



Department of Biomedical Sciences
Physiotherapy Degree Programme
Cardiorespiratory Physiotherapy Syllabus

Academic year 2020-2021. Academic term: first semester of the third year
Course coordinator: Prof. Giuseppe Massazza

RESPIRATORY PHYSIOTHERAPY (1 ECTS)

PT Veronica Polelli
Graduated in Physiotherapy from the University Vita-Salute San Raffaele of Milan in 2011. Currently a physiotherapist at the Physiotherapy Service of Humanitas Research Hospital.
E-mail: veronica.polelli@humanitas.it

Objectives
Set up basic treatment for the patient with acute and chronic respiratory problems. In particular, know how to manage the main techniques for bronchial clearance and the tracheostomized patient.

Teaching methods
Five 2-hour long lectures, each with classroom discussion

Teaching material
Slides presented during the lecture, available for physiotherapy students on LMS.

Content

1) Evaluation

Signs and symptoms of respiratory diseases. P.v, clinical and instrumental assessment of alterations in respiratory mechanics and exchange

2) Bronchial clearance

Physiological mechanisms, cough assessment, pulmonary function tests, clinical pictures relevant to physiotherapy, bronchial clearance techniques

3) Tracheostomy

Surgical techniques and models and tracheostomy. Nursing management of tracheostomy. Weaning from tracheostomy

RESPIRATORY PHYSIOTHERAPY SUPPORT DEVICES (1 ECTS)

FT Manuela Ferraro
Physiotherapist, graduated in Physiotherapy from the University of Milan in 2008. She obtained a Master's degree in Physiotherapy and Respiratory Rehabilitation in 2018 from the same university. Currently a physiotherapist at the Physiotherapy Service of Humanitas. Expert in Respiratory Physiotherapy.
E-mail: manuela.ferraro@humanitas.it

Objectives
Teach students about: 1) the use of oxygen therapy and devices; 2) the clinical application and management of non-invasive ventilation; 3) the assessment and management of sleep-related respiratory disorders

Teaching methods	Lectures with classroom discussion and application of problem solving.
Teaching material	Slides presented during the lecture, available for physiotherapy students on LMS.
Content	
<p>1) Oxygen therapy Assessment of respiratory failure, criteria for using and choosing devices for administering oxygen therapy, humidification systems applied to oxygen therapy.</p> <p>2) Non-invasive mechanical ventilation (NIV) Acute respiratory failure, indications and contraindications for NIV, NIV objectives, NIV modalities, volume/pressure ventilation, assisted/controlled ventilation, continuous positive airway pressure (CPAP), ventilator assembly, ventilator interfaces and circuits, evaluation and management of patient/ventilator asynchrony.</p> <p>3) Sleep breathing disorders Definition of the main respiratory sleep disorders and their consequences, assessment of OSAS signs and symptoms using specific rating scales, cardio-respiratory monitoring, interpretation and analysis of polysomnography, OSAS therapy.</p> <p>4) Review and exercises</p>	

CARDIAC REHABILITATION (1 ECTS)	
PT Katia Amato	Graduated in Physiotherapy in 2006 from the University of Milan. Expert in cardiorespiratory rehabilitation, she works in the cardiorespiratory rehabilitation team of the Physiotherapy Service of Humanitas Research Hospital. E-mail: katia.amato@humanitas.it
Objectives	Acquire knowledge of and skills on the clinical assessment of patients with cardiopathologies, and setting up the rehabilitation treatment in the acute, post-acute and chronic phases in the different clinical contexts and settings of rehabilitation interest.
Teaching methods	Five 2-hour long lectures, each with classroom discussion and problem solving.
Teaching material	Lecture slides, available for physiotherapy students on LMS
Content	
<p>1) Introduction to Cardiac Rehabilitation Introduction to Cardiac Rehabilitation. Risk factors and cardiovascular risk prevention. Exercise therapy. Educational therapy.</p> <p>2) Functional and instrumental assessment Outcome measures in cardiac rehabilitation. Functional and instrumental evaluation tests.</p> <p>3) Setting up and carrying out the Rehabilitation Programme in Cardiac Rehabilitation Prescription and setting up physical training in different modalities (e.g. endurance training, interval training, adaptive exercise).</p>	

4) Secondary prevention and treatment adherence

Role and strategies of health education and tele-rehabilitation.

