

**Physiotherapeutic Treatment in Neurology**

Code: 102998  
ECTS Credits: 6

Degree	Type	Year	Semester
2500892 Physiotherapy	OT	4	0

### Contact

Name: Carina Salgueiro Francisco Salgueiro  
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### Use of Languages

Principal working language: spanish (spa)  
Some groups entirely in English: Yes  
Some groups entirely in Catalan: Yes  
Some groups entirely in Spanish: Yes

### External teachers

Juan Simón Cardona

### Prerequisites

The students must have knowledge of the anatomy and physiology of the nervous system in order to be able to detect illnesses and the corresponding therapeutical measures.

It's recommended having passed the physiotherapy assignment in neurology I and II.

### Objectives and Contextualisation

This subject aims to establish the basis of the physiotherapeutic treatment in advanced neurology as well as to d

Knowing and properly applying the different techniques of advanced neurological physiotherapy in real patients is

### Competences

- 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.
- 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.
- Solve problems.
- Work in teams.

## Learning Outcomes

1. Apply advanced physiotherapy methods and techniques to neurological pathologies..
2. Define the general and specific objectives of advanced physiotherapy treatment in neurological pathologies.
3. Describe and apply advanced evaluation procedures in physiotherapy in order to determine the degree of damage to the nervous system and possible functional repercussions.
4. Describe the circumstances that condition priorities in advanced physiotherapy treatment for neurological pathologies.
5. Develop critical thinking and reasoning and communicate ideas effectively, both in the mother tongue and in other languages.
6. Develop independent learning strategies
7. Display critical reasoning skills.
8. Enumerate the different types of material and equipment used in advanced physiotherapy treatment for neurological pathologies.
9. Enumerate the medico-surgical treatments, mainly in the area of physiotherapy and orthopaedics, that are used in neurological diseases.
10. Establish a diagnostic physiotherapy hypothesis based on complex clinical cases in neurological pathologies.
11. Explain in detail the physiopathology of neurological diseases and identify the symptoms that appear during the process.
12. Solve complex clinical cases in the field of neurology.
13. Solve problems.
14. Work in teams.

## Content

THEORETICAL-PRACTICAL CONTENT:

All the contents will be taught by Carina Salgueiro and the assistant professor.

- Scientific bases of motor control and learning.
- Early intervention and critical neurological patient and major affected.
- Review of the most useful manual techniques in neurorehabilitation.
- Stability (core stability) and mobility in neurological patients.
- Treatment of postural control and balance. Correction of gait patterns.
- Treatment and functional approach of the upper extremity.
- Treatment of sensory disorders and neuropathic pain.
- Other therapies: Virtual reality and mirror therapy; Constraint-induced movement therapy (CIMT); Whole body vibration (WBV) in neurological patients; treadmill and robotics

## Methodology

There are theoretical and practical classes.

## Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
PRACTICAL LABORATORY WORK	30	1.2	12, 1, 7, 13, 14
THEORY	10	0.4	12, 1, 2, 3, 6, 5, 11, 7, 13, 14
Type: Supervised			
WORK PRESENTATIONS	2	0.08	12, 1, 2, 3, 4, 8, 9, 10, 11, 7, 14
Type: Autonomous			
SELF STUDY	78	3.12	12, 1, 2, 4, 6, 5, 8, 7
elaboration of works and reports as well as research of information to share in classes	26	1.04	12, 1, 2, 3, 4, 6, 5, 8, 9, 10, 11, 7, 14

## Assessment

Description of the evaluation system

Written work

Delivery of and presentation of written work done in a group

Job Note [NT] (10% of the final grade)

Exam I - Practical

Objective structured evaluation: the manual skill in the application of the different techniques will be assessed, as well as the adequacy of the chosen technique / maneuver to the situation posed.

Practical test score [NEP] 50% of the final grade

Exam II - Theoretical

Written evaluation by means of objective tests of selection of multiple choice items (20 questions with 4 possible answers, only one will be correct, the correct answers are worth 0.35 points), open answer questions (2 questions of development in which each correct answer is worth 1 value) and short answer questions (3 questions whose correct answer is worth 0.5 points)

Note of the theoretical final exam [NET] 40% of the final grade

All evaluable tests must be done in order to pass the subject.  $([NET] \cdot 0.40) + ([NP] \cdot 0.50) + ([NT] \cdot 0.10) = \text{FINAL NOTE}$

The subject will be approved with a final grade equal to or greater than 5.

When the student can not provide sufficient evidence of evaluation, ie, by not presenting and presenting the work and / or not to take the final exam of the subject, the record will be recorded as not assessable.

The students of exchange programs will be evaluated following the same criteria as the students of the UAB.

The recovery exam will be constituted by a theoretical part (8 questions type test, 2 open questions of short answer, 1 open question of answer of development and 1 open question related to one of the thematic proposals in the classes of self-learning) with the weight of 50% of the total assessment and a practical part (2 simulation exercises of the therapeutic approach) with the weight of 50% of the final classification.

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Narrative records/porfolios	10%	1	0.04	2, 3, 4, 6, 5, 8, 9, 11, 7, 13, 14
Practical evaluation	50%	1	0.04	12, 1, 2, 3, 4, 5, 8, 10, 13
Written evaluation : multiple choice and essay test	40%	2	0.08	12, 1, 2, 4, 5, 8, 9, 11, 7, 13

## Bibliography

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- Shumway-Cook A, Woollacott MH. *Motor Control: Translating Research into Clinical Practice*. 5th ed. Philadelphia: Lippincott Williams & Wilkins; 2016
- Krakauer J, Carmichael S. *Broken Movement: the neurobiology of motor recovery after stroke*. 2017