Universitat Autònoma de Barcelona

2021/2022

Evaluation of the Cardio-respiratory and Diagnostic Function of Physiotherapy

Code: 102972
ECTS Credits: 6

Degree	Type	Year	Semester
2500892 Physiotherapy	OT	4	0

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Teachers

Bernat Planas Pascual
Patricia Launois
Alba Gomez Garrido

External teachers

Ana Maria León
Vicenta Pujol

Prerequisites

To have knowledge of the anatomy and physiology of the cardiorespiratory system, necessary to be able to interpret the physiopathology of cardiorespiratory diseases and thus to be able to consider a functional assessment algorithm to reach the diagnosis of physiotherapy.

Have basic knowledge of physiotherapeutic evaluation and treatment in these diseases.

Knowledge of English that allows the student to carry out bibliographic research and critical reading of scientists articles.

Objectives and Contextualisation

In the last years, there has been an improvement in the pathophysiological knowledge of heart disease and respiratory, which has led to great medical progress, both in the field of diagnostic tests already they are image, clinical, functional and / or laboratory as well as therapeutic. Thank you, the survival and prognosis of these diseases, which increases the treatment needs rehabilitator in this area and the improvement of the preventive measures to promote good habits cardiosaludables and improve quality of life.

This subject intends to deepen the knowledge and clinical skills of functional assessment cardiorespiratory, both in the field of anamnesis, semiology, physical examination and complementary tests that

cardiorespiratory, both in the field of anamnesis, semiology, physical examination and complementary tests that allow to be able to make a correct physiotherapeutic diagnosis in the different cardiorespiratory pathologies and so we can treat them therapeutically in the most appropriate way.

Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Design the physiotherapy intervention plan in accordance with the criteria of appropriateness, validity and efficiency.
- Display critical reasoning skills.
- 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 changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.
- Show sensitivity to environmental issues.
- Solve problems.
- 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. Communicate using language that is not sexist.
3. Consider how gender stereotypes and roles impinge on the exercise of the profession.
4. Critically analyse the principles, values and procedures that govern the exercise of the profession.
5. Describe and apply advanced assessment procedures in physiotherapy in order to determine the degree of damage to the chest and possible functional repercussions.
6. Describe the circumstances that can influence priorities when using physiotherapy to treat chest pathologies.
7. Display critical reasoning skills.
8. Enumerate the different types of material and apparatus used in physiotherapy treatment of chest pathologies.
9. Explain the explicit or implicit code of practice of one's own area of knowledge.
10. Identify situations in which a change or improvement is needed.
11. Identify the principal forms of sex- or gender-based inequality present in society.
12. Identify the social, economic and environmental implications of academic and professional activities within one?s own area of knowledge.
13. Propose new methods or well-founded alternative solutions.
14. Propose new ways to measure success or failure when implementing innovative proposals or ideas.
15. Propose projects and actions that incorporate the gender perspective.
16. Propose viable projects and actions to boost social, economic and environmental benefits.
17. Propose ways to evaluate projects and actions for improving sustainability.
18. Show sensitivity to environmental issues.
19. Solve problems.
20. Use physiotherapy to treat clinical cases involving chest pathologies.
21. 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.
22. Weigh up the risks and opportunities of suggestions for improvement: one's own and those of others.

23. Work in teams.

Content

Theoretical and practical program

1. Semiology of the respiratory system (anamnesis and physical examination) - Alba Gómez
2. Assessment of respiratory functional tests (spirometry, lung volumes, p
3. Assessment of gasometry and oxygen saturation - Alba Gómez
4. Assessment of the strength of the respiratory musculature and cough
5. Functional assessment of the exercise capacity: field tests (six-minute
6. Assessment of dyspnea perception and quality of life in patients with r
7. Radiology of the thorax (simple x-ray and pulmonary CT) - Alba Góme
8. Diagnosis of physiotherapy according to the pathologies: patient with c
9. Physiotherapeutic assessment of the critical patient: semiology and hc
10. Semiology of the cardiovascular system (anamnesis and physical exa
11. Assessment of hemodynamic parameters and their relation to exercis
12. Electrocardiogram evaluation - Alba Gómez
13. Evaluation of cardiac stress test and utility in cardiac rehabilitation - A
14. Other cardiological diagnostic tests (echocardiography, Holter, cardia
15. Assessment of physical activity - Alba Gómez
16. Assessment of sarcopenia and frailty - Alba Gómez
17. Diagnosis of physiotherapy according to the pathologies: ischemic he
18. Particular features of the cardiorespiratory assessment of infants and
19. Relationship of the alteration of cough with phonation and dysphagia
20. Assessment of aerobic function and muscle strength in the patient wh

Methodology

The subject is distributed in theoretical 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.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
CLINICAL CASES SEMINARS (SCC)	5	0.2	20, 5, 6, 8, 7, 19, 23
LABORATORY PRACTICES (PLAB)	15	0.6	20, 5, 6, 8, 7, 19
THEORY(TE)	20	0.8	20, 5, 6, 8, 7, 19
Type: Autonomous			
PREPARATION OF WRITTEN WORKS	30	1.2	20, 18, 6, 8, 7, 19, 23
SELF- STUDY	74	2.96	18, 8, 7, 19, 23

Assessment

Description of the evaluation system.

Theoretical exam [NE] (40% of the final grade):

-Evaluation written through objective tests of selection of multiple choice items: 30 questions with 4 possible answers, only one will be correct. The correct answers are worth 1 point and each wrong answer it remains 0.33 points.

- Request questions for broad questions: 2 topics / issues to be developed.

It must be approved with a 5.

