Universitat Autònoma de Barcelona

2021/2022

The Basic Physiotherapy of the Locomotor System

Code: 104098
ECTS Credits: 6

Degree	Type	Year	Semester
2500892 Physiotherapy	OB	1	2

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

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

Denys Santa Marina van Oudheusden
Ana V. Lobato Bonilla
Sandra Alonso Marsol
Nicolas Moreno Fortes
Míriam Herrera i Llamas
Patricio del Pino Bernadó
Eduard Coll del Cura

Prerequisites

The student will acquire the commitment to maintain an attitude of professional ethics in all their actions.

The student will have clear concepts of anatomy and basic palpation anatomy, such as knowing and recognizing the different planes and axes and their movements.

It is imperative that each student wear comfortable clothes, a sheet, shawl or towel to place on the stretcher, his GONIOMETER and a tape measure.

Objectives and Contextualisation

The subject is programmed in the first year of the Physiotherapy degree and forms part of the group of basic training subjects. It is, therefore, part of the scientific basis necessary for the formation of the Physiotherapy graduate.

This subject aims to publicize techniques of manual therapy of the joints and indications of the corresponding treatment.

It is complemented with other basic and compulsory subjects, such as Anatomy, Physiology, Biophysics, Instrumental Evaluation of the Locomotor System, Therapeutic Techniques of the Locomotor System, and Physiotherapy in the Pathology of the Locomotor System.

Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Analyse and synthesise.
- 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.
- 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 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. Communicate using language that is not sexist.
4. Consider how gender stereotypes and roles impinge on the exercise of the profession.
5. Critically analyse the principles, values and procedures that govern the exercise of the profession.
6. Define general and specific objectives when using physiotherapy treatment for disorders of the musculoskeletal system.
7. Describe and analyse human movement.
8. Describe and analyse the evidence-based physiotherapy protocols for disorders of the musculoskeletal system.
9. Describe and apply advanced evaluation procedures in physiotherapy in order to determine the degree of damage to the musculoskeletal system and possible functional repercussions.
10. Describe the circumstances that can influence priorities when using physiotherapy to treat disorders of the musculoskeletal system.
11. Display critical reasoning skills.
12. Express ideas fluently, coherently and correctly, both orally and in writing.
13. Identify situations in which a change or improvement is needed.
14. Identify the principal forms of sex- or gender-based inequality present in society.
15. Identify the social, economic and environmental implications of academic and professional activities within one?s own area of knowledge.
16. Make the most correct decisions in given situations.
17. Organise and plan.

18. Propose new methods or well-founded alternative solutions.
19. Propose new ways to measure success or failure when implementing innovative proposals or ideas.
20. Propose projects and actions that incorporate the gender perspective.
21. Propose viable projects and actions to boost social, economic and environmental benefits.
22. Propose ways to evaluate projects and actions for improving sustainability.
23. Solve problems.
24. Use physiotherapy to treat clinical cases involving musculoskeletal system conditions.
25. 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.
26. Weigh up the risks and opportunities of suggestions for improvement: one's own and those of others.

Content

UPPER MEMBER PART

The group is divided into four groups G1 G2 G3 and G4.
Each group has an assigned professor:

Ana Lobato, email: AnaVictoria.Lobato@uab.cat
Sandra Alonso Marsol, correu: sandra.alonso.marsol@uab.cat
Miriam Herrera Llamas, email: mir.hllamas@gmail.com o Miriam.Herrera@uab.cat
Denys Santamarina, email: Denys.Santamarina@uab.cat

ALL THE PROFESSORS WHO INTRODUCE THIS SUBJECT, TEACH THE GLOBALITY OF THE THEORY AND THE UPPER MEMBER

1.Introduction to manual therapy:
- definition
- generalities

2, 3 and 4. Articular physiology:

- Articulations and joint surfaces
- Planes, axes, anatomical directions
- Joint positions
- Joint movements: rotation and translation
- Physio-physiological movements: rolling and sliding
- Types of limitations
- Evaluation of movement
- Concave / convex rule

5. TMP of the scapular waist joints: sternocostoclavicular, acromioclavicular, scapulothoracic and glenohumeral:

Anatomical and biomechanical memory
Goniometry
Joint range
Types of articulation
Concave-convex law
Simple passive mobilizations (MPS) of the scapulo-thoracic joint, and MPS in the direction of flexion, extension, abd, add, abd and add horizontal, external and internal rotations, circunduction and technique of structure relaxation.
Tractions
Specific passive mobilization (MPE) in caudal, cranial, ventral and dorsal-caudal
Functional passive mobilizations (MPF)

