

# Postgraduate Certificate

## Renal Disorders in Neonatology and in the Internal Environment



## Postgraduate Certificate Renal Disorders in Neonatology and in the Internal Environment

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

Website: [www.techtute.com/us/medicine/postgraduate-certificate/renal-disorders-neonatology-internal-environment](http://www.techtute.com/us/medicine/postgraduate-certificate/renal-disorders-neonatology-internal-environment)

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# 01

# Introduction

Renal Disorders in Neonatology and in the Internal Environment are an important problem that affects a significant number of newborns and patients of all ages. Early diagnosis and treatment are essential to prevent serious complications and improve the quality of life of patients. For this reason, it is essential that health professionals have specialized and up-to-date training in this area in order to effectively address these disorders. That is why TECH presents as a necessary option an academic program that expands knowledge and skills in the management of these pathologies. This program will be delivered 100% online and with a wide variety of resources such as case studies and downloadable materials.





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*Become the expert in the measurement of the Internal Environment and water and electrolyte balances that every health organization needs thanks to this Postgraduate Certificate”*

Renal Disorders in Neonatology and in the Internal Environment can occur as a consequence of various pathologies and can seriously compromise the health and well-being of newborns and patients of all ages. For this reason, health professionals with solid and updated information on the management of these pathologies are required.

The Postgraduate Certificate in Renal Disorders in Neonatology and in the Internal Environment proposed by TECH is presented as a necessary option for those health professionals who wish to expand their knowledge and skills in this area. Through this program, participants will be able to acquire the necessary skills to diagnose and treat Renal Disorders in Neonatology and in the Internal Environment effectively, prevent complications and improve the quality of life of patients.

The curriculum of the program includes a wide range of relevant topics, from the embryology and anatomy of the renal system, through nephrourological pathology in the newborn, urinary tract infections, peritoneal dialysis, to the assessment of renal function and hydroelectrolytic and metabolic disorders in the neonate. Participants will also have access to updated and quality content, which will allow them to acquire the necessary tools to face the clinical challenges that arise in their professional practice.

The Postgraduate Certificate will be delivered entirely online, which means that participants will be able to access the academic resources from anywhere and at any time, as long as they have access to an Internet connection. TECH's pedagogical methodology, Relearning is based on interaction, learning without memorizing and constant feedback, which guarantees a meaningful and effective learning experience.

This **Postgraduate Certificate in Renal Disorders in Neonatology and in the Internal Environment** 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 for experts, discussion forums on controversial issues and individual reflection work
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*Learn from the best professionals with experience in Renal Disorders, who will provide you with the best tools to deepen your knowledge of renal anatomy and pathophysiology in neonates"*

“

*Obtain a high prestige university certificate and improve your job opportunities thanks to this Postgraduate Certificate in Renal Disorders in Neonatology and in the Internal Environment”*

The program's teaching staff includes professionals in 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 students will be assisted by an innovative interactive video system developed by renowned experts.

*Participants in this program will have the flexibility to organize their academic resources according to their needs and time availability.*

*Learn more about the anatomy and pathology of nephrourological malformations! Learn from experts in the field in this Postgraduate Certificate in Renal Disorders in Neonatology and in the Internal Environment.*



# 02 Objectives

In order to provide specialized training in the understanding and management of Renal Disorders in the newborn and in the Internal Environment. TECH, through this program, seeks to update the knowledge in physiology and pathophysiology of the kidney and internal environment. It leads professionals to deepen their knowledge of the anatomy relevant to nephrourological conditions and to investigate malformative nephrourological pathology. It updates the knowledge of the graduates on renal infectious pathology in the newborn and describe each of the normal and altered hydroelectrolytic situations, as well as delve into the measurement of the internal environment through balances.







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*Do you want to stand out in your field?  
Learn everything you need to know about  
normal and altered hydroelectrolyte  
situations! Join this training available  
online for you”*



## 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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- ◆ Update knowledge on the mechanisms of Physiology and Pathophysiology of the Internal Environment and the Kidney
- ◆ Deepen in the anatomy highlighted for Nephrourological pictures
- ◆ Inquire into Malformative Nephrourological Pathology
- ◆ Update knowledge on Renal Infectious Pathology in the newborn
- ◆ Describe each of the normal and altered hydroelectrolyte situations
- ◆ Delving into the measurement of the Internal Environment: balance sheets

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*Broaden your knowledge in the mechanisms of Physiology and Pathophysiology of the Internal Environment and the Kidney! This program gives you the opportunity to update your knowledge on this topic and others related to Renal Disorders”*



03

# Course Management

The team of professionals leading this Postgraduate Certificate is made up of highly qualified experts in the field and with extensive experience in the field of children's health. In addition, the academic program is designed to offer the best tools and resources for students to develop their skills and competencies, as well as to promote innovation and research in the field of neonatal renal and internal environment disorders. In this way, the program guarantees a complete and excellent training for students who wish to specialize in this field of pediatric medicine.





