

Physiotherapy in Spine Pathology

Code: 103013
ECTS Credits: 6

Degree	Type	Year	Semester
2500892 Physiotherapy	OT	4	2

Contact

Name: Raquel Oller Domingo

Email: raquel.oller@uab.cat

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.

External teachers

Marc Sigüenza Llopart

Prerequisites

It is recommended to have the acquired Knowledge of Anatomy and Physiology of the locomotor system, Basics in Physiotherapy, Biomechanics, Human Pathology, Clinical Evaluation in Physiotherapy of the Locomotive Apparatus and Physiotherapy of the Locomotive Apparatus I, II and III.

Objectives and Contextualisation

The subject is scheduled for the fourth year of the Degree in Physiotherapy as an optional subject.

The competencies are:

Be able to develop the knowledge acquired in subjects prior to the clinical field of treatment of rachial diseases.

To be able to perform a functional assessment of the person suffering from some rachis and power pathology develop a physiotherapeutic diagnosis.

Learn to perform the differential diagnosis between the different structures that may be responsible for the rachis dysfunction.

Know how to plan the therapeutic objectives and develop a physiotherapeutic care plan.

Know how to apply the different physiotherapy techniques and be able to analyze, adapt and control the results.

Solve clinical cases in the rachis disorders area, establishing strategies to create the treatment pattern.

Understand and practice rachis evaluations highlighting the relevant aspects of the definition of Physiotherapy objectives and choose the techniques and methods of treatment.

Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Analyse and synthesise.
- Display knowledge of physiotherapy methods, procedures and interventions aimed at health promotion and maintenance.
- Easily recognise and cope with changes.
- Evaluate the evolution of the results obtained from the treatment in relation to the objectives.
- Execute, direct and coordinate the physiotherapy intervention plan using the right therapeutic tools and taking into consideration the patient's singularity.
- 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.
- Organise and plan.
- 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.
- Work effectively and cooperatively in multidisciplinary professional teams.

Learning Outcomes

1. Analyse a situation and identify its points for improvement.
2. Analyse and synthesise.
3. Apply the manual and instrumental methods and procedures for making the physiotherapy diagnosis.
4. Assess results and their relation to the objectives set, through real cases within the different clinical specialisations.
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. Design means for preventing functional disorders, in particular those linked to postural hygiene, mobility loss and acute-phase pains, and teach about these.
9. Display teamwork skills.
10. Easily recognise and cope with changes.
11. Establish the diagnostic physiotherapy hypothesis.
12. Execute, direct and coordinate the physiotherapy intervention plan using the right therapeutic tools and taking into consideration the patient's singularity.
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. Organise and plan.
16. Propose new methods or well-founded alternative solutions.
17. Propose new ways to measure success or failure when implementing innovative proposals or ideas.
18. Propose projects and actions that incorporate the gender perspective.
19. Propose ways to evaluate projects and actions for improving sustainability.
20. 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.
21. Weigh up the risks and opportunities of suggestions for improvement: one's own and those of others.

Content

Unit 1.- ANATOMY and BIOMECHANICS of the rachis

Unit 2.- Physiotherapy TRAUMATIC PATHOLOGY of the rachis:

2.1.- Backbone traumatism:

-Fractures and dislocations of the cervical, dorsal and lumbar spine.

-Partial injuries: sprains, post-traumatic cervical syndrome

2.2.- Thorax traumatism:

-Costal contusions

-Costal fractures

Unit 3.- Physiotherapy ORTHOPEDIC PATHOLOGY of the rachis:

3.1.- Lumbo-sacral rachis anomalies:

-Spondylolysis/Spondylolist.

-Lumbarization/Sacralization

-Retrolistesi

3.2.- Spine deviations:

-Scoliosis

-Cifosis.

Hyperlordosis.

