

26723 - Physical diagnostic and therapeutic procedures II

Syllabus Information

Academic year: 2024/25

Subject: 26723 - Physical diagnostic and therapeutic procedures II

Faculty / School: 104 - Facultad de Medicina

Degree: 304 - Degree in Medicine

ECTS: 6.0

Year: 4

Semester: Second semester

Subject type: Compulsory

Module:

1. General information

The main objective of this subject is that students acquire knowledge about the main techniques of diagnostic imaging, Radiodiagnosis and Nuclear Medicine, their main indications, protocols and diagnostic profitability.

The student will know the procedures and indications of Interventional Radiology and Metabolic Therapy/Theragnosis.

They will learn about the most frequent indications for radiotherapy treatment, as well as different types of dose fractionation, techniques such as SBRT, brachytherapy, image-guided radiotherapy and possible side effects.

To know the general procedures to follow in the exploration and diagnosis in the Rehabilitation of different pathologies, as well as to know how to indicate the most frequent therapeutic procedures used for their treatment.

2. Learning results

The student, in order to pass this subject, must demonstrate the following results...

1. Know how to identify the normal radiological pattern in different areas of the human anatomy (CNS, thorax, abdomen, vascular and osteoarticular system).
2. Know how to identify this normal pattern in different imaging techniques most frequently requested by general practitioners.
3. Be able to use the methodology to read and interpret a chest X-ray, an abdominal X-ray and a CT scan of skull.
4. Be able to recognize the most significant radiological patterns of the most prevalent diseases in the different organs and systems.
5. Know how to indicate and prioritize the different diagnostic imaging tests in the most prevalent diseases according to the Clinical Practice Guidelines.
6. Know how to identify the contraindications of the different diagnostic imaging tests.
7. Identify the therapeutic alternatives offered by Image Guided Minimally Invasive Surgery.
8. Identify molecular imaging in Nuclear Medicine and its future perspectives
9. Be able to recognize the most frequently used gamma graphic scans (planar /SPECT/ SPEC-CT, PET and PET-CT)and their indications
10. Recognize the basic semiology aspects of molecular imaging in Nuclear Medicine and use related Clinical Practice Guidelines
11. Identify the applications of radio guided surgery following the criteria recommended in the Clinical Practice Guidelines
12. Identify the indications for metabolic therapy and Theragnosis following the criteria recommended in the Clinical Practice Guidelines
13. Be able to consider the indications for radiotherapy treatment of the most frequent tumours in different organs and systems
- 14- Identify the general indications of the therapeutic procedures to be applied in the rehabilitation of pathologies related to the nervous system and children's rehabilitation
- 15- Know how to identify the general lines of rehabilitative action in pulmonary, cardiac and venolymphatic pathologies.
- 16- Be able to know the ortho prosthetic material and its adaptation to specific pathologies.
17. Identify the general indications of the therapeutic procedures to be applied in the rehabilitation of pathologies related to the locomotor system

3. Syllabus

Block 1. Radio diagnostics:

Image diagnosis of different pathologies, including minimally invasive image-guided therapy

- 15 Master classes
- 4 Seminars

Block 2. Nuclear Medicine, Radiotherapy and Rehabilitation.

Nuclear Medicine:

Diagnostic Imaging and Metabolic Therapy (Theragnosis) using radioactive isotopes.

- 7 Master classes
- 4 Seminars

Radiotherapy:

Indications for radiotherapy in the treatment of tumour pathologies.

- 4 Master classes
- 2 Seminars

Physical Medicine and Rehabilitation:

To know the general procedures to be followed in the exploration, diagnosis and treatment in the Rehabilitation in pathologies related to the nervous system, communication, cardiopulmonary, paediatric rehabilitation and the locomotor system

- 4 Master classes
- 4 Seminars

4. Academic activities

- Participative **master classes**: 30 hours

Sessions in which the teacher explains the subject's syllabus

- **Seminars and Workshops**: 40 hours

Sessions with small groups of students and theoretical-practical orientation. Student participation and resolution of clinical cases and problems is encouraged.

- **Hours of study and personal work**: 75 hours

- **Evaluation tests**: 5 hours

Theoretical and practical activities programmed to acquire the specific competences of the subject and the general and transversal competences of the degree.

5. Assessment system

Radio diagnostic Block:

1. Answer 40 multiple-choice questions based on 4 clinical cases to be presented. This grade will be 90% of the grade.

2. 10% of the grade corresponds to class participation, seminars.

Nuclear Medicine, Radiation Oncology and Rehabilitation Block:

The exam of this block will be carried out by means of 100 multiple-choice questions (45 of Nuclear Medicine, 25 of Radiotherapy and 30 of Rehabilitation), which may include clinical cases with or without images

In both blocks, each question will have 4 answers of which only one will be valid. Each correct question will be worth 1 point, errors will be penalized with 0.25. The content of the questions will have been explained in lectures or seminars.

To pass both blocks the student must achieve a minimum grade of 50 points (5= pass).

Students who have not attended the practical activities will have to do a paper on the content of that activity

Final grade: will be the result of averaging the grades obtained in the two blocks. In order to calculate the average, it will be necessary to achieve a minimum grade of 5 in both blocks. The grade of each block will be kept for the extraordinary exam and subsequent exams.

6. Sustainable Development Goals

3 - Good Health & Well-Being