Postgraduate Certificate

Non-Invasive Mechanical Ventilation in Specific Pathologies for Nursing

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Postgraduate Certificate

Non-Invasive Mechanical Ventilation in Specific Pathologies for Nursing

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

Website: **www.techtitute.com/us/nursing/postgraduate-certificate/non-invasive-mechanical-ventilation-specific-pathologies-nursing**

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01

Introduction

The increasing use of Non-Invasive Ventilation has generated the need for research on its application in different clinical situations in order to adapt it to the patient's requirements. Thanks to this, it has been possible to improve the configuration of ventilatory parameters and to perfect protocols to address complications in different types of diseases. Therefore, nurses must keep up to date in this field in order to position themselves at the forefront of their profession. For this reason, TECH has designed this program, which allows the student to delve into cutting-edge strategies for parameter calibration and approaching the complexities of NIMV in conditions such as COPD or Heart Failure. All this, in a 100% online mode and without having to make uncomfortable travel to a study center.

Learn, with this program, the leading strategies for adjusting ventilatory parameters of NIMV in COPD or Heart Failure"

Non-Invasive Mechanical Ventilation is a category of respiratory support that is under constant research, with the aim of optimizing the procedures for its administration in different healthcare contexts. In this way, cutting-edge indications for its use in various diseases have been found, as well as methods for adjusting ventilatory parameters in different clinical situations. As a result, nurses working in the area of Pulmonology must keep up to date in this field so as not to lag behind the evolution of the sector.

For this reason, TECH has opted to create this program, through which professionals will complete an excellent update on the application of NIMV in different pathologies. Throughout this academic period, professionals will learn in depth the up-to-date techniques for the adjustment of ventilatory parameters of NIMV in Acute Respiratory Distress Syndrome (ARDS) or Chronic Obstructive Pulmonary Disease (COPD). Likewise, they will delve into the management of complications associated with the use of Non-Invasive Mechanical Ventilation in Acute Hypoxemic Respiratory Failure.

This program is offered in a 100% online format, which provides nurses with the flexibility to adapt their learning to their daily schedules and responsibilities. Likewise, the program's approach includes the application of the *Relearning* methodology, which guarantees that students acquire a solid and lasting understanding of the fundamental concepts of the syllabus, delving into them at their own pace of study.

This **Postgraduate Certificate in Non-Invasive Mechanical Ventilation in Specific Pathologies for Nursing** contains the most complete and up-to-date scientific program on the market. The most important features include:

- The development of practical cases presented by specialists in Pulmonology
- The graphic, schematic, and practical contents which provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where the self-assessment process can be carried out 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

Delve into the procedures to address the complications associated with the management of Non-Invasive Mechanical Ventilation in Acute Hypoxemic Respiratory Failure"

Do you want to obtain an excellent health update without giving up your daily duties? This Postgraduate Certificate is your best ally to achieve your goal!"

Thanks to TECH, you will manage the best strategies to prevent complications associated with NIMV in patients with obesity.

Enjoy a first level update from the best specialists in Pulmonology, experts in NIMV.

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 course. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

