





## Hybrid Professional Master's Degree

## Pediatric Emergencies

Course Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

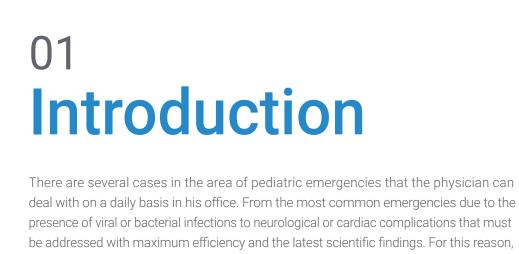
Certificate: TECH Technological University

Teaching Hours: 1,620 h.

We bsite: www.techtitute.com/pk/medicine/hybrid-professional-master-degree/hybrid-professional-master-degree-pediatric-emergencies

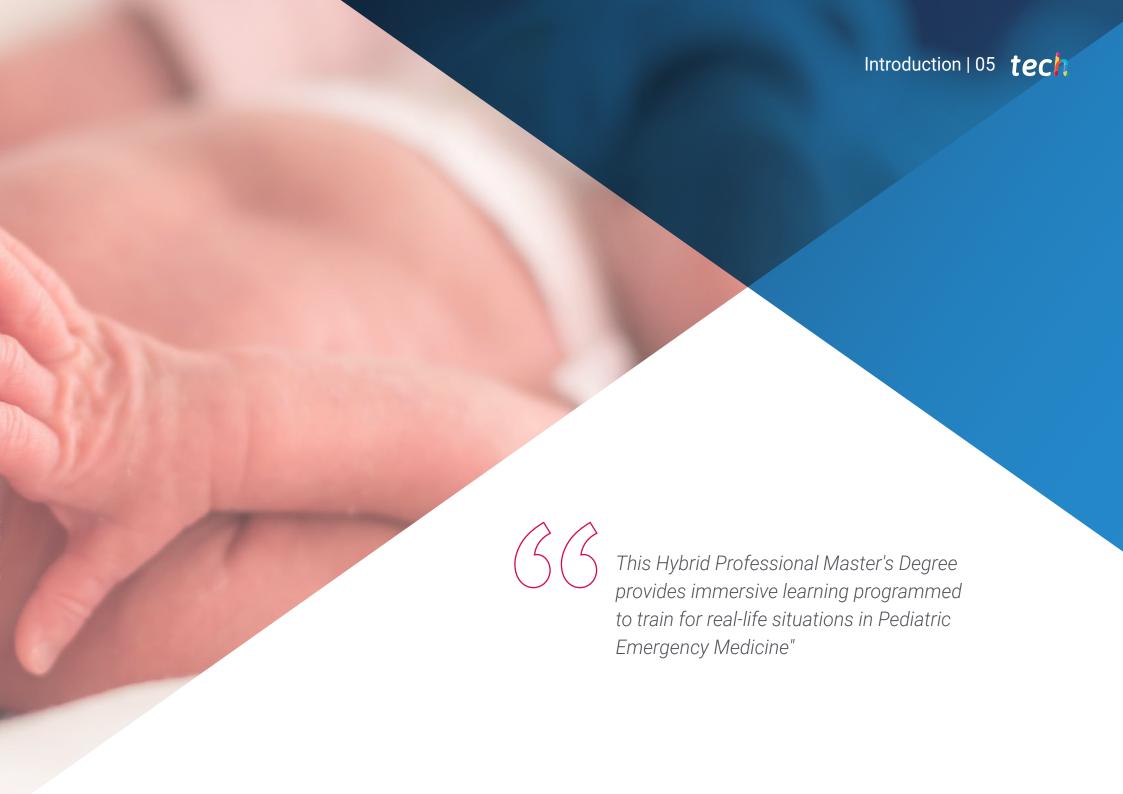
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100% online as well as in practice on site, in a reference health center.

it is essential for healthcare personnel in this area to be up-to-date and TECH, at the forefront of education, has developed this program specialized in the most appropriate diagnostic and therapeutic methods in the care of pediatric patients requiring urgent care. Thus, over the course of 12 months, you will be able to advance in a theoretical study



## tech 06 | Introduction

One of the areas with the highest patient care is the Pediatric Emergency, facing this scenario TECH has developed this Hybrid Professional Master's Degree in Pediatric Emergencies that will allow the doctor to update in an ideal scenario and attending real patients to apply all their knowledge with a cutting-edge medical team.

You will study in depth over 1500 hours of study in 16 modules of topics applied to the care of pediatric patients in medical emergencies. From intervening in the support of each of its existing medical specialties, to the health organization in the face of common pediatric emergencies. To do so, you will use the latest techniques based on scientific evidence, and achieve results that were previously difficult to estimate.

This program, which combines theory and practice in situ, offers the physician an update on the most important Pediatric Emergencies, establishing the keys for the care of the critically ill patient and the approach to the different diagnostic and treatment techniques used in this clinical area. In this way, you will be up to date with scientific and technological knowledge applied to your field of action.

Therefore, it will show a profile in line with the most competitive and specialized scenarios of the most advanced hospital centers, which also participate among the modern scenarios chosen by TECH for the 3-week Internship Program, which the medical professional will take once they complete the proposed academic itinerary.

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

- Development of more than 100 clinical cases presented by professionals in this area of work and university professors with extensive experience and experience
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Comprehensive systematized action plans for major pathologies
- Presentation of practical workshops on procedures diagnosis, and treatment techniques
- Algorithm-based interactive learning system for decision making on the clinical situations presented
- 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
- Availability of content 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



Enjoy an intensive 3-week stay and acquire all the knowledge to grow personally and professionally"

## Introduction | 07 tech



In its theoretical part, this Hybrid Professional Master's Degree provides the specialist with the most complete curriculum developed by experienced teachers that will allow him to develop his career in a more efficient way"

This Professional Master's Degree, with a professionalizing character and blended learning modality, the program is aimed at updating medical professionals who require a high level of qualification. 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 prepare in real situations. This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that 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.

Through this program you will be able to update your skills 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 field.

In its practical part, you will learn from active participation in all clinical areas of interest to the professional, incorporating rapid and efficient response skills, essential for work in the hospital area.







## **tech** 10 | Why Study this Hybrid Professional Master's Degree?

## 1. Updating from the latest technology available

Thanks to new scientific and technological advances in pediatric emergency medical care, it is possible to establish a much more specific approach in each of the specialties and the different cases presented. For this reason, the specialist must be up to date in terms of the resources and equipment currently available in hospital centers and thus demonstrate the most up-to-date human and professional capabilities.

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

This Hybrid Professional Master's Degree allows the professional to be in contact with the most specialized team in the area of pediatric emergencies. In addition, you will have the guidance of an assigned tutor throughout the process. In this way, from an avant-garde clinical scenario, you will integrate a multidisciplinary and modern team that will allow you to be updated in the approach to Pediatric Emergencies in a specialized way.

### 3. Entering First-Class Clinical Environments

TECH has chosen the best hospitals to carry out the practical part of this program. In this way, the specialist will value the knowledge regarding Pediatric Emergencies in a specific and updated way.





