

# Postgraduate Certificate

## Respiratory Physiotherapy in Critically Ill Patients





## Postgraduate Certificate Respiratory Physiotherapy in Critically Ill Patients

Course Modality: Online

Duration: 6 weeks

Endorsed by: TECH - Technological University

6 ECTS credits

Teaching Hours: 150 hours.

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

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# 01

# Introduction

Over time it has been demonstrated that, once critically ill patients in the ICU have been stabilized, the only technique that can improve the patient's condition is respiratory physiotherapy. The figure of the physiotherapist in ICU and critical patients is more and more demanded, it is necessary to deepen in the work and the correct management of this type of patients.



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*A comprehensive Postgraduate Certificate created for physiotherapy professionals, which will allow you to combine your studies with other professional responsibilities and access the course from any location with total flexibility”*

Respiratory physiotherapy 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 its treatment, healing and stabilization.

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.

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

The increase in the incidence of respiratory pathologies that we are going to see during this Postgraduate Certificate, both in children and adults, considerably affects the quality of life of the patients who suffer from them, as well as our health system, with a high social and economic cost due to hospitalization days, sick leave and early death.

The Postgraduate Certificate 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 specialization, so the student can decide from where to study and at what time to do it, this way, they can flexibly self-direct their study hours.

The Postgraduate Certificate in Respiratory Physiotherapy in Critically Ill Patients contains the most complete and updated scientific program on the market. The most important features of the course are:

- ♦ The latest technology in online teaching software
- ♦ A 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
- ♦ Autonomous 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 Certificate 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 Certificate 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 Certificate. 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 education.

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 Certificate will take you through different teaching approaches to allow you to learn in a dynamic and effective way*



# 02 Objectives

This comprehensive Postgraduate Certificate 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 program 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 Certificate will allow you to achieve your educational 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
- Have knowledge of the pathophysiology and advanced exploration of the respiratory system
- Execute, direct and coordinate the Respiratory Physiotherapy intervention plan for each patient





## Specific Objectives

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

*Highly specialized objectives in  
a program created to form the  
best professionals in Respiratory  
Physiotherapy*

A green L-shaped graphic element consisting of a horizontal line on the left and a vertical line on the right, meeting at a corner that points towards the bottom right.

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. 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
- ◆ Basic Radiology for Physical Therapists online course
- ◆ Therapeutic exercise update program by the Consejo Gral. Colegios de Fisioterapeutas de España (Spanish General Council of Physiotherapists' Associations)

# 04

# Structure and Content

The contents of this Postgraduate Certificate 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 Physiotherapy in Critically Ill Patients

- 1.1. Critical Patients
  - 1.1.1. Definition
  - 1.1.2. Different Work Teams With Critical Patients
  - 1.1.3. Multidisciplinary Work Team
- 1.2. Critical Unit
  - 1.2.1. Basic knowledge of Monitoring Patients
  - 1.2.2. Different Oxygen Support Devices
  - 1.2.3. Health Protection
- 1.3. Physiotherapy in the ICU
  - 1.3.1. Intensive Care Unit
  - 1.3.2. The Role of Physiotherapy in this Ward
  - 1.3.3. Systems of Mechanical Ventilation Monitoring of Mechanical Ventilation
- 1.4. Physiotherapy in the Thoracic Area
  - 1.4.1. Thoracic Resuscitation Unit
  - 1.4.2. Pleure-back and Pulmonary Drainage Devices.
  - 1.4.3. Basic Notions in Thoracic Radiography
- 1.5. Physiotherapy in the Coronary Unit
  - 1.5.1. Cardiac Pathology. Sternotomies
  - 1.5.2. Major Cardiac Surgeries and Treatments
  - 1.5.3. Breathing Exercise Programs Pre/Post Surgery
  - 1.5.4. Complications and Contraindications
- 1.6. Physiotherapy in Neuromuscular Patients
  - 1.6.1. Concept on Neuromuscular Diseases (NMD) and Main Characteristics
  - 1.6.2. Respiratory Alterations in NMD and Complications with Hospital Admission
  - 1.6.3. Main Respiratory Physiotherapy Techniques Applied to NME (Hyperinflation and Assisted Cough Techniques)
  - 1.6.4. Phonatory Valve and Suction Techniques





- 1.7. Paru
  - 1.7.1. Resuscitation and Post-Anesthesia
  - 1.7.2. Sedation. Basic Concepts from Pharmacology
  - 1.7.3. Importance of Early Mobilization of Patients and Seated Sitting
- 1.8. Physiotherapy in Neonatal ICU and Pediatrics
  - 1.8.1. Embryonic Factors: Antenatal and Postnatal Factors that Determine Lung Development
  - 1.8.2. Common Respiratory Pathologies in Neonatology and Pediatrics
  - 1.8.3. Treatment Techniques
- 1.9. Approach to Bioethics
  - 1.9.1. The Code of Conduct
  - 1.9.2. Ethical Questions in Critical Care Units
- 1.10. Importance of Family and the Environment During the Process of Recovery
  - 1.10.1. Emotional Factors
  - 1.10.2. Guidelines for Accompaniment



*A comprehensive teaching program, structured in well-developed teaching units, oriented toward a high impact learning and training"*

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.



