



Hybrid Professional Master's Degree

Respiratory Physiotherapy in Rehabilitation Medicine

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months.

Certificate: TECH Technological University

Teaching Hours: 1.620 h.

We bsite: www.techtitute.com/us/medicine/hybrid-professional-master-degree/hybrid-professional-master-degree-respiratory-physiotherapy-rehabilitation-medicine

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The health consequences resulting from COVID-19 infection have highlighted the importance of Respiratory Physiotherapy in both patients who have required hospital admission and those who have experienced after-effects. In this new scenario, and in view of the increasing prevalence of respiratory infectious diseases, TECH has created this program that provides medical professionals with the most advanced multimedia content on respiratory rehabilitation in pediatric patients, with COPD, or obstructive pathologies. A program that also includes a practical stay in a first category hospital, where students will spend 3 weeks with real experts, who will show the latest advances in this field.

EasyOne



tech 06 | Introduction

Spirometries, stress tests, or lung expansion techniques are commonly used by health professionals responsible for performing Respiratory Physiotherapy in Rehabilitation Medicine. However, with the emergence of the pandemic caused by SARS-CoV-2, clinical cases requiring this care have multiplied, both in pediatric and adult patients.

A reality that has boosted the services provided by these units and, at the same time, demands more specialized medical professionals who are up-to-date with the most effective techniques and the latest instrumental devices. For this reason, TECH has created this university degree, which offers specialists innovative multimedia content that is 100% online and a practical internship at a prestigious hospital.

In this way, the physician will be able to stay informed about recent advances in instrumental techniques used in Pediatric Respiratory Physiotherapy, for patients with COPD in mechanical ventilation, or patients who have suffered the consequences of COVID-19. All of this is provided with content that can be easily accessed from any device with an Internet connection at any time of day, without fixed class schedules, and with flexibility to balance it with daily professional duties.

As the culmination, TECH has designed a program that offers health professionals the opportunity to up date their competencies and skills in Respiratory Physiotherapy in Rehabilitation Medicine through a 3-week stay in a high-level clinical environment. Throughout this period, they will be supervised by a specialist in this field who will introduce them to the latest advances in this field.

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

- Development of more than 100 clinical cases presented by Physiotherapist professionals with a wide experience in Medical Rehabilitation and Respiratory Physiotherapy
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Assessment and application of the most innovative techniques in Respiratory Physiotherapy
- Comprehensive systematic action plans for major respiratory pathologies
- Presentation of practical workshops on diagnostic and therapeutic techniques for patients with respiratory pathologies
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course.
- Practical clinical guides on approaching different pathologies
- With a special emphasis on evidence-based medicine and research methodologies in patients with respiratory pathologies
- All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments.
- The content is accessible from any fixed or portable device with an Internet connection
- Furthermore, you will be able to carry out a clinical internship in one of the best hospital centers

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Take an intensive 3-week internship in a prestigious center and acquire all the knowledge to grow personally and professionally"

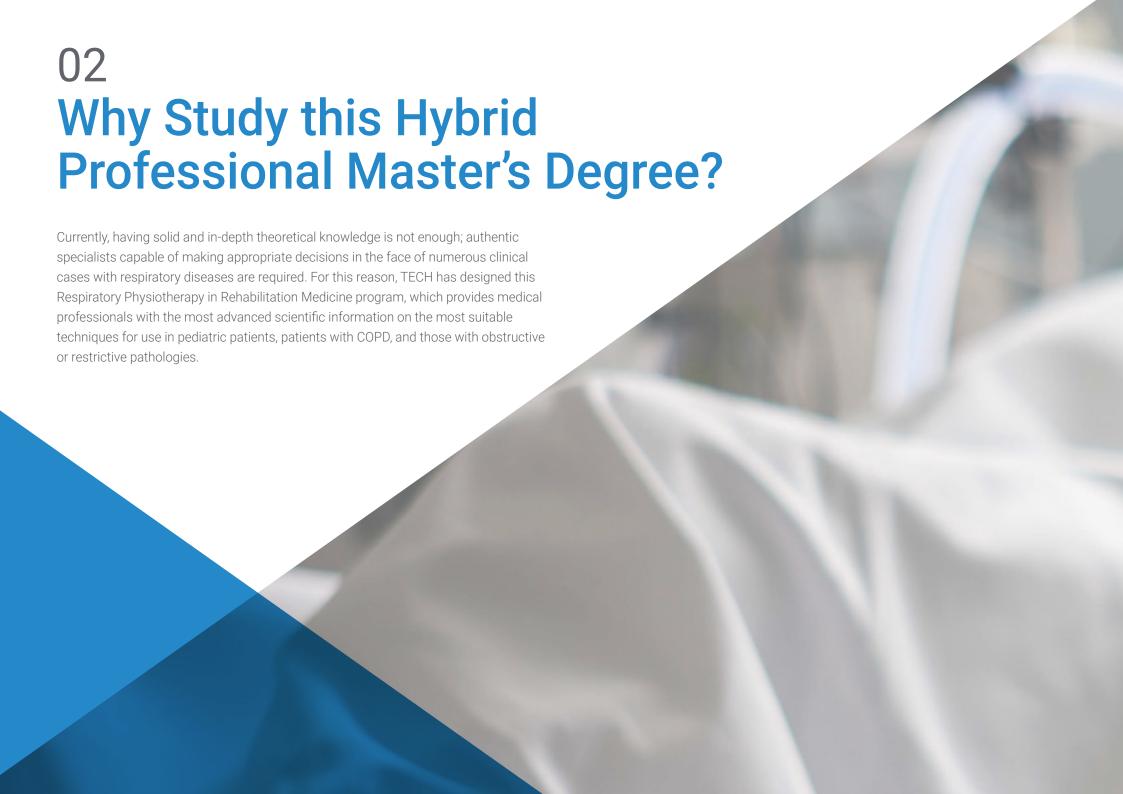
This Master's program, which has a professionalizing nature and a hybrid modality, is aimed at updating medical professionals who perform their functions in Rehabilitation units, and who require a high level of qualification. The contents are based on the latest scientific evidence, and oriented in an educational way to integrate theoretical knowledge into medical and the theoretical-practical elements will facilitate knowledge up-to-date and decision-making in patient management.