“

*In this Postgraduate Certificate in Renal Disorders in Neonatology and in the Internal Environment, the direction focuses on providing students with a quality and up-to-date education in the area of pediatric nephrourology”*

## 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. Valverde, Eva

- ◆ Head of Neonatology at the La Paz University Hospital
- ◆ Associate Professor of Pediatrics, UAM, Madrid
- ◆ Specialist in Pediatrics at La Paz University Hospital
- ◆ Doctorate in Medicine from the Autonomous University Madrid
- ◆ Degree in Medicine from the Complutense University of Madrid
- ◆ Member of the European Working Group on Neonatal Brain Ultrasonography (EUruS.Brain)





# 04

## Structure and Content

The teaching team of this program has proposed the requirements to be followed in the curriculum, establishing topics that deepen the embryology of the renal system and establish the basis of the anatomy of the renal system. The program also addresses the assessment of renal function, dealing with topics such as acute renal failure, neonatal nephrotic syndrome and renal tubular acidosis. Neonatal arterial hypertension and water balance in the neonate admitted to an Intensive Care Unit are analyzed, and patient monitoring in this context is studied. Overall, the Postgraduate Certificate aims to provide students with a comprehensive overview of renal disorders in neonatology, covering different aspects including anatomy, pathology, physiology and clinical monitoring.



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*This program has been designed according to the requirements of medicine applied to the specificity of the neonatal renal health sector”*



## Module 1. Renal Disorders in Neonatology and in the Internal Environment

- 1.1. Embryology of the renal system and basis of the anatomy of the renal system
  - 1.1.1. Development of the genito-urinary system
  - 1.1.2. Embryology
  - 1.1.3. Pathophysiological Bases
  - 1.1.4. Extrauterine adaptation
- 1.2. Nephrological Pathology in a Newborn
  - 1.2.1. Classification
  - 1.2.2. Diagnosis
  - 1.2.3. Treatment
  - 1.2.4. Monitoring
- 1.3. Urinary Infections
  - 1.3.1. Urinary Infections
  - 1.3.2. Vesicoureteral Reflux
  - 1.3.3. Hydronephrosis
  - 1.3.4. Renal dysplasia and neonatal polycystic kidney disease
- 1.4. Peritoneal Dialysis in a Newborn
  - 1.4.1. Fundamentals
  - 1.4.2. Types
  - 1.4.3. Ways to do it
  - 1.4.4. Monitoring
- 1.5. Assessment of renal function Acute renal failure. Neonatal nephrotic syndrome Renal tubular acidosis
  - 1.5.1. Assessing Renal Function
  - 1.5.2. Acute Kidney Failure
  - 1.5.3. Nephrotic Syndrome
  - 1.5.4. Renal Tubular Acidosis
- 1.6. Neonatal Arterials Hypertension
  - 1.6.1. Classification
  - 1.6.2. Diagnosis
  - 1.6.3. Treatment
  - 1.6.4. Monitoring







- 1.7. Water, Electrolyte and Metabolic Disorders of a Newborn.. Imperceptible Water Losses
  - 1.7.1. Classification
  - 1.7.2. Diagnosis
  - 1.7.3. Treatment
  - 1.7.4. Monitoring
- 1.8. Electrolytes Sodium (Na+); Potassium (K+); Calcium (Ca++)
  - 1.8.1. Classification
  - 1.8.2. Diagnosis
  - 1.8.3. Treatment
  - 1.8.4. Monitoring
- 1.9. Glucose
  - 1.9.1. Classification
  - 1.9.2. Diagnosis
  - 1.9.3. Treatment
  - 1.9.4. Monitoring
- 1.10. Water Balance in Neonatal Admitted to the ICU: Patient Monitoring
  - 1.10.1. Classification
  - 1.10.2. Diagnosis
  - 1.10.3. Treatment
  - 1.10.4. Monitoring



*Learn how to measure the internal environment: balance sheets. Join this 100% online diploma program and expand your knowledge in this crucial topic for medical practice”*

# 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 Renal Disorders in Neonatology and in the Internal Environment 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 Renal Disorders in Neonatology and in the Internal Environment** 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 diploma 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 Renal Disorders in Neonatology and in the Internal Environment**

Official N° of hours: **150 h.**



\*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.

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



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