

# Professional Master's Degree Pediatric Emergencies





## Professional Master's Degree Pediatric Emergencies

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Credits: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/us/medicine/professional-master-degree/master-pediatric-emergencies](http://www.techtitute.com/us/medicine/professional-master-degree/master-pediatric-emergencies)

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# 01

# Introduction

There is perhaps no other emergency that generates as much worry as dealing with a critically ill child. This is due to the peculiarities of pediatric patients and the difficulty, for example, in taking an accurate medical history or performing an objective examination, as well as the need to use specific equipment. All this makes managing pediatric emergencies extremely difficult, and even the most experienced medical and nursing staff sometimes find themselves in difficulties when faced with this situation. With this academic program, the university provides medical professionals with an unparalleled tool to allow them to master the field.



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*Learn how to identify, initially treat  
and refer pediatric patients with  
emergency pathologies"*

Like other medical specialties and subspecialties, Pediatric Emergencies has reached a high degree of development and professionalization in recent years. Therefore, physicians must keep up to date to be able to practice pediatric emergency care services in an effective manner and provide initial care to pediatric patients in a comprehensive manner, which can be achieved by basing their performance on the latest scientific evidence.

For this reason, knowledge must be constantly updated through programs aimed at reinforcing the functions of the physician, both for when recognizing and initially resolving an emergency, and for focusing, orienting and correctly directing situations in the face of pathologies that can be delayed.

The training of pediatric emergency department physicians should include an update in diagnostic and therapeutic techniques, such as airway management, peripheral and central line approach or immobilization of trauma and burn patients, in order to ensure rapid and safe care with all pediatric ages. In addition, it should include organizational aspects of pediatric emergency services and the provision of personnel and material, with emphasis on their differential characteristics.

This program offers the physician up-to-date knowledge on the most important Pediatric Emergencies and establishes the key principles in critically ill patient care, as well as approaches to different diagnostic and treatment techniques used in emergency care with pediatric cases.

This **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:

- ◆ More than 100 clinical cases, presented by experts in the different specialties
- ◆ Its graphic, schematic, and practical contents contain scientific and practical information on the medical disciplines that are essential for professional practice
- ◆ The most most widely used diagnostic-therapeutic innovations on pediatric emergency procedures; it also incorporates new contents: emergency electrocardiography, sedoanalgesia in emergencies, echoescopies in emergencies, protocol of action in case of infectious diseases, etc.
- ◆ The presentation of hands-on workshops on procedures, diagnostic and therapeutic techniques
- ◆ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- ◆ 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



*Get to know the systematized action plans for the most frequent emergencies in children and improve your ability to make decisions with safety and precision"*

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*Increase your decision-making confidence by updating your knowledge through this master's degree”*

