

# Postgraduate Certificate

Interventional Procedures in Limb, Neck and  
Central Thoracic Veins





## Postgraduate Certificate

### Interventional Procedures inLimb, Neck and Central Thoracic Veins

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

Website: [www.techtute.com/us/medicine/postgraduate-certificate/interventional-procedures-limb-neck-central-thoracic-veins](http://www.techtute.com/us/medicine/postgraduate-certificate/interventional-procedures-limb-neck-central-thoracic-veins)

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# 01

# Introduction

Out of every 10 people who undergo implantation of a Central Venous Access device, 4 present some type of minor complication. However, other cases may become more complex and suffer Sepsis or Venous Thrombosis. Physicians must be prepared to identify the signs of these risks early and, in addition, master all post-insertion procedures and related care. In order to contribute to their update, TECH has designed this exhaustive program where different procedures for the preparation of the placement site and the use of Angioplasty and Stents for Central Venous Thrombosis. In addition, this academic itinerary is supported by a 100% online methodology and a very complete teaching staff.



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*This Postgraduate Certificate is supported by TECH's disruptive Relearning method to facilitate the assimilation of complex concepts, as well as the incorporation of these concepts into your clinical practice, without the need to memorize them"*

Interventional Procedures of Central Venous Access is a set of techniques that is very useful for the development of many treatments, including drug administration, Nutrition and Hemodialysis. At the same time, in this type of procedure, it is imperative to have a global control of the devices that are inserted and, therefore, prevent different complications of diverse health impact. Physicians seeking to keep all their competencies up to date and master the most important and innovative working tools in the field also need programs that fit their needs. In other words, they require specialization that does not prevent them from continuing with their duties.

That is why TECH has devised a 100% online program in which graduates can sustain the study of the contents at the same time as their other work responsibilities. At the same time, the academic itinerary includes disruptive topics such as Interventional Procedures in Superior Vena Cava Syndrome, as well as the most effective diagnosis and treatment for Superior Thoracic Operculum Syndrome. On the other hand, Central Venous Thrombosis and the reasons for its occurrence are covered. Additionally, this Postgraduate Certificate addresses the use of resources such as Artificial Intelligence to optimize diagnoses and therapeutic options in Venous Interventional Procedures.

Furthermore, the university program has an exclusive methodology based on methods such as the Relearning system and the analysis of real cases. Through both, doctors get a practical perspective much more focused on the care challenges in the area of Angiology and Vascular Surgery. At the same time, this program is not governed by hermetic schedules or continuous evaluations. Therefore, graduates can customize the entire study process. They also have access to a variety of multimedia and complementary resources, including explanatory videos and interactive summaries, among others.

This **Postgraduate Certificate in Interventional Procedures in Limb, Neck and Central Thoracic Veins** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of practical cases presented by experts in Angiology and Vascular Surgery
- ♦ The graphic, schematic and eminently practical contents with which it is conceived gather scientific and practical information on those disciplines that are indispensable for professional practice
- ♦ Practical exercises where self-assessment can be used to improve learning.
- ♦ Its special emphasis on innovative methodologies
- ♦ 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



*Explanatory videos, interactive summaries and many other multimedia resources will be available during this program. You are just one click away from starting an unparalleled academic opportunity"*

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*You will address complications related to interventional procedures with Venous Access devices such as Sepsis or Thrombosis”*

