Universitat Autònoma de Barcelona

2023/2024

Physiotherapy in the Pathology of the Locomotor System III

Code: 102980
ECTS Credits: 6

Degree	Type	Year	Semester
2500892 Physiotherapy	OB	3	2

Contact

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Teaching groups languages

You can check it through this link. To consult the language you will need to enter the CODE of the subject. Please note that this information is provisional until 30 November 2023.

Teachers

Yaiza Calderon Gomez

Prerequisites

It is advisable to have acquired the knowledge of the subject of Anatomy and Physiology of the Locomotor Apparatus, Foundations in Physiotherapy, Human Pathology, Clinical Evaluation in Locomotor Apparatus Physiotherapy, and Physiotherapy of the Locomotor I and II.

Objectives and Contextualisation

The subject is programmed in the third year of the Physiotherapy degree and forms part of the group of physiotherapy subjects of the locomotor system.

The competences of the subject are:

Be able to develop the knowledge acquired in previous subjects in the clinical field of treatment of pathologies of the locomotor system.

Be able to perform a functional assessment of the person suffering from any pathology of the locomotor system and be able to develop a physiotherapeutic diagnosis.

Knowing how to set therapeutic goals and develop a plan of physiotherapy.

Know how to apply the different physiotherapy techniques and be able to analyze, adapt and control the results. Resolve clinical cases susceptible to physiotherapeutic treatment in the field of musculoskeletal system disorders.

Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Analyse and synthesise.
- Apply quality-assurance mechanisms in physiotherapy practice, in accordance with the recognised and validated criteria.
- Design the physiotherapy intervention plan in accordance with the criteria of appropriateness, validity and efficiency.
- Display critical reasoning skills.
- Display knowledge of the morphology, physiology, pathology and conduct of both healthy and sick people, in the natural and social environment.
- Display knowledge of the physiotherapy methods, procedures and interventions in clinical therapeutics.
- Evaluate the functional state of the patient, considering the physical, psychological and social aspects.
- Express ideas fluently, coherently and correctly, both orally and in writing.
- Integrate, through clinical experience, the ethical and professional values, knowledge, skills and attitudes of physiotherapy, in order to resolve specific clinical cases in the hospital and non-hospital environments, and primary and community care.
- Make a physiotherapy diagnosis applying internationally recognised norms and validation instruments.
- Make changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.
- Make the most correct decisions in given situations.
- Organise and plan.
- Participate in drawing up physiotherapy protocols on the basis of scientific evidence, and promote professional activities that facilitate physiotherapy research.
- Solve problems.
- Take account of social, economic and environmental impacts when operating within one's own area of knowledge.
- Take sex- or gender-based inequalities into consideration when operating within one's own area of knowledge.

Learning Outcomes

1. Analyse a situation and identify its points for improvement.
2. Analyse and synthesise.
3. Apply physiotherapy methods, procedures and interventions in the different clinical specialisations that treat conditions of the musculoskeletal system.
4. Apply specific physiotherapy methods to promote a healthy lifestyle, in relation to the musculoskeletal system, through health education.
5. Communicate using language that is not sexist.
6. Consider how gender stereotypes and roles impinge on the exercise of the profession.
7. Critically analyse the principles, values and procedures that govern the exercise of the profession.
8. Define general and specific objectives when using physiotherapy treatment for disorders of the musculoskeletal system.
9. Describe and analyse human movement.
10. Describe and analyse the evidence-based physiotherapy protocols for disorders of the musculoskeletal system.
11. Describe and apply advanced evaluation procedures in physiotherapy in order to determine the degree of damage to the musculoskeletal system and possible functional repercussions.

