

# Professional Master's Degree Respiratory Physiotherapy





## Professional Master's Degree Respiratory Physiotherapy

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/us/physiotherapy/professional-master-degree/master-respiratory-physiotherapy](http://www.techtitute.com/us/physiotherapy/professional-master-degree/master-respiratory-physiotherapy)

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# 01

# Introduction

Respiratory Physiotherapy has been considered a scientific-technical discipline since the late twentieth century, thanks to technological advances that allow us to measure respiratory performance and techniques, and is now becoming essential in different hospital units. Therefore, it is essential that physiotherapists update their knowledge in Respiratory Physiotherapy and acquire knowledge of new techniques and tools to apply in their daily practice.





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*A complete and practical Professional Master's Degree that will allow you to learn in a realistic and direct way everything you need to work as a physiotherapist"*

Respiratory physiotherapy is part of physiotherapy, but it is focussed on the pathophysiology of the respiratory system, both medical and surgical, it requires a detailed understanding of the respiratory system and the existing techniques for its treatment, healing and stabilization.

It is considered one of the therapeutic pillars in the management of patients with lung diseases, whether obstructive or restrictive, chronic or acute.

During this Professional Master's Degree we are going to see that there has been an increase in the incidence of respiratory diseases, both in children and adults, and that it considerably affects the quality of life of the patients who suffer from them, as well as the toll it takes on our health system there is a great social and economic cost due to the time spent patients need to spend in hospital, the sick leave taken and even the increased chances of early death.

This Professional Master's Degree has a teaching staff specialized in respiratory physiotherapy, who contributed both their practical experience from their day-to-day work in private their practices, as well as their vast experience in teaching at national and international level. In addition, it has the advantage of being a 100% online training, so the student can decide from where to study and at what time to do it, in this way, he/she can flexibly self-direct his/her study hours.

This **Professional Master's Degree in Respiratory Physiotherapy** contains the most complete and up-to-date scientific program on the market. The most important features of the program include:

- Latest technology in online teaching software
- Highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand
- Practical cases presented by practising experts
- State-of-the-art interactive video systems
- Teaching supported by telepractice
- Continuous updating and recycling systems
- Self-regulating learning: full compatibility with other occupations
- Practical exercises for self-evaluation and learning verification
- Support groups and educational synergies: questions to the expert, debate and knowledge forums
- Communication with the teacher and individual reflection work
- Content that is accessible from any fixed or portable device with an Internet connection
- Supplementary documentation databases are permanently available, even after the course



*Get up to date in all the novelties that the field of physiotherapy has developed in recent times with the effectiveness of the best online Professional Master's Degree on the teaching market"*

“ *An effective and safe Professional Master’s Degree that will take you through an interesting and effective learning process so that you acquire all the knowledge of an expert in the field”*

Our teaching staff is made up of working professionals. In this way, we ensure that we provide you with the training update we are aiming for. A multidisciplinary team of professionals trained and with experience in different environments, who will develop the theoretical knowledge in an efficient way, but above all, they will bring their practical knowledge from their own experience to the course: one of the differential qualities of this training.

The efficiency of the methodological design of this Professional Master’s Degree enhances the student’s understanding of the subject. Developed by a multidisciplinary team of e-learning experts, it integrates the latest advances in educational technology. This way, you will be able to study with a range of comfortable and versatile multimedia tools that will give you the operability you need in your training.

The design of this program is based on Problem-Based Learning: an approach that conceives learning as a highly practical process. To achieve this remotely, we will use telepractice learning: with the help of an innovative interactive video system, and learning from an expert, you will be able to acquire the knowledge as if you were actually dealing with the scenario you are learning about. A concept that will allow you to integrate and fix learning in a more realistic and permanent way.

*Our innovative form of online learning will give you the opportunity to learn through an immersive experience, which will enable you to integrate more quickly and give you a much more realistic view of the contents: “learning from an expert.”*



# 02 Objectives

This comprehensive master has been created from start to finish, to become a tool for personal and professional growth for physiotherapists. Its objective is to take you through training that will allow you to acquire the most up-to-date knowledge and techniques for the most advanced and competitive practice in this field.





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*With a real practical objective, this Professional Master's Degree will allow you to achieve your training goals by boosting your CV to new levels of excellence"*



## General Objectives

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- ♦ To promote specialization in respiratory physiotherapy
- ♦ To update knowledge and manage physiotherapy in different patients with respiratory pathologies
- ♦ Possess knowledge of the pathophysiology and advanced exploration of the respiratory system
- ♦ Execute, direct and coordinate the respiratory physiotherapy intervention plan for each patient



*Highly specialized objectives in training created to train the best professionals in Respiratory Physiotherapy"*





## Specific objectives

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### Module 1. Pediatric Respiratory Physiotherapy I

- ♦ To understand the respiratory physiology of the child in depth
- ♦ Manage the physiotherapeutic assessment in the pediatric patient
- ♦ Apply the non-instrumental techniques of infant respiratory physiotherapy
- ♦ Manage respiratory training activities at home

### Module 2. Pediatric Respiratory Physiotherapy II

- ♦ To be updated about different respiratory pathologies in children
- ♦ Gain a deeper knowledge of pediatric respiratory emergencies
- ♦ Apply the instrumental techniques of infant respiratory physiotherapy
- ♦ Delve into the treatment of physical therapy in pediatric palliative care

### Module 3. Assessment in Respiratory Physiotherapy

- ♦ Delve into ventilatory biomechanics
- ♦ Apply different techniques for exploration
- ♦ Apply different complementary tests for a correct assessment

### Module 4. Mechanical Ventilation

- ♦ Gain in-depth understanding of mechanical ventilation
- ♦ Apply complementary techniques in respiratory pathology
- ♦ Become familiar with the obstructive patient with NIV
- ♦ Become familiar with the restrictive patient with NIV

### Module 5. Obstructive Pathology

- ♦ Gain in-depth knowledge of obstructive respiratory pathology
- ♦ Develop the capacity for a correct diagnosis
- ♦ Master respiratory techniques

### Module 6. Restrictive Pathology

- ♦ Gain in-depth knowledge of the pathophysiological characteristics for its correct exploration
- ♦ Apply the most effective treatment for restrictive pathologies
- ♦ Gain a deeper understanding of the difference between all restrictive pathologies and their therapeutic approach

### Module 7. Pathophysiological Consequences of COPD Pulmonary Restriction and Respiratory Rehabilitation

- ♦ Delve into the causes of COPD
- ♦ Manage the pathology of COPD
- ♦ Use the different techniques for a correct assessment
- ♦ Manage the different respiratory training
- ♦ Delve into the different rehabilitation programs for respiratory diseases

