

Physiotherapeutic Assessment and Treatment in Cardio-respiratory Processes

Code: 102968

Credits: 6

2026/2027

Degree programme	Type	Course
Physiotherapy	OB	3

Contact lecturer

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Group languages

You can consult this information at the [end](#) of the document.

Prerequisites

Have knowledge of anatomy and physiology of the cardiorespiratory system, necessary to interpret the pathophysiology of cardiopulmonary disorders and decide on the therapeutic approach.

Objectives

The aim is to provide students with the theoretical knowledge and practical skills necessary to carry out assessments and interventions in the field of cardiorespiratory physiotherapy, grounded in scientific evidence and best clinical practice.

Over the past decades, respiratory physiotherapy has become a key component in the treatment of numerous respiratory conditions, both acute and chronic, significantly contributing to the improvement of quality of life for affected individuals.

Advancements in healthcare, both in prevention and treatment, have increased life expectancy across the population, including in severe and complex clinical situations. This has led to a rise in respiratory comorbidities, particularly among individuals who are hospitalised, institutionalised, or of advanced age, highlighting the need for specialised physiotherapeutic care.

Moreover, the rise in the number of preterm births and the early diagnosis of various genetic diseases have further strengthened the essential role of respiratory physiotherapy in paediatric and community settings.

Cardiac conditions also benefit from current therapeutic advances and early detection. In this context, cardiac rehabilitation programmes have been shown, according to current scientific evidence, to improve quality of life and increase survival in individuals with heart disease.

Learning outcomes

1. Apply physiotherapy methods, procedures and interventions to treat cardio-respiratory conditions.
2. Identify the physiological and structural changes that may occur as a result of physiotherapy intervention in cardio-respiratory disorders.
3. Use physiotherapy to treat clinical cases involving cardio-respiratory conditions.
4. Describe and apply advanced evaluation procedures in physiotherapy in order to determine the degree of damage to the cardio-respiratory system and possible functional repercussions.
5. Define general and specific objectives when using physiotherapy treatment for cardio-respiratory disorders.
6. Describe the circumstances that can influence priorities when using physiotherapy to treat cardio-respiratory disorders.
7. Enumerate the different types of material and apparatus for using physiotherapy to treat cardio-respiratory disorders.
8. Describe and analyse the evidence-based physiotherapy protocols for cardio-respiratory disorders.
9. Describe the good clinical practice guides for cardio-respiratory disorders.
10. Make the most correct decisions in given situations.
11. Work in teams.
12. Establish a diagnostic physiotherapy hypothesis based on clinical cases linked to cardio-respiratory conditions.
13. Identify situations in which a change or improvement is needed.
14. Analyse a situation and identify its points for improvement.
15. Propose new methods or well-founded alternative solutions.
16. Weigh up the risks and opportunities of suggestions for improvement: one's own and those of others.
17. Propose new ways to measure success or failure when implementing innovative proposals or ideas.
18. Identify the social, economic and environmental implications of academic and professional activities within one's own area of knowledge.
19. Propose viable projects and actions to boost social, economic and environmental benefits.
20. Propose ways to evaluate projects and actions for improving sustainability.
21. Consider how gender stereotypes and roles impinge on the exercise of the profession.
22. Propose projects and actions that incorporate the gender perspective.
23. Communicate using language that is not sexist.
24. 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.

Contents

Theoretical class content

Cardiopulmonary anatomy

Respiratory physiology

Ventilatory mechanics

Respiratory and cardiovascular pathophysiology

Assessment in respiratory physiotherapy

- Medical history taking and physical examination
- Vital signs

- Respiratory auscultation
- Chest radiology
- Pulmonary function tests
- Arterial blood gas analysis
- Functional capacity assessment
- Outcome measures and assessment scales

Goals of respiratory physiotherapy

Oxygen therapy and inhalation therapy

Respiratory physiotherapy techniques

- Breathing retraining techniques
- Airway clearance techniques

Respiratory physiotherapy in obstructive lung diseases

Respiratory physiotherapy in restrictive lung diseases

Respiratory physiotherapy in the postoperative setting

Cardiac physiotherapy in cardiovascular diseases

Respiratory physiotherapy in paediatrics

Content of supervised activities

- Respiratory auscultation and physical examination
- Respiratory physiotherapy techniques for the upper airway
- Respiratory physiotherapy techniques for the lower airway
- Assistive devices in respiratory physiotherapy
- Airway suctioning

Learning activities and methodology

Title	Hours	ECTS	Learning outcomes
READING ARTICLES AND REPORTS OF INTEREST	19.5	0.78	1, 3, 4, 5, 6, 7, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24
PRESENTATION / ORAL EXHIBITION OF WORKS / VIRTUAL CLASSES (VIRT) / TUTORIES	0.5	0.02	11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
LABORATORY PRACTICES (PLAB)	15	0.6	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
WORK PREPARATION	35	1.4	11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
PERSONAL STUDY	33	1.32	1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 13, 14, 16, 18, 21
THEORY (TE)	30	1.2	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

The subject will be taught through theoretical classes and practical classes.

