

# Hybrid Professional Master's Degree

## Pediatric Infectious Diseases



## Hybrid Professional Master's Degree

### Pediatric Infectious Diseases

Course Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Technological University

Teaching Hours: 1,620 h.

Website: [www.techtitute.com/in/medicine/hybrid-professional-master-degree/hybrid-professional-master-degree-pediatric-infectious-diseases](http://www.techtitute.com/in/medicine/hybrid-professional-master-degree/hybrid-professional-master-degree-pediatric-infectious-diseases)

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# 01

# Introduction

The approach to infectious diseases in pediatrics has incorporated numerous updates derived from research and demographic changes. In addition, these conditions account for 60% of the consultations that children receive in emergency departments and primary care. The professional must constantly incorporate the new scenarios that arise in order to be able to provide an adequate response to these diseases, which can also pose a significant risk at a social level. Therefore, this program brings together, like no other program, the theoretical and practical advances in Pediatric Infectious Diseases. Its educational program is divided into two distinct phases consisting of online learning of new content and intensive classroom training at a prestigious hospital center.



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*The most updated, intensive and quality training, with the most complete theoretical knowledge in Pediatric Infectious Diseases and the opportunity to put it to the test during the subsequent practical training in a reference hospital"*

The increasingly frequent availability of novel techniques in the area of Pediatric Infectious Diseases allows for faster and more effective diagnoses. At the same time, this medical sector has incorporated different technological resources such as ultrasound scans, CT scans and others to detect different pathogens.

This is in addition to innovation in laboratory testing. On the other hand, in the therapeutic scenario, treatments based on immunomodulatory proteins and other therapies based on potent antibiotics and antivirals have become more widespread, and in view of this constant evolution, it is essential for professionals to update their knowledge in order to implement the most innovative procedures based on current scientific evidence.

In this context, TECH has designed an innovative program consisting of two distinct educational phases. The first of these, of a theoretical nature, will delve into the latest innovations in this health area with special attention to the combination of techniques and tools for the diagnosis of different pathologies. These subjects, as well as the most advanced therapeutic strategies of the moment, will be collected in a 100% online and interactive learning platform. The program is based on didactic methods such as Relearning and the discussion of various case studies.

Likewise, in the practical training of this Hybrid Professional Master's Degree, the pediatrician will have access to a highly demanding hospital center where they will be able to put into practice everything they have learned. This intensive, face-to-face stay will be extended for 3 weeks, until 120 educational hours have been completed. In these institutions, the physician will work directly with leading experts in this field of health and, at the same time, will be supervised by an assistant tutor. You will also have the opportunity to handle novel technologies and apply your new skills in the specialized care of real patients. In short, this is a unique academic experience that will bring you up to date on the main innovations in Pediatric Infectious Diseases in just one year.

This **Hybrid Professional Master's Degree in Pediatric Infectious Diseases** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ More than 100 clinical cases presented by experts in the different specialties. Its graphic, schematic and practical contents, which are designed to provide scientific and healthcare expertise in medical disciplines that are essential for professional practice
- ♦ Comprehensive systematized action plans for major pathologies
- ♦ Presentation of practical workshops on procedures diagnosis, and treatment techniques
- ♦ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- ♦ Practical clinical guides on approaching different pathologies
- ♦ With a special emphasis on evidence-based medicine and research methodologies
- ♦ 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
- ♦ In addition, you will be able to carry out a clinical internship in one of the best hospitals in the world

*“You will enjoy an intensive 3-week stay in a prestigious clinical center where you will be able to catch up on the latest advances in Pediatric Infectious Diseases”*

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*Through this program you will be able to complete your studies by doing your internship in a hospital equipped with the technological means and approaches of the future, with the best medical technology and alongside renowned specialists in this medical field"*

In this Professional Master's Degree proposal, of a professionalizing nature and blended learning modality, the program is aimed at updating medical professionals in the field of Pediatric Infectious Diseases. The contents are based on the latest scientific evidence, and oriented in a didactic way to integrate theoretical knowledge into practice, and the theoretical-practical elements will facilitate the updating of knowledge and will allow decision making in patient management.

Thanks to its multimedia content developed with the latest educational technology, they will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive learning programmed to train in real situations. The design of this program focuses on Problem Based Learning, through which the student will have to try to solve the different professional practice situations that will arise throughout the program. This will be done with the help of an innovative interactive video system developed by renowned experts with extensive teaching experience.

*This Hybrid Professional Master's Degree allows you to practice, first, in simulated environments that provide immersive learning, and then in the real hospital environment testing everything you have studied.*

*Update your knowledge through this theoretical and practical program, in a fast way and adapted to your needs.*



# 02

## Why Study this Hybrid Professional Master's Degree?

Pediatric Infectious Diseases has advanced considerably in recent years as a result of a wide range of scientific and technological research. Thanks to these innovations, health professionals, specialized in this area, can now implement much more efficient and comprehensive diagnostic methods and therapeutic strategies. The successive transformations in this sector have promoted a need for constant updating among pediatricians. These new procedures and competencies will be within your reach through this Hybrid Professional Master's Degree that combines the updating of theoretical contents with a practical and face-to-face stay in a top-level clinical instance.





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*TECH will help you master the most innovative medical protocols to treat infectious diseases in children such as some Herpes and febrile syndromes"*

### 1. Updating from the latest technology available

Pediatric Infectious Diseases has incorporated different technologies, in recent years, to its diagnostic protocols. These include computerized tomography and ultrasound scans adjusted to the anatomy of the child and adolescent. On the other hand, they have also innovated in the search for much more specialized and comprehensive laboratory tests. Physicians will be able to access all of them thanks to this Hybrid Professional Master's Degree.

### 2. Gaining In-Depth Knowledge from the Experience of Top Specialists

Throughout this program, the pediatrician will have access to the best experts. Initially, you will dialogue with prestigious professors who will guide your theoretical learning. Likewise, during the Internship Program's practical training, they will be linked to prestigious professionals, based in the best hospitals, who will be in charge of supervising their academic progress at all times.

### 3. Entering First-Class Clinical Environments

TECH has made a careful selection of the best medical institutions dedicated to the Pediatric Infectious Diseases sector. These instances have the most advanced technological resources, as well as an excellent health personnel that will accompany the pediatrician through this update, allowing them to assimilate new procedures and therapeutic methods.





#### 4. Combining the Best Theory with State-of-the-Art Practice

Pediatric Infectious Diseases teaching programs rarely combine theoretical updating with the practical execution of techniques and work procedures. However, TECH has decided to break with that through a new mode of study, in the form of a Hybrid Professional Master's Degree, which will allow students to apply all their skills in the care of real patients, from the first educational moment.

#### 5. Expanding the Boundaries of Knowledge

This program offers the possibility to carry out the practical training of this program in centers of international importance. In this way, the specialist will be able to expand his frontiers and keep up to date with the best professionals, who practice in first class hospitals and in different continents. This unique opportunity is only possible thanks to the wide network of contacts and agreements available at TECH, the world's largest digital university.

