



Professional Master's Degree

Diagnosis and Treatment in Pediatric Cardiology and Congenital Heart Disease

» Modality: online

» Duration: 12 months

» Certificate: TECH Technological University

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/medicine/professional-master-degree/master-diagnosis-treatment-pediatric-cardiology-congenital-heart-disease

Index

01		02			
Introduction		Objectives			
	p. 4		p. 8		
03		04		05	
Skills		Course Management		Structure and Content	
	p. 12		p. 16		p. 30
		06		07	
		Methodology		Certificate	
			p. 36		p. 44

01 Introduction

Worldwide, 1.5 million new cases of congenital heart disease are diagnosed each year. These figures reveal the large number of people affected by this disease. The advances made in the field of cardiology detection thanks to new technologies have allowed for progress in treatments while at the same time requiring constant updating by medical professionals. It is in this scenario that this program was created, taught in a 100% online modality by an extensive teaching staff specialized and with extensive experience in this area. Flexible teaching that adapts to the students' pace.



tech 06 | Introduction

Sometimes heart disease can go unnoticed, being detected in adulthood. However, progress in the field of cardiology has made it possible to detect anomalies even when the fetus is still developing. This Professional Master's Degree in Diagnosis and Treatment in Pediatric Cardiology and Congenital Heart Disease provides medical professionals with an update of their knowledge over 12 months.

A program consisting of audiovisual material in which the latest technology applied to educational teaching has been used. In this way, through video summaries, detailed videos or interactive diagrams, the professional will learn about recent advances in pediatric cardiology, progress in the diagnosis of pulmonary hypertension, non-invasive cardiac imaging, functional tests, fetal cardiology or heart disease, cardiomyopathies and tumors. The teaching resources are complemented by case study simulations, which will provide students with situations that are close to the reality they may experience in their daily clinical practice.

A 100% online university education, which allows to renew knowledge in a dynamic and agile way. TECH Global University also includes in all its programs the Relearning system, based on the reiteration of content, facilitates progress in the course of this degree in a much more natural way, reducing even the long hours of study so frequent in other methodologies.

An excellent opportunity for the medical professionals who wish to recycle their knowledge in a comfortable teaching format. Students only need a computer, tablet or cell phone with an internet connection to access the syllabus available on the virtual platform at any time. Without attendance or fixed schedules, this Professional Master's Degree offers the opportunity to distribute the teaching load according to the needs of the students, facilitating the compatibility of professional responsibilities with quality education.

This Professional Master's Degree in Diagnosis and Treatment in Pediatric Cardiology and Congenital Heart Disease contains the most complete and up-to-date scientific program on the market. The most important features include:

- Development of clinical cases presented by experts in Pediatric Cardiology and Congenital Heart Disease
- The graphic, schematic, and practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional practice
- Diagnostic-therapeutic new developments on assessment, diagnosis and treatment in Pediatric Cardiology and Congenital Heart Disease
- Contains practical exercises where the self-evaluation process can be carried out to improve learning
- Iconography of clinical and diagnostic imaging tests
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- With special emphasis on evidence-based medicine and research methodologies in Pediatric Cardiology and Congenital Heart Disease
- All of 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



The clinical case studies provided by the teaching team will be very useful in updating your knowledge"



A 100% online program that will allow you to keep abreast of progress in the field of intensive care of congenital heart disease"

The program includes, in its teaching staff, professionals from the sector who bring to this program the experience of their work, in addition to recognized specialists from prestigious reference societies and 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 immersive training programmed to train in real situations.

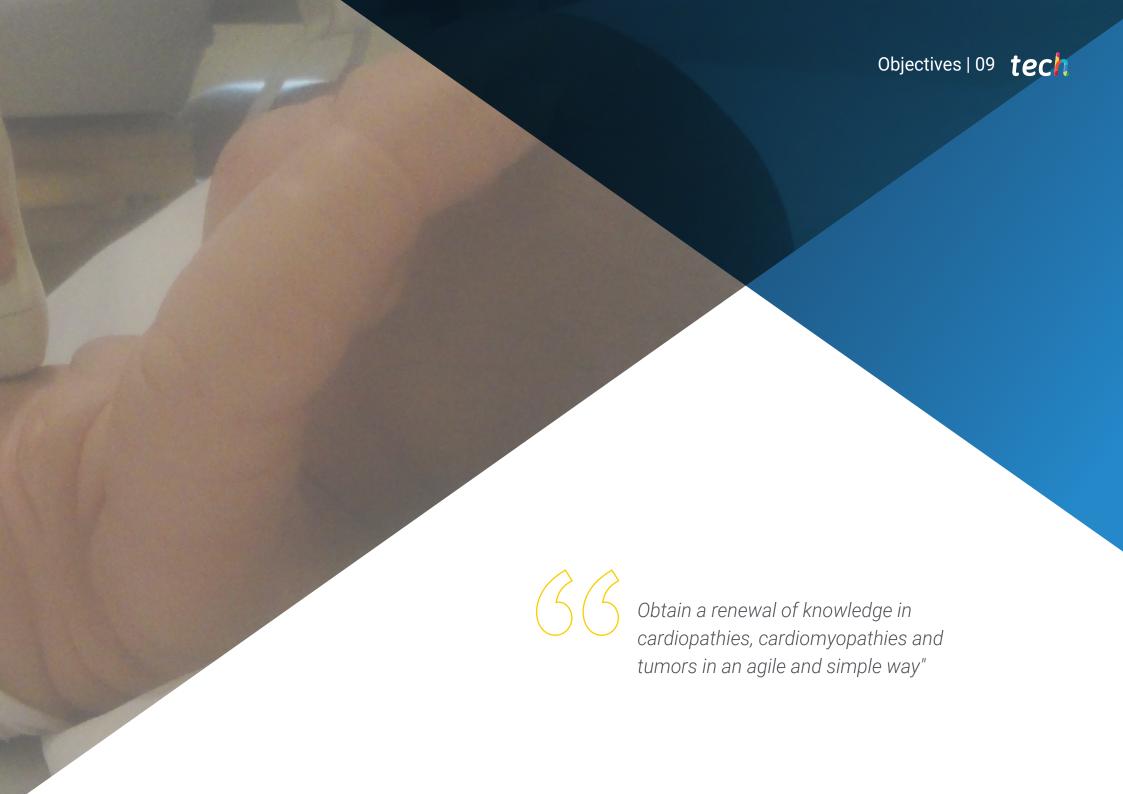
This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

View the contents of the media library whenever you want from your laptop.