### Module 8. Respiratory Techniques in Physiotherapy

- ♦ Gain in-depth knowledge of the physiological mechanisms of the respiratory system
- ♦ Gain in-depth knowledge of the treatment techniques in respiratory physiotherapy
- ♦ Apply different techniques
- ♦ Handle instrumental devices

### Module 9. Respiratory Physiotherapy in Critically Ill Patients

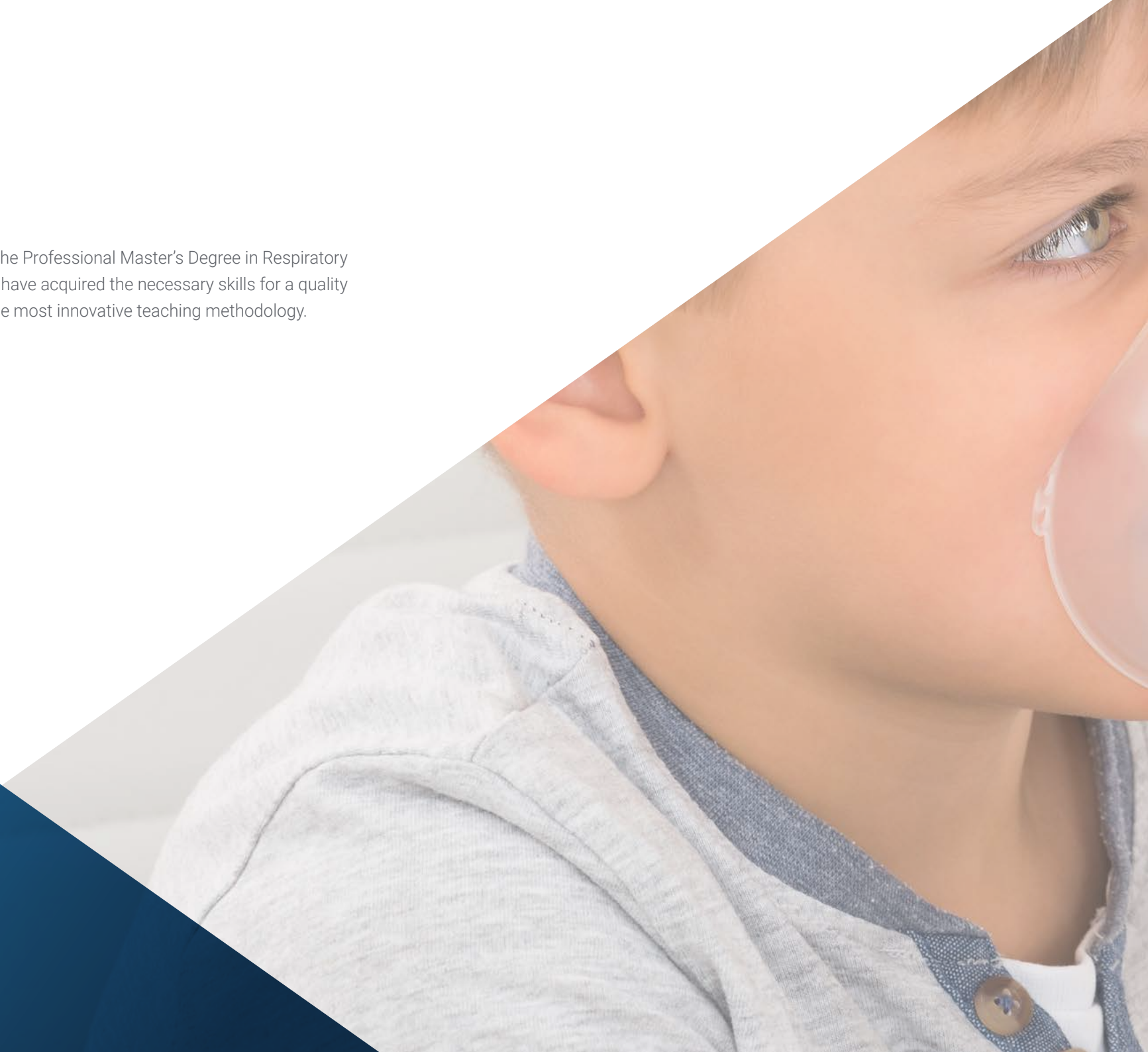
- ♦ Delve into respiratory physiotherapy in ICUs
- ♦ Manage the different respiratory techniques in critical patients
- ♦ Apply pre-/post-surgery exercise programs

### Module 10. Respiratory Physiotherapy in COVID

- ♦ Manage respiratory physiotherapy treatment in COVID-19 critical care units
- ♦ Apply the correct respiratory physiotherapy treatment in the ward
- ♦ Become familiar with new scenarios of physical therapy intervention in the post-COVID era

# 03 Skills

After passing the assessments on the Professional Master's Degree in Respiratory Physiotherapy, the professional will have acquired the necessary skills for a quality and up-to-date practice based on the most innovative teaching methodology.





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*Acquire the skills of an expert in Respiratory Physiotherapy with the experience of a Professional Master's Degree where knowledge will be transformed into practice in a highly interactive training"*



## General Skills

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- Apply the knowledge acquired in this program in daily practice
- Use tools and techniques of Respiratory Physiotherapy
- Integrate therapeutic exercise in health promotion, both in healthy and sick populations

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*Acquire the necessary skills to specialize in this field and give a boost to your profession"*





## Specific Skills

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- ♦ Apply the non-instrumental techniques of infant respiratory physiotherapy
- ♦ Delve into the treatment of physical therapy in pediatric palliative care
- ♦ Apply different techniques for exploration
- ♦ Apply complementary techniques in respiratory pathology
- ♦ Develop the capacity for a correct diagnosis
- ♦ Master respiratory techniques
- ♦ Gain a deeper understanding of the difference between all restrictive pathologies and their therapeutic approach
- ♦ Gain in-depth knowledge of the physiological mechanisms of the respiratory system.
- ♦ Delve into respiratory physiotherapy in ICUs
- ♦ Master new scenarios of physical therapy intervention in the post-COVID era