12. Describe clinical practice guidelines applied to disorders of the musculoskeletal system.
13. Describe the circumstances that can influence priorities when using physiotherapy to treat disorders of the musculoskeletal system.
14. Display critical reasoning skills.
15. Enumerate the different types of of material and apparatus for using physiotherapy to treat disorders of the musculoskeletal system.
16. Establish diagnostic physiotherapy hypotheses through clinical cases with disorders of the musculoskeletal system.
17. Express ideas fluently, coherently and correctly, both orally and in writing.
18. Identify situations in which a change or improvement is needed.
19. Identify the physiological and structural changes that may occur as a result of physiotherapy intervention in disorders of the musculoskeletal system.
20. Identify the principal forms of sex- or gender-based inequality present in society.
21. Identify the social, economic and environmental implications of academic and professional activities within one?s own area of knowledge.
22. Locate the different muscles through surface palpation.
23. Make the most correct decisions in given situations.
24. Organise and plan.
25. Propose new methods or well-founded alternative solutions.
26. Propose new ways to measure success or failure when implementing innovative proposals or ideas.
27. Solve problems.
28. Use physiotherapy to treat clinical cases involving musculoskeletal system conditions.
29. Weigh up the impact of any long- or short-term difficulty, harm or discrimination that could be caused to certain persons or groups by the actions or projects.
30. Weigh up the risks and opportunities of suggestions for improvement: one's own and those of others.

Content

The subject focuses on physiotherapy applied to pathologies of the musculoskeletal system, and specifically to pathology of the spine, both traumatic and degenerative.
To understand physiotherapy in spinal pathologies, firstly, we will generate a physiological context that helps us understand the peculiarities of these patients. Next, we will learn to observe and explore in such a way that it allows us to make our own physiotherapy diagnosis. Finally, we will learn to work with specific treatment tools to treat these pathologies, and we will learn about the pathophysiology of the main dysfunctions and injuries of the pelvic spine, classifying them in a way that allows us to choose the most effective therapeutic tool in each case.
We will work on the methodology when structuring a physiotherapy treatment plan for spinal and pelvic pathologies, and we will learn to solve clinical cases in an orderly and efficient manner.

Theory
UNIT 1: INTRODUCTION I GENERALITIES OF THE SUBJECT. (Teacher: Sergi Sureda Sabate)
Presentation of the program. Objectives that are proposed. Type of evaluation, presentation of the teaching staff and bibliography.
Fundamentals of physiotherapy in the pathology of the spine and concepts of the discipline. Overview of the matter.
Approach to the global physiology of the patient with pathology of the spine.

UNIT 2: PHYSIOTHERAPY THERAPEUTIC RESOURCES IN SPINAL PATHOLOGY (Teacher: Sergi Sureda Sabaté)
We will contextualize the tools of manual therapy of the spine, in relation to whether they are tools that go for or against the restriction of movement. This aspect will allow us to choose and individualize our physiotherapy treatment.
We will review some of the therapeutic resources already given in previous years and we will learn their application in the peculiarities of the spine.

We will learn to work with the myotensive techniques proposed by Fred Mitchell, and we will work on segmental and analytical passive mobility of the spine. we will doing an introductuion of the Jone's positional release work, and we will learn about the use of some rhythmic oscillatory techniques in the spine.

UNIT 3: ANATOMY AND PHYSIOLOGY OF THE SPINE (Teacher: Yaiza Calderón Gómez)
Relate this anatomical and physiological of the spine and pelvis. We will understand the normal behavior of the spine and learn biomechanics and define dysfunctions based on Fryette's biomechanical laws.

UNIT 4: EXPLORATORY ROUTINE. (Teacher: Sergi Sureda Sabate)
We will work on the concept of dysfunction and injury, as well as their physical characteristics.
We will learn to explore the spine from the observation in the palpation of the different planes and segments of the spine. We will use the main orthopedic and safety tests of the spine, in order to guarantee an adequate therapeutic context, as well as to define our physiotherapy diagnosis.

UNIT 5: PATHOPHYSIOLOGY OF THE MAIN AFFECTATIONS OF THE VERTEBRAL COLUMN. (Teacher: Sergi Sureda Sabaté / Yaiza Calderón Gómez)
We will learn to contextualize the pathologies of the spine in relation to the physiology of the body itself, understanding which of the body's systems has failed, and consequently, which will be the most appropriate physiotherapy therapeutic tools to work on each of these pathologies.

