

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

Code	44639
Name	Developments in physiotherapeutic assessment and intervention in patients with cardiorespiratory conditions
Cycle	Master's degree
ECTS Credits	6.0
Academic year	2021 - 2022

Study (s)

Degree	Center	Acad. year	Period
2220 - M.U. en Recuperación Funcional en Fisioterapia	Faculty of Physiotherapy	1	First term

Subject-matter

Degree	Subject-matter	Character
2220 - M.U. en Recuperación Funcional en Fisioterapia	8 - Developments in physiotherapeutic assessment and intervention in patients with cardiorespiratory conditions	Optional

Coordination

Name	Department
CEBRIA I IRANZO, MARIA DELS ÀNGELS	191 - Physiotherapy

SUMMARY

This subject deals with those aspects of physiotherapy assessment of cardio-respiratory patient, as a starting point in the planning and monitoring of their functional recovery. Moreover, are included the general and specific aspects of preventive and therapeutic physiotherapy intervention focused on physical exercise.



PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

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

Other requirements

OUTCOMES

2220 - M.U. en Recuperación Funcional en Fisioterapia

- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.
- Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.
- Students should demonstrate self-directed learning skills for continued academic growth.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.
- Ser capaces de obtener y de seleccionar la información específica y las fuentes relevantes para la resolución de problemas, elaboración de estrategias y planes de actuación, asesoramiento y ejecución de las diferentes actuaciones fisioterápicas en los ámbitos de la recuperación funcional.
- Saber aplicar los conocimientos adquiridos y ser capaces de resolver problemas en entornos nuevos, o poco conocidos dentro de contextos más amplios (o multidisciplinares) relacionados con las técnicas fisioterápicas en los distintos niveles de asistencia sanitaria en el tratamiento físico de las patologías y lesiones concretas cuyo nivel de especialización requerido es mayor.
- Ser capaces de integrar conocimientos y enfrentarse a la complejidad de formular juicios a partir de una información que, siendo incompleta o limitada, incluya reflexiones sobre las responsabilidades sociales y éticas vinculadas a la aplicación de sus conocimientos y juicios, planificando un abordaje integral del paciente.
- Profundizar en los distintos métodos y sistemas de valoración clínica en recuperación Funcional.
- Ser capaces de aplicar correctamente las diferentes metodologías disponibles basadas en la evidencia en el tratamiento de las patologías y lesiones que nos ocupa.
- Ser capaces de dar a conocer a los pacientes la importancia que la salud y los estilos de vida saludable tienen en la prevención primaria y secundaria así como en la mejora de las diferentes patologías y lesiones concretas.



- Ahondar en el tratamiento de fisioterapia específico según las características de la patología.

LEARNING OUTCOMES

Study this subject will enable the student:

- Know the procedure to be followed in the correct assessment of cardiorespiratory physiotherapy.
- Plan physiotherapy intervention with preventive and/or therapeutic purpose: objectives, timing, techniques, measurement, etc.
- Identify which of the exercise tolerance tests are sensitive and/or specific in detecting cardiorespiratory disorders.
- Analyse the results of the exercise tolerance tests with diagnostic, prognostic and prescription of therapeutic physical exercise.
- Understand the physical exercise program as a physiotherapy technique designed to functional recovery of the cardiorespiratory patients.
- Know the basics of strength and endurance training in order to program and develop comprehensive programs for functional recovery in cardiorespiratory patients.
- Know those basic aspects that can improve the perception and adherence to treatment.

DESCRIPTION OF CONTENTS

1. Comprehensive physiotherapy assessment in the cardiorespiratory patient.

- 1.1. Basic semiology of cardiovascular and respiratory systems: physiotherapeutic approach.
- 1.2. Clinical cases development in order to learn about: Pulmonary auscultation; Assessment of ventilatory mechanics; and Tests of strength-endurance of the respiratory and peripheral muscles.

2. General aspects of preventive and therapeutic physiotherapy intervention.

- 2.1. Components of the comprehensive approach: role of the physiotherapist and scientific evidence of respiratory and cardiac rehabilitation.
- 2.2. Exercise stress tests: modalities, purpose, indications and contraindications, etc.
- 2.3. Prescription of therapeutic physical exercise.