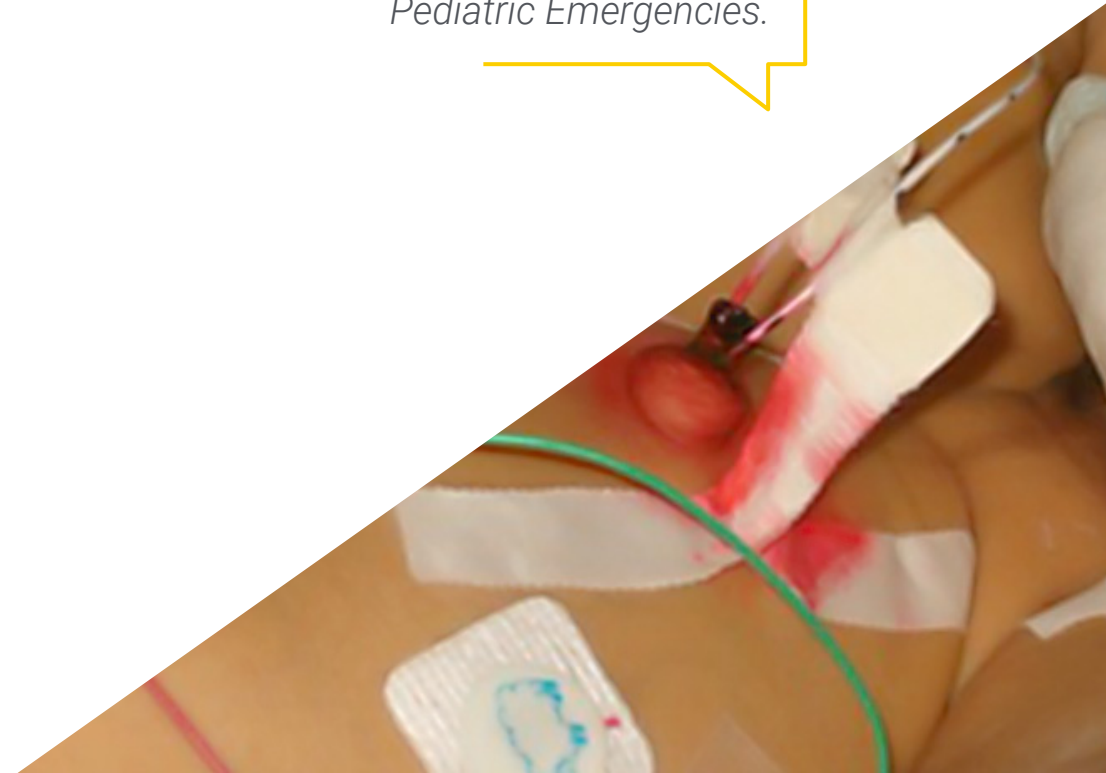
The teaching staff includes professionals from the field of Pediatric Emergencies, who bring their experience to this program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will deliver an immersive learning experience, programmed to train 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. For this purpose, the specialist will be assisted by an innovative interactive video system created by renowned and experienced experts in treating child patients urgently and with extensive experience.

*This Professional Master's Degree in Pediatric Emergencies will help you keep up to date in order to provide comprehensive and quality care to patients in critical situations.*

*This academic program is the best investment you can make if you are planning to specialize in Pediatric Emergencies.*



# 02 Objectives

By offering this academic program, TECH aims to create professionals who are more than capable of working in the Pediatric Emergencies setting, with a clear focus on effectively updating the physician's knowledge, allowing them to provide quality care based on the latest scientific evidence and ensure the safety and health of the pediatric patient. Ultimately, the goal of the largest online university is to contribute to increasing the quality of pediatric emergency services.





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*This refresher program will generate a sense of confidence when practising medicine, which will help you grow both personally and professionally”*



## General Objective

- ♦ Update the physician's knowledge in advanced life support as well as diagnostic and treatment techniques to use in pediatric patients with an emergency pathology. This is with the aim of providing quality emergency care which allows for a better prognosis for the child and better care for them and their family



*Acquire the skills required to specialize in this field and give a boost to your profession"*



## Specific Objectives

- ♦ Identify the different elements of the equipment in the pediatric emergency department
- ♦ Practise patient selection according to the different triage systems
- ♦ Describe pediatric critical patient transport systems
- ♦ Identify the signs and symptoms of major, potentially lethal syndromes, as well as those of a child who is critically ill
- ♦ Take up the latest recommendations for the performance of basic and advanced cardiopulmonary resuscitation manoeuvres and complete upper airway clearance of a foreign body
- ♦ Review different routes for administering medication and indication in each case
- ♦ Establish procedures for performing Capnography and Pulse Oximetry, as well as to review the indications for oxygen therapy in pediatric patients, according to the latest scientific evidence
- ♦ Identify the main aspects of pediatric airway establishment, rapid intubation sequence, difficult airway and new facilitator devices
- ♦ 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
- ♦ 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

