

Postgraduate Certificate

Cardiac Pathology in Hospital Pediatrics



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Cardiac Pathology in Hospital Pediatrics

Course Modality: **Online**

Duration: **6 weeks**

Certificate: **TECH Technological University**

Official N° of Hours: **150 h.**

Website: www.techitute.com/medicine/postgraduate-certificate/cardiac-pathology-hospital-pediatrics

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01

Introduction

The development of therapeutic and diagnostic technologies such as interventional cardiology has provided an unbeatable framework for the fight against cardiac pathologies. In the field of hospital pediatrics, monitoring studies and clinical trials are being developed specifically for this demographic, which has led to numerous advances that the specialist should be aware of. TECH has compiled the most important developments for this program, including tools for cardiac diagnosis in pediatrics, approaches to heart failure in infants and therapeutic advances in the treatment of pulmonary hypertension. All this in a modern program adapted to the demanding pace of professional life.



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Get up to date with a complete program in pediatric cardiac pathologies, including advanced imaging techniques (CT and MRI) for the diagnosis of congenital heart disease”

Pediatric patient care for cardiac pathologies is a continuously growing field, as more and more discoveries and advances are being made in this area. The approach to congenital or acquired disorders is particularly noteworthy, since diagnostic monitoring has even led to significant research in adult congenital heart disease.

This means that specialists must have access to the latest scientific findings and advances in the field. To facilitate this process, TECH has compiled the most effective scientific advances and practical methodologies currently available.

To this end, a team of leading specialists in the field of cardiac pathologies has been brought together, focusing specifically on hospital pediatrics. The teaching staff's professional expertise guarantees that specialists have access to exhaustive up-to-date knowledge adapted to their greatest demands.

It should be added that the course takes place completely online, which means that there are no classes to attend and no fixed schedules to adhere to. This allows for considerable flexibility, so that specialists can decide when, where and how to study according to their own personal circumstances. Therefore, this program can be perfectly balanced with professional commitments or more demanding personal responsibilities.

This **Postgraduate Certificate in Cardiac Pathology in Hospital Pediatrics** contains the most complete and up-to-date scientific program on the market. Its most notable features are:

- ◆ Practical case studies presented by experts in hospital pediatrics
- ◆ 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
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ Special emphasis on innovative methodologies in the approach to pneumological affections
- ◆ 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



It explores the most current scientific findings on congenital heart diseases in pediatrics, taking a deeper look into their differential diagnosis”

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You will be able to update all your knowledge of cardiac diseases acquired during childhood, as well as less frequent congenital cardiopathies”

Take advantage of the flexibility offered by a program that respects your professional and personal priorities, giving you the option of downloading the entire syllabus from day one

You will have the quality guarantee that comes with great professionals dedicated to the specialized treatment of cardiac pathologies in hospital pediatrics

The program's teaching staff includes professionals from the sector who contribute their work experience to this program, as well as renowned specialists from leading societies and prestigious universities.

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 program designed to learn 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 during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.



02 Objectives

As it is an area of interest for multiple specialists from the fields of genetics, cardiology and pediatrics, the aim of this program is to provide the best possible up-to-date information in the field of cardiac pathologies in pediatric patients, with a clear focus on the most rigorous current practice and the latest scientific evidence in the field. This makes this program ideal for any specialist who wants to incorporate this advanced knowledge into their daily practice.





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You will incorporate the acquired knowledge on advances in cyanogenic and non-cyanogenic heart disease into your daily practice even before completing the course”



General Objectives

- ◆ Master the latest techniques and knowledge in modern hospital pediatrics
- ◆ Become highly fluent in pediatric patient management, ensuring maximum quality and safety during the process
- ◆ Develop exemplary skills to provide high quality care, guaranteeing patient safety based on the latest update of scientific evidence
- ◆ Gain up-to-date knowledge of hospital pediatrics





Specific Objectives

- ◆ Discover new diagnostic modalities in pediatric cardiology: echocardiographic strain, transesophageal echocardiography, among others
- ◆ Delve deeper into the differential diagnosis for suspected heart disease in newborns, early diagnosis and initial stabilization treatment
- ◆ Know the clinical approach to heart disease given current regulations, as well as cardiac flow obstruction pictures, the key ideas behind arrhythmias detection, pathologies acquired in childhood, and suspected heart failure in infants and children, as well as the new challenges that have emerged

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You will have all the support you need to pass the course successfully, including a full technical and teaching team ready to solve any of your doubts”

03

Course Management

As mentioned above, this course is directed by renowned specialists in the field of pediatric cardiology. Their practical and modern vision of the most frequent cardiac pathologies, as well as the study and review of the most current scientific findings, ensure that the program is of the highest quality. Specialists will have the support of a group of professionals committed to ongoing professional improvement.