Delve into the new imaging techniques in adolescent and adult congenital heart disease in this Professional Master's Degree.







tech 10 | Objectives



General objectives

- Provide the theoretical knowledge necessary to understand the environment in which professional care is given to fetuses with heart disease
- Develop the skills required to diagnose and treat a new-born with heart disease
- Apply the most innovative diagnostic methods to detect congenital heart disease in breastfeeding infants, children and adolescents with heart problems
- Determine the appropriate treatment for congenital heart disease in the pediatric age group
- Gain in-depth understanding of the fields in which professionals must be prepared, in order for them to be able to provide the best practice when dealing with fetuses, children and adolescents with heart disease, both congenital and acquired





Module 1. Update in Pediatric Cardiology

- Identify, classify and orientate the different types of heart disease in pediatrics
- Delve into the nutrition and development in breastfeeding infants and children with congenital heart disease
- Study the pediatric heart failure and transplantation

Module 2. Pulmonary Hypertension

- Identify, classify and manage pediatric pulmonary hypertension
- Master the diagnostic protocol for pediatric PHT
- Define when and how to perform cardiac catheterization
- Study lung transplantation

Module 3. Non-Invasive Cardiac Imaging and Functional Tests

- Study the non-invasive diagnostic techniques that currently make it possible to diagnose a lesion and its functional situation
- Delve into transthoracic and transesophageal echocardiography
- Master the use of magnetic resonance imaging

Module 4. Fetal Cardiology

- Define the appropriate evaluation and treatment of a new-born with heart disease
- Master prenatal screening Indications for Fetal Echocardiography
- Distinguish the types of cardiac malformations
- Study labor preparation and perinatal management

Module 5. Heart Disease, Cardiomyopathies, Tumors

- Study the basic aspects of invasive cardiology essential for clinical cardiology professionals
- Specialize in Kawasaki disease
- Differentiate myocarditis and cardiomyopathy

Module 6. General Basis of Arrhythmias in Fetal and Pediatric Age Group

- Review the current status for dealing with different arrhythmias that could occur in fetuses, breastfeeding infants and children, with their clinical and invasive aspects as well as the use of devices
- Master the antiarrhythmic pharmacology
- Distinguish the different types of supraventricular tachycardias
- · Master the correct handling of the defibrillation test

Module 7. Interventionism in Congenital Heart Disease

- Understand the terminology and principles of surgery for congenital heart disease and the immediate care that must be given during the patient's stay in the ICU
- Master the valvuloplasty technique
- Study rotational angiography and new imaging techniques in adolescent and adult congenital heart disease
- Delve into the treatment of pulmonary arteries in congenital heart disease

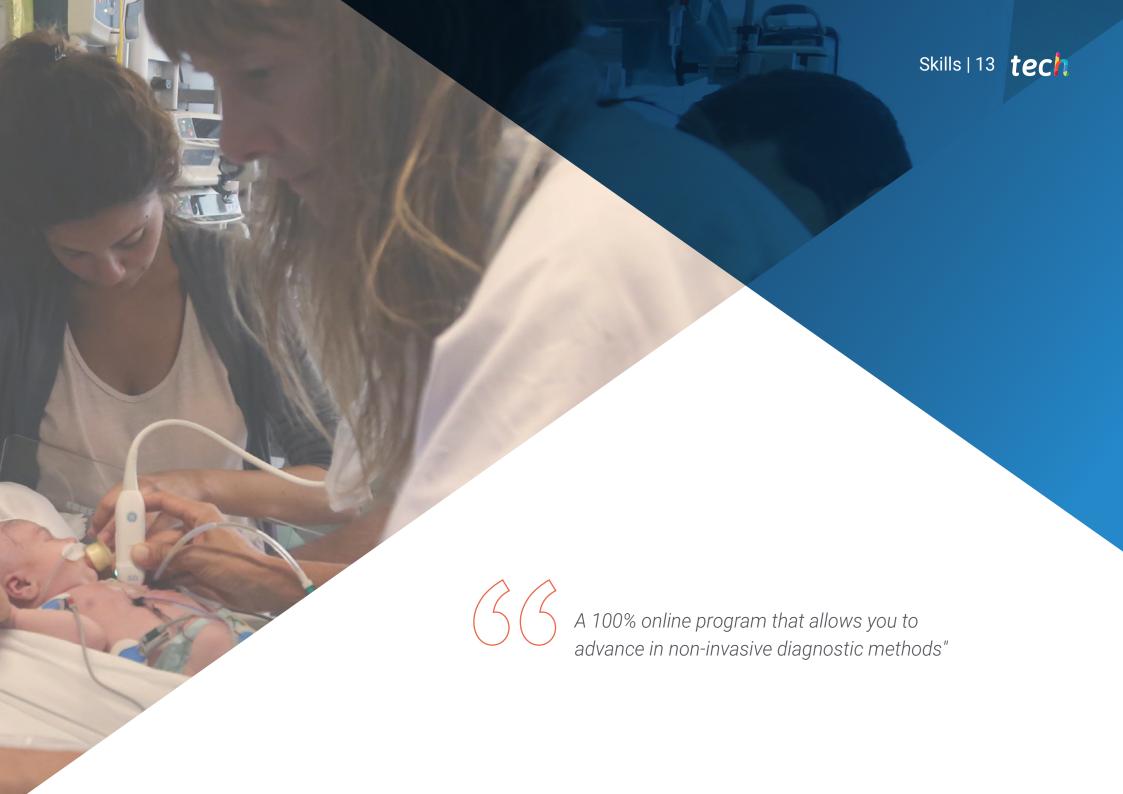
Module 8. Transition and Congenital Heart Disease in Adults

- Gain in-depth understanding of the transition of patients from pediatric to adult age, focusing especially on the new problems which they could face
- Analyze the patient with single ventricle
- Master the types of arrhythmias, conduction disturbances and electrophysiological abnormalities in adults with congenital heart disease
- Delve into follow-up protocols

Module 9. Surgery, Anesthesia and Intensive Care of Congenital Heart Diseases

- Master the surgical techniques of septal defects and rings
- Management of postoperative anesthetics
- Analysis of cardiac tamponade
- Distinguish the different types of coronary abnormalities





tech 14 | Skills



General skills

- Possess and understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context
- Know how to apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to the field of study
- Be able to 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 their conclusions and the ultimate knowledge and reasons behind them to specialized and non-specialized audiences in a clear and unambiguous manner
- Acquire the learning skills that will enable them to continue studying in a manner that will be largely self-directed or autonomous

Test Hospital

VR 6Hz 4cm

Live 3D 3D 21% 3D 40dB







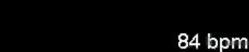


Specific skills

- Define the essential concepts which motivate the student to design and perform their own clinical studies and to take a critical stance when addressing the bibliography of information available
- Explain the uniqueness of normal and pathologic fetal circulation in order to address
 the problems with the diagnostic tools available today, as well as to guide the case
 and the family
- Acquire knowledge of the non-invasive diagnostic methods used in the diagnosis and prognosis of lesions in this stage of life
- Gain up-to-date knowledge on all aspects of cardiac arrhythmias and interventional cardiology, which represents a new scenario for the management of these patients
- Understand that the focus of this pathology in these patients must be multidisciplinary



You have before you a university degree that will allow you to be up to date in right-side heart surgical techniques"





In its maxim of offering an elite education for all, TECH Global University rigorously selects the teaching team that integrates each of its qualifications. On this occasion, the medical professionals will have at their disposal a wide range of teachers who have extensive professional experience in the field of Cardiology and, additionally, have already been able to transfer their knowledge in different high-level educational activities. An extraordinary background that is reflected in the syllabus available to students in this program and in the attention given to any doubts that may arise regarding its content.