- ♦ 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 the child, and the approach to acute pharyngotonsillitis, laryngitis or croup, spasmodic croup, otitis and sinusitis
- ♦ Determine the procedures for managing pediatric patients with asthma and chronic cough, and different diagnostic and therapeutic techniques, such as airway aspiration, thoracentesis and placement of the pleural tube, forced spirometry and the bronchodynamic test
- ♦ Review the diagnostic process, assessment and care of the pediatric patient with traumatic brain injury
- ♦ Incorporate the priorities of evaluation and treatment of the traumatized child and the characteristics of pediatric patients into medical practice
- ♦ Develop and practice sequences in the different workshops on mobilization and immobilization of the trauma patient, and carry out functional bandaging, casting and reduction of painful pronation
- ♦ Learn medical procedures to safely resolve potentially dangerous situations
- ♦ Analyze the specific protocols of action by age for pediatric patients with fever
- ♦ Establish the correlation between the different types of brain damage and their clinical manifestations
- ♦ Learn about the protocol for the care of abused children
- ♦ Increase the ability to manage the acutely intoxicated child or adolescent
- ♦ Determine management and diagnostic procedures for children with anaphylactic reactions, as well as clinical manifestations and severity.
- ♦ Describe the main signs and symptoms of pathologies of neurological etiology in children
- ♦ Review procedures for lumbar puncture and ventriculoperitoneal shunt puncture techniques
- ♦ Identify novel approaches in the management of celiac disease in children
- ♦ Learn methods for management and treatment of wounds and burns
- ♦ Learn the differential organizational and management characteristics of pediatric emergency departments
- ♦ Address management procedures of children 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 techniques for incarcerated hernia reduction, gastric catheterization and management of children with ostomy
- ♦ Describe the main aspects of endocrinometabolic pathologies in children
- ♦ 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
- ♦ Analyze new developments in the management of children with ophthalmologic and otorhinolaryngologic problems
- ♦ Update knowledge on infectious diseases in children and management of immunocompromised children
- ♦ Describe the main advances in the management of the child with nephrourological problems, incorporating the techniques of urine collection, suprapubic puncture and bladder catheterization, according to updated clinical guidelines

# 03 Skills

After the physician has successfully passed the assessments in this academic program, they will have acquired the professional skills required to provide quality and up-to-date medical care, based on the latest scientific evidence. You will then be able to fully dedicate yourself to the practice of this profession in a field reserved for high-level professionals, with all the guarantees of success that come from obtaining a qualification of this caliber with TECH Global University.