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.

Assessment

Continuous assessment activities

Title	Weight	Hours	ECTS	Learning outcomes
Objective tests of selection of multiple choice items + test test of restricted questions	30% + 20% respectively	1.5	0.06	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
Attendance at classes and seminars and active participation	10%	15	0.6	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
Written work + Oral defense	30% + 10% respectively	0.5	0.02	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

Assessment

The course is assessed through a continuous assessment system that combines individual and group activities, including both written and practical assignments. This system aims to comprehensively evaluate students' theoretical knowledge, practical skills, and active participation.

A minimum attendance of 80% of the scheduled practical laboratory sessions (PLAB) is mandatory to pass the course, as these activities are essential for the development of the expected competencies.

The assessment components, passing criteria, and resit conditions are detailed below.

Assessment system

- Attendance of at least 80% of the scheduled practical laboratory sessions (PLAB) is a mandatory requirement to pass the course. Attendance accounts for 10% of the final grade.
- The group written assignment must receive a minimum mark of 5/10 and represents 30% of the final grade. Each group must also prepare and deliver an oral poster presentation in class, which accounts for 10% of the final grade.
- The written examination includes a multiple-choice test with four answer options and only one correct answer. Incorrect answers will incur a penalty equal to 25% of the value of a correct answer. A minimum mark of 5/10 is required to pass this component, which represents 30% of the final grade.
- The written examination also includes a restricted-response essay based on a clinical case. A minimum mark of 5/10 is required to pass this component, which represents 20% of the final grade.
- To obtain the final course grade, students must achieve a minimum mark of 5/10 in each of the following assessment components: the group written assignment, the multiple-choice test, and the clinical case essay.

Specific conditions

- If any of these assessment components is not passed, the course will be considered failed, even if the weighted average is 5.0 or higher. In this case, the final grade recorded in the academic transcript will

- be the lowest mark obtained among the compulsory assessment components.
- If the student's weighted average is below 5.0, this will be the final course grade regardless of the individual component grades.
- Students must complete all assessment activities to pass the course and be eligible for the resit examination. Failure to attend any compulsory assessment activity will result in a grade of "Not Assessable" and the loss of eligibility for the resit examination.
- Assessment misconduct: Any irregularity during an assessment activity (including academic fraud, plagiarism, or the improper use of generative artificial intelligence tools, unless such use is expressly authorised in this course guide) that may lead to a significant alteration of the assessment outcome will result in a grade of 0 for that assessment activity. Since obtaining a minimum mark of 5/10 in the group written assignment, the multiple-choice test, and the clinical case essay is a mandatory requirement to pass this course, any such misconduct in any of these assessment components will result in failing the course. If multiple irregularities occur in different assessment activities within the same course, the final course grade will be 0. Furthermore, the University may initiate disciplinary proceedings where appropriate.
- Students who fail the course may take a resit examination only for the failed assessment component(s). The highest grade that can be awarded after a successful resit is 5/10.
- To be awarded Honours (Matrícula d'Honor), students must obtain a final grade of 9.5/10 or higher.

Single assessment

Students opting for the single assessment system should note that:

- The assessment activities and their weighting will be identical to those of the continuous assessment system.
- All assessment activities will be completed on the same day, corresponding to the official examination date established in the UAB academic calendar.
- The same resit policy applies as in the continuous assessment system.
- The procedure for reviewing the final grade is also the same as for continuous assessment.

Note on the responsible use of Artificial Intelligence (AI)

The use of generative AI tools (such as ChatGPT or similar applications) may be permitted as support for academic work, provided they are used ethically, critically, and transparently. For example, they may be used to clarify specific questions, improve wording, or refine writing, but never as a substitute for the student's own intellectual work. Any substantial contribution generated with AI must be clearly acknowledged in the submitted work, either in an acknowledgements section or in a footnote. Any use of AI that does not comply with these conditions will be considered improper use and will be subject to the assessment misconduct regulations described above. In case of doubt, students are encouraged to consult the teaching staff in advance.

Bibliography

Basic:

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Complementary reading

The teaching staff will provide references for the complementary and compulsory reading materials throughout the course via the Virtual Campus.

Software

Teachers could make use of applications like Kahoot or Wooclap for the revitalization of the classes.

Course groups and languages

The information provided is provisional until November 30. After this date, you will be able to consult the language of each group through this [link](#). To access the information, you will need to enter the course CODE

Type of teaching	Group	Language	Semester	Shift
(TE) Theory	201	Catalan/Spanish	first semester	afternoon
(PLAB) Practical laboratories	201	Catalan	first semester	afternoon
(PLAB) Practical laboratories	202	Catalan/Spanish	first semester	afternoon
(PLAB) Practical laboratories	203	Catalan/Spanish	first semester	afternoon