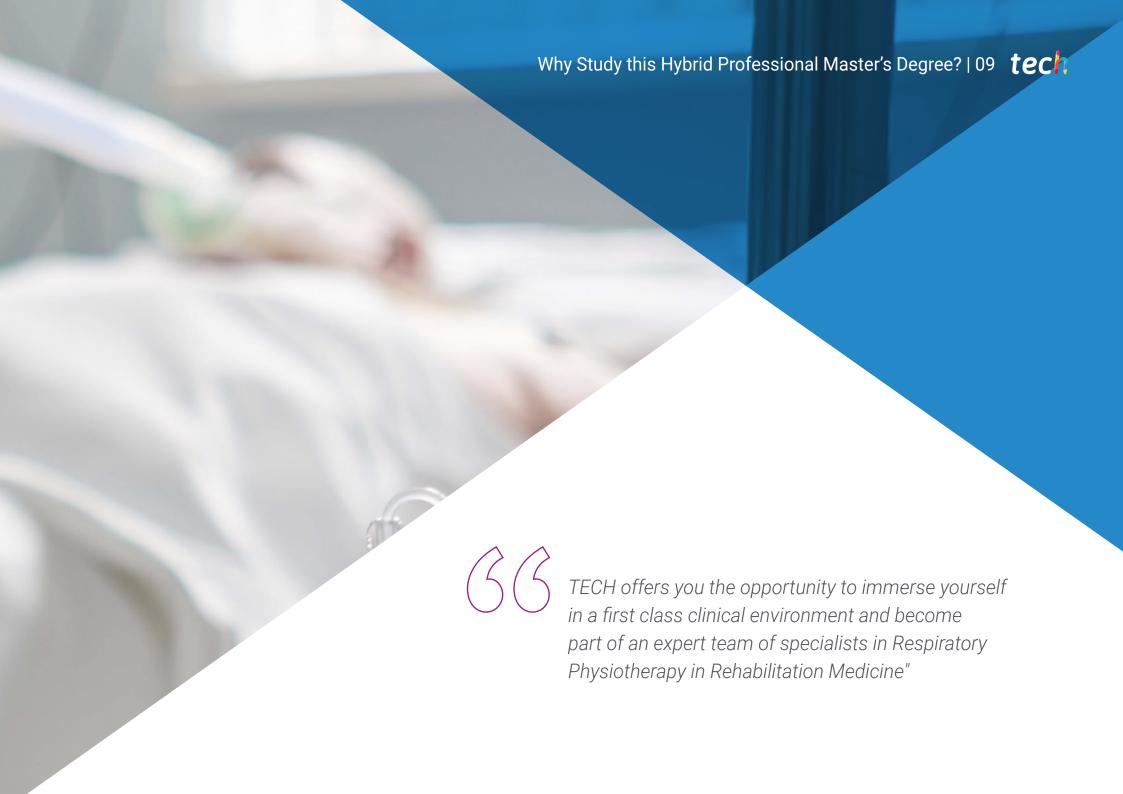
Thanks to its multimedia content created with the latest educational technology, it will enable medical professional to achieve situated and contextual learning, i.e., a simulated environment that will provide immersive learning programmed to train for real-life situations. This program is designed around Problem-Based Learning, whereby the physician must try to solve the different professional practice situations that arise during the course. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

This Hybrid Professional Master's Degree provides you with the latest advancements in the recovery of COVID patients with severe respiratory issues.

Update your knowledge with the best-specialized teaching staff and extensive experience in Respiratory Physiotherapy.







tech 10 | Why Study this Hybrid Professional Master's Degree?

1. Updating from the Latest Technology Available

In recent years, there has been a significant improvement in the instrumental devices used for Respiratory Physiotherapy, such as the *Cough assist*, vibratory vests, or *Percussionaire*. All of this leads the medical professional to stay up to date with these advancements. For this reason, TECH brings the latest technological advances within the most cutting-edge health spaces to the doctor through this Hybrid Professional Master's Degree.

2. Gaining In-depth Knowledge from the Experience of Top Specialists

The specialists who will guide the professional throughout this process are a top endorsement and provide an unprecedented guarantee of updating. Therefore, both the teaching team and the assigned tutor during the practical phase will help the doctor successfully achieve their goals in applying the most innovative and effective techniques in patients with respiratory conditions.

3. Entering First-Class Clinical Environments

This institution carries out a meticulous selection process for all the professionals who teach this program, as well as for the hospital centers where the internship program takes place. Thanks to this, the specialist will be guaranteed access to the latest knowledge about Respiratory Physiotherapy in Rehabilitation Medicine. All of this will allow them to see what day-to-day work is like in a demanding area with a very precise methodology that leads to positive results.





Why Study this Hybrid Professional | 11 tech Master's Degree?

4. Combining the Best Theory with State-of-the-Art Practice

The success of this Hybrid Professional Master's Degree lies in its response to the real needs of professional updating. For this reason, TECH perfectly combines a comprehensive 100% online theoretical framework with a practical phase in an innovative health space. In this way, professionals will receive a comprehensive and effective up-to-date on Respiratory Physiotherapy in Rehabilitation Medicine.

5. Expanding the Boundaries of Knowledge

This institution provides the opportunity for medical professionals to achieve their goals, surrounded by the best experts in the care of patients with respiratory pathologies, who have been part of high-level national and international hospital centers. This will allow students to integrate the techniques, methods, and procedures used by the best experts in this field.







tech 14 | Objectives



General Objectives

- Promote specialization in Respiratory Physiotherapy
- Update knowledge and manage physiotherapy in different patients with respiratory pathologies
- Have knowledge of the pathophysiology and advanced exploration of the respiratory system
- Execute, direct and coordinate the Respiratory Physiotherapy intervention plan for each patient



This program will show you the advances achieved in Physiotherapy applied to patients in Intensive Care Units and those affected by COVID-19"



Specific Objectives

Module 1. Pediatric Respiratory Physiotherapy I

- In-depth understanding of the respiratory physiology of children
- Manage the physiotherapeutic assessment in pediatric patients
- Apply the non-instrumental techniques of respiratory physiotherapy for children
- Manage respiratory training activities at home

