



COURSE DATA

Data Subject

Code	44640
Name	Specific aspects of functional recovery in patients with cardiorespiratory conditions
Cycle	Master's degree
ECTS Credits	8.0
Academic year	2024 - 2025

Study (s)

Degree	Center	Acad. Period year
2220 - Master's Degree in Functional Recovery in Physiotherapy	Faculty of Physiotherapy	1 Second term

Subject-matter

Degree	Subject-matter	Character
2220 - Master's Degree in Functional Recovery in Physiotherapy	9 - Specific aspects of functional recovery in patients with cardiorespiratory conditions	Optional

Coordination

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

SUMMARY

This subject deals with the concepts of physical exercise and physical activity, their differences and particularities in the context of cardiorespiratory diseases, and in special population (paediatric and geriatric). Moreover, are introduced the modalities of monitoring the exercise and physical activity programs, as well as current registration systems (telemedicine, accelerometers, etc.).

PREVIOUS KNOWLEDGE



Relationship to other subjects of the same degree

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

Other requirements

2220 - Master's Degree in Functional Recovery in Physiotherapy

- 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 communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.
- Ser capaz de promover la educación sanitaria entre los diferentes componentes del equipo transdisciplinar de trabajo.
- 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 capaz de elaborar informes orales y escritos acerca de la situación funcional de las/os pacientes.
- 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.
- Adquirir conocimientos específicos sobre los factores que influyen en la adherencia a la práctica física y las técnicas adecuadas para incrementarla.
- Ser capaces de saber utilizar el ejercicio físico terapéutico en todos los ámbitos de actuación de la recuperación funcional.

Study this subject will enable the student:

- Design specific and individualized programs of cardiopulmonary rehabilitation and individualized: pathology, characteristics and preferences of the patient, as well as the evolution of the disease.
- Analyse the results of therapeutic physical exercise program according to different purposes: program monitoring, prognostic stratification, assessment of functional capacity, etc.
- Know and assess physical activity in cardiorespiratory patients.
- Know the main telemonitoring devices and applications in monitoring functional recovery in the



cardiorespiratory patient.

- Know new application contexts of physical exercise program: characteristics and advantages.

DESCRIPTION OF CONTENTS

1. Physical activity

- 1.1. Concept, principles and determinants.
- 1.2. Evaluation and beneficial effects in the cardiorespiratory patient.

2. Preventive and therapeutic physical exercise

- 2.1. Special features in the cardiac rehabilitation program: objectives, intervention programs, evaluation of results (effects).
- 2.2. Special features in the pulmonary rehabilitation program: objectives, intervention programs, evaluation of results (effects).
- 2.3. Special features in special population: paediatric and geriatric.

3. Monitoring of preventive and therapeutic exercise programs: new technologies and contexts for its application.

- 3.1. Telemedicine. Monitors of physical activity.
- 3.2. Street circuits and other contexts in the community.

WORKLOAD

ACTIVITY	Hours	% To be attended
Laboratory practices	28,00	100
Theory classes	20,00	100
Development of group work	42,00	0
Study and independent work	80,00	0
Preparation of evaluation activities	20,00	0
Preparation of practical classes and problem	10,00	0
TOTAL	200,00	

TEACHING METHODOLOGY

- Theoretical and practical classes



- Demonstrative Practice with simulation
- Group work
- Tutorials
- Preparation for presentation and defence of a work
- Autonomous work student

EVALUATION

Evaluation system	Percentage of qualifying
Students individually or in groups will defend an intervention program to promote physical activity under different assumptions and levels of performance, taking into account the issues discussed in classroom. Therefore, this evaluation test will consist of a written part and an oral presentation that the student will perform in order to pass the subject.	35%
Student participation and attendance in the classroom.	25%
Final written test.	40%

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-group activity, participation-attendance in class and written final test.

REFERENCES

Basic

- Spruit MA, et al. An official American Thoracic Society/European Respiratory Society statement: key concepts and advances in pulmonary rehabilitation. *Am J Respir Crit Care Med.* 2013; 188 (8): e13-64. doi:10.1164/rccm.201309-1634ST
- Holland AE, et al. Defining Modern Pulmonary Rehabilitation. An Official American Thoracic Society Workshop Report. *Annals of the American Thoracic Society.* 2021; 18 (5): e12-e29. doi:10.1513/AnnalsATS.202102-146ST.



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- Niebauer J (Editor). Cardiac Rehabilitation Manual (2^a ed). Springer, 2017.
- Main E, Denephy L. Cardiorespiratory physiotherapy: adults and paediatrics (5^a ed.). Elsevier; 2017.
- Cristancho Gómez W. Fundamentos de fisioterapia respiratoria y ventilación mecánica. 3^a ed. Editorial El Manual Moderno. Bogotá, 2014.

Additional

- American College of Sports Medicine. ACSMs Guidelines for Exercise Testing and Prescription (11th ed.). Lippincott Williams & Wilkins. 2013
- Wickerson L, et al. Physical rehabilitation for lung transplant candidates and recipients: An evidence-informed clinical approach. World Journal of Transplantation. 2006; 6 (3): 517-31. doi:10.5500/wjt.v6.i3.517.
- Ahmad AM. Essentials of Physiotherapy after Thoracic Surgery: What Physiotherapists Need to Know. A Narrative Review. The Korean Journal of Thoracic and Cardiovascular Surgery 2018; 51 (5): 293-307. doi:10.5090/kjtcs.2018.51.5.293.
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- Spruit MA, Pitta F, Garvey C, et al.; ERS Rehabilitation and Chronic Care, and Physiotherapists Scientific Groups; American Association of Cardiovascular and Pulmonary Rehabilitation; ATS Pulmonary Rehabilitation Assembly and the ERS COPD Audit team. Differences in content and organisational aspects of pulmonary rehabilitation programmes. Eur Respir J. 2014;43(5):1326-37.
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- Jiang J, Zhang D, Huang Y, Wu Z, Zhang W. Exercise rehabilitation in pediatric asthma: A systematic review and network meta-analysis. Pediatr Pulmonol. 2022 Dec;57(12):2915-2927. doi: 10.1002/ppul.26134. Epub 2022 Oct 19. PMID: 36103241.
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