International Guest Director

Dr. Luc Mertens is a leading international figure in the field of Pediatric Cardiology, with a special focus on echocardiography. A graduate of the Faculty of Medicine of the University of Leuven in Belgium, he has built a remarkable career since then. As such, he has trained as a Pediatrician and Pediatric Cardiologist at the University Hospitals of Leuven, acquiring a solid clinical and research background.

Since then, he has played a crucial role as a **Pediatric Cardiologist** at the same hospitals, having risen to a position of high responsibility as **Section Head** of **Echocardiography** at the **Hospital for Sick Children** in **Toronto, Canada**, thanks to his well-deserved merits as a medical professional.

Furthermore, there is no doubt that Dr. Mertens has left an indelible mark on the field of pediatric echocardiography, both clinically and academically. Indeed, his leadership in the organization of accreditation in this field in Europe has been fundamental, being recognized for his contribution within the European Association of Pediatric Cardiology and the European Association of Echocardiography. He has also played a leading role in the Pediatric Council of the American Society of Echocardiography.

In addition to his clinical and leadership work, Dr. Mertens is a prolific researcher, with more than 150 peer-reviewed articles and significant contributions to the development and validation of new echocardiographic techniques to assess cardiac function in children. Likewise, his commitment to academic excellence is reflected in his participation in the editorial board of several scientific journals, as well as in his role as editor of one of the leading textbooks in the field of pediatric and congenital echocardiography.



Dr. Mertens, Luc

- Section Head, Echocardiography, The Hospital for Sick Children, Toronto, Canada
- Pediatric Cardiologist at the University Hospitals of Leuven
- Specialist in Pediatrics and Pediatric Cardiology at the University Hospitals of Leuven and at the Mayo Clinic in Rochester
- Doctor of Medical Sciences from the University of Leuven
- Degree in Medicine from the University of Leuven
- Member of: European Association of Pediatric Cardiology, European Association of Echocardiography, American Society of Echocardiography



Management



Dr. Gutiérrez Larraya, Federico

- Head of the Pediatric Cardiology at La Paz University Hospital Madrid, Spain
- Head of the Pediatric Cardiology at Ruber International Hospital Madrid, Spain
- Associate Professor of Medicine at the Complutense University of Madrid.
- PhD in Medicine from the Complutense University of Madrid
- Degree in Medicine and Surgery from the Complutense University of Madrid
- Resident in Pediatric and Interventional Cardiology at the Children's Hospital of The King's Daughters. Virginia, United States
- Master's Degree in Health Management and Economics from the European Institute of Health and Social Welfare
- Executive Master's Degree in Healthcare Organization Management by ESADE
- President of the Permanent Management Committee at La Paz Children's University Hospital. Madrid, Spain



Dr. Merino Llorens, José Luís

- Head of the Arrhythmia and Robotized Cardiac Electrophysiology Unit at La Paz University Hospital
- Cardiologist-electrophysiologist at Quirón Ruber Juan Bravo Hospital
- Cardiologist-electrophysiologist at Nisa Pardo de Aravaca Hospital
- Principal investigator in several international multicenter studies
- · Author of hundreds of scientific articles on his medical specialty
- President of the Electrophysiology and Arrhythmias Department of the Spanish Society of Cardiology
- Chairman of the Cardiac Rhythm Committee of the European Society of Cardiology
- PhD in Medicine from the Complutense University of Madrid
- Master's Degree in Healthcare Unit Management from ESADE
- Award for the best scientific communication on Arrhythmias and Electrophysiology at the Congress on Cardiovascular Diseases

Professors

Dr. Sobrino Baladrón, Adolfo

- Medical Specialist in Pediatric Cardiology at Niño de Jesús Hospital
- Medical Specialist in Pediatric Cardiology at the Congenital Cardiopathies Unit at Madrid Hospitals
- · Assistant Physician in Pediatric Cardiology at Gregorio Marañón Hospital
- Doctor Specialist in Pediatric Cardiology at the Infanta Cristina University Hospital
- · Specialist in Pediatrics at the Alcorcón Foundation University Hospital
- Degree in Medicine from the University of Navarra

Dr. Ávila Alonso, Pablo

- Cardiology Specialist
- Cardiology Specialist Recoletas Hospital Network, Campo Grande
- Cardiology Specialist San Rafael University Hospital, CECAM Group
- Attending Physician. Gregorio Marañón University Hospital
- Member of the Spanish Society of Cardiology

Dr. Campuzano Larrea, Óscar

- Expert researcher in Cardiovascular Genetics
- Senior Researcher at the Cardiovascular Genetics Center of IDIBGI
- Teacher in university studies
- Institute of Biomedical Research of Girona (IdIBGi)
- PhD in Biology from the Autonomous University of Barcelona
- Degree in Biology from the University of Barcelona
- Master's Degree in Neurosciences from the Autonomous University of Barcelona

Dr. García Ormazábal, Itziar

- Physician at the Cardiology Department Quirónsalud Madrid University Hospital
- Resident Intern in Cardiology SESCAM
- Degree in Medicine from the Autonomous University Madrid
- Cardiology Physician
- Fellowship. La Paz University Hospital

Dr. Romero Layos, Manuel

• Specialist. Anesthesia and resuscitation. 12 de Octubre University Hospital

Dr. Castro Parga, Luis Elías

- Anesthesiologist in the Anesthesia and Critical Care Department of the Children's Pain Unit of La Paz Children's Hospital
- Anesthesiologist in HM Sanchinarro
- Responsible for an Adult Critical Care Unit created in the operating rooms of La Paz Hospital
- Co-author of the book Transfunctional Medicine
- Degree in Medicine

Dr. Jerez Mata, Ángel Luis

- Anesthesiologist at the HM Montepríncipe Hospital
- Specialist Pediatric Anesthesiology and Resuscitation Service. 12 de Octubre University Hospital
- Teacher at the Complutense University of Madrid
- Degree in Medicine

tech 22 | Course Management

Dr. Sanabria Carretero, Pascual

- Specialist in Pediatric Anaesthesiology
- Responsible for Pediatric Anesthesia, Quirónsalud Sur Hospital and Quirónsalud San José Hospital
- Assistant Physician, anesthesia and critical and surgical care service La Paz Children's Hospital
- Specialist in Anesthesiology, Resuscitation and Pain Treatment at "La Paz" Hospital in Madrid
- Degree in Medicine and Surgery from the University of Salamanca

Dr. Aguilar Jiménez, Juan Miguel

- Cardiology Physician
- Assistant Physician at the Cardiology Department of the 12 de Octubre University Hospital
- Researcher at the Murcian Institute of Biosanitary Research
- Author of several scientific publications on Cardiology