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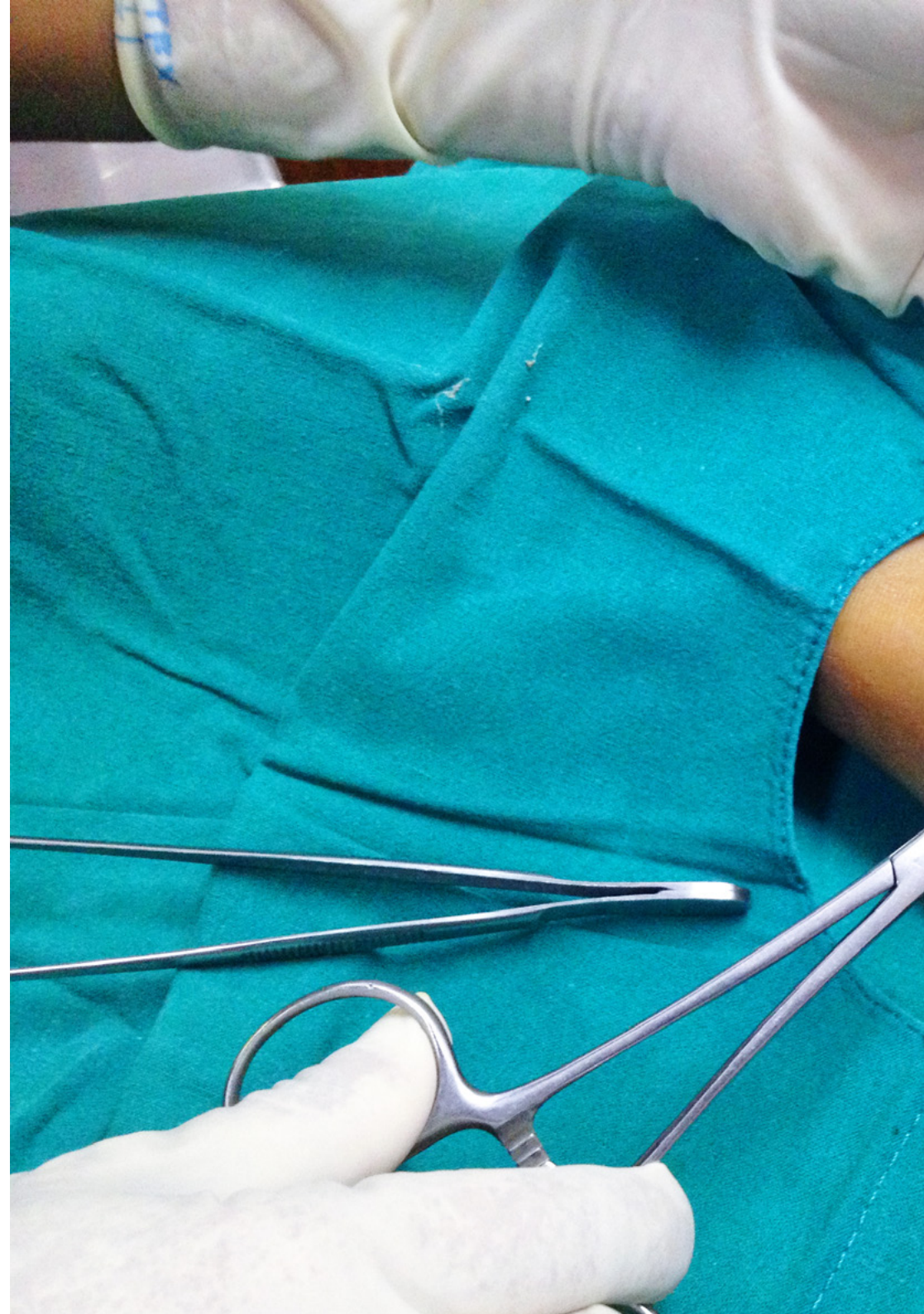
*Through this program, you will learn about the most frequent emergency situations in the primary care setting”*

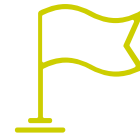


## General Skills

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- ♦ 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 the 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 linked to the application of their knowledge and judgments
- ♦ Know how to communicate conclusions, knowledge, and supporting arguments to specialized and non-specialized audiences, in a clear and unambiguous way
- ♦ Acquire the learning skills that will enable further studying in a largely self-directed or autonomous manner





## Specific Skills

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- ◆ 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 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 specific protocols of action for pediatric patients with fever
- ◆ Establish connection between 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 a physician must take in emergencies concerning pediatric patients with special needs
- ◆ Explain and identify the most frequent causes of an apparent life-threatening event
- ◆ Define anaphylaxis and its clinical manifestations to guide the diagnosis
- ◆ Classify the situations in which we suspect abuse
- ◆ Describe burn care, including cleaning, management of phlyctenas, draping, analgesia and prophylaxis
- ◆ Signal the differential organizational and management characteristics of pediatric emergency departments

04

# Course Management

The program includes leading experts in Pediatric Emergencies in its teaching staff, who contribute all the experience gained through the diligent practice of their work into this academic program. Additionally, other recognized experts participate in its design and preparation, completing the program in an interdisciplinary manner.