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*You will have full hands-on immersion at the center of your choice”*

# 03

## Objectives

The main objective of this program is to ensure that the professional updates the diagnostic and therapeutic procedures of this specialty in a complete manner. Thus, in order to achieve this goal, you will be provided with a series of updated contents on the latest scientific evidence in Infectious Diseases applied to pediatric patients. In addition, after the theoretical-practical phase of the academic itinerary, TECH offers a practical and face-to-face stage in a leading clinical center where catching up will be a quick, simple and dynamic task.



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*This Hybrid Professional Master's Degree will provide you with the latest advances in Pediatric Infectious Diseases in a practical way and totally adapted to your professional needs"*



## General Objective

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- Among the general objectives established by this program, the main one is to update the knowledge of the pediatrician or the physician who takes care of children, through the latest advances in the field of Primary Care or Hospital Infectious Diseases. Thus, from the innovative syllabus prepared in this Hybrid Professional Master's Degree, and with access to a fully face-to-face stay in a prestigious clinic, the professional will have the opportunity to obtain the most recent innovations in this complex and exciting area



*TECH's teaching methodology will allow you to combine your professional activity with this academic program, since it is completely adapted to your personal circumstances"*





## Specific Objectives

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### Module 1. Current Overview in Infectious Diseases

- ♦ 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

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

- ♦ Explain the new methods used in blood culture and manage the sample processing technique
- ♦ Define the fundamentals, indications, limitations and cost-effectiveness of rapid virus identification methods and their use in daily practice
- ♦ Discern on the application of IGRAS
- ♦ Analyze the proper interpretation of an antibiogram
- ♦ Identify the limitations of serology
- ♦ Describe genetic methods for the diagnosis of infection

### **Module 3. Infection in the Neonatal Period**

- ♦ Identify risk factors, microorganisms and prevention of infection in neonatology
- ♦ Identify congenital infections
- ♦ Describe the current situation of vertically transmitted infections
- ♦ Practice the algorithms for action against infection in the neonatal period
- ♦ Identify early and late neonatal sepsis
- ♦ Address the diagnostic and therapeutic management of the main community-acquired infections in patients older than 30 days

### **Module 4. Eye, Skin, Soft Tissue and Skeletal System Infections**

- ♦ Analyze the different complementary explorations to be used cost-effectively in community-acquired infections
- ♦ Describe the clinical manifestations of diseases affecting the skin and soft tissues
- ♦ Develop a correct strategy in the differential diagnosis of diseases with exanthema

### **Module 5. ENT and Respiratory Infections**

- ♦ Identify complications of diseases such as community-acquired pneumonia or pyelonephritis
- ♦ Describe the appropriate management of tuberculosis: infection, disease and contact study
- ♦ Acquire current knowledge of Mycoplasma pathology

### **Module 6. Gastrointestinal and Urinary Tract Infections and STDs**

- ♦ Define the procedure for exploratory and preventive actions for renal or urinary malformations, as well as vesicoureteral reflux in urinary tract infections
- ♦ Describe the management of severe sepsis and code sepsis

### **Module 7. Febrile Syndromes and Exanthems**

- ♦ Identify the up-to-date diagnostic criteria for viral hepatitis and their current treatment

### **Module 8. Nosocomial Infections.**

- ♦ Discern the use of antibacterial treatments in surgical pathology
- ♦ Differentiate between viral and bacterial respiratory infections by clinical, epidemiological and complementary examinations
- ♦ Addressing hospital-acquired infection with outbreak control and the topicality of multidrug-resistant bacteria

### **Module 9. HIV Infection in Pediatrics and Adolescence**

- ♦ Diagnose complications of viral diseases
- ♦ 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

### **Module 10. Systemic, Cardiovascular and Nervous System Infections**

- ♦ Describe the management of central nervous system infections and the differential diagnosis with autoimmune encephalitis



**Module 11. Infections associated with Social Changes or Deficits**

- ♦ Develop better skills and working methods related to immunosuppressed patients
- ♦ Describe how to deal with immunosuppressed, hemato-oncologic, transplanted, neutropenic, cystic fibrosis, asplenic or major burns patients
- ♦ Determine the infectiological performance of children from low-income countries, sub-Saharan, refugees, affected by poverty

**Module 12. Infection in the Patient at Risk**

- ♦ Explain the practical management of parasitic diseases
- ♦ Define the responsibility of the clinician in prescribing antibiotic treatment and its consequences

**Module 13. Treatment in Pediatric Infectious Diseases**

- ♦ 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

**Module 14. Preventive Measures**

- ♦ 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

**Module 15. Public Health Infectious Disease Control and Research**

- ♦ Define the situations in which a contact study is indispensable
- ♦ Explain the ethical implications and repercussions in the research of antibacterial, antiviral, antifungal drugs or vaccines



*It delves into the most relevant theory in this field, subsequently applying it in a real work environment"*

# 04 Skills

This Hybrid Professional Master's Degree will allow you to acquire the necessary theoretical and practical skills and updated intervention in Pediatric Infectious Diseases. A very complete approach, in a high-level academic program, which makes the difference.



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*It converts knowledge into first level practical skills through a real immersion in the work of this professional area, in a high quality clinical environment”*



## General Skills

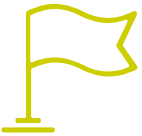
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- Understand the knowledge in such a way that they are able to generate issues or questions that are susceptible to investigation
- Knowing how to apply knowledge with the ability to solve problem cases in daily practice situations
- Acquire the ability to communicate their diagnostic and therapeutic conclusions clearly and unambiguously to families
- Acquire the ability to clearly and concisely transmit their knowledge in clinical sessions or discussions with colleagues
- Acquire the ability to continue to prepare autonomously

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*Upon completion of this program, you will be able to apply the most innovative therapeutic techniques in the management of infectious diseases with maximum effectiveness, within your daily work activity”*





