

**Clinical Assessment in Physiotherapy of the Locomotor System**

Code: 102985  
ECTS Credits: 6

Degree	Type	Year	Semester
2500892 Physiotherapy	OB	2	1

### Contact

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### Use of Languages

Principal working language: catalan (cat)  
Some groups entirely in English: No  
Some groups entirely in Catalan: Yes  
Some groups entirely in Spanish: No

### Teachers

Carlos Lopez Perez  
Gema González Lucena

### Prerequisites

It is necessary that the student has acquired the knowledge and basic competences of the subjects of Human Anatomy and Biomechanics, taught in first.

It is also convenient to have acquired the knowledge and basic competences in the subject of Human Psychology.

### Objectives and Contextualisation

The general objectives of the subject include the evaluation of the locomotor system from the clinical data obtained from the anamnesis, inspection and physical examination, based on the definition of normality or abnormality parameters, which allow to elaborate a first diagnostic approach and a therapeutic orientation.

### Competences

- 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.
- Develop critical thinking and reasoning and communicate ideas effectively, both in the mother tongue and in other languages.
- Develop independent learning strategies
- 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 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.

## Learning Outcomes

1. Analyse and synthesise.
2. Apply physiotherapy methods, procedures and interventions in the different clinical specialisations that treat conditions of the musculoskeletal system.
3. Apply specific physiotherapy methods to promote a healthy lifestyle, in relation to the musculoskeletal system, through health education.
4. Define general and specific objectives when using physiotherapy treatment for disorders of the musculoskeletal system.
5. Describe and analyse human movement.
6. Describe and analyse the evidence-based physiotherapy protocols for disorders of the musculoskeletal system.
7. Describe and apply advanced evaluation procedures in physiotherapy in order to determine the degree of damage to the musculoskeletal system and possible functional repercussions.
8. Describe clinical practice guidelines applied to disorders of the musculoskeletal system.
9. Describe the circumstances that can influence priorities when using physiotherapy to treat disorders of the musculoskeletal system.
10. Develop critical thinking and reasoning and communicate ideas effectively, both in the mother tongue and in other languages.
11. Develop independent learning strategies
12. Display critical reasoning skills.
13. Enumerate the different types of material and apparatus for using physiotherapy to treat disorders of the musculoskeletal system.
14. Establish diagnostic physiotherapy hypotheses through clinical cases with disorders of the musculoskeletal system.
15. Express ideas fluently, coherently and correctly, both orally and in writing.
16. Identify the physiological and structural changes that may occur as a result of physiotherapy intervention in disorders of the musculoskeletal system.
17. Locate the different muscles through surface palpation.
18. Make the most correct decisions in given situations.
19. Organise and plan.
20. Solve problems.
21. Use physiotherapy to treat clinical cases involving musculoskeletal system conditions.

## Content

CLINICAL ASSESMENT IN PHYSIOTHERAPY OF THE MUSCULOSKELETAL SYSTEM (PMSS).  
SUBJECTS

I. INTRODUCTION. TERMINOLOGY (A.Alier).

- The basic lines of the subject Clinical Assessment in Physiotherapy of the Musculoskeletal System will be explained, in terms of theoretical and practical contents.

- Familiarization with the usual terminology used in the clinical practice

## II. THE MUSCULOSKELETAL SYSTEM. Main topics (A.Alier).

Main characteristics of the locomotor system.

- Osteology
- Myology
- Arthrology

## III. PILLARS OF THE CLINICAL ASSESSMENT IN PMSS ( Dr.Alier)

- Anamnesis, Inspection and Exploration
- Pain as an indicator symptom
- The alteration of mobility as an indicator sign
- Basic neurological exploration

## IV. CLINICAL ASSESSMENT AND AGE IN PMSS ( Dr.Alier)

- Clinical assessment in pediatric population
- Clinical assessment in the elderly

## V. WALK EXPLORATION ( Dr.Alier)

- Walk and gait exploration in clinical assessment
- Study of lameness

## VI. COMPLEMENTARY DIAGNOSTIC TECHNIQUES. Diagnostic by the image. ( Dra. González)

- A list of the main complementary diagnostic tests of clinical and exploratory studies will be presented.

VII. CLINICAL EVALUATION FOR EACH ANATOMO-FUNCTIONAL REGION OF THE LOCOMOTOR SYSTEM. Anatomical and biomechanical reminder. Anamnesis. Inspection. Osteomuscular palpation. Functional analysis. Main syndromes and pathologies

### 1. Clinical evaluation of the SPINE

- Cervical Column. (Dra. González)).
- Dorsal Column. (Dra. González)).
- Lumbosacral column. (A.Alier).

### 2. Clinical evaluation of the LOWER LIMBS.

- Pelvis and hip. (Dra. González).
- Knee. (Dra. González).
- Ankle and foot. (A.Alier).

### 3. Clinical evaluation of the UPPER LIMBS.

- Shoulder. (A.Alier).
- Elbow. (A.Alier).
- Wrist and hand. (Dra. González).

Part VII, will be complemented with the practices that will affect all aspects related to the osteo-articular palpation, muscle palpation and the main exploration maneuvers, specific to each anatomical region

## Methodology

The theoretical classes will be given by each teacher assigned in each distributive block of the subject and will have a duration of 2 hours.

The methodology includes the theoretical exposition of the syllabus, the reading and discussion of scientific articles and the realization of seminars, understood as spaces for debate and participation.

The practices, will be given by the physiotherapist Carlos López, in groups of 20-25 students, and will be developed in the classrooms of practices, in accordance with the established schedule. An exploration will be carried out by anatomical regions, paying particular attention to the specific maneuvers of each area.

## Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
CLASSROOM PRACTICES	9	0.36	2, 3, 4, 5, 6, 7, 9, 10, 13, 14, 19, 18, 12, 21, 20
SEMINARS	10	0.4	2, 3, 5, 7, 14, 17, 21
THEORY	26	1.04	4, 5, 7, 9, 8, 14, 16, 17, 21
Type: Autonomous			
PERSONAL STUDY	19	0.76	2, 3, 4, 5, 6, 7, 9, 8, 11, 13, 14, 16, 17, 21
READING ARTICLES	30	1.2	1, 2, 3, 5, 6, 7, 8, 11, 14, 16, 21
READING ARTICLES /REPORTS OF INTEREST	50	2	1, 2, 3, 4, 5, 6, 7, 9, 8, 10, 13, 14, 15, 16, 19, 12, 21, 20

## Assessment

Typology	Duration	Description of the tests	Evaluation criteria	Minimum grade to pass	% of total grade	Schedule
Written test	It depends on the number of questions	Several answers. Only one true answer	The wrong questions answered will remain in the final evaluation	NO	50	

Practical exam	8 minutes per pupil	Resolution of practical cases assigned randomly	personalized assessment	NO	30	December
Images exam	It depends on the number of questions	Examination with projected images and test type response. Several possible answers and a true one	The wrong questions answered will remain in the final evaluation	NO	20	
Recovery exam	Variable	Compendium of the subject  Written test with a mixed format: test response and written answer		5		official data on January 2020

It is compulsory to carry out the three examinations to be able to evaluate the student, otherwise, in the student's record it will appear as "not evaluable".

The examination of images and the written test will be done at the end of the subject and before the practical exam.

The practical exam will be carried out after the theoretical exams.

The maximum scores that can be obtained from each exam are: Written test - 5 points, Exam images - 2 points, Practical exam - 3 points

The final grade of the subject will be the sum of the mark of each exam (images + written + practical).

The subject will be considered approved with a score equal to or greater than 5 points and suspended with a score equal to or less than 4.9 points.

Students who have not passed the subject may submit to a recovery evaluation, which will be held on the official date of January 2019.

They will not be entitled to the proof of recovery, those students who have not submitted to any of the three assessment exams.

The proof of recovery will include all the theoretical and practical content of the subject and will be done in written form, in a mixed type of test and written response to a series of questions. In this case, there will be only two possible grades that will be included in the final minutes: approved (equal or greater than 5 points) or suspended (equal to or less than 4.9 points).

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Practical type evaluation through objective and structured clinical evaluation	30%	4.42	0.18	2, 3, 4, 5, 6, 7, 9, 8, 11, 10, 13, 14, 16, 19, 18, 21, 20
Written evaluation through objective tests: multiple choice items	50%	1.08	0.04	1, 2, 3, 4, 6, 7, 9, 8, 11, 13, 14, 15, 19, 12, 21, 20
Written evaluation through objective tests: multiple choice items (images)	20%	0.5	0.02	2, 3, 4, 5, 6, 7, 9, 8, 11, 10, 13, 14, 15, 17, 19, 18, 21, 20

## Bibliography

- 1- EXPLORACIÓN CLÍNICA PRÁCTICA. Noguier-Balcells. 28 edd. Elsevier. 2016
- 2- FISIOTERAPIA DEL APARATO LOCOMOTOR. Estructuras, funciones, medidas de actuación sobre afecciones. Editorial Ploke-Reichel. 2007
- 3- EVOLUCIÓN HUMANA. Roger Lewin. Salvat-Editores 2000.
- 4- EXPLORACIÓN FÍSICA DE LA COLUMNA VERTEBRAL Y LAS EXTREMIDADES. Stanley Hoppenfeld. 1979
- 5- DIAGNOSTICO FISOTERÁPICO. CONCEPCIÓN, REALIZACIÓN, APLICACIÓN EN LA PRÁCTICA LIBRE Y HOSPITALARIA. Éric Viel. ED. Masson- 2006
- 6- TÉCNICAS DE BALANCE MUSCULAR. Daniel's y Wothingham Ed. Elsevier. 2014
- 7- PRUEBAS CLINICAS PARA PATOLOGIA OSEA, ARTICULAR Y MUSCULAR. K.Buckup. ED. Masson. 2013
- 8- PROCESO EVALUATIVO MUSCULOESQUELÉTICO. Hazel M.Clarkson. Ed. Paidotribo. 2003
- 9.- THE MUSCLE AND BONE PALPATION MANUAL. Joseph E. Muscolino. Mosby Elsevier 2008
- 10.- MANUAL DE PRUEBAS DIAGNÓSTICAS. TRAUMATOLOGÍA Y ORTOPEDIA. A.Jurado Bueno, Ivan Medina Porqueres Ed Paidotribo- 2002.
- 11.- EXPLORACIÓN Y EVALUACIÓN NEUROMUSCULOESQUELÉTICA. UN MANUAL PARA TERAPEUTAS. Nicola J.Petty, Ann P. Moore. Ed. Mc Graw-Hill-Interamericana. 2003
12. KENDALL'S. MUSCULOS, PRUEBAS, FUNCIONES Y DOLOR POSTURAL. Florence Peterson Kendall, Elizabeth Kendall McCreary, Patricia Geise Provance. Edit. . Marban. 5 ed. 2008
13. ATLAS DE ANATOMIA PALPATORIA. Serge Tixá ( tomus 1 i 2) Ed Elsevier( 3ed) . Barcelona 2014

webbs of interest

[www.efisioterapia.net](http://www.efisioterapia.net)

[www.fisonet.net](http://www.fisonet.net)

[www.aefi.net](http://www.aefi.net)

[www.scfisioterapia.cat](http://www.scfisioterapia.cat)