Dr. Serrano Martínez, Felix

- Assistant Physician of the Toledo Hospital Complex
- Degree in Medicine and Surgery Ministry of Education and Science from the University of Valencia
- Hospital Intern Resident: Medical Specialist in General Surgery and Digestive System University Hospital "Dr.Peset" of Valencia
- PhD: PhD in Medicine and Surgery Ministry of Education and Science from the University of Valencia

Dr. González Rocafort, Alvaro

- Head of Congenital Heart Surgery at HM Monteprincipe University Hospital
- Surgeon of Congenital Cardiopathies at the Insular University Hospital Complex
- Maternal and Infant Hospital of Gran Canaria
- Congenital Heart Disease Surgeon at La Paz University Hospital
- Specialist Physician in San Carlos Clinical Hospital
- Surgical Coordinator of Cardiac Transplantation at La Paz Hospital
- PhD in Medicine from the Complutense University of Madrid
- · Master's Degree in Health Management by UDIMA
- Member of: European Association of Cardiothoracic Surgery, European Association of Congenital Heart Surgery, Spanish Society of Cardiovascular Surgery, Spanish Society of Pediatric Cardiology and Congenital Heart Disease

Dr. García Torres, Enrique

- Pediatric Cardiology Specialist
- Pediatric Cardiologist Surgeon at the 12 de Octubre University Hospital
- Training as Pediatric Surgeon at Mari Lannelongue Surgical Center
- Master's Degree in Cardiovascular Surgery from the University of Carabobo
- Degree in Medicine and Surgery from the Central University of Venezuela

Dr. Sarria García, Esteban

- Specialist in Cardiovascular Surgery in the Maternal and Infant Area of the Carlos Haya Regional University Hospital of Málaga
- Degree in Medicine and Surgery from the University of Málaga
- Specialist in Cardiovascular Surgery (MIR) Carlos Haya Hospital, Málaga

Dr. Sanchez, Raúl

- Children's Cardiac Surgeon specializing in Congenital Heart Disease
- Pediatric Cardiac Surgeon and Congenital Cardiopathies at La Paz University Hospital
- Pediatric Heart Surgeon. Ramón y Cajal Hospital
- Doctor of Medicine. Autonomous University of Madrid
- Degree in Medicine from the University of Murcia

Dr. Centella Hernández, Tomasa

- Cardiovascular Surgeon expert in Congenital Cardiopathies
- Cardiovascular Surgeon at the Ramón y Cajal Hospital
- Cardiovascular Surgeon at La Princesa Hospital
- Vice-President of the Delegated Commission of Surgical and Medical-Surgical Specialties of the Ministry of Health, Consumption and Social Welfare
- President of the Spanish Society of Thoracic-Cardiovascular Surgery
- Coordinator of the International Cooperation Project for the Surgery of Congenital Heart Disease
- PhD in Medicine and Surgery from the University of Alcalá de Henares
- Master's Degree in Minimal Access Cardiovascular Surgery

Dr. Vera Puente, Francisco

• Faculty Specialist Area in Cardiovascular Surgery, Maternal and Children's Hospital, Málaga

Dr. Ruiz Alonso, Enrique

- Head of the Pediatric Cardiovascular Surgery Section of the Maternal and Children's Hospital of Málaga
- Pediatric Surgeon in the Madrid Health Service
- Assistant Physician at the Royal Melbourne Children's Hospital, Australia
- Master's Degree in Health Organization Management from ESADE
- Master's Degree in Hospital and Health Services Management from the Polytechnic University of Valencia

Dr. Abelleira, César

- Specialist in Pediatric Cardiology and Hemodynamics at La Paz University Hospital
- Specialist in Pediatrics and Specific Areas at the University Hospital of A Coruña
- Specialist in Pediatric Cardiology and Congenital Heart Disease at Ramón y Cajal Hospital
- Pediatric Cardiologist in the Congenital Heart Disease Unit of the Montepríncipe Hospital
- Specialization in Hemodynamics and Interventional Cardiology in Pediatric Cardiology and Congenital Heart Disease
- Member of the Board of Directors of the Society of Pediatric Cardiology and Congenital Cardiopathies

Dr. Sanz Pascual, Elena

- Specialist in Pediatric Cardiology
- Specialist Physician in the Pediatrics Department of the La Paz Children's Hospital in Madrid
- Degree in Medicine from the Autonomous University Madrid

tech 24 | Course Management

Dr. Villagrá Blanco, Fernando

- Head of the Children's Cardiac Surgery Department of the Montepríncipe University Hospital
- Head of Children's Cardiac Surgery of the Canary Islands Health Service
- Head of the Children's Cardiovascular Surgery Service of La Paz University Hospital, Madrid
- · Head of Children's Cardiac Surgery Service, Hospital La Zarzuela, Madrid
- · Assistant Children's Cardiac Surgeon at the Ramón y Cajal Hospital, Madrid
- Degree in Medicine and Surgery
- ECFMG to practice medicine in the U.S.
- Doctoral Thesis Outstanding Cum Laude from the Autonomous University of Madrid
- Specialist in Cardiovascular Surgery via MIR by the University Hospital Puerta de Hierro and University of Connecticut
- Expert in the field of Surgical Block assigned to the General Directorate of Health of the Ministry of Health of the Community of Madrid
- European Board of Thoracic and Cardiovascular Surgeons
- Member of the Spanish Society of Pediatric Cardiology and Congenital Heart
 Disease, Spanish Society of Cardiology, Spanish Society of Cardiovascular Surgery,
 International College of Angiology, Societe Europeenne de Cardiologie, Society of
 Paediatric, Cardiovascular Surgery Aldo Castañeda, International European Society for
 Cardiovascular Surgery, International Society for Heart Transplantation, Spanish Society
 of Pediatric Cardiology and Congenital Heart Disease

Dr. Álvarez-Ortega, Carlos Antonio

- Cardiology Physician
- Specialist in Cardiology at La Paz University Hospital
- Specialist in Electrophysiology at La Paz University Hospital
- Author of several specialized publications
- Doctor of Medicine, University of Seville

Dr. Rodríguez Ogando, Alejandro

- Physician in the Pediatric Cardiology Unit, Congenital Cardiopathies, Montepríncipe Hospital
- Attending Physician at Gregorio Marañón Hospital
- Degree in Medicine and Surgery from the Universidad de Navarra
- PhD in Biomedical Science Autonomous University of Madrid
- Specialist in Pediatrics at the Gregorio Marañón Hospital
- Diploma in Research Methodology from the Autonomous University of Barcelona
- Member of the Spanish Society of Pediatric Cardiology and Congenital Heart Disease
- Coordinating Member of the Spanish Registry of Pediatric Pulmonary Hypertension
- Member of the European Association of Pediatric Cardiology

Dr. Pérez Moneo Agapito, María Ángeles

- Pediatrician
- Co-author of the study Postnatal ischemic cerebrovascular disease in the pediatric emergency department
- Co-author of the Amir Pediatric Nursing Handbook

