

# Postgraduate Certificate Respiratory Disorders in Neonatology





## Postgraduate Certificate Respiratory Disorders in Neonatology

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/in/medicine/postgraduate-certificate/respiratory-disorders-neonatology](http://www.techtitute.com/in/medicine/postgraduate-certificate/respiratory-disorders-neonatology)

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# 01

# Introduction

Neonatology is a medical specialty dedicated to the care of newborns, especially those with health problems. Among the most common conditions in neonatology are respiratory disorders, which can be life-threatening to infants. For this reason, it is essential that health professionals are trained to detect, diagnose and treat these disorders effectively. In view of this, TECH has designed a program with the necessary tools to improve knowledge of diagnosis and treatment of respiratory disorders in neonatology. This program is 100% online and allows participants to organize their academic resources in a flexible way and to adapt their learning to their work pace and availability.



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*Do you want to improve your skills in the detection and treatment of respiratory disorders in newborns? This Postgraduate Certificate gives you access to multiple multimedia resources and the Relearning pedagogical methodology, so you can learn at your own pace and with flexibility"*

Neonatology is a branch of medicine that focuses on the medical care of newborns, especially those born prematurely or with medical complications. Respiratory disorders are a leading cause of neonatal mortality and morbidity worldwide. For this reason, it is essential that health professionals are prepared to manage and treat these disorders effectively and quickly. In this context, the need arises for a program focused on Respiratory Disorders in Neonatology that provides comprehensive and updated training on respiratory pathologies in newborns.

TECH is aware that specialized care in Neonatology is essential for the successful treatment and survival of newborns. Respiratory Disorders in particular require specific care and management, and a multidisciplinary approach. Therefore, this Postgraduate Certificate in Respiratory Disorders in Neonatology TECH provides the opportunity to acquire specialized knowledge, skills and tools necessary to provide optimal care to newborns.

The program covers topics such as lung development, physiology, respiratory pathology, respiratory assistance and mechanical ventilation, noninvasive and invasive ventilation, oxygen administration, endotracheal intubation and extubation, among others. Participants will have the opportunity to learn from outstanding teachers in the field, as well as to use multimedia resources that will allow them to acquire practical and theoretical skills in the diagnosis, treatment and follow-up of Respiratory Disorders in Neonatology.

The program is 100% online and will be taught using the Relearning methodology, which encourages continuous learning and the active participation of students in their own training process. Participants will have access to updated and varied didactic resources, such as explanatory videos, clinical case simulations, practical activities and educational evaluations.

This **Postgraduate Certificate in Respiratory Disorders in Neonatology** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of case studies presented by medical experts focused on Neonatology
- ♦ 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 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



*Identify and treat Respiratory Disorders in Neonatology according to the latest clinical postulates thanks to this TECH Postgraduate Certificate"*

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*With this Postgraduate Certificate you will obtain skills in the diagnosis and treatment of Respiratory Disorders in Neonatology, and you will have access to job opportunities in high level health institutions"*

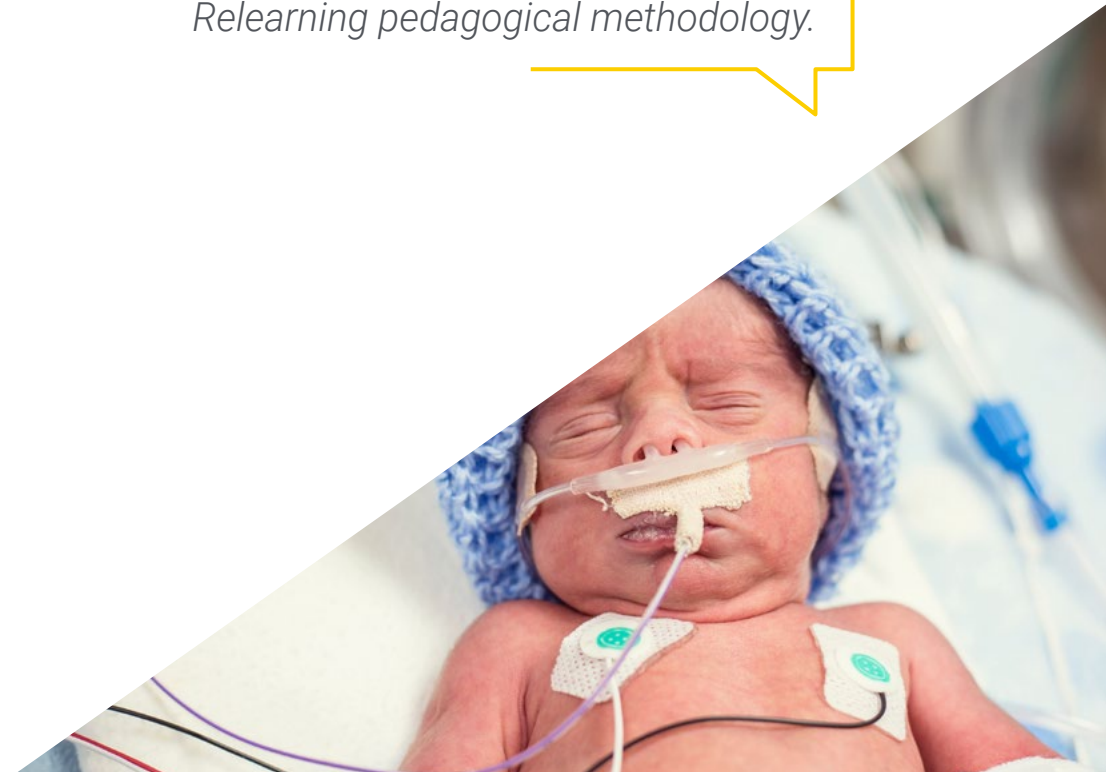
The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