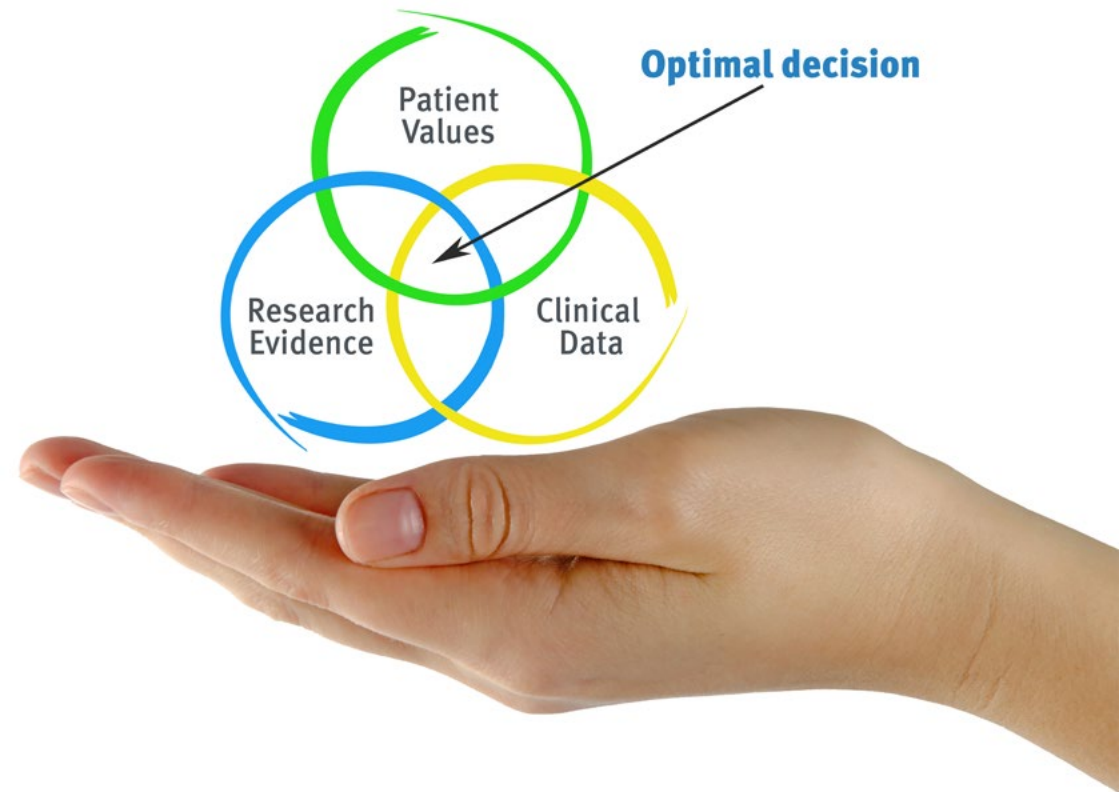
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*Discover Re-learning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

In a given 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. Specialists 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 in the physician's professional 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. Students 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 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.



## 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 physician 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 have trained more than 250,000 physicians with unprecedented success, in all clinical specialties regardless of the surgical load. 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 education, 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 highly 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.



#### Latest Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical 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 training system for presenting multimedia content 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

Through a different and stimulating learning experience, you will be able to acquire the necessary skills to take a big step in your education. An opportunity to progress, with the support and monitoring of a modern and specialized university, which will propel you to another professional level.



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*Include in your Education a Postgraduate Certificate in Respiratory Physiotherapy in Critically Ill Patients: a highly qualified added value for any physiotherapy professional"*

The Postgraduate Certificate in Respiratory Physiotherapy in Critically Ill Patients contains the most complete and updated scientific program on the market.

After students have passed the evaluations, they will receive their corresponding **Postgraduate Certificate** issued by **TECH - Technological University** via tracked delivery.

The diploma issued by **TECH - Technological University** will specify the qualification obtained through the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Respiratory Physiotherapy in Critically Ill Patients**

ECTS: 6

Nº Hours: 150



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



**Postgraduate Certificate**  
Respiratory Physiotherapy  
in Critically Ill Patients

Course Modality: **Online**

Duration: **6 weeks**

Endorsed by: **TECH - Technological  
University**

**6 ECTS credits**

Teaching Hours: **150 hours.**

# Postgraduate Certificate

## Respiratory Physiotherapy in Critically Ill Patients