## Why Study this Hybrid Professional Master's Degree? | 11 tech

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

By taking this Hybrid Professional Master's Degree, the specialist will be at the forefront of a unique and differentiating study opportunity, where they will be updated on the latest scientific evidence in Pediatric Emergency Medicine, both from the point of view of the theoretical study 100% online, as well as the practical on-site, in a state-of-the-art clinical center.

### 5. Expanding the Boundaries of Knowledge

TECH continues to innovate with this Hybrid Professional Master's Degree with a 100% online and a 100% practical stage, where it breaks down geographical barriers and opens new spaces to verify the latest scientific findings and methods of approaching pediatric patients in urgent cases in their different specialties.





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You will work in the clinic of the future alongside a cutting-edge medical team. All of this will allow you to implement the most innovative medical strategies in the pediatric sector in your practice"

## tech 14 | Objectives



## **General Objective**

 The launching of this complete and multidisciplinary Hybrid Professional Master's Degree in Pediatric Emergencies has been carried out with the aim of providing the medical professional with an update in relation to advanced life support and diagnostic and therapeutic techniques for pediatric patients with urgent pathology. In addition, it will help you to improve your health care, enabling you to improve the child's prognosis and care for the family



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





### Module 1. Health Care Organization for Common Pediatric Emergencies

- Identify the different elements of the equipment in the Pediatric Emergency Department
- · Practice patient selection according to the different triage systems
- Describe pediatric critical patient transport systems
- To know the differential organizational and management characteristics of Pediatric Emergency Departments

### Module 2. Common Advanced Pediatric and Neonatal Cardiovascular Support

- Identify the signs and symptoms of the main apparently lethal syndromes, as well as perform the recognition of the critically ill child
- Update the latest recommendations for the performance of basic and advanced cardiopulmonary resuscitation maneuvers and complete upper airway clearance for a foreign body
- Review the different routes of drug administration and their indication in each case
- Determine the main aspects of pediatric airway establishment, rapid intubation sequence, difficult airway and new facilitator devices

### Module 3. Invasive Techniques in Common Critically III Pediatric Patients

- Establish Capnography and Pulse Oximetry procedures, and review indications for oxygen therapy in pediatric patients according to the latest scientific evidence
- Establish the phases, characteristics and development of the sedoanalgesia procedure
- Incorporate intraosseous puncture as a frequently used technique in pediatric emergency departments
- Review the protocols for dealing with infant deaths

### Module 4. Cardiologic Emergencies

- Describe the main signs and symptoms of cardiac pathologies, arrhythmias, syncope, heart failure and congenital heart disease
- Incorporate frequently used techniques in the diagnosis and treatment of cardiac pathologies, such as rapid ECG reading, electrical cardioversion for the management of tachyarrhythmias and cardiac defibrillation

### Module 5. Respiratory Emergencies

- Addressing respiratory pathology in the newborn in the light of the latest scientific evidence
- Describe the main signs and symptoms of respiratory tract pathologies in children, and the approach to acute pharyngotonsillitis, laryngitis or croup, spasmodic croup, otitis and sinusitis
- Determine the procedures for the management of the child with ASTHMA and chronic cough, and the different diagnostic and therapeutic techniques such as airway aspiration, thoracentesis and chest tube placement, forced spirometry and bronchodynamic test

### Module 6. Pediatric Trauma and Osteoarticular Injuries

- Review the diagnostic process, assessment and care of the pediatric patient with traumatic brain injury
- Incorporate into medical practice the priorities of evaluation and treatment in the traumatized child and the characteristics of pediatric patients
- Develop and practice the sequences in the different workshops on mobilization and immobilization of the trauma patient, functional bandaging, casting and reduction of painful pronation

## tech 16 | Objectives

## Module 7. Unintentional Injuries Child Accidents

- Learn medical procedures to safely resolve potentially dangerous situations
- Analyze age-specific protocols for pediatric patients with fever
- Increase the ability to manage the acutely intoxicated child or adolescent
- Determine the management procedures for children with anaphylactic reactions and their severity, clinical manifestations and diagnostic procedures

## Module 8. Neurological Emergencies

- Establish the correlation between the different types of brain damage and their clinical manifestations
- Describe the main signs and symptoms of pathologies of neurological etiology in children
- Review procedures for lumbar puncture and ventriculoperitoneal shunt puncture techniques

### Module 9. Digestive Emergencies

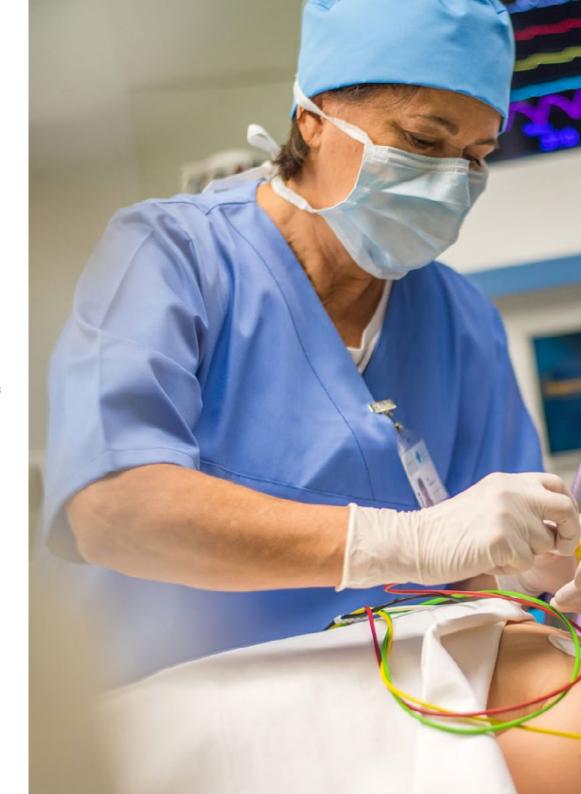
- To determine the novelties in the management of celiac disease in children
- Address the management procedures of the child with food refusal and relate it to the different digestive pathologies
- Review the latest advances in diagnostic and therapeutic procedures for the different hepatitis virus infections: HAV, HBV, HCV, HDV, HEV
- Incorporate the techniques of incarcerated hernia reduction, gastric catheterization and management of the child with ostomy

## Module 10. Endocrinometabolic Emergencies

Describe the main aspects of endocrinometabolic pathologies in children

## Module 11. Infectious Emergencies

• Review advances in the management of HPV, herpes simplex and shingles viral infections in children







- Review advances in the management of fungal infections, tinea, candidiasis and pityriasis versicolor
- Update knowledge in infectious diseases in the child and the management of the immunocompromised child

### Module 12. Ophthalmologic and Otorhinolaryngologic Emergencies

 Analyze new developments in the management of children with ophthalmologic and otorhinolaryngologic problems

## Module 13. Pediatric Skin Emergencies

- Learn the methods for the management and treatment of wounds and burns
- Learn methods for the management and treatment of dermatological diseases

### Module 14. Nephrourological emergencies

 Describe the main advances in the management of children with nephrourological problems, incorporating the techniques of urine collection, suprapubic puncture and bladder catheterization according to updated clinical guidelines

