

# Postgraduate Certificate

Infections in Children with  
Immunodeficiencies or Other  
Deficits



## Postgraduate Certificate

### Infections in Children with Immunodeficiencies or Other Deficits

Course Modality: Online

Duration: 6 weeks

Certificate: TECH - Technological University

9 ECTS Credits

Teaching Hours: 225 hours.

Website: [www.techitute.com/us/medicine/postgraduate-certificate/infections-children-immunodeficiencies-other-deficits](http://www.techitute.com/us/medicine/postgraduate-certificate/infections-children-immunodeficiencies-other-deficits)

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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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*Improve your knowledge through this program, where you will find the best didactic material with real clinical cases. Learn here about the latest advances in the specialty to be able to perform a quality medical practice"*

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 training, 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 amount of information provided by parents, sometimes not always contrasted, professional updating becomes essential to be able to provide adequate information according to the current scientific evidence at all times.

This **Postgraduate Certificate in Infections in Children with Immunodeficiencies or Other Deficits** contains the most complete and up-to-date scientific program on the market. The most important features of the course are:

- Clinical cases presented by experts in infectology. 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 practice.
- Diagnostic and Therapeutic Novelties on Infections in Children with Immunodeficiencies or Other Deficiencies.
- 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 Children with Immunodeficiencies or Other Deficits.
- 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 Certificate in In Children with Immunodeficiencies or Other Deficits in a practical way and adapted to your needs"*

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*This Postgraduate Certificate 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 Infections in Children with Immunodeficiencies or Other Deficits you will obtain a certificate issued by TECH - Technological University"*

Forming part of the teaching staff is a group of professionals in the world of Pediatric Infectology, who bring to this course their work experience, as well as a group of renowned specialists, recognised by esteemed scientific communities.

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 student 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 recognized experts in the field of infectious diseases and with great teaching experience.

*The Postgraduate Certificate includes real clinical cases and exercises to bring the development of the Postgraduate Certificate closer to the Clinical Doctor's practice.*

*Take the opportunity to update your knowledge in Pediatric Infectious Diseases and improve your patient care.*

