

Postgraduate Certificate Non-Invasive Mechanical Ventilation in Specific Pathologies



Postgraduate Certificate Non-Invasive Mechanical Ventilation in Specific Pathologies

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

Website: www.techtute.com/us/medicine/postgraduate-certificate/non-invasive-mechanical-ventilation-specific-pathologies

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01

Introduction

The increasing use of Non-Invasive Mechanical Ventilation to address various respiratory pathologies has led to the development of studies on its use in different clinical scenarios. This has made it possible to optimize the adjustment of ventilatory parameters and identify the latest disadvantages of its application in various conditions and types of patients. Therefore, delving into these cutting-edge findings is crucial for pulmonologists who wish to complete their excellent professional updates. In this context, TECH responds by creating this certificate, which enables medical professionals to learn about the indications and contraindications or techniques for adjusting parameters in COPD or Congestive Heart Failure, online and from the location of their choice.



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Thanks to this certificate, you will learn about the updated indications and contraindications for using NIMV in a wide range of clinical situations”

NIMV is a relatively recent mode of ventilatory support that is continuously being researched to determine the benefits it provides in addressing different respiratory diseases. Studies in this area help to determine whether its application is advisable or not entirely suitable in cases of COPD exacerbation, ARDS, or Cardiogenic Pulmonary Edema. Therefore, knowing the latest scientific evidence regarding its use in each clinical situation is essential for specialists aiming to stay at the forefront of medicine.

For this reason, TECH has chosen to design this program, which provides students with a comprehensive update on the use of Non-Invasive Mechanical Ventilation in a wide range of specific pathologies. Throughout this academic journey, you will explore cutting-edge indications and contraindications of NIMV in COPD, Congestive Heart Failure, ARDS, and EPID. Additionally, you will delve into the sophisticated adjustments of ventilatory parameters for each patient, taking into account the characteristics of their condition.

Since this Postgraduate Certificate features an innovative 100% online methodology, medical professionals can update their knowledge without having to sacrifice their personal and professional commitments. Similarly, they will have access to the most comprehensive educational materials, available in formats such as readings, videos, or interactive summaries. As a result, they will undergo a thoroughly engaging, effective, and individualized update.

This **Postgraduate Certificate in Non-Invasive Mechanical Ventilation in Specific Pathologies** contains the most complete and up-to-date scientific program on the market:

- ♦ The development of practical cases presented by specialists in Pulmonology
- ♦ 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
- ♦ Practical exercises where self-assessment can be used to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



Identify, through this Postgraduate Certificate, the sophisticated techniques to adjust ventilatory parameters in COPD, Heart Failure or ARDS"

“*Assimilate the most relevant concepts of the program at your own pace thanks to TECH's Relearning study method*”