3.3.- Thoracic deformities

Unit 4.- Physiotherapy in RHEUMATIC PATHOLOGY of the rachis:

4.1.-Inflammatory arthropathies:

-Rheumatoid arthritis

-Ankylosing spondyloarthritis

4.2.-Degenerative rheumatism or osteoarthritis:

-Herniated disc

Unit 5.- Physiotherapy in ONCOLOGICAL PATHOLOGY of the rachis:

Within each of the pathologies, the following sections will be detailed:

Generalities, clinical and radiological manifestations, exploration/evaluation, complementary tests, medical/surgical treatment, physiotherapeutic approach: indications and treatments of physiotherapy.

Laboratory practices (PLAB)

-Global evaluation of the rachis.

-Assessment and treatment of the cervical spine.

- Dorsal spine assessment and treatment.
- Evaluation and treatment of the lumbar spine.

Methodology

Master classes with classroom sessions and ICT support with seminars for case resolution.

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	18	0.72	2, 3, 4, 15
SPECIALIZED SEMINARS	9	0.36	2, 3, 4, 15
THEORY	28	1.12	2, 3, 4, 8, 11, 15
Type: Autonomous			
PREPARATION OF WRITTEN WORKS	25	1	2, 4, 8, 11, 15
READING ARTICLES / REPORTS OF INTEREST	20	0.8	2, 3, 4, 11, 15
SELF-STUDY	42.5	1.7	2, 3, 4, 8, 15

Assessment

This subject does not provide for the single evaluation system

Written test: 50% of the final mark.

Two exams (with 50% of each subject) during the semester to eliminate subject matter, the note of the written test in case both tests are approved will be half of them.

Otherwise, a final recovery test will be carried out. To participate in the recovery process the minimum mark on the average of the subject will be less than 3.5.

The calculation of the note in the file: in case a student suspends, if his average note is less than 5, the resulting average will be that of the final grade mark. If a student does not exceed the requirements of the evaluation of the course and its average grade is greater than 5, the note that will be included in the final minutes will be 5.

In the multireset test. Each question answered correctly will be assessed with 1 point. The questions erroneously answered will be 0,25. Unsolved questions will not subtract points.

Minimum grade to pass: 5

Practical test: 25% of the final grade

Practical: Assessment exercises associated with the seminars. Attendance at the seminars. Seminars participation.

Group work: 25% of the final grade

Carrying out a work related to the pathologies or cases of the seminars.

Art. 116.8. When it is considered that the student has not been able to provide sufficient evidences of evaluation in the act it is will assign this subject as not evaluable

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Attendance and active participation in class and seminars	25%	1	0.04	7, 2, 1, 4, 5, 12, 14, 13, 15, 21, 16, 18, 10, 6, 20
Narrative records	25%	4.5	0.18	7, 1, 3, 5, 9, 8, 11, 12, 14, 13, 21, 19, 16, 17, 18, 6, 20
Written evaluation: objective tests	50%	2	0.08	3, 8, 11

