

# Postgraduate Diploma

## Respiratory Physiotherapy in Critically Ill Patients and its Techniques





## Postgraduate Diploma Respiratory Physiotherapy in Critically Ill Patients and its Techniques

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/physiotherapy/postgraduate-diploma/postgraduate-diploma-respiratory-physiotherapy-critically-ill-patients-techniques](http://www.techtute.com/us/physiotherapy/postgraduate-diploma/postgraduate-diploma-respiratory-physiotherapy-critically-ill-patients-techniques)

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# 01

# Introduction

The increase in the incidence of respiratory pathologies, both in children and adults, has a considerable impact on the quality of life of the patients who suffer from them, as well as on our health system, with a high social and economic cost in terms of days of hospitalization, sick leave and early death.

With this intensive training, the physiotherapist will specialize in respiratory physiotherapy in critical patients, and will acquire new techniques for the treatment of these respiratory pathologies, from the hand of experts in the sector.



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*A complete Postgraduate Diploma created for physiotherapy professionals, which will allow you to combine your training with other occupations and access from anywhere with total flexibility"*



Respiratory physiotherapy in critically ill patients is part of physiotherapy, but focusing on the pathophysiology of the respiratory system, both medical and surgical, requiring a demanding knowledge of the respiratory system and the existing techniques for treatment, healing and stabilization of the same.

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

The disciplinary consideration of respiratory physiotherapy with a scientific-technical basis began in the late twentieth century, thanks to technological advances that allow measuring respiratory work and techniques, and is currently becoming necessary and essential in different hospital units. Therefore, it is essential that physical therapists update their knowledge in respiratory physiotherapy and acquire new techniques and tools to apply in their daily practice.

The Postgraduate Diploma has a teaching staff specialized in respiratory physiotherapy, who contribute both their practical experience in their day-to-day work in private practice, as well as their lengthy 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.

The **Postgraduate Diploma in Respiratory Physiotherapy in Critical Patients and its Techniques** 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.



*A complete and practical Postgraduate Diploma that will allow you to learn in a real and direct way everything you need to work as a physiotherapist"*

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*An effective and reliable Postgraduate Diploma that will take you through an interesting and efficient 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 experienced in different environments, who will cover the theoretical knowledge in an efficient way, but, above all, will put the practical knowledge derived from their own experience at the service of the course: one of the differential qualities of this course.

This mastery of the subject is complemented by the effectiveness of the methodological design of this Postgraduate Diploma. 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: 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.

*With a methodological design based on proven teaching techniques, this Postgraduate Diploma will take you through different teaching approaches to allow you to learn in a dynamic and effective way*

*Our innovative telepractice concept will give you the opportunity to learn through an immersive experience, which will provide you with a faster integration and a much more realistic view of the contents: "learning from an expert"*



# 02 Objectives

This comprehensive Postgraduate Diploma 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 a training course 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 Postgraduate Diploma will allow you to achieve your training goals by boosting your CV to excellence”*



## General Objectives

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

# Course Management

For our course 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.



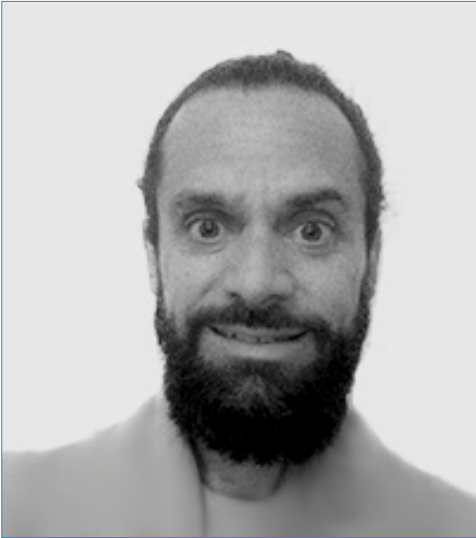




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*With the expertise of industry professionals who will teach you based on the reality of the sector in a contextual and realistic learning"*

## Management



### Mr. García Coronado, Luis Pablo

- Physiotherapist at La Paz University Hospital
- Supervisor of the Physiotherapy Department at La Paz University Hospital.
- Specialist in sports Physiotherapy, Re-training, electrotherapy, Pilates and Therapeutic exercise.
- Director at Fisioespaña C. B.
- Director at Fisioganas S.L.
- Director at Pilates Wellness & Beauty S.L.