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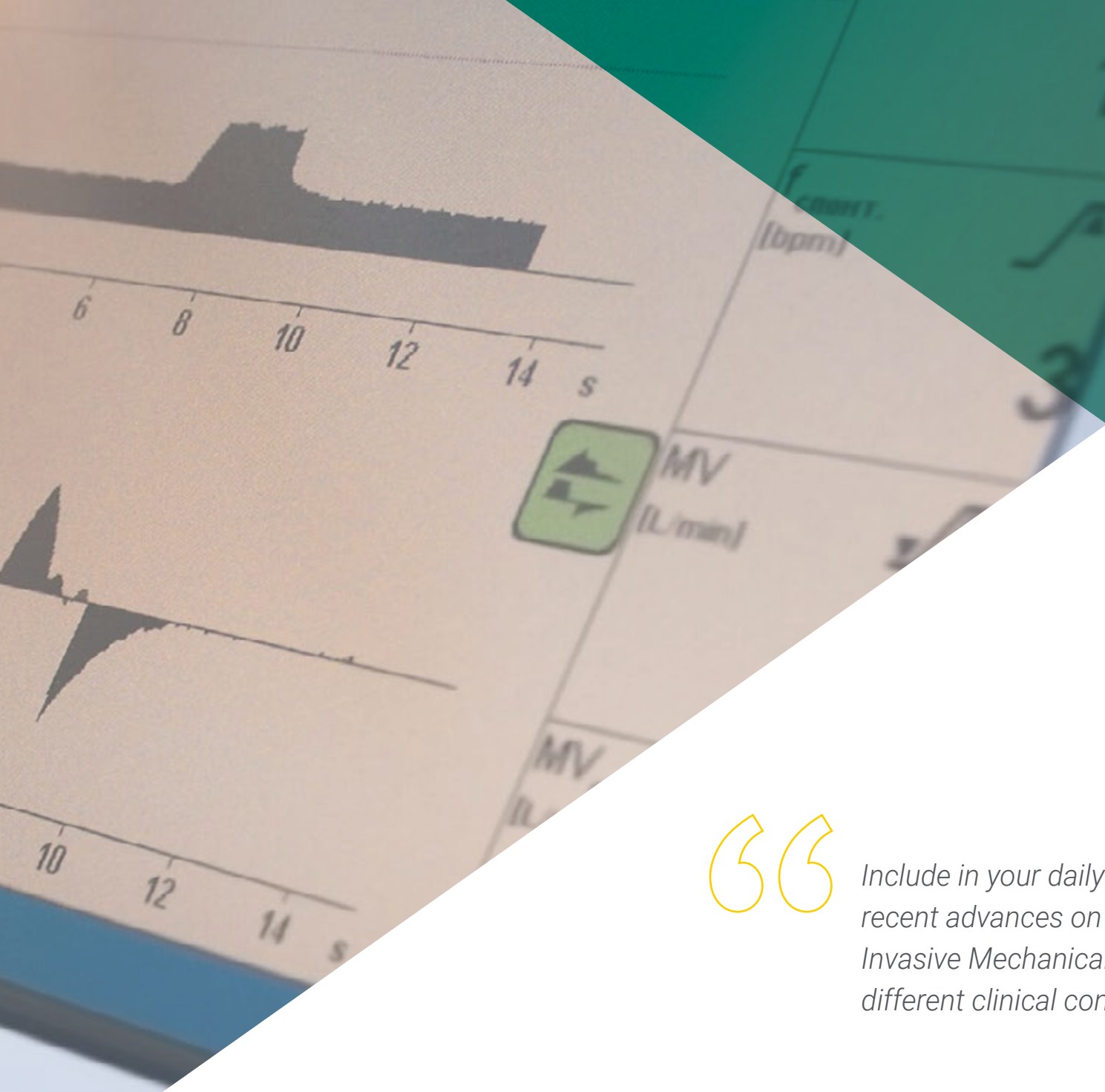
Objectives

The purpose of this program is to encourage nurses to update their knowledge on the use of Non-Invasive Mechanical Ventilation in different pathologies. Through this program, the professional will delve into the recent scientific evidence on the application of this technique in patients with COPD, Heart Failure or ARDS. All of this in just 6 weeks of intensive study.



Include in your daily practice the recent advances on the use of Non-Invasive Mechanical Ventilation in different clinical contexts"

General Objectives

- Understand the importance and role of Non-Invasive Mechanical Ventilation in the treatment of acute and chronic respiratory pathologies
- Get to know the most recent indications and contraindications for the use of Non-Invasive Mechanical Ventilation, as well as the different types of devices and modes of ventilation
- Acquire skills and competences in the monitoring of the patient with Non-Invasive Mechanical Ventilation, including the interpretation of the data obtained and the detection and prevention of complications
- Learn about the state-of-the-art technologies used in the telemonitoring of patients with Non-Invasive Mechanical Ventilation and the ethical and legal aspects related to their use
- Delve into the main differences in Non-Invasive Mechanical Ventilation in Pediatrics
- Delve into the ethical aspects related to the management of patients requiring NIMV

Specific Objectives

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

Enjoy a first class academic experience and improve your knowledge through the most innovative educational methodology in the pedagogical scene"

03

Course Management

TECH has selected an outstanding teaching team to deliver the program. This will ensure that students receive teaching content designed by specialists with vast experience in the field of Pulmonology, who are experts in the management of NIMV in various healthcare settings. In this way, nurses will be confident of acquiring the most up-to-date knowledge in the field.