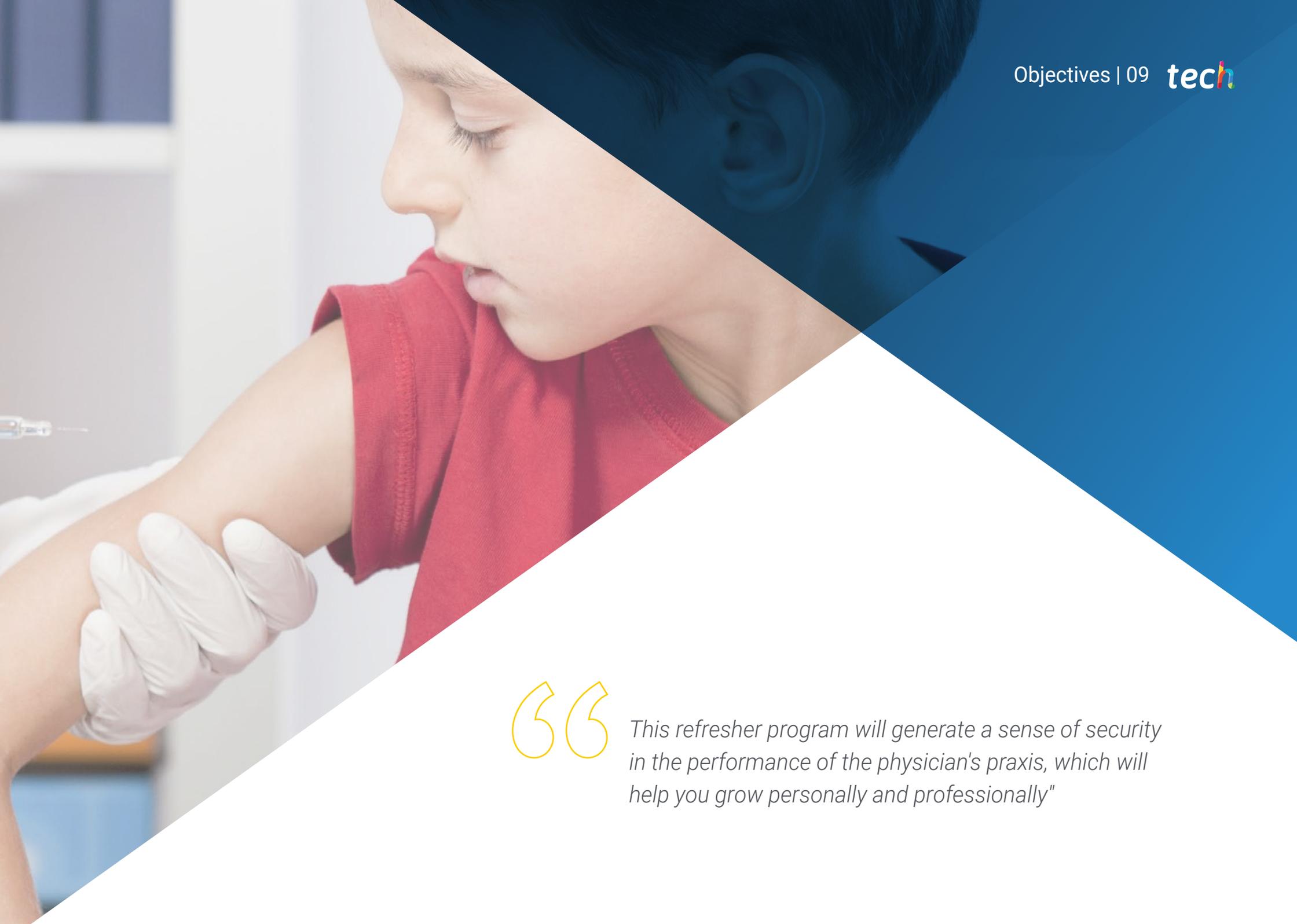


02

# Objectives

The main objective of the program is the development of theoretical and practical learning, so that the physician can master pediatric infectology in a practical and rigorous way.





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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 Primary Care or Hospital Infectious Diseases, 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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- Develop better skills and working methods related to immunosuppressed patients.
- Addressing hospital-acquired infection with outbreak control and the topicality of multidrug-resistant bacteria.
- Describe how to deal with immunosuppressed, hemato-oncologic, transplanted, neutropenic, cystic fibrosis, asplenic or major burns patients.
- Develop a strategy to deal with suspected infection(s) with associated primary immunodeficiency.
- Describe the management of vertically transmitted or adolescent HIV infection.
- Describe the use of antiretrovirals, determination of resistance and side effects.
- Determine the infectiological performance of children from low-income countries, sub-Saharan, refugees, affected by poverty.
- Explain the practical management of parasitic diseases.
- Define the responsibility of the clinician in prescribing antibiotic treatment and its consequences.
- Identify the main groups of antibacterials, antivirals and antifungals with their innovations and the judicious and rational way of drug choice.
- 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.
- Define the situations in which a contact study is indispensable.



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*Take advantage of the opportunity and take the step to get up to date on the latest developments in Infection in Children with Immunodeficiencies or Other Deficits”*

03

# Course Management

This program includes in its teaching staff health professionals of recognized prestige, who belong to the field of Pediatric Infectious Diseases, and who pour into this training 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 the latest advances in Infection in Children with Immunodeficiencies or Other Deficits 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

### Dr. 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 trained 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. Meyer García, Mari Carmen

- ♦ 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. Monteagudo Montesinos, Emilio

- ♦ Head of Pediatric Services (University and Polytechnic Hospital La Fe).