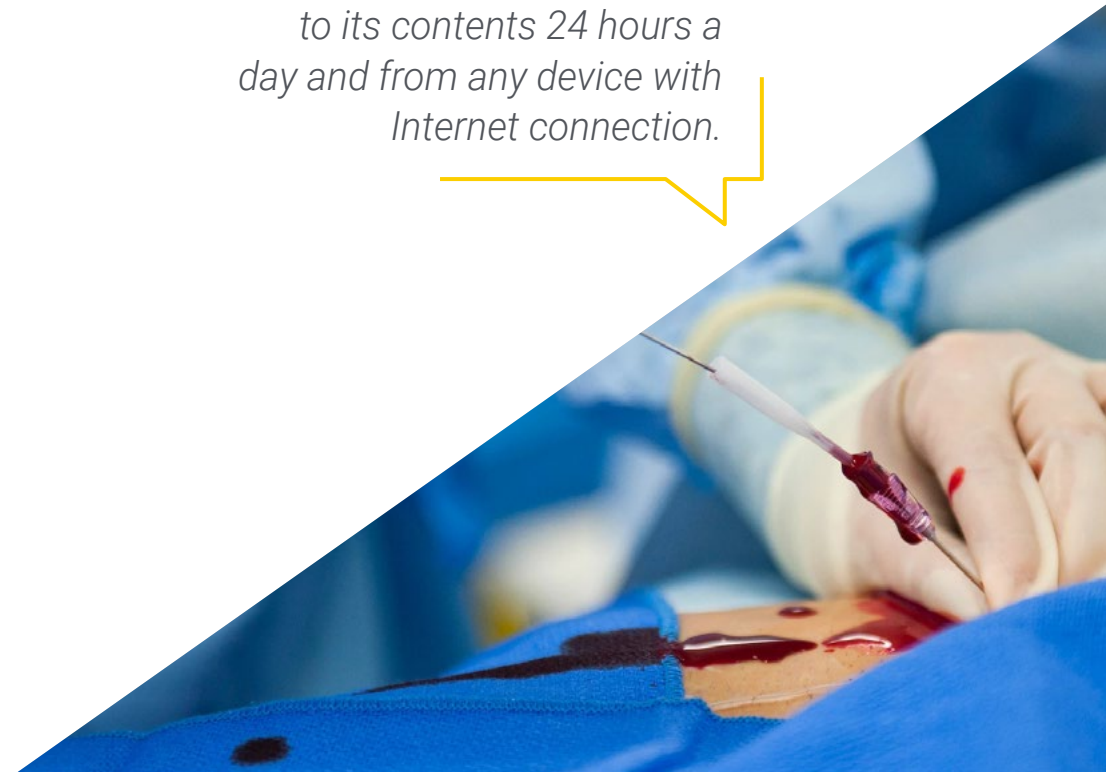
The program's teaching staff includes professionals from the sector who bring their work experience into this specialization, as well as recognized specialists of reference societies and prestigious universities.

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 immersive education programmed 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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*Thanks to TECH you will learn about the pathophysiological mechanisms and the differential diagnosis of Upper Thoracic Operculum Syndrome.*

*After enrolling in this university program you will have access to its contents 24 hours a day and from any device with Internet connection.*



# 02 Objectives

This TECH Postgraduate Certificate has the premise of guaranteeing physicians a complete update of all their competences in the field of Interventional Procedures in Limb, Neck and Central Thoracic Veins. To this end, the program provides a very complete syllabus with disruptive edges such as Central Venous Access techniques and their applications for many treatments, including drug administration, Nutrition or Hemodialysis. Likewise, this academic itinerary also integrates a disruptive and 100% online methodology, designed for each graduate to achieve their professional goals in a fast and flexible way.







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*Specialize with TECH in  
the accurate diagnosis and  
appropriate intervention of  
Superior Vena Cava Syndrome”*



## General Objectives

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- ◆ Develop the technical skills necessary to accurately perform and analyze angiographic studies
- ◆ Promote an appreciation of the importance of multidisciplinary teamwork in the interpretation and management of vascular angiographic results
- ◆ Acquire skills to apply techniques such as angioplasty, Stent placement, and other minimally invasive procedures
- ◆ Determine the procedures and protocols for performing and interpreting computed tomography angiography (CTA) in the context of vascular interventional procedures

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*You will approach Angioplasty and Stents in Central Venous Thrombosis as interventional alternatives to more invasive methods”*