## Professors

### Ms. 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 of 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 inICU, 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
- ◆ Degree in Physiotherapy: 1996-1999 Gimbernat University School of Nursing and Physiotherapy (Autonomous University of Barcelona)
- ◆ Graduate in Physiotherapy: 2013-2014 Complutense University of Madrid with the dissertation "Health Education in Respiratory Rehabilitation in COPD in primary care".

- ◆ Official 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 septiembre 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)



*An impressive teaching staff, made up of professionals from different areas of expertise, will be your teachers during your training: a unique opportunity not to be missed"*

# 04

## Structure and Content

The contents of this Professional Master's Degree have been developed by the different teachers of this course, with a clear purpose: to ensure that our students acquire each and every one of the skills required 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 an added bonus: the commitment to excellence that characterizes us"*

## Module 1. Respiratory Techniques in Physiotherapy

- 1.1 Historical Evolution of Respiratory Physiotherapy
  - 1.1.1. Different Schools of Respiratory Physiotherapy
  - 1.1.2. Different Classification of Respiratory Physiotherapy
- 1.2 Objectives of Respiratory Physiotherapy
  - 1.2.1. General Objectives
  - 1.2.2. Specific Objectives
- 1.3 Physiologic Mechanisms for Understanding Respiratory Physiotherapy Techniques
  - 1.3.1. Rocher Equation
  - 1.3.2. Poiseuille's Law
  - 1.3.3. Collateral Ventilation
- 1.4 Treatment Techniques in Respiratory Physiotherapy
  - 1.4.1. Forced Inspiratory Techniques
  - 1.4.2. Slow Expiratory Techniques
  - 1.4.3. Forced Expiratory Techniques
  - 1.4.4. Slow Inspiratory Techniques
- 1.5 Secretion Drainage Techniques
  - 1.5.1. Techniques Based on Gravity
  - 1.5.2. Techniques Based on Shock Waves
  - 1.5.3. Techniques Based on Air Flow
- 1.6 Lung Expansion Techniques
  - 1.6.1. EDIC
  - 1.6.2. Encouraged Spirometry
  - 1.6.3. Air Staking
- 1.7 Ventilatory Techniques
  - 1.7.1. Directed Costal Ventilation Technique
  - 1.7.2. Targeted Abdomino-Diaphragmatic Ventilation Technique
- 1.8 Instrumental Devices
  - 1.8.1. Cough Assist ®
  - 1.8.2. Vibration Vests ®
  - 1.8.3. Percussionaire ®
  - 1.8.4. Pep Devices



- 1.9 Aerosol Therapy
  - 1.9.1. Type of Nebulizers
  - 1.9.2. Type of Inhalers
  - 1.9.3. Inhalation Technique
- 1.10 Health Education and Relaxation
  - 1.10.1. Importance of Health Education in Chronic Pathologies
  - 1.10.2. Importance of Relaxation in Chronic Pathologies