04

# Structure and Content

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





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*This Postgraduate Certificate in Infections in Children with Immunodeficiencies or Other Deficits, contains the most complete and up-to-date scientific program on the market”*

## Module 1. Infection in the Patient at Risk

- 1.1. Children with Immunomodulatory Treatments in Rheumatology.
  - 1.1.1. Action for Patients Scheduled or Subjected to Immunomodulatory Treatments.
- 1.2. Current Empiricism of Infections in Oncology Patients.
  - 1.2.1. Adenovirus Infections in Hemato-Oncology.
  - 1.2.2. Diagnostic and Therapeutic Approach to Febrile Neutropenia in Cancer Patients.
  - 1.2.3. Empirical and Targeted Treatment of Infections in Cancer Patients.
- 1.3. Infections and Current Response to Children with Underlying Pathology.
  - 1.3.1. Infections and Scenarios that Should Raise Suspicion of Primary Immunodeficiency.
  - 1.3.2. Infections in Children with Cystic Fibrosis.
  - 1.3.3. Management of the Febrile Asplenic Patient.
- 1.4. Current Approach to Infections in the Transplanted Child.
  - 1.4.1. Cytomegalovirus and BK Virus Infections in Transplant Recipients.

## Module 2. HIV Infection in Pediatrics and Adolescence

- 2.1. Vertical Transmission.
  - 2.1.1. Current Situation of Vertical Transmission in our Environment.
  - 2.1.2. Prevention and Management.
- 2.2. Infection in Adolescents.
- 2.3. Antiretrovirals in Pediatrics.
  - 2.3.1. Updates.
  - 2.3.2. Combinations.
  - 2.3.3. Determination of Resistance.
    - 2.3.3.1. Side Effects and Metabolic Alterations.
- 2.4. Pharmacokinetics.
  - 2.4.1. Interactions.
  - 2.4.2. Level Monitoring.
- 2.5. When and How to Start HAART.
- 2.6. Current Management of HBV and HCV Coinfection.



### Module 3. Infections Associated with Social Changes or Deficits

- 3.1. Infections Associated with Social Deficits.
  - 3.1.1. Infections Associated with Social Deficits.
  - 3.1.2. Current Child Poverty and Infections in our Environment.
- 3.2. Tropical diseases
  - 3.2.1. Initial Infectiological Examination of Newly Arrived Immigrant Children and Children from International Adoptions.
  - 3.2.2. Febrile Syndrome in the Child Coming from a Low-Income Country or from the Tropics, Regardless of the Reason for the Trip.
  - 3.2.3. Malaria. Current Diagnostic and Therapeutic Management.
  - 3.2.4. Vector-Borne Infections Dengue. Chikungunya Zika
  - 3.2.5. Vector-Borne Diseases Schistosomiasis Onchocerciasis.
  - 3.2.6. Parasitic Diseases Ascaris, Amoebas, Tenias, Oxyuris, Strongyloides. Trichuris Trichiura.



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

05

# Methodology

This training program 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 TECH 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 TECH you can 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 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 professional medical 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 TECH 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 Postgraduate Certificate you will have access to the best educational material, prepared with you in mind:



### Study Material

After a complex production process, we transform the best content into high-quality educational and audiovisual multimedia. We select the best syllabus and make it available to you. Everything you need to acquire in-depth knowledge of a discipline, from A to Z. Lessons written and chosen by specialists in each of the disciplines.



### Surgical techniques and clinical procedures on video

We bring you closer to the newest techniques, to the latest scientific advances, to the forefront of current doctor news. 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.