## Specific Skills

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- ♦ Evaluate, implement and formulate clinical guidelines and protocols for infectious diseases or therapeutics
- ♦ Identify the main signs and symptoms of local and imported infectious diseases in the normal and immunocompromised host
- ♦ Identify the current epidemiology of pediatric infectious diseases, with changes, emergencies and variations for various reasons
- ♦ Identify the role of the microbiota in order to be able to establish hypotheses, diagnoses and appropriate therapeutic schemes
- ♦ Explain the situation of immunosuppression, as well as the infections that help in its diagnosis, the associated infections and how to reach the diagnosis
- ♦ Determine at each moment the most appropriate laboratory test for each diagnosis with knowledge of the process, the chronology and its interpretation
- ♦ Correct application of the results of antibiograms and sensitivity studies
- ♦ Identify infectious risk situations during the perinatal period and apply antimicrobials appropriately for this period of life
- ♦ Identify the main infectious syndromes in primary care with correct explanation to family members of the different steps to follow and the evolution of the processes
- ♦ Easily elucidate the need for hospitalization as , well as outpatient treatment
- ♦ Easily establish differential diagnoses and application of scientifically proven algorithms for action
- ♦ Develop competencies for the management of infectious emergencies such as sepsis, meningitis, respiratory distress in the first months of life
- ♦ Identify nosocomial infection, the microorganisms in their environment and apply control measures
- ♦ Define the management of patients at risk due to transplants, oncology, underlying diseases or febrile neutropenia
- ♦ Safely deal with adolescent infectious problems such as HIV, sexually transmitted infections and explain the different action plans
- ♦ Identify the infectious problems of internationally adopted children, refugees, immigrants, travelers, and children with social deficits and plan the action to be taken
- ♦ Safe handling of antibiotics, antiviral and antifungal drugs Gain knowledge about how to establish combinations
- ♦ Apply antibiotic therapy judiciously and rationally in order to avoid or reduce multi-resistances
- ♦ Describe the pharmacodynamic and pharmacokinetic basis of antibiotic therapy and apply it in practice
- ♦ Determine the therapeutic of choice for multiresistances
- ♦ Apply the different prevention strategies (behavioral, vaccination, antibiotic, passive immunoprophylaxis)
- ♦ Identify vaccine side effects and know how to communicate their possibilities in a rational way
- ♦ Identify the need for mandatory reporting of certain diseases, those susceptible to contact studies, those susceptible to isolation, etc
- ♦ Manage scientific databases for carrying out reviews and bibliographic searches of scientific studies
- ♦ Conduct a critical study on topics of scientific interest in Infectious Diseases
- ♦ Describe how to communicate the results of a research study after having analyzed, evaluated and synthesized the data

05

# Course Management

The professors of this program have extensive experience in the medical area of Pediatric Infectious Diseases. These experts are up to date on the latest technological tools that facilitate the diagnosis and treatment of this type of pathology. At the same time, they master the most advanced procedures within this scientific field. The specialists, in turn, have created various teaching materials that will help the health professional to assimilate the new contents in a much faster and more flexible way.



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*TECH professors will offer you personalized guidance and will be in charge of solving your doubts and clarifying concepts of interest in this academic sector"*

## Management



### Dr. Teresa Hernández-Sampelayo Matos

- ♦ Head of the Pediatrics Department at the Gregorio Marañón General University Hospital
- ♦ Head of the Pediatric Infectious Diseases Section at the Gregorio Marañón General University Hospital
- ♦ Pediatrics Urgent at Gregorio Marañón General University Hospital
- ♦ Gastroenterology Pediatrics at Gregorio Marañón General University Hospital
- ♦ Neonatology at Gregorio Marañón General University Hospital
- ♦ Secretary of the Spanish Society of Pediatric Infectology
- ♦ Leader of Pediatric Antifungal Optimization Program at Astllas Pharma Europe Ltd
- ♦ PhD in Medicine and Surgery from the Autonomous University of Madrid



### Dr. María del Carmen Otero Reigada

- ♦ Pediatric Infectious Diseases Specialist
- ♦ Pediatrician and Pediatric Infectious Diseases specialist at Hospital Quirónsalud. Valencia, Spain
- ♦ Former Clinical Chief of Infectious Diseases and Infants at the University Hospital and Polytechnic La Fe
- ♦ Pediatric Infectious Diseases Specialist
- ♦ Specialist in Clinical Microbiology



## Professors

### Dr. David Aguilera Alonso

- ♦ Assistant Physician of the Infectious Diseases Unit at the Gregorio Marañón General University Hospital
- ♦ Member of the joint ESPID/EUCAST working group on antibiotic dosing in children
- ♦ Master's Degree in Pediatric Infectious Diseases from the Complutense University of Madrid
- ♦ University Expert in Basic Pediatric Infectious Diseases Rey Juan Carlos University
- ♦ Diploma in Basic Pediatric Infectious Diseases from the Rey Juan Carlos University
- ♦ Member of Spanish Society of Infectious Diseases in Pediatrics, European Society of Pediatric Infectious Diseases, Spanish Society of Infectious Diseases and Clinical Microbiology, Spanish Association of Pediatrics

### Dr. Laura Calle Miguel

- ♦ Pediatrician and Expert Microbiologist
- ♦ Specialist in Pediatrics for the Health Service of the Principality of Asturias
- ♦ Advisor of the Infectious Diseases Unit at the Gregorio Marañón General University Hospital
- ♦ Pediatrician at the University Hospital of Cabueñes
- ♦ Dr. in Medicine and Surgery from the University of Oviedo
- ♦ Member of the Spanish Society of Infectious Diseases and Clinical Microbiology, Spanish Association of Pediatrics

### Dr. Alicia Hernanz Lobo

- ♦ Río Hortega Researcher at the Gregorio Marañón University General Hospital
- ♦ Attending Physician in Cardiology at the Gregorio Marañón General University Hospital
- ♦ Specialist in Intensive Care Medicine, Gregorio Marañón General University Hospital
- ♦ Collaborator of the CTO Group
- ♦ Assistant Doctor in Rey Juan Carlos University Hospital
- ♦ Master's degree in HIV Infection at the Rey Juan Carlos University
- ♦ Master's Degree in Pediatric Infectious Diseases Complutense University of Madrid

### Dr. Ángela Manzanares Casteleiro

- ♦ Specialist of the Pediatric Infectious Diseases Section at the 12 de Octubre University Hospital
- ♦ Specialist of the Pediatric Research Unit and Pediatric Infectious Diseases Section at the 12 de Octubre University Hospital
- ♦ Researcher of the Foundation for Biomedical Research of the 12 Octubre University Hospital
- ♦ MIR at the 12 de Octubre University Hospital
- ♦ Augmented Reality Project for sectorial applications at the Foundation for Biomedical Research at the 12 de Octubre University Hospital
- ♦ Degree in Medicine and Surgery from the Autonomous University of Madrid
- ♦ Master's Degree in Human Immunodeficiency Virus Infection at Rey the Juan Carlos Univeristy's Esther Campus
- ♦ Professional Master's Degree in Pediatric Infectious Diseases at the Complutense University of Madrid
- ♦ Pediatric of the Emergencies at the 12 de Octubre University Hospital
- ♦ Member of the Spanish Society of Pediatric Infectology (SEIP)

**Dr. Bienvenida Argilés Aparicio**

- ♦ Pediatric Hematologist
- ♦ Pediatrics specialist at University Hospital La Fe
- ♦ Pediatrician in Hospital Verge de la Cinta
- ♦ Member of the Spanish Society of Pediatric Hematology and Oncology