Dr. Balbacid Domingo, Enrique José

- Head of Pediatric Cardiology Service of Sanitas at La Moraleja University Hospital and La Zarzuela University Hospital, Madrid
- Assistant Physician of the Adult Congenital Heart Disease Unit La Paz University Hospital
- Cardiology Specialist Cardiatics Clinical Center
- Attending Physician in Pediatric Hemodynamics La Paz University Hospital
- Physician in charge of Children's Cardiology of the Recoletas Group Campo Grande Hospital of Valladolid
- Reviewer of the Spanish Journal of Cardiology
- Professor of postgraduate programs related to the specialty
- Doctor of Medicine. Autonomous University of Madrid
- Degree in Medicine. Alcalá de Henares University
- Cardiology Physician San Carlos Clinical Hospital, Madrid
- Master's Degree in Pediatric Cardiology Autonomous University of Madrid
- Member of: Hemodynamics Working Group Spanish Society of Pediatric Cardiology
- and Congenital Heart Disease

Dr. García Hernández, Irene

- Pediatrician expert in Pediatric Cardiology and Congenital Cardiopathies
- Assistant Physician of the Pediatrics Service of the University Hospital Complex of A Coruña
- Physician in the Arrhythmia Unit of the Pediatric Cardiology Service of the Ramón y Cajal Hospital
- Assistant Physician of Pediatrics and Infant Cardiology at Marqués Marqués de Valdecilla University Hospital
- Physician at the Central University Hospital of Asturias
- Doctor in Medicine and Surgery, University of Oviedo

Dr. Centeno Jiménez, Miriam

- Specialist in Pediatric Cardiology and Cardiac Electrophysiology
- Assitant Physician in Pediatric Cardiology at Gregorio Marañón University Hospital
- Assistant Physician in Pediatrics-Pediatric Cardiology Fuenlabrada University Hospital
- Assistant Physician in Pediatric Cardiology La Paz University Hospital
- Assistant Physician in Pediatrics-Pediatric Cardiology Severo Ochoa Hospital
- Degree in Medicine from the Autonomous University Madrid
- Magister in Cardiac Electrophysiology Complutense University of Madrid

Dr. Ortega Molina, Marta

- Cardiologist in the Arrhythmia Unit of the Children's Hospital La Paz
- Specialist in Pediatric Cardiology in the Congenital Heart Disease Unit of the HM Montepríncipe Hospital
- Specialist in Pediatric Cardiology at Móstoles University Hospital
- Specialist in Pediatric Cardiology at Quirónsalud San José Hospital
- Degree in Medicine and Surgery from the Autonomous University of Madrid
- Specialty in Pediatric Cardiology at the 12 de Octubre University Hospital
- Master's Degree in Cardiac Electrophysiology from CEU San Pablo University
- Research Fellow in Pediatric Electrophysiology and Congenital Cardiopathology at Children's Hospital Boston (London)

tech 26 | Course Management

Dr. Ortigado Matamala, Alfonso

- Head of the Pediatrics Department at the University Hospital of Guadalajara
- Pediatrician at Guadalajara University Hospital
- Professor of Pediatric Cardiology at the Alcalá University
- · Doctor of Medicine and Surgery from the University of Alcalá
- Degree in Medicine and Surgery from the University of Alcalá
- Specialty in Pediatrics and its Specific Areas by the Autonomous University of Madrid
- Master's Degree in University Teaching, Teacher Training and Development of Innovation
- Teacher by the University of Alcalá
- Master's Degree in Clinical Management, Medical and Healthcare Management from the CEU Cardenal Herrera University
- Accreditation in Pediatric Cardiology and Congenital Heart Disease by the SEC
- Member of SEC

Dr. García Guereta, Luis

- Specialist in Pediatric Cardiology
- Head of the Pediatric Cardiology Section at La Paz University Hospital
- Physician in the Pediatric Cardiology Service of La Paz University Hospital
- Author of numerous scientific publications

Dr. Uceda Galiano, Ángela

- Pediatric and Fetal Cardiologist at La Paz University Hospital
- Author of numerous scientific publications
- Doctorate in Medicine from the Autonomous University Madrid

Dr. Galindo Izquierdo, Alberto

- Gynecology and Obstetrics Department of the 12 Octubre University Hospital
- Head of the Obstetrics and Gynecology Department of the 12 de Octubre University Hospital
- Researcher of the Foundation for Biomedical Research of the 12 Octubre University Hospital
- Professor of Obstetrics and Gynecology at the UCM
- Doctor in Obstetrics and Gynecology from the UCM
- Degree in Medicine and Surgery

Dr. Mendoza Soto, Alberto

- Specialist in Pediatric Cardiology at the 12 de Octubre Hospital
- Acting Head of the Pediatric Cardiology Service at the 12 Octubre University Hospital
- Head of Hemodynamics of Pediatric Cardiology at 12 de Octubre University Hospital
- Cardiologist in the Pediatric Cardiology and Cardiac Surgery Unit of HM Hospitales
- Author of numerous scientific articles published in journals
- Member of the Spanish Society of Pediatric Cardiology and Congenital Heart Disease

Dr. Gómez Martín, Felipe

- Pediatrician expert in Pediatric Cardiology
- · Attending Physician at La Paz University Hospital

Dr. Fernández Miranda, María de la Calle

- Physician in the Obstetrics and Gynecology Unit at the Ruber Internacional Hospital
- Head of Department of High-Risk Obstetrics and Medical Obstetrics. La Paz University Hospital
- Degree in Medicine and Surgery from the Complutense University of Madrid
- PhD in Gynecology Obstetrics from the Autonomous University of Madrid

Dr. Deiros Bronte, Lucía

- Pediatric and Fetal Cardiologist at La Paz University Hospital
- Author of several articles published in scientific journals
- Teacher in university studies
- Doctorate in Medicine from the Autonomous University Madrid

Dr. Rodríguez González, Roberto

- Head of Section of the Ultrasound and Fetal Medicine Department, La Paz University Hospital
- Specialist in Obstetrics and Gynecology at La Paz University Hospital
- Expert in Fetal Medicine
- Attending Physician at La Paz Children's Hospital

Dr. Mansilla Aparicio, Elena

- Specialist Physician in charge of the Cytogenetics Unit of la Paz University Hospital
- Specialist Physician in the Cytogenetics Section of the Institute of Medical and Molecular Genetics
- Degree in Medicine

Dr. Rivero Jimenez, Natalia

- Specialist Physician in Pediatric Cardiology and Adult Congenital Cardiopathies at the Ramón y Cajal University Hospital
- Author of several national and international specialized publications
- Member of the Spanish Society of Pediatric Cardiology and Congenital Heart Disease