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*Prestigious professionals have joined forces to teach you the latest advances in Pediatric Emergencies”*

## Guest Director



### Dr. Sánchez Díaz, Juan Ignacio

- ♦ Head of PICU and Pediatric Emergency Department at the 12 de Octubre University Hospital, Madrid.
- ♦ Member of the Technical Assistance Board of the 12 de October University Hospital from May 2000 to the present
- ♦ PhD in Medicine and Surgery, at the Complutense University of Madrid
- ♦ Specialist Pediatrician
- ♦ Accreditation in Pediatric Intensive Care, Spanish Association of Pediatrics
- ♦ More than 80 national and international scientific publications

## Co-Direction



### Dr. Castaño Rivero, Antón

- ♦ Medical specialist in Pediatrics and its specific areas
- ♦ Attending Physician, Pediatric Emergency Department, Cabueñes University Hospital, Gijón, Spain
- ♦ Accredited in the subspecialty of Pediatric Emergency Medicine by the AEP
- ♦ Former President of the Spanish Society of Paediatric Emergencies
- ♦ Master's Degree in Emergencies and Acute Pathology in Pediatrics, Autonomous University, Madrid.
- ♦ CPR Instructor and Course Director accredited by the Spanish Group of Pediatric and Neonatal CPR

## Professors

### Dr. Álvarez González, Diana

- ♦ Medical specialist in Pediatrics and its specific areas
- ♦ Assistant Physician of the Pediatric Emergency Department of Cabueñes Hospital (Gijón)
- ♦ Master's Degree in Pediatric Emergencies and Emergencies, International University of Andalusia

### Dr. Benito Pastor, Helvia

- ♦ Medical specialist in Pediatrics and its specific areas
- ♦ Assistant Physician, Pediatric Emergency Department, Río Hortega University Hospital (Valladolid, Castilla y León)
- ♦ American Academy of Pediatrics APLS Course Instructor

### Dr. Barón González de Suso, Luisa

- ♦ Specialist Physician in Pediatrics at the 12 de Octubre University Hospital, Madrid
- ♦ Assistant Physician of the Pediatric Intensive Care Unit and Neonatology Unit at the 12 de Octubre University Hospital until 2015
- ♦ Degree in Medicine from the Autonomous University Madrid
- ♦ Advanced Life Support in Pediatrics and Neonatology Course
- ♦ More than 10 scientific publications
- ♦ Member of the Spanish Association of Pediatrics
- ♦ Member of the Spanish Society of Pediatric Intensive Care

### Dr. Calderón Checa, Rosa María

- ♦ Pediatrician at the 12 de Octubre University Hospital, Madrid
- ♦ PhD in Medicine from the Complutense University, Madrid.

- ♦ Specialist Pediatrician
- ♦ Clinical Fellow in Pediatrics at the Royal Brompton Hospital, United Kingdom 2013
- ♦ Lecturer in the advanced pediatric and neonatal CPR course for residents, 12 de Octubre University Hospital in 2019
- ♦ Lecturer in the initial pediatric trauma care course, 12 de Octubre University Hospital in 2019
- ♦ More than 10 scientific publications

### Dr. Campo Fernández, Nathalie

- ♦ Medical specialist in Pediatrics and its specific areas
- ♦ Assistant Physician, Pediatric Emergency Department, Río Hortega University Hospital (Valladolid, Castilla y León)
- ♦ American Academy of Pediatrics APLS Course Instructor. Pediatric Emergency Safety Trainer

### Dr. Díez Monge, Nuria

- ♦ Doctor of Medicine. Specialist in Pediatrics and its specific areas
- ♦ Assistant Physician, Pediatrics Service, Río Hortega Hospital, Valladolid, Castilla y León

### Dr. Fernández Álvarez, Ramón

- ♦ Medical specialist in Pediatrics and its specific areas
- ♦ Attending Physician, Pediatric Emergency Department, Cabueñes University Hospital. Gijón
- ♦ Course Director of the APLS (Advanced Pediatric Life Support)

#### **Dr. Fernández Arribas, José Luis**

- ♦ Medical specialist in Pediatrics and its specific areas
- ♦ Assistant Physician, Pediatric Emergency Department, Río Hortega University Hospital (Valladolid, Castilla y León)
- ♦ Pediatric and Neonatal CPR Instructor. APLS instructor. Pediatric simulation instructor

