

# Postgraduate Certificate

## Emergencies in Pediatric Cardiology





## Postgraduate Certificate

### Emergencies in Pediatric Cardiology

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 8 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-certificate/emergencies-pediatric-cardiology](http://www.techtute.com/us/medicine/postgraduate-certificate/emergencies-pediatric-cardiology)

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# 01

# Introduction

Critical pediatric patient management in the emergency department is usually complex, so it requires specialist physicians to constantly update in order to always intervene supported by the latest scientific evidence. This program is geared toward incorporating advances in pediatric patient procedures in order to provide quality care and improve the prognosis of with cardiac pathology pediatric patients.





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*The new scenarios in approaching pediatric emergencies motivated us to propose new specialization programs that meet the real needs of experienced professionals, so that they can incorporate advances in clinical practice for pediatric patients with heart problems"*

Like other medical specialties and subspecialties, pediatric emergencies have reached a development of progressive specialization in recent years. Physicians working in pediatric emergency care services must be able to provide comprehensive initial care to pediatric patients, basing their actions on the latest scientific evidence.

For this reason, knowledge must be constantly updated through programs aimed at reinforcing their functions, both in recognizing and initially resolving the emergency, and in focusing.

The specialization of the pediatric emergency department physician should include the updating of diagnostic and therapeutic techniques as airway management, peripheral and central line approach or immobilization of trauma and patients, to ensure rapid and safe care in 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 physicians updated specialization on the most important cardiac pediatric emergencies, establishing the keys for pediatric patient care, and the approach to the different diagnostic and treatment techniques of emergency care in the pediatric age.

This **Postgraduate Certificate in Emergencies in Pediatric Cardiology** is the most complete and up-to-date scientific program on the market. The most important features of the course are:

- ♦ Clinical cases presented by experts in pediatric emergencies. The graphic, schematic, and eminently practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ Diagnostic and therapeutic innovations on treating pediatric cardiology emergencies
- ♦ Algorithm-based interactive learning system for decision-making in the presented clinical situations
- ♦ With a special emphasis on evidence-based medicine and research methodologies in pediatric emergencies
- ♦ All this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



*Expand your knowledge through the Postgraduate Certificate in Emergencies in Pediatric Cardiology in a practical way adapted to your needs.”*

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*This Postgraduate Certificate may be the best investment you can make when choosing a refresher program for two reasons: in addition to updating your knowledge of Emergencies in Pediatric Cardiology, you will obtain a qualification from TECH Global University”*

