



BACTERIAL AND FUNGAL INFECTIONS

CU characterization:

CU name:

Bacterial and fungal infections

Scientific area acronym:

MT

Duration:

Semiannual

Working hours:

224

Contact hours:

74

ECTS:

8

Observations:

Mandatory CU

Teacher in charge and respective teaching load in the CU:

Filomena Pereira – 14.75 hours

Other teachers and respective teaching load in the CU:

João Costa – 12.5 hours

Ana Armada – 8 hours

Isabel Couto – 9.5 hours

Jorge Seixas – 12.25 hours

Luísa Vieira – 9 hours

Luís Varandas – 10.5 hours



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Intended learning outcomes (knowledge, skills and competences to be developed by the students):

After this unit, students should be able to:

1. Understand the basic concepts in medical bacteriology and mycology.
2. Have acquired knowledge on the epidemiology, physiopathology, the different clinical and laboratory aspects of bacterial and fungal infections with importance in tropical regions, as also its treatment, prevention and control.
3. Be able to manage the differential diagnosis of these infections, namely with respect to febrile syndromes.
4. Recognize the importance of the laboratory and of its methodology in the diagnosis of these infections, especially in relation to adequate samples and to a correct interpretation of laboratory tests results.
5. Know antibiotics and antifungal action mechanisms and antimicrobial resistance mechanisms.
6. Be aware of the poor resource countries conditions and its relation to populations health and with the available resources for clinical practice.
7. Acquire capacity to adapt to the available resources for the diagnosis and treatment of infections in poor resource countries.

Syllabus:

- I. Basic concepts in bacteriology and mycology. Importance of medical bacteriology and mycology
- II. Epidemiology, physiopathology, immunology, clinical signs and symptoms, diagnosis, treatment, prevention and control of bacterial and fungal infections important in tropical regions, as for example lepra, TB, plague, tetanus, dermatophytosis, sporotrichosis, mycetomas, cryptococcosis, histoplasmosis and others
- III. Differential diagnosis of these infections and of some of these infections febrile syndromes
- IV. Importance of the laboratory and its correct and adequate use applied to the diagnosis of these infections in resource poor countries conditions
- V. Action mechanisms of antibacterial and antifungal agents; resistance to antimicrobials: mechanisms, clinical impact (outpatient and in the hospital) and in public health
- VI. Clinical and laboratory diagnosis in poor resource countries: minimum quality standards



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Teaching methodologies (including assessment):

Lectures: formal, knowledge transmission from teacher to student, adapted to student participation

Theoretic practical classes: Mainly based in problem based learning (PBL)

Laboratory classes: distribution of a theme to a group of students: a clinical history of a patient suffering from an infectious disease or a microorganism for identification.

The student is expected to perform the adequate laboratory techniques.

Seminars: preparation and presentation of articles on a chosen theme with discussion in a seminary format.

Tutorial classes: interactive, represent the opportunity for the students to pose their doubts about the topics presented and also a time for exchanging ideas.

Students assessment: mixed test with multiple choice and short open questions and presentation of any subject in the field of tropical medicine.

References for consultation / mandatory existence:

- Magill AJ, Ryan ET, Solomon T, Hill DR (2012). Hunter's Tropical Medicine and Emerging Infectious Disease, 9th Edition, Elsevier.
- Carroll K C, Hobden JA, Miller S, Morse SA, Mietzne TA, Detrick B, Mitchell T G, McKerrow JH, Sakanari JA (2016). Jawetz Melnick & Adelbergs Medical Microbiology, 26th Edition, McGraw Hill.
- Engelkirk P, Duben-Engelkirk JLLaboratory (2012). Diagnosis of Infectious Diseases: Essentials of Diagnostic Microbiology, Lippincott Williams & Wilkins.
- Guidelines of the Infectious Disease Society of America
<https://www.idsociety.org/Organism/>
- Barroso H, Meliço-Silvestre A, Taveira N (2014). Microbiologia Médica 1, Lidel.