#### **Dr. González Calvete, Laura**

- ♦ Medical specialist in Pediatrics and its specific areas
- ♦ Attending Physician, Pediatric Emergency Department, Cabueñes University Hospital, Gijón
- ♦ Pediatric Basic and Advanced CPR Instructor

#### **Dr. González Martín, Leticia**

- ♦ Medical specialist in Pediatrics and its specific areas
- ♦ Assistant Physician, Pediatric Emergency Department, Río Hortega University Hospital (Valladolid, Castilla y León)
- ♦ Instructor in pediatric and neonatal CPR. Lecturer in several courses and conferences on cardiopulmonary resuscitation, emergencies and simulation

#### **Dr. Lombraña Álvarez, Emma**

- ♦ Medical specialist in Pediatrics and its specific areas
- ♦ Attending Physician, Pediatric Emergency Department, Cabueñes University Hospital, Gijón, Spain

#### **Dr. Llorente de la Fuente, Ana María**

- ♦ Pediatric Intensive Care Unit, 12 de Octubre University Hospital, Madrid, Spain
- ♦ Doctor of Medicine from the Complutense University of Madrid.
- ♦ Teacher in the Advanced Life Support in Pediatrics and Neonatal Resuscitation course, aimed at physicians and nurses of the Pediatric Care Area, 12 de Octubre University Hospital (2006 - 2015)
- ♦ More than 25 scientific publications
- ♦ Member of the Spanish Society of Pediatric Intensive Care
- ♦ Member of the Spanish Association of Pediatrics
- ♦ Member of the Official College of Physicians of Madrid since 2000
- ♦ Member of the Respiratory Working Group of the Spanish Society of Pediatric Intensive Care
- ♦ Member of the Ultrasound Working Group of the Society of Pediatric Intensive Care

#### **Dr. González Posada Flores, Aránzazu Flavia**

- ♦ Pediatric Emergency and Intensive Care Emergencies at the 12 de Octubre University Hospital, Madrid
- ♦ Degree in Medicine from the Autonomous University Madrid
- ♦ Specialist Pediatrician
- ♦ Instructor of Advanced Pediatric and Neonatal Cardiopulmonary Resuscitation by the Spanish Group of Pediatric and Neonatal CPR
- ♦ Reviewer of Original Articles of the Acta Pediátrica Magazine
- ♦ Clinical Fellow in Pediatrics at the Royal Brompton Hospital, United Kingdom 2013

- ♦ More than 10 scientific publications
- ♦ Member of the Spanish Society of Pediatric Emergencies
- ♦ Member of the Spanish Society of Pediatric Intensive Care
- ♦ Member of the Spanish Society of Pediatrics of Madrid and Castilla La Mancha

#### **Dr. Mesa García, Sofía**

- ♦ Pediatrician at the 12 de Octubre University Hospital, Madrid
- ♦ Degree in Medicine from the Autonomous University Madrid
- ♦ Collaborating Physician in Practical Teaching, Department of Pediatrics, Complutense University of Madrid 2008-2019
- ♦ Course on Advanced Cardiopulmonary Resuscitation in Pediatrics and Neonatology
- ♦ Course on European Paediatric Advanced Life Support (EPALS)
- ♦ Course on Pediatric Emergencies through the Advanced Pediatric Life Support (APLS)
- ♦ More than 5 scientific publications
- ♦ Member of the Clinical Commission "Against Violence" at the 12 de Octubre University Hospital
- ♦ Member of the Technical Advisory Committee "Against Violence", 12 de Octubre University Hospital

#### **Dr. Ordóñez Sáez, Olga**

- ♦ Faculty Specialist in Pediatrics
- ♦ Pediatric Intensive Care Emergencies at the 12 de Octubre University Hospital, Madrid, 2013

