

Physiotherapy in the Pathology of the Locomotor System II

Code: 102981
ECTS Credits: 6

Degree	Type	Year	Semester
2500892 Physiotherapy	OB	3	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

Tamara Arjona Blanco
Miquel Felez i Galan

Prerequisites

It is advisable to have acquired the knowledge of the subjects of Anatomy and Physiology of the Locomotor Apparatus, Foundations in Physiotherapy, Biophysics, Human Pathology, and Physiotherapy of the Locomotor Apparatus I.

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 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 systemic conditions musculoskeletal.

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 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. Propose projects and actions that incorporate the gender perspective.
28. Propose viable projects and actions to boost social, economic and environmental benefits.
29. Propose ways to evaluate projects and actions for improving sustainability.
30. Solve problems.
31. Use physiotherapy to treat clinical cases involving musculoskeletal system conditions.
32. 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.
33. 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 locomotor system and, specifically, to the pathology of the upper extremities: traumatic and functional.

UNIT 1. GENERAL ASPECTS OF THE SUBJECT (Miquel Félez)

Fundamentals and concepts of the discipline. Overview of the subject. Objectives that are proposed.

Presentation of the program.

Type of evaluation, seminars.

UNIT 2. PHYSIOTHERAPY IN THE PATHOLOGY OF THE SCAPULAR WAIST (Miquel Félez)

Anatomy and biomechanics of the shoulder girdle.

Exploration of the shoulder girdle and its clinical orientation.

Physiotherapy in traumatic pathology: scapula, humerus, clavicle.

Ligamentous injuries: instability, dislocation and subluxation GH and AC.

Tendon and soft tissue injuries: rotator cuff, retractable capsulitis, capsular retraction.

Introduction to myofascial pain syndrome: rotator cuff, deltoid, trapezius, rhomboid minor and major and pectoralis minor and major.

Manual therapy in the shoulder girdle: global work of the shoulder girdle. Proprioceptive work of the shoulder girdle.

Neuromuscular and functional bandages.

UNIT 3. PHYSIOTHERAPY IN THE PATHOLOGY OF THE ELBOW (Miquel Félez)

Anatomy and biomechanics of the elbow.

Examination of the elbow and its clinical orientation.

Physiotherapy in traumatic pathology: ulna and proximal radius, 1/3 distal humerus. Ligamentous injuries and instability: posterolateral dislocation of the elbow.

Tendon and blister injuries: myofascial pain syndrome (biceps, triceps, ankeus, brachial, long supinator) epicondialgia and bursitis.

Manual therapy of the elbow. Proprioceptive work of the elbow.

Neuromuscular and functional bandages.

UNIT 4. PHYSIOTHERAPY IN THE PATHOLOGY OF THE FOREARM AND WRIST (Miquel Félez)

Anatomy and biomechanics of the forearm and wrist.

Examination of the forearm / wrist and its clinical orientation.

Physiotherapy in traumatic pathology: radius / ulna diaphyseal and distal and carpal bones. Carpal tunnel syndrome.

Ligamentous injuries and instabilities: CID, CIND, CIC, CIA.

Proprioceptive work of the forearm and wrist.

Manual therapy of the forearm and wrist.

Myofascial pain syndrome: extensor muscles, flexors, pronators and supinators. Neuromuscular and functional bandages.

UNIT 5. PHYSIOTHERAPY IN THE PATHOLOGY OF THE HAND (Tamara Arjona)

Anatomy and biomechanics of the hand.

Examination of the hand and its clinical orientation.

Physiotherapy in traumatic pathology: metacarpals and phalanges.

Tendon injuries: Dupuytren's disease, Dequervain's tenosynovitis and tendinous sections of the extensors and flexors.

Soft tissue injuries: capsulitis and sprains. Proprioceptive work of the hand.

Manual hand therapy and musculotendinous palpation. Neuromuscular and functional bandages.

UNIT 6. PHYSIOTHERAPY IN DEGENERATIVE PATHOLOGY (Miquel Félez and Tamara Arjona)

Degenerative process: arthritis and osteoarthritis. Signs and symptoms. Physiotherapy in conservative treatment.

Physiotherapy in surgical treatment: shoulder, elbow and finger arthroplasties. Proprioceptive work.

Neuromuscular and functional bandages

Methodology

The subject is based on theoretical classes, theoretical-practical seminars and clinical case seminars, as well as inter-student practices and group work.

In case of pandemic situation by COVID-19 the theoretical classes and seminars will be able to be virtual via moodle

FT APLCM II:

- Overall assessment of the upper limb: anamnesis, exploratory tests, complementary tests: RX and TAC.

- Differential diagnosis in shoulder pathology: instability, tendinopathy, retractable capsulitis, CNS injury and SNP.
- Treatment of the patient with osteoarticular disease.
- Treatment of the patient with shoulder, elbow and finger arthroplasties.
- Techniques of manual therapy in the upper extremity.
- Muscle toning techniques and proprioceptive reeducation.
- Muscle stretches.
- Introduction to myofascial pain syndrome (SDMF): exploration and conservative treatment.
- Functional and neuromuscular bandages.

