

STUDENT GUIDE

SUBJECT:

Physiopathology and therapeutic approach of Spinal Cord Injury

Coordinator: Dr. Jesús Benito Penalva

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UAB Code: 44136

Modality: mandatory

9 ECTS

Presential classes:

1st semester of the 2026-2027 academic year

Dates: November 9th to 13th

and November 16th to 20th, 2026

Schedule: From 9 a.m. to 2:45 p.m.

Course objectives

Provide knowledge and skills for the prevention and treatment of the main complications that affect people with spinal cord injury.

Contents:

- Epidemiology and clinic of spinal cord injury
- Neurological examination of spinal cord injury
- Clinical and surgical treatment of spinal cord injury
- Therapeutic approach to the main complications of spinal cord injury in relation to the level and severity of the injury.

Workload:

9 ECTS: equivalent to 225 hours of student work, of which 67.5 hours are face-to-face, 11.25 supervised hours and 146.25 autonomous work.

Competences and learning outcomes

Knowledge:

At the end of the course, students will be able to:

- Identify the epidemiology and clinic of spinal cord injury in adult patients and children.
- Deepen the field of clinical examination of spinal cord injury, as well as the bases of clinical and surgical treatment.

Skills:

At the end of the course, students will be able to:

- Define which neurorehabilitation technology is the most appropriate for each patient with spinal cord injury and phase of the rehabilitation process.
- Explain to patients with spinal cord injury what are the fundamental recommendations for the prevention of complications of the affection itself.
- Reason the choice of each therapeutic technique for the treatment of medical complications in patients with spinal cord injury.
- Decide which analysis and diagnosis system is required at each moment of the therapeutic process of the patient with spinal cord injury.

Competences

At the end of the course, students will be able to:

- Identify the different instrumental evaluation tools suitable for each patient with spinal cord injury.
- Act professionally and responsibly in accordance with the competencies and those of the other members of the multidisciplinary team.

Teaching methodology

The methodological approach of the subject is based on considering the student as the protagonist of his teaching and learning process. The student must be active and autonomous throughout the process and the teaching staff will support them by providing the necessary information and resources to achieve the best learning results.

The subject is face-to-face with compulsory attendance at least 80% of the classes. Also, part of the teaching-learning process is preparing assignments, personal study, reading recommended articles/reports of interest that will be discussed in class (problem solving) and sharing experiences from laboratory/clinical practices (discussions), oral expository presentations with audiovisual support (inverted class) and workshops held during its development (cooperative learning).

Through the *e-learning Guttman platform* you will have access, among others, to the calendar and class schedules, to bibliographic support documentation, and you can also use it to do a collaborative work between the students and, between the students and teachers to clarify doubts, to share interesting findings, news, articles, books, conferences, etc.

The students will also have hours of autonomous work to integrate what happens in class in person, also having the possibility of being supervised during workshops, exhibitions or via direct consultation with the teaching staff outside of direct teaching hours.

Regarding the supervised activities, during the tutorials, a more individualized attention will be provided to the students to delve into aspects of personal interest.

The information in this document provides a brief summary of the main features of the program and expected learning outcomes.

Contents description:

- Epidemiology and clinic of spinal cord injury
- Neurological exploration of spinal cord injury
- Clinical and surgical treatment of spinal cord injury
- Therapeutic approach of the main complications of the spinal cord injury in relation to the level and severity of the injury

Competences evaluation

The evaluation activities will be carried out through and at the end of the subject and consists of:

1. **Practical case:** It has a value of **30% of the final grade of the subject**.
2. **Theoretical tests:** It has a value of **30% of the final grade of the subject** and will consist of multiple-choice questions of all the topics addressed in the program, one for each week of class.

3. **The Portfolio** consists of the collection of student work, to demonstrate through progressive improvement, what you can do, finding, searching or compiling in a certain thematic area or in a specific content. The Portfolio have a value of **30% of the final grade of the subject**.

During the writing process, generative artificial intelligence technology may be used exclusively to improve the readability and language of the manuscript, as well as to generate illustrative figures of the procedures. It must be stated if this option has been used.

4. **The attendance and participation** in class has a weight of **10% in the final mark of the subject**.

The maximum date for the delivery of the tests will be determined according to the calendar established at the beginning of the subject.

- If you do not present evidence of learning or you have not attended the minimum number of hours of the programmed activities of the subject (80%), the subject will be "not evaluable". The qualification of not evaluable in the final evaluation report implies exhausting the inherent right in the subject's enrollment.
- You will pass the subject if you obtain a minimum score of 5 points (scale 0-10) as the average mark of the two evidences of learning.

Procedure and recovery criteria

The re-evaluation is a process that will be put into operation once the period of publication of the final grades has ended.

- You will be entitled to a re-evaluation if you have obtained between 3.5 and 4.9 in the average grade of the subject.
- The test submitted to the re-evaluation process may not exceed 5.0 points (approved) in the final grade.

The subject's web

In the web of each subject, you Will find information of interest for the follow-up of the study:

- Forum of the subject. Through this space you can keep in touch with the teachers or among the other students, to provide suggestions, answer questions, etc.
- News. It is the space from where you Will receive news and announcements about the evolution of the subject.
- Programs. The subject can be downloaded in PDF format, indicating the subjects, schedules and the teaching staff.
- Documentation. Here you Will find information and bibliography of interest that you can consult for the later study of the topics.
- Evaluation of competences. In this space you Will find all the necessary information and the delivery dates of the evaluation that will be done for this subject

Satisfaction surveys

It is very important that students send us your comments, complaints, and suggestions regarding the subject.

There are two **anonymous** assessment questionnaires. They are short questionnaires, easy to fill out and very important for the coordination of the master's degree, since the opinion of the students will be of great help for the improvement of this subject in future editions.

- Assessment of the teaching staff. Through mobile phone or e-mail, students will receive satisfaction questionnaires for the teaching action of teachers who have participated in the subject.
<https://forms.gle/GLhnS7PdMJjaNi988>
- Evaluation of the subject. At the end of the subject, the general evaluation questionnaire of its contents can be answered.
<https://forms.gle/csQ7vsDqh3LetP8D7>

Coordination

For any aspect of the organization and planning of the subject you can contact

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RECOMMENDED BIBLIOGRAPHY

- Spinal Cord Injury research evidence (<https://scireproject.com>)
- Understanding Spinal Cord Injury and Functional Goals & Outcomes. Department of Physical Medicine and Rehabilitation. University of Alabama. 2000. Disponible en:
<http://sci-bc-database.ca/wp-content/uploads/Understanding-Spinal-Cord-Injuryand-Functional-Goals-and-Outcomes.pdf>