Module 2. Pediatric Respiratory Physiotherapy II

- Get updated on different respiratory pathologies in children
- Delve into the knowledge of pediatric respiratory emergencies
- Apply the instrumental techniques of infant respiratory physiotherapy
- Delve into the treatment of physiotherapy in pediatric palliative care

Module 3. Respiratory Physiotherapy Assessment

- Delve into the ventilatory biomechanics
- Apply different techniques for exploration
- Apply different complementary tests for a correct evaluation

Module 4. Mechanical Ventilation

- In-depth understanding of mechanical ventilation
- Apply complementary techniques in respiratory pathology
- Familiarization with the obstructive NIV patient
- Familiarization with the Restrictive NIV patient

Module 5. Obstructive Pathologies

- In-depth knowledge of obstructive respiratory pathology
- Develop the capacity for a correct diagnosis
- Manage respiratory techniques

Module 6. Restrictive Pathologies

- Know in depth the physiopathological characteristics for its correct exploration
- Apply the most effective treatment for restrictive pathologies
- Better understand the difference between all restrictive pathologies and their therapeutic approach

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

- In-depth study of the causes of COPD
- Managing COPD pathology
- Use the different techniques for a correct assessment
- Manage the different respiratory trainings
- In-depth knowledge of the different rehabilitation programs for respiratory diseases

Module 8. Respiratory Techniques in Physiotherapy

- In-depth knowledge of the physiological mechanisms of the respiratory system
- Gain in-depth knowledge of the treatment techniques in respiratory physiotherapy
- Applying different techniques
- Handling of instrumental devices

Module 9. Respiratory Physiotherapy in Critical Patients

- Delve into respiratory physiotherapy in ICU
- Manage the different respiratory techniques in critically ill 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 on-site respiratory physiotherapy treatment
- Become familiar with new scenarios of physical therapy intervention in the post-COVID era



Boost your career path with holistic teaching, allowing you to advance both theoretically and practically"





tech 18 | Skills



General Skills

- 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



With this Hybrid Professional Master's Degree, you will enhance your skills in the assessment and administration of treatments in patients with Obstructive Pathologies"







Specific Skills

- Apply the non-instrumental techniques of Respiratory Physiotherapy for Children
- Delve into the treatment of physiotherapy in pediatric palliative care
- Apply different techniques for exploration
- Apply complementary techniques in respiratory pathology
- Develop the capacity for a correct diagnosis
- Manage respiratory techniques
- Better understand the difference between all restrictive pathologies and their therapeutic approach
- In-depth knowledge of the physiological mechanisms of the respiratory system
- Delve into Respiratory Physiotherapy in ICU
- Become Master psychosocial new scenarios of physical therapy intervention in the post-COVID era





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Management



García Coronado, Luis Pablo

- Supervisor of the Physiotherapy Service at La Paz University Hospital.(Madrid)
- Physiotherapist at La Paz University Hospital (Madrid)
- Physiotherapist for Adidas Runners Madrid
- Owner and Director of Fisioganas SL
- Owner of 3Metros
- Owner and Director of Fisioespaña CB
- Diploma in Physiotherapy from the European University
- MBA in Business Administration and Management by EAE Business School

Professors

Ms. Álvarez Gonzalo, Verónica

- Expert Physiotherapist in Child Rehabilitation and Neurorehabilitation at La Paz University Hospital (Madrid)
- Physiotherapist in the field of Pediatric Rehabilitation at La Paz Maternal and Child Hospital (Madrid)
- Guadarrama Hospital (Madrid)
- Neurorehabilitation from medium-stay patients.
- Sports Physiotherapy at El Vellón Balompié Football Club
- Physiotherapy and Rehabilitation at Fisionorte
- Diploma in Physiotherapy from Pontificia Comillas University

Ms. Macías Gaspar, María José

- Expert Respiratory Physiotherapy
- Physiotherapist at La Paz University Hospital (Madrid)
- Physiotherapist at the Foundation Hospital General de la Santísima Trinidad (Salamanca)
- Physiotherapist at Beata María Ana Hospital Hermanas Hospitalarias (Madrid)
- Degree in Physiotherapy from the University of Salamanca
- Master's Degree in Pediatric Physiotherapy from CEU San Pablo University in Madrid
- Expert in Respiratory Physiotherapy from the International University Isabel I de Castilla
- Course in Manual Therapy in Traumatology and Orthopedics for Physiotherapy

Ms. Peroy Badal, Renata

- Physiotherapist Specialist in Respiratory and Cardiac Therapy
- Physiotherapist in charge of Respiratory Rehabilitation for COPD patients, Virgen de la Torre Hospital (Madrid)
- Physiotherapist in Respiratory Rehabilitation for COPD Patients, Regional Cancer Center (Marsella)
- Primary Care Physiotherapist, Del Mar Hospital (Barcelona)
- Teaching in Public Healthcare Institutions for University Students
- Author of the book titled Assessment Tools Applied in Physiotherapy Part II
- Diploma in Physiotherapy 1996-1999, from the Gimbernat University School of Nursing and Physiotherapy, Autonomous University of Barcelona
- Graduate in Physiotherapy: 2013-2014, from the Complutense University of Madrid with a thesis on: Health Education in Respiratory Rehabilitation for COPD in Primary Care
- Official Master's Degree in Respiratory and Cardiac Physiotherapy: 2015-2016, from the University School of Physiotherapy of ONCE, Complutense University of Madrid D.U. in Respiratory and Cardiovascular Kinesitherapy from Claude Bernard-Lyon University
- Postgraduate in Structural Osteopathy from the Autonomous University of Barcelona.
- Postgraduate in Pediatric Physiotherapy from the International University of Cataluña
- Postgraduate in Introduction to Sports Medicine and Physical Education from the University of Barcelona
- Member of: Illustrious Professional College of Physiotherapists of the Community of Madrid Cardio-Respiratory Physiotherapy Working Group Spanish Society of Pulmonology and Thoracic Surgery (SEPAR) Emerging Group of the Respiratory Physiotherapy Area (GEFiR) Scientific Committee of the Professional College of Physiotherapists of the Community of Madrid