## Module 15. Special Situations in Pediatric Emergencies

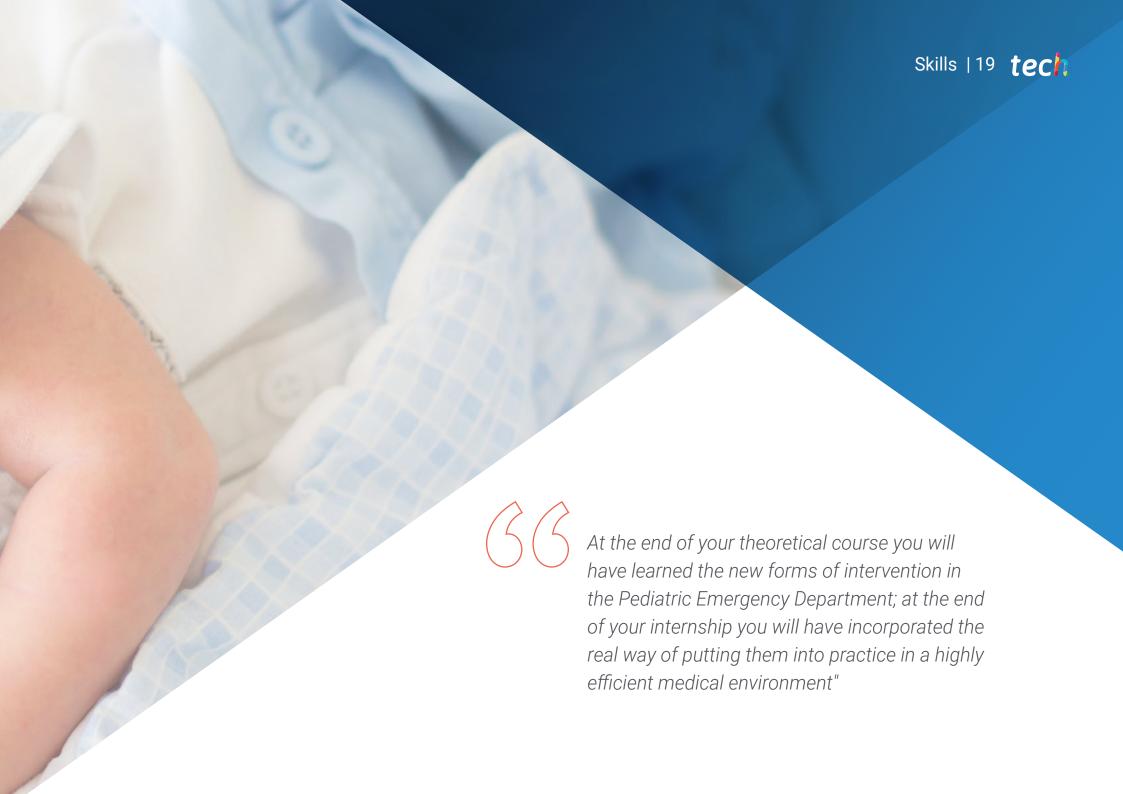
• Learn about the protocol for the care of abused children

## Module 16. Update on Coronavirus Infections

- Identifying coronavirus infections
- Delve into in the characteristics of the coronavirus
- Identify fast-acting processes against coronavirus







## tech 20 | Skills



## **General Skills**

- Possess and understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context
- Know how to apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study
- Integrate knowledge and face the complexity of making judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities related to the application of their knowledge and judgments
- Know how to communicate their conclusions and the ultimate knowledge and rationale behind them to specialized and non-specialized audiences in a clear and unambiguous manner
- Acquire the learning skills that will enable them to continue studying in a way that will be largely self-directed or in a way that will be largely self-directed or autonomous





- Explain the different procedures that the pediatrician can carry out to resolve potentially dangerous situations safely in the emergency department
- Develop basic and advanced cardiopulmonary resuscitation procedures
- Describe actions for complete upper airway clearance
- Define the criteria for the correct detection of child abuse
- Assess the degree of pain in the pediatric patient
- Explain the sedoanalgesia procedure and indicate the necessary pharmacology
- Apply the specific protocols of action for pediatric patients with fever
- Connect the different types of brain damage and their clinical manifestations
- Perform initial assessment of traumatic brain injury
- Identify characteristics of the traumatized child and priorities for assessment and treatment
- State and describe the differences between viral and bacterial meningitis
- Describe the management procedure of the pediatric patient with acute intoxication
- Determine the specific actions of the physician in emergencies of the pediatric patient with special needs
- Explain and identify the most frequent causes of an apparently lethal episode

- Define anaphylaxis and its clinical manifestations to guide the diagnosis
- Classify the situations in which we suspect abuse
- Describe burn care, including cleanup, management of phlyctenas, draping, analgesia and prophylaxis
- Signal the differential organizational and management characteristics of pediatric emergency departments



Take the opportunity to learn about the latest advances in this field to apply it to your daily practice"





## tech 24 | Course Management

## **Guest Director**



## Dr. Juan Ignacio Sánchez Díaz

- Head of PICU and Pediatric Emergency Department at the 12 de Octubre University Hospital
- Specialist in General Pediatrics at the SENDA Maternal and Child Medical Center
- Specialist in the Treatment of the Critically III Child
- Accreditation in Pediatric Intensive Care, Spanish Association of Pediatrics
- 80 publications in international scientific journals
- Speaker at congresses and meetings such as the XXVII SOMIAMA Meeting
- Member of the Medical Scientific Committee of the XXXV and XXXII Congress of the Spanish Society of Pediatric Intensive Care (SECIP)
- Member of: Spanish Society of Pediatric Intensive Care (SECIP), Technical Assistance Board, 12 de Octubre University Hospital

## Management



## Dr. Antón Castaño Rivero

- Pediatrician
- Assistant Physician of the Pediatric Emergency Department of the University Hospital of Cabueñes
- CPR Instructor and Course Director, accredited by the Spanish Group of Pediatric and Neonatal CPR
- Accredited in the Subspecialty of Pediatric Emergency Medicine by the Spanish Association of Pediatrics (AEP)
- Former President of the Spanish Society of Pediatric Emergency Medicine
- Master's Degree in Emergency and Acute Pathology in Pediatrics, Universidad Autónoma de Madrid

#### **Professors**

#### Dr. Diana Álvarez González

- Pediatrician, private medical practice
- · Assistant Physician, Pediatric Emergency Department, Hospital de Cabueñes, Gijón
- · Author of her own brand on health communication: Dr. Di pediatrician
- Academic experience at the Children's Hospital in Copenhagen
- Degree in Medicine University of Barcelona
- Master's Degree in Pediatric Emergencies and Emergencies by the International University of Andalusia

#### Dr. Helvia Benito Pastor

- Attending Physician, Pediatric Emergency Department, Cabueñes University Hospital
- American Academy of Pediatrics APLS Course Instructor
- Pediatric Assistant Physician at Nuestra Señora de Sonsoles Hospital
- Master's Degree in Research Methodology: Design and Statistics in Health Sciences and Research Methodology in Health Sciences. Autonomous University of Barcelona

### Dr. Nathalie Campo Fernández

- Specialist in Pediatrics and its specific areas
- Attending Physician, Pediatric Emergency Department, Cabueñes University Hospital
- American Academy of Pediatrics APLS Course Instructor
- Pediatric Emergency Safety Trainer

