Postgraduate Diploma

Procedures and Techniques in ICU Cardiovascular Critical Care

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Postgraduate Diploma

Procedures and Techniques in ICU Cardiovascular Critical Care

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-procedures-techniques-icu-cardiovascular-critical-care**

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01

Introduction

Acute cardiovascular pathology consists of a group diseases that frequently require complex, on-the-spot decision making and with great repercussions for the patient's prognosis. The monitoring of patients with cardiovascular pathology in a critical situation is a very common occurrence, both in emergency departments as well as coronary units, ICU and in post-surgery patients with underlying heart disease.

This training will generate a sense of confidence when practicing medicine, which will help you grow personally and professionally"

This Postgraduate Diploma in the field of cardiology is one of the areas of great research activity, which leads to the frequent emergence of new studies, reviews, clinical practice guidelines, etc. that modify or should modify patient management for acute heart disease. Gaining up-to-date knowledge in this area is essential for cardiologists interested in developing specific skills; for cardiologists who aren't in daily contact with acute cardiac patients, but who need to be competent in dealing with them, or for non-cardiologists who work in an environment where they treat these types of patients.

The program structure for this Postgraduate Diploma is clearly laid out, which provides students with an orderly approach to each topic. The modules are divided in a simple way, focusing on each one of the main groups of acute heart disease. They are taught by professionals who combine their high academic skill level with their teaching experience and their dealings with critical cardiology patients. The learning tools and texts available to the student are fully up to date and are designed to develop skills which are directly applicable to clinical practice. The program structure compiles more theoretical content and the latest developments in diagnosis and medical management, with other content that is focused on students acquiring more practical skills as well. One of the modules is entirely devoted to developing practical skills and mastering the essential techniques for dealing with critical cardiovascular patients. A second module is focused on developing the essential skills for performing and interpreting echocardiograms (ECG), and their correlation with the patient's clinical situation, to make decisions on the treatment and management of the patient.

The program is aimed at encouraging and enabling the development of essential skills in the management of a patient with acute heart disease. The type of student that will benefit from this program is one that requires training or being brought up-to-date in the management of this type of patients. This mainly includes intensive care staff or anesthetists who look after patients with heart disease, cardiologists who don't have daily contact with acute patients, but need to be kept up-to-date in how to care for them, or cardiologists interested in perfecting and deepening their knowledge of critical heart disease care.

This **Postgraduate Diploma in Procedures and Techniques in ICU Cardiovascular Critical Care** contains the most complete and up-to-date scientific program on the market. The most important features include:

- More than 75 clinical cases presented by experts in procedures and techniques in ICU cardiovascular critical care.
- The graphic, schematic, and eminently practical contents of which they are composed provide scientific and practical information on the disciplines that are essential for professional practice
- Latest developments in Procedures and Techniques in ICU Cardiovascular Critical Care
- It contains practical exercises where the self-evaluation process can be carried out to improve learning
- Algorithm-based interactive learning system for decision-making in the presented clinical situations
- With special emphasis on evidence-based medicine and research methodologies in Procedure and Techniques in ICU Cardiovascular Critical Care
- All this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection

Update your knowledge with the Postgraduate Diploma in Procedures and Techniques in ICU Cardiovascular Critical Care"

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 Procedures and Techniques in ICU Cardiovascular Critical Care, you will obtain a qualification from TECH - Technological University"

Increase your decision-making confidence by updating your knowledge through this specialist course.

Take the opportunity to learn about the latest advances in Procedures and Techniques in ICU Cardiovascular Critical Care and improve your patient care.

Its teaching staff includes professionals belonging to the field of procedures and techniques for patients under critical cardiovascular care in the ICU, who pour into this training the experience of their work, as well as to recognized specialists belonging to scientific societies of reference.

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 purpose, physicians will be assisted by an innovative interactive video system created by recognized experts in the field of procedures and techniques for patients under critical cardiovascular care in the ICU who have extensive teaching experience.

02

Objectives

The Postgraduate Diploma in Procedures and Techniques in ICU Cardiovascular Critical Care is designed to facilitate physicians who need the procedures and techniques to treat patients under cardiovascular critical care in the ICU.

