopathology + 2 hours lab:

Anatomy and histology, atelectasis, pulmonary edema, diffuse alveolar damage, pulmonary embolism, pulmonary hemorrhage, pulmonary infarction, pulmonary hypertension, emphysema, chronic bronchitis, bronchiectasis, asthma, interstitial pneumonias including idiopathic pulmonary fibrosis, nonspecific interstitial pneumonia (NSIP), usual interstitial pneumonia (UIP), cryptogenic organizing pneumonia (COP), sarcoidosis, hypersensitivity pneumonitis and others, pulmonary alveolar proteinosis, pneumoconiosis (asbestosis only), bacterial pneumonias (bronchopneumonia and lobar pneumonia), atypical pneumonias, specific pneumonias - nosocomial, immunocompromised patients, aspiration), lung abscess, and pulmonary tumors.

3. Pharmacology:

Anti-inflammatory therapy: corticosteroids, leukotriene antagonists, anti-histamines, bronchodilator therapy – long and short acting beta-adrenergic agonists, and muscarinic antagonists, phosphodiesterase inhibitors, biological therapies and therapy for pulmonary hypertension and interstitial lung disease.

4. Microbiology:

Respiratory infections – bacterial, viral, tuberculosis, antibiotic therapy and respiratory infections in the immunocompromised.

5. Radiology: One hour lecture followed by an online computerized module

Required Reading:

Robbins and Cotran: Pathologic Basis of Disease, 9th Edition, 2015, chapter 15, and chapter 9 pages 414-417, chapter 10 pages 466-471.

Medical microbiology, Murray Patrick, eighth Edition chapter 19 (Streptococcus and Enterococcus): Streptococcus pneumonia, chapter 22 (Mycobacterium and related Acid-fast bacteria): Mycobacterium tuberculosis, and chapter 17 (antibacterial agents)

Mims' Medical Microbiology, fifth Edition, chapters 18-19 and 33 (antimicrobial agents and chemotherapy).

*Basic & Clinical Pharmacology - Katzung, 2018, 14th Edition, section IV
or*

Goodman & Gilman's The Pharmacological Basis of Therapeutics - Brunton, Lazo & Parker, 2018, 13th Edition. Section III chapter 31; Section IV chapters 39-40.

Goodman & Gilman's The Pharmacological Basis of Therapeutics - Brunton, Lazo & Parker, 2018, 13th Edition. Section VII chapter 57.

Additional Reading Material:

Robbins and Cotran Atlas of Pathology, 2nd/3rd Edition

Additional material may be provided by the lectures through moodle.

Grading Scheme:

Written / Oral / Practical Exam 100 %

Additional information:

Test curriculum also includes the material presented in lectures and the laboratory (not limited to the above literature)