

# Postgraduate Diploma

## Infection in the Neonatal Period





## Postgraduate Diploma Infection in the Neonatal Period

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-infection-neonatal-period](http://www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-infection-neonatal-period)

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01

# Introduction

Infectious diseases, due to their frequency in emergency department and primary care, account for more than 60 percent of consultations. From the end of the neonatal period to 5 years of age, pneumonia, malaria and diarrhea are the main causes of death. As can be intuited, this leads to a therapeutic approach, which in many cases will be with antibacterial, antiviral or antifungal agents.





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*The Postgraduate Diploma in Infection in the Neonatal Period the most complete and up-to-date scientific program on the market”*

Infectiology is constantly undergoing changes. At the epidemiological level, with the emergence or re-emergence of certain diseases that are unknown or have little practice (zika, chikungunya, hemorrhagic fevers, among others), others that have fallen into oblivion or are unknown to younger physicians such as diphtheria, measles, whooping cough or flaccid paralysis associated with the polio vaccine virus.

At the therapeutic level, the emergence of resistance (BLEES, MRSA, carbapenem-resistant enterobacteria, etc.), often caused by our unwise and rational use of drugs, creates problems for the clinician when it comes to initial empirical treatment in certain situations.

At the diagnostic level, the increasingly frequent availability of new techniques allows a more rapid etiological diagnosis or by complementary techniques that require clinical diagnostic orientation such as ultrasound, computed tomography or magnetic resonance imaging. Without forgetting the support that the clinician has in laboratory tests that determine acute phase reactants such as procalcitonin or C-reactive protein, which are sometimes given excessive importance, forgetting that we treat patients and not laboratory results.

All this means that, in order to attend these patients with the maximum guarantee, the clinician must maintain a continuous specialization, even if they are not a specialist, since, as we have mentioned, the percentage of visits or interconsultations related to the infection is very high. If we add to this the increasing lack of specialization of parents, sometimes not always contrasted, professional updating becomes essential in order to be able to provide the appropriate in specialization according to the scientific evidence in force at any given moment.

The Postgraduate Diploma in **Infection in the Neonatal Period** is the most complete and up-to-date scientific program on the market. The most important features of the program include:

- ♦ Clinical cases presented by experts in the different specialties. The graphic, schematic, and eminently practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional practise.
- ♦ News on Infection in the Neonatal Period
- ♦ Algorithm-based interactive learning system for decision-making in the presented clinical situations.
- ♦ With a special emphasis on evidence-based medicine and research methodologies in Infection in the Neonatal Period.
- ♦ All of this will be complemented by 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.



*Update your knowledge through the Postgraduate Diploma in Infections in the Neonatal Period in a practical way and adapted to your needs"*



“ *This Postgraduate Diploma may be the best investment you can make in the selection of an up-to-date program for two reasons: in addition to updating your knowledge in Infection in the Neonatal Period, you will obtain a Postgraduate Diploma from TECH Global University*”

It includes in its teaching staff health professionals belonging to the field of Infection in the Neonatal Period, who pour into this specialization the experience of their work, in addition to recognized specialists belonging to scientific societies of reference.

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 training program to train in real situations.

This program is designed around Problem Based Learning, whereby the physician must try to solve the different professional practice situations that arise during the course. For this reason, you will be assisted by an innovative, interactive video system created by renowned and experienced experts in the field of Neonatal Infectology with extensive teaching experience.

*Increase your decision-making confidence by updating your knowledge with this Postgraduate Diploma course in Infection in the Neonatal Period.*

*Don't miss the opportunity to update your knowledge on Infection in the Neonatal Period to improve patient care”*



02

# Objectives

The main objective of the program is the development of theoretical and practical learning, so that the physician can master in a practical and rigorous way the study of Infection in the Neonatal Period.





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*This refresher program will generate a sense of security in the performance of the physician's praxis, which will help you grow personally and professionally"*



## General Objective

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- Update the knowledge of the pediatrician or the physician who treats children, through the latest advances in the field of Neonatal Infectology, in order to increase the quality of care, the safety of the physician and achieve the best outcome for the patient.



## Specific Objectives

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- Describe the current epidemiology with the changes that have occurred in the last decade.
- Identify the epidemiological situation of bacterial meningitis.
- Explain the epidemiology of tuberculosis in our environment and the resistance to treatment.
- Describe the microbiome, its relationship to health and disease.
- Explain the role of fever associated with infection and antipyretic therapeutics.
- Describe the alterations of the immune system that contribute to vulnerability to infection.
- Describe the management of severe sepsis and code sepsis.
- Identify the updated diagnostic criteria for viral hepatitis and its current treatment.
- Describe the appropriate management of tuberculosis: infection, disease and contact study.
- Acquire current knowledge of Mycoplasma pathology.
- Describe the management of vertically transmitted or adolescent HIV infection.