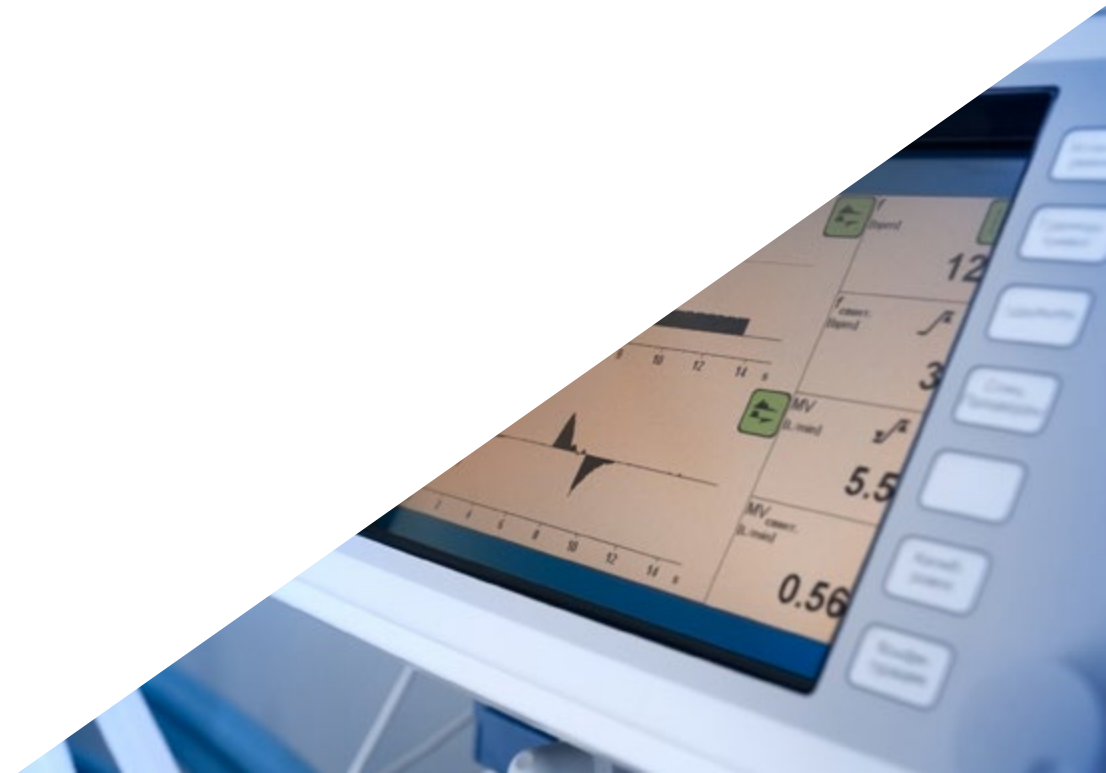
The program's teaching staff includes professionals from the field who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

Take this qualification and complete your medical update through cutting-edge multimedia didactic formats.

Learn about the recent contraindications discovered in the use of NIMV in patients with Obesity.



02 Objectives

The design of this Postgraduate Certificate has been carried out with the primary intention of facilitating the specialist's update in relation to the use of Non-Invasive Mechanical Ventilation in Specific Pathologies. Through this program, you will delve into the recent scientific evidence on the use of this technique in patients with COPD or Heart Failure. All of this in just 180 hours and with didactic content developed by renowned pulmonologists.





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Integrate recent advances in the use of Non-Invasive Mechanical Ventilation in patients with COPD or Heart Failure into your daily practice”



General Objectives

- Understand the importance and role of Non-Invasive Mechanical Ventilation in the treatment of acute and chronic respiratory pathologies
- Acquire knowledge of the updated indications and contraindications for the use of Non-Invasive Mechanical Ventilation, as well as the different types of devices and ventilation modes
- Develop skills and competencies in monitoring patients with Non-Invasive Mechanical Ventilation, including data interpretation and the detection and prevention of complications
- Explore cutting-edge technologies used in the telemonitoring of patients with Non-Invasive Mechanical Ventilation and the ethical and legal aspects related to its use
- Delve into the key differences in Non-Invasive Mechanical Ventilation in Pediatrics
- Delve your understanding of the ethical aspects related to the management of patients requiring NIV





Specific Objectives

- ♦ Describe the indications and contraindications of Non-Invasive Mechanical Ventilation (NIV) in various pathologies such as COPD, Heart Failure, ARDS, or Epidemic Infectious Diseases, among others
- ♦ Analyze the selection and adjustment of ventilatory parameters for NIMV in each specific pathology
- ♦ Evaluate the effectiveness of NIMV in each specific pathology
- ♦ Delve into the latest scientific evidence on NIMV management in Epidemic Infectious Diseases
- ♦ Understand the complications associated with the use of NIMV in obese patients and strategies for prevention and treatment



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

03

Course Management

In order to ensure a top-level medical update, TECH has chosen the best specialists in Pulmonology to lead and teach this qualification. All of these doctors possess extensive skills in Non-Invasive Mechanical Ventilation, which have been acquired through professional experiences in prestigious hospitals. Therefore, the knowledge acquired by the student will be highly applicable in clinical practice.