This Postgraduate Diploma is designed to help you update your knowledge of Procedures and techniques in the ICU, with the use of the latest educational technology, to contribute quality and safety to decision-making"

General Objectives

- Handle with ease the diagnostic arsenal available in a tertiary center for the management of critically ill cardiovascular patients
- Identify patients in a serious or potentially serious short-term situation due to cardiovascular problems
- Explain the treatment indications and the therapy options in critical cardiovascular patients
- Lead a group attending to urgent or emergency situations caused by acute cardiovascular problems and guide fellow colleagues in the treatment of critical patients

Specific Objectives

Module 1. Non-Invasive Cardiac Imaging and Functional Tests

- Acquire echocardiographic plans of sufficient quality for the identification of structures and possible alterations
- Operate an echocardiograph in its basic functions: two-dimensional, M-mode, and color, pulsed and continuous Doppler

Module 2. Procedures and Techniques in Cardiovascular Critical Care

- Identify a pericardial effusion and establish the indication for percutaneous puncture to evacuate it
- Apply a systematic order to proceed with orotracheal intubation
- Apply a systematic order to proceed with pericardiocentesis
- Apply a systematic order for intra-aortic balloon counterpulsation implantation
- Apply a systematic order to implement transient pacemakers

Take advantage of the opportunity and take the step to get up-to-date on the latest developments in cardiovascular critical care in the UCI"

04

Course Management

The program's teaching staff includes leading specialists in procedures and techniques used in the ICU and other related areas, who bring their years of work experience to this training program. 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 procedures and techniques in ICU Cardiovascular Critical Care from leading professionals"

International Guest Director

Alain Combes, M.D., a recognized **specialist** in **Intensive Care Medicine,** and an outstanding leader in the field of **critical care,** has an eminent career in the management of critically ill patients. As **Head** of the **ICU Department** at La **Pitié-Salpêtrière Hospital,** an integral part of the Paris Public Assistance Hospitals, he has led significant advances in the treatment of patients with **acute cardiac conditions** and **cardiac transplantation.**

His extensive **research** interests range from the care of the **critically ill cardiac patient,** including situations of **Cardiogenic Shock, Acute Myocardial Infarction and Complex Cardiac Surgery.** Likewise, his pioneering work in **Mechanical Circulatory Assistance** and **Extracorporeal Membrane Oxygenation** has positively impacted the treatment of **Severe Respiratory Failure,** excelling in rescue therapies such as **ECMO** and **$ECCO_2R$.**

In fact, his active participation in technological advances also stands out. A great example is its collaboration with **Hemovent GmbH,** which has been crucial for the development of the world's most compact **Portable Extracorporeal Membrane Oxygenation System (ECMO).** This revolutionary device not only offers unparalleled mobility, but also improves performance parameters compared to standard therapies. In this way, it has demonstrated its commitment to **medical innovation** and improved **care for patients** with cardiac and respiratory failure.

To this must be added the **solid international reputation** that Dr. Combes has forged as an opinion leader, being an active member of renowned medical organizations such as The Société de Réanimation de Langue Française (SRLF), The European Society of Intensive Care Medicine (ESICM), The American Thoracic Society (ATS), The European Society of Cardiology (ESC) and The Extra Corporeal Life Support Organization (ELSO). In addition, his expertise has been instrumental in publishing **cutting-edge research** in prestigious medical journals, consolidating his influence in the field.

Dr. Combes, Alain

- Specialist in Intensive Care Medicine
- Doctorate in Medicine and Philosophy
- Member of: The Société de Réanimation de Langue Française (SRLF), The European Society of Intensive Care Medicine (ESICM), The American Thoracic Society (ATS), The European Society of Cardiology (ESC), The Extra Corporeal Life Support Organization (ELSO), The International ECMO Network (ECMONet)

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

Management

Dr. Rodríguez Muñoz, Daniel

- Specialist Cardiologist in Electrophysiology and Arrhythmias at Ramón y Cajal University Hospital.
- PhD in Health Sciences, University of Alcalá.
- Master's Degree in Pacemakers, Defibrillators and Resynchronization.
- Master's Degree in Medical Education.
- Master's Degree in Diagnostic and Therapeutic Cardiac Electrophysiology.
- Fellow of the European Society of Cardiology (FESC)
- Member of the European Heart Rhythmia Association (EHRA)
- Member of the Spanish Society of Cardiology (SEC).
- Member of the Arrhythmia and Electrophysiology Section of the SEC.