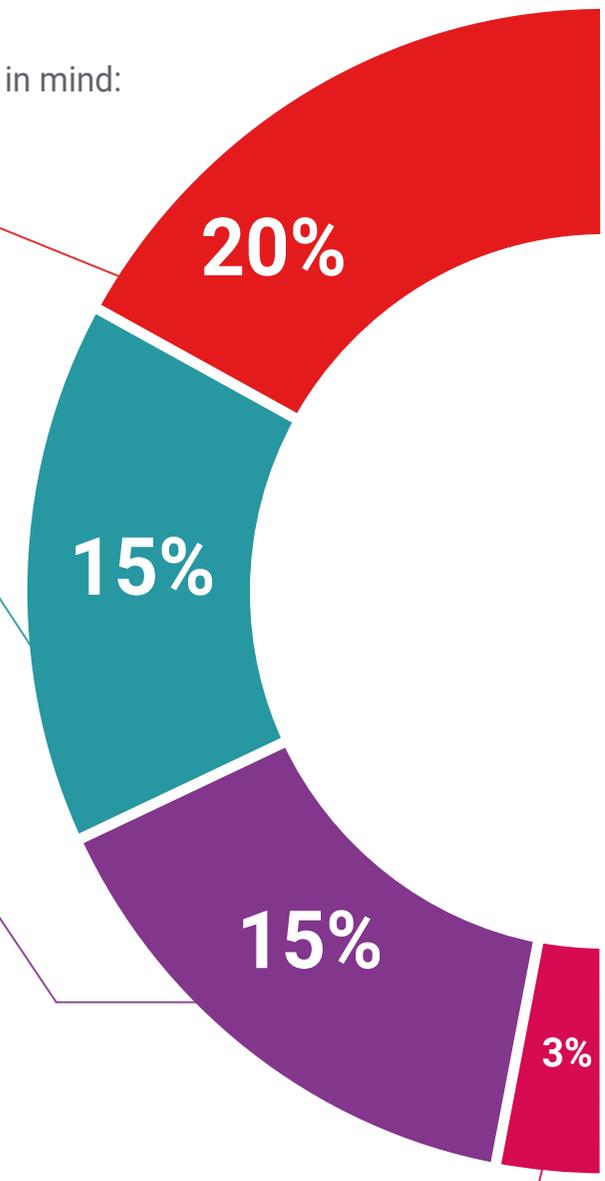
### Interactive Summaries

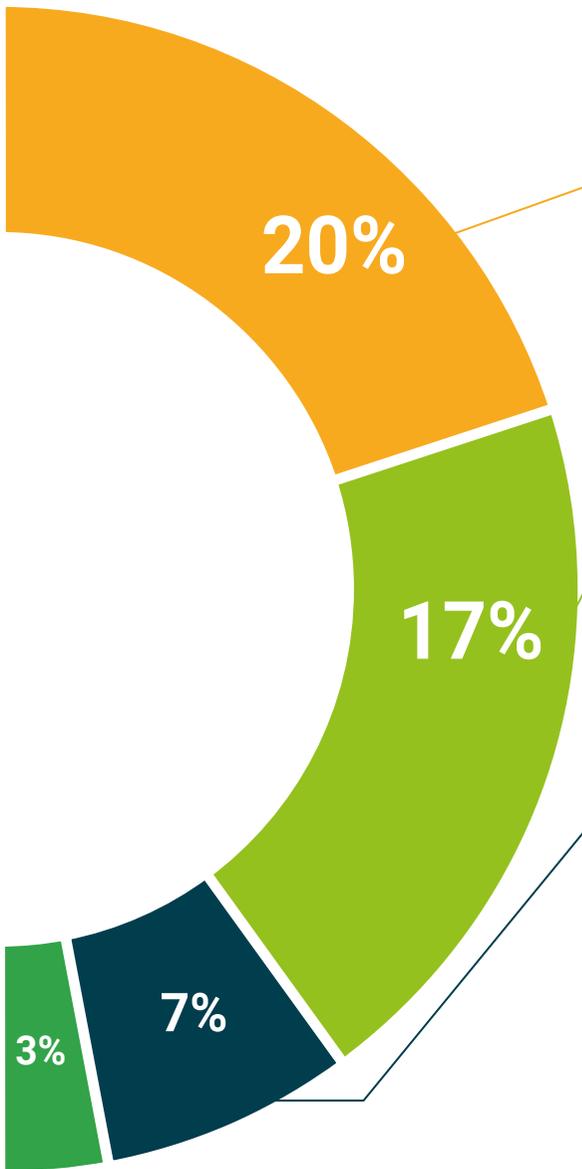
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge. This unique training system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



### Additional Reading

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





#### Expert-Led Case Studies and Case Analysis

Through the narratives of expert professionals, it is possible to acquire a high degree of understanding of the most frequent problematic situations. The professional's healthcare practice is not alien to the context in which it takes place. If we want to train ourselves to improve our professional practice, this training must be situated within the context in which it takes place.