Its 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 an immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

*This program is the best option for health professionals who wish to improve their performance in the area of Neonatology.*

*You will learn about the most common respiratory disorders in newborns, develop clinical skills and be able to organize your academic resources in a flexible way with the Relearning pedagogical methodology.*



# 02

# Objectives

The study and understanding of Respiratory Disorders in Neonatology is fundamental for the adequate care and treatment of newborns with respiratory problems. For this reason, this Postgraduate Certificate aims to provide health care professionals with the necessary tools to deepen their knowledge of pulmonary pathophysiology, categorize and describe neonatal respiratory pathology, and develop skills in the use of oxygen therapy and neonatal monitoring. In addition, the program seeks to delve into the different modalities of respiratory assistance, so that students can be prepared to provide quality care to newborns with respiratory disorders.





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*If you want to secure your professional future in a specialized area of medicine, this program gives you the opportunity to develop your skills in respiratory support and mechanical ventilation in newborns”*



## General Objectives

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- ♦ Delve into preterm neonates and their implications
  - ♦ Update knowledge of the indications for prevention in sick neonates
  - ♦ Be aware of the protocols that optimize the treatment of the sick neonate
  - ♦ Describe the main characteristics of the healthy newborn and its basic care
  - ♦ Systematize the main problems, disorders and diseases of the newborn, such as weight gain and metabolic development, prematurity, congenital malformations, respiratory or cardiac pathology, metabolic and blood disorders, or digestive or nutritional complications
  - ♦ List and describe the main common procedures in neonatology
  - ♦ Deepen in the therapeutic activities in the pathologies of the neonate
  - ♦ Delve into the basic and specific aspects of complementary examinations in this subspecialty and how to perform them
  - ♦ Investigate the knowledge of the different procedures of neonatal nutrition
  - ♦ Analyze the follow-up of the newborn once it has been controlled in the acute period
  - ♦ Illustrate and reflect on the different moments of care in the models of assistance to the newborn, both healthy and with pathology requiring hospital treatment
  - ♦ Explain the various systems of care for the sick neonate, delimiting the continuity between the neonatal period of acute illness and its subsequent follow-up
- ♦ Describe all the accompaniment that the technology means for the adequate monitoring and follow-up of these children, being able to be coupled to the various guides and protocols to finally obtain a global health concept
  - ♦ Deepen all the possibilities of on-site and even remote monitoring to achieve a very early and optimal performance on the impact of the disease on the neonate
  - ♦ Delve into all aspects of the concepts of complementary knowledge that allow understanding perinatology as a complete subspecialty, from the fetal period to long-term follow-up in outpatient clinics
  - ♦ Detail the parameters that will indicate the correct acquisition of all the developmental items of the various organs and apparatuses in order to obtain an optimal long-term result
  - ♦ Specify all the elements of the pathological conditions of the sick neonate in order to be able to establish work routines with results at the level of medical excellence



## Specific Objectives

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- ♦ Deepen in the pulmonary physiopathology
- ♦ Establish the categorization of Neonatal Respiratory Pathology
- ♦ Deepen in Oxygen Therapy
- ♦ Deepen the monitoring of neonates
- ♦ Describe the modalities of respiratory assistance



*Acquire the necessary skills to meet the challenges of respiratory care and become a specialist in the field"*

03

# Course Management

TECH's management is focused on providing quality education to students who wish to specialize in Respiratory Disorders in Neonatology. The team of professionals hired is highly qualified and with extensive experience in the sector, will be responsible for guiding the student throughout the program, providing the best tools and resources for the development of their skills in the area. The objective is for students to obtain solid knowledge and elite training that will allow them to excel in the health field and open up new job opportunities at the national and international levels.