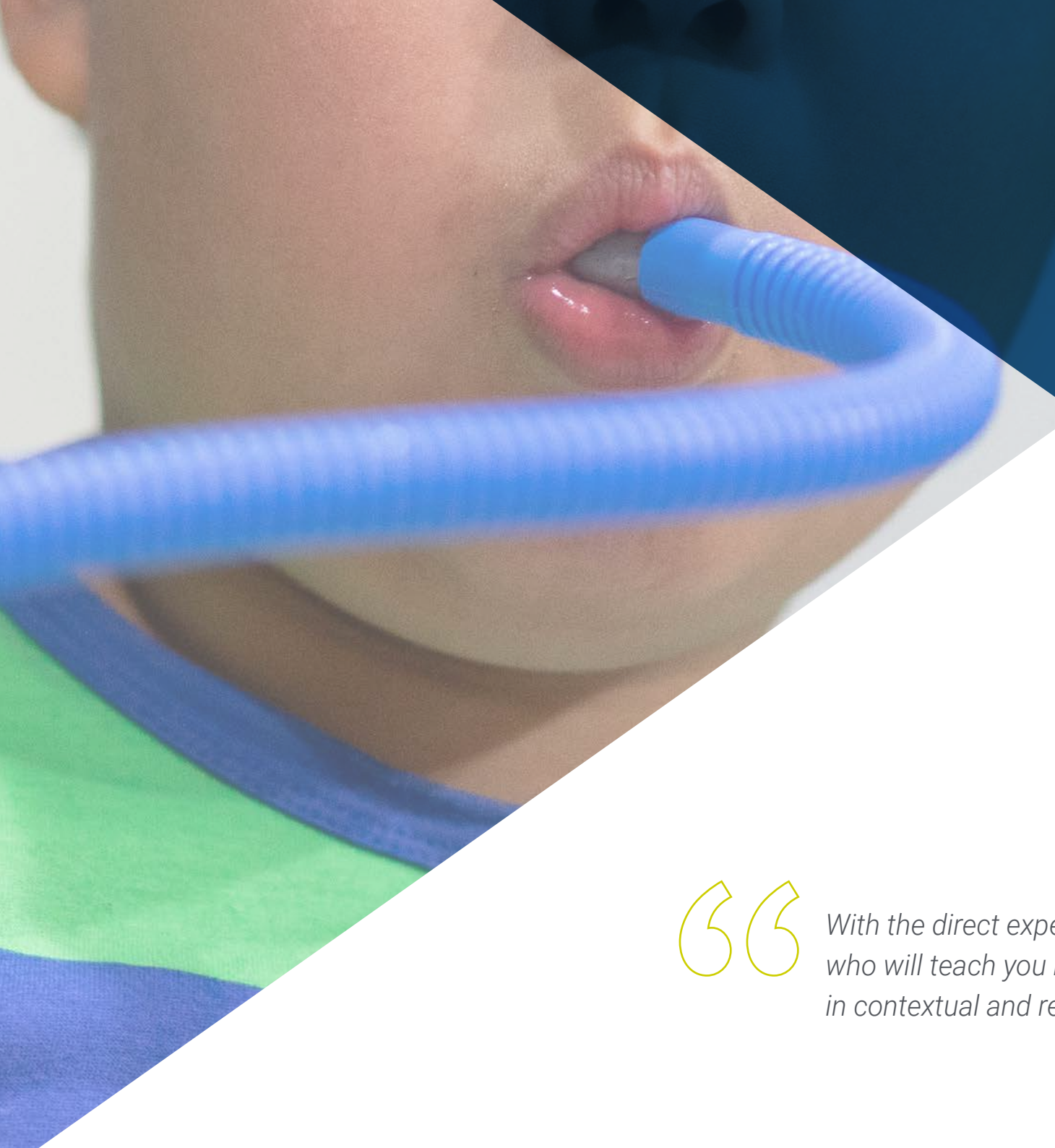
04

# Course Management

For our program to be of the highest quality, we are proud to work with a teaching staff of the highest level, chosen for their proven track record. Professionals from different areas and fields of expertise that make up a complete multidisciplinary team. A unique opportunity to learn from the best.







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*With the direct experience of industry professionals who will teach you based on the reality of the sector in contextual and realistic learning”*

## Management



### Mr. García Coronado, Luis Pablo

- ♦ Physiotherapist the La Paz University Hospital
- ♦ Supervisor of the Physiotherapy Department at La Paz University Hospital
- ♦ Supervisor of the Physiotherapy Service of the La Paz University Hospital
- ♦ Director at Fisioespaña C. B.
- ♦ Director at Fisioganas S.L.
- ♦ Director at Pilates Wellness & Beauty S.L.

## Professors

### Ms. Álvarez Gonzalo, Verónica

- ♦ Physiotherapist at La Paz University Hospital. Children's Hospital. In the field of Pediatric Rehabilitation
- ♦ Diploma in Physiotherapy. Pontific University Comillas, Madrid
- ♦ Guadarrama Hospital (Public Health Department of the Madrid region). Neurorehabilitation in medium-stay patients
- ♦ El Vellón Balompié Football Club. Sports physiotherapy
- ♦ Physiotherapy and Rehabilitation (FISIONORTE)

### Ms. Simó Segovia, Rocío

- ♦ Physiotherapist at the La Paz hospital, passing through all areas of specialization (trauma and neurology, hydrotherapy, electrotherapy) and during the last 5 years preferential dedication to pediatrics in all fields
- ♦ Treatment of patients at home and in private clinics
- ♦ Diploma in Physiotherapy from the Alfonso X El Sabio Univesity (1998-2001)
- ♦ Course on shoulder dystocia and neonatal brachial palsy
- ♦ Course on respiratory physiotherapy with mechanically ventilated patients

**Dr. Macías Gaspar María José**

- ◆ Physiotherapist at Beata Maria Ana Hospital since 20216. Physiotherapy in hospitalized patients, neurological patients and patients with surgeries and traumatic injuries. Internship tutor for students at the European University
- ◆ Physiotherapist at La Paz University Hospital since 2018. Physiotherapy in Pediatrics: On the ward, in rooms, in neonates and ICU, Physiotherapy in patients hospitalized in ICU, AER, patients with surgeries and traumatic injuries, and patients with traumatologic injuries
- ◆ Diploma in Physiotherapy with specialization in Pediatric Physical Therapy and Manual Therapy in Traumatology and Orthopedics
- ◆ Master's Degree in Pediatric Physiotherapy at CEU San Pablo in Madrid
- ◆ Master's Degree in Osteopathy at the D. François Ricard School of Osteopathy in Madrid
- ◆ Teaching, assistance and management functions. Clinical reasoning adapted to each individual
- ◆ Expert in Respiratory and Cardiac Physiotherapy

**Ms. Peroy Badal, Renata**

- ◆ Physiotherapist in charge of Respiratory Rehabilitation for COPD patients. Virgen de la Torre hospital
- ◆ Respiratory physiotherapy in critical patients admitted to the ICU and in pre- and postoperative patients undergoing abdominal surgery discharged from the inpatient unit
- ◆ Respiratory physiotherapy in adult and pediatric patients with spinal cord injuries and different neuromuscular pathologies associated with respiratory disorders
- ◆ Diploma in Physiotherapy: 1996-1999 Gimbernat University School of Nursing and Physiotherapy (Autonomous University of Barcelona)
- ◆ Degree in Physiotherapy: 2013-2014 Complutense University of Madrid with the dissertation "Health Education in Respiratory Rehabilitation in COPD in primary care"
- ◆ Master's Degree in Respiratory and Cardiac Physiotherapy: 2015-2016. ONCE University School of Physiotherapy (Complutense University of Madrid)
- ◆ D.U IN RESPIRATORY AND CARDIOVASCULAR KINESITHERAPY: 2007-2008. Université Claude Bernard-lyon with the article "Education before upper abdominal surgery: patient-physiotherapist co-construction of a therapy booklet"