Dr. Zamorano Gómez, José Luis

- Head of the Cardiology Services. Ramón y Cajal University Hospital Madrid
- Doctor of Medicine- Cum Laude.
- Executive Management and Health Resources (ESADE, Madrid)
- National Qualification Professor of Medicine.
- Member of the First European Echocardiography Accreditation Committee of the European Association of Echocardiography.
- Honorary Fellow American Society of Echocardiography.
- Chairman of the Clinical Guidelines Committee of the European Society of Cardiology.
- Chairman National Cardiovascular Panel FIS, Instituto Carlos III
- Member of the Editorial Board of the Spanish Society of Cardiography Journal .
- Member of the Editorial Board of the Journal of Echocardiography.
- Member of the Editorial Board of the American Society of Echocardiography.
- Member of International Relations Task Force of the American Society of Echocardiography.
- Associate Editor of the European Heart Journal Cardiovascular Imaging.
- Author of more than 20 books, more than 500 articles in scientific journals and more than 400 communication in National and International Conferences.
- Impact Factor > 1500. IH 84 Citations > 40000

Professors

Dr. Castillo Orive, Miguel

- Cardiology Specialist in Hospitalization Unit and Cardio-diabetes Unit.
- Ramón y Cajal University Hospital Madrid

Dr. Fernández-Golfín Lobán, Covadonga

- Cardiac Imaging Unit Coordinator.
- Ramón y Cajal University Hospital Madrid

Dr. Sanmartín Fernández, Marcelo

- Head of Acute Coronary Syndrome Department.
- Ramón y Cajal University Hospital Madrid

Dr. Sionis Green, Alessandro

- Head of Cardiac Intensive Care Unit, Cardiology Department.
- Santa Creu and Sant Pau Hospital Barcelona

05

Structure and Content

The content structure has been designed by a team of professionals from the best hospitals and universities in Spain, who are aware of the relevance of current training to intervene in the diagnosis, treatment and monitoring of procedures and techniques for patients under cardiovascular critical care in the ICU, and who are committed to quality teaching through new educational technologies.

This Postgraduate Diploma in Procedures and Techniques in ICU Cardiovascular Critical Care is the most complete and up-to-date scientific program on the market"

Module 1. Non-Invasive Cardiac Imaging and Functional Tests

1.1. Basic Skills in Echocardiography
  1.1.1. Echocardiographic Planes
  1.1.2. Limitations in Acute Cases
  1.1.3. Hemodynamic Calculations
1.2. Special Situations
  1.2.1. Echocardiograms in Initial Patient Evaluation
    1.2.1.1. Patients in Shock and the Echocardiogram as a Diagnostic Tool
  1.2.2. Echocardiography in the hemodynamics laboratory
  1.2.3. Echocardiogram in Cardiac Surgery Operating Room
  1.2.4. Acute Complications in Myocardio Infarction
1.3. General Basis of an Echocardiography Equipment
1.4. Transthoracic and Transesophageal Echocardiography
1.5. Cardiac CAT
1.6. Magnetic Resonance
1.7. Functional Tests

Module 2. Procedures and Techniques in Cardiovascular Critical Care

2.1. Intubation and Invasive Mechanical Ventilation
- 2.1.1. Orotracheal Intubation
  - 2.1.1.1. Available Tools and Techniques
- 2.1.2. Mechanical Ventilation
  - 2.1.2.1. Forms of Ventilation
  - 2.1.2.2. Adjustment Depending on the Hemodynamic and Respiratory Situation of the Patient

2.2. Pericardiocentesis
- 2.2.1. Indication
- 2.2.2. Techniques
- 2.2.3. Alternatives to Pericardial Drainage

2.3. Arterial and Central Venous Cannulation
- 2.3.1. Indication
- 2.3.2. Techniques

2.4. Counterpulsation Balloon
- 2.4.1. Indication
- 2.4.2. Implantation Technique

2.5. Transient Pacemaker
- 2.5.1. Indication
- 2.5.2. Implantation Technique

A unique, key, and decisive training experience to boost your professional development"