This program will be taught by experts in NIMV who have a brilliant hospital career in first level centers"

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.

Dr. Patout, Maxime

- 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

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

- Pulmonology Specialist and Researcher
- Specialist at the Intermediate Respiratory Care Unit of the General University Hospital Gregorio Marañón
- Professor in undergraduate studies related to Health Sciences
- Coordinator of the Emerging Group of 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 several publications in scientific journals
- Doctorate in Medicine from the Autonomous University Madrid

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Structure and Content

The syllabus of this program is composed of the most up-to-date aspects of the application of Non-Invasive Mechanical Ventilation in Specific Pathologies. With the aim of ensuring an attractive learning adapted to the needs of each student, the teaching materials will be available in formats such as specialized readings, interactive summaries or explanatory videos. In addition, thanks to its 100% online modality, you will have the freedom to study at the time and place of your choice.

Study from wherever you want and 24 hours a day through the 100% online modality offered by this updating program"

Module 1. Non-Invasive Mechanical Ventilation in Specific Pathologies

1.1. Non-Invasive Mechanical Ventilation in 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. Efficacy Evaluation
- 1.1.4. NIMV Weaning Strategies in COPD Patients
- 1.1.5. NIMV Criteria 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 Patients with Heart Failure
- 1.2.2. Monitoring of the Patient with Heart Failure during Non-Invasive Mechanical Ventilation
- 1.2.3. Non-Invasive Mechanical Ventilation in Patients with Acute Decompensated Heart Failure
- 1.2.4. Non Invasive Mechanical Ventilation in Patients with Chronic Heart Failure and its Impact on the Patient's 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 for NIMV in patients with ARDS
- 1.3.3. Selection and Adjustment of Ventilatory Parameters in Patients with ARDS
- 1.3.4. Monitoring and Assessment of Response to NIMV in Patients with ARDS
- 1.3.5. Comparison of NIMV with IMV in patients with ARDS

1.4. Non-Invasive Mechanical Ventilation in Diffuse Interstitial Lung Diseases (DIPD)
- 1.4.1. Pathophysiology of Diffuse Interstitial Lung Diseases (DILDs)
- 1.4.2. Scientific Evidence on the Management of NIMV in DILD
- 1.4.3. Indications for NIMV in patients with DILD
- 1.4.4. Efficacy Evaluation of NIMV in patients with DILD

1.5. Non-Invasive Mechanical Ventilation in Obesity
- 1.5.1. Pathophysiology of Obesity and its Relationship to NIMV
- 1.5.2. Indications and Contraindications in Obese Patients
- 1.5.3. Specific NIMV Settings in Obese Patients
- 1.5.4. Strategies for the Prevention and Treatment of Complications
- 1.5.5. NIMV in Patients with Obstructive Sleep Apnea
- 1.5.6. Obesity Hypoventilation Syndrome

1.6. Non-Invasive Mechanical Ventilation in Neuromuscular Disease and Thoracic Cage
- 1.6.1. Indications
- 1.6.2. Main Neuromuscular and Thoracic Cage Diseases
- 1.6.3. Selection of Ventilatory Modes
- 1.6.4. Adjustment of Ventilatory Parameters
- 1.6.5. Efficacy and Tolerance Evaluation of NIMV
- 1.6.6. Indications for Tracheostomy
- 1.6.7. Management of Complications

1.7. Non-Invasive Mechanical Ventilation in patients with COVID-19
- 1.7.1. Indications for NIMV in Patients with COVID-19
- 1.7.2. Adjustment of Ventilatory Parameters
- 1.7.3. Safety Considerations in NIMV in Patients with COVID-19
- 1.7.4. Efficacy Evaluation
- 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 the Use of NIMV in Acute Hypoxemic Respiratory Failure
- 1.8.3. Parameters and Adjustments in NIMV in Patients with Acute Hypoxemic Respiratory Failure
- 1.8.4. Complications Associated with the Use of NIMV in Acute Hypoxemic Respiratory Failure
- 1.8.5. Efficacy Evaluation of NIMV in Improving Oxygenation and Reducing the Work of Breathing in Acute Hypoxemic Respiratory Failure
- 1.8.6. Comparison of NIMV with Invasive Mechanical Ventilation in Patients with Hypoxemic Acute Respiratory Failure

