

Postgraduate Diploma Critical Pediatric Patients





Postgraduate Diploma Critical Pediatric Patients

Course Modality: Online

Duration: 6 months.

Certificate: TECH Technological University

17 ECTS Credits

Teaching Hours: 425

Website: www.techitute.com/medicine/postgraduate-diploma/postgraduate-diploma-critical-pediatric-patients

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

Course Management

p. 12

04

Structure and Content

p. 18

05

Methodology

p. 22

06

Certificate

p. 30

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 critical pediatric patients.



“

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 critically ill children"

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, orienting and correctly directing situations in the face of pathologies that can be delayed.

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 training on the most important Pediatric Emergencies, establishing the keys for critically ill patient care, and the approach to the different diagnostic and treatment techniques of emergency care in the pediatric age.

This **Postgraduate Diploma in Critical Pediatric Patients** is the most complete and up-to-date scientific program on the market. The most important features of the program include:

- Clinical cases presented by experts. Graphic, schematic and eminently practical contents, with which they are conceived, gather scientific and assistance information on medical disciplines that are essential for professional practice.
- Latest diagnostic and therapeutic developments in the most frequent pediatric emergencies; it also incorporates new contents: emergency electrocardiography, sedoanalgesia in emergencies, etc.
- Practical workshops on procedures, diagnostic and therapeutic techniques.
- Algorithm-based interactive learning system for decision-making in the presented clinical situations.
- 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.



Scientific evidence increases the quality of medical care. Keeping up to date is key to providing better care to critically ill pediatric patients”

“*This Postgraduate Diploma may be the best investment you can make when choosing a refresher program for two reasons: in addition to updating your knowledge of critical pediatric patient care, you will obtain a qualification TECH Technological University”*

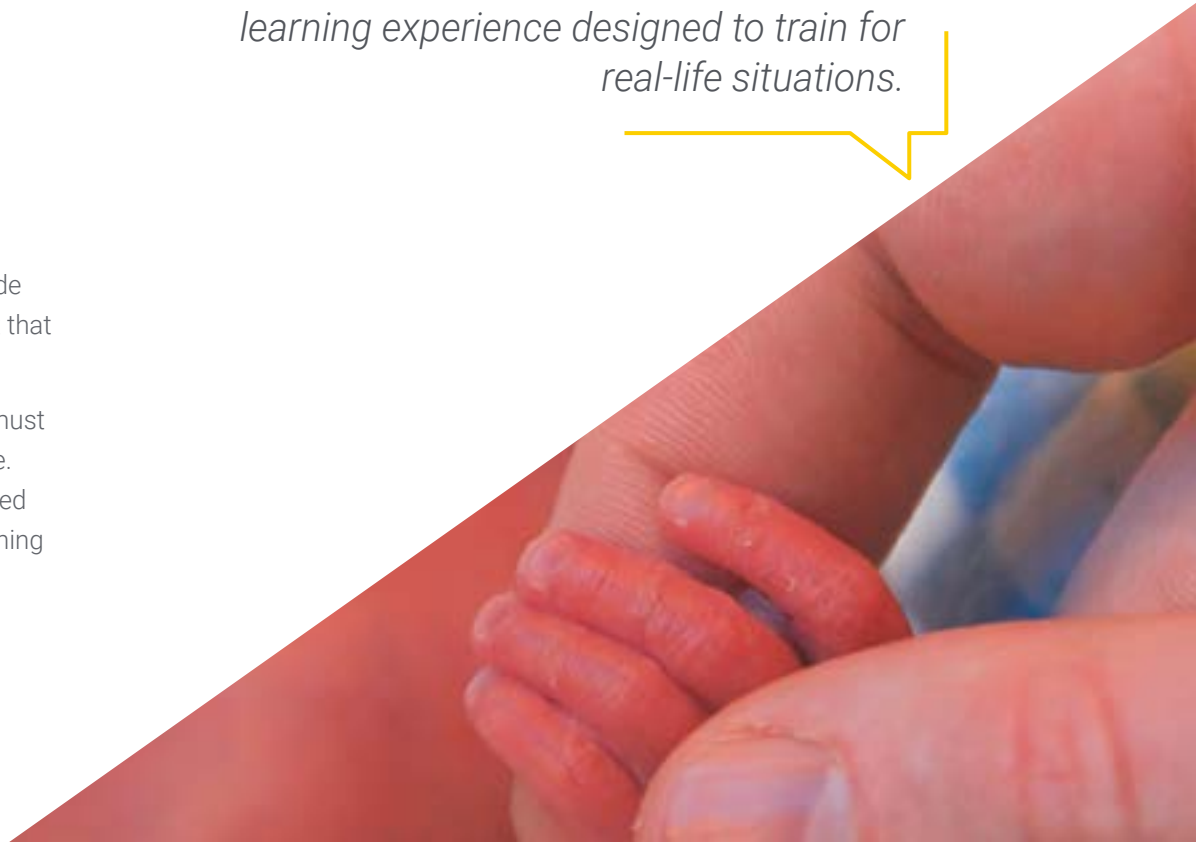
Its teaching staff includes leading physicians, who bring to this specialization the experience of their work, as well as other who specialize in the various fields of emergency medical care.