## Module 2. Respiratory Physiotherapy in Critically Ill Patients

- 2.1. Critical Patients
  - 2.1.1. Definition.
  - 2.1.2. Different Critical Patient Work Units.
  - 2.1.3. Multidisciplinary Work Team.
- 2.2. Critical Unit
  - 2.2.1. Basic Knowledge of Patient Monitoring.
  - 2.2.2. Different Oxygen Support Devices.
  - 2.2.3. Health Worker Protection.
- 2.3. Physiotherapy in the ICU
  - 2.3.1. Intensive Care Unit.
  - 2.3.2. Role of the Physiotherapist in this Unit.
  - 2.3.3. Systems of Mechanical Ventilation Monitoring of Mechanical Ventilation
- 2.4. Physiotherapy in the Thoracic Area
  - 2.4.1. Thoracic Resuscitation Unit.
  - 2.4.2. Pleure-back and Pulmonary Drainage Devices.
  - 2.4.3. Basic Notions in Thoracic Radiography.
- 2.5. Physiotherapy in the Coronary Unit
  - 2.5.1. Cardiac Pathology. Sternotomies.
  - 2.5.2. Principales Cirugías Cardiacas y Tratamientos.
  - 2.5.3. Breathing Exercise Programs Pre/Post Surgery.
  - 2.5.4. Complications and Contraindications.
- 2.6. Physiotherapy in Neuromuscular Patients
  - 2.6.1. Concept of Neuromuscular Disease (NMD) and Main Characteristics.
  - 2.6.2. Respiratory Alterations in NMD and Complications with Hospital Admission.
  - 2.6.3. Main Respiratory Physiotherapy Techniques Applied to NME (Hyperinflation and Assisted Cough Techniques).
  - 2.6.4. Phonatory Valve and Suction Techniques.
- 2.7. Paru
  - 2.7.1. Post-Anesthesia Resuscitation Unit
  - 2.7.2. Sedation. Basic Concepts of Pharmacology.
  - 2.7.3. Importance of Early Mobilization of Patients and Sedation.
- 2.8. Physiotherapy in Neonatal ICU and Pediatrics
  - 2.8.1. Embryonic Factors: Antenatal and Postnatal Factors that Determine Lung Development.
  - 2.8.2. Frequent Respiratory Pathologies in Neonatology and Pediatrics.
  - 2.8.3. Treatment Techniques.
- 2.9. Approach to Bioethics
  - 2.9.1. Code of Ethics.
  - 2.9.2. Ethical Issues in Critical Care Units.
- 2.10. Importance of Family and the Environment During the Process of Recovery
  - 2.10.1. Emotional Factors.
  - 2.10.2. Guidelines for Accompaniment.



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



# 05

# Methodology

This training provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning***.

This teaching system is used 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.







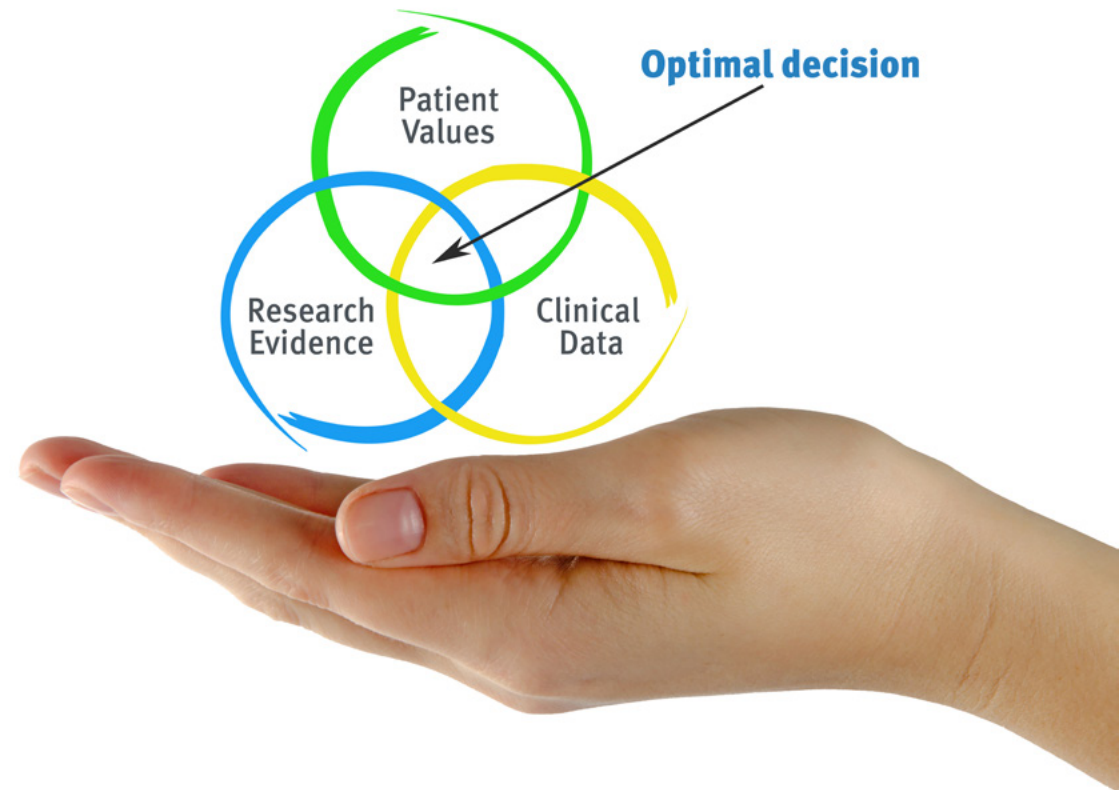
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*Discover Re-learning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