- ♦ Pediatric Emergencies and Intensive Care Emergencies at the 12 de Octubre University Hospital 2008 - 2013
- ♦ Vice President of the Board of Directors of the Southern Group of Pediatric and Neonatal CPR
- ♦ Coordinator of the Technology Committee of the 12 de Octubre Hospital
- ♦ Tutor of Pediatric Resident Interns and their specific departments since 2010
- ♦ Instructor of Pediatric and Neonatal Cardiopulmonary Resuscitation by the Spanish Group of CPR since 2007
- ♦ More than 20 scientific publications

#### **Dr. Salamanca Zarzuela, Beatriz**

- ♦ Medical specialist in Pediatrics and its specific areas
- ♦ Assistant Physician, Pediatric Emergency Department, Río Hortega University Hospital (Valladolid, Castilla y León)

#### **Dr. Suárez Castañón, Cristina**

- ♦ Doctor of Medicine. Specialist in Pediatrics and its specific areas
- ♦ Attending Physician, Pediatric Emergency Department, Cabueñes University Hospital. Gijón

#### **Dr. Velasco Zúñiga, Roberto**

- ♦ Doctor of Medicine. Specialist in Pediatrics and its specific areas
- ♦ Assistant Physician, Pediatric Emergency Department, Río Hortega University Hospital (Valladolid, Castilla y León)
- ♦ Master's Degree in Research Methodology

# 05

## Structure and Content

The structure of the contents has been designed by a team of professionals, familiar with everything related to medical practice in Pediatric Emergencies, aware of the current relevance of knowledge in this area to be able to act in the pediatric patient with urgent pathology, and committed to quality teaching through new educational technologies. The 1,500 hours of the program cover every medical field inherent to Pediatric Emergencies.





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*This Professional Master's Degree in Pediatric Emergencies will help you keep up to date in order to provide complete and quality care to patients and their families"*

### 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. Apparent Life-Threatening Event Syndrome
  - 2.1.1. Sudden Infant Death
  - 2.1.2. Treatment
  - 2.1.3. Home Monitoring
- 2.2. Recognizing and Dealing with the Critically Ill Child
  - 2.2.1. Epidemiology, Etiology and Prevention of CRP in Childhood
  - 2.2.2. Pediatric Assessment Triangle (PAT) and its Usefulness
  - 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 the Common Critically Ill Pediatric Patient

- 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. Pain Management
  - 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. Care of the Child with Asthma
  - 5.5.1. Clinical Diagnosis. Functional Diagnosis
  - 5.5.2. Pharmacological Treatment Non-Pharmacological Treatment
  - 5.5.3. Education for Health
- 5.6. Inhalation Techniques Oxygen Therapy
- 5.7. Thoracentesis and Placement of the Pleural Tube
- 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
- 6.7. Classification of Pediatric Fractures
- 6.8. Mobilization and Immobilization Workshop
- 6.9. Active Mobilization Stimulation
- 6.10. Hyperpronation
- 6.11. Supination-Flexion
- 6.12. Radial Head Subluxation

## Module 7. Unintentional Injuries Child Accidents

- 7.1. Injuries.
- 7.2. Burns and Wounds
- 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 Bodies 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
- 9.7. 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 Papillomavirus
  - 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

## 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 from its Discovery to the Present
  - 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
- 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 Socio-Demographic 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

06

# 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.



# 07 Certificate

The Professional Master's Degree in Pediatric Emergencies guarantees you, in addition to the most rigorous and updated training, access to a Professional Master's Degree issued by TECH Global University.





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

This private qualification will allow you to obtain a **Professional Master's Degree diploma in Pediatric Emergencies** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra (*official bulletin*). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

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

Title: **Professional Master's Degree in Pediatric Emergencies**

Modality: **online**

Duration: **12 months**

Accreditation: **60 ECTS**



\*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University 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 international

knowledge present quality

online training

development languages

virtual classroom

**tech** global  
university

## Professional Master's Degree Pediatric Emergencies

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Credits: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

# Professional Master's Degree

## Pediatric Emergencies