### Dr. Nuria Díez Monge

- · Assistant Physician, Pediatrics Service, Rio Hortega Hospital, Valladolid, Castilla y León
- Author of the book 'Incidence, prevalence and annual risk of tuberculosis infection in children aged 6-7 years in the city of Valencia'
- He was part of the local committee and the organizing committee of the XXIV Annual Meeting of the Spanish Sleep Society
- XXXVII Meeting of the Spanish Society of Pediatric Pneumology

#### Dr. Ramón Fernández Álvarez

- Assistant Physician of the Pediatric Emergency Department of the University Hospital of Cabueñes. Gijón
- American Academy of Pediatrics APLS (Advanced Pediatric Life Support) Emergency Course Director

#### Dr. José Luis Fernández Arribas

- Assistant Physician, Pediatric Emergency Department, Río Hortega University Hospital (Valladolid, Castilla y León)
- Resident physician in SACYL
- Pediatric and Neonatal CPR Instructor. APLS instructor. Pediatric simulation instructor
- Instructor of the American Academy of Pediatrics Pediatric Emergency Course and the SEUP program Analgesia and Sedation in the Pediatric Emergency Patient for Non-Anesthesiologists
- He has been a member of the SEUP Board of Directors at the XXIV Meeting of the Spanish Society of Pediatric Emergency Medicine
- Co-author of the book Basic Pediatrics for Parents and several other publications
- Speaker at several pediatric congresses

## tech 26 | Course Management

#### Dr. Laura González Calvete

- Pediatrician
- Assistant Physician of the Pediatric Emergency Department of the University Hospital of Cabueñes
- Pediatric Basic and Advanced CPR Instructor
- FEA Pediatrician at San Rafael Hospital
- Primary Care Pediatrician V
- Pediatrician at San Rafael Hospital
- MIR in this complex Santiago de Compostela University Hospital Complex
- Co-author of several publications on Pediatric Emergencies

#### Dr. Leticia González Martín

- Assistant Physician, Pediatric Emergency Department, Río Hortega University Hospital, Valladolid, Castilla y León
- Pediatrics Resident Medical Intern Tutor. Río Hortega University Hospital, Valladolid, Castilla y León
- Instructor in pediatric and neonatal CPR
- Pediatric in a Neonatal Intensive Care Unit
- Lecturer in several courses and conferences on cardiopulmonary resuscitation, emergencies and simulation
- Member of the Spanish Association of Pediatrics in Primary Care
- Neonatology Unit 12 de Octubre Hospital
- Paediatric Intensive Care Unit. Vall d'Hebron University Hospital
- Diploma in Research Methodology, Statistics Autonomous University Barcelona (UAB)
- Bachelor's Degree, Medicine and Surgery. Valladolid

#### Dr. Emma Lombraña Álvarez

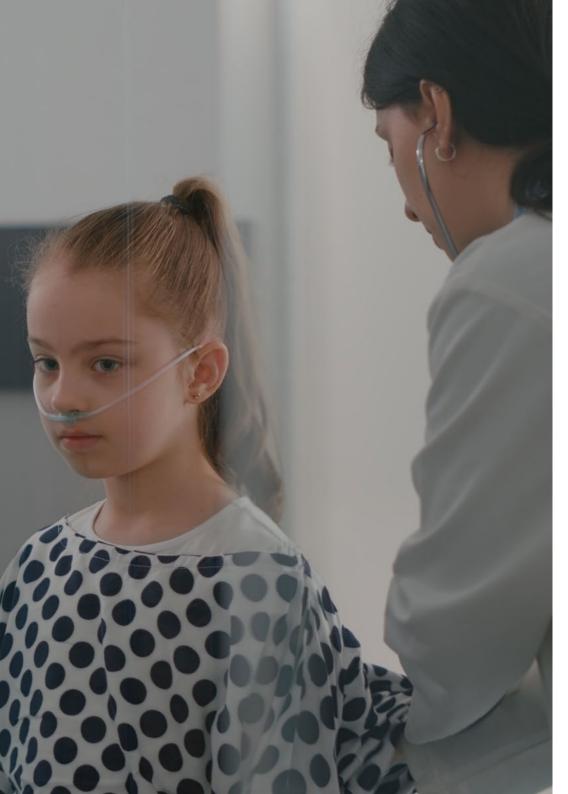
- Pediatrician
- \* Attending Physician, Pediatric Emergency Department, Cabueñes University Hospital
- Member of the Spanish Society of Pediatric Emergencies and the Spanish Association of Pediatrics
- Speaker and author of several lines of research focused on neurological pathologies

#### Dr. Beatriz Salamanca Zarzuela

- Pediatric and Congenital Heart Disease Cardiology Specialist
- \* Attending Physician, Pediatric Emergency Department, Cabueñes University Hospital
- Pediatrician at the Hospital Comarcal Medina del Campo
- \* Specialist in Pediatric Cardiology at the Rio Carrión Hospital in Palencia
- PhD in Medicine from the Grapes
- Graduate in Medicine from the Grapes
- Master's Degree in Pediatric Cardiology and Congenital Heart Disease by the UAM

#### Dr. Cristina Suárez Castañón

- Specialist in Pediatrics of the Health Service of the Principality of Asturias (SESPA)
- Attending Physician, Pediatric Emergency Department, Cabueñes University Hospital
- Pediatric Doctor
- Degree in Medicine
- Member of: Spanish Society of Pediatric Emergency Medicine, Asturian Association of Primary Care Pediatrics



## Course Management | 27 tech

## Dr. Roberto Velasco Zúñiga

- Assistant Physician of the Pediatric Emergency Department of the University Hospital Río Hortega
- Pediatric Emergency Physician at Cruces Hospital
- Author of several medical books and publications
- Speaker at congresses and scientific events such as the I Digital Congress of the Spanish Association of Pediatrics
- Doctor of Medicine
- Specialist Pediatrician
- Degree in Medicine from the University of Valladolid
- Master's Degree in Health Care Quality and Safety Management and Methodology
- Master's Degree in Research Methodology
- Member of: Spanish Society of Pediatric Emergencies, Spanish Association of Pediatrics, Regional Health Management of Castilla y León





## tech 30 | Educational Plan

## Module 1. Health Care Organization for Common Pediatric Emergencies

- 1.1. Equipment in the Pediatric Emergency Department (PED)
  - 1.1.1. Differential Characteristics of PEDs
  - 1.1.2. Infrastructure, Staffing
  - 1.1.3. Material
- 1.2. Triage in Pediatrics
  - 1.2.1. Definition
  - 1.2.2. Classification Systems
- 1.3. Transport of Critical Pediatric Patient. In-hospital Transfer, Out-of-Hospital Transfer and ISOBAR
- 1.4. Neonatal and Pediatric Transportation