## Specific Objectives

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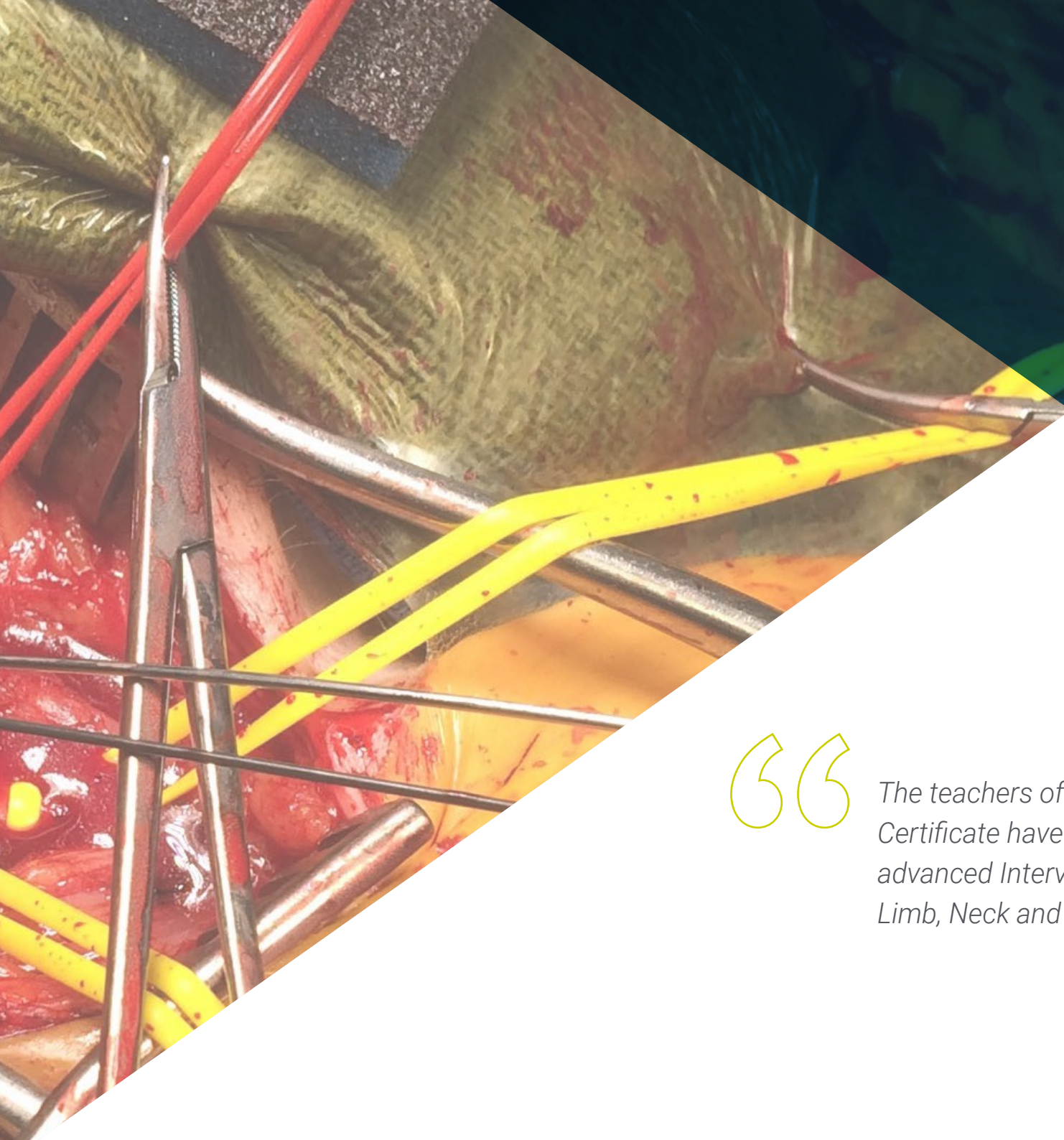
- Identify the indications for Interventional Procedures in upper extremity, neck and central thoracic veins, including thrombosis, stenosis and venous insufficiency
- Analyze the imaging techniques used in the diagnosis and follow-up of venous disease in these areas, such as venous Doppler ultrasound and computed tomography venography (CTV)
- Analyze the therapeutic options for Deep Venous Thrombosis (DVT) in the upper limbs, including thrombectomy and the use of filtering devices
- Explore angioplasty and stenting techniques for venous stenosis of the upper limbs and cervical areas

03

# Course Management

TECH has the premise of offering all its students the best academic guidelines. Therefore, this syllabus has a teaching staff composed of the best experts. All faculty members have accumulated clinical experience based on the most outstanding medical evidence in the field of Vascular Interventional Procedures. They are also part of the medical teams of distinguished hospital facilities. Through its pedagogical guide, graduates of this program have within their reach a rigorous and exclusive update.





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*The teachers of this Postgraduate Certificate have mastered the most advanced Interventional Procedures in Limb, Neck and Central Thoracic Veins"*