06

Methodology

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

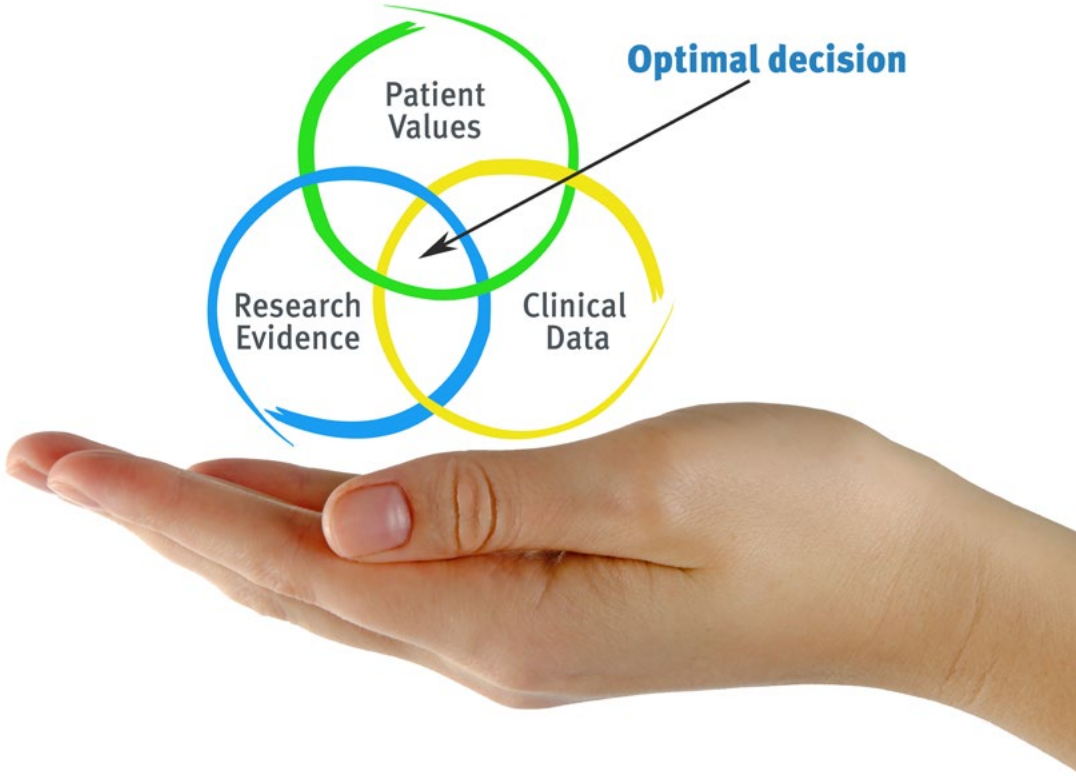
This teaching system is used in the most prestigious medical schools in the world, and major publications such as the ***New England Journal of Medicine*** have considered it to be one of the most effective.

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

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:

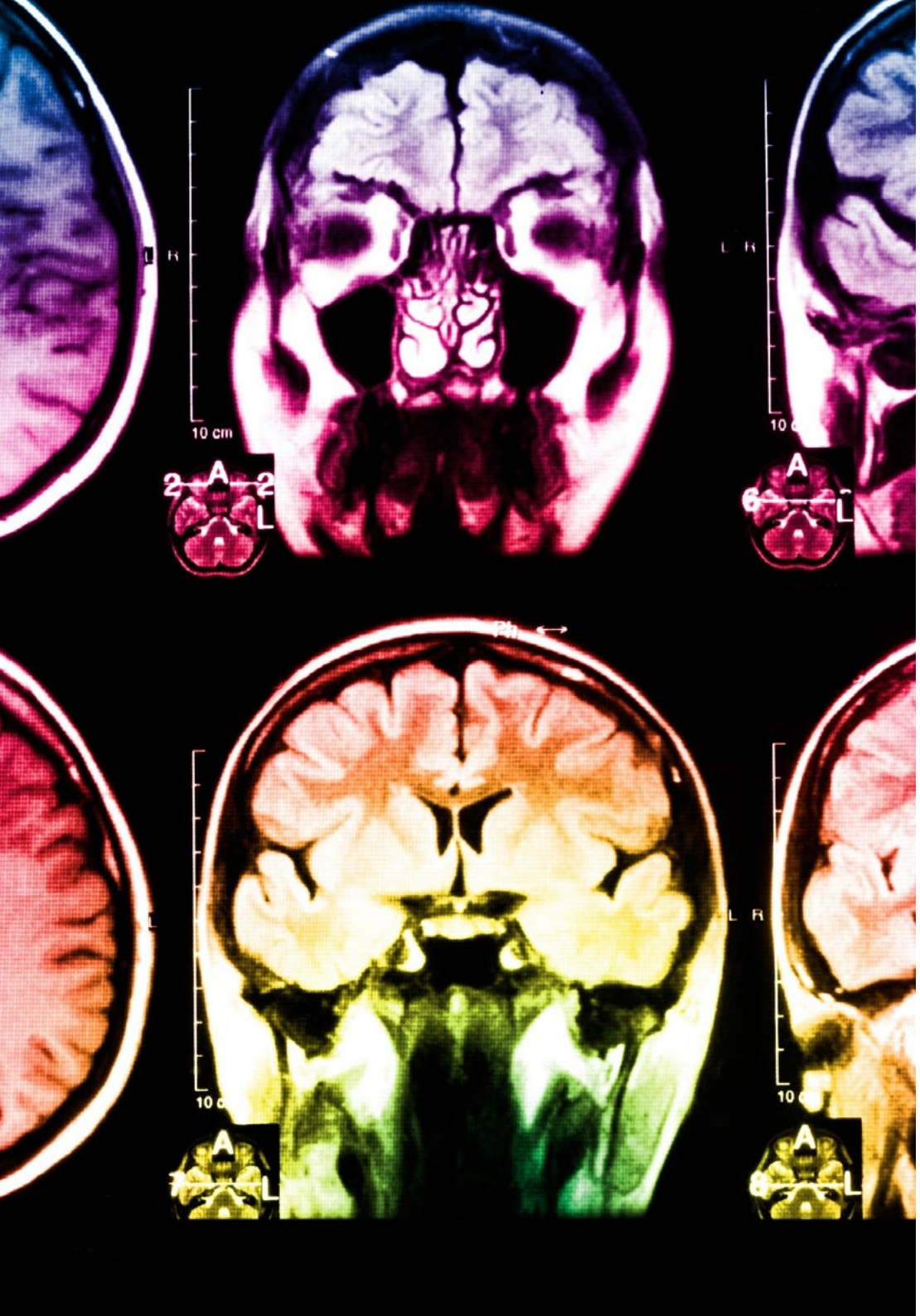
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better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