### Module 2. Common Advanced Pediatric and Neonatal Cardiovascular Support

- 2.1. Apparently Lethal Syndromes
  - 2.1.1. Sudden Infant Death
  - 2.1.2. Treatment
  - 2.1.3. Home Monitoring
- 2.2. Recognizing and Responding to Critically III Children
  - 2.2.1. Epidemiology, Etiology and Prevention of CRP in Childhood
  - 2.2.2. Pediatric Assessment Triangle (PAT) and its Utility
  - 2.2.3. Pediatric ABCDE Evaluation
- 2.3. Basic Pediatric Cardiopulmonary Resuscitation
- 2.4. Advanced Pediatric Cardiopulmonary Resuscitation Advanced Airway Management
- 2.5. Basic Concepts of Mechanical Ventilation
- 2.6. Infusion Routes and Drugs
- 2.7. Pediatric AVS Algorithms and Treatment of Arrhythmias
- 2.8. Neonatal Resuscitation
- 2.9. Stabilization, Post-Resuscitation and Neonatal Transportation

## Module 3. Invasive Techniques in Common Critically III Pediatric Patients

- 3.1. Peripheral and Central Vein Access
  - 3.1.1. Peripheral Route
  - 3.1.2. Central Route
- 3.2. Intraosseous Puncture
- 3.3. Capnography. Pulse Oximetry
- 3.4. Oxygen Therapy
- 3.5. Analgesia and Sedation
  - 3.5.1. Approaching Pain
  - 3.5.2. Procedure
  - 3.5.3. Reference Drugs in Analgesia and Sedation
- 3.6. Protocol for Child Death
- 3.7. Rapid Intubation Sequence

## Module 4. Cardiologic Emergencies

- 4.1. Arrhythmias and Syncope
  - 4.1.1. Bradyarrhythmias Diagnosis and Treatment
  - 4.1.2. Tachyarrhythmias Diagnosis and Treatment
- 4.2. Congenital Heart Disease
  - 4.2.1. Cyanotic Congenital Heart Disease
  - 4.2.2. Non-Cyanotic Congenital Heart Disease
  - 4.2.3. Diagnostic Approach
  - 4.2.4. Treatment
- 4.3. Hypertensive Crisis
  - 4.3.1. Diagnostic Guidance for Hypertension in Children and Adolescents
  - 4.3.2. Therapeutic Guidance for Hypertension in Children and Adolescents

- 4.4. Heart Failure
  - 4.4.1. Etiology
  - 4.4.2. Diagnosis
  - 4.4.3. Treatment. Mechanical Ventricular Assistance Techniques Extracorporeal Membrane Oxygenation (ECMO)
- 4.5. Quick Reading of an ECG
- 4.6. Management of Tachyarrhythmias and Bradyarrhythmias: Electrical Cardioversion and Transcutaneous Pacing
- 4.7. Management of Defibrillable Arrhythmias: Defibrillation

## Module 5. Respiratory Emergencies

- 5.1. Respiratory Pathology in Recent Newborns
  - 5.1.1. Incomplete Pulmonary Fluid Reabsorption Syndrome
  - 5.1.2. Meconium Aspiration Syndrome
  - 5.1.3. Hyaline Membrane Disease
  - 5.1.4. Pneumothorax
  - 5.1.5 Pneumonia
  - 5.1.6. Apnea in Newborns
- 5.2. Airway Diseases
  - 5.2.1. Acute Pharyngotonsillitis
  - 5.2.2. Laryngitis or Croup
  - 5.2.3. Spasmodic Croup
  - 5.2.4. Otitis
  - 5.2.5. Sinusitis
- 5.3. Community-Acquired Pneumonia (CAP)
  - 5.3.1. Diagnosis
  - 5.3.2. Hospital Admission Criteria
  - 5.3.3. Latest Advances in Treatment

- 5.4. Managing a Child with a Persistent Cough Chronic cough
  - 5.4.1. Etiology
    - 5.4.1.1. Persistent Bacterial Bronchitis
    - 5.4.1.2. Asthma
    - 5.4.1.3. Gastroesophageal Reflux, etc
  - 5.4.2. Treatment
- 5.5. Caring for Asthmatic Children
  - 5.5.1. Clinical Diagnosis. Functional Diagnosis
  - 5.5.2. Pharmacological Treatment. Non-Pharmacological Treatment
  - 5.5.3. Health Education
- 5.6. Inhalation Techniques Oxygen Therapy
- 5.7. Thoracentesis and Chest Tube Placement
- 5.8. Forced Spirometry Bronchodynamic Tests FEM

### Module 6. Pediatric Trauma and Osteoarticular Injuries

- 6.1. Initial Pediatric Trauma Care
  - 6.1.1. Types and Patterns of Injury in Pediatrics
  - 6.1.2. Primary and Secondary Assessment
  - 6.1.3. Spinal Cord Injuries
- 6.2. Head Trauma in Children
- 6.3. Lower Extremity Trauma
- 6.4. Upper Extremity Trauma
- 6.5. Thoracic Trauma. Rib Fractures and Contusions
- 6.6. Limping
  - 6.6.1. Types of Lameness
  - 6.6.2. Treatment
  - 6.6.3. Referral Criteria
- 5.7. Classification of Pediatric Fractures
- 5.8. Mobilization and Immobilization Workshop
- 5.9. Active Mobilization Stimulation
- 6.10. Hyperpronation
- 6.11. Supination-Flexion
- 6.12. Radial Head Subluxation

## tech 32 | Educational Plan

## Module 7. Unintentional Injuries Child Accidents

- 7.1. Injuries
- 7.2. Burns
- 7.3. Drowning
- 7.4. Stings and Bites
- 7.5. Drug and Non-drug Intoxications
- 7.6. Anaphylaxis
  - 7.6.1. Classification of Severity
  - 7.6.2. Diagnostic Procedures
  - 7.6.3. Treatment and Discharge Recommendations
- 7.7. Extraction of Foreign Body from the Ear
- 7.8. Extraction of Foreign Bodies from the Nose
- 7.9. Freeing of Trapped Penis or Scrotum
- 7.10. Incarcerated Inguinal Hernia Reduction
- 7.11. Reduction of Paraphimosis

### Module 8. Neurological Emergencies

- 8.1. Acute Ataxia
- 8.2. Alterations of Consciousness
- 8.3. Acute Headache
  - 8.3.1. Migraine
  - 8.3.2. Tension Headache
  - 8.3.3. Periodic Syndromes of Childhood
- 8.4. Epilepsies and Non-Epileptic Seizure Disorders in Childhood
  - 8.4.1. Epileptic Syndromes in Childhood and Adolescence
  - 8.4.2. General Treatment of Epilepsies
- 8.5. Bacterial and Viral Meningitis
- 8.6. Febrile Seizures
- 8.7. Puncture of the Ventriculoperitoneal Shunt Reservoir
- 8.8. Lumbar Puncture

## Module 9. Digestive Emergencies

- 9.1. The Infant with Food Refusal
- 9.2. Acute Abdominal Pain
- 9.3. Gastrointestinal Disorders
- 9.4. Acute Dehydration
  - 9.4.1. Isonatremic Dehydration
  - 9.4.2. Hyponatremic Dehydration
  - 9.4.3. Hypernatremic Dehydration
- 9.5. Acid-base Balance Disorders
  - 9.5.1. Metabolic Acidosis Respiratory Acidosis
  - 9.5.2. Metabolic Alkalosis Respiratory Alkalosis
- 9.6. Coeliac Disease
  - 9.6.1. Diagnostic Algorithm
  - 9.6.2. Treatment
- .7. Gastroesophageal Reflux (GER)
- 9.8. Constipation
- 9.9. Hepatitis
  - 9.9.1. HAV, HBV, HCV, HDV, HEV
  - 9.9.2. Autoimmune hepatitis
- 9.10. Gastrointestinal Bleeding
- 9.11. Jaundice
- 9.12. Techniques and Procedures Inguinal Hernia Reduction

