

Medical Rehabilitation

Code: 106920
ECTS Credits: 3

2024/2025

Degree	Type	Year
2502442 Medicine	OT	5

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Teaching groups languages

You can view this information at the [end](#) of this document.

Prerequisites

It is advisable that the student has achieved basic skills in Comprehensive Learning in Medicine and Structural and Molecular Pathology.

It is necessary to have achieved sufficient knowledge in:

Human Anatomy

Medical Physiology

Applied Physiology

The student will acquire the commitment to preserve the confidentiality and professional secrecy of the data that he may have access to because of the learning in the assistance services. Also in maintaining an attitude of professional ethics in all their actions.

Objectives and Contextualisation

Medicine has managed to extend the lives of many patients, but giving functionality and autonomy to these gained years is equally important. Medical Rehabilitation, Physical Medicine and Rehabilitation is the medical speciality that diagnoses, evaluates, prevents and treats disability aimed at facilitating, maintaining or returning to the person the greatest possible functionality and independence. According to the World Health Organization (WHO), more than one billion people, or around 15% of the world's population, have some type of disability. The number of people with disabilities is increasing rapidly, which is explained, among other reasons, by demographic trends and the increasing prevalence of chronic ailments. Almost all people will likely experience some form of disability, temporary or permanent, at some point in their lives and it is through rehabilitation that they will be able to walk again, be independent or return to work.

The subject is in the fifth year of Medicine, where the basic knowledge about the function of the human body in health situations has already been achieved and the knowledge about the different medical and surgical pathologies has already been acquired.

The general objectives of the subject are:

Incorporate the evaluation and treatment of functionality and disability as essential in the comprehensive care of the patient.

The specific objectives are:

Acquire the necessary knowledge for the comprehensive assessment of the patient-focused on function and functional diagnosis.

Acquire the essential knowledge about physical activity, type and form of application in prevention, development and rehabilitation of health.

Acquire the essential knowledge of how to perform the assessment, diagnostic and therapeutic procedures of acute or chronic injuries that cause permanent or temporary disability.

Competences

- Demonstrate understanding of the manifestations of the illness in the structure and function of the human body.
- Demonstrate understanding of the structure and function of the human organism in illness, at different stages in life and in both sexes.
- Demonstrate, in professional activity, a perspective that is critical, creative and research-oriented.
- Establish a diagnostic approach and a well thought-out strategy for action, taking account of the results of the anamnesis and the physical examination, and the results of the appropriate complementary tests carried out subsequently.
- Maintain and sharpen one's professional competence, in particular by independently learning new material and techniques and by focusing on quality.
- Obtain and prepare a patient record that contains all important information and is structured and patient-centred, taking into account all age and gender groups and cultural, social and ethnic factors.
- Perform the basic practical procedures of examination and treatment.

Learning Outcomes

1. Demonstrate, in professional activity, a perspective that is critical, creative and research-oriented.
2. Describe the main diagnostic and therapeutic techniques performed in the hospital service corresponding to the subject.
3. Describe the main diagnostic and therapeutic techniques used in the prescription of physical activity and in the re-establishment of functionality.
4. Establish clear and effective communication with patients and their family-members.
5. Identify the radiological and anatomopathological alterations of the commonest diseases in the different body systems, at different stages in life and in both sexes.
6. Interpret the most specific images in the most common pathologies.

7. Maintain and sharpen one's professional competence, in particular by independently learning new material and techniques and by focusing on quality.
8. Understand the manifestations of the main pathologies on the structure and function of the human body.

Content

Fundamental Concepts in Medical Rehabilitation

- Deficiency. Body structures and functions, Activity and Participation. Comprehensive assessment of the patient focused on function; Physical examination and functional diagnosis. Joint and muscle assessment. Instrumented diagnostic techniques, and evaluation of human gait, posture and balance.
- Therapeutic principles in rehabilitation, multidisciplinary team, functional objectives. Therapeutic plan
- Basics of muscle contraction. Rest, physical exercise type and physiology. training design of a physical exercise program. interventionism in rehabilitation.
- Types and components of orthoses and external limb prostheses.

Pathological processes and their therapeutic approach.