Ms. Pérez-Esteban Luis-Yagüe, Teresa

- Specialized Physiotherapist in Respiratory and Musculoskeletal Rehabilitation
- Physiotherapist at Gregorio Marañón General University Hospital (Madrid)
- Physiotherapist in the Intensive Care Department of the Gregorio Marañón General University Hospital (Madrid)
- Physiotherapist at the Gregorio Marañón Maternal Child Hospital (Madrid)
- Physiotherapist at the Arganda del Rey Health Center (Madrid)
- Physiotherapist at the HM Torrelodones University Hospital (Madrid)
- Physiotherapist at the Provincial Rehabilitation Institute (Madrid)
- Physiotherapist at the Collado Villalba General Hospital (Madrid)
- Physiotherapist at Sanitas Welcome and Sanitas Wellness Center in Chamartín (Madrid)
- Physiotherapist at the Milenio-Fuencarral Clinic (Madrid)
- Physiotherapist at the Tres Olivos Clinic (Madrid)
- Degree in Physiotherapy from the Faculty of Nursing and Physiotherapy Salus Infirmorum, Pontifical University of Salamanca
- Specialist in Respiratory Physiotherapy from the University of Castilla-La Mancha (Toledo)
- Professional Master's Degree in Manual Physiotherapy of the Locomotor System from Alcalá University (Madrid)
- Basic Radiology for Physical Therapists online course
- Therapeutic exercise update program by the Consejo Gral. from Colegios de Fisioterapeutas de España (Spanish General Council of Physiotherapists' Associations)
- Volunteer Member of the Nour Association for Cerebral Palsy (Northern Morocco)

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Ms. Simó Segovia, Rocío

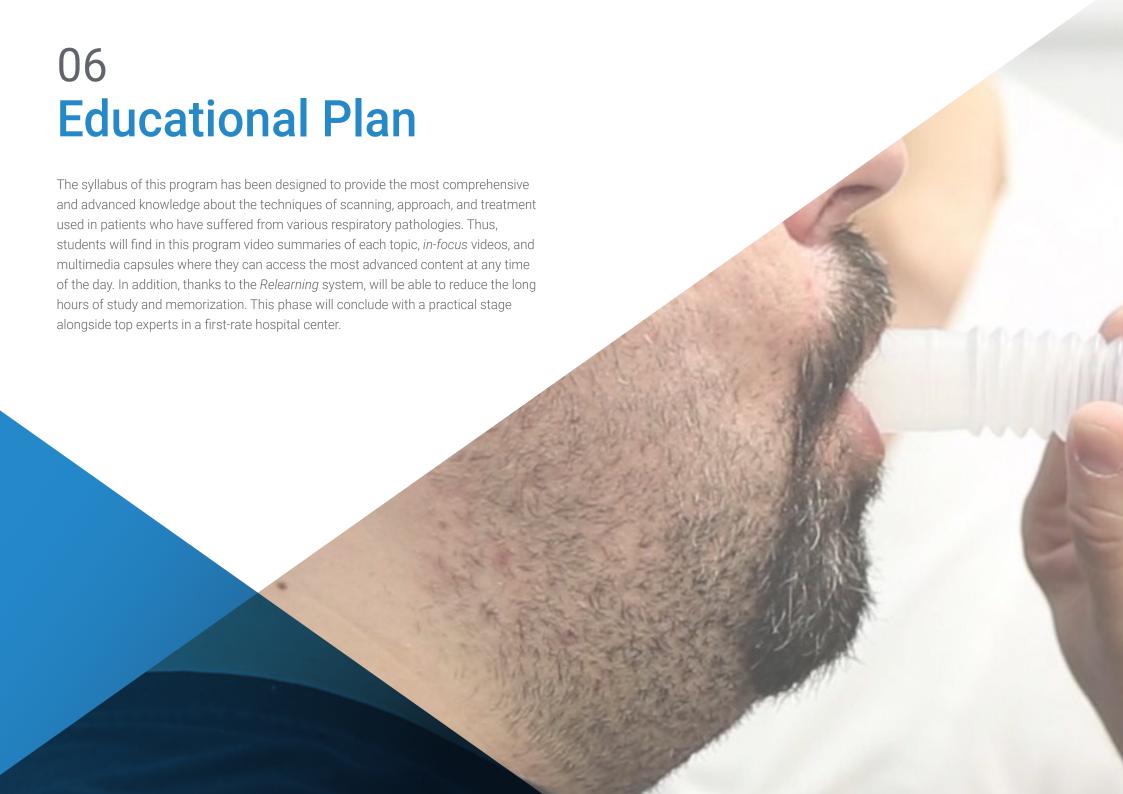
- Physiotherapist at La Paz University Hospital (Madrid)
- Physiotherapist at home and in private clinics
- Occupational Risk Prevention Trainer
- Trainer for Healthcare Personnel on Postural Criteria and Ergonomics
- Postgraduate Certificate in Physiotherapy from the Universidad Alfonso X el Sabio
- Specialization in Physiotherapy Neurological Pathology in children from the Rey Juan Carlos University
- Specialization in Pediatric Cerebral Palsy from the University Children's Hospital Niño Jesús (Madrid)







Experts in respiratory injuries, pediatric neurological pathologies, and rehabilitation will guide you throughout the 12-month duration of this program"





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Module 1. Pediatric Respiratory Physiotherapy I

- 1.1. Introduction in Respiratory Physiotherapy in Pediatrics
 - 1.1.1. Anatomy and Development of the Infant Respiratory Tract
 - 1.1.2. Respiratory Physiology in Children: Specific Features
 - 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 in Pediatric Patients (I)
 - 1.3.1. Medical History
 - 1.3.2. Visual Exploration
 - 1.3.3. Auscultation: Normal and Pathological Sounds
- 1.4. Assessment in Respiratory Physiotherapy in Pediatric Patients (II)
 - 1.4.1. Clinical Scales
 - 1.4.2. Oxygen Saturation and Alarm Signals
- 1.5. Non-instrumental Techniques in Respiratory Physiotherapy for Children (I)
 - 1.5.1. Nasal Wash
 - 152 FLPR
 - 1.5.3. ELTGOL
- 1.6. Non-instrumental Techniques in Respiratory Physiotherapy for Children (II)
 - 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
- 1.8. Respiratory Physiotherapy in Bronchiolitis
 - 1.8.1. Indication of Treatment and Scheduling of Sessions
 - 1.8.2. Protocol in Treatment Sessions
- 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. Breathing Training Activities at Home
 - 1.10.1. Materials to Do the Exercises
 - 1.10.2. Respiratory Exercises
 - 1.10.3. Physical Activity Recommendations