## Module 10. Endocrinometabolic Emergencies

- 10.1. Emergencies in the Diabetic Patient
- 10.2. Hydroelectrolytic Alterations
- 10.3. Adrenal Insufficiency

## Module 11. Infectious Emergencies

- 11.1. Exanthematous Diseases
- 11.2. Whooping Cough and Pertussis Syndrome
  - 11.2.1. Medical treatment
  - 11.2.2. Control Measures
- 11.3. Febrile Syndrome without Focus
- 11.4. Sepsis. Septic Shock
- 11.5. Osteoarticular Infections
- 11.6. Fever and Neutropenia

### Module 12. Ophthalmologic and Otorhinolaryngologic Emergencies

- 12.1. Conjunctivitis and Blepharitis Pink Eye
  - 12.1.1. Most Frequent Infectious Pathology
  - 12.1.2. Non-Infectious Pathology
  - 12.1.3. Protocol for Pediatric Ophthalmologic Emergencies
- 12.2. Eyelids and Lacrimal System
  - 12.2.1. Palpebral Alterations and Malformations
  - 12.2.2. Inflammatory Pathology
  - 12.2.3. Cysts and Tumors
  - 12.2.4. Lacrimal Pathology in Children
  - 12.2.5. Palpebral Traumatology in Infancy
- 12.3. Acute Pharyngotonsillitis Acute Otitis Media Sinusitis
- 12.4. Extraction of Foreign Bodies from the Eye
- 12.5. Ophthalmologic Examination with Fluorescein
- 12.6. Eversion of the Upper Eyelid

## Module 13. Pediatric Skin Emergencies

- 13.1. Bacterial Infections in Pediatrics
  - 13.1.1. Impetigo Contagiosa
  - 13.1.2. Folliculitis, Furunculosis and Carbuncles
  - 13.1.3. Perianal Streptococcal Dermatitis
- 13.2. Viral Infections in Pediatrics
  - 13.2.1. Human Papiloma Virus
  - 13.2.2. Contagious Molusco
  - 13.2.3. Simple Herpes
  - 13.2.4. Shingles
- 13.3. Mycotic Infections in Pediatric Dermatology
  - 13.3.1. Tinea
  - 13.3.2. Candidiasis
  - 13.3.3. Pityriasis Versicolor
- 13.4. Infestations in Pediatric Dermatology
  - 13.4.1. Pediculosis
  - 13.4.2. Scabies
- 13.5. Eczema Atopic Dermatitis

## Module 14. Nephrourological Emergencies

- 14.1. Urinary Infections
  - 14.1.1. Diagnostic Criteria
  - 14.1.2. Referral Indications
- 14.2. Hematuria
- 14.3. Renal Lithiasis and Renal Colic
- 14.4. Acute Scrotum
  - 14.4.1. Frequency in the Pediatric Age Group
- 14.5. Suprapubic Puncture
- 14.6. Bladder Catheterisation
- 14.7. Reduction of Paraphimosis

## tech 34 | Educational Plan

## Module 15. Special Situations in Pediatric Emergencies

- 15.1. Children with Special Needs
  - 15.1.1. Tracheostomy and Home Mechanical Ventilation
  - 15.1.2. Gastrostomies and Feeding Tubes
  - 15.1.3. Peritoneal Ventriculo-Peritoneal Shunt Valves
  - 15.1.4. Central Catheters and Prosthetic Vascular Accesses
- 15.2. Medication in Pediatrics
- 15.3. Psychiatry in the Emergency Department
  - 15.3.1. Assessment and Initial Treatment
  - 15.3.2. Psychomotor Agitation and Violence
  - 15.3.3. Suicidal Behavior
  - 15.3.4. Psychotic Disorders
- 15.4. Child Abuse
  - 15.4.1. Attitude in the Emergency Room
  - 15.4.2. Assistance in the Case of Abuse
- 15.5. Techniques and Procedures Mechanical Restraint of the Agitated or Aggressive Child

## Module 16. Update on Coronavirus Infections

- 16.1. Discovery and Evolution of Coronaviruses
  - 16.1.1. Discovery of Coronaviruses
  - 16.1.2. Global Trends in Coronavirus Infections
- 16.2. Main Microbiological Characteristics and Members of the Coronavirus Family
  - 16.2.1. General Microbiological Characteristics of Coronaviruses
  - 16.2.2. Viral Genome
  - 16.2.3. Principal Virulence Factors
- 16.3. Epidemiological Changes in Coronavirus Infections since its Discovery to Present Day
  - 16.3.1. Morbidity and Mortality of Coronavirus Infections from their Emergence to the Present
- 16.4. The Immune System and Coronavirus Infections
  - 16.4.1. Immunological Mechanisms Involved in the Immune Response to Coronaviruses
  - 16.4.2. Cytokine Storm in Coronavirus Infections and Immunopathology
  - 16.4.3. Modulation of the Immune System in Coronavirus Infections