Dr. Moreno Galdó, Antonio

- Head of Department of the Allergy, Pediatric Pulmonology and Cystic Fibrosis Units at Vall d'Hebron University Hospital
- Head of the Pediatric Lung Transplant Program at Vall d'Hebron University Hospital
- Assistant physician in the Pediatrics Department of the Vall d'Hebron University Hospital
- Assistant Physician in the Pediatrics Service of the Son Dureta Hospital
- Researcher specialized in Pediatrics
- Author of numerous scientific articles on his specialty
- Teacher in university studies of Medicine
- Doctor of Medicine at the Autonomous University of Barcelona

Dr. Labrandero de Lera, Carlos

- Specialist in Pediatric Cardiology
- · Pediatric Cardiology, La Paz University Hospital
- Children's Cardiologist, Congenital Heart Disease Unit. Montepríncipe Hospital
- Pediatric Cardiologist at the Maternal and Children's Clinics of Madrid
- Degree in Medicine and Surgery from the Complutense University of Madrid
- Specialist in Pediatrics and Specific Areas at the University Hospital La Paz
- International Master's Degree in Pulmonary Hypertension, Menéndez Pelayo International University
- Master's Degree in Pediatric Cardiology, Autonomous University of Madrid
- Member of the Spanish Society of Pediatric Cardiology and Congenital Heart Disease (SECPCC)

tech 28 | Course Management

Dr. Siles, Ana

- Specialist Physician in Pediatric Cardiology, Puerto de Hierro Majadahonda University Hospital
- Collaborator-Teacher in Pediatrics at the Autonomous University of Madrid
- Member of the Perinatal Commission of the Puerta de Hierro Majadahonda University Hospital
- Degree in Medicine and Surgery from the Autonomous University of Madrid
- · Specialist Pediatrician at Severo Ochoa Hospital of Madrid
- Specialty in Pediatric Cardiology at the Gregorio Marañón Maternal-Children's Hospital
- Fellowship in Pediatric Cardiology at the Sainte Justine Hospital in Canada
- Research Proficiency in Pediatrics, Autonomous University of Madrid
- Member of SECPCC, AEP

Dr. Maiques Magraner, Elena

- Specialist in Pediatrics expert in Pediatric Cardiology
- Specialist in Pediatrics at La Salud Hospital
- Author of several scientific publications on Pediatric Cardiology
- Teacher in medical training courses
- Master's Degree in Pediatric Cardiology from the Autonomous University of Madrid

Dr. Ferrer, Queralt

- Specialist in Pediatric and Fetal Cardiology at Quirón-Dexeu Hospital
- Specialist in Pediatrics and Pediatric Cardiology
- Member of the Fetal Cardiology Working Group of the European Society of Pediatric Cardiology, Fetal Cardiology Working Group of the Spanish Society of Pediatric Cardiology (SECPCC)

Dr. Villagrá Albert, Sandra

- Children's Cardiologist and Head of the Congenital Heart Disease Unit
- Head of the Congenital Cardiopathies Unit at HM Hospitals
- Cardiology at Madrid-Montepríncipe University Hospital
- Pediatric (including cardiac transplantation and ventricular assistance) and fetal cardiology at the University Hospital of La Paz
- Pediatric Cardiology and Adult Congenital Cardiopathies at the Ramón y Cajal University Hospital
- Pediatric Cardiology, fetal and familial cardiomyopathies at the University Hospital of Puerta Hierro-Majadahonda
- Pediatric Cardiology at the University Hospital of Getafe
- Pediatric Cardiology at the 12 de Octubre University Hospital
- University collaborating professor
- D. in Medicine and Surgery "Cum Laude" from the Autonomous University of Madrid
- Degree in Medicine and Surgery from the Complutense University of Madrid
- Member of Spanish Society of Pediatrics, Spanish Society of Pediatric Cardiology and Congenital Heart Disease, Society of Pediatrics of Asturias, Cantabria and Castilla y León

Dr. Bret Zurita, Montserrat

- Specialist in Radiology expert in Congenital Heart Disease
- Assistant Physician of Radiology at La Paz University Hospital
- Physician in the Radiodiagnostic Service, Magnetic Resonance and CT of Nuestra Señora del Rosario Hospital
- Author of several articles published in scientific journals
- Teacher in undergraduate and postgraduate studies related to medicine

Dr. Usano Carrasco, Ana

- Head of the Children's Cardiology Clinic at the La Moraleja University Hospital
- Area Specialist in Children's Cardiology at the Infanta Leonor University Hospital
- Area Specialist in Infant Cardiology at the Puerta de Hierro University Hospital
- Area Specialist in Pediatric Cardiology at the University Hospital of Albacete
- Author of scientific articles on her specialty
- Teacher in postgraduate studies in Medicine
- Master's Degree in Diagnosis and Treatment in Pediatric Cardiology and Congenital Cardiopathies by CEU Cardenal Herrera
- University Expert in Fetal and Pediatric Cardiophysiology by CEU Cardenal Herrera

Dr. Correseria Sanchez, Jose Felix

- Specialist in Cardiology and Child Hemodynamics
- Pediatric Cardiology and Pediatric Hemodynamics Area Specialist of the Virgen del Rocío Hospital, Seville
- Member of the Editorial Committee of the Spanish Journal of Cardiology

Dr. Del Val, Viviana Arreo

- Pediatric Cardiology at La Paz University Hospital
- Pediatric Cardiologist in Congenital Heart Disease Unit, Montepríncipe University Hospital
- Editorial Director of the Academy of MIR Studies (AMIR)
- Collaborating professor at the Faculty of Medicine of the San Pablo-CEU University
- Coordinator and professor of the Master's Degree "Diagnosis and Treatment in Pediatric Cardiology and Congenital Heart Disease" at the San Pablo-CEU University
- Degree in Medicine and Surgery from the Autonomous University of Madrid
- Master's Degree in Pediatric Cardiology, Autonomous University of Madrid
- Member of SECPCC