**Ms. Pérez-Esteban Luis-Yagüe, Teresa**

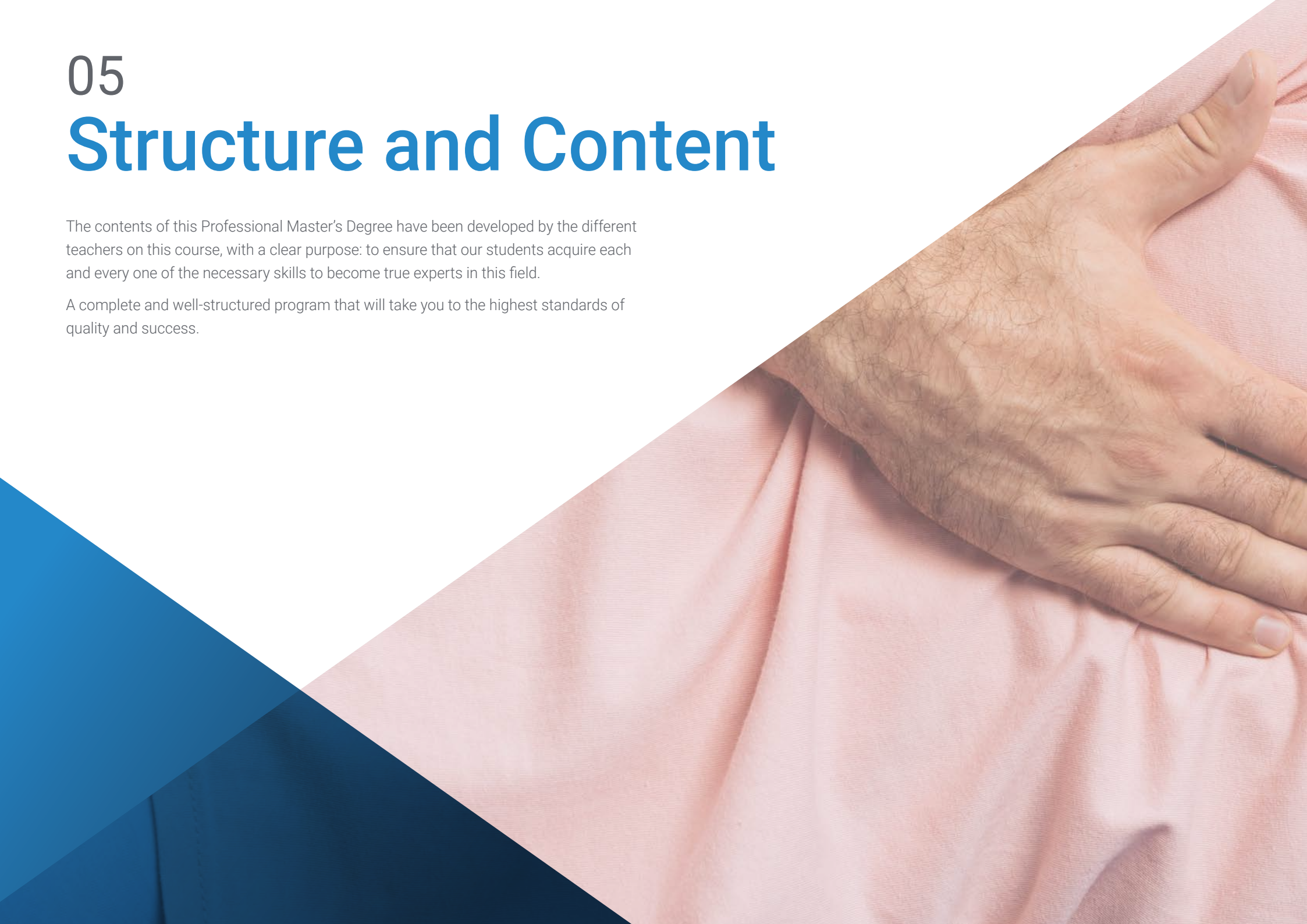
- ◆ Physiotherapist at Gregorio Marañón General University Hospital. November 2019- 20 September 2020
- ◆ Specialist in Respiratory Physiotherapy. University of Castilla La Mancha-Toledo
- ◆ Master's Degree in Manual Physical Therapy of the Locomotor System. University of Alcalá-Madrid
- ◆ Degree in Physiotherapy. Pontificia University of Salamanca, Salus Infirmorum-Madrid
- ◆ Online course of Basic Radiology for Physical Therapists
- ◆ Therapeutic exercise update program by the Consejo Gral. Colegios de Fisioterapeutas de España (Spanish General Council of Physiotherapists' Associations)