1.9. Non-Invasive Mechanical Ventilation in the Asthmatic Patient in Acute Respiratory Failure
- 1.9.1. Indications for NIMV in Asthmatic Crisis
- 1.9.2. Ventilatory Parameters to be Adjusted
- 1.9.3. Monitoring of the Exacerbated Asthmatic Patient During NIMV
- 1.9.4. Alarm Data of 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 the Transition to Invasive Mechanical Ventilation

Enroll in this program to obtain the most up-to-date knowledge on Non-Invasive Mechanical Ventilation in Specific Pathologies for Nursing"

05

Methodology

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

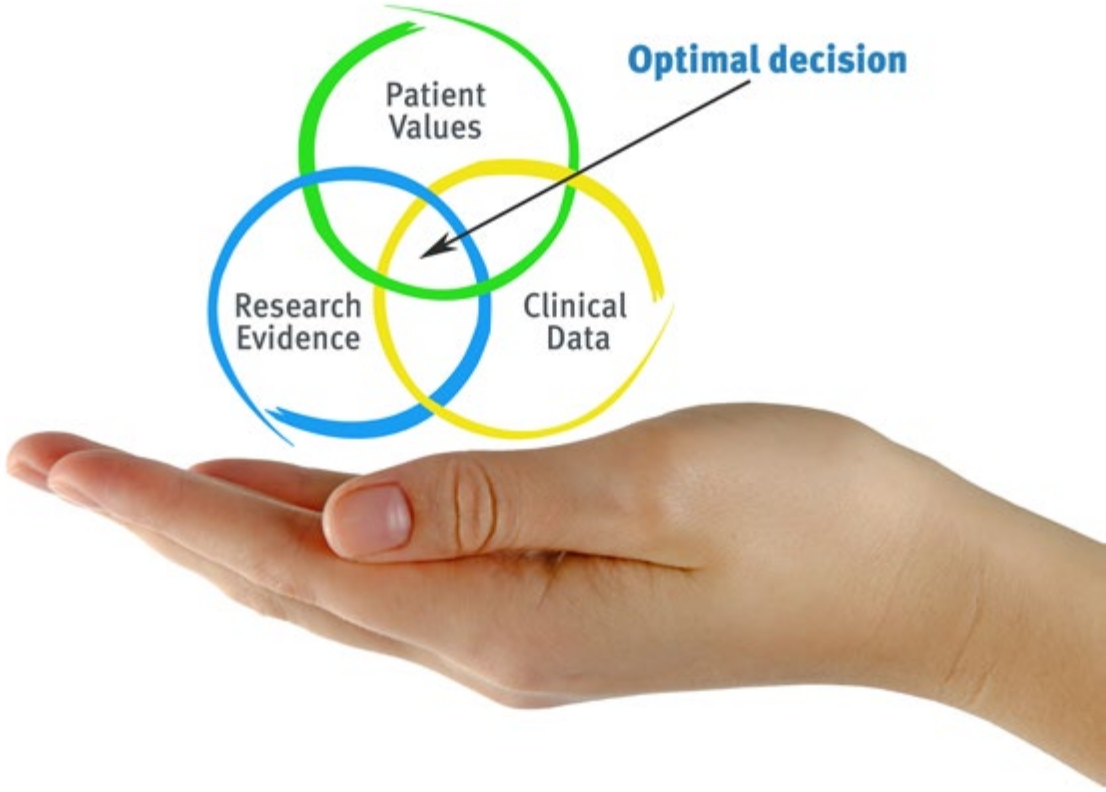
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

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 Nursing School we use the Case Method

In a given situation, what should a professional do? 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. Nurses learn better, faster, and more sustainably over time.

With TECH, nurses can experience a learning methodology 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, in an attempt to recreate the real conditions in professional nursing practice.