In a given clinical situation, what would you do? Throughout the program you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is abundant scientific evidence on the effectiveness of the method. Physiotherapists/kinesiologists learn better, faster, and more sustainably over time.

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



According to Dr. Gervas, 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 potential 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 of professional physiotherapy practice.

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*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. Physiotherapists/kinesiologists who follow this method not only grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on practical skills that allow the physiotherapist/kinesiologist 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.



## Re-Learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

Our 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, which represent a real revolution with respect to simply studying and analyzing cases.



*The physiotherapist/kinesiologist will learn through real cases and by solving 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 Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking online university (Columbia University).

With this methodology we trained more than 65,000 physiotherapists/kinesiologists with unprecedented success, in all clinical specialties regardless of the workload. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

*Re-learning will allow you to learn with less effort and better performance, involving you more in your training, 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 (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

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



In this program you will have access to the best educational material, prepared with you 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 really specific and precise.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



#### Physiotherapy Techniques and Procedures on Video

We introduce you to the latest techniques, the latest educational advances, and the forefront of physiotherapy and kinesiology procedures and techniques. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



#### Interactive Summaries

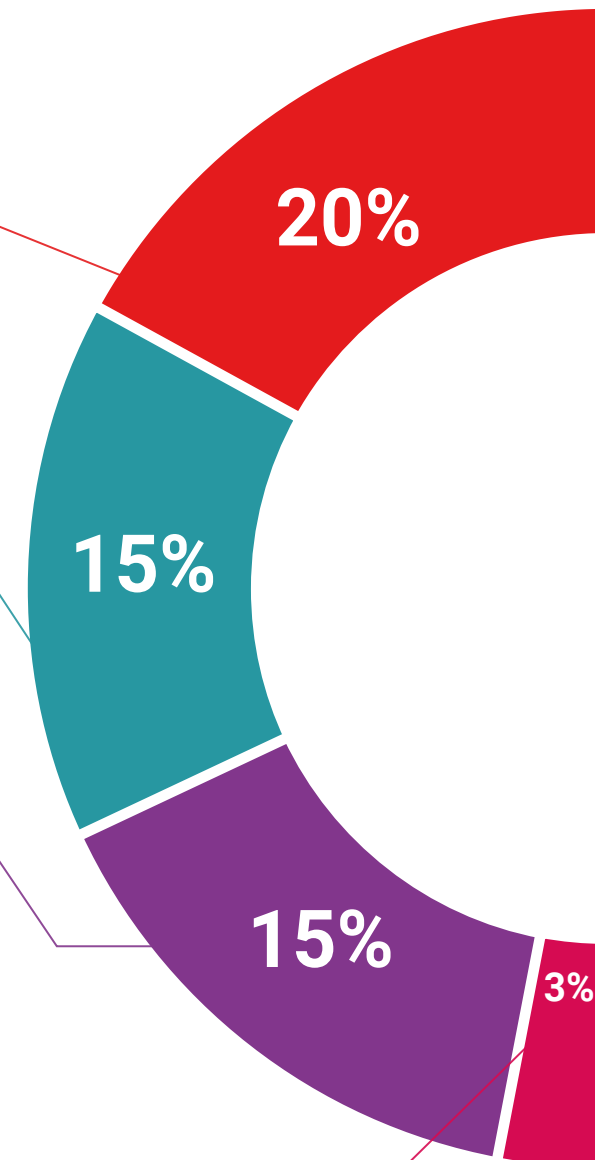
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