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*You will learn from outstanding professors and gain valuable skills for your career in the health area thanks to this Postgraduate Certificate in Respiratory Disorders in Neonatology"*

## Management



### Dr. Baca Cots, Manuel

- ♦ Head of the Pediatrics and Neonatology Service at Hospital Quirón Málaga
- ♦ Head of Neonatology at Hospital Clínica Dr. Gálvez
- ♦ Head of Neonatology at Hospital Qurón of Murcia
- ♦ Head of Andalusian Health Service (SAS)
- ♦ Principal investigator of international multi-center projects
- ♦ Degree in Medicine from the University of Granada

## Professors

### Dr. Concheiro Guisán, Ana

- ♦ Head of the Pediatrics Department at Alvaro Cunqueiro de Vigo Hospital
- ♦ Coordinator of Clinical Teaching in the Degree in Medicine at the University Hospital Complex of Vigo
- ♦ Doctor of Medicine from the University of Barcelona
- ♦ Coordinator of the Rare Diseases and Pediatric Medicine Group of the Instituto de Investigación Sanitaria Galicia Sur (IISGS)
- ♦ Member of: Vice-President of the Galician Bioethics Council

### Dr. Ruiz Ramos, María José

- ♦ Attending Pediatrician at Quirón Hospital
- ♦ Degree in Medicine from the University of Malaga, specializing in Pediatrics.



# 04

## Structure and Content

The content of this program consists of various topics presented in a broad module, which delves into the development, embryology, anatomy and pulmonary physiology, as well as the respiratory pathology of the newborn. In addition, topics related to respiratory assistance and mechanical ventilation, noninvasive and invasive ventilation, oxygen administration, endotracheal intubation and extubation, and the impossible extubation process are addressed. All this will be taught by a team of highly qualified professionals with experience in the sector, with the aim of providing students with the best tools for their online training and professional development in the field of Neonatology.





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*With TECH's guidance, within this Postgraduate Certificate, students will be able to count on the necessary guarantees to achieve professional success in their careers"*

## Module 1. Respiratory Pathophysiology and Respiratory Disorders in Neonatology

- 1.1. Lung development, embryology, anatomy and physiology
  - 1.1.1. Lung development
  - 1.1.2. Embryology of the lung
  - 1.1.3. Physiology of the lung
  - 1.1.4. Extrauterine adaptation
- 1.2. Respiratory Pathology in Recent Newborns
  - 1.2.1. Acute Respiratory Failure
  - 1.2.2. Apneas
  - 1.2.3. Pulmonary Hypertension
  - 1.2.4. Chronic Pulmonary Hypertension
- 1.3. Respiratory Physiology and Mechanical Ventilation
  - 1.3.1. Indications
  - 1.3.2. Mechanical ventilation methods
  - 1.3.3. Complications
  - 1.3.4. Extubation
- 1.4. Non-Invasive Ventilation (NIV)
  - 1.4.1. Indications
  - 1.4.2. Non-invasive ventilation methods
  - 1.4.3. Complications
  - 1.4.4. Following Up
- 1.5. Invasive Ventilation
  - 1.5.1. Different pathologies
  - 1.5.2. Gasometric targets
  - 1.5.3. High Frequency Ventilation
  - 1.5.4. Results
- 1.6. Oxygen administration
  - 1.6.1. Indications
  - 1.6.2. Form of Administration
  - 1.6.3. Complications
  - 1.6.4. Following Up





- 1.7. Endotracheal Intubation
  - 1.7.1. Material and method for intubation
  - 1.7.2. Indications
  - 1.7.3. Care of intubated children
  - 1.7.4. Complications
- 1.8. Endotracheal extubation
  - 1.8.1. Material and method for extubation
  - 1.8.2. Shapes
  - 1.8.3. Care of extubated children
  - 1.8.4. Results
- 1.9. Impossible extubation process
  - 1.9.1. Attitude towards the child impossible to extubate
  - 1.9.2. Care of the chronically intubated child
  - 1.9.3. Other care of the child with tracheostomy
  - 1.9.4. Ondine syndrome
- 1.10. Cricothyroidotomy and tracheostomy
  - 1.10.1. Indications for tracheostomy
  - 1.10.2. Tracheostomy care
  - 1.10.3. Various pathologies and tracheotomy
  - 1.10.4. Home care

“ Do you want to train in one of the most demanded medical specialties? This Postgraduate Certificate is for you! It offers you the opportunity to learn from outstanding teachers and with a Relearning methodology”

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 Respiratory Disorders in Neonatology guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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

This **Postgraduate Certificate in Respiratory Disorders in Neonatology** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery\*.

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

Title: **Postgraduate Certificate in Respiratory Disorders in Neonatology**

Official N° of Hours: **150 h.**



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



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