- ♦ Describe the use of antiretrovirals, determination of resistance and side effects.
- ♦ Describe the optimal and rational use of antibacterials against multidrug-resistant bacteria.
- ♦ Describe the current use of vaccines, doses, intervals, side effects, responses to anti-vaccine movements.
- ♦ Describe the indications for antibiotic prophylaxis and post-exposure prophylaxis.

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*Take the opportunity and take the step to get up to date on the latest developments in Infection in the Neonatal Period”*





03

# Course Management

This program includes in its teaching staff health professionals of recognized prestige, who belong to the field of Infection in the Neonatal Period and who pour into this specialization the experience of their work. In addition involved, renowned specialists, members of prestigious national and international scientific communities, are in designing and preparing the program.







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*Learn latest advances in Infection  
in the Neonatal Period from  
leading professionals”*



## Guest Director



### Dr. Hernández-Sampelayo Matos, Teresa

- ♦ Head of Pediatrics Service and ACES at the Gregorio Marañón General University Hospital.
- ♦ Head of the Pediatric Infectious Diseases Section at the Gregorio Marañón General University Hospital.
- ♦ Accreditation by ANECA as a contract professor Doctor of the National Agency for Quality Assessment and Accreditation.
- ♦ Emergency Pediatrics of the Autonomous University of Madrid. Medicine.
- ♦ Pediatric Gastroenterology of the Autonomous University of Madrid. Medicine.
- ♦ Neonatology of the Autonomous University of Madrid. Medicine.
- ♦ Project on Determination of free cytokine profile in plasma and specific response against Mycobacterium tuberculosis. Utility as biomarkers in children with active tuberculous disease and latent tuberculous infection.
- ♦ Pediatric Antifungal Optimization Program at Astllas Pharma Europe Ltd.

## Management



### Dr. Otero Reigada, María Carmen

- ♦ Former chief clinician in infectious diseases and infants at La Fe de Valencia University Hospital.
- ♦ Pediatric Infectious Diseases Specialist.
- ♦ Specialist in Clinical Microbiology.
- ♦ Currently pediatrician and pediatric infectologist at Quironsalud Hospital of Valencia.

## Teachers

### **D. Aguilera Alonso, David**

- ♦ Attending Physician in Pediatrics and Specific Areas / Pediatric Infectious Diseases Unit at the Gregorio Marañón General University Hospital.
- ♦ Degree in Medicine and Surgery from the Universitat de València.
- ♦ Master's Degree in Pediatric Infectious Diseases at the Complutense University of Madrid.

### **Dr. Calle Miguel, Laura**

- ♦ Health Service of the Principality of Asturias, Health Area V, Pediatric Specialist Physician.
- ♦ Master's Degree in Research in Medicine from the University of Oviedo
- ♦ Degree in Medicine and Surgery from the University of Oviedo.

### **Dr. Hernanz Lobo, Alicia**

- ♦ Assistant Pediatric Physician at the Gregorio Marañón General University Hospital.

Graduated in Medicine from the Complutense University of Madrid (UCM) in 2012.

- ♦ Specialist in Pediatrics and its Specific Areas, having specialization as a resident intern at the Gregorio Marañón General University Hospital.
- ♦ Master's Degree in Pediatric Infectious Diseases Complutense University of Madrid.

### **Dr. Manzanares Casteleiro, Ángela.**

- ♦ Medical Doctor, Autonomous University of Madrid. Completion of the Pediatrics specialty in May 2020.
- ♦ Currently working until 12/31/2020 in the Pediatric Infectious Diseases Section of the 12 de Octubre University Hospital and the Pediatric Clinical Research Unit of the 12 de Octubre Hospital.
- ♦ Studying since October 2020 the Master's Degree in Pediatric Infectious Diseases at the Complutense University of Madrid with clinical practice at the Gregorio Marañón Hospital.

### **Dr. Martínez Morel, Héctor**

- ♦ Doctor of Medicine
- ♦ Specialist in Preventive Medicine and Public Health.
- ♦ Specialist Area Physician (University and Polytechnic Hospital La Fe).

### **Dr. Mollar Maseres, Juan**

- ♦ Head of Section of Preventive Medicine (University and Polytechnic Hospital La Fe).
- ♦ Doctor of Medicine

### **Dr. Meyer García, Mari Carmen**

- ♦ Specialist in Preventive Medicine and Public Health.
- ♦ Specialist Area Physician (University and Polytechnic Hospital La Fe).