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This Postgraduate Certificate is taught by active specialists in Pulmonology to provide you with the most up-to-date knowledge on NIMV in specific pathologies”

International Guest Director

With a relevant trajectory in the field of Pulmonology and Clinical Research, Dr. Maxime Patout distinguishes himself as an internationally renowned physician and scientist. As such, his involvement and contribution have led him to position himself as Clinical Director in Public Assistance in prestigious hospitals in Paris, standing out for his leadership in the management of Complex Respiratory Diseases. With this, it is worth mentioning his work as Coordinator of the Department of Functional Explorations of Breathing, Exercise and Dyspnea at the famous Hospital de la Pitié-Salpêtrière.

In the field of Clinical Research, Dr. Patout has made valuable contributions in leading areas such as Chronic Obstructive Pulmonary Disease, Lung Cancer and Respiratory Physiology. Accordingly, in his role as a Research Fellow at Guy's and St Thomas' NHS Foundation Trust, he has conducted groundbreaking studies that have expanded and improved the treatment options available to patients.

In this line, his versatility and leadership as a physician give him a vast experience in fields such as Biology, Physiology and Pharmacology of Circulation and Respiration. Therefore, he stands out as a renowned specialist in the Pulmonary and Systemic Diseases unit. In addition, his recognized competence in the Anti-Infectious Chemotherapy unit also places him as an outstanding reference in the field, being a regular advisor to future health professionals.

For all these reasons, his outstanding expertise in the field of Pulmonology has led him to be an active member of prestigious international organizations such as the European Respiratory Society and the French-Language Society of Pneumology, where he continues to contribute to scientific progress. So much so, that he shows an active participation in symposiums that enhance his medical excellence and constant updating in his field.



Dra. Maxime Patout

- Clinical Director in Public Care at the Salpêtrière Hospital, Paris, France
- Clinical Research Fellow at Guy's and St Thomas' NHS Foundation Trust
- Coordinator of the Breathing, Exercise and Dyspnea Functional Examination Service at the Pitié-Salpêtrière Hospital
- Doctor of Medicine, University of Rouen
- Master's Degree in Biology, Physiology and Pharmacology of the Circulation and Respiration at the University of Paris
- University Expert in Pulmonary and Systemic Diseases from the University of Lille
- University Expert in Anti-infectious Chemotherapy, University of Rouen
- Medical Specialist in Pulmonology from the University of Rouen
- Member of: European Respiratory Society, French-language Society of Pneumology

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Thanks to TECH, you will be able to learn with the best professionals in the world”

Management



Dr. Landete Rodríguez, Pedro

- ◆ Co-coordinator of the Basic Ventilation Department at La Princesa University Hospital
- ◆ Pulmonologist at La Princesa University Hospital
- ◆ Pulmonologist at Blue Healthcare
- ◆ Researcher in several research groups
- ◆ Professor in undergraduate and postgraduate university studies
- ◆ Author of numerous scientific publications in international journals and participant in several book chapters
- ◆ Speaker at international medical congresses
- ◆ Doctor Cum Laude by the Autonomous University of Madrid