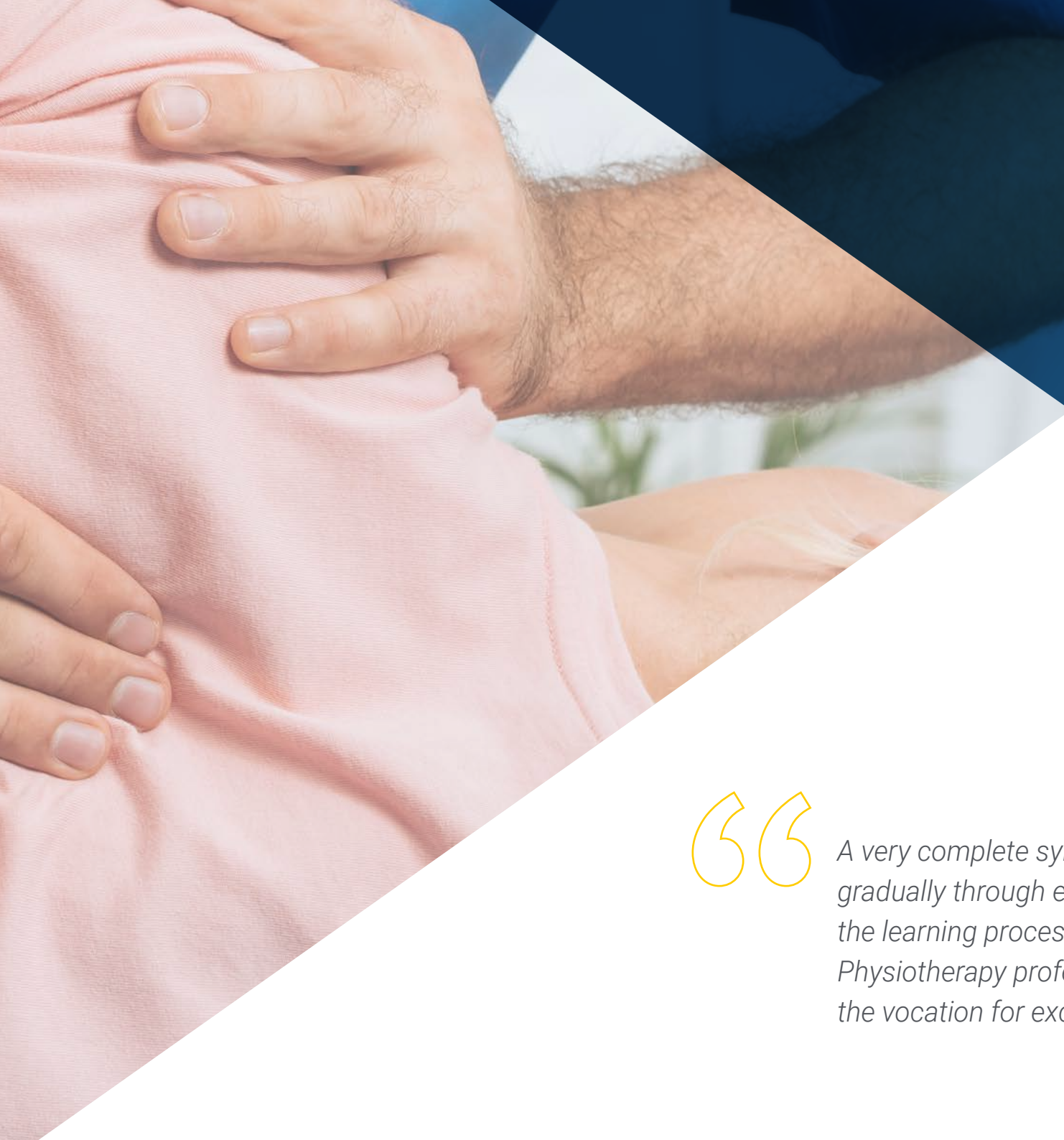
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# Structure and Content

The contents of this Professional Master's Degree have been developed by the different teachers on this course, with a clear purpose: to ensure that our students acquire each and every one of the necessary skills to become true experts in this field.

A complete and well-structured program that will take you to the highest standards of quality and success.





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*A very complete syllabus that will take you gradually through each and every one of the learning processes that the Respiratory Physiotherapy professional needs. With a plus: the vocation for excellence that characterizes us"*

## Module 1. Pediatric Respiratory Physiotherapy I

- 1.1. Introduction to Respiratory Physiotherapy in Pediatrics
  - 1.1.1. Anatomy and Development of the Infant Respiratory System
  - 1.1.2. Respiratory Physiology in the Child: Specific Characteristics
  - 1.1.3. Objectives, Indications and Contraindications in Respiratory Physiotherapy
- 1.2. Bronchiolitis
  - 1.2.1. Etiology and Risk Factors
  - 1.2.2. Pathophysiology
  - 1.2.3. Medical Treatment
- 1.3. Assessment in Respiratory Physiotherapy of the Pediatric Patient (1)
  - 1.3.1. Anamnesis
  - 1.3.2. Visual Examination
  - 1.3.3. Auscultation: Normal and Pathological Sounds
- 1.4. Assessment in Respiratory Physiotherapy of the Pediatric Patient (2)
  - 1.4.1. Clinical Scales
  - 1.4.2. Oxygen Saturation and Alarm Signs
- 1.5. Non-Instrumental Techniques in Children's Respiratory Physiotherapy (1)
  - 1.5.1. Nasal Wash
  - 1.5.2. ELPR
  - 1.5.3. ELTGOL
- 1.6. Non-Instrumental Techniques in Children's Respiratory Physiotherapy (2)
  - 1.6.1. Provoked Cough
  - 1.6.2. TEF
  - 1.6.3. DRR
- 1.7. Aerosol Therapy in Pediatrics
  - 1.7.1. Inhalation Systems
  - 1.7.2. Main Drugs Used



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- 1.8 Respiratory Physiotherapy in Bronchiolitis
    - 1.8.1 Indication of Treatment and Scheduling of Sessions
    - 1.8.2 Treatment Session Protocol
  - 1.9 Hygiene Recommendations for Parents
    - 1.9.1 Nasal Washes
    - 1.9.2 Humidifiers and Other Devices
    - 1.9.3 General Recommendations
  - 1.10 Respiratory Training Activities at Home
    - 1.10.1 Materials for the Exercises
    - 1.10.2 Respiratory Exercises
    - 1.10.3 Physical Activity Recommendations

## Module 2. Pediatric Respiratory Physiotherapy II

- 2.1 Bronchitis in the Pediatric Patient
  - 2.1.1 Etiology
  - 2.1.2 Clinical Practice
  - 2.1.3 Medical Treatment
- 2.2 Pneumonia in the Pediatric Patient
  - 2.2.1 Etiology
  - 2.2.2 Clinical Practice
  - 2.2.3 Medical Treatment
- 2.3 Assessment in Respiratory Physiotherapy of the Pediatric Patient (3)
  - 2.3.1 Spirometry
  - 2.3.2 Stress Tests
  - 2.3.3 Peak Flow
- 2.4 Assessment in Respiratory Physiotherapy of the Pediatric Patient with Brain Damage
  - 2.4.1 Assessment of the Respiratory System
  - 2.4.2 Assessment of Other Systems that May Affect the Respiratory System

- 2.5. Non-Instrumental Techniques in Children's Respiratory Physiotherapy (3)
  - 2.5.1. EDIC
  - 2.5.2. Autogenous Drainage
  - 2.5.3. Cough Assistance
- 2.6. Non-Instrumental Techniques in Children's Respiratory Physiotherapy: Adaptation in Patients with Brain Damage
  - 2.6.1. ELPR
  - 2.6.2. Nasal Wash
  - 2.6.3. Provoked Cough
- 2.7. Instrumental Techniques in Children's Respiratory Physiotherapy (1)
  - 2.7.1. Cough Assist
  - 2.7.2. High-Frequency Oscillation Vest®
- 2.8. Instrumental Techniques in Children's Respiratory Physiotherapy (2)
  - 2.8.1. Ambu
  - 2.8.2. Secretion Aspirator
- 2.9. Respiratory Physiotherapy in Pediatric Palliative Care
  - 2.9.1. What is Palliative Care?
  - 2.9.2. Typical Respiratory Pathologies of These Patients
  - 2.9.3. Physiotherapy Treatment in Pediatric Palliative Care
- 2.10. Respiratory Emergencies in Pediatrics
  - 2.10.1. Resuscitation in Pediatrics