- Rehabilitation in Pathologies of the Locomotor System.
- clinic and functional and instrumental assessment. Therapeutic approach focused on shoulder, knee, spine,
- Rehabilitation of the patient with respiratory and cardiac dysfunction.
- Exercise tolerance tests. Assessment of the respiratory muscles. Muscle retraining. Energy saving techniques.
- Diagnosis and treatment of frailty and sarcopenia.
- Neurological aspects of motor skills.
- Motor Control. Rehabilitation of the neurological patient.
- Stroke rehabilitation.
- Spinal cord injury and neurodegenerative pathology.
- Exercise in the neurological patient.
- Child and youth rehabilitation.
- Therapeutic approach to pediatric rehabilitation.
- Neurological changes.
- Scoliosis and kyphosis
- prequalification
- Assessment and rehabilitative treatment of patients in critical care units.
- Rehabilitation in the oncological patient.

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
seminarios teoricos	10	0.4	2, 3, 6, 7
simulation of clinical patients	6	0.24	8, 1, 4, 5, 6
specialized seminars	5	0.2	8, 1, 4, 5
Type: Supervised			
Supervised field practices	10	0.4	1, 4, 5, 6, 7

Type: Autonomous			
Study	20	0.8	8, 3, 7
reading interesting articles and reports	10	0.4	8, 1, 5, 7

Active Learning methods with the acquisition of knowledge and practical skills through discussion and simulation of clinical practice and practical seminars. main concepts introduced through teacher's presentations

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Active participation in clinical simulation	25	6	0.24	8, 4, 7
multiple choice exam	50	2	0.08	8, 2, 3, 5, 6
participation in specialized Seminars	25	6	0.24	8, 1, 4

This subject/module does not provide for the single assessment system Assessment activities

Assessment activities (with the relative weight of each of them in the final grade of the subject)

Exam: Through videos, clinical cases or directly, 20 multiple-choice questions will be asked. 5 possible answers :

Clinic: Active participation in practices and seminars. It will add 1-2 points to the final grade.

The subject is approved with a 5/10

Bibliography

Books:

- Frontera, Walter R., Silver, Julie K.. Essentials of Physical Medicine and Rehabilitation E-Book: Musculoskeletal Disorders, Pain, and Rehabilitation. ISBN:9780323549660, 0323549667. Elsevier Health Sciences 2018.
- Manual SERMEF de Rehabilitación y Medicina Física . . ISBN-10 : 8491104933. ISBN-13 : 978-8491104933 Ed Médica Panamericana Marzo 2021
- Ceravolo MG, Christodoulou N. Physical and rehabilitation medicine for medical students. ISBN 978-88-7051-636-4 - Digital edition Copyright 2018 Edi.Ermes - Milan (Italy)

Journals

- *American Journal of Physical Medicine and Rehabilitation*: <http://journals.lww.com/ajpmr/pages/default.aspx>, Lippincott, Williams & Wilkins,
- Rehabilitación. <https://www.elsevier.es/es-revista-rehabilitacion-120> Elsevier. Madrid
- *Archives of Physical Medicine and Rehabilitation*: <http://www.archives-pmr.org>, W.B. Saunders,

Software

All learning will be done through an approach based on clinical cases and practical skills.

Generalitats of Physical Medicine and Rehabilitation:

Unit 1 Fundamentals of Medical Rehabilitation. Comprehensive assessment

Unit 2 Therapeutic principles in rehabilitation, multidisciplinary team, interdisciplinary rehabilitation Function and physical activity in specific pathological processes

Topic 3. Rehabilitation in Pathologies of the Locomotor System. clinical and instrumental evaluation

Unit 4 Examination of the shoulder, knee, spine, scoliosis and kyphosis. Instrumental evaluation

Topic 5. Rehabilitation of the patient with respiratory dysfunction. Evaluation and treatment

Unit 6 Rehabilitation of the patient with cardiac dysfunction. Exercise test and functional capacity

Unit 7 Neurological aspects of motor skills. Motor Control. Rehabilitation

Unit 8 Stroke rehabilitation. Spinal cord injury and neurodegenerative pathologies

Unit 9 Child and youth rehabilitation. Therapeutic approach to pediatric rehabilitation

Subject 10 Prequalification. Evaluation and rehabilitative treatment of the patient

Practical seminars

Seminar 1 Orthoprosthesis. Types and components of limb prostheses

Seminar 2 Use of ultrasound in rehabilitation. Diagnostic and instrumental evaluation

Seminar 3 Balance. Clinical and instrumented evaluation

Seminar 4 Exercise test and functional capacity.

Seminar 5 Therapeutic exercises. Main types of exercises. Muscle stretching

Language list

Information on the teaching languages can be checked on the CONTENTS section of the guide.