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TECH not only values the academic and technical quality of its professors, it also appreciates the human value they bring. You will see topics carefully and exhaustively prepared to give you the best possible guidance in your learning process”

Management



Dr. García Cuartero, Beatriz

- ♦ Chief of the Pediatrics Service and coordinator of the Pediatric Endocrinology and Diabetes Unit Ramón y Cajal University Hospital, Madrid, Spain
- ♦ Specialist Physician in Pediatrics at Severo Ochoa, Leganés University Hospital, Madrid
- ♦ Primary Care Pediatrician, Area 4, Madrid
- ♦ Degree in Medicine and Surgery from the Complutense University of Madrid
- ♦ Specialist Degree in Pediatrics, MIR accreditation at the Infantil Niño Jesús University Hospital, Madrid Specific Training Area: Pediatric Endocrinology
- ♦ PhD from the Autonomous University of Madrid (UAM) Expression of manganese superoxide dismutase, heme oxygenase and nitric oxide synthase enzymes in cultured pancreatic islets with interleukin 1 by in situ hybridization Unanimous Cum Laude Award
- ♦ Associate Professor of Pediatrics, Faculty of Medicine Alcalá de Henares University
- ♦ Social Security Research Fund (FISS) Grant, Steno Diabetes Center, Copenhagen/Hagedorn Research Laboratory Project: Pancreatic beta cell destruction mechanism and free radicals in type 1 diabetes mellitus



Professors

Dr. Toledano Navarro, María

- ◆ Assistant Specialist in Pediatric Cardiology in charge of the Family Cardiopathies consultation and Hemodynamics for diagnostic and interventional procedures for pediatric and adult congenital heart disease as first and second operator Ramón y Cajal University Hospital
- ◆ Degree in Medicine and Surgery from the Complutense University of Madrid
- ◆ EPALS accreditation at Great Ormond Street NHS Trust European Resuscitation Council
- ◆ ESC Certification in Congenital Heart Disease Echocardiography European Society of Cardiology
- ◆ Specialized training in Pediatrics at Ramón y Cajal Hospital (HRYC), Madrid Subspecialty in Pediatric Cardiology with training in Pediatric Cardiology and Adult Congenital Heart Disease

04

Structure and Content

Thanks to the use of the relearning methodology in its programs, TECH ensures specialists do not have to invest large amounts of time into studying the content in order to update their knowledge. This teaching method allows students to consolidate their knowledge of the most important terms and concepts throughout the course, in a progressive and natural way, and TECH is one of the only online universities licensed to use this method.



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Interval

Start/Stop

Menu

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You will find high-quality audiovisual material including video summaries and video classes taught by the professors themselves”

Module 1. Cardiac Diseases in Pediatrics

- 1.1. Suspected Heart Disease in Newborns
 - 1.1.1. Past, Present and Future of Congenital Heart Disease in Pediatrics
 - 1.1.2. Fetal and Postnatal Circulation: Newborn Adaptation
 - 1.1.3. Physical Examination and Vital Signs
 - 1.1.4. Differential Diagnosis for Congenital Heart Disease in Newborns
 - 1.1.5. Prostaglandin Use
- 1.2. Diagnostic Tools for Pediatric Cardiac Pathology
 - 1.2.1. Basic Tools for Diagnosing Congenital Heart Disease: ECG and Chest X-Ray
 - 1.2.2. Advances in Echocardiography
 - 1.2.3. Fetal Echocardiography
 - 1.2.4. Advanced Imaging Techniques for Diagnosing Congenital Heart Disease: CAT and MRI
 - 1.2.5. Diagnostic Cardiac Catheterization
- 1.3. Congenital Heart Disease Classification: Pulmonary Hypertension
 - 1.3.1. Segmental Classification for Congenital Heart Disease
 - 1.3.2. Congenital Heart Disease Pathophysiology: Hemodynamic Principles
 - 1.3.3. Pulmonary Hypertension, Classification and Diagnosis
 - 1.3.4. Pulmonary Hypertension associated with Congenital Heart Disease and Eisenmenger's Syndrome
 - 1.3.5. Therapeutic Advances in Pulmonary Hypertension Treatment
- 1.4. Cyanogenic Heart Disease
 - 1.4.1. Main Artery Transposition
 - 1.4.2. Truncus Arteriosus
 - 1.4.3. Anomalous Pulmonary Venous Drainage
 - 1.4.4. Fallot's Tetralogy and Variants
 - 1.4.5. Tricuspid Atresia
 - 1.4.6. Complete Septal Pulmonary Atresia
 - 1.4.7. Ebstein Anomaly
- 1.5. Non-Cyanogenic Heart Disease
 - 1.5.1. Interatrial Communication
 - 1.5.2. Ventricular Septal Defect
 - 1.5.3. Persistent Ductus Arteriosus
 - 1.5.4. Atrioventricular Canal
- 1.6. Conditions Obstructing Cardiac Flow and Other Less Common Congenital Heart Diseases
 - 1.6.1. Pulmonary Stenosis.
 - 1.6.2. Aortic Stenosis
 - 1.6.3. Aorta Coarctation
 - 1.6.4. Alcapa
 - 1.6.5. Vascular Rings
- 1.7. Childhood-Acquired Heart Disease
 - 1.7.1. Pericarditis
 - 1.7.2. Myocarditis
 - 1.7.3. Infectious Endocarditis
 - 1.7.4. Kawasaki Disease
 - 1.7.5. Rheumatic Fever
- 1.8. Heart Rate and Electrical Conduction Abnormalities in Children
 - 1.8.1. Supraventricular Tachycardia
 - 1.8.2. Ventricular Tachycardias
 - 1.8.3. Atrioventricular (AV) Block
 - 1.8.4. Cartography and Catheter Ablation
 - 1.8.5. Pacemakers and Automatic Implantable Defibrillators