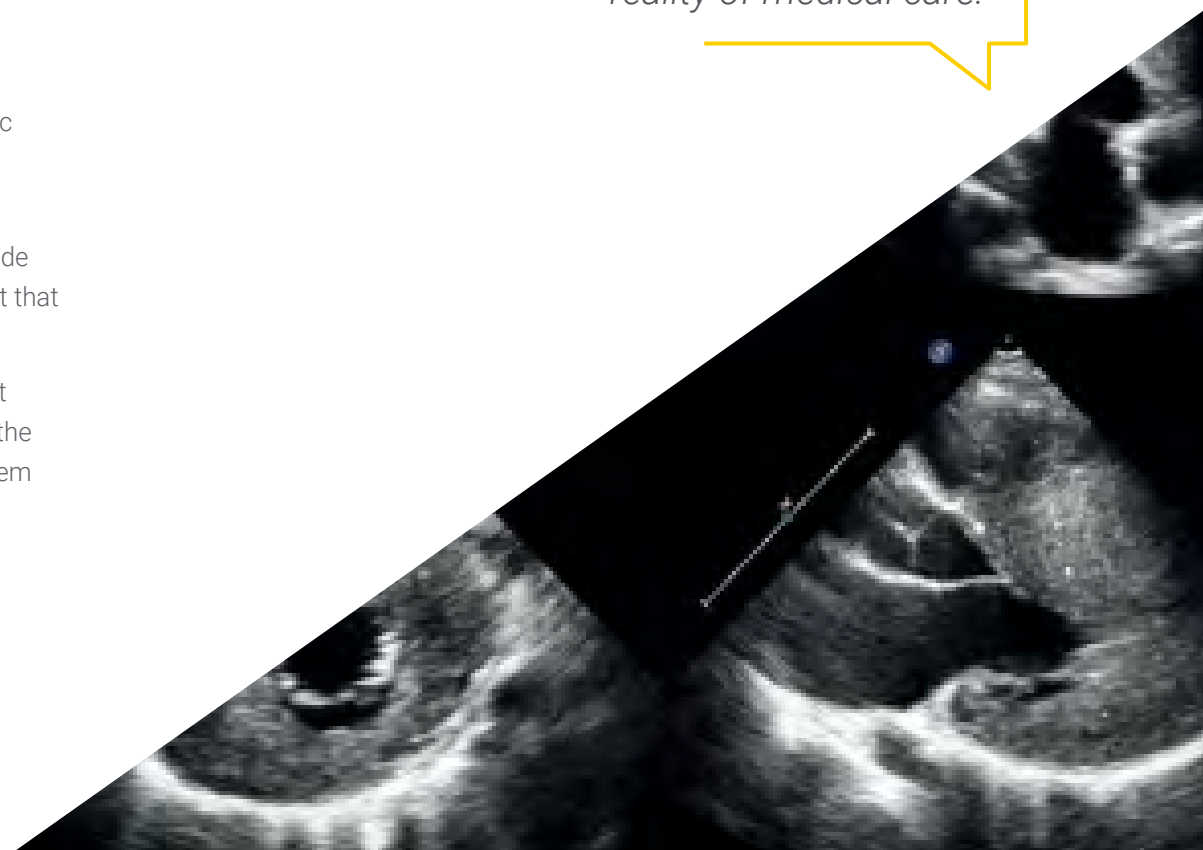
Forming part of the teaching staff is a group of professionals in the field of pediatric emergencies, who bring to this specialization their work experience, as well as renowned specialists recognized by esteemed scientific communities.

The multimedia content developed with the latest educational technology will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive training program to train in real situations.

Problem-Based Learning underpins this program design, and the doctor must use it to try and solve the different professional practice situations that arise throughout the course. For this reason, you will be assisted by an innovative, interactive video system created by renowned experts in the field of pediatric emergencies with extensive teaching experience.

*This Postgraduate Certificate offers training in simulated environments, which provides an immersive learning experience designed to train for real-life situations.*

*It includes clinical cases to bring the program as close as possible to the reality of medical care.*



02

# Objectives

The program is geared toward a review of the main aspects in cardiac pediatric patient management in the emergency department, based on scientific evidence and the experience of renowned professionals in the field of emergencies in pediatric cardiology.





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



## General Objective

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- ♦ Update physicians in approaching emergency pediatric patients with cardiological problems, in order to provide evidence-based medical care that will improve the prognosis of the child and family attention.



## Specific Objectives

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- ♦ Describe the main signs and symptoms of cardiac pathologies most frequent in pediatric emergencies
- ♦ Describe the main arrhythmias and the action to be taken for each one of them
- ♦ Describe the main signs and symptoms of syncope and application in pediatrics
- ♦ Explain the approach to heart failure in pediatric patients in the emergency department
- ♦ Explain treatment complications in patients with congenital heart disease
- ♦ Incorporate frequently used techniques in the diagnosis and treatment of cardiac pathologies
- ♦ Explain how to properly perform rapid ECG reading
- ♦ Define the electrical cardioversion technique for tachyarrhythmias management in pediatric patients
- ♦ Explain the performance and appropriateness of cardiac defibrillation in pediatric patients





*Make the most of the opportunity and take the step to get up to date on the latest developments in Emergencies in Pediatric Cardiology.*

03

# Course Management

This program includes highly regarded health professionals in the field of pediatric emergency care in its teaching staff, who bring the experience of their work to this specialization.

In addition, renowned specialists, members of prestigious national and international scientific communities, are involved in designing and preparing the program.



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*Learn about the latest advances in emergencies in pediatric cardiology from leading professionals”*

## International Guest Director

Dr. Todd Florin is a recognized Pediatric Emergency Physician and clinical epidemiologist, expert in Lower Respiratory Tract Infections in children, especially in the field of Bronchiolitis and Pneumonia. In addition, at international level, he is a leader in the use of biomarkers and predictive analysis to improve the diagnosis and treatment of these conditions.