6. TMP joints of the elbow: humerus-ulnar, humerus-radial, upper-lower radial-ulnar:
Anatomical and biomechanical memory

Goniometry
Joint range
Types of articulation
Concave-convex law
MPS in the direction of flexion, extension, supination and pronation and technique of structure relaxation.
Tractions
MPE in ventral and dorsal direction, anterior and posterior glide of the radius, invalgus and varus of elbow.
MPF

7. TMP of wrist, carpus, hand and fingers:
Anatomical and biomechanical memory
Goniometry
Joint range
Types of articulation
Concave-convex law
MPS in the direction of flexion, extension, radial and ulnar deviation, circumduction and structure relaxation technique
Tractions
MPE caudal, cranial, ventral and dorsal, radial and ulnar, dorsal and palmar glide of the metacarpal joint
MPF

8.TMP of the thumb:
Anatomical and biomechanical memory
Goniometry
Joint range
Types of articulation
Concave-convex law
MPS in the direction of flexion, extension, abd, add, external and internal rotations, opposition movement, circumduction and technique of structure relaxation.
Tractions
MPE in radio-ulnar, dorsal and palmar sense
MPF

LOWER MEMBER PART

The group is divided into four groups G1 G2 G3 and G4.
Each group has an assigned professor:

Sandra Alonso Marsol, email: sandra.alonso.marsol@uab.cat
Nicolas Moreno Fortes, email: nicolas.moreno@uab.cat
Patricio del Pino Bernadó, email: Patricio.delpino@uab.cat
Eduard Coll del Cura, email: eduardcoll81@gmail.com

ALL THE PROFESSORS WHO INTRODUCE THIS SUBJECT, TEACH THE GLOBALITY OF THE LOWER MEMBER SUBJECT

1.Introduction to manual therapy:
- Generalities

2. Articulation (art.) Coxofemoral:
- Anatomical and physiological summary
- Goniometry
- Joint movements
- Concave / convex law
- Manual therapy
- Simple Passive Mobilization (MPS)
- Specific Passive Mobilization (MPE)
- Tractions
- Functional passive mobilizations (MPF)

3.Knee joints:
Art. Femoropatelar
Art. Femorotibial
Art Tibio-peronea proximal
- Anatomical and physiological summary
- Goniometry
- Joint movements
- Manual therapy: MPS, MPE and tractions

4. Ankle joints:
Art. Tibio-peronea distal
Art. Tibio-peronea-astragalina
Art. Astragalus-calcaneus or subtalar
- Anatomical and physiological summary
- Goniometry
- Joint movements
- Manual therapy: MPS, MPE, traction and ankle relaxation maneuvers

5.Joints of the foot:
Art. of Chopart or transverse of tarsus
Art. of Lisfranc or tarso-metatarsiana
Mediotarsian Art.
Intermetatarsian Art.
Metatarsophalangeal art, of the 1st finger
Interphalangeal art of the fingers:
- Anatomical and physiological summary
- Goniometry
- Joint movements
- Manual therapy: MPS, MPE, tractions

Methodology

Autonomous activities

Written work: resolution of a clinical case in which the student integrates and reason the knowledge acquired in class. The work will be done in pairs.

Directed activities

Laboratory practices: activities developed in spaces equipped for physiotherapy practices with demonstrations by the teacher of the different techniques on a model and subsequent realization of the student.

Supervised activities

The students, under the supervision of the teacher, will practice among them.

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 PRACTICES	3	0.12	2, 6, 7, 8, 9, 10, 12, 17, 16, 11, 24, 23

THEORY	49.5	1.98	2, 6, 7, 9, 10, 12, 17, 16, 11, 24, 23
Type: Supervised			
ORAL PRESENTATION / EXPOSITION OF WRITTEN WORKS	22.5	0.9	2, 6, 7, 8, 9, 10, 12, 17, 16, 11, 24, 23
Type: Autonomous			
PREPARATION OF WRITTEN WORKS / SELF STUDY	64.34	2.57	2, 6, 7, 8, 9, 10, 12, 17, 16, 11, 24, 23

Assessment

The competences of this subject will be evaluated continuously with a liberating character plus a final synthesis test. The evaluation will consist of:

1) A written test type evaluation through objective selection tests, of approximately 15 items of multiple choice questions, with a single correct answer and with a maximum time of 30 minutes to answer. The erroneous answer will discount 0'33 of the test type test.