5) Rehabilitation interventions in care pathways

Evaluation and setting up rehabilitation treatment in different contexts related to specific care pathways (e.g. cardiac surgery outcomes, chronic heart failure, outpatient rehabilitation)

PRESENTATION OF CLINICAL CASES (1 ECTS)

Prof. Giuseppe Massazza	Full Professor in Physical Medicine and Rehabilitation at the University of Turin and Member of the Open Faculty at Humanitas University Director of the Complex Structure in Physical Medicine and Rehabilitation Director of the Department of Orthopaedics, Traumatology and Rehabilitation at the AOU Città della Salute e della Scienza of Turin E-mail: giuseppe.massazza@hunimed.eu giuseppe.massazza@unito.it
Objectives	Provide rehabilitation medical knowledge necessary to complement what has been taught in the previous modules. <ul style="list-style-type: none">• Through the presentation of clinical cases, students will learn the value of anamnesis in the rehabilitation field, physical examination, and diagnosis and differential diagnosis, in order to identify the state of disability and the therapeutic approach to be implemented according to the patient's history.• Emphasis will be placed on how to identify the appropriate Diagnostic and Therapeutic Care Pathway (DTPC) and how to identify clinical alerts useful for redirecting rehabilitation treatment and redefining the prognosis of recovery.• Outline of the rehabilitation settings where patients with musculoskeletal disorders can be seen and treated by the rehabilitation team• Outline of the cornerstones of the rehabilitation prognosis, the rehabilitation objectives that are part of the Individual Rehabilitation Project, and the role of the rehabilitation team in caring for the patient.
Teaching methods	Lectures with classroom discussion.
Teaching material	Slides presented during the lecture, available for physiotherapy students on LMS
Content	<p>1) Introduction to the Clinical Cases Module Definition of roles and competencies in the rehabilitation team. The Individual Rehabilitation Project (IRP) as a tool for dialogue between professionals.</p> <p>2) I° Cardiorespiratory Case Study: Heart attack Video clip presentation and basic concepts of heart attack. Appropriate settings: acute, subacute and chronic. The IRP and essential physiotherapy aspects</p> <p>3) II° Cardiorespiratory Case Study: Dilated cardiomyopathy Video clip presentation and basic concepts of the patient with dilated cardiomyopathy. Appropriate</p>

settings: acute, subacute and chronic. The IRP and essential physiotherapy aspects

4) Rehabilitation settings in the cardiorespiratory field

Outpatient settings, Hospital settings. Code 56: intensive rehabilitation. Role of the rehabilitation team: competencies and responsibilities. Video clips and clinical examples

5) III° Clinical Case: Cardiovascular and respiratory system and surroundings

Clinical care complexity. Role and work of the rehabilitation team. Role of specialist doctors

5) Non-rehabilitation settings and highly complex clinical cases

RSA. Long-term care. Home-based.

6) IV° Clinical Case: Co-morbidity

From diagnosis to differential diagnosis. Pathology and/or co-pathology. Role of the health professions

8) Video clips in the context of clinical cases with cardio-respiratory disorders

Classroom discussion

9) Course summary, critical review of some topics

Summary of the main themes presented in the course

10) Examination simulation and presentation of clinical cases developed by groups of students

Examination for the cardiorespiratory physiotherapy course. Examination for the Neurological and pelvic floor physiotherapy course

The examination will be written; comprising of 60 multiple-choice questions (four items per question). The exam will include all 4 modules of the courses taught by the 4 lecturers, 15 question per module, with a value of 0.50 per question. The pass mark is 36/60. Each module is considered passed with a minimum of 9/15. A mark of 59/60 will be equivalent to 30 and 60/60 to 30L. In the event of an insufficient mark in one or more modules the student will have to repeat the entire examination. The questions in the 'Clinical Cases' module will focus exclusively on what was presented in class, some questions will involve clinical reasoning on cases as simulated during class. (Chairman of the Examination Committee: Prof. Giuseppe Massazza)