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.

This program is designed around Problem Based Learning, whereby the physician must try to solve the different professional practice situations that arise during the course. For this reason, you will be assisted by an innovative, interactive video system created by renowned and experienced experts in pediatric emergencies with extensive teaching experience.

Increase your decision-making confidence by updating your knowledge in treating critical pediatric patients with this Postgraduate Diploma.

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



02 Objectives

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





“

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



General Objective

- ♦ Update physicians in advanced life support and diagnostic and therapeutic techniques for pediatric patients with urgent pathology, in order to provide emergency care to improve the child's prognosis and family care.



Specific Objectives

- ♦ Practice pediatric patient triage according to the different triage systems.
- ♦ Describe critical pediatric patient transport systems.
- ♦ Identify the signs and symptoms of the main apparently lethal syndromes and recognize critically ill children.
- ♦ Update on 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.
- ♦ Establish capnography and pulse oximetry procedures, as well as 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.
- ♦ Describe the main signs and symptoms of cardiac pathologies, arrhythmias, syncopes, 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.



03 Course Management

The program includes in its teaching staff revered pediatricians in critical pediatric patient care, who pour into this specialization the experience of their work. Additionally, other recognized specialists participate in its design and preparation, which means that the program is developed in an interdisciplinary manner.





“

Learn about the latest advances in critical pediatric patient management in the emergency department”

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
- Doctor of Medicine and Surgery, from 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

- 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 Course Director accredited by the Spanish Group of Pediatric and Neonatal CPR

Professors

Dr. Calderón Checa, Rosa María

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

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 on the Advanced Life Support in Pediatrics and Neonatal Resuscitation course, aimed at physicians and nurses in 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. Barón González de Suso, Luisa

- ♦ Specialist Physician in Pediatrics at 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

Professors

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
- ♦ Children's Heart Surgery Campaign in Cambodia in 2019 and in Zimbabwe in 2018 with the NGO Mission Bambini
- ♦ Member of the Society of Pediatric Intensive Care
- ♦ Member of the Society of Pediatric Emergencies

Dr. Álvarez González, Diana

- ♦ Specialist in Pediatrics and its Specialized 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

- ♦ Specialist in Pediatrics and its Specialized Areas.
- ♦ Assistant Physician, Pediatric Emergency Department, Río Hortega University Hospital (Valladolid, Castilla y León).
- ♦ American Academy of Pediatrics APLS Course Instructor.

Dr. Campo Fernández, Nathalie

- ♦ Specialist in Pediatrics and its Specialized 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

- ♦ Specialist in Pediatrics and its Specialized Areas.
- ♦ Attending Physician, Pediatric Emergency Department, Cabueñes University Hospital. Gijón
- ♦ Course Director of the APLS (Advanced Pediatric Life Support).

Dr. Fernández Arribas, José Luis

- ♦ Specialist in Pediatrics and its Specialized 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

- ♦ Specialist in Pediatrics and its Specialized Areas.
- ♦ Attending Physician, Pediatric Emergency Department, Cabueñes University Hospital. Gijón
- ♦ Pediatric Basic and Advanced CPR Instructor.

Dr. González Martín, Leticia

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

Dr. Lombraña Álvarez, Emma

- ♦ Specialist in Pediatrics and its Specialized Areas.
- ♦ Attending Physician, Pediatric Emergency Department, Cabueñes University Hospital. Gijón

Dr. Salamanca Zarzuela, Beatriz

- ♦ Specialist in Pediatrics and its Specialized 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.

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 training to be able to treat critical pediatric patients, and are committed to quality teaching through new educational technologies.





“

This Postgraduate Diploma in Critical Pediatric Patients 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 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
 - 1.3.1. Out-of-hospital Transfer
 - 1.3.2. Neonatal and Pediatric Transportation

Module 2. 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. Recognition and Management of Critically Ill 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 VAS Algorithms and Arrhythmia Treatment
- 2.8. Neonatal Resuscitation
- 2.9. Post-resuscitation Stabilization and Neonatal Transport



Module 3. Invasive Techniques in Critically Ill 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)

Techniques and Procedures

- 4.5. Quick Reading of an ECG
- 4.6. Management of Tachyarrhythmias and Bradyarrhythmias: Electrical Cardioversion and Transcutaneous Pacing
- 4.7. Cardioversion and Temporary Pacemaker
- 4.8. Management of Defibrillable Arrhythmias: Defibrillation
- 4.9. 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.