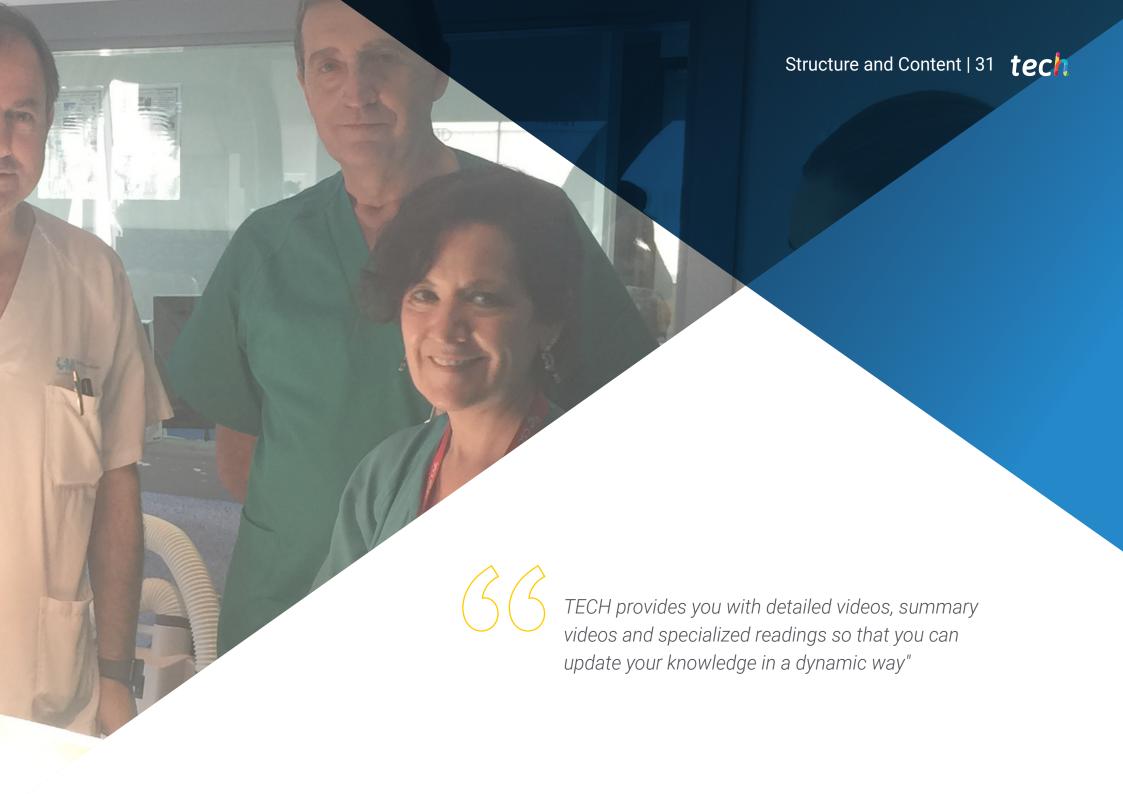
Dr. Del Cerro Marín, María Jesús

- Head of Pediatric Cardiology Department, Ramón y Cajal University Hospital, Madrid
- Head of the Pediatric Cardiology Department, Ramón y Cajal University Hospital, Madrid
- Head of the Pediatric Pulmonary Hypertension and Congenital Heart Disease
- at the Ramón y Cajal University Hospital of Madrid
- · Teaching in private and public academic institutions
- Doctor of Medicine
- Degree in Medicine and Surgery from the Autonomous University of Madrid
- President of the Working Group on Pulmonary Circulation of the Spanish Society of Pediatric Cardiology and Congenital Heart Diseases
- Coordinator of the Spanish Registry of Patients with Pediatric Pulmonary Hypertension (REHIPED)
- Co-leader of the Pediatric Taskforce of the Pulmonary Vascular Research Institute (PVRI)

Dr. Antolín Alvarado, Eugenia

- Specialist in Maternal Fetal Medicine and Surgery
- Head of the Ultrasound and Fetal Medicine Section of the Obstetrics and Gynecology Service La Paz University Hospital
- · Attending Physician at La Paz University Hospital
- Attending Physician at La Paz Children's Hospital
- Principal investigator and collaborator in 7 projects funded by ICSIII
- President of the Ultrasound Section of the Spanish Society of Gynecology and Obstetrics
- Associate Professor at the AUM
- Doctor of Medicine and Surgery. University of Barcelona
- Member of the research group of Obstetrics and Gynecology of IdiPAZ and the SAMID Network





tech 32 | Structure and Content

Module 1. Update in Pediatric Cardiology

- Epidemiology. Incidence and Prevalence. Terminology. Etiology of Congenital Heart Disease
- 1.2. Genetic Principles and Congenital Heart Disease
- 1.3. Cardiac Embryology and Cardiac Anatomy
 - 1.3.1. Cardiac Anatomy: Elena Sanz
 - 1.3.2. Cardiac Embryology: Natalia Rivero
- 1.4. Cardiovascular Pathophysiology, Diagnosis, Support Techniques
- 1.5. Pediatric Heart Failure and Transplantation
- 1.6. Nutrition and Development in Breastfeeding Infants and Children with Congenital Heart Disease
- 1.7. General Aspects in the Management of Heart Disease, both Congenital and Acquired

Module 2. Pulmonary Hypertension

- 2.1. Pediatric Pulmonary Hypertension: Epidemiology, Classification and Clinical Process
- 2.2. Diagnostic Protocol for Pediatric PHT Assessment of Functional Grade
- 2.3. Cardiac Catheterization in Pulmonary Hypertension Percutaneous Treatment
- 2.4. Specific Conventional Pharmacological Treatment of Pharmacological Treatment
- 2.5. Surgical Treatment of PHT Potts Shunt Lung Transplant

Module 3. Non-Invasive Cardiac Imaging and Functional Tests

- 3.1. General Basis of an Echocardiography Equipment
- 3.2. Transthoracic and Transesophageal Echocardiography
- 3.3. Cardiac CAT Scan
- 3.4. Magnetic Resonance
- 3.5. Functional Tests

Module 4. Fetal Cardiology

- 4.1. Physiology of Fetal Circulation and Normal Transition
- 4.2. Cardiocerebral Development
- 4.3. Genetics
- 4.4. Prenatal Screening. Indications for Fetal Echocardiograph



Structure and Content | 33 tech

- 4.5. Acute Heart Failure
- 4.6. Heart Malformations
 - 4.6.1. Septal Defects
 - 4.6.2. Conotruncal Defects
 - 4.6.3. Right and Left Heart Failure
 - 4.6.4. Coarctation of Aorta
- 4.7. Fetal Arrhythmias
- 4.8. Preparation of Birth and Perinatal Management
 - 4.8.1. Obstetric Management
 - 4.8.2. Management of the New-born
- 4.9. Fetal Interventionism

Module 5. Heart Disease, Cardiomyopathies, Tumors

- 5.1. Congenital Heart Disease
 - 5.5.1. Introduction
 - 5.5.2. Non-Cyanogenic Heart Disease
 - 5.5.3. Cyanogenic Heart Disease
- 5.2. Myocarditis and Cardiomyopathy
- 5.3. Pericarditis, Endocarditis and Kawasaki Disease
- 5.4. Cardiologic Involvement in Pediatric Systemic Diseases

Module 6. General Basis of Arrhythmias in Fetal and Pediatric Age Group

- 6.1. General Bases: Cellular and Cardiac Electrophysiology
 - 6.1.1. Anatomy and Embryology of the Conduction System
 - 6.1.2. Normal and Pathological ECG
 - 6.1.3. Changes During Development
 - 6.1.4. The Normal Patient With a Structurally Abnormal Heart
- 6.2. Canalopathies
- 6.3. Genetics of Arrhythmic Disorders
- 6.4. Preexcitation Clinical Management
- 6.5. Supraventricular Tachycardias I (AV re-entry and intranodal)