3. Specific aspects of physiotherapy intervention: programmed physical exercise.

- 3.1. Bases and programming the strength training.
- 3.2. Bases and programming the endurance training.
- 3.3. Issues of perception and adherence to treatment.

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Laboratory practices	24,00	100
Theory classes	12,00	100
Development of individual work	24,00	0
Study and independent work	80,00	0
Resolution of case studies	10,00	0
TOTAL	150,00	

TEACHING METHODOLOGY

- Theoretical and practical classes
- Individual work mentored
- Resolution of clinical cases
- Autonomous work student

EVALUATION

Evaluation system	Percentage of qualifying
The individual response of a clinical case.	20%
Student participation and attendance in the classroom	30%
Written final test to asses both the conceptual and procedural aspects related to assessment, planning and intervention on the cardiorespiratory patient functional recovery.	50%

The final grade of the subject will be the weighted sum of the marks obtained in each evaluation test, as long as the student has obtained at least 50% of the maximum mark in each of the tests: individual activity (clinical case), participation-attendance in class and written final test.



REFERENCES

Basic

- J. Garcia-Conde, J. Merino Sánchez, J. González Macías. Patología general: semiología clínica y fisiopatología. Madrid: McGraw-Hill/Interamericana de España, 2003.
- McArdel, W. Katch, F. Katch, V. Fundamentos de fisiología del ejercicio. Madrid: McGraw-Hill/Interamericana; 2004.
- López Chicharro JL, Fernández Vaquero A. Fisiología del ejercicio. Madrid: Editorial Médica Panamericana; 2008.
- López Chicharro J.L, López Mojares LM. Fisiología clínica del ejercicio. Madrid: Editorial Médica Panamericana; 2008.
- ATS/ERS Statement on respiratory muscle testing. Am J Respir Crit Care Med. 2002 Aug 15;166(4):518-624.
- Pasterkamp H, Brand PL, Everard M, Garcia-Marcos L, Melbye H, Priftis KN. Towards the standardisation of lung sound nomenclature. Eur Respir J. 2016 Mar;47(3):724-32.
- Bohadana A, Izbicki G, Kraman SS. Fundamentals of lung auscultation. N Engl J Med. 2014 Feb 20;370(8):744-51.
- Piirilä P, Sovijärvi A.R.A. Crackles: recording, analysis and clinical significance. Eur Respir J. 1995 Dec;8(12):2139-48.
- Meslier N, Charbonneau G, Racineux J.L. Wheezes. Eur Respir J 1995 Nov;8(11):1942-1948.

Additional

- Marques A, Bruton A, Barney A, Hall A. Are crackles an appropriate outcome measure for airway clearance therapy? Respir Care. 2012 Sep;57(9):1468-75.
- Vyshedskiy A, Alhashem RM, Paciej R, Ebril M, Rudman I, Fredberg JJ, Murphy R. Mechanism of inspiratory and expiratory crackles. Chest. 2009 Jan;135(1):156-64.
- Jácome C, Marques A. Computerized Respiratory Sounds Are a Reliable Marker in Subjects With COPD. Respir Care. 2015.
- Marques AS, Oliveira AL, Jácome CI. Computerized adventitious respiratory sounds as outcome measures for respiratory therapy: a systematic review. RespirCare. 2013.
- Marques A, Bruton A, Barney A. Clinically useful outcome measures for physiotherapy airway



clearance techniques: a review. Phys Ther Rev. 2006;11:299-307.

ADDENDUM COVID-19

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

This addendum will only be activated if the health situation so requires and with the prior agreement of Consell de Govern

1. Contents:

The contents initially included in the teaching guide are maintained.

2. Workload and temporary teaching planning:

The proportion of the different activities that add up to the hours of dedication in ECTS credits marked in the original teaching guide has been maintained.

3. Teaching methodology:

Depending on the needs, teaching will be adapted to the blended or non-classroom mode, through the implementation of the corresponding teaching strategies (i.e. hybrid teaching, videoconference sessions, voice-over presentations, videos or additional multimedia material).

The tutorials may be conducted virtually, following the guidelines of the Universitat de València, via e-mail or videoconference, through the Blackboard Collaborate or Teams platform.

4. Evaluation:

The final evaluation tests will be presential, and only in case of problems caused by the evolution of the pandemic, final evaluation tests will be done online through Aula Virtual of the Universitat de València.