Module 2. Pediatric Respiratory Physiotherapy II

- 2.1. Bronchitis in Pediatric Patients
 - 2.1.1. Etiology
 - 2.1.2. Clinical Symptoms
 - 2.1.3. Medical Treatment
- 2.2. Pneumonia in Pediatric Patients
 - 2.2.1. Etiology
 - 2.2.2. Clinical Symptoms
 - 2.2.3. Medical Treatment
- 2.3. Assessment in Respiratory Physiotherapy in Pediatric Patients (III)
 - 2.3.1. Spirometry
 - 2.3.2. Stress Tests
 - 2.3.3. Peak Flow
- 2.4. Assessment in Respiratory Physiotherapy in Pediatric Patients with Brain Damage
 - 2.4.1. Evaluation of the Respiratory System
 - 2.4.2. Evaluation of Other Systems That Could Influence the Respiratory System
- 2.5. Non-instrumental Techniques in Respiratory Physiotherapy for Children (III)
 - 2.5.1. EDIC
 - 2.5.2. Autogenous Drainage
 - 2.5.3. Cough Assistance
- 2.6. Non-instrumental Techniques in Pediatric Respiratory Physiotherapy: Adaptation in Brain-Damaged Patients
 - 2.6.1. ELPR
 - 2.6.2. Nasal Wash
 - 2.6.3. Provoked Cough
- 2.7. Instrumental Techniques in Respiratory Physiotherapy for Children (I)
 - 2.7.1. Cough Assist
 - 2.7.2. High-Frequency Oscillation (VESTTM)

- 2.8. Instrumental Techniques in Respiratory Physiotherapy for Children (II)
 - 2.8.1. Ambú
 - 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. Pediatric Reanimation

Module 3. Respiratory Physiotherapy Assessment

- 3.1. Anatomy Recap.
 - 3.1.1. At Bone Level
 - 3.1.2. At Muscle 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 Exhalation
- 3.4. Exploration
 - 3.4.1. Medical History
 - 3.4.2. Physical Inspection: Static and Dynamic Exam
- 3.5. Respiratory Frequency
 - 3.5.1. Types of Respiratory Frequency
 - 3.5.2. One-dimensional Scales
- 3.6. Respiratory Rhythms
- 3.7. Auscultation
 - 3.7.1. Normal Noises
 - 3.7.2. Abnormal and Adventitious Noises
 - 3.7.3. Percussion and Palpation
- 3.8. Pain, Coughing and Expectoration
- 3.9. Radiology

- 3.10. Complementary Tests
 - 3.10.1. Walking Tests
 - 3.10.2. Strength Tests
 - 3.10.3. Pulse Oximetry
 - 3.10.4. Body Plethysmography
 - 3.10.5. Arterial Blood Gases
 - 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. Systems of Administrating Oxygen
 - 4.2.1. Closed Circuit Systems
 - 4.2.2. Open Circuit Systems
- 4.3. Non-Mechanical Ventilators
 - 4.3.1. CPAP Systems in Adults
 - 4.3.2. BIPAP Systems in Adults
- 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
 - 474 Parameters and Variables
- 4.8. Complementary Techniques
 - 4.8.1. Aerosol Therapy
 - 4.8.2. Drug Administration
- 4.9. NIV in the Obstructive Patients
- 4.10. NIV in Restrictive Patients

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Module 5. Obstructive Pathologies

- 5.1. Introduction in 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. Exploration
 - 5.2.3. Treatment
- 5.3. Emphysema
 - 5.3.1. Concept. Phenotype Pathophysiological Characteristics
 - 5.3.2. Exploration
 - 5.3.3. Treatment
- 5.4. Atelectasis
 - 5.4.1. Pathophysiological Characteristics
 - 5.4.2. Exploration
 - 5.4.3. Treatment
- 5.5. Bronchiectasis
 - 5.5.1. Pathophysiological Manifestations
 - 5.5.2. Exploration
 - 5.5.3. Treatment
- 5.6. Bronquial 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. Exploration
 - 5.7.3. Treatment
- 5.8. Aging of the Respiratory System Biological Changes in Aging and Their Consequences
- 5.9. Treatment of Chronic Patients and Flare-ups

Module 6. Restrictive Pathologies

- 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 Alterations
- 6.3. Diaphragm and Respiratory Muscles Diseases
 - 6.3.1. Pathophysiological Characteristics
 - 6.3.2. Exploration
 - 6.3.3. Treatment
- 6.4. Pleural Effusion
 - 6.4.1. Pathophysiological Manifestations
 - 6.4.2. Exploration
 - 6.4.3. Treatment
- 6.5. Pneumothorax
 - 6.5.1. Clinical Characteristics
 - 6.5.2. Exploration
 - 6.5.3. Treatment
- 6.6. Diffuse Infectious Diseases (Tuberculosis, Abscess, Pneumonia)
 - 6.6.1. Clinical Characteristics
 - 6.6.2. Exploration
 - 6.6.3. Treatment
- 6.7. Idiopathic Pulmonary Fibrosis
 - 6.7.1. Pathophysiological Characteristics
 - 6.7.2. Exploration
 - 6.7.3. Treatment
- 6.8. Sarcoidosis and Pneumoconiosis
 - 6.8.1. Pathophysiological Manifestations
 - 6.8.2. Exploration
 - 6.8.3. Treatment

- 6.9. Neuromuscular Diseases
 - 6.9.1. Clinical Characteristics
 - 6.9.2. Exploration
 - 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 in Spain
 - 7.1.2. 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. Dyspnea Evaluation
 - 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. Specificity
 - 7.5.3. Adaptation
- 7.6. Aerobic Training
 - 7.6.1. Parts of the Aerobic Training Session
 - 7.6.2. FIIT Principle
 - 7.6.3. How Should a Training Session Be Carried Out?
- 7.7. Muscle Strengthening
 - 7.7.1. Assessment of Peripheral Musculature
 - 7.7.2. How Should a Training Session Be Carried Out?
- 7.8. Respiratory Muscle Training
 - 7.8.1. Devices for Strengthening the Respiratory Musculature
 - 7.8.2. How Should a Training Session Be Carried Out?