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

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

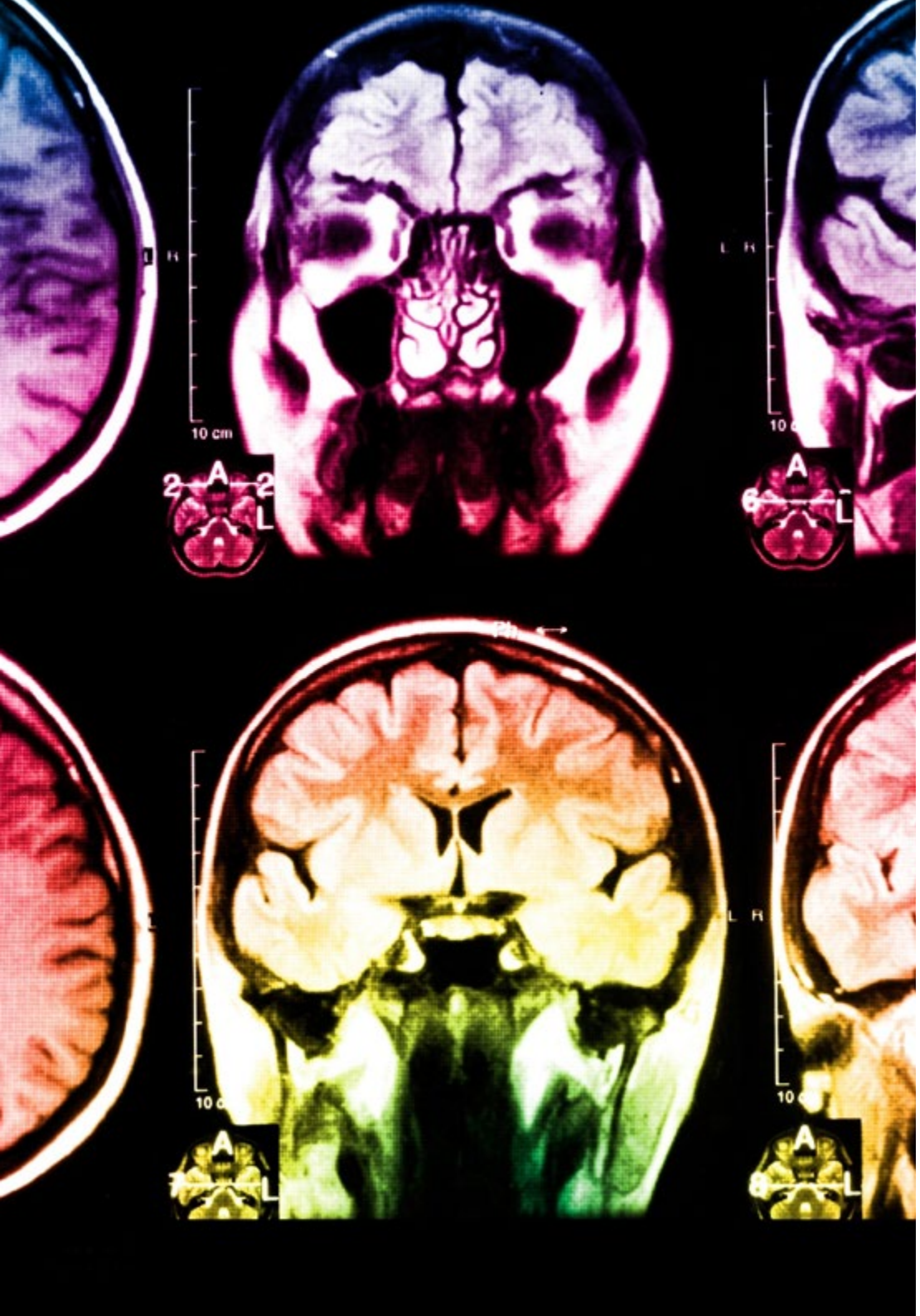
1. Nurses who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on practical skills that allow the nursing professional to better integrate knowledge acquisition into the hospital setting or primary care.
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 case studies with a 100% online learning system based on repetition combining a minimum of 8 different elements in each lesson, which is a real revolution compared to the simple study and analysis of cases.

The nurse 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 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 we have trained more than 175,000 nurses with unprecedented success in all specialities regardless of practical workload. 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 really 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.

Nursing 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 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 them as many times as you want.