Relearning Methodology

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

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

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



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

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

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

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

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

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

Study Material

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

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

Surgical Techniques and Procedures on Video

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

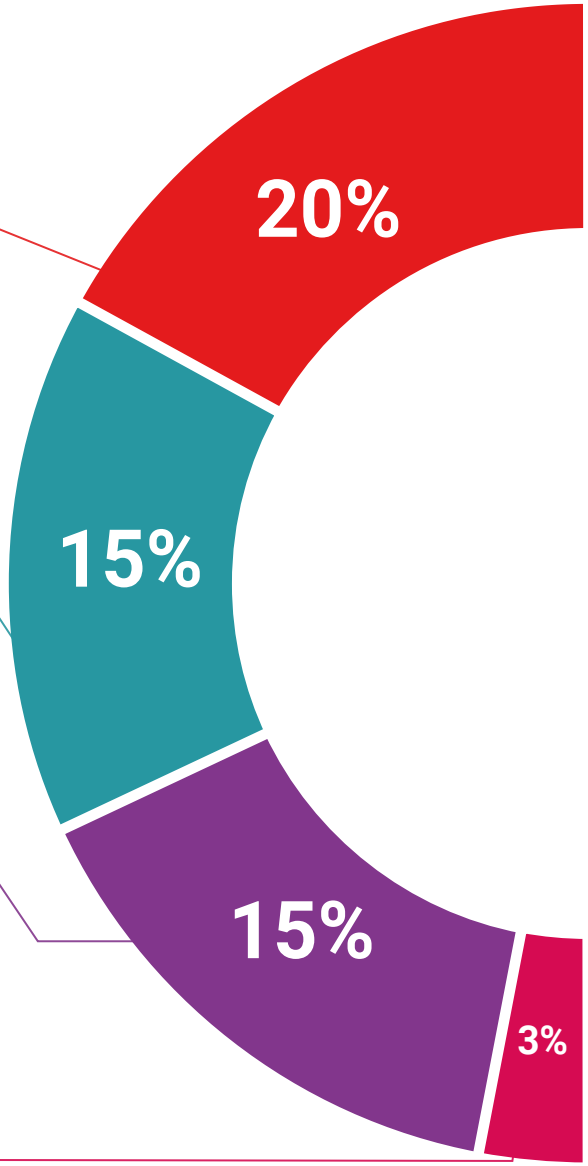
Interactive Summaries

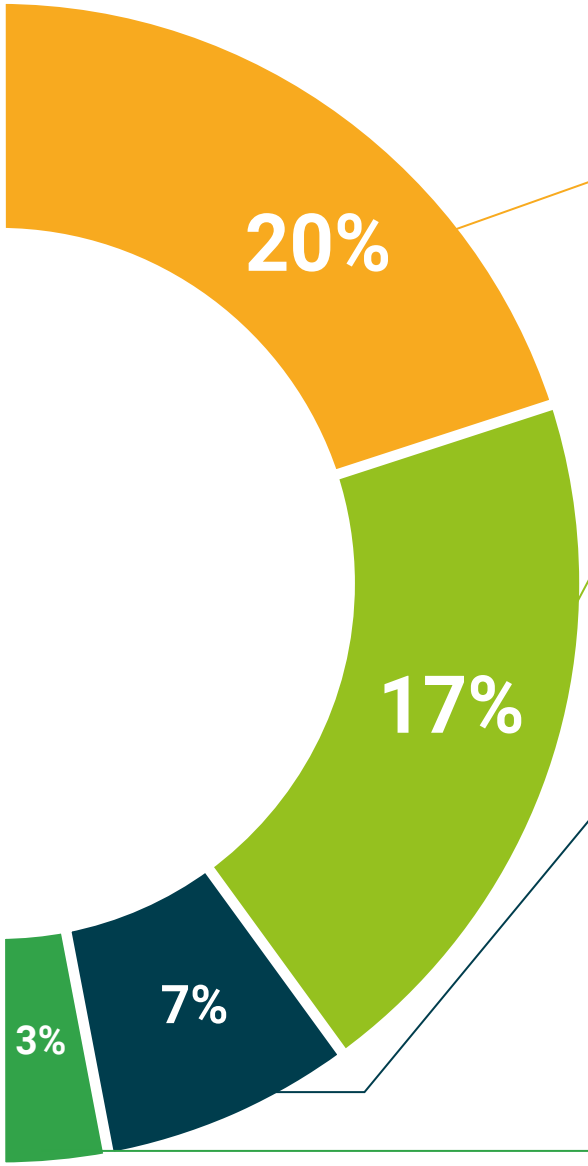
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

Additional Reading

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





Expert-Led Case Studies and Case Analysis

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

Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.

Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

Quick Action Guides

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

06

Certificate

The Postgraduate Diploma in Procedures and Techniques in ICU Cardiovascular Critical Care guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University.

Successfully complete this training and receive your university degree without travel or laborious paperwork"

This **Postgraduate Diploma in Procedures and Techniques in ICU Cardiovascular Critical Care** contains the most complete and up-to-date scientific on the market.

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

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

Title: **Postgraduate Diploma in Procedures and Techniques in ICU Cardiovascular Critical Care**
Official Number of Hours: **400 h.**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Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

Procedures and Techniques in ICU Cardiovascular Critical Care

This is a qualification awarded by this University, equivalent to 400 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates

*Apostille Convention. In the event that the student wishes to have their paper diploma Apostilled, TECH EDUCATION will make the necessary arrangements to obtain it at an additional cost of €140 plus shipping costs of the Apostilled diploma.

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