**Dr. María Bosch Moragas**

- ♦ Pediatrician at HM Sant Jordi Hospital
- ♦ Medical Specialist in Pediatrics for the Catalanian Health Service
- ♦ Pediatric Physician for CAP St Anadreu

**Dr. Emilia Cantón Lacasa**

- ♦ Researcher at the Microbiology Laboratory of the University Hospital La Fe
- ♦ Doctor of Medicine from the University of Barcelona
- ♦ Member of the Spanish Society of Infectious Diseases and Clinical Microbiology

**Dr. José Isidro Cambra Sirera**

- ♦ Head of Section of the Pediatrics Service at the Hospital Lluís Alcanyís. Xàtiva, Spain
- ♦ Degree in Medicine

**Dr. Adela Canyete Nieto**

- ♦ Head of the Pediatric Oncology Unit of the University Hospital La Fe
- ♦ Head of Section of SurPass against Childhood Cancer in Spain
- ♦ Member of the Clinical Research Institute and the Molecular Council of Pediatric Tumors of La Fe
- ♦ Vice-president of the Spanish Society of Pediatric Oncology-Hematology

**Dr. Miguel Couselo Jerez**

- ♦ Pediatric Oncologic Surgeon
- ♦ Pediatric Surgeon at the University Hospital and Polytechnic La Fe
- ♦ PhD in Medicine from the University of Valencia

**Dr. Isidoro Cortell Aznar**

- ♦ Specialist in Pediatric Pneumology at the University Hospital and Polytechnic La Fe
- ♦ Research Fellow in Pediatric Pneumology
- ♦ Degree in Medicine

**Dr. María Ángeles Dasí Carpio**

- ♦ Head of Hematology La Unit, La Fe Polytechnic and University Hospital (Valencia)
- ♦ Medical Specialist of the Acupuncture Unit of the at the La Fe University and Polytechnic Hospital

**Dr. Rosa Fonseca Martín**

- ♦ Pediatric Urological Surgeon
- ♦ Specialist of Pediatric Surgery Unit, La Fe Polytechnic and University Hospital
- ♦ Research Physician at Cincinnati Children's Hospital Medical Center. United States
- ♦ Master's Degree in Applied Statistics by the University of Valencia
- ♦ Master's Degree in Pediatric Urology by the University of Valencia
- ♦ Member of the Association of Pediatric Surgery and Specialties of Levante (ACPEL)

**Dr. Miguel Gobernado Serrano**

- ♦ Specialist in the La Fe Polytechnic and University Hospital
- ♦ Specialist in Microbiology of the Soria Health Care Complex at the Santa Barbara Hospital
- ♦ Miembro de la Sociedad Española de Enfermedades Infecciosas y Microbiología Clínica, Sociedad Española de Microbiología

**Dr. Damiana González Granda**

- ♦ Microbiologist Former Head of Service at the Hospital Lluís Alcanyís. Xàtiva, Valencia
- ♦ Assistant Doctor of Microbiology at Hospital Lluís Alcanyís
- ♦ Assistant Physician of Microbiology at the La Fe Polytechnic and University Hospital

**Dr. Ibáñez Martínez, Elisa**

- ♦ Pharmacist Specialist in Microbiology and Clinical Parasitology
- ♦ Assistant of Microbiology and Parasitology at the University Hospital and Polytechnic La Fe
- ♦ Resident of Clinical Microbiology and Parasitology at the La Fe Polytechnic and University Hospital
- ♦ Graduate in Pharmacy from the Complutense University of Madrid
- ♦ Master's Degree in Infectious Diseases and Antimicrobial Treatment, Clinical Microbiology and Infectious Diseases from CEU Cardenal Herrera University
- ♦ Member of Scientific Department Bypass Communication, European Society of Clinical Microbiology and Infectious Diseases, Spanish Society of Infectious Diseases and Clinical Microbiology, Valencian Society of Clinical Microbiology

**Dr. Isabel Izquierdo Macián**

- ♦ Head of the Neonatology Service of the Child Diseases Area at the La Fe Polytechnic and University Hospital
- ♦ Vice-president of the Spanish Society of Neonatology
- ♦ Author of numerous publications related to the areas of Pediatrics, Obstetrics and Gynecology related to therapy and assistance in healthy newborns, prematurity, analgesia or breastfeeding
- ♦ University Lecturer
- ♦ PhD in Medicine from the University of Valencia
- ♦ Member of: Spanish Association of Pediatrics, Spanish Society of Neonatology, Spanish Society of Neonatology

**Dr. Héctor Martínez Morel**

- ♦ Head of the Infection Control Unit at the Preventive Medicine and SP Service at the La Fe Polytechnic and University Hospital La Fe
- ♦ Head of the Epidemiology Unit at the Public Health Center of Marina Baixa. Benidorm, España
- ♦ Area Specialist in Preventive Medicine and Public Health at the La Fe Polytechnic and University Hospital La Fe
- ♦ Resident Physician of Preventive Medicine and Public Health at the University General Hospital of Alicante
- ♦ Dr. in Health Sciences, University of Alicante
- ♦ Dr. in Health Sciences from the University of Alicante
- ♦ Master's Degree in Public Health and Health Management from the University of Valencia
- ♦ International Course on Applied Epidemiology, Epidemiology in Centers for Disease Control and Prevention. Atlanta USA
- ♦ Visiting Scholar Summer Institute at the Johns Hopkins Bloomberg School of Public Health Department of Epidemiology

**Dr. María Carmen Meyer García**

- ♦ Specialist in Preventive Medicine and Public Health
- ♦ Area Specialist Physician in Preventive Medicine and Public Health, La Fe Polytechnic and University Hospital
- ♦ Author of several publication and congresses Lecturer
- ♦ University Teacher
- ♦ Degree in Medicine

**Dr. Vicente Modesto i Alarcón**

- ♦ Head of ICU and Pediatric Resuscitation Section at the La Fe Polytechnic and University Hospital
- ♦ Doctor at the Gregorio Marañón General University Hospital
- ♦ Pediatric ICU and Resuscitation Specialist Physician
- ♦ University Lecturer
- ♦ Doctor of Medicine, University of Alicante
- ♦ Degree in Medicine

**Dr. Juan Mollar Maseres**

- ♦ Head of Section of Preventive Medicine at the La Fe Polytechnic and University Hospital Valence
- ♦ Specialist in Preventive Medicine at the University Hospital San Juan de Alicante
- ♦ Doctor of Medicine
- ♦ Members of the Spanish Association of Pediatrics (AEP)