2) A practical / oral evaluation through structured tests for upper extremity (35% final grade) based on the theoretical knowledge and the clinical skills procedures learned in the classes. Duration of the test 30 minutes per couple.

3) A practical / oral evaluation through structured tests for the lower extremity (35% final grade) based on the theoretical knowledge and the clinical skills procedures learned in the classes. Duration of the test 30 minutes per couple.

The weight of the written evaluation type test 1) will be 10% of the final grade of the subject. The weight of the sum of the evaluations 2) and 3) will be 70% of the overall grade of the subject.

Two written works (one for upper extremity and one for lower extremity), where the student will have to solve a joint limitation for each extremity (upper and lower). Will be evaluated:
- Consistency in the use of theoretical knowledge acquired.
- Application of the practice given in the classes.
- Presentation, order, clarity in the explanations and the photographic sequence of the mobilizations for the corresponding limitation.

Each work represents 10% of the final grade, being the sum of the two works 20% of the overall mark of the subject.
The works will be done in pairs and will be presented on the days of the practical exam.
Any work presented outside terminology will be considered NOT EVALUABLE.

EVERYTHING WILL BE EVALUATED ABOVE 10 POINTS. Anything less than 5 is a fail and the student will have to submit or make the recovery of the unsuccessfulpart. A 4'9 IS NOT PASSED.

It is necessary to pass each of the FOUR parts of the subject 1) 2) 3) 4) with a minimum mark of 5 to be able to make the average and pass the subject. If one of the four parts that form the subject is failed, the student will have to perform the recovery test of the non-passed part.

The student who does not appear for revision on the day appointed by the teacher will not be able to review his exam at any other time. The review will always be in person.

In the exam of recovery, as much of the theoretical exam as of the practical examinations, the maximum grade that will be able to obtain the student is of 6. The exams of recovery will not be used to raise note.

ASSISTANCE is REQUIRED in CLASSES. Any lack of assistance will have to be justified. The student who has two or more excused absences will not be evaluable and will have to submit to recovery. From an unjustified fault, the student will not be evaluated.

The class cannot be accessed after 10 minutes of the start of the class, considered as a lack of attendance.

It cannot make use of social networks (whatsapp, facebook, instagram, twitter, ...) through mobile / smartphone during the theoretical class or during practice. If used, 0'25 points will be subtracted from the final grade.

Students who have not passed the subject through continuous assessment or have not been submitted to the previous test may be submitted to the final test of recovery to be made at the end of the semester.

Students who repeat the subject will have to evaluate all four parts of the subject (it will be necessary to examine the theoretical exam, the two practical exams and the two works of both the upper extremity and the lower extremity). Students, who repeat the subject, aren't required to attend class, as long as they justify their non-attendance due to the overlap with another class or with practices. They must send a receipt to the teacher in their group with the name of the class, the date and time of day of the class, and the teacher's signature.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Delivery of reports and written works	20% final grade	10	0.4	2, 6, 7, 8, 9, 10, 12, 17, 16, 11, 24, 23
Written evaluation through objective tests of selection of multiple choice questions and two oral evaluations through structured tests.	80% final grade	0.66	0.03	5, 2, 1, 3, 6, 7, 8, 9, 10, 12, 15, 14, 13, 17, 26, 16, 22, 18, 19, 20, 21, 11, 24, 23, 4, 25

Bibliography

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Anatomia palpatoria y localización superficial. Derek Fiel. Ed. Paidotribo 2001 Bcn
Manual de cirugia ortopedica y traumatologia tomo II. Sociedad española de cirugía ortopédica y trumatológica. Ed. Panamericana
Fundamentos de las técnicas de evaluación musculoesquelética. M.Lynn Palmer, Marcia E.Epler. Ed. Paidotribo 2002 Bcn
Fisioteràpia manual extremidades. FM Kaltemborn; ed. McGRAW-HILL- INTERAMERICANA,S.A.U. Madrid 2001
KAPANDJI I.A. Fisiología Articular. Tomo 1. Madrid: Panamericana. 6ª Edición. 2006
KAPANDJI I.A. Fisiología Articular. Tomo 2. Madrid: Panamericana. 6ª Edición. 2010.
KAPANDJI I. A. Fisiología Articular. Tomo 3. Madrid: Panamericana. 6ª Edición. 2007
Goniometria: una herramienta para la evaluación de las incapacidades laborales. 1a ed- Buenos Aires: Asociart ART, 2007
Internet resources.

Software

No specific software required