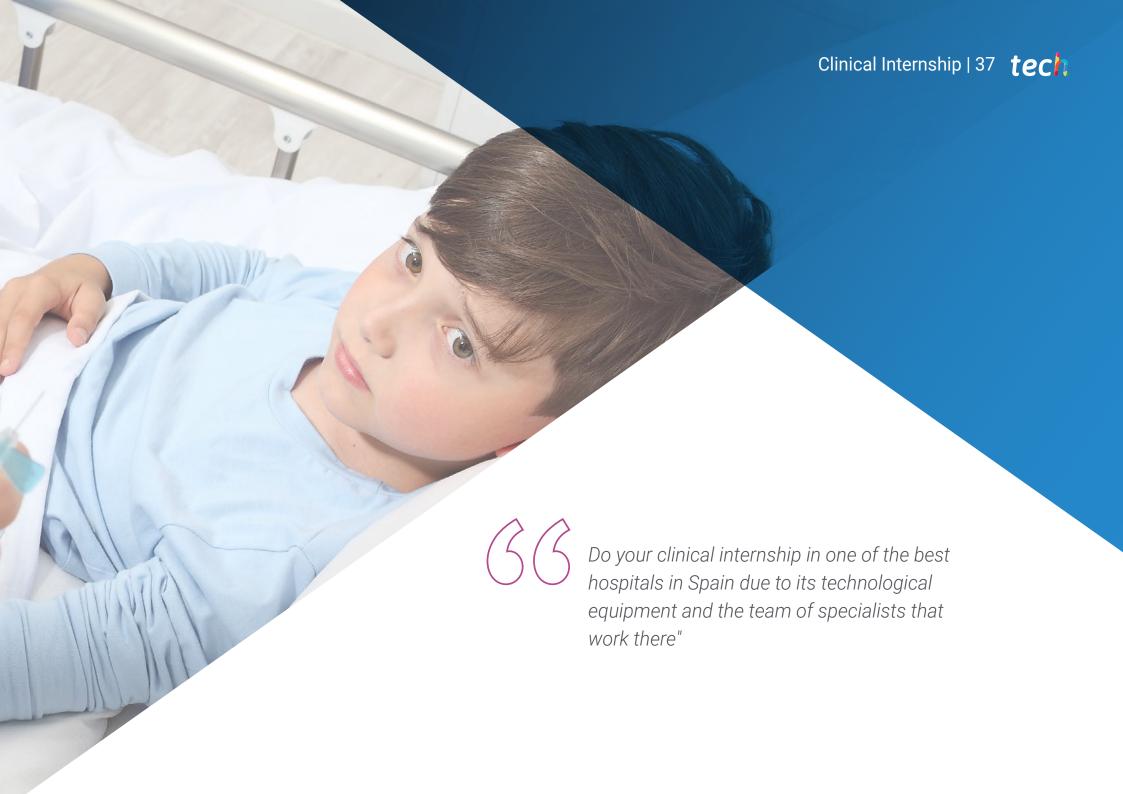




## Educational Plan | 35 tech

- 16.5. Pathogenesis and Pathophysiology of Coronavirus Infections
  - 16.5.1. Pathophysiological and Pathogenic Alterations in Coronavirus Infections
  - 16.5.2. Clinical Implications of the Main Pathophysiological Alterations
- 16.6. Risk Groups and Transmission Mechanisms of Coronaviruses
  - 16.6.1. Main Sociodemographic and Epidemiological Characteristics of Risk Groups Affected by Coronavirus
  - 16.6.2. Coronavirus Mechanisms of Transmission
- 16.7. Natural History of Coronavirus Infections
  - 16.7.1. Stages of Coronavirus Infection
- 16.8. Latest Information on Microbiological Diagnosis of Coronavirus Infections
  - 16.8.1. Sample Collection and Shipment
  - 16.8.2. PCR and Sequencing
  - 16.8.3. Serology Testing
  - 16.8.4. Virus Isolation
- 16.9. Current Biosafety Measures in Microbiology Laboratories for Coronavirus Sample Handling
  - 16.9.1. Biosafety Measures for Coronavirus Sample Handling
- 16.10. Up-to-Date Management of Coronavirus Infections
  - 16.10.1. Prevention Measures
  - 16.10.2. Symptomatic Treatment
  - 16.10.3. Antiviral and Antimicrobial Treatment in Coronavirus Infections
  - 16.10.4. Treatment of Severe Clinical Forms
- 16.11. Future Challenges in the Prevention, Diagnosis and Treatment of Coronavirus
  - 16.11.1. Global Challenges for the Development of Prevention, Diagnostic, and Treatment Strategies for Coronavirus Infections





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, completely practical in nature, the activities are aimed at developing and perfecting the competencies necessary for the provision of health care in areas and conditions that require a high level of qualification, and which are oriented towards specific training for the exercise of the activity, in an environment of patient safety and high professional performance.

The practical teaching 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 fellow trainees that facilitate teamwork and multidisciplinary integration as transversal competencies for clinical practice (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:





# Clinical Internship | 39 **tech**

Module	Practical Activity
Advanced support in pediatric patients with cardiac emergencies	Perform and read echocardiogram and electrocardiogram in the child
	Perform cardiorespiratory resuscitation care of the child in need of pediatric advanced life support
	Participate in vital sign readings in the pediatric patient with cardiac emergencies
	Cannulate superficial, deep and intraosseous veins to treat cardiac emergencies
Management of the pediatric trauma patient with osteoarticular injuries	Apply techniques for mobilization and immobilization of the traumatized child, as well as for transferring them
	Participate in the management of bone and joint infections
	Interpreting imaging tests in the critically injured child
	Apply the action protocols indicated for the polytraumatized pediatric patient
	Guidance on home care techniques
	Implement actions for the prevention of child abuse in families
Invasive techniques in the critically ill pediatric patient	Cannulation of superficial veins to treat dehydration, as well as deep veins or intraosseous pathways for other applications
	Perform bladder catheterization, lumbar puncture and other emergency medical procedures
	Indicate and participate in the performance of radiological examinations: US, TUS, UCM, UD
	Removing foreign bodies in accessible orifices
Care of special situations in Pediatric Emergencies	Administering medications in pediatric age
	Practice emergency psychiatry and recognize child abuse
	Indicate and assess respiratory clinical manifestations. Signs and Symptoms Gravity scales. Oxygenation rates
	Perform clinical neurological examination in the emergency department and in the critically ill child
	Care for acute abdominal pain. Participate in the management of pediatric digestive endoscopy and other necessary tests
	Assess and deal with Endocrine-Metabolic Emergencies and apply specific treatment and care plans
	Diagnosis and treatment of bacterial and viral infections in pediatrics.in pediatrics
	Manage ophthalmologic emergencies and perform ocular and nasal lavage, ocular occlusion and others

## **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 achieve 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**

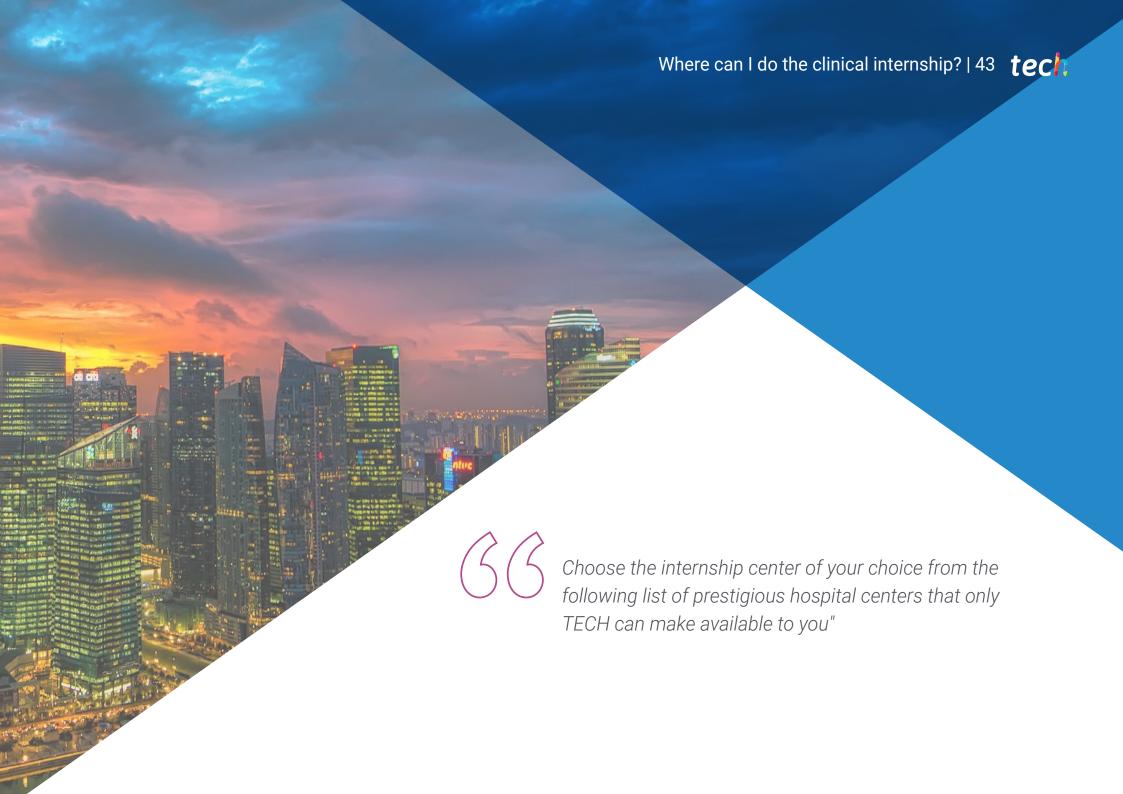
The general terms and conditions of the internship program agreement shall be as follows:

- 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 Hybrid Professional Master's Degree, 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's Degree will receive a certificate accrediting their stay at the center.
- **5. EMPLOYMENT RELATIONSHIP:** the Hybrid Professional Master's Degree shall not constitute an employment relationship of any kind.
- **6. PRIOR EDUCATION:** Some centers may require a certificate of prior education for the Hybrid Professional Master's Degree. 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.





## tech 44 | 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 Modelo

Country City
Spain La Coruña

Address: Rúa Virrey Osorio, 30, 15011, A Coruña

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

#### Related internship programs:

- Anaesthesiology and Resuscitation - Palliative Care



### Hospital Maternidad HM Belén

Country City
Spain La Coruña

Address: R. Filantropía, 3, 15011, A Coruña

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

#### Related internship programs:

- Update in Assisted Reproduction - Hospitals and Health Services Management



### **Hospital HM San Francisco**

Country City
Spain León

Address: C. Marqueses de San Isidro, 11, 24004, León

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

#### Related internship programs:

Update in Anesthesiology and Resuscitation Trauma Nursing



### Hospital HM Regla

Country City
Spain León

Address: Calle Cardenal Landázuri, 2, 24003, León

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

#### Related internship programs:

- Update on Psychiatric Treatment in Minor Patients



## **Hospital HM Nou Delfos**

Country City
Spain Barcelona

Address: Avinguda de Vallcarca, 151, 08023 Barcelona

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

#### Related internship programs:

- Aesthetic Medicine
- Clinical Nutrition in Medicine



## Hospital HM Madrid

Country City
Spain Madrid

Address: Pl. del Conde del Valle de Súchil, 16, 28015, Madrid

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

#### Related internship programs:

- Palliative Care

- Anaesthesiology and Resuscitation



## Hospital HM Montepríncipe

Country City
Spain Madrid

Address: Av. de Montepríncipe, 25, 28660, Boadilla del Monte. Madrid

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

#### Related internship programs:

- Palliative Care

- Aesthetic Medicine



## **Hospital HM Torrelodones**

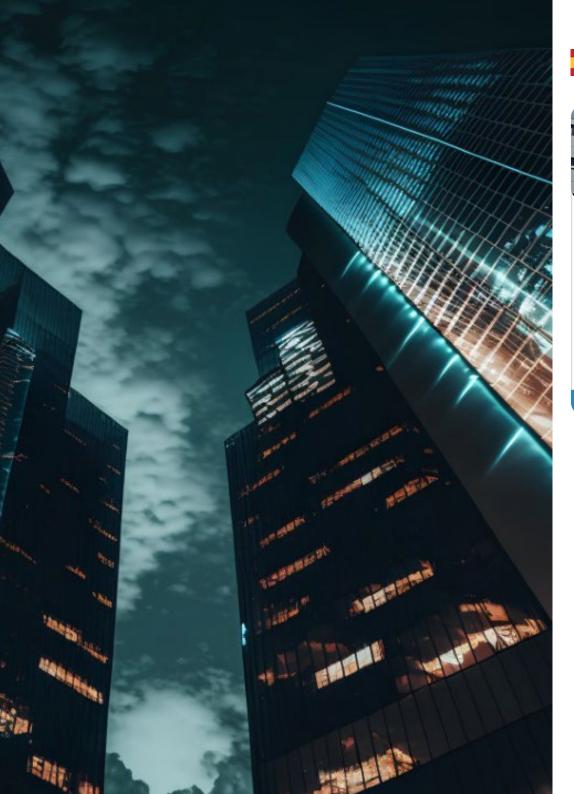
Country City
Spain Madrid

Address: Av. Castillo Olivares, s/n, 28250, Torrelodones. Madrid

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

#### Related internship programs:

- Anaesthesiology and Resuscitation - Palliative Care



## Where Can I Do the Clinical Internship? | 45 tech



## **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.

#### Related internship programs:

- Anaesthesiology and Resuscitation - Palliative Care



## Hospital HM Puerta del Sur

Country City
Spain Madrid

Address: Av. Carlos V, 70, 28938, Móstoles, Madrid

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

#### Related internship programs:

- Palliative Care - Clinical Ophthalmology



## Hospital HM Vallés

Country City
Spain Madrid

Address: Calle Santiago, 14, 28801, Alcalá de Henares, Madrid

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

#### Related internship programs:

- Gynecologic Oncology
- Clinical Ophthalmology





## tech 48 | Methodology

## 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.



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:

- 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.



## Methodology | 51 tech

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.

## tech 52 | Methodology

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**

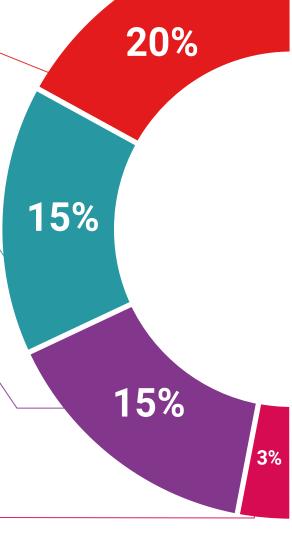
TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many 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.

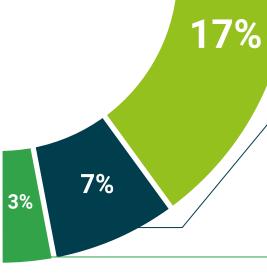
The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



### **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.









## tech 56 | Certificate

This **Hybrid Professional Master's Degree in Pediatric Emergencies** contains the most complete and up-to-date program on the professional and educational field.

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 Emergencies

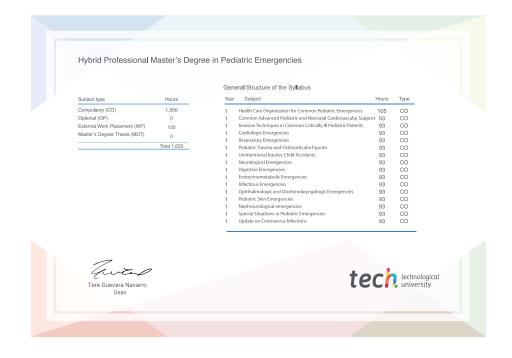
Course Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: **TECH Technological University** 

Teaching Hours: 1,620 h.





<sup>\*</sup>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.

health confidence people information tutors education information teaching guarantee accreditation teaching institutions technology learning community commitment



# Hybrid Professional Master's Degree

Pediatric Emergencies

Course Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Technological University

Teaching Hours: 1,620 h.