## Management



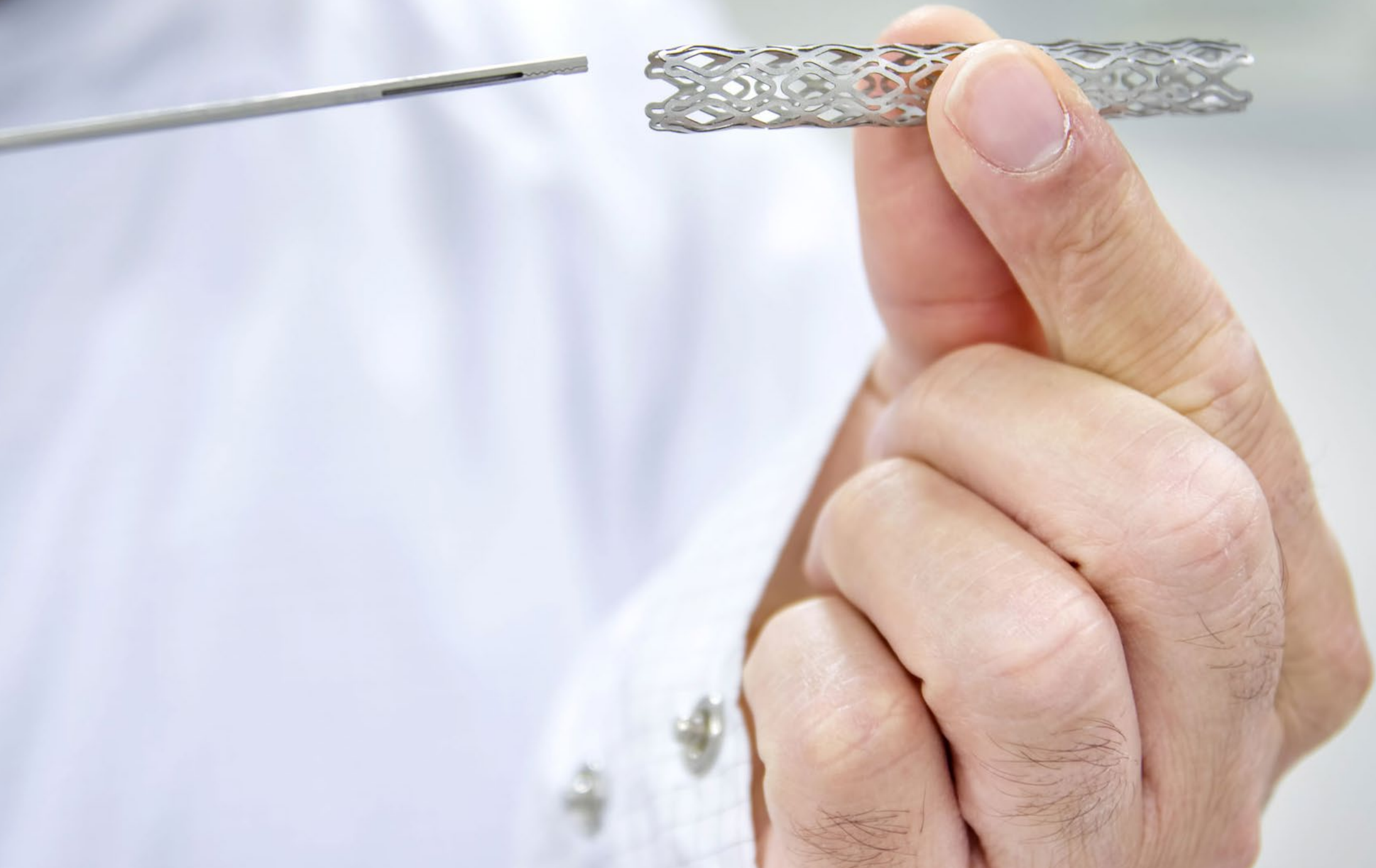
### Dr. Del Río Solá, María Lourdes

- ♦ Chief from the Vascular Angiology and Surgery Service at the Valladolid University Clinical Hospital
- ♦ Specialist in Angiology and Vascular Surgery
- ♦ European Board in Vascular Surger
- ♦ Academic Correspondent of the Royal Academy of Medicine and Surgery
- ♦ Full Professor at the European University Miguel de Cervantes
- ♦ Associate Professor in Health Sciences at the University of Valladolid

## Professors

### Dr. Gutiérrez Véliz, Daniel

- ♦ Deputy Chief of Surgery and Chief of Vascular Surgery at Chilean Public Assistance Emergency Hospital
- ♦ General and Peripheral Vascular Surgeon of Public Assistance Emergency Hospital
- ♦ Peripheral Vascular Surgeon at las Condes and Redsalud Clinic, Santiago de Chile
- ♦ Bachelor of Medicine from the Catholic University of Maule
- ♦ Expert in General Surgery from the University of Santiago de Chile
- ♦ Subspecialist in Peripheral Vascular Surgery from the University of Chile, Clinical University Hospital of Chile
- ♦ Member of: Chilean Society of Surgery (SOCHICIR), Chilean Society of Vascular and Endovascular Surgery (SOCHIVAS) and American College of Surgery (FACS)



# 04

## Structure and Content

Throughout this university program, physicians will learn the most innovative techniques and tools for Interventional Procedures in Superior Vena Cava Syndrome and the advanced management of Central Venous Access and its complications. They will also delve into the procedures of Angioplasty and Stents in central venous thrombosis. At the same time, the academic itinerary will be supported by disruptive methods, such as Relearning, to consolidate the mastery of new concepts and competencies in a fast, flexible and exhaustive way.