### **Dr. Gobernado Serrano, Miguel**

- ♦ Specialist in Clinical Microbiology, attached to the University and Polytechnic Hospital La Fe, of Valencia.

### **Dr. Izquierdo Macián, Isabel**

- ♦ Chief from the Neonatology Service of the Child Disease Area.

04

# Structure and Content

The structure of the contents has been designed by a team of professionals knowledgeable about the implications of specialization in daily medical practice, aware of the current relevance of specialization to be able to act before the pediatric patient with neurological pathology and committed to quality teaching through new educational technologies.





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## Module 1. Current Overview in Infectious Diseases

- 1.1. Update on Epidemiological and Public Health Aspects.
  - 1.1.1. Current Status of the Epidemiology of Vaccine-Preventable Diseases in the World.
- 1.2. Current Epidemiology of Relevant Infectious Pathologies in our Environment.
  - 1.2.1. Current Epidemiology of Bacterial Meningitis.
  - 1.2.2. Current Epidemiology of Poliomyelitis and Flaccid Paralysis Due to Non-poliovirus. Relationship With Live Attenuated Virus Vaccine.
  - 1.2.3. Epidemiology of Tuberculosis and its Resistance in High-Income Countries.
  - 1.2.4. Epidemiology of Sexually Transmitted Infections in Adolescents.
- 1.3. Transmission Mechanisms in Pediatrics.
  - 1.3.1. Dynamics and Transmission Mechanisms of the Most Common Agents in Pediatrics Today (Includes Intrafamily Transmission).
    - 1.3.2 Seasonality of Infection in Pediatrics Outbreak Management
      - 1.3.2.1. Temporal Epidemiological Parameters in the Most Common Infections in the Community, Common Point Sources, Continuous, Propagative and Mixed Exposure.
- 1.4. Microbiota, Defensive and Immunomodulatory Function.
  - 1.4.1. Composition of the Intestinal Flora, Modification With Age.
  - 1.4.2. Defensive and Immunomodulatory Role of the Microbiota.
- 1.5. Fever and Inflammatory Response.
  - 1.5.1. Update on the Role of Fever in Infection and Antipyretic Therapeutics.
  - 1.5.2. Inflammatory Response and Systemic Inflammatory Response Syndrome.
- 1.6. Infections in the Immunocompromised Patient.
- 1.7. Image Interpretation of Infectious Diseases in the Pediatric Age.
  - 1.7.1. Interpretation of Ultrasound Images Applied to Infectious Pathology.
  - 1.7.2. Interpretation of TC Applied to Infectious Pathology.
  - 1.7.3. Interpretation of RNM Applied to Infectious Pathology.





**Module 2. The Laboratory in the Diagnosis of Infectious Diseases**

- 2.1. Sample Collection.
  - 2.1.1. Urine culture.
  - 2.1.2. Stool Culture.
  - 2.1.3. Graham's Test.
  - 2.1.4. Blood Cultures.
  - 2.1.5. Catheters.
  - 2.1.6. Ocular System.
  - 2.1.7. Upper Respiratory Tract.
  - 2.1.8. Lower Respiratory Tract.
  - 2.1.9. Cerebrospinal Fluid.
  - 2.1.10. Skin and Soft Tissues.
  - 2.1.11. Osteoarticular Infections
  - 2.1.12. Bone Marrow.
- 2.2. Current Application of Rapid Infection Diagnosis Methods in Primary and Specialized Care.
  - 2.2.1. Antigen Detection.
  - 2.2.2. Direct Sample Staining.
  - 2.2.3. Urgent Serology.
  - 2.2.4. Molecular Biology Techniques.
  - 2.2.5. Accelerating Antimicrobial Susceptibility Testing.
  - 2.2.6. Current Proteomic Techniques for the Diagnosis of Infectious Diseases.
  - 2.2.7. Shared Microbiologist-Clinician Decisions in Diagnosis and Treatment of Infectious Diseases.
- 2.3. Antibiograms.
  - 2.3.1. Interpretation of Antibiograms Practical Guide.
  - 2.3.2. Clinical Significance of Bacterial Resistance.
- 2.4. Interpretation of the Microbiological Report of Respiratory Specimens.
- 2.5. Interpretation of the Microbiological Report of Specimens from the Genitourinary Tract and Gastrointestinal Tract.
- 2.6. Interpretation of the Microbiological Blood Culture Report.
- 2.7. Interpretation of Cerebrospinal Fluid Microbiology Report.
- 2.8. Interpretation of the Microbiological Report in Osteoarticular Infection.
- 2.9. Interpretation of the Microbiological Report of Skin and Soft Tissue Samples.