Professors

Dr. López Padilla, Daniel

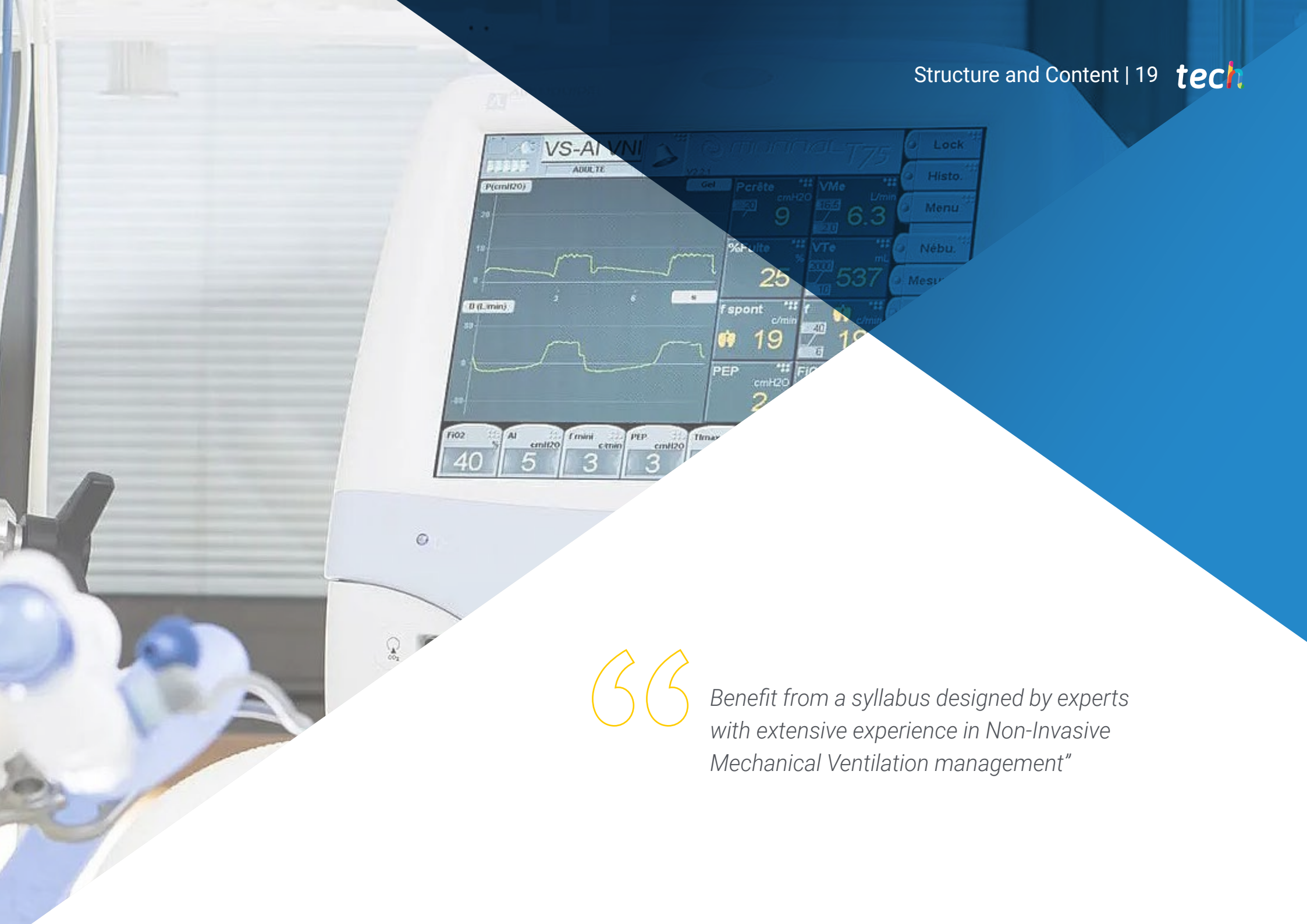
- ♦ Pulmonologist Specialist and Researcher
- ♦ FEA in the Intermediate Respiratory Care Unit at the General University Hospital
- ♦ Teacher in undergraduate studies related to Health Sciences
- ♦ Coordinator of the Emerging Group for Mechanical Ventilation and Critical Respiratory Care of the Spanish Society of Pulmonology and Thoracic Surgery
- ♦ Member of the Integrated Research Program on Non-Invasive Ventilation and Intermediate Respiratory Care Units of the Spanish Society of Pulmonology and Thoracic Surgery
- ♦ Editor-in-Chief of the Journal of Respiratory Pathology
- ♦ Author of numerous publications in scientific journals
- ♦ Doctor in Medicine from the Autonomous University of Madrid Wall and Thoracic Surgery
- ♦ Reviewer for the Respiratory Care and BRNreview journals

04

Structure and Content

The syllabus of this certificate consists of 1 excellent module with which the physician will delve into the most-date aspects of the use of Non-Invasive Mechanical Ventilation in Specific Pathologies. To ensure an enjoyable learning experience tailored to the study needs of each student, the educational content will be available in formats such as readings, videos, or interactive summaries. Moreover, thanks to its 100% online mode, you can study at the time and place of your choosing.