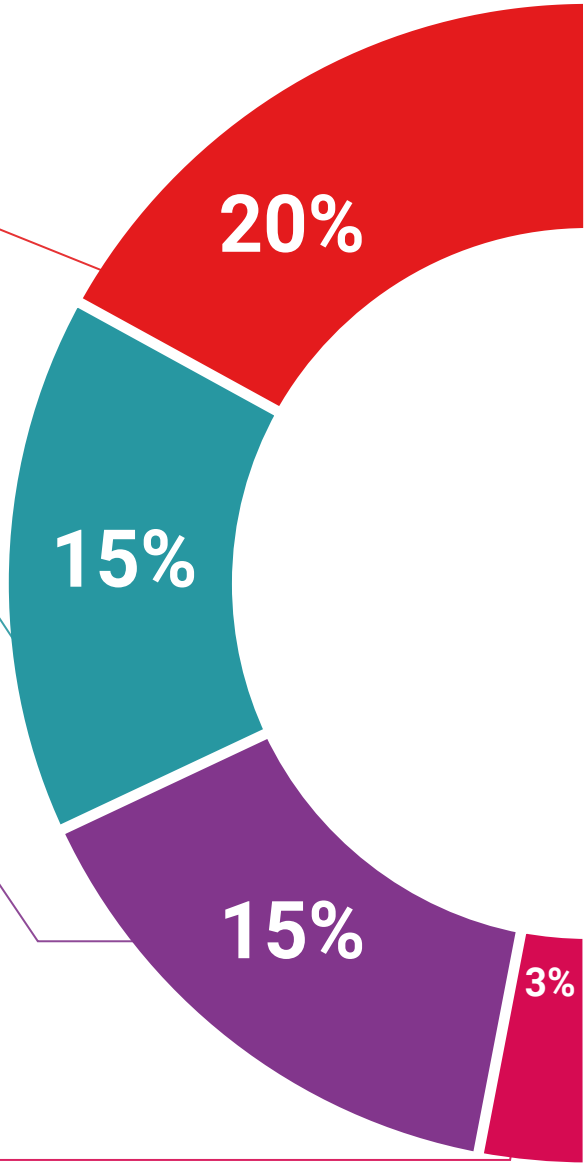
Interactive Summaries

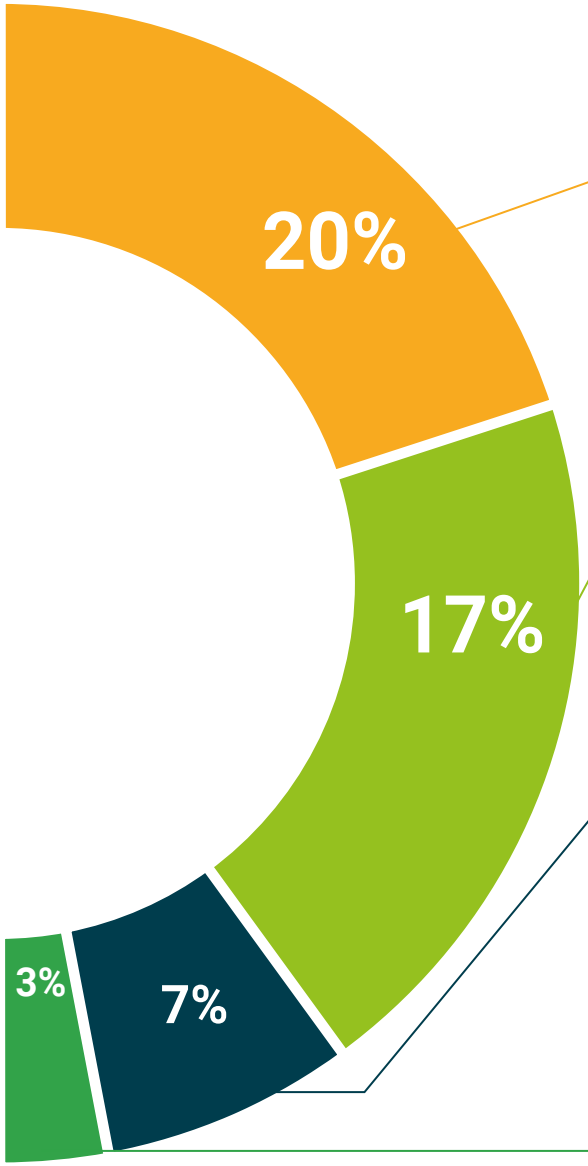
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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 suggesting that observing third-party experts can be useful.

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 for Nursing guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.

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 for Nursing** 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 for Nursing**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**


tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Postgraduate Certificate in Non-Invasive Mechanical Ventilation in Specific Pathologies for Nursing

This is a program of 180 hours of duration equivalent to 6 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates

*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.

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Postgraduate Certificate

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