Bibliography

- KALTENBORN, F.M.. Fisioterapia manual Columna. Ed. Mc.Graw-Hill. Interamericana. 2004
- TEYSSANDIER, M.J. Exploración clínica programada del raquis. Ed. Masson. 1996
- HOPENFELD, RS. Exploración física de la columna vertebral y las extremidades. Ed. El Manual Moderno. 1979.
- GHANAYEM A., UBIERNA M.T. Traumatismos del raquis. Editorial Médica Panamericana. 2008.
- XHARDEZ, Y.: Vademécum de Kinesioterapia. Ed. El Ateneo. Barcelona. 2001
- LOUDON, J. BELL, SL. JOHNSTON, J. Guía de valoración ortopédica clínica. Ed. Paidotribo. 2001.
- JURADO, A. Medina, I. Manual de Pruebas diagnósticas. Traumatología y ortopedia. Ed. Paidotribo.2002.
- PERRY CLAYTON R. Manual de fracturas. 2ª ed. Ed. McGrawHill. 2001.
- CRAIG LIEBENSON. Manual de Rehabilitación de la columna vertebral. Ed. Paidotribo. 1999.
- KAPANDJI, A. Cuadernos de fisiología articular. 3 Tronco y Raquis. 5ª ed. Barcelona: Masson. 1997.
- KAREN, S. RUCKER A, J. Cole, Stuart M. Weinstein. Dolor Lumbar. Enfoque del diagnóstico y el tratamiento basado en los síntomas. Ed. McGraw-Hill. 2003.
- HANNER-BECKER, R, SCHOER, D. Manual de técnicas de fisioterapia. Aplicación en traumatología y ortopédia. Barcelona: Paidotribo; 2001.
- DOWNIE CASH. Kinesiología en ortopedia y reumatología. Médica Panamericana, Buenos Aires. 1996.
- Enciclopedia Médico-Quirúrgica. Tratado de Kinesioterapia-Medicina Física. Praxis Médica S.A.Madrid. 1995.

- SERRA GABRIEL, J. DIAZ PETIT, M, DE SANDE CARRIL, M.L. J. Díaz Petit, M. L. Fisioterapia en traumatología, ortopedia y reumatología. 2ª ed. Masson. 2003.
- KOTTKE LEHMANN. KRUSEN .Medicina Física y Rehabilitación. Tomos I, II y III. Edit: Panamericana
- Delitto A, George S, Van Dillen L. LowBack Pain. Clinical Practice Guidelines Linked to the International Classification of Functioning, Disability and Health from the Orthopaedic Section of the American Physical Therapy Association. J Orthop Sports Phys Ther. 2012; 42(4):A1-A-57
- O'Sullivan P, Lin I. Acute low back pain. Beyond drug therapies. Pain Management Today 2014; 1(1):8-13
- Deyo RA, Rainville J, Kent DL. What can the history and physical examination tell us about low back pain? JAMA. 1992;268:760-765
- Chou R, Fu R, Carrino JA, Deyo RA. Imaging strategies for low-back pain: systematic review and meta-analysis. Lancet. 2009;373:463-472 [http://dx.doi.org/10.1016/S0140-6736\(09\)60172-0](http://dx.doi.org/10.1016/S0140-6736(09)60172-0)
- Chou R, Qaseem A, Owens DK, Shekelle P. Diagnostic imaging for low back pain: advice fro hight-value health care from the American Colelge of Physicians. *Ann Intern Med.* 2011;154:181-189
- Gifford L. Topical Issues in Pain 1.Whiplash: science and management Fear-avoidance beliefs and behavior. *Physiotherapy Pain Association 2013*
- Shäfer A, Hall T, Müller G. Outcomes differ between subgroups of patients with low back and leg pain following neural manual therapy: a prospective cohort study. *Eur Spine J*(2011)20:482-490
- Main CJ, Foster N, Buchbinder R. How important are back pain beliefs and expectations for satisfactory recovery from back pain? *Best Pract Res Clin Rheumatol* 2010;24:205-217
- Negrini *et al.* 2016 SOSORT guidelines: orthopaedic and rehabilitation treatment of idiopathic scoliosis during growth. *Scoliosis and spinal Disorders* (2018) 13:3 DOI 10.1186/s13013-017-0145-8
- Xin Li et al. Effect of core-based exercise in people with scoliosis: A systematic review and meta-analysis. *Clinical Rehabilitation* 2021, Vol 35(5) 669-680 DOI: 10.1177/0269215520975105
- Motyer G, Dooley B, Kiely P, Fitzgerald A, Parent´s information needs, treatment concerns, and psychological well-being when their child is diagnosed withadolescent idiopathic scoliosis. A systematic review, *Patient Education and Counseling* (2020), doi: <https://doi.org/10.106/j.pec.2020.11.023>

Software

No specific software required

We use power point, word and excel.