

**COURSE DATA****Data Subject**

Code	33021
Name	Pulmonary physiotherapy
Cycle	Grade
ECTS Credits	6.0
Academic year	2020 - 2021

Study (s)

Degree	Center	Acad. Period
1202 - Degree in Physiotherapy	Faculty of Physiotherapy	3 First term

Subject-matter

Degree	Subject-matter	Character
1202 - Degree in Physiotherapy	13 - Specific intervention methods in physiotherapy	Obligatory

Coordination

Name	Department
CEBRIA I IRANZO, MARIA DELS ÀNGELS	191 - Physiotherapy
MARTINEZ ARNAU, FRANCISCO MIGUEL	191 - Physiotherapy

SUMMARY

The Respiratory Physiotherapy course pretends that the student develops knowledge, skills and attitudes which are necessary to plan, intervene and assess physiotherapy techniques in order to promote, prevent and recover health status in the different respiratory diseases

PREVIOUS KNOWLEDGE**Relationship to other subjects of the same degree**

There are no specified enrollment restrictions with other subjects of the curriculum.



Other requirements

It is not necessary previous requirements.

OUTCOMES

1202 - Degree in Physiotherapy

- Respect fundamental rights and equality between men and women.
- Recognise diversity, multiculturality, democratic values and peace culture.
- Work in teams.
- Have the ability to organise and plan work.
- Acquire knowledge related to the information and communication technologies.
- Acquire sensitivity to environmental issues.
- Know how to plan treatment goals in the different pathologies of the locomotor, respiratory, cardiovascular and nervous systems from the data of the Physiotherapy Clinical Records.
- Know how to establish a therapeutic plan to reach the proposed goals.
- Know how to apply the different physiotherapy techniques for the promotion, prevention and health preservation in the pathologies of the locomotor, respiratory, cardiovascular and nervous systems. Know how to apply manual techniques, manipulative therapy, osteopathy and chiropractic techniques.
- Know how to evaluate the physiotherapy treatment applied.
- Know how to assess the results of the physiotherapy treatment.

LEARNING OUTCOMES

At the end of this course students should able to:

1. Know physiotherapy objectives in different respiratory diseases.
2. Plan an strategy of physiotherapy for promotion, prevention and health maintenance.
3. Apply physiotherapy techniques appropriately in different clinical situations.
4. Assess the results of physiotherapy intervention.

DESCRIPTION OF CONTENTS

1. Theoretical program

1. Respiratory Physiotherapy: introduction.
2. Clinical history: Anamnesis, physical examination and complementary exploration in respiratory diseases.
3. Respiratory function tests.
4. Arterial gasometry. Pulseoximetry and capnography.
5. Aerosol therapy.



6. Respiratory muscle training and global physical training.
7. Ventilatory re-education.
8. Bronchial secretions drainage techniques (I).
9. Bronchial secretions drainage techniques (II).
10. Oxygen therapy.
11. Noninvasive Ventilation (NIV). Physiotherapy in the Sleep Apnea Syndrome (SAS).
12. Respiratory physiotherapy in obstructive diseases.
13. Respiratory physiotherapy in restrictive diseases.
14. Respiratory physiotherapy in thoracic and abdominal surgery.
15. Respiratory Physiotherapy in paediatrics.

2. Practical program

Practice 1. Introduction to practical program. Completion of the physiotherapy clinical record. Pulmonary auscultation.

Practice 2. Respiratory functional examination: Spirometry, flow/volume curve, maximal voluntary ventilation and maximal respiratory pressures. Ergometry.

Practice 3. Gas exchange. Blood gas analysis: normal and pathological values. Disturbances of acid-base balance. Respiratory failure: international classification. Aerosol therapy.

Practice 4. Ergometry. Global physical training and specific training of the ventilation muscles.

Practice 5. Breathing retraining techniques.

Practice 6. Techniques for bronchial secretions drainage(I).

Practice 7. Techniques for bronchial secretions drainage(II).

Practice 8. Oxygen therapy, noninvasive mechanical ventilation (NMV) and Sleep Apnea Syndrome (SAS).

Practice 9. Respiratory Therapy in chronic obstructive pulmonary disease patients.

Practice 10. Respiratory Therapy in restrictive pulmonary disease patients.

Practice 11. Clinical cases.

WORKLOAD

ACTIVITY	Hours	% To be attended
Laboratory practices	45,00	100
Theory classes	15,00	100
Study and independent work	33,00	0
Preparation of evaluation activities	33,00	0
Preparing lectures	24,00	0
TOTAL	150,00	



TEACHING METHODOLOGY

The theoretical teaching will take place in the classroom with the agenda for presentation (lecture type), indicating the student's bibliography consultation.

The practical training will consist of the implementation of different manual techniques and instruments. Videos will be presented with reports made to health centres that are related to surgical procedures, pulmonary function examinations, physiotherapy clinical assessments of patients. For all resources will be used and teaching laboratory equipment available in the Center for programs related to chest physiotherapy.