### Module 3. Assessment in Respiratory Physiotherapy

- 3.1. Anatomy Recap
  - 3.1.1. Bone Level
  - 3.1.2. At the Muscular Level
  - 3.1.3. Ventilatory System
- 3.2. Ventilation-Perfusion Ratio
- 3.3. Ventilatory Biomechanics
  - 3.3.1. Ventilatory Mechanics in Inspiration
  - 3.3.2. Ventilatory Mechanics in Expiration
- 3.4. Evaluation
  - 3.4.1. Anamnesis
  - 3.4.2. Physical Inspection: Static and Dynamic Examination
- 3.5. Respiratory Frequency
  - 3.5.1. Types of Respiratory Frequencies
  - 3.5.2. One-Dimensional Scales
- 3.6. Respiratory Rhythms
- 3.7. Auscultation
  - 3.7.1. Normal Noises
  - 3.7.2. Abnormal or Adventitious Noises
  - 3.7.3. Percussion and Palpation
- 3.8. Pain, Cough and Expectoration
- 3.9. Radiology
- 3.10. Complementary Tests
  - 3.10.1. Gait Tests
  - 3.10.2. Strength Tests
  - 3.10.3. Pulse Oximetry
  - 3.10.4. Body Plethysmography
  - 3.10.5. Arterial Blood Gas Analysis
  - 3.10.6. Spirometry



**Module 4. Mechanical Ventilation**

- 4.1 Introduction and General Aspects of Mechanical Ventilation
  - 4.1.1. Non-Invasive Mechanical Ventilation
  - 4.1.2. Invasive Mechanical Ventilation
- 4.2 Oxygen Delivery System
  - 4.2.1. Closed-Loop Systems
  - 4.2.2. Open-Loop Systems
- 4.3 Non-Mechanical Ventilators
  - 4.3.1. Adult Cpap Systems
  - 4.3.2. Adult Bipap Systems
- 4.4 Ventilatory Modes
  - 4.4.1. Programming in Cpap Mode
  - 4.4.2. Programming in Bipap Mode
- 4.5. Parameters and Monitoring
- 4.6. Contraindications and Complications
- 4.7. Home Mechanical Ventilation
  - 4.7.1. Epidemiology, Rationale and Physiological Basis
  - 4.7.2. Application Criteria
  - 4.7.3. Ventilatory Modes
  - 4.7.4. Parameters and Variables
- 4.8. Complementary Techniques
  - 4.8.1. Aerosol Therapy
  - 4.8.2. Drug Administration
- 4.9. NIV in the Obstructive Patient
- 4.10. NIV in the Restrictive Patient

**Module 5. Obstructive Pathology**

- 5.1. Introduction to Obstructive Respiratory Pathology
  - 5.1.1. Theoretical Framework
  - 5.1.2. Clinical Characteristics
- 5.2 Chronic Bronchitis
  - 5.2.1. Concept. Phenotype. Pathophysiological Manifestations
  - 5.2.2. Evaluation
  - 5.2.3. Treatment
- 5.3 Emphysema
  - 5.3.1. Concept. Phenotype. Pathophysiological Characteristics
  - 5.3.2. Evaluation
  - 5.3.3. Treatment
- 5.4 Atelectasis
  - 5.4.1. Pathophysiological Characteristics
  - 5.4.2. Evaluation
  - 5.4.3. Treatment
- 5.5. Bronchiectasis
  - 5.5.1. Pathophysiological Manifestations
  - 5.5.2. Evaluation
  - 5.5.3. Treatment
- 5.6. Bronchial Asthma
  - 5.6.1. Pathophysiological Characteristics
  - 5.6.2. Differential Diagnosis
  - 5.6.3. Asthmatic Crisis and Self-Management
  - 5.6.4. Exploration and Treatment
- 5.7. Cystic Fibrosis
  - 5.7.1. Clinical Characteristics
  - 5.7.2. Evaluation
  - 5.7.3. Treatment
- 5.8. Ageing of the Respiratory System. Biological Changes of Aging and Their Consequences
- 5.9. Treatment of the Chronic Patient and Flare-Ups

## Module 6. Restrictive Pathology

- 6.1. Introduction to Restrictive Pathology
  - 6.1.1. Theoretical Framework
  - 6.1.2. Clinical Characteristics
- 6.2. Alterations of the Thoracic Cage
  - 6.2.1. Chest Morphology
  - 6.2.2. Respiratory Pattern and Thoracic-Abdominal Movement
  - 6.2.3. Types of Abnormalities
- 6.3. Diseases of the Diaphragm and Respiratory Muscles
  - 6.3.1. Pathophysiological Characteristics
  - 6.3.2. Evaluation
  - 6.3.3. Treatment
- 6.4. Pleural Effusion
  - 6.4.1. Pathophysiological Manifestations
  - 6.4.2. Evaluation
  - 6.4.3. Treatment
- 6.5. Pneumothorax
  - 6.5.1. Clinical Characteristics
  - 6.5.2. Evaluation
  - 6.5.3. Treatment
- 6.6. Diffuse Infectious Diseases (Tuberculosis, Abscess, Pneumonia)
  - 6.6.1. Clinical Characteristics
  - 6.6.2. Evaluation
  - 6.6.3. Treatment
- 6.7. Idiopathic Pulmonary Fibrosis
  - 6.7.1. Pathophysiological Characteristics
  - 6.7.2. Evaluation
  - 6.7.3. Treatment

- 6.8. Sarcoidosis and Pneumoconiosis
  - 6.8.1. Pathophysiological Manifestations
  - 6.8.2. Evaluation
  - 6.8.3. Treatment
- 6.9. Neuromuscular Diseases
  - 6.9.1. Clinical Characteristics
  - 6.9.2. Evaluation
  - 6.9.3. Treatment

## Module 7. Pathophysiological Consequences of COPD Pulmonary Restriction and Respiratory Rehabilitation

- 7.1. Prevalence of COPD and Chronic Respiratory Diseases
  - 7.1.1. Prevalence of COPD Globally
- 7.2. COPD
  - 7.2.1. COPD Definition
  - 7.2.2. COPD Treatment
- 7.3. Respiratory Rehabilitation
  - 7.3.1. Definition of Respiratory Rehabilitation
  - 7.3.2. Components of Respiratory Rehabilitation
- 7.4. Assessment of the Respiratory Patient Before, During and After Respiratory Rehabilitation
  - 7.4.1. Evaluation of Dyspnea
  - 7.4.2. Assessment of Exercise Tolerance
  - 7.4.3. Assessment of Respiratory Muscle Strength
- 7.5. Exercise Training
  - 7.5.1. Overload
  - 7.5.2. Specifications
  - 7.5.3. Adaptation
- 7.6. Aerobic Training
  - 7.6.1. Parts of the Aerobic Training Session