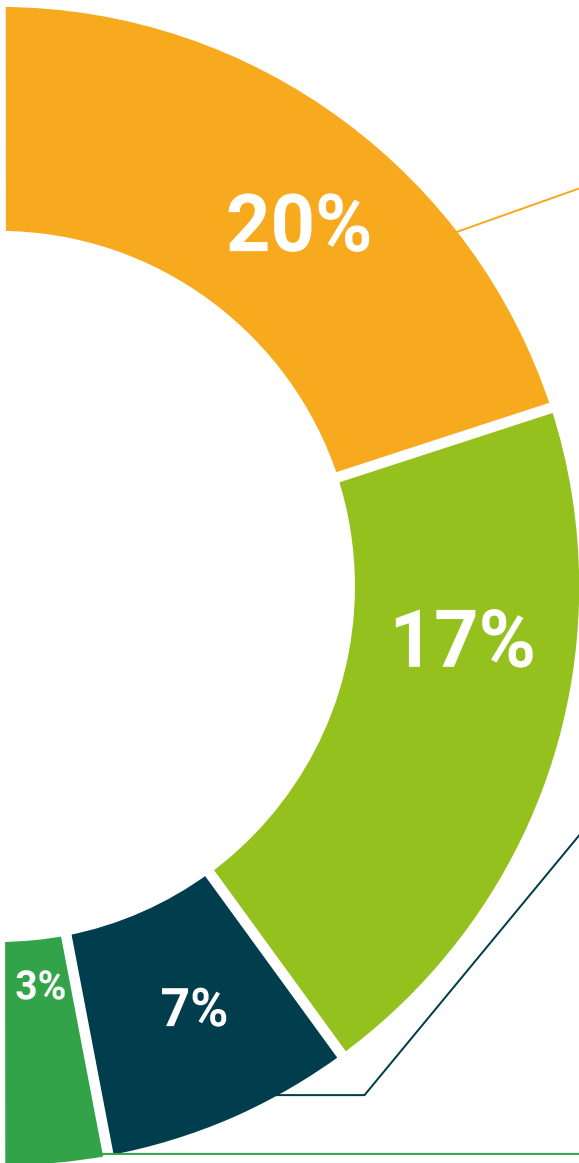
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents, international guides. in our virtual library you will have access to everything you need to complete your training.





**Expert-Led Case Studies and Case Analysis**

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



**Testing & Re-testing**

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your goals.



**Classes**

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an expert strengthens knowledge and memory, and generates confidence in our future difficult decisions.



**Quick Action Guides**

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.





06

# Certificate

The Postgraduate Diploma in Respiratory Physiotherapy in Critically ill Patients and its Techniques guarantees you, in addition to the most accurate and up-to-date specialization, access to a Postgraduate Diploma issued by TECH Global University.



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*Include in your training a Postgraduate Diploma in Respiratory Physiotherapy in Critically Ill Patients and its Techniques: a highly qualified added value for any physiotherapy professional"*

This private qualification will allow you to obtain a **Postgraduate Diploma in Respiratory Physiotherapy in Critically Ill Patients and its Techniques** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Diploma in Respiratory Physiotherapy in Critically Ill Patients and its Techniques**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**



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



health future  
confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
online training  
development languages  
virtual classroom



## Postgraduate Diploma

Respiratory Physiotherapy  
in Critically Ill Patients  
and its Techniques

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

# Postgraduate Diploma

## Respiratory Physiotherapy in Critically Ill Patients and its Techniques