5.1 Traumatic pathologies (dysfunction and injury)

1. Soft tissue pathology.
2. Pathologies of bony parts

5.2 Degenerative pathologies (injury)

1. Mechanical pathologies.

2. Autoimmune pathologies

    a. inflammatory
    b. proliferative

Practice
1.- PALPATORY ANATOMY.
2.- EXPLORATION TECHNIQUES AND TREATMENT OF THE RACHIS.

Methodology

Teaching is based on: theoretical master classes (which may include practical demonstrations in the same classroom and for which the collaboration of a student will be required), and practical classes (which will be done in the laboratory classrooms).

Research work must be carried out in a group of students and it will be related to some pathology of the musculoskeletal system.

The use of mobile phones, Smartwatches, headphones or other electronic devices during the exams is not allowed.

The dossiers of the laboratory practices (PLAB) must be brought printed on paper.

It is not allowed to take pictures or recordings during classes. All material is subject to copyright and will be posted on the Virtual campus. Doing business with the material posted on the Virtual Campus will automatically imply failing the subject and it will be the professor's decision whether to take legal action against the student through the legal services of the UAB.

Access to the laboratory practices classroom will not be allowed after 10 minutes of the start of the class, and it will be counted as unjustified absence.

It is mandatory to attend the PLAB with the appropriate clothing (bikini (or sports shorts), and size for the stretcher (or towel or large sarong)).

It will not be allowed to carry out the PLAB with watches, rings, bracelets, earrings... Or any other element that may be detrimental to the comfort and safety of both the student during the execution of the Physiotherapy maneuvers, and the student who acts as a patient. The student must attend PLAB with hair tied back and fingernails short.

Inappropriate behavior of the student during classes, which may cause a nuisance to the teacher or other students, entitles the teacher to expel the student from the classroom. Each expulsion will be treated as an unexcused absence and will deduct 0.25 points from the exam grade.

You cannot eat or drink during classes.

Note: 15 minutes of a class will be reserved, within the calendar established by the center/degree, for the completion by the students of the surveys to evaluate the performance of the teaching staff and the evaluation of the subject/module.

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.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
LABORATORY PRACTICALS (PLAB)	15	0.6	2, 3, 4, 8, 9, 10, 11, 13, 12, 15, 16, 19, 22, 24, 14, 28, 27
THEORY (TE)	30	1.2	2, 3, 4, 8, 9, 10, 11, 13, 12, 16, 19, 18, 22, 24, 23, 25, 14, 28, 27
Type: Autonomous			
READING ARTICLES /REPORTS OF INTEREST	17	0.68	8, 9, 10, 11, 12, 15, 16, 22, 28
Research and information treatment	20	0.8	2, 17, 24, 23, 14, 27
SELF-STUDY	40	1.6	2, 3, 4, 8, 9, 11, 13, 15, 16, 19, 22, 24, 23, 14, 28
works delivery	25	1	2, 1, 3, 4, 8, 9, 10, 11, 13, 12, 15, 16, 17, 19, 18, 22, 14, 28

Assessment

Single assessment

This subject does not provide the single assessment system

The FINAL evaluation of the subject will consist of:

- Final exam: (50% of the weight of the final grade)

  o Multiple choice exam of the contents taught in the theoretical master classes (25% of the weight of the final grade). This test will consist of 40 multiple choice questions, with four response options (of which only one will be valid) and where the wrongly answered answers will deduct 0.33). Unanswered questions will not deduct points. Minimum grade to pass: 5.

  o Resolution of a clinical case (25% of the weight of the final grade): which will be carried out on the same day of the multiple choice exam, and where the student must establish the objectives in each of the sections of the physiotherapy treatment, specify therapeutic hypotheses, propose exploratory tools to reach a functional physiotherapy diagnosis, make a coherent treatment proposal and finally generate a prognosis based on the particularities of the patient's pathology. Minimum grade to pass: 5.

- Final exam of the practice: (35% of the weight of the final grade).