The teaching program might be modified during the development of the subject if the professor considers it appropriate, in order to guarantee the teaching quality and the learning process.

EVALUATION

Theoretical program (35% of the final mark)

1. Written test (35%): Multiple choice test with 25 questions, with one correct choice out of four in each question.

Score = [correct answers - (errors/n° options-1)]* (maximal score/n° questions)

Practical program (65% of the final mark)

1. Oral test (45%). Practical examination of the contents of the subject.

2. Clinical case (20%). Resolution of a case through a multiple choice test with 10 questions, with one correct choice out of four in each question. Score = [correct answers - (errors/n° options-1)]* (maximal score/n° questions)

The final grade for the course will be averaged when the student has obtained at least 50% of the maximum score on each of the programmes: theoretical program and practical program.

The score obtained for each of the tests (final exam, oral test and clinical case) will not be saved between semesters.

REFERENCES



Basic

- Página Web SEPAR (<http://www.separ.es/biblioteca-1/Biblioteca-para-Profesionales>). Manuales y normativas SEPAR.

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Additional

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Bach J. Management of patients with neuromuscular disease. Ed. Elsevier. 2004.

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Rubin BK. Physiology of airway mucus clearance. Respir Care. 2002; 47(7):761-8.

Pryor JA Physiotherapy for airway clearance in adults. Eur Respir J. 1999; 4(6):1418-24.

Zahm JM, King M, Duvivier C, Pierrot D, Girod S, Puchelle E. Role of simulated repetitive coughing in mucus clearance. Eur Respir J. 1991; 4(3):311-5.

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- Olseni LB, Midgren, Wollmer P. Mucus clearance at rest and during exercise in patients with bronchial hypersecretion. Scand J Rehabil Med. 1992; 24(1):61-4.

American Thoracic Society. Standards for the diagnosis and care of patients with chronic obstructive pulmonary disease. Am J Respir Crit Care Med. 1995; 152:S77-S120.

Clarke SW, Pavia D. Lung mucus production and mucociliary clearance: methods of assessment. Br J Clin Pharmacol. 1980; 9(6):537-46.

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Plant PK, Owen JL, Elliot MW. Non-invasive ventilation in acute exacerbations of chronic obstructive pulmonary disease: long term survival and predictors of in-hospital outcome. Thorax. 2001; 56:708-712.

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Camacho-Salas CR, Pallás-Alonso J, de la Cruz-Bértolo R. Simón-de las Heras, Mateos-Beato F. Parálisis cerebral: concepto y registros de base poblacional. Rev Neurol. 2007; 45: 503-8.

Álvarez Gómez MJ, Martínez Irisarri I. Programa de atención temprana a prematuros, recién nacidos de bajo peso y recién nacidos de muy bajo peso en pediatría de Atención Primaria. Bol. S Vasco-Nav Pediatr. 2002; 36: 54-58

Silva AB, Piovesana AMMSG, Barcelos IHK, Capellini SA. Evaluación clínica y videofluoroscó

- Postiaux Guy. Fisioterapia respiratoria en el niño. Ed. McGrawHill. Madrid, 2001.

Bases de datos científicas (Pubmed, Medline, Cochrane, etc.).

ADDENDUM COVID-19

This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council

1. Contents:

The contents appearing in the original teaching guide are maintained.



2. Workload and temporary teaching planning:

In order to promote continuous evaluation, it has been decided to include two activities (20% of the final mark). However, the weight of the different activities adding up to the hours of dedication in ECTS credits specified in the original teaching guide has been maintained.

3. Teaching methodology:

The original teaching methodology is maintained, both in theoretical and practical classes.

The practical teaching will consist of the application of different manual and instrumental techniques in regards to the assessment and treatment of the respiratory patient. Demonstration videos will be shown in relation to the techniques for exploring respiratory function, the clinical-physiotherapy assessment of the respiratory patient and the application of the main physiotherapy techniques. For all this, the resources and equipment of the teaching laboratory available at the Center will be used for training related to Respiratory Physiotherapy.

Tutoring will preferably be done in a virtual way, following the guidelines of the University of Valencia, by e-mail or videoconference, through the Blackboard Collaborate platform (BBC).

4. Evaluation:

The theoretical and practical tests included in the original teaching guide are maintained, although 2 continuous assessment activities have been added, in such a way that the percentages that compute for the final grade of the course become:

Theoretical program:

35% Theoretical final exam through objective test-type exam (multiple choice)

Practical program:

25% Practical oral exam (in person or through the BBC)

20% Continuous evaluation activities (2 activities x 10%)

20% Clinical case (with multiple choice and short answer questions)



The final mark of the subject will be averaged as long as the student has obtained at least 50% of the maximum mark in each of the programs: theoretical program and practical program. The note is saved between calls for each of the approved evaluation tests.