In this way, he has served as Director of Research in Emergency Medicine at the Ann & Robert H. Lurie Children's Hospital in Chicago. In addition, at the same hospital, he has directed the Grainger Research Program in Pediatric Emergency Medicine, where he has led key projects, such as the CARPE DIEM study (Catalyzing Ambulatory Research in Pneumonia Etiology and Diagnostic Innovations in Emergency Medicine), a pioneering investigation of community-acquired pneumonia, as well as other global studies, such as PERN, focused on understanding the severity of pneumonia and the impact of COVID-19 in children.

Dr. Todd Florin has also received numerous awards for his outstanding medical and research work, including the Young Investigator Award from the Academic Pediatric Association, and has been recognized for his research leadership and mentorship at renowned institutions such as Cincinnati Children's Hospital Medical Center. His vision of combining translational science with clinical care has driven significant advances in the management of Pediatric Respiratory Infections.

In fact, his work has been endorsed by prestigious institutions such as the National Heart, Lung and Blood Institute and the National Institute of Allergy and Infectious Diseases. In addition, his focus on Precision Medicine has transformed the way Respiratory Infections in children are managed, contributing to the reduction of unnecessary antibiotic use.



## Dr. Florin, Todd

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- ♦ Director of Emergency Medicine Research, Ann & Robert H. Lurie Children's Hospital, Chicago, United States.
  - ♦ Chief of the Grainger Research Program in Pediatric Emergency Medicine at Ann & Robert H. Lurie Children's Hospital
  - ♦ Assistant Physician, Division of Emergency Medicine, Ann & Robert H. Lurie Children's Hospital
  - ♦ Principal Investigator of the Catalyzing Ambulatory Research in Pneumonia Etiology and Diagnostic Innovations in Emergency Medicine Study (CARPE DIEM)
  - ♦ Director of Strategy and Operations at the Society for Pediatric Research
  - ♦ Specialist in Pediatric Emergency Medicine at the Children's Hospital of Philadelphia
  - ♦ Doctor of Medicine from the University of Rochester
  - ♦ Master's Degree in Clinical Epidemiology from the University of Pennsylvania
  - ♦ B.A. in Music from the University of Rochester
  - ♦ Young Investigator Award from the Academic Pediatric Association
- Member of: Academic Pediatric Association, American Academy of Pediatrics, Pediatric Infectious Diseases Society, Society for Academic Emergency Medicine, Society for Pediatric Research



*Thanks to TECH, you will be able to learn with the best professionals in the world"*

## Management



### Dr. Castaño Rivero, Antón

- ♦ Specialist in Pediatrics and its Specialized Areas.
- ♦ Attending Physician, Pediatric Emergency Department, Cabueñes University Hospital. Gijón
- ♦ Accredited in the subspecialty of Pediatric Emergency Medicine by the AEP
- ♦ President of the Spanish Society of Paediatric Emergencies
- ♦ Master's Degree in Emergencies and Acute Pathology in Pediatrics, Autonomous University from Madrid.
- ♦ CPR Instructor and Diploma Director accredited by the Spanish Group of Pediatric and Neonatal CPR





04

# Structure and Content

The content structure has been designed by a team of professionals who recognize the implications of specialization in good medical practice in the pediatric emergency department, are aware of the current relevance of specialization to be able to treat critical pediatric patients, and are committed to quality teaching through new educational technologies.



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*This Postgraduate Certificate in  
Emergencies in Pediatric Cardiology  
is the most complete and up-to-date  
scientific program on the market”*

## Module 1. Health Care Organization for Pediatric Emergencies

- 1.1. Equipment in the Pediatric Emergency Department (PED)
  - 1.1.1. Differential Characteristics of PED
  - 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
  - 1.3.1. Out-of-hospital Transfer
  - 1.3.2. Neonatal and Pediatric Transportation