“

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

“

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

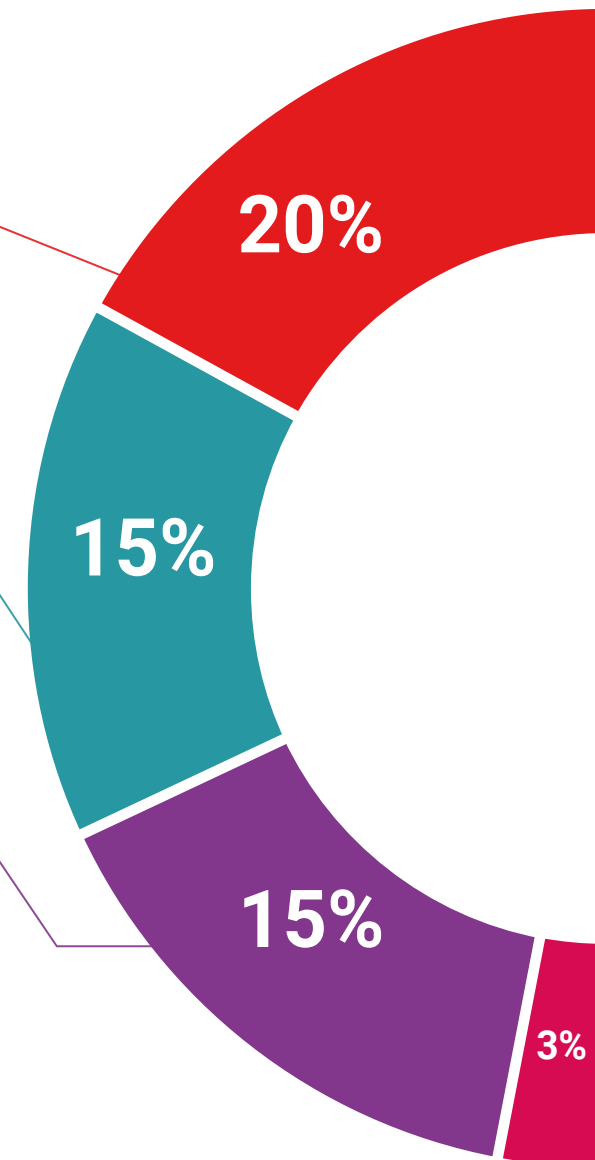
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

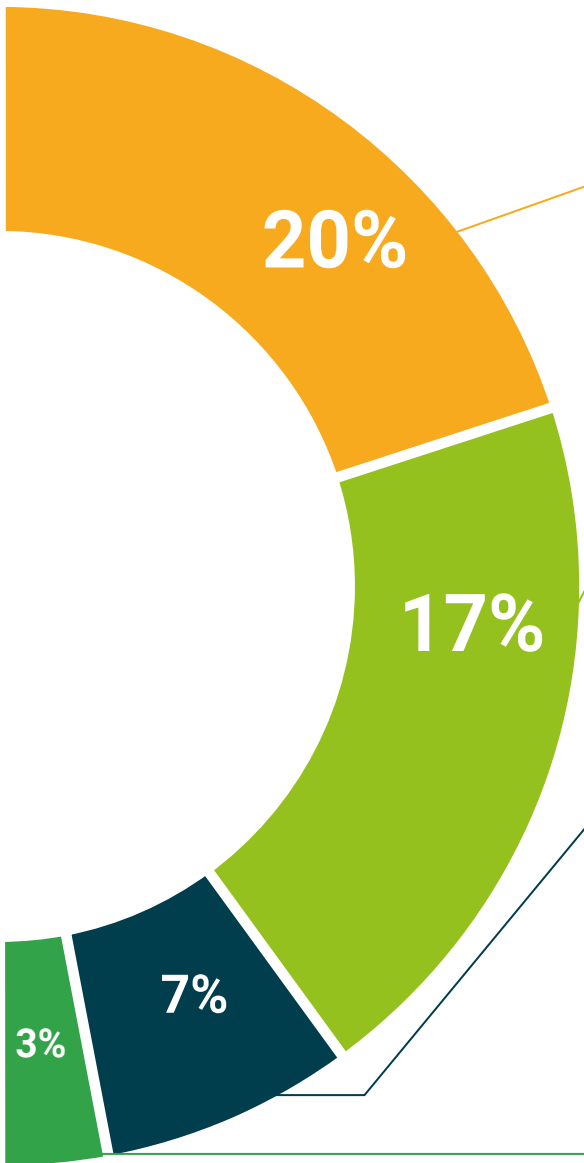
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



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 Diploma in Critical Pediatric Patients** guarantees, in addition to the most rigorous and updated specialization, access to qualification issued by **TECH Technological University**.



“

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

This **Postgraduate Diploma in Critical Pediatric Patients** is the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **certificate** issued by **TECH Technological University** via tracked delivery.

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

Title: **Postgraduate Diploma in Critical Pediatric Patients**

ECTS: **17**

Official Number of Hours: **425**



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



Postgraduate Diploma
Critical Pediatric Patients

Course Modality: Online

Duration: 6 months.

Certificate: TECH Technological University

17 ECTS Credits

Teaching Hours: 425

Postgraduate Diploma Critical Pediatric Patients