#### Testing & Re-testing

We periodically evaluate and re-evaluate your knowledge throughout this program through activities and evaluative exercises.



#### Classes

There is scientific evidence suggesting that observing third-party experts can be useful. Learning from an expert strengthens knowledge and recall, and generates confidence in our future difficult decisions



#### Quick Action Guides

One of the most important functions of our team is to select those contents considered essential and present them in the form of worksheets or quick action guides to facilitate their understanding.



06

# Certificate

The Postgraduate Certificate in Infections In Children with Immunodeficiencies or Other Deficits guarantees you, in addition to the most rigorous and up-to-date training, access to a Postgraduate Certificate issued by TECH - Technological University.



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

This **Postgraduate Certificate in Infections in Children with Immunodeficiencies or Other Deficits** contains the most complete and up-to-date scientific program on the market.

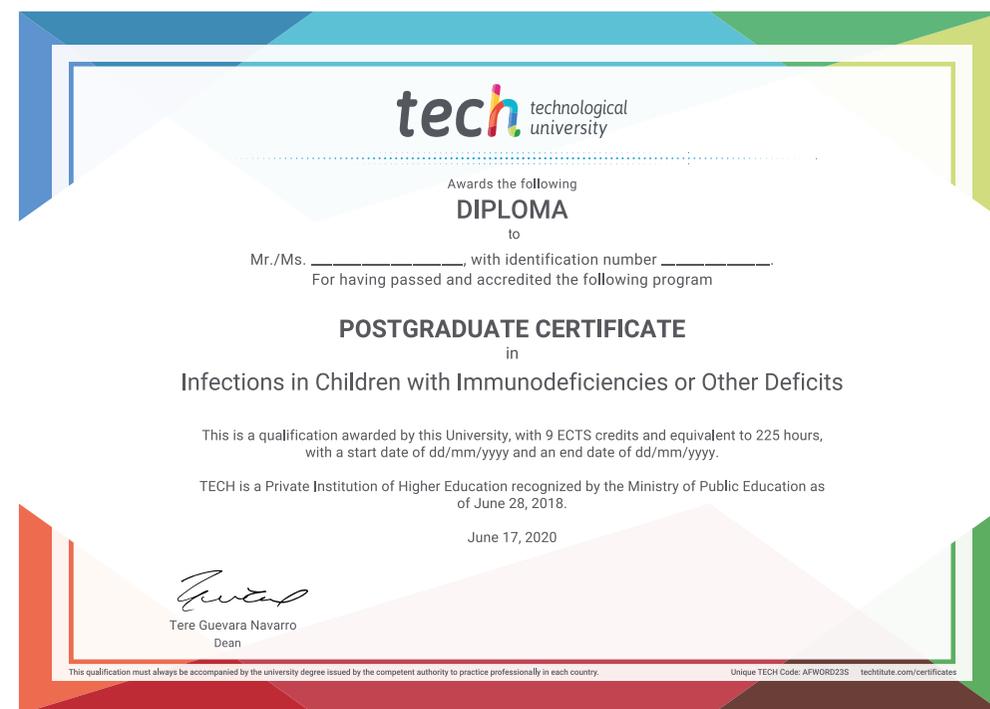
Once the student has passed the evaluations, they will receive their corresponding **Postgraduate Certificate** issued by **TECH - Technological University** via tracked delivery.

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

Title: Postgraduate Certificate in Infections in Children with Immunodeficiencies or Other Deficits

ECTS: 9

Official Number of Hours: 225 hours.



\*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.

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



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