## Module 2. Cardiologic Emergencies

- 2.1. Arrhythmias and Syncope
  - 2.1.1. Bradyarrhythmias Diagnosis and Treatment
  - 2.1.2. Tachyarrhythmias Diagnosis and Treatment
- 2.2. Congenital Heart Disease
  - 2.2.1. Cyanotic Congenital Heart Disease
  - 2.2.2. Non-Cyanotic Congenital Heart Disease
  - 2.2.3. Diagnostic Approach
  - 2.2.4. Treatment
- 2.3. Hypertensive Crisis
  - 2.3.1. Diagnostic Guidance for Hypertension in Children and Adolescents
  - 2.3.2. Therapeutic Guidance for Hypertension in Children and Adolescents
- 2.4. Heart Failure
  - 2.4.1. Etiology
  - 2.4.2. Diagnosis
  - 2.4.3. Treatment Mechanical Ventricular Assistance Techniques Extracorporeal Membrane Oxygenation (ECMO)

### Techniques and Procedures

- 2.5. Quick Reading of an ECG
- 2.6. Management of Tachyarrhythmias and Bradyarrhythmias: Electrical Cardioversion and Transcutaneous Pacing
- 2.7. Cardioversion and Temporary Pacemaker
- 2.8. Management of Defibrillable Arrhythmias: Defibrillation
- 2.9. Defibrillation



*A unique, key, and decisive master's degree experience to boost your professional development"*