  A practical and/or test-type exam will be carried out through an objective and structured clinical evaluation. The student must apply clinical reasoning and carry out some of the exploratory and/or therapeutic physiotherapy techniques discussed in the practical seminars and theoretical master classes. In the event that a practical test type exam is carried out, this test will consist of 10 true or false questions, where the correct answers add 1 point, the wrong answers deduct 1 and the unanswered ones do not subtract. If both tests are taken, the final grade for the practical exam will be the average between the two. Minimum grade to pass: 5.

- Research project and Attendance (15% of the weight of the final mark).

  o Realization of a group research project and oral presentation by all the members of the group. It should be specified how the tasks have been distributed among the students of each group. The final mark of the work will be distributed in a global mark of the work (50%) (common for all the members of the group) and a specific mark for each student (the remaining 50%) that will depend both on their specific part and on the oral expression that you have done. The research work is equivalent to 10% of the final grade, and the minimum grade to pass is a 5.

  o Attendance/participation and evaluation of the specialized seminars: Through evaluation exercises associated with the seminars and/or active attendance and participation in the master classes and specialized seminars. Voluntary tasks related to the subject given in class will be taken into account. This section will be evaluated as follows: between 80 and 100% of attendance will be a 10. Attendance below 80% will be a zero. This section has 5% of the final grade.

The percentage of each part of the final grade of the subject will be: 50% of the final exam grade (25% test + 25% clinical case), 35% of the grade of the final practice exam (practice and/or test practical) + 15% of the continuous evaluation (10% is the note of the presentation and exposition of the scientific work, and 5% corresponds to the note of the assistance/participation in the specialized seminars and in the master classes).

To apply these percentages it is essential to have a minimum of 5.00, in the theoretical multiple choice exam in the clinical case and in the practical exam.

Thefollowing criteria are considered to assign the qualification of NOT EVALUABLE:

- Failure to appear for any of the final exams (theoretical and practical).
- Have a score of 0.00 in any of the evaluable tests (final exam, practical final exam, or scientific work)
- Missing more than 20% in practical classes (PLAB).

Class attendance:

- Theoretical classes: attendance is not mandatory but it is highly recommended, since during these classes the continuous assessment exercises will be worked on.
- Practical classes: attendance is 100% compulsory. Justified absence for medical reasons (with the corresponding medical justification) will be accepted as long as these do not exceed 20% of the total classes, where the patient will be considered as NOT EVALUABLE. Each unjustified absence will deduct 0.5 points from the final grade for the subject.

The final grade for the subject will have a numerical expression (with two decimal places) on a scale of 0-10 and with a qualitative equivalence, in accordance with the UAB criteria, of: failed, approved, remarkable and excellent (with the option of achieve the qualification of Matriculation of Honor).

The test review procedure will be adjusted to current UAB regulations and, in any case, will be done individually and with prior written request under the established terms.

Students who have not passed the subject/module by the means of evaluation described above, may take a final exam or make-up test. In the case of not passing any of the compulsory tests, a recovery or synthesis exam will be carried out that will have the same morphological characteristics of the failed test. The minimum grade to pass will be 5 and the maximum grade that the student can obtain will be a PASS.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Attendance and active participation in class and in seminars	5%	0	0	2, 8, 11, 15, 16, 17, 23, 14, 28, 27
Narrative records	10%	0	0	4, 8, 9, 10, 11, 13, 12, 15, 16, 22, 24, 28, 27
Practical evaluation	35%	1	0.04	2, 3, 4, 8, 9, 11, 13, 19, 22, 24, 23, 27
Written assessments with objective tests: multiple choice tests	25%	1	0.04	7, 2, 1, 3, 4, 5, 8, 9, 10, 11, 13, 12, 15, 16, 17, 19, 21, 20, 18, 22, 24, 30, 23, 25, 26, 14, 27, 6, 29
clinical case	25%	1	0.04	7, 2, 3, 4, 5, 8, 10, 13, 12, 16, 17, 21, 20, 18, 24, 30, 23, 26, 14, 27, 6, 29

Bibliography

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Software

No specific software required