**Dr. Emilio Monte Boquet**

- ♦ Doctor of Pharmacy and Researcher
- ♦ Head of the Pharmacy Service Department, La Fe University and Polytechnic Hospital Valence
- ♦ Consultant Pharmacist Grade 4 in the Ministry of Health, Valencian Government
- ♦ University Lecturer
- ♦ Area Specialist Pharmacist at the La Fe Polytechnic and University Hospital
- ♦ President of the Scientific Committee of the VII Congress of the Valencian Society of Hospital Pharmacy (SVFH)
- ♦ Author of more than 85 publications in national and international journals
- ♦ Doctor of Pharmacy. Apto Cum Laude in Pharmacy from the University of Valencia
- ♦ Diploma in Applied Pharmacology in Pharmaceutical Care from the University of Valencia
- ♦ Diploma in Nutrition from the University of Valencia
- ♦ Degree in Pharmacy from the University of Valencia
- ♦ Master's Degree in Digital Health by Miguel de Cervantes European University
- ♦ Master's Degree in Hospital Management from the University of Alcalá de Henares, Spain
- ♦ International Master's Degree in Pharmacotherapeutic Monitoring of HIV/AIDS Patients, University of Granada, Spain
- ♦ Master's Degree in Pharmacotherapy and Hospital Pharmaceutical Care for the Rational, Safe and Cost-Effective Use of Pharmaceuticals by the European Institute for Pharmaceutical Research and Education (EIPRE)
- ♦ Member of the Spanish Society of Hospital Pharmacy (SEFH)

**Dr. Emilio Monteagudo Montesinos**

- ♦ Head of the Pediatrics Service at the La Fe Polytechnic and University Hospital. Valencia
- ♦ Vice-president of the Valencian Pediatrics Foundation of the Valencian Community
- ♦ Doctor of Medicine
- ♦ Pediatrician
- ♦ Degree in Medicine

**Dr. Sergio Negre Policarpo**

- ♦ Specialist in Gastroenterology and Child Nutrition
- ♦ Head of the Gastroenterology and Nutrition Service at Móstoles University Hospital Valencia
- ♦ University Lecturer
- ♦ Principal Investigator of Projects in the Pediatrics Area
- ♦ More than 60 papers and presentations at national and international congresses
- ♦ More than 58 books and book chapters related to Pediatrics
- ♦ Young Investigator Award Excellence in Pediatrics 2009
- ♦ End of Residency Award by the La Fe University and Polytechnic Hospital
- ♦ Doctor in Pediatrics Cum Laude from the UV
- ♦ Specialist Pediatrician
- ♦ Degree in Medicine

**Dr. Manuel Oltra Benavent**

- ♦ Specialist in the Pediatric Infectious Diseases Unit at the La Fe Polytechnic and University Hospital
- ♦ Specialist in Pediatrics at the Francesc de Borja Hospital, Health Department of Gandía
- ♦ University Lecturer
- ♦ Member of the Valencian Society of Pediatrics (SVP)

**Dr. Ana Ortí Martín**

- ♦ Pediatric Infections Diseases Specialist
- ♦ Medical Specialist in the Pediatric Oncology Unit of the Department of Pediatrics at the La Fe University Children's Hospital. Valencia, Spain
- ♦ Pediatric Specialist at the Padre Jofré Health Center. Valencia, Spain
- ♦ Author of several publications on *Kingella kingae* infections
- ♦ University Teacher
- ♦ Degree in Medicine
- ♦ Members of the Spanish Association of Pediatrics (AEP)

**Dr. Esteban Peiró Molina**

- ♦ Pediatric Specialist Doctor
- ♦ Specialist Physician of the Pediatric Cardiology Section at the La Fe Polytechnic and University Hospital Valencia, Spain
- ♦ Pediatric Cardiologist at Hospital IMED Valencia
- ♦ Researcher of the Cardiac Regeneration and Transplantation Group (RETRACAR) at the La Fe Health Research Institute
- ♦ Member of the Ergospirometry and Cardiopulmonary Rehabilitation Working Group of the Spanish Society of Pediatric Cardiology and Congenital Heart Disease (SECPC) at the La Fe Health Research Institute
- ♦ Member of the Ergospirometry and Cardiopulmonary Rehabilitation Working Group of the Spanish Society of Pediatric Cardiology and Congenital Heart Disease (SECPC) at the La Fe Health Research Institute
- ♦ University Professor
- ♦ PhD in Medicine from the University of Valencia
- ♦ Degree in Medicine and Surgery
- ♦ Specialist in Pediatrics and its Specific Areas by the La Fe Polytechnic and University Hospital
- ♦ Member of the Spanish Society of Cardiorespiratory Rehabilitation (SORECAR)

**Dr. Elena María Rincón Lopez**

- ♦ Pediatric Infectious Diseases Specialist
- ♦ Assistant Physician in the Pediatric Infectious Diseases Section at the Gregorio Marañón General University Hospital
- ♦ Pediatrician at the University Hospital of Torreon
- ♦ Resident Physician in Pediatrics at the La Fe Polytechnic and University Hospital
- ♦ Degree in Medicine from the University of Murcia
- ♦ Professional Master's Degree in Pediatric Infectious Diseases at the Complutense University of Madrid

**Dr. Héctor Rodríguez**

- ♦ Infectious Disease Specialist
- ♦ Pediatrician at the Burjassot 1 Health Center, Valencian Community
- ♦ Specialist in Infectious Diseases at IMED Hospitales. Valence
- ♦ Specialist in the University Hospital and Polytechnic La Fe
- ♦ Pediatrician in the La Fe Polytechnic and University Hospital
- ♦ Specialist in Pediatrics at the Aldaia Health Center in Manises Hospital
- ♦ Specialist Pediatrician at Sagunto Hospital
- ♦ Residency in Pediatrics at the La Fe Polytechnic and University Hospital
- ♦ Degree in Medicine from the University of Las Palmas de Gran Canaria
- ♦ Degree in Medicine from the University of Valencia
- ♦ Master's Degree in Infectious Diseases and International Health from the Miguel Hernández University of Elche
- ♦ Master's Degree in Infectious Diseases and Antimicrobial Treatment by the CEU Cardenal Herrera University
- ♦ Master's Degree in Infectious Diseases in the Emergency Department by the CEU Cardenal Herrera University
- ♦ Stay, Pediatric Infectious Diseases at the Gregorio Marañón General University Hospital, Madrid
- ♦ Residency, Pediatric Infectious Diseases at Nationwide Children's Hospital



**Dr. Macrina Sastre Cantón**

- ◆ CSISP Vaccine Research Specialist and Quality Specialist at Edwards Lifesciences
- ◆ Quality Specialist, Transcatheter Heart Valves, Edwards Lifesciences
- ◆ Coordinator of European Studies, Vaccine Research Area, Research Center at the Center of Public Health Research and Fisabio Foundation
- ◆ External Clinical Research Associate in the Medical Department of the Vaccines Area at GlaxoSmithKline
- ◆ Junior Clinical Research Associate at i3 Pharmaceutical Services of Ingenix
- ◆ Dr. in Medical Sciences from the University of Valencia
- ◆ Degree in Pharmacy (PharmD) from the University of Valencia
- ◆ Postgraduate Degree in Fundamentals of Design and Statistics for Health Sciences from the Autonomous University of Barcelona
- ◆ Master's Degree in Primary Care Research (MSc) from the Miguel Hernández University of Elche
- ◆ Master's Degree in Monitoring of Clinical Trials from the University of Barcelona

“ *This faculty has developed multimedia resources, such as infographics and interactive summaries, to help you hone your skills in Pediatric Infectious Diseases with speed and flexibility*”

# 06

## Educational Plan

The program of studies for this program, composed of various modules of interest, delves into the current landscape of infectious diseases. It also examines the most advanced diagnostic techniques to determine the presence of infectious diseases in children's bodies. At the same time, it provides an in-depth study of the most complete prophylactic procedures to prevent the spread of different pathologies of this type in the hospital, community and school settings. The specialist will get up to date on these contents from a learning platform, 100% online, with the help of innovative didactic methods such as Relearning.







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*This program is not subject to rigid schedules or pre-established evaluation chronograms so that you can personalize your learning at all times"*

## 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-Poliiovirus and 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. MRI Interpretation 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. Antibigrams
  - 2.3.1. Interpretation of Antibigrams 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. Eye, Skin, Soft Tissue and Skeletal System Infections.**

- 4.1. Bacterial or Viral Conjunctivitis
- 4.2. Dacryocystitis
- 4.3. Endophthalmitis
- 4.4. Preseptal and Postseptal Orbital Cellulitis
- 4.5. Bacterial Skin Infections
- 4.6. Viral Skin Infections
- 4.7. Parasitic Skin Infections
- 4.8. Dermatophyte Skin Infections
- 4.9. Candida and Malassezia Skin Infections
- 4.10. Involvement of Methicillin-Resistant Staphylococcus Aureus (MRSA) in Pediatric Skin and Soft Tissue Infections in our Environment
- 4.11. Adenitis
- 4.12. Lymphangitis
- 4.13. Necrotizing Fasciitis
- 4.15. Bite Infections
  - 4.15.1. Bites in Urban Environment
  - 4.15.2. Bites in Rural Environment
- 4.16. Osteomyelitis and Arthritis
- 4.17. Myositis and Pyomyositis
- 4.18. Spondylodiscitis

**Module 5. ENT and Respiratory Infections**

- 5.1. Pharyngotonsillitis
- 5.2. Peritonsillar Regional Abscesses and Lemierre's Syndrome
  - 5.2.1. Abscesses in Peritonsillar Region
  - 5.2.2. Mastoiditis
- 5.3. Otitis and Mastoiditis
- 5.4. Sinusitis
- 5.5. Update on Diphtheria
- 5.6. Oral mucosa infections Odontogenic Infections
- 5.7. Common Cold
- 5.8. Influenza in Pediatrics
- 5.9. Pertussis Syndrome
- 5.10. Update on Bronchiolitis Treatment
- 5.11. Community-Acquired Pneumonia (CAP)

- 5.11.1. Etiological Agents by Age
- 5.11.2. Diagnosis
- 5.11.3. Severity Factors
- 5.11.4. Treatment
- 5.12. Pleural Empyema
- 5.13. Tuberculosis
  - 5.13.1. Current Guidelines
  - 5.13.2. Infections
  - 5.13.3. Disease
  - 5.13.4. Diagnosis
  - 5.13.5. Treatment

## Module 6. Gastrointestinal and Urinary Tract Infections and STDs

- 6.1. Acute Gastroenteritis.
  - 6.1.1. Current Management
- 6.2. Traveler's Diarrhea in Children
- 6.3. Current Role of Parasites in Diarrheal Syndromes in our Environment.
- 6.4. Update on Hepatitis A and E
- 6.5. Hepatitis B y Hepatitis C
  - 6.5.1. Current Treatment Options
  - 6.5.2. Risk Factors for Disease Progression
  - 6.5.3. Current Treatment Options
- 6.6. Update on *Clostridium Difficile* in Pediatrics
- 6.7. Acute Appendicitis in Children
  - 6.7.1. Need or Not of Antibiotic Treatment
- 6.8. Urinary Infection
  - 6.8.1. Current Treatment Management
  - 6.8.2. Complementary Evaluations
  - 6.8.3. Prophylaxis
  - 6.8.4. Role of Vesicoureteral Reflux

- 6.9. Epidemiology, Clinical Manifestations, Diagnosis and Treatment of the Most Common Sexually Transmitted Infections
  - 6.9.1. Syphilis
  - 6.9.2. Gonorrhea
  - 6.9.3. Papillomavirus
  - 6.9.4. Chlamydia Trachomatis
  - 6.9.5. Herpes Virus 1 and 2
- 6.10. Perirectal Abscesses

## Module 7. Febrile Syndromes and Exanthems

- 7.1. Fever Without a Focus in Children Less than 3 Months Old
  - 7.1.1. Algorithm of Action
  - 7.1.2. Fever of Unknown Origin in Pediatrics
- 7.2. Recurrent and Periodic Fever
  - 7.2.1. Differential Diagnosis
- 7.3. Leishmaniasis
- 7.4. Exanthematous Diseases and Differential Diagnosis
- 7.5. Mycoplasma Pneumoniae Non-Pulmonary Pathology

## Module 8. Nosocomial Infections.

- 8.1. Healthcare Associated Infections (HAIs) in Pediatrics
- 8.2. Device-Associated Infections
  - 8.2.1. Infections Associated with Intravascular Devices
  - 8.2.2. Ventilator-Associated Infections
- 8.3. Infection of Surgical Wounds Current Management

**Module 9. HIV Infection in Pediatrics and Adolescence**

- 9.1. Vertical Transmission
  - 9.1.1. Current Situation of Vertical Transmission in our Environment
  - 9.1.2. Prevention and Management
- 9.2. Infection in Adolescents
- 9.3. Antiretrovirals in Pediatrics
  - 9.3.1. Updates
  - 9.3.2. Combinations
  - 9.3.3. Determination of Resistance
  - 9.3.4. Side Effects and Metabolic Alterations
- 9.4. Pharmacokinetics
  - 9.4.1. Interactions
  - 9.4.2. Level Monitoring
- 9.5. When and How to Start HAART
- 9.6. Current Management of HBV and HCV Coinfection

**Module 10. Systemic, Cardiovascular and Nervous System Infections**

- 10.1. Endocarditis
- 10.2. Bacterial Meningitis
  - 10.2.1. Action in Case of Suspicion
- 10.3. Viral Meningitis
  - 10.3.1. Current Agents
- 10.4. Cerebral Abscess
  - 10.4.1. Infections Associated with Surgical Procedures
  - 10.4.2. Venous Thrombosis
- 10.5. Cat scratch Disease
- 10.6. Mononucleosis Syndromes
- 10.7. Hemorrhagic Fevers
  - 10.7.1. Diagnosis
  - 10.7.2. Treatment
- 10.8. Endocarditis
- 10.9. Pericarditis
- 10.10. Encephalitis
- 10.11. Sepsis, Severe Sepsis and Septic Shock in Pediatrics

**Module 11. Infections associated with Social Changes or Deficits**

- 11.1. Infections associated with Social Deficits
  - 11.1.1. Infections Associated with Social Deficits
  - 11.1.2. Current Child Poverty and Infections in our Environment
- 11.2. Tropical Diseases
  - 11.2.1. Initial Infectiological Examination of Newly Arrived Immigrant Children and Children from International Adoptions.
  - 11.2.2. Febrile Syndrome in the Child Coming from a Low-Income Country or from the Tropics, Regardless of the Reason for the Trip.
  - 11.2.3. Malaria. Current Diagnostic and Therapeutic Management
  - 11.2.4. Vector-Borne Infections Dengue. Chikungunya Zika
  - 11.2.5. Vector-Borne Diseases Schistosomiasis Onchocerciasis
  - 11.2.6. Parasitic Diseases Ascaris, Amoebas, Tenias, Oxyuris, Strongyloides, Trichuris Trichiura

**Module 12. Infection in the Patient at Risk**

- 12.1. Children with Immunomodulatory Treatments in Rheumatology
  - 12.1.1. Management of Patients Undergoing Immunomodulatory Treatments
- 12.2. Current Empiricism of Infections in Oncology Patients.
  - 12.2.1. Adenovirus Infections in Hemato-Oncology
  - 12.2.2. Diagnostic and Therapeutic Approach to Febrile Neutropenia in Cancer Patients
  - 12.2.3. Empirical and Targeted Treatment of Infections in Cancer Patients
- 12.3. Infections and Current Response to Children with Underlying Pathology
  - 12.3.1. Risk infections in Patients with Hemolytic Anemias (emoglobinopathies and Membranopathies)
  - 12.3.2. Treatment of Severe Neutropenia and Congenital and Functional Asplenia
  - 12.3.3. Infections in Children with Cystic Fibrosis
- 12.4. Current Approach to Infections in the Transplanted Child
  - 12.4.1. Cytomegalovirus and BK Virus Infections in Transplant Recipients

### Module 13. Treatment in Pediatric Infectious Diseases

- 13.1. Pharmacokinetics and Pharmacodynamics of Antibacterial Agents in Pediatrics
- 13.2. Bacterial Resistance and Antibiotherapy
  - 13.2.1. Carbapenem-Resistant Enterobacteriaceae, BLES, MRSA, Vancomycin-Resistant
  - 13.2.2. Resistance to Antifungals
- 13.3. Choice of Antibiotics in the Different Families
  - 13.3.1. Beta-Lactams
  - 13.3.2. Macrolides
  - 13.3.3. Aminoglycosides
  - 13.3.4. Fluoroquinolones
- 13.4. Choice Among the Different Families of Antifungals
  - 13.4.1. Azoles
  - 13.4.2. Echinocandins
  - 13.4.3. Polyenes
- 13.5. Resurrection of Old Therapeutic Agents
- 13.6. New Antibiotics or Families
  - 13.6.1. Ceftobiprole, Ceftaroline, Doripenem, Dalbavancin, Talavicina, Teixobactin, Ceftolozane-Tazobactam, Ceftazidime-Avibactam, Lugdunin, Oritavancin, Iclaprim, Ramoplanin, Fidaxomicin, Fidaxomicin.
- 13.7. New Tuberculostatics
- 13.8. Antibiotherapy in Obese Pediatric Patients
- 13.9. New Requirements for the Rational and Judicious Choice of Suitable Treatment
  - 13.9.1. Antibiotic Policy in Hospitals and Primary Care Optimization Program
- 13.10. Role of Agriculture and Animal Husbandry in Antibiotic Resistance
- 13.11. Use of Antivirals
  - 13.11.1. In Immunocompetent Patients
  - 13.11.2. Use of Antivirals in Immunocompromised Patients
- 13.12. Essential Antiparasitic Drugs in Pediatrics
- 13.13. Update on Allergy to Anti-Infectives Alternatives
- 13.14. Monitoring of Anti-Infectives
- 13.15. Update on the Duration of Antibiotic Treatments

### Module 14. Preventive Measures

- 14.1. Control and Response to Hospital Outbreaks of Infection
  - 14.1.1. Common Microorganisms
  - 14.1.2. Current Multidrug-Resistant Microorganisms (Including Decontamination in the MRSA Patient)
- 14.2. Hospital Organization and Control of Today's Multidrug-Resistant Microorganisms
- 14.3. Current Indications for Isolation in Hospital Pediatrics
- 14.4. Current Vaccines
  - 14.4.1. Prematurity
  - 14.4.2. Immunodeficient Child
  - 14.4.3. Child Undergoing Immunosuppressive Treatments
  - 14.4.4. Splenectomized Patients
  - 14.4.5. Transplant Recipients
  - 14.4.6. HIV
- 14.5. Update on Vaccination of Children in Special Situations
- 14.6. Current Indications for Antibiotic Prophylaxis
- 14.7. Indications for Prophylaxis
  - 14.7.1. In case of Accidental Puncture
  - 14.7.2. Indications for Sexual Abuse Prophylaxis
- 14.8. Post-Exposure Performance
  - 14.8.1. Chickenpox
  - 14.8.2. Measles
  - 14.8.3. Hepatitis B
  - 14.8.4. Hepatitis A
  - 14.8.5. Tuberculosis
  - 14.8.6. Tetanus
  - 14.8.7. Rabies
- 14.9. Current Status of Perioperative Prophylaxis of the Surgical Patient
- 14.10. Update on Antibiotic Prophylaxis in Transplant Children and Patients Treated for Atypical Hemolytic Uremic Syndrome

### Module 15. Public Health Infectious Disease Control and Research

- 15.1. Emerging Infectious Diseases
- 15.2. Diseases in Which Contact Study is Currently Indicated
- 15.3. Mandatory Disease Reporting and its Practical Significance
- 15.4. Indications of Directly Observed Treatment
- 15.5. Ethics in the Research of New Antibiotics, Antivirals, Antifungals or Vaccines
- 15.6. How to Plan a Study in Infectious Diseases?
- 15.7. Evaluation and Critical Reading of Scientific Publications
- 15.8. Current Morbidity and Mortality of Pediatric Infectious Diseases
- 15.9. Seasonality of Infection in Pediatrics

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*A unique, key and decisive training experience to boost your professional development that will put you at the forefront of the professional world”*



07

# Clinical Internship

After passing the first phase of this Hybrid Professional Master's Degree, the program includes a period of practical training in a reference clinical center. The student will have at their disposal the support of a tutor who will accompany them during the whole process, both in the preparation and in the development of the clinical practice.





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*Thanks to this program of studies, you will apply the most innovative procedures of Pediatric Infectious Diseases in real patients under the premises of the maximum scientific evidence"*

The Internship Program consists of a 3-week clinical internship, Monday through Friday, with 8 consecutive hours of practice with an attending specialist. This stay will allow you to see real patients alongside a team of reference professionals applying the most innovative diagnostic procedures and planning the latest generation of therapy for each pathology.

In this training proposal,, the activities are aimed at developing and perfecting the competencies necessary for the provision of healthcare in areas and conditions that require a high level of qualification, and are oriented towards specific training for the practice of the activity, in an environment of safety for the patient and high professional performance.

It is undoubtedly an opportunity to learn by working in the innovative hospital of the future where real-time health monitoring of patients is at the heart of the digital culture of its professionals.

The practical part will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of the professors and other training partners that facilitate teamwork and multidisciplinary integration as transversal competencies for the practice of the medical (learning to be and learning to relate).

The procedures described below will form the basis of the practical part of the training, and their completion is subject to both the suitability of the patients and the availability of the center and its workload, with the proposed activities being as follows:



Module	Practical Activity
<b>Laboratory techniques and tools for the diagnosis of pediatric infections</b>	Properly apply the collection of oral and other excreta samples
	Indicate antibiogram for pediatric patients suspected of having infectious diseases
	Perform skin and other soft tissue biopsies that may indicate the source of an infectious disease
	Use ultrasound and other imaging techniques to measure the extent of an infectious disease within the body and verify the pathology
	Properly interpret microbiological reports and other results obtained from the application of laboratory techniques
<b>Ocular, cutaneous, soft tissue and skeletal system infections in children and adolescents, soft tissue and skeletal system infections in children and adolescents</b>	Implement surgical interventions in severe and chronic cases of dacryocystitis
	Diagnose pre- and postseptal orbital cellulitis by complete blood count, blood culture or culture of pharyngeal exudate
	Indicate therapeutic protocols for pediatric patients with lymphangitis, including the use of oral and intravenous antibiotics, analgesics and anti-inflammatory drugs
	Apply magnetic resonance imaging studies to recognize osteomyelitis and arthritis
<b>Prophylactic and protective care of the child against Pediatric Infections</b>	Apply protocols for hospital control of current multiresistant microorganisms
	Implement current isolation protocols in pediatric hospital care
	Adequate antibiotic prophylaxis in children and adolescents, with emphasis on transplant recipients and patients treated for atypical hemolytic uremic syndrome
	Structure, according to current criteria, the vaccination schedule from the neonatal period to adolescence of a pediatric patient

Module	Practical Activity
<b>Gastrointestinal and Urinary Tract Infections and STDs</b>	Activate protocols for diagnosis and treatment of diarrhea in traveling children
	Indicate the collection of blood samples from children and adolescents suspected of having contracted any type of Hepatitis (A, B, C and E)
	Perform surgery to remove parts of the colon affected by Clostridium difficile in pediatrics
	Using radionuclide cystography to diagnose urinary tract infection in children and adolescents
	Implement antiretrovirals in pediatrics, especially in children suspected of having HIV
<b>Febrile syndromes and exanthemias</b>	Perform specific PCR test for leishmania, coronavirus and other infectious diseases
	Use indirect immunofluorescent antibody test for recurrent and periodic febrile outbreaks
	Indicate Gram staining of skin lesions, pleural fluid and stool of the child and adolescent suspected of bacterial infectious disease
	Apply serology for brucellosis and other infections of bacterial and viral origin in children and adolescents



*Get to know the future of Pediatric Infectious Diseases from the inside in an exceptional Hybrid Professional Master's Degree that will be an outstanding part of your curriculum"*

## Civil Liability Insurance

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieving this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this educational entity undertakes to take out civil liability insurance to cover any eventuality that may arise during the stay at the internship center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. In this way, the professional will not have to worry in case he/she has to face an unexpected situation and will be covered until the end of the practical program at the center.



## General Conditions of the Internship Program

The general terms and conditions of the internship agreement for the program are as follows:

**1. TUTOR:** During the Hybrid Professional Master's Degree, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

**2. DURATION:** The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

**3. ABSENCE:** If the students does not show up on the start date of the Internship Program, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

**4. CERTIFICATION:** Professionals who pass the Hybrid Professional Master Program will receive a certificate accrediting their time spent at the center.

**5. EMPLOYMENT RELATIONSHIP:** The Hybrid Professional Master Program shall not constitute an employment relationship of any kind.

**6. PRIOR EDUCATION:** Some centers may require a certificate of prior education for the Internship Program. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

**7. DOES NOT INCLUDE:** The Hybrid Professional Master's Degree will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

08

# Where Can I Do the Clinical Internship?

The training of this Hybrid Professional Master's Degree will take place in a first class hospital center. In this instance, the physician will directly apply procedures and care protocols for the care of children and adolescents with infectious diseases. The stay will be carried out in a face-to-face and intensive manner in a prestigious pediatric unit where they will have access to updated technologies and recently applied diagnostic and treatment methods.





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*Enroll in this Hybrid Professional Master's Degree and you will have access to a practical internship in a first class hospital in a first level hospital center of prestige prestigious hospital in the pediatric field"*

## tech 48 | Where Can I Do the Clinical Internship?



The student will be able to take the practical part of this Hybrid Professional Master's Degree in the following centers:



**Hospital HM Sanchinarro**

Country	City
Spain	Madrid

Address: Calle de Oña, 10, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.


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**Related internship programs:**

- Anaesthesiology and Resuscitation
- Palliative Care







**Policlínico HM Sanchinarro**

Country	City
Spain	Madrid

Address: Av. de Manoteras, 10,  
28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

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**Related internship programs:**

- Gynecological Care for Midwives
- Nursing in the Digestive Tract Department

09

# 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.



# 10 Certificate

The Hybrid Professional Master's Degree in Pediatric Infectious Diseases guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree diploma 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 **Hybrid Professional Master's Degree in Pediatric Infectious Diseases** contains the most complete and up-to-date program on the professional and academic scene.

After the student has passed the assessments, they will receive their corresponding Hybrid Professional Master's Degree diploma issued by TECH Technological University via tracked delivery\*.

In addition to the certificate, students will be able to obtain an academic transcript, as well as a certificate outlining the contents of the program. In order to do so, students should contact their academic advisor, who will provide them with all the necessary information.

Title: **Hybrid Professional Master's Degree in Pediatric Infectious Diseases**

Course Modality: **Hybrid (Online + Internship)**

Duration: **12 months**

Certificate: **TECH Technological University**

Teaching Hours: **1,620 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.

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



## Hybrid Professional Master's Degree

Pediatric Infectious  
Diseases

Course Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Technological University

Teaching Hours: 1,620 h.

# Hybrid Professional Master's Degree

## Pediatric Infectious Diseases

