Physiotherapeutic Assessment and Treatment in Cardio-respiratory Processes

Code: 102968
ECTS Credits: 6

2024/2025

Degree	Type	Year
2500892 Physiotherapy	OB	3

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Teachers

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Teaching groups languages

You can view this information at the end of this 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 and Contextualisation

Transmit the student's theoretical knowledge and practical skills to perform evaluations and treatments in the field of cardiorespiratory physiotherapy, based on scientific evidence and good clinical practice.

The evolution of respiratory physiotherapy in recent years has made it an indispensable part of treatment in most respiratory pathologies, both acute and chronic, and has significantly improved the quality of life of the patients who suffer them.

Medical advances, both in prevention and in therapy, favor the longevity of the population, since serious pathologies and highly complex clinical situations have, at present, greater life expectancy. This leads to an increase in respiratory comorbidity in hospitalized or institutionalized patients and in elderly people, and causes severe pathologies with respiratory compromise to have greater survival. On the other hand, the increase in the number of large premature babies and the early diagnosis of diverse genetic diseases make respiratory physiotherapy a necessity in today's society.

Cardiac diseases, with the current wide range of therapies and early care, have a better prognosis and are subsidiary to carrying out cardiac rehabilitation programs. Scientific evidence indicates that this type of rehabilitation increases the survival of the cardiac patient and improves their quality of life.

Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Apply quality-assurance mechanisms in physiotherapy practice, in accordance with the recognised and validated criteria.
- Design the physiotherapy intervention plan in accordance with the criteria of appropriateness, validity and efficiency.
- 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.
- 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.
- Participate in drawing up physiotherapy protocols on the basis of scientific evidence, and promote professional activities that facilitate physiotherapy research.
- 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 in teams.

Learning Outcomes

1. Analyse a situation and identify its points for improvement.
2. Apply physiotherapy methods, procedures and interventions to treat cardio-respiratory conditions.
3. Communicate using language that is not sexist.
4. Consider how gender stereotypes and roles impinge on the exercise of the profession.
5. Define general and specific objectives when using physiotherapy treatment for cardio-respiratory disorders.
6. Describe and analyse the evidence-based physiotherapy protocols for cardio-respiratory disorders.
7. 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.
8. Describe the circumstances that can influence priorities when using physiotherapy to treat cardio-respiratory disorders.
9. Describe the good clinical practice guides for cardio-respiratory disorders.
10. Enumerate the different types of of material and apparatus for using physiotherapy to treat cardio-respiratory disorders.
11. Establish a diagnostic physiotherapy hypothesis based on clinical cases linked to cardio-respiratory conditions.
12. Identify situations in which a change or improvement is needed.
13. Identify the physiological and structural changes that may occur as a result of physiotherapy intervention in cardio-respiratory disorders.
14. Identify the social, economic and environmental implications of academic and professional activities within one?s own area of knowledge.
15. Make the most correct decisions in given situations.

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 viable projects and actions to boost social, economic and environmental benefits.
20. Propose ways to evaluate projects and actions for improving sustainability.
21. Use physiotherapy to treat clinical cases involving cardio-respiratory conditions.
22. 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.
23. Weigh up the risks and opportunities of suggestions for improvement: one's own and those of others.
24. Work in teams.

Content

Content of the master classes

1. Reminder of cardiopulmonary anatomy.

2. Reminder of respiratory physiology.

3. Ventilatory mechanics

4. Basic concepts of physiopathology.

5. Assessment in respiratory physiotherapy: 5.1. Anamnesis and physical examination; 5.2. Vital signs; 5.3. Respiratory auscultation (RA); 5.4. Chest radiology; 5.5 Basic concepts of respiratory function tests (PFR); 5.6. Basic concepts of gasometry; 5.7. Basic concepts of functional capacity tests; 5.8. Valuation scales.

6. General objectives of respiratory physiotherapy.

7. Basic concepts of oxygen therapy and aerosol therapy.

8. Techniques of respiratory physiotherapy; 8.1. Ventilatory reeducation techniques; 8.2. Secretion drainage techniques.

9. Respiratory physiotherapy in obstructive pathology.

10. Respiratory physiotherapy in restrictive pathology.

11. Cardiorespiratory physiotherapy in the surgical patient.

12. Cardiorespiratory physiotherapy in cardiac pathology.

13. Respiratory physiotherapy in pediatrics.

Content of supervised activities

1. Respiratory auscultation (RA).
2. Techniques of respiratory physiotherapy.

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			

LABORATORY PRACTICES (PLAB)	15	0.6
THEORY (TE)	30	1.2
Type: Supervised		
PRESENTATION / ORAL EXHIBITION OF WORKS / VIRTUAL CLASSES (VIRT) / TUTORIES	0.5	0.02
Type: Autonomous		
PERSONAL STUDY	33	1.32
READING ARTICLES AND REPORTS OF INTEREST	19.5	0.78
WORK PREPARATION	35	1.4

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

Continous Assessment Activities

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

The minimum attendance of 80% of the PLAB directed activities (verified by the student's signature and the completion of an individual written test in the classroom) will account for 10% of the final grade.

The written group work will be passed with a 5 out of 10 and will account for 30% of the final grade. All groups will have to prepare an oral presentation to be defended in the classroom and will account for 10% for the final grade.

The written test will consist of a multiple choice test with 4 possible answers, only one of them correct. For each question answered incorrectly, a penalty of -25% of the value of the correct answer will be applied. A pass grade of at least 5 out of 10 is required. If the test is passed, it will account for 30% of the final grade.

The written test also includes a test of selected questions based on a clinical case. It will be passed with a 5 out of 10 and will account for 20% of the final grade.

All parts (the written test, the final paper, the multiple choice test and the final test based on the clinical case) have to be passed with a minimum grade of 5 to obtain the final grade.

Assumptions

- If any of the parts has not been passed, the subject will be failed even if the average of the subject is higher than 5. The final grade that will be recorded on the academic record will correspond to the lowest grade obtained.
- In the event that a student fails and his or her average mark is lower than 5, this average will be the final grade that will appear on the academic record.

All assessments must be taken in order to pass the subject and, if necessary, be eligible for a resit. Failure to take all the tests will be considered a not assessable, and the student will not be eligible for a resit. Failure to take all the tests will be considered as non-assessable and the student will not be eligible for a resit.

The late delivery of workor the detection of plagiarism in the exercises or the testwill mean a zero, therefore, the subject will not be passed and there will be no resit.

Students who do not pass the course will be able to opt for a resit of the failed part or parts. In case of passing, the grade will be a 5 regardless of the grade obtained.

In order to be awarded the Honours Certificate, a final mark of 9.5 or higher will be required.

Single evaluation:

The student who chooses this path must know that:

- Evidence for evaluation will be the same and will have the same weighting.
- All will be evaluated on the same day (which corresponds to the day of the subject's exam, marked in the UAB exam calendar)
- The same recovery system will be applied as for continuous evaluation.
- The review of the final qualification follows the same procedure as for the continued evaluation.

Bibliography

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Software

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

Language list

Name	Group	Language	Semester	Turn
(PLAB) Practical laboratories	201	Catalan	first semester	afternoon
(PLAB) Practical laboratories	202	Catalan	first semester	afternoon
(PLAB) Practical laboratories	203	Catalan	first semester	afternoon
(PLAB) Practical laboratories	204	Catalan	first semester	afternoon
(TE) Theory	201	Catalan	first semester	afternoon