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*This program allows you to set your own study schedule thanks to its convenient 100% online methodology”*

## Module 1. Interventional Procedures in the Veins of the Upper Limbs

- 1.1. Imaging for the Evaluation of Upper Extremity, Neck and Central Thoracic Veins
  - 1.1.1. Imaging Techniques for the Evaluation of Upper Extremity, Neck and Central Thoracic Veins
  - 1.1.2. Interpretation of Radiological Findings in Venous Imaging
  - 1.1.3. Imaging in the Diagnosis and Follow-up of Veins of the Upper Extremity, Neck and Central Thoracic Veins
- 1.2. Interventional Procedures in Upper Extremity Venous Thrombosis
  - 1.2.1. Associated Risk Factors
  - 1.2.2. Differential Diagnosis
  - 1.2.3. Therapeutic Strategies for the Management of Venous Thrombosis
- 1.3. Interventional Procedures in the Upper Thoracic Operculum Syndrome
  - 1.3.1. Pathophysiological Mechanisms
  - 1.3.2. Diagnostic Evaluation and Diagnosis
  - 1.3.3. Treatment and Management of Thoracic Operculum Syndrome
- 1.4. Interventional Procedures in Superior Vena Cava Syndrome
  - 1.4.1. Predisposing Factors
  - 1.4.2. Diagnosis of Superior Vena Cava Syndrome
  - 1.4.3. Management and Treatment Strategies for Superior Vena Cava Syndrome
- 1.5. Interventional Procedure in Central Venous Access
  - 1.5.1. Central Venous Access Techniques
  - 1.5.2. Venous Access Device Selection
  - 1.5.3. Postinsertion Care
- 1.6. Device Implantation in Central Venous Thrombosis
  - 1.6.1. Implantation of Venous Access Devices
  - 1.6.2. Anesthesia and Insertion Site Preparation
  - 1.6.3. Management of Complications and Device Follow-Up



- 1.7. Interventional Management of Venous Access Device Complications
  - 1.7.1. Device-Related Infection and Sepsis
  - 1.7.2. Venous Thrombosis and Pulmonary Embolism
  - 1.7.3. Device Dysfunction and Need for Withdrawal
- 1.8. Angioplasty and Stents in Central Venous Thrombosis
  - 1.8.1. Indications for Angioplasty and Vein Stenting
  - 1.8.2. Angioplasty Procedure and Stenting Techniques
  - 1.8.3. Results and Complications of the Intervention
- 1.9. Interventional Procedures in the Management of Thrombosed Dialysis Access
  - 1.9.1. Thrombosis in the Dialysis Vascular Access
  - 1.9.2. Strategies for Unblocking and Recanalization of the Thrombosed Access
  - 1.9.3. Recurrence Prevention and Long-Term Follow-up
- 1.10. Use of Artificial Intelligence in Upper Extremity, Neck and Thoracic Vein Interventions
  - 1.10.1. AI Applications in Vascular Image Analysis
  - 1.10.2. Outcome Prediction and Treatment Selection
  - 1.10.3. Integration of AI in Endovascular Procedures

“*A flexible and intensive university program that fits your personal obligations, providing you with the highest academic rigor on Vein Interventional Procedures. Enroll now!*”



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.



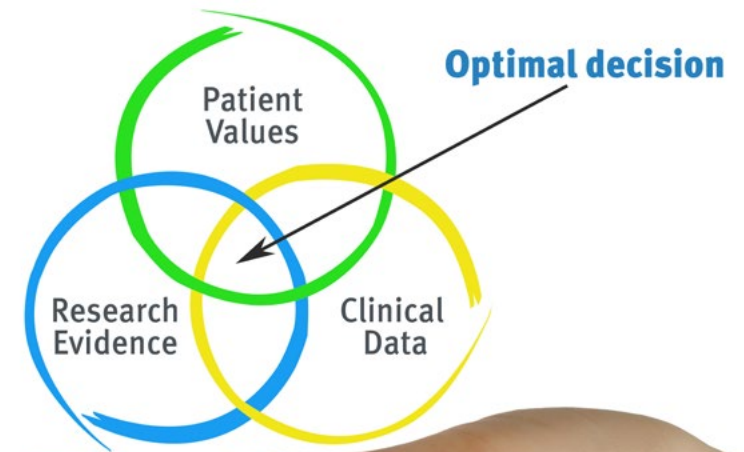
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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## 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 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.*