- 7.6.2. The FITT Principle
- 7.6.3. How Training Should be Conducted
- 7.7 Strengthening of the Musculature
  - 7.7.1. Assessment of Peripheral Musculature
  - 7.7.2. How Training Should be Conducted
- 7.8 Training of the Respiratory Musculature
  - 7.8.1. Devices for Strengthening Respiratory Muscles
  - 7.8.2. How Training Should be Conducted
- 7.9 Physical Activity
  - 7.9.1. Evaluation of Physical Activity
  - 7.9.2. Adherence to Physical Activity
- 7.10 Respiratory Rehabilitation Programs for Respiratory Diseases Other Than COPD
  - 7.10.1. Programs in Pulmonary Fibrosis
  - 7.10.2. Programs in Bronchiectasis

## Module 8. Respiratory Techniques in Physiotherapy

- 8.1 Historical Evolution of Respiratory Physiotherapy
  - 8.1.1. Different Schools of Respiratory Physiotherapy
  - 8.1.2. Different Classification of Respiratory Physiotherapy
- 8.2 Objectives of Respiratory Physiotherapy
  - 8.2.1. General Objectives
  - 8.2.2. Specific objectives
- 8.3 Physiologic Mechanisms for Understanding Respiratory Physiotherapy Techniques
  - 8.3.1. Rocher Equation
  - 8.3.2. Poiseuille's Law
  - 8.3.3. Collateral Ventilation
- 8.4 Treatment Techniques in Respiratory Physiotherapy
  - 8.4.1. Forced Inspiratory Techniques
  - 8.4.2. Slow Expiratory Techniques
  - 8.4.3. Forced Expiratory Techniques
  - 8.4.4. Slow Inspiratory Techniques
- 8.5 Secretion Drainage Techniques
  - 8.5.1. Techniques Based on the Action of Gravity
  - 8.5.2. Techniques Based on Shock Waves
  - 8.5.3. Techniques Based on Airflow Variations
- 8.6 Lung Expansion Techniques
  - 8.6.1. EDIC
  - 8.6.2. Encouraged Spirometry
  - 8.6.3. Air Staking
- 8.7 Ventilatory Techniques
  - 8.7.1. Directed Costal Ventilation Technique
  - 8.7.2. Targeted Abdomino-Diaphragmatic Ventilation Technique
- 8.8 Instrumental Devices
  - 8.8.1. Cough Assist ®
  - 8.8.2. Vibration Vests ®
  - 8.8.3. Percussionaire ®
  - 8.8.4. Pep Devices
- 8.9 Aerosol Therapy
  - 8.9.1. Types of Nebulizers
  - 8.9.2. Types of Inhalers
  - 8.9.3. Inhalation Technique
- 8.10 Health Education and Relaxation
  - 8.10.1. Importance of Health Education in Chronic Diseases
  - 8.10.2. Importance of Relaxation in Chronic Diseases

## Module 9. Respiratory Physiotherapy in Critically Ill Patients

- 9.1. Critically Ill Patient
  - 9.1.1. Definition
  - 9.1.2. Different Critical Patient Work Units
  - 9.1.3. Multidisciplinary Work Team
- 9.2. Critical Care Unit
  - 9.2.1. Basic Knowledge of Patient Monitoring
  - 9.2.2. Different Oxygen Support Devices
  - 9.2.3. Health Worker Protection
- 9.3. Physiotherapy in the ICU
  - 9.3.1. Intensive Care Unit
  - 9.3.2. Role of the Physiotherapist in this Unit
  - 9.3.3. Mechanical Ventilation Systems. Monitoring Mechanical Ventilation
- 9.4. Physiotherapy in the Thoracic Area
  - 9.4.1. Thoracic Resuscitation Unit
  - 9.4.2. Pleure-back and Pulmonary Drainage Devices
  - 9.4.3. Basic Notions in Thoracic Radiography
- 9.5. Physiotherapy in the Coronary Unit
  - 9.5.1. Cardiac Pathology. Sternotomies
  - 9.5.2. Cardiac Surgery Principles and Treatment
  - 9.5.3. Breathing Exercise Programs Pre/Post Surgery
  - 9.5.4. Complications and Contraindications
- 9.6. Physiotherapy in Neuromuscular Patients
  - 9.6.1. Concept of Neuromuscular Disease (NMD) and Main Characteristics
  - 9.6.2. Respiratory Alterations in NMD and Complications with Hospital Admission
  - 9.6.3. Main Respiratory Physiotherapy Techniques Applied to NME (Hyperinflation and Assisted Cough Techniques)
  - 9.6.4. Phonatory Valve and Suction Techniques
- 9.7. Paru
  - 9.7.1. Post-Anesthesia Resuscitation Unit
  - 9.7.2. Sedation. Basic Concepts of Pharmacology
  - 9.7.3. Importance of Early Mobilization of Patients and Sedation
- 9.8. Physiotherapy in Neonatal ICU and Pediatrics
  - 9.8.1. Embryonic Factors: Antenatal and Postnatal Factors that Determine Lung Development
  - 9.8.2. Frequent Respiratory Pathologies in Neonatology and Pediatrics.
  - 9.8.3. Treatment Techniques
- 9.9. Approach to Bioethics
  - 9.9.1. Code of Ethics
  - 9.9.2. Ethical Issues in Critical Care Units
- 9.10. Importance of the Family and the Environment in the Recovery Process
  - 9.10.1. Emotional Factors
  - 9.10.2. Guidelines for Accompaniment

**Module 10. Respiratory Physiotherapy in COVID**

- 10.1. Introduction
  - 10.1.1. Covid-19. Origin
  - 10.1.2. Evolution of the Coronavirus Epidemic
  - 10.1.3. Confinement and Quarantine
- 10.2. Progression of the Disease
  - 10.2.1. Clinical Picture
  - 10.2.2. Methods and Detection. Tests and Analyses
  - 10.2.3. Epidemiological Curve
- 10.3. Isolation and Protection
  - 10.3.1. P.P.E. Personal Protective Equipment
  - 10.3.2. Types of Respiratory Protection Masks
  - 10.3.3. Hand Washing and Personal Hygiene
- 10.4. Pathophysiology in Covid-19
  - 10.4.1. Desaturation and Worsening from the Physical Therapy Point of View
  - 10.4.2. Complementary Tests
- 10.5. Patient Admitted to Hospital. Pre-ICU/Post-ICU
  - 10.5.1. Risk Factors and Aggravating Factors
  - 10.5.2. Criteria for Patient Admission to an Inpatient Unit
  - 10.5.3. Critical Care Unit Admission
- 10.6. Critically Ill Covid-19 Patient
  - 10.6.1. Characteristics of the Critically Ill Patient. Average Length of Stay
  - 10.6.2. Monitoring Mechanical Ventilation. Vmi/VMNI
  - 10.6.3. Weaning Methods in Case of Improvement of the Clinical Picture
- 10.7. Sequelae of the Critically Ill Patient
  - 10.7.1. Barthel's Scale
  - 10.7.2. Dauci. Post-ICU Acquired Weakness
  - 10.7.3. Swallowing Disorders
  - 10.7.4. Basal Hypoxemia
- 10.8. Respiratory Physiotherapy Treatment
  - 10.8.1. Respiratory Physiotherapy Treatment in Covid-19 Critical Care Units
  - 10.8.2. On-site Respiratory Physiotherapy Treatment
  - 10.8.3. Discharge Recommendations
- 10.9. Post-Covid-19 Era
  - 10.9.1. New Scenarios of Intervention in Physiotherapy
  - 10.9.2. Preventive Actions



*A unique, key, and decisive training experience to boost your professional development”*

06

# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.