### Module 3. Infection in the Neonatal Period

- 3.1. Neonatal Infection.
  - 3.1.1. Current Obstetric Factors Conditioning Neonatal Infection.
  - 3.1.2. Causative Agents.
- 3.2. Antibiotherapy in Pregnancy.
  - 3.2.1. Current Role of Antibiotherapy During Pregnancy.
  - 3.2.2. Current Prophylaxis of Group B Streptococcus Infection.
- 3.3. Emerging Congenital Infections.
  - 3.3.1. Chagas Disease.
  - 3.3.2. Zika
- 3.4. Classical Neonatal Infections and Current Epidemiologic Changes.
  - 3.4.1. Herpes Virus Infections..
  - 3.4.2. Rubella.
  - 3.4.3. Cytomegalovirus.
  - 3.4.4. The Son of a Mother with Tuberculosis.
  - 3.4.5. Update on Necrotizing Enterocolitis.
- 3.5. Vertical Infection.
  - 3.5.1. Update on Vertical Infection by Hepatitis B Virus and its Detection.
- 3.6. Neonatal Sepsis.
  - 3.6.1. Early Sepsis.
  - 3.6.2. Late Onset Sepsis.
- 3.7. Infections in the Neonatal Intensive Care Unit.
  - 3.7.1. Current Algorithm of Action for Fever in Children under 30 Days of Age.
  - 3.7.2. Neonatal Fungal Infection.
- 3.8. Laboratory Studies in Neonatology Units.
  - 3.8.1. Etiological Identification.
  - 3.8.2. Inflammatory Markers.
  - 3.8.3. Multiorgan Markers.



#### Module 4. Public Health Infectious Disease Control and Research

- 4.1. Emerging Infectious Diseases.
- 4.2. Diseases in Which Contact Study is Currently Indicated.
- 4.3. Mandatory Disease Reporting and its Practical Significance.
- 4.4. Indications of Directly Observed Treatment.
- 4.5. Ethics in the Research of New Antibiotics, Antivirals, Antifungals or Vaccines.
- 4.6. How to Plan a Study in Infectious Diseases?
- 4.7. Evaluation and Critical Reading of Scientific Publications.
- 4.8. Current Morbidity and Mortality of Pediatric Infectious Diseases.
- 4.9. Seasonality of Infection in Pediatrics



*A unique specialization experience,  
key and decisive to boost your  
professional development"*



05

# Methodology

This specialization provides you with a different way of learning. Our methodology uses a cyclical learning approach: *Re-learning*.

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



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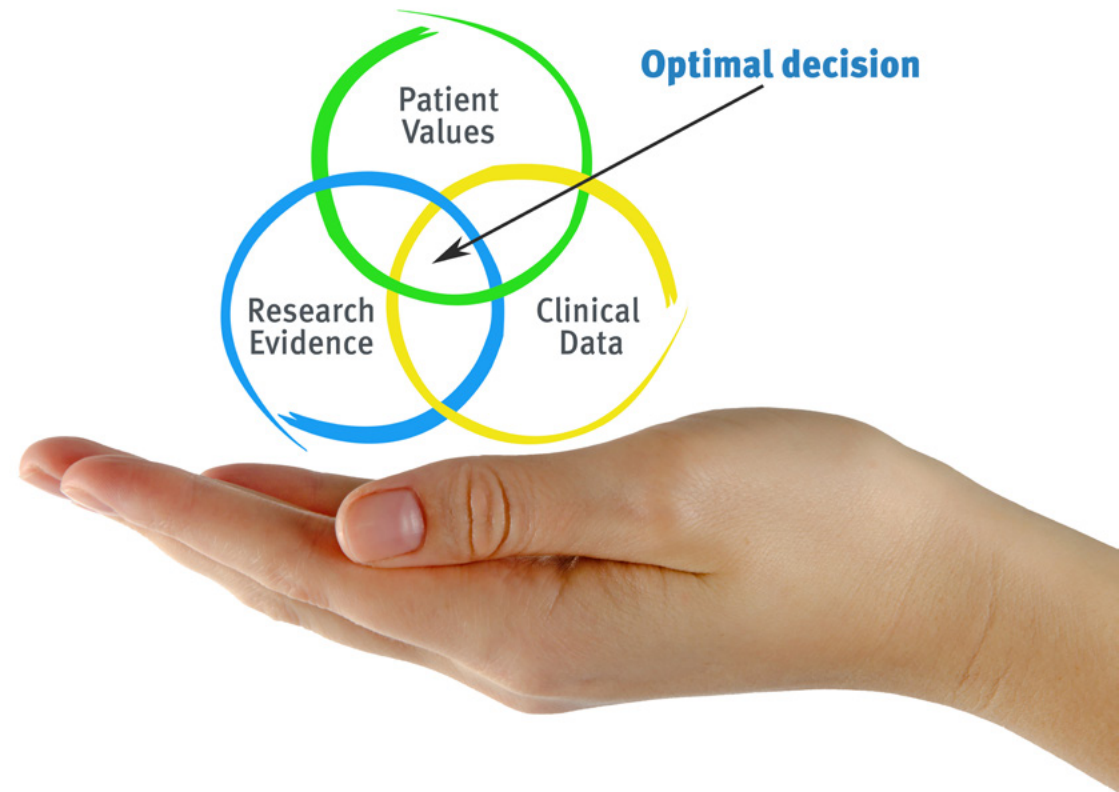
*Discover Re-learning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*