- 1.9. Heart Failure in Infants and Children
 - 1.9.1. Etiological and Pathophysiological Characteristics
 - 1.9.2. Clinical Characteristics: Diagnostic Tools in Heart Failure
 - 1.9.3. Medical Treatment for Pediatric Heart Failure
 - 1.9.4. Ventricular Assist Devices and Other Technical Advances
 - 1.9.5. Pediatric Heart Transplantation
- 1.10. Pediatric Familial Heart Disease: Genetic Alterations
 - 1.10.1. Clinical Genetic Evaluation
 - 1.10.2. Cardiomyopathies: Hypertrophic, Dilated, Arrhythmogenic and Restrictive Dysplasia
 - 1.10.3. Connectivopathies
 - 1.10.4. Canalopathies
 - 1.10.5. Syndromes related to Heart Disease: Down Syndrome, DiGeorge Syndrome, Turner Syndrome, Williams Beuren Syndrome and Noonan Syndrome



Real clinical cases and related practical exercises will help you to contextualize the various advances in cardiac pathology much more easily”

05

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. 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 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 Harvard 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 learning, 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.

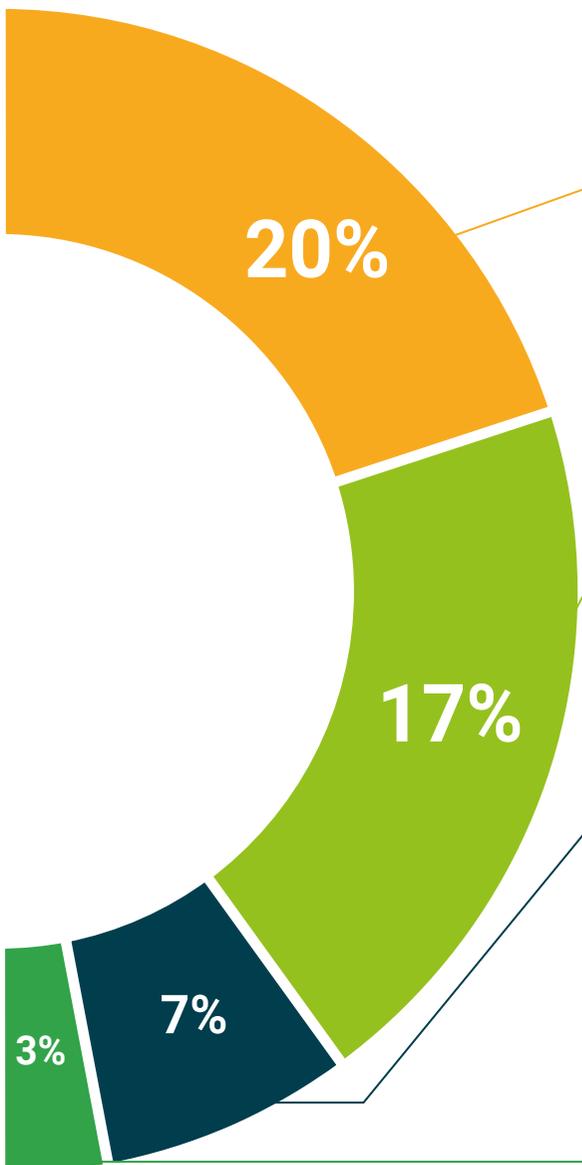
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



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 termed Learning from an Expert strengthens knowledge and recall capacity, and generates confidence in the face of difficult decisions in the future.



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.



06

Certificate

The Postgraduate Certificate in Cardiac Pathology in Hospital Pediatrics guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.





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

This **Postgraduate Certificate in Cardiac Pathology in Hospital Pediatrics** contains the most complete and up-to-date scientific program on the market.

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

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by job markets, competitive examinations and professional career evaluation committees.

Title: **Postgraduate Certificate in Cardiac Pathology in Hospital Pediatrics**

Official Number of Hours: **150 h.**



*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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



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