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Benefit from a syllabus designed by experts with extensive experience in Non-Invasive Mechanical Ventilation management”

Module 1. Non-Invasive Mechanical Ventilation in Specific Pathologies

- 1.1. Non-Invasive Mechanical Ventilation in Acute Chronic Obstructive Pulmonary Disease (COPD)
 - 1.1.1. Indications and Contraindications in Patients with COPD
 - 1.1.2. Selection and Adjustment of Ventilatory Parameters in COPD
 - 1.1.3. Assessment of Efficacy
 - 1.1.4. Weaning Strategies from NIMV in COPD Patients
 - 1.1.5. Criteria for NIMV at Hospital Discharge
- 1.2. Non-Invasive Mechanical Ventilation in Heart Failure
 - 1.2.1. Effects of Non-Invasive Mechanical Ventilation on the Hemodynamics of Heart Failure Patients
 - 1.2.2. Monitoring Heart Failure Patients during Non-Invasive Mechanical Ventilation
 - 1.2.3. Non-Invasive Mechanical Ventilation in Patients with Acutely Decompensated Heart Failure
 - 1.2.4. Non-Invasive Mechanical Ventilation in Patients with Chronic Heart Failure and Its Impact on Patient Quality of Life
- 1.3. Non-Invasive Mechanical Ventilation in Acute Respiratory Distress Syndrome (ARDS)
 - 1.3.1. Definition and Diagnostic Criteria for ARDS
 - 1.3.2. Indications and Contraindications of NIMV in ARDS Patients
 - 1.3.3. Selection and Adjustment of Ventilatory Parameters in ARDS Patients on NIMV
 - 1.3.4. Monitoring and Evaluation of Response to NIMV in ARDS Patients
 - 1.3.5. Comparison of NIMV with IMV in ARDS Patients
- 1.4. Non-Invasive Mechanical Ventilation in Diffuse Interstitial Lung Diseases (DILD)
 - 1.4.1. Pathophysiology of Diffuse Interstitial Lung Diseases (DILD)
 - 1.4.2. Scientific Evidence in the Management of NIMV in DILD
 - 1.4.3. Indications for NIMV in Patients with DILD
 - 1.4.4. Assessment of the Efficacy of NIMV in Patients with DILD
- 1.5. Non-Invasive Mechanical Ventilation in Obesity
 - 1.5.1. Obesity Pathophysiology and Its Relationship with NIMV
 - 1.5.2. Indications and Contraindications in Obese Patients
 - 1.5.3. Specific NIMV Adjustments in Obese Patients
 - 1.5.4. Strategies for Prevention and Treatment of Complications
 - 1.5.5. NIMV in Patients with Obstructive Sleep Apnea
 - 1.5.6. Obesity Hypoventilation Syndrome