05

# Methodology

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

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



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

## At TECH we use the Case Method

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

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



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

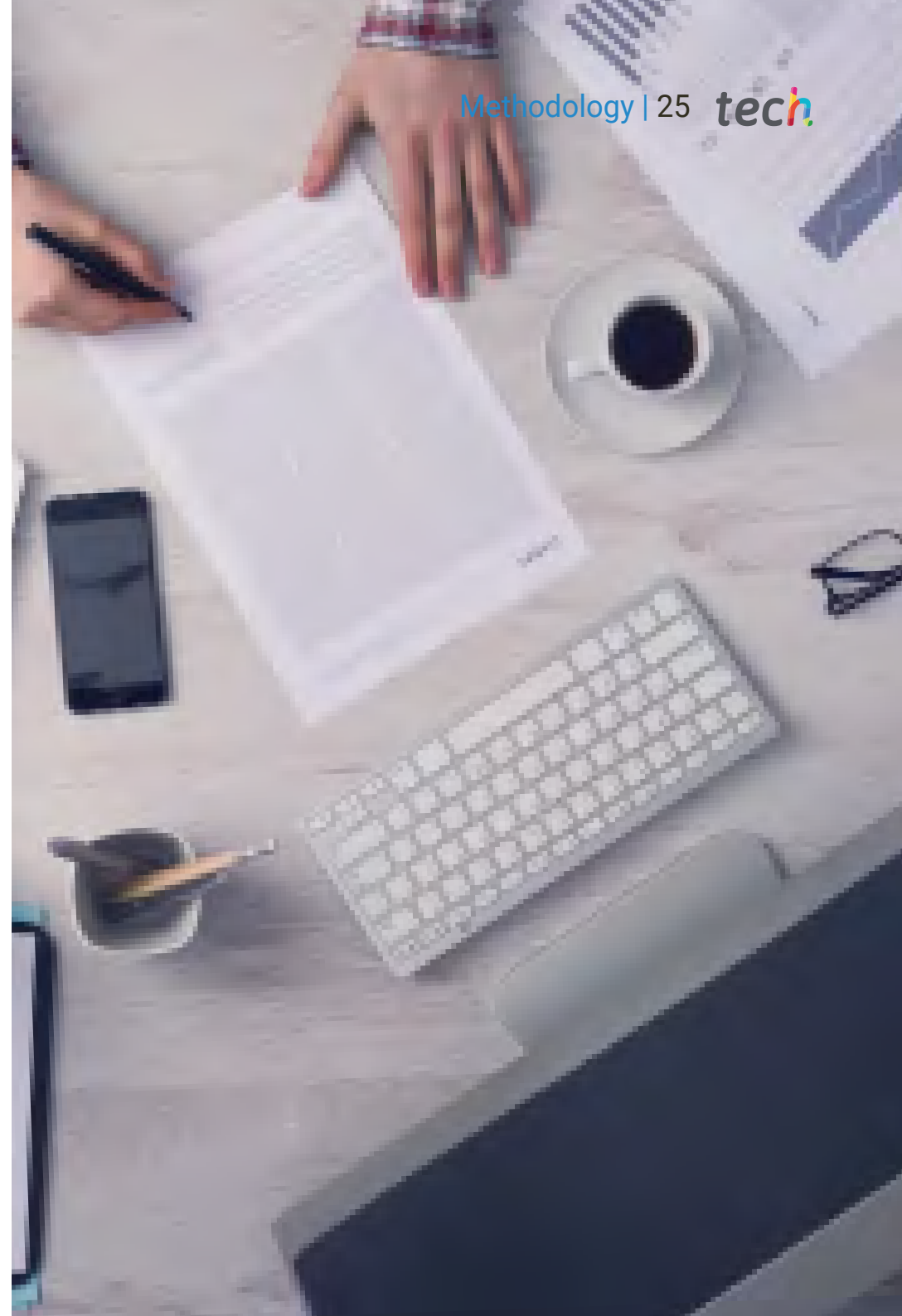


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*Did you know that this method was developed in 1912 at Harvard for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924,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

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

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



## Re-learning Methodology

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

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



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

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

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

*Re-learning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

In our program, learning is not a linear process, but rather a spiral (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

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



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



#### Study Material

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

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



#### Latest Techniques and Procedures on Video

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



#### Interactive Summaries

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

This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



#### Additional Reading

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





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

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



#### Testing & Retesting

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



#### Classes

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

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



#### Quick Action Guides

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



06

# Certificate

The Postgraduate Certificate in Emergencies in Pediatric Cardiology, guarantees, in addition to the most accurate and updated training, access to a qualification issued by TECH Global University.



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

This program will allow you to obtain your **Postgraduate Certificate in Emergencies in Pediatric Cardiology** 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.

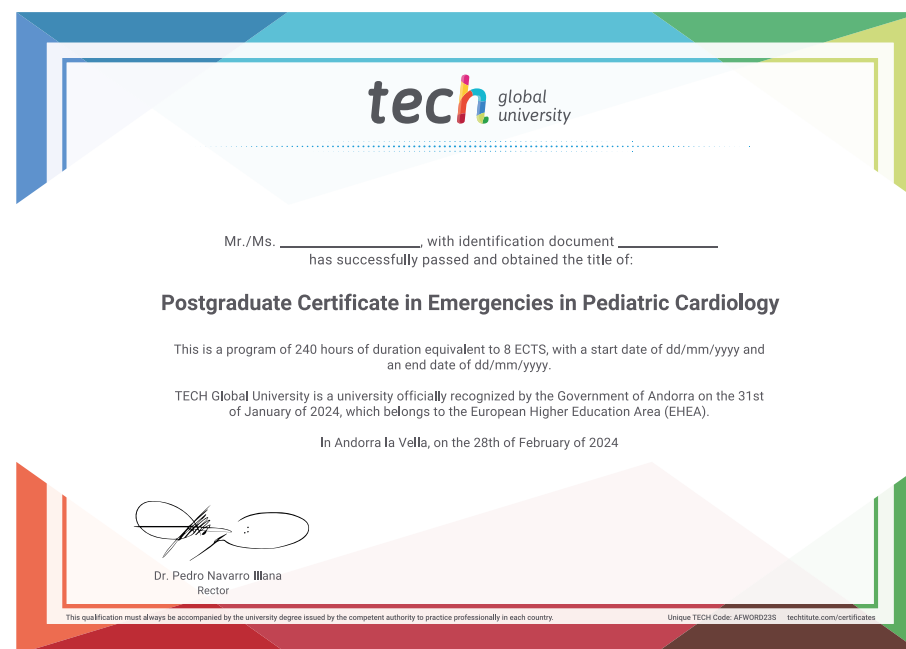
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Emergencies in Pediatric Cardiology**

Modality: **online**

Duration: **6 weeks**

Accreditation: **8 ECTS**





future

health

confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

personalized service **tech** global university

knowledge present quality

online **Postgraduate Certificate**  
Emergencies in Pediatric Cardiology

development **» Modality: online**

**» Duration: 6 weeks**

**» Certificate: TECH Global University**

**» Credits: 8 ECTS**

**» Schedule: at your own pace**

**» Exams: online**

virtual classroom

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