- 6.6. Supraventricular Tachycardias II (focal atrial, re-entrant and atrial fibrillation)
- 6.7. Ventricular Tachycardias
- 6.8. Bradycardias and Blockages
- 6.9. Invasive EPS, Endocavitary Recordings Equipment: Electroanatomical Mapping, RF Ablation, Cryoablation
- 6.10. Syncope and Sudden Death
- 6.11. Antiarrhythmic Pharmacology
- 6.12. Perioperative Arrhythmias
- 6.13. Temporary and Definitive Stimulation
- 6.14. IAD Defibrillation Test

Module 7. Interventionism in Congenital Heart Disease

- 7.1. Basic Hemodynamic Concepts
- 7.2. Fluoroscopy and Angiography
- 7.3. Vascular Access
 - 7.3.1. Conventional Vascular Access
 - 7.3.2. Alternative Vascular Accesses (Carotid, Axillary and Transhepatic Dissection)
- 7.4. Valvuloplasty Using the Balloon in All 4 Valves
- 7.5. Valve Prosthesis. Transcatheter Therapy of Congenital Heart Disease
- 7.6. Aortic Arch Pathology
- 7.7. Treatment of Pulmonary Arteries in Congenital Heart Disease
- 7.8. Intracardiac Short Circuits
- 7.9. Techniques for Increasing Pulmonary Flow
- 7.10. Atrioseptoplasty
- 7.11. Extracardiac Short Circuits
- 7.12. Transposition of Main Arteries
- 7.13. Univentricular Heart
- 7.14. Rotational Angiograph and New Imaging Techniques in Adolescent and Adult Congenital Heart Disease Beyond the Scope

tech 34 | Structure and Content

Module 8. Transition and Congenital Heart Disease in Adults

- 8.1. Medical History, Anamnesis Key Points Echocardiogram Imaging Tests in CHD in Adults. Diagnostic Catheter
- 8.2. Left to Right and Right to Left Short Circuits
- 8.3. Patients with a Single Ventricle
- 8.4. Post-Surgery Without Complications
- 8.5. Arrhythmias, Conduction Disturbances and Electrophysiological Abnormalities in Adults with Congenital Heart Disease
- 8.6. Monitoring Protocols
- 8.7. Preconception Counseling

Module 9. Surgery, Anesthesia and Intensive Care of Congenital Heart Diseases

- 9.1. Basis of Congenital Cardiac Surgery
 - 9.1.1. Introduction and History of Congenital Heart Disease
 - 9.1.2. Basis of ECLS and ECMO
 - 9.1.3. Ventricular and Transplant Care
- 9.2. Surgical Techniques on Septal Defects and Rings Updates
 - 9.2.1. ICA and IVC
 - 9.2.2. Partial Pulmonary Venous Abnormalities
 - 9.2.3. AV Channel
 - 9.2.4. AP Window. Cor Triatriatum
 - 9.2.5. TAPVR
 - 9.2.6. Vascular Rings, DAP
- 9.3. Right Heart Surgical Techniques Updates
 - 9.3.1. TOF
 - 9.3.2. PAIVS and PAVSD
 - 9.3.3. Tricuspid Valve
 - 9.3.4. Vascular Rings, DAP: Raúl Sanchez
 - 9.3.5. RVOT and Pulmonary Valve: Félix Serrano





Structure and Content | 35 tech

- 9.4. Left Heart Surgical Techniques Updates
 - 9.4.1. Aortic Valve
 - 9.4.2. Mitral Valve
 - 9.4.3. Coronary Abnormalities
- 9.5. Surgical Techniques of the Main Veins Updates
 - 9.5.1. Aorta, Coarctation of the Aorta, IAA
 - 9.5.2. TGA and Truncus
 - 9.5.3. Single Ventricle
- 9.6. Postoperative Anesthetic Management
 - 9.6.1. Strategies to Reduce Perioperative Neurologic Vulnerability Neurological Lesions
 - 9.6.2. Low Postoperative Expense Cardiac Dysfunction
 - 9.6.3. Renal Complications Renal Purification Techniques
 - 9.6.4. Pulmonary Complications Ventilatory Support Techniques. Pulmonary Hypertension Crisis
- 9.7. Other Complications
 - 9.7.1. Post-Operation Infections Pneumonia, Sepsis
 - 9.7.2. Infection of Surgical Wounds Mediastinitis
 - 9.7.3. Cardiac Tamponade
 - 9.7.4. Phrenic Plication and Others



A program designed to keep you abreast of the latest techniques for the management of patients with cardiac complications"





tech 38 | Methodology

At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

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



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



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

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

- Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
- 2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
- 3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
- 4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.





Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

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



Methodology | 41 tech

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

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

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

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

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

tech 42 | Methodology

This program offers the best educational material, prepared with professionals in mind:



Study Material

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

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



Surgical Techniques and Procedures on Video

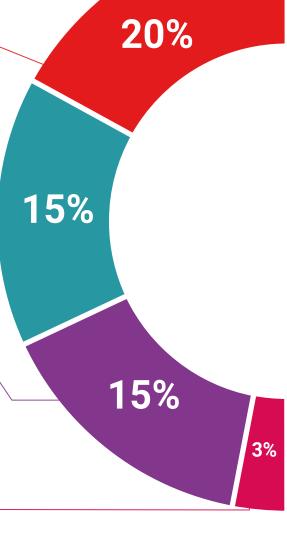
TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many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



Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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





Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.

Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear



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.

and direct way to achieve the highest degree of understanding.





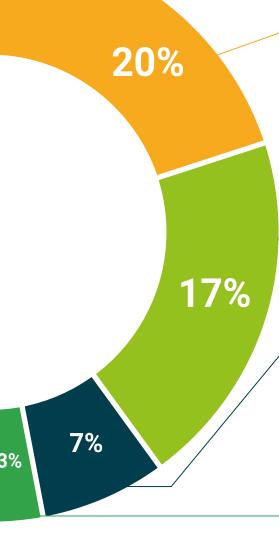
There is scientific evidence on the usefulness of learning by observing experts.

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

Quick Action Guides



TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.







tech 46 | Certificate

This Professional Master's Degree in Diagnosis and Treatment in Pediatric Cardiology and Congenital Heart Disease contains the most complete and up-to-date program on the market.

After the student has passed the assessments, they will receive their corresponding Professional Master's Degree issued by **TECH Technological University v**ia tracked delivery*.

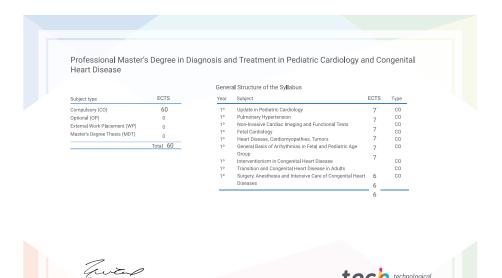
The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Professional Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.



Title: Professional Master's Degree in Diagnosis and Treatment in Pediatric Cardiology and Congenital Heart Disease

Modality: online

Duration: 12 months



^{*}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.

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



Professional Master's Degree

Diagnosis and Treatment in Pediatric Cardiology and Congenital Heart Disease

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online