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- 1.6. Non-Invasive Mechanical Ventilation in Neuromuscular and Rib Cage
 - 1.6.1. Indications
 - 1.6.2. Main Neuromuscular and Rib Cage Diseases
 - 1.6.3. Selection of Ventilatory Modes
 - 1.6.4. Adjustment of Ventilatory Parameters
 - 1.6.5. Assessment of Efficacy and Tolerance of NIMV
 - 1.6.6. Tracheostomy Indications
 - 1.6.7. Management of Complications
 - 1.7. Non-Invasive Mechanical Ventilation in COVID-19 Patients
 - 1.7.1. Indications for NIMV in COVID-19 Patients
 - 1.7.2. Adjustment of Ventilatory Parameters
 - 1.7.3. Safety Considerations in NIMV for COVID-19
 - 1.7.4. Assessment of Efficacy
 - 1.7.5. Disconnection Strategies
 - 1.8. Non-Invasive Mechanical Ventilation in Acute Hypoxemic Respiratory Failure
 - 1.8.1. Definition of De Novo Respiratory Failure
 - 1.8.2. Indications and Contraindications for NIMV in Acute Hypoxemic Respiratory Failure
 - 1.8.3. Parameters and Adjustments in NIMV for Patients with Acute Hypoxemic Respiratory Failure
 - 1.8.4. Complications Associated with NIMV Use in Acute Hypoxemic Respiratory Failure
 - 1.8.5. Assessment of NIMV Efficacy in Improving Oxygenation and Reducing Respiratory Work in Acute Hypoxemic Respiratory Failure
 - 1.8.6. Comparison of NIMV with Invasive Mechanical Ventilation in Patients with Acute Hypoxemic Respiratory Failure
 - 1.9. Non-Invasive Mechanical Ventilation in the asthmatic patient in exacerbation
 - 1.9.1. Indications for NIMV in Asthma Attacks
 - 1.9.2. Ventilatory Parameters to Adjust
 - 1.9.3. Monitoring of the acutely ill asthmatic patient during NIMV
 - 1.9.4. Alarm Criteria for Poor Response to NIMV
 - 1.10. Non-Invasive Mechanical Ventilation in Pre-Intubation Preparation
 - 1.10.1. Benefits, Risks, and Limitations
 - 1.10.2. Management of NIMV in Transition to Invasive Mechanical Ventilation

05

Methodology

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

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





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

At TECH we use the Case Method

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

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



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

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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 achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



Relearning Methodology

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

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

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



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

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

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

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

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



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



Study Material

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

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



Surgical Techniques and Procedures on Video

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



Interactive Summaries

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

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



Additional Reading

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





Expert-Led Case Studies and Case Analysis

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



Testing & Retesting

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



Classes

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



Quick Action Guides

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



06 Certificate

The Postgraduate Certificate in Non-Invasive Mechanical Ventilation in Specific Pathologies guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

This program will allow you to obtain your **Postgraduate Certificate in Non-Invasive Mechanical Ventilation in Specific Pathologies** 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.

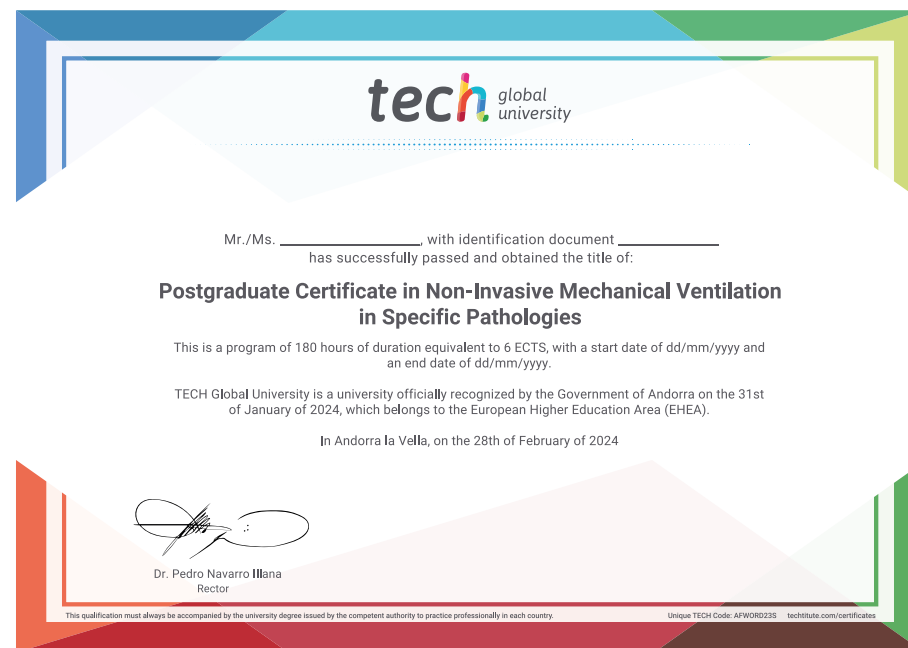
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Non-Invasive Mechanical Ventilation in Specific Pathologies**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 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.

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



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