## At CEU we use the Case Method

In a given situation, what would you do? Throughout the program you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is abundant scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With CEU you can experience a way of learning that is shaking the foundations of traditional universities around the world.*



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

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

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

1. Students who follow this method not only grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Re-Learning Methodology

At CEU we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

Our University is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, which represent a real revolution with respect to simply studying and analyzing cases.



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



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

With this methodology we have trained more than 250,000 physicians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

*Re-learning will allow you to learn with less effort and better performance, involving you more in your 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 (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

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



In this program you will have access to the best educational material, prepared with you in mind:



#### Study Material

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

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



#### Latest Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



#### Interactive Summaries

We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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



#### Additional Reading

Recent articles, consensus documents, international guides... in our virtual library you will have access to everything you need to complete your specialization.







**Expert-Led Case Studies and Case Analysis**

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



**Testing & Re-testing**

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your goals.



**Classes**

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an expert strengthens knowledge and memory, and generates confidence in our future difficult decisions.



**Quick Action Guides**

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.



# 06 Certificate

The Postgraduate Diploma in Infections in the Neonatal Period guarantees you, in addition to the most accurate and up-to-date specialization, access to a Postgraduate Diploma issued by TECH Global University.





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*Successfully complete this specialisation and receive your university degree without travel or laborious paperwork”*



This private qualification will allow you to obtain a **Postgraduate Diploma in Infection in the Neonatal Period** 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.

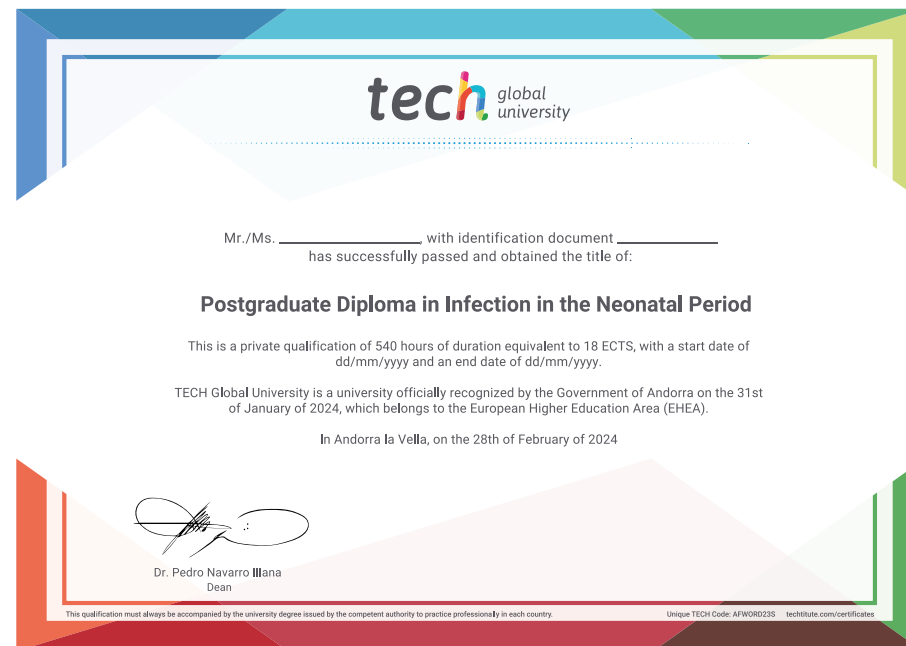
This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Diploma in Infection in the Neonatal Period**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**



future

health confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

personalized service innovation

knowledge present quality

online training

development language

virtual classroom

**tech** global  
university

## Postgraduate Diploma Infection in the Neonatal Period

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# Postgraduate Diploma

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