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			
THEORY (TE)	27	1.08	3, 4, 8, 9, 10, 13, 15, 16, 19, 22, 14, 31, 30
LABORATORY PRACTICES (PLAB)	18	0.72	3, 4, 8, 9, 10, 11, 13, 15, 16, 19, 22, 14, 31
Type: Supervised			
PRESENTATION ORAL OR WRITTEN DEFENSE CLINICAL CASE	15	0.6	
Type: Autonomous			
READING ARTICLES AND REPORTS OF INTEREST	28	1.12	3, 4, 8, 9, 10, 11, 13, 12, 15, 16, 19, 22, 31
SELF STUDY	25.5	1.02	2, 3, 4, 8, 9, 11, 13, 15, 16, 19, 22, 24, 23, 14, 31
WORK PREPARATION	35	1.4	3, 4, 8, 9, 10, 11, 13, 12, 15, 16, 19, 22, 31

Assessment

The FINAL evaluation of the subject consists of:

- A written evaluation by means of objective tests of selection of multiple choice items, with an overall weight of 50%, of the contents taught in the theoretical classes and of the topics covered in the seminars. It consists of 50 multiple-choice questions (with 4 response options, of which only one is valid and the answers that are poorly answered discount 0.33).

- A continuous evaluation of practical type and / or written test type through objective and structured clinical evaluation with an overall weight of 40%. The student must apply clinical reasoning or perform some physiotherapy technique on the dysfunctions or pathologies discussed in the seminars and theoretical classes.

- An evaluation of a clinical case with an overall weight of 10% will be carried out in groups and students will have to solve a clinical case based on a bibliographic research.

Attendance to a minimum of 80% of the practical seminars (PLAB) is mandatory.

To apply these percentages it is essential to obtain a minimum of 5.00 in each of the three assessment tests.

The student who does not pass the objective test of selection of multiple choice items may be presented to a recovery test of the same type (only 20 questions). The maximum grade that the student can obtain will be an APPROVED.

In the case of students who have not been able to provide sufficient evidence of evaluation, such as not attending 80% of the seminars and not reaching the minimum grade of 5 in each of the three tests, the subject will be recorded in the record as not evaluable.

The final grade of the subject will have a numerical expression, with a decimal, according to the scale 0-10 and with the qualitative equivalence according to the criteria of the UAB of suspended, approved, notable and outstanding (with the option of obtaining the qualification of registration honorary). The procedure for reviewing the tests will be in accordance with current regulations of the UAB and in any case will be individual, and must be requested in writing within the established deadlines.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
CLINICAL CASE PRESENTATION	10%	0	0	7, 2, 1, 3, 4, 5, 8, 9, 10, 11, 13, 12, 15, 16, 17, 19, 21, 20, 18, 22, 24, 33, 23, 29, 25, 26, 27, 28, 14, 31, 30, 6, 32
PRACTICAL TYPE EVALUATION: OBJECTIVE AND STRUCTURED CLINICAL EVALUATION	30%	0	0	7, 2, 1, 3, 4, 5, 8, 9, 10, 11, 13, 12, 15, 16, 17, 19, 21, 20, 18, 22, 24, 33, 23, 29, 25, 26, 27, 28, 14, 31, 30, 6, 32
WRITTEN EVALUATION THROUGH OBJECTIVE TESTS: MULTIPLE CHOICE ITEMS	60%	1.5	0.06	7, 2, 1, 3, 4, 5, 8, 9, 10, 11, 13, 12, 15, 16, 17, 19, 21, 20, 18, 22, 24, 33, 23, 29, 25, 26, 27, 28, 14, 31, 30, 6, 32

Bibliography

-Peterson F., Kendall E., Geise P. Muscles. Tests, functions and postural pain. Madrid: Marban; 2000

-Chael, Christy. Functional anatomy: structure, function and palpation of the locomotor system for manual therapists. 1st edition. Buenos Aires. Panamericana Medical Edition: 2013.

-Mayoral O, Invasive Physiotherapy of myofascial pain syndrome, Madrid. Pan American Medical Editorial: 2017

-Shirley A. Sahrmann, Diagnosis and Treatment of movement disorders. Editorial Paidotribo: 2006

-Kottke Lehmann. KRUSEN. Physics and Rehabilitation Medicine. Volumes I, II and III. Edit: Panamericana

-David C, Lloyd J. Rheumatological rehabilitation. Madrid: Harcourt; 2000

- Frisch H. Method of exploration of the locomotor system and posture. Barcelona: Paidotribo, 2005.
- Kapandji. Articular physiology 6ed. Volume 1, Upper member. Editorial Panamericana Medical, 2006, Madrid.
- Fractures in the adult Rockwood & Green 5th (2003) ED Marbán.
- Mora Américo E. De Rosa R. Physiotherapy in the locomotor system. Madrid: Synthesis; 1998
- Ehmer, B Physiotherapy in orthopedics and traumatology .. Ed. Mcgraw-hill.
- Kendall .F. Muscles: tests and functions. Madrid: Marbán; 2007
- Hoppenfeld & Murthy. Fractures, treatment and rehabilitation. Ed. Marban Libros S.L, 2001
- Henri Neiger Manual analytical stretches. Ed. Panamericana Medica. 2004
- Sergio Fucci, Mario Benigni, Vittorio Fornasari. Biomechanics of the locomotor apparatus applied to muscle conditioning. Ed. Mosby / Doyma books. nineteen ninety five
- Blandine Calais. Anatomy for movement. Volume 1. Ed. The books of the March hare S.L. 1994

Software

No software or other application is needed