- 7.9. Physical Activity
 - 7.9.1. Physical Exercise Evaluation
 - 7.9.2. Physical Activity Adherence
- 7.10. Respiratory Rehabilitation Programs in Respiratory Diseases other than COPD
 - 7.10.1. Programs in Pulmonary Fibrosis
 - 7.10.2. Bronchiectasis Programs

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 Classifications of Respiratory Physiotherapy
- 8.2. Respiratory Physiotherapy Objectives
 - 8.2.1. General Objectives
 - 8.2.2. Specific Objectives
- 8.3. Physiological Mechanisms to Understand the Techniques of Respiratory Physiotherapy
 - 8.3.1. Rocher Equation
 - 8.3.2. Poiseuille 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. Secretions Drainage Techniques
 - 8.5.1. Techniques Based on Gravity
 - 8.5.2. Techniques Based on Shock Waves
 - 8.5.3. Techniques Based on Air Flow
- 8.6. Lung Expansion Techniques
 - 8.6.1. EDIC
 - 8.6.2. Incentive Spirometry
 - 8.6.3. Air Stacking
- 8.7. Ventilatory Techniques
 - 8.7.1. Directed Costal Ventilation Technique
 - 8.7.2. Targeted Abdomino-Diaphragmatic Ventilation Technique

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8.8.	Instrumental Devices			
	8.8.1.	Cough Assist®		
	8.8.2.	Vibration Vests (VESTTM)		
	8.8.3.	Percussionaire®		
	8.8.4.	PEP Devices		
8.9.	Aerosol Therapy			
	8.9.1.	Type of Nebulizers		
	8.9.2.	Type of Inhalers		
	8.9.3.	Inhalation Technique		
8.10.	Health Education and Relaxation			
	8.10.1.	Importance of Health Education in Chronic Pathologies		
	8.10.2.	Importance of Relaxation in Chronic Pathologies		
Mod	ule 9. F	Respiratory Physiotherapy in Critical Patients		
9.1.	Critical Patients			
	9.1.1.	Definition		
	9.1.2.	Different Work Teams With Critical Patients		
	9.1.3.	Multidisciplinary Work Team		
9.2.	Critical Unit			
	9.2.1.	Basic knowledge of Monitoring Patients		
	9.2.2.	Different Oxygen Support Devices		
	9.2.3.	Health Protection		
9.3.	Physiotherapy in the ICU			
	9.3.1.	Intensive Care Unit		
	9.3.2.	The Role of Physiotherapy in this Ward		
	9.3.3.	Systems of Mechanical Ventilation Monitoring of Mechanical Ventilation		
9.4.	Thoraci	c Area Physiotherapy		
	9.4.1.	Thoracic Resuscitation Unit		
	9.4.2.	Pleur-Evac and Pulmonary Drainage Devices		
	9.4.3.	Basic Notions in Thoracic Radiography		

9.5.	Physiot	herapy in the Coronary Unit	
	9.5.1.	Cardiac Pathology Sternotomies	
	9.5.2.	Main Cardiac Surgeries and Treatments	
	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 Diseases (NMD) and Main Characteristics	
	9.6.2.	Respiratory Alterations in ENM 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.	URPA		
	9.7.1.	Resuscitation and Post-Anesthesia	
	9.7.2.	Sedation. Basic Concepts from Pharmacology	
	9.7.3.	Importance of Early Mobilization of Patients and Seated Sitting	
9.8.	Physiotherapy in Neonatal ICU and Pediatrics		
	9.8.1.	Embryonic Factors: Antenatal and Postnatal Factors that Determine Lung Development	
	9.8.2.	Common Respiratory Pathologies in Neonatology and Pediatrics	
	9.8.3.	Treatment Techniques	
9.9.	Approach to Bioethics		
	9.9.1.	The Code of Conduct	
	9.9.2.	Ethical Questions in Critical Care Units	
9.10.	Importance of Family and the Environment During the Process of Recovery		
	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



Educational Plan | 33 tech

10.2. Vision [Development
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- 10.2.1. Clinical Picture
- 10.2.2. Methods and Detection Tests and Analysis
- 10.2.3. Epidemiological Curve
- 10.3. Aisilation and Protection
 - 10.3.1. EPI Individual Protection Teams
 - 10.3.2. Types of Masks and Respiratory Protection
 - 10.3.3. Hand Washing and Personal Hygiene
- 10.4. Pathophysiology in COVID-19
 - 10.4.1. Desaturation and Worsening From the Point Of View of Physiotherapy
 - 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 Admission to a Inpatient Unit
 - 10.5.3. Admission to Critical Care Unit
- 10.6. Critical Patients with COVID-19
 - 10.6.1. Characteristics of Critical Patients Average Length of Stay
 - 10.6.2. Monitoring of Mechanical Ventilation. VMI/VMNI
 - 10.6.3. Methods of Weaning Upon Improvement of the Clinical Picture
- 10.7. After-effects of Critical Patients
 - 10.7.1. Barthel Scale
 - 10.7.2. DAUCI Acquired Weakness Post-ICU
 - 10.7.3. Swallowing Disturbance
 - 10.7.4. Basal Hypoxemia
- 10.8. Separate Guide
 - 10.8.1. Research in COVID
 - 10.8.2. Scientific Articles and Literature Reviews
- 10.9. Respiratory Physiotherapy Treatment
 - 10.9.1. Respiratory Physiotherapy Treatment in COVID-19 Critical Care Units
 - 10.9.2. Respiratory Physiotherapy Treatment in the Ward
 - 10.9.3. Discharge Recommendations
- 10.10. Post COVID-19 Era
 - 10.10.1. New Scenarios in Physiotherapy Intervention
 - 10.10.2. Preventative Actions





"The Internship Program period of this Respiratory Physiotherapy in Rehabilitation Medicine program includes completing a clinical placement at a prestigious hospital center. This is where students will spend 3 weeks, from Monday to Friday, in full 8-hour sessions alongside a specialist in this field. This internship will allow the observation of real patients alongside a team of leading professionals in the care and rehabilitation of patients who have suffered severe damage caused by respiratory diseases.

Therefore, in this process of updating, the professional may directly verify the care provided to real patients, who require the use of the most innovative techniques and the use of state-of-the-art technology-based instrumental devices. In this way, the specialist will engage in activities directly aimed at enhancing their skills and competencies.

Undoubtedly, TECH provides a unique experience for students who want to gain a comprehensive and professional insight into the current situation of professionals working daily in Respiratory Physiotherapy in Rehabilitation Medicine, always following the latest scientific advancements in this field.

The practical part will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other fellow trainees that facilitate teamwork and multidisciplinary integration as transversal competencies for medical praxis (learning to be and learning to relate).



A 120-hour professional internship where you will be working with the latest instrumental devices used in patients with respiratory diseases"



Clinical Internship | 37 tech

The procedures described below will form the basis of the practical part of the internship, and their implementation is subject to both the suitability of the patients and the availability of the center and its workload, with the proposed activities being as follows:

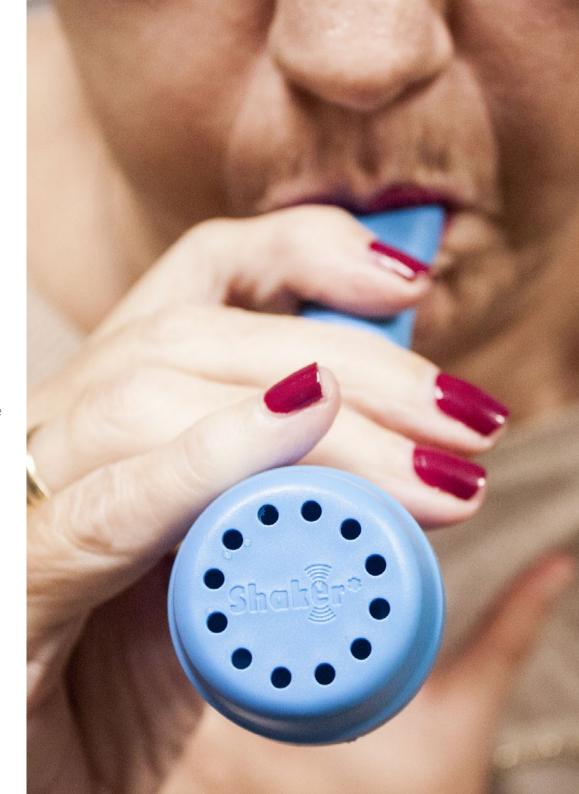
Module	Practical Activity
Pediatric Physiotherapy Techniques	Assess the risk factors in pediatric patients with bronchiolitis
	Evaluate major respiratory pathologies using auscultation techniques
	Assist in the use of non-instrumental techniques such as ELPR or ELTGOL for cardiotoxic patients
	Provide information to family members regarding breathing training activities at home
Respiratory Techniques for Patients with Pulmonary Conditions	Apply forced and slow inspiratory and expiratory techniques
	Use secretion drainage techniques
	Assess the suitability of using instrumental devices like mechanical ventilation
	Inform the patient about the relevance of relaxation in chronic pathologies
Patient Care COVID	Apply preventive actions to avoid the increase of the severity of the patient's disease and the transmission of such pathology
	Assess the sequelae of the patient who has been infected by COVID and has required hospitalization
	Collaborate in the monitoring of ventilator mechanics
	Contribute to the practice of Respiratory Physiotherapy treatments on the ward or in Critical Care Units
Care of patients with restrictive and obstructive diseases	Examine patients with diaphragm and respiratory muscle diseases
	Assess the application of innovative treatments in patients with cystic fibrosis
	Conduct a differential diagnosis in patients with bronchial asthma
	Assist in the study of complex clinical cases of respiratory diseases

Civil Liability Insurance

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.



General Conditions of the Internship Program

The general terms and conditions of the internship program agreement shall be as follows:

- 1. TUTOR: During the Hybrid Professional Master's Degree, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.
- **2. DURATION:** The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.
- 3. ABSENCE: If the students does not show up on the start date of the Hybrid Professional Master's Degree, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

- **4. CERTIFICATION**: Professionals who pass the Hybrid Professional Master's Degree will receive a certificate accrediting their stay at the center.
- **5. EMPLOYMENT RELATIONSHIP:** the Hybrid Professional Master's Degree shall not constitute an employment relationship of any kind.
- **6. PRIOR EDUCATION:** Some centers may require a certificate of prior education for the Hybrid Professional Master's Degree. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed
- 7. DOES NOT INCLUDE: The Hybrid Professional Master's Degree will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.





tech 42 | Where Can | Do the Clinical Internship?

The student will be able to complete the practical part of this Hybrid Professional Master's Degree at the following centers:



Hospital HM Modelo

Country City
Spain La Coruña

Management: Rúa Virrey Osorio, 30, 15011, A Coruña

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:

- Anaesthesiology and Resuscitation - Palliative Care



Hospital HM San Francisco

Country City
Spain León

Management: C. Marqueses de San Isidro, 11, 24004, León

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:

- Update in Anesthesiology and Resuscitation - Nursing in the Traumatology Department



Hospital HM Regla

Country City
Spain León

Management: Calle Cardenal Landázuri, 2, 24003, León

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:

- Update on Psychiatric Treatment in Minor Patients



Hospital HM Nou Delfos

Country City
Spain Barcelona

Management: Avinguda de Vallcarca, 151, 08023 Barcelona

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:

- Aesthetic Medicine
- Clinical Nutrition in Medicine



Hospital HM Madrid

Country City
Spain Madrid

Management:

Pl. del Conde del Valle de Súchil, 16, 28015. Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:

- Palliative Care

- Anaesthesiology and Resuscitation



Hospital HM Torrelodones

Country City
Spain Madrid

Management: Av. Castillo Olivares, s/n, 28250, Torrelodones. Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:

Anaesthesiology and Resuscitation
 Palliative Care



Hospital HM Sanchinarro

Country City
Spain Madrid

Management: Calle de Oña, 10, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:

- Anaesthesiology and Resuscitation - Palliative Care



Hospital HM Puerta del Sur

Country City
Spain Madrid

Management: Av. Carlos V, 70, 28938, Móstoles, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:

- Palliative Care

- Clinical Ophthalmology



Where Can I Do the Clinical Internship? | 43 tech



Policlínico HM Las Tablas

Country City
Spain Madrid

Management: C. de la Sierra de Atapuerca, 5, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:

- Nursing in the Traumatology Department
- Diagnosis in Physiotherapy



Policlínico HM Moraleja

Country City
Spain Madrid

Management: P.º de Alcobendas, 10, 28109, Alcobendas, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:

- Rehabilitation Medicine in Acquired Brain Injury Management



Policlínico HM Virgen del Val

Country City
Spain Madrid

Management: Calle de Zaragoza, 6, 28804, Alcalá de Henares, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:

- Diagnosis in Physiotherapy
- Physiotherapy in Early Care



Policlínico HM Imi Toledo

Country City
Spain Toledo

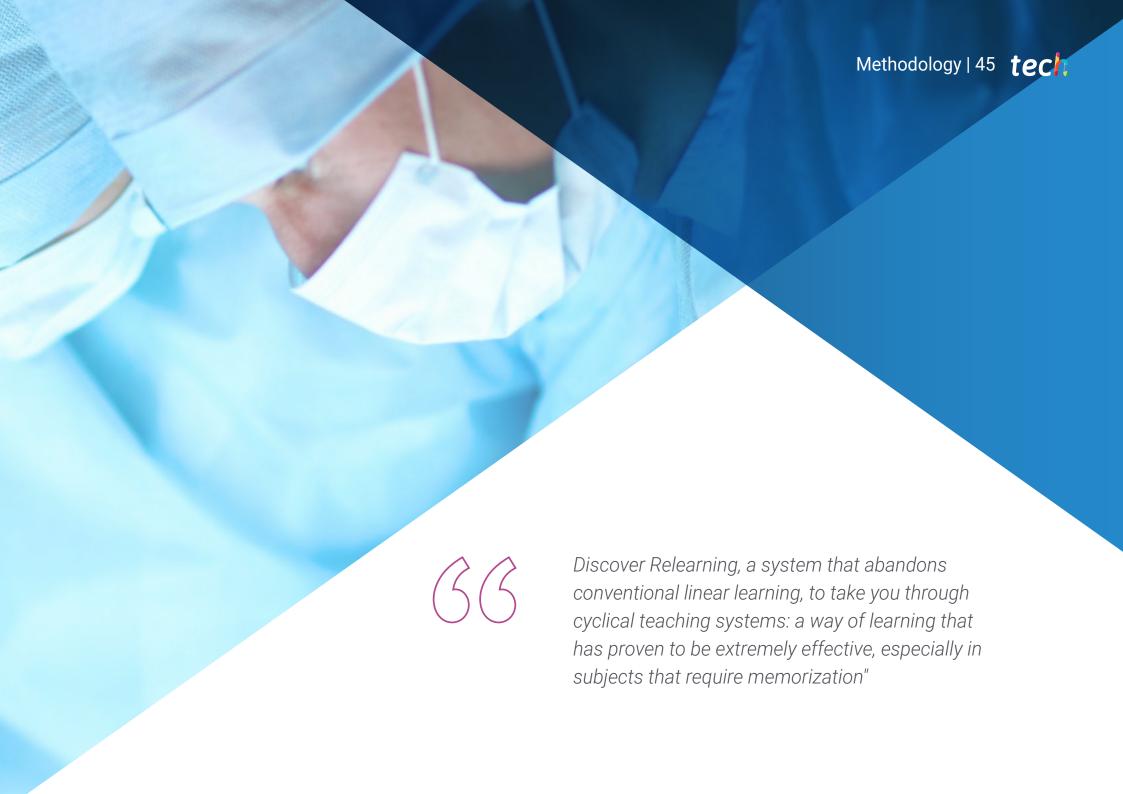
Management: Av. de Irlanda, 21, 45005, Toledo

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:

- Electrotherapy in Rehabilitation Medicine - Hair Transplantation





tech 46 | Methodology

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:

- 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.



Methodology | 49 tech

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

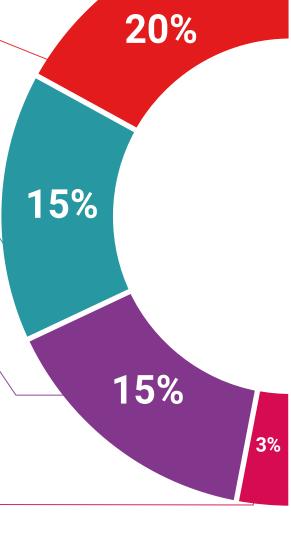
TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many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



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.

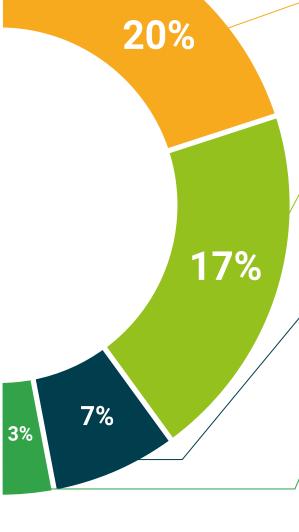
The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



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.









tech 54 | Certificate

This Hybrid Professional Master's Degree in Respiratory Physiotherapy in Rehabilitation Medicine contains the most complete and up-to-date program on the professional and academic field.

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

In addition to the Diploma, students will be able to obtain an academic transcript, as well as a certificate outlining the contents of the program. In order to do so, students should contact their academic advisor, who will provide them with all the necessary information.

Awards the following
DIPLOMA
to
Mr./Ms. _____ with identification number _____
For having successfully passed and accredited the following program

HYBRID PROFESSIONAL MASTER'S DEGREE
in
Respiratory Physiotherapy in Rehabilitation Medicine

This is a qualification awarded by this University, with a duration of 1,620 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

June 17, 2020

The qualification may always the accompanied by the university degree issued by the competent sufficiently in each county.

Unique TECH Clock AT YECKSCES: Statistical convicue Windows Competents and Province Professionally in each county.

Title: TECH Master's Degree in Respiratory Physiotherapy in Rehabilitation Medicine

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months.

Certificate: TECH Technological University

Teaching Hours: 1.620 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.

health confidence people
leducation information tutors
guarantee accreditation teaching
institutions technology learning
community commitment



Hybrid Professional Master's Degree

Respiratory Physiotherapy in Rehabilitation Medicine

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months.

Certificate: TECH Technological University

Teaching Hours: 1.620 h.