Practical exam [NP] (30% of the final grade):

- Practical type evaluation through structured objective evaluation: The clinical ability will be assessed at the application of the different functional valuation tools to solve the situation posed and power to arrive at a correct physiotherapeutic diagnosis.

Written work and oral presentation. [NT] (25% of the mark).

Delivery of reports / written papers and oral defense.

Participation in classes / forums [PR] (5% of the final mark).

Attendance and active participation in class and seminars.

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All the evaluable tests must be approved to be able to pass the subject.

([NE] · 0.4) + ([NP] · 0.3) + ([NT] · 0.25) + ([PR] · 0.05) = FINAL NOTE

Student that fail only one part of the subject, may opt for a recovery test.

When the student can not provide sufficient evidences of evaluation in the act will be given this subject as not evaluable.

Assistance to the SCC and the PLAB must be a minimum of 85%.

The ERASMUS students who come to the UAB will be evaluated according to the same criteria as the rest of almunes.

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Evaluation activities

Title Weight Hours ECTS Results of learning.

Attendance and active participation in class and seminars.

Practical type evaluation through structured objective evaluation.

Evaluation written through objective tests of selection of items of multiple choice

Multiple questions and essay questions.

Delivery of reports / written papers and oral defense.

In case of failing, the student can take a second-chance examination.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Assistance and active participation in class and seminars	5%	0	0	4, 1, 20, 2, 18, 5, 6, 8, 9, 12, 11, 10, 22, 17, 13, 14, 15, 16, 7, 19, 23, 3, 21
Delivery of written reports / work and oral defense.	25%	2	0.08	4, 1, 20, 2, 18, 5, 6, 8, 9, 12, 11, 10, 22, 17, 13, 14, 15, 16, 7, 19, 23, 3, 21
Practical evaluation: structured objective evaluation	30%	2	0.08	4, 1, 20, 2, 18, 5, 6, 8, 9, 12, 11, 10, 22, 17, 13, 14, 15, 16, 7, 19, 23, 3, 21
Written evaluation: multiple choice items and long answer test questions.	40%	2	0.08	4, 1, 20, 18, 5, 6, 8, 10, 7, 19

Bibliography

1. Terry Des Jardins, George G Burton. Clinical manifestations and assessment of respiratory disease. Mosby. 2011

2. Colegio Americano de Medicina del Deporte. Manual ACSM para la valoración y prescripción del ejercicio. 3ed. Ed Paidotribo. 2014

3. Douglas G, Nico F, Robertson C. Mcleod Exploración clínica. Elseiver. 2014

4. Cabrera F, Gómez-Doblas J. Electrocardiografia: interpretación práctica del ECG. Panamericana.2015

5. Dubin D. Interpretación ECG. Masson. 207

6. Localzo J. Harrison: Neumologia y cuidados intensivos. Mc Graw Hill. 2013

7. SENP. Manual de Neumologia pediátrica. Panamericana. 2010

8. Jimenez M. Cardiologia y neumologia. Diagnóstico y tratamiento médico. Marban. 2012

9. Cobos. Tratado de neumologia infantil. Ergon. 2008

10. Wassermann K. Principles of exercise testing and interpretation. Lippincot. 2011

11. Antman E, Sabatine M. Tratamiento de la patologia cardiovascular. Elseiver 2014

12. Pleguezuelos E. Principios en Rehabilitación cardíaca. Panamericana. 2010

13. Maroto. Rehabilitación cardiovascular. Panamericana. 2010

14. AACPVR. Guidelines for cardiac rehabilitation and secondary prevention programs. 2013

15. AACPVR. Guideline for guidelines por pulmonary rehabilitation programs. 2011

16. Hodgkin, Celli. Pulmonary rehabilitation. Guidelines to success. Mosby. 2009

17. West. Fisiologia respiratoria. Panamericana. 2005

18. Postiaux G. Fisioterapia respiratoria en el niño. Madrid: McGraw-Hill; 2000.

19. Kapandji. Fisiología articular. Tomo 3: Tronco y raquis (6º edición). Madrid: Panamericana; 2007.

20. Netter, Sistema Respiratorio. Barcelona: Ed. Masson, 2000. Patiño Restrepo, JF. Gases sanguíneos, fisiología de la respiración e insuficiencia respiratoria aguda.Panamericana; 2005.

21. Postiaux G. Kinésithérapie respiratoire et auscultation pulmonaire. Bruselas: Editions Universitaires, 1990

22. Pleguezuelos E, Miranda G, Gómez L, Capellas L. Monografia SORECAR. Rehabilitación integral en el paciente con enfermedad pulmonar obstructiva crónica. Panamerica. 2006.

23. Guyton, Hall. Tratado de Fisología Médica. 9th ed. Madrid: McGraw-Hill; 1996.

24. SEPAR. MANUAL SEPAR DE PROCEDIMIENTOS. Procedimientos de evaluación función pulmonar (I). LUZAN, editor. Madrid; 2002.

25. SEPAR. MANUAL SEPAR DE PROCEDIMIENTOS. Procedimientos de evalución función pulmonar (II). PERMANYER, editor. Barcelona; 2004.

26. Webb. Imanología Torácica. Radiologia pulmonar y cardiovascular.Amolca. 2013

27. McConnell A. Respiratory Muscle Training. Theory and Practice. 1a Edició. Elsevier Health Sciences, 2013

28. Benito S. Fundamentos de Ventilación Mecánica. 1. Edición. MARGE BOOKS, 2012

29. Abeytua M. Comprendiendo la ergometría con gases. 1 Edición. SPORT CARDIOLOGY. 2019

Software

Microssoft: Teams, Power point, adobat Acrobat, word, kahoot