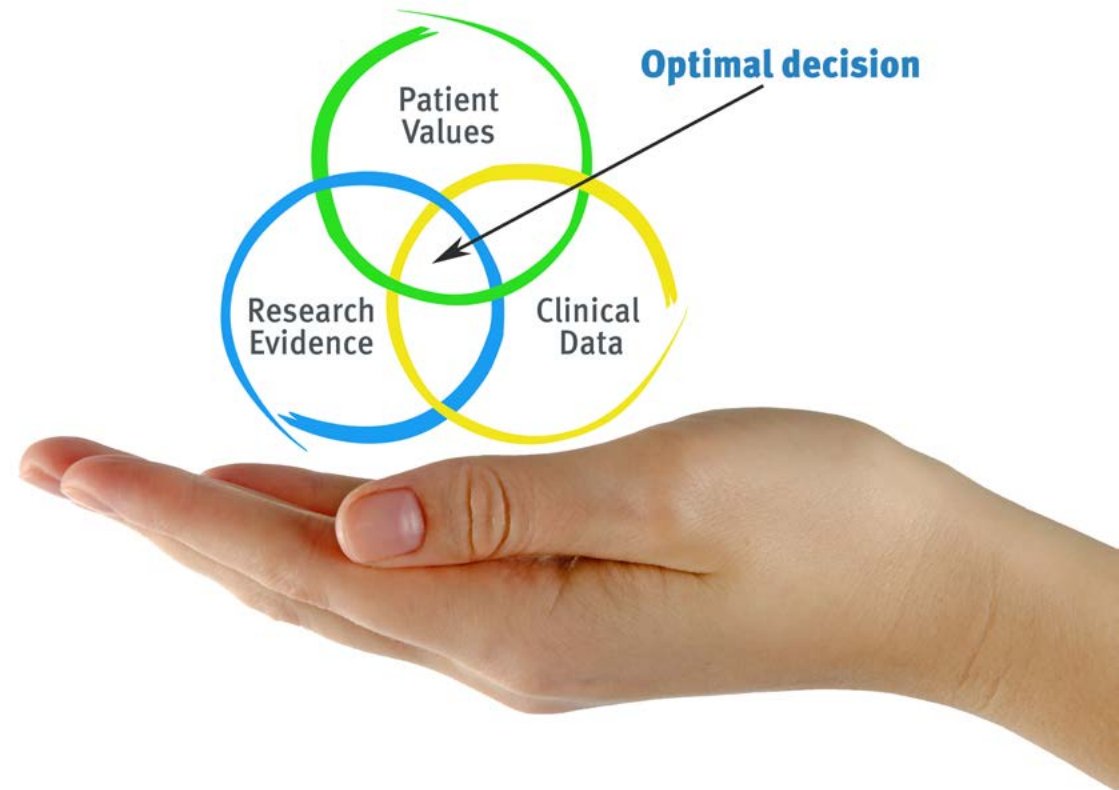
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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.*



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.



“

*Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”*

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

*Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



#### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



#### Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



# 07 Certificate

This Advanced Master's Degree in Respiratory Physiotherapy guarantees you, in addition to the most rigorous and updated training, access to an Advanced Master's Degree issued by TECH Technological University.





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*Successfully complete this program  
and receive your university degree  
without travel or laborious paperwork”*

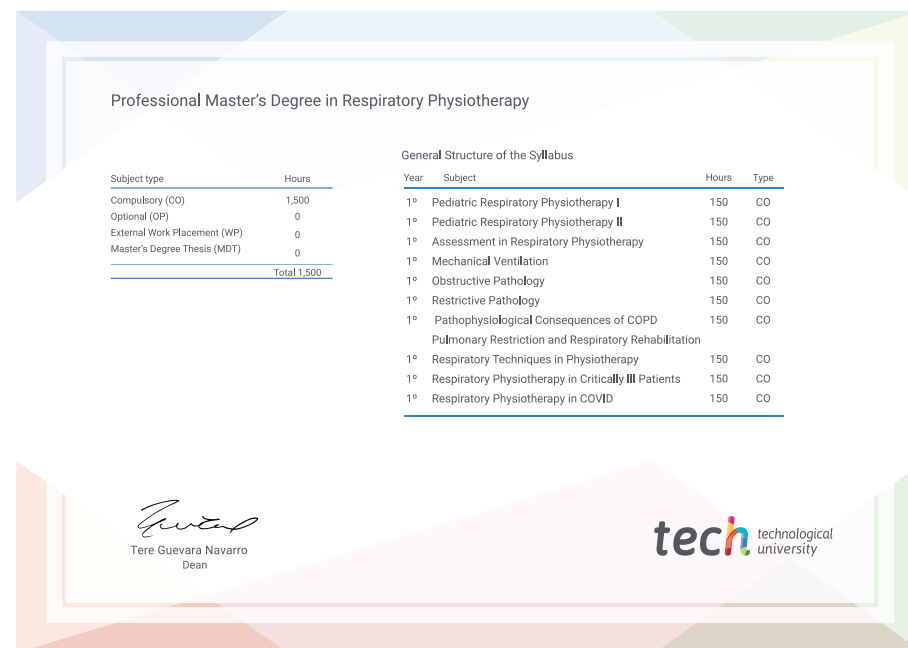
This **Professional Master's Degree in Respiratory Physiotherapy** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Professional Master's Degree** issued by **TECH Technological University** by tracked delivery\*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Professional Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional from career evaluation committees.

Title: **Professional Master's Degree in Respiratory Physiotherapy**

Official N° of hours: **1,500 h.**



\*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.



future

health confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

personalized service information

knowledge present quality

development languages

virtual classroom

**tech** technological  
university

## Professional Master's Degree Respiratory Physiotherapy

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

# Professional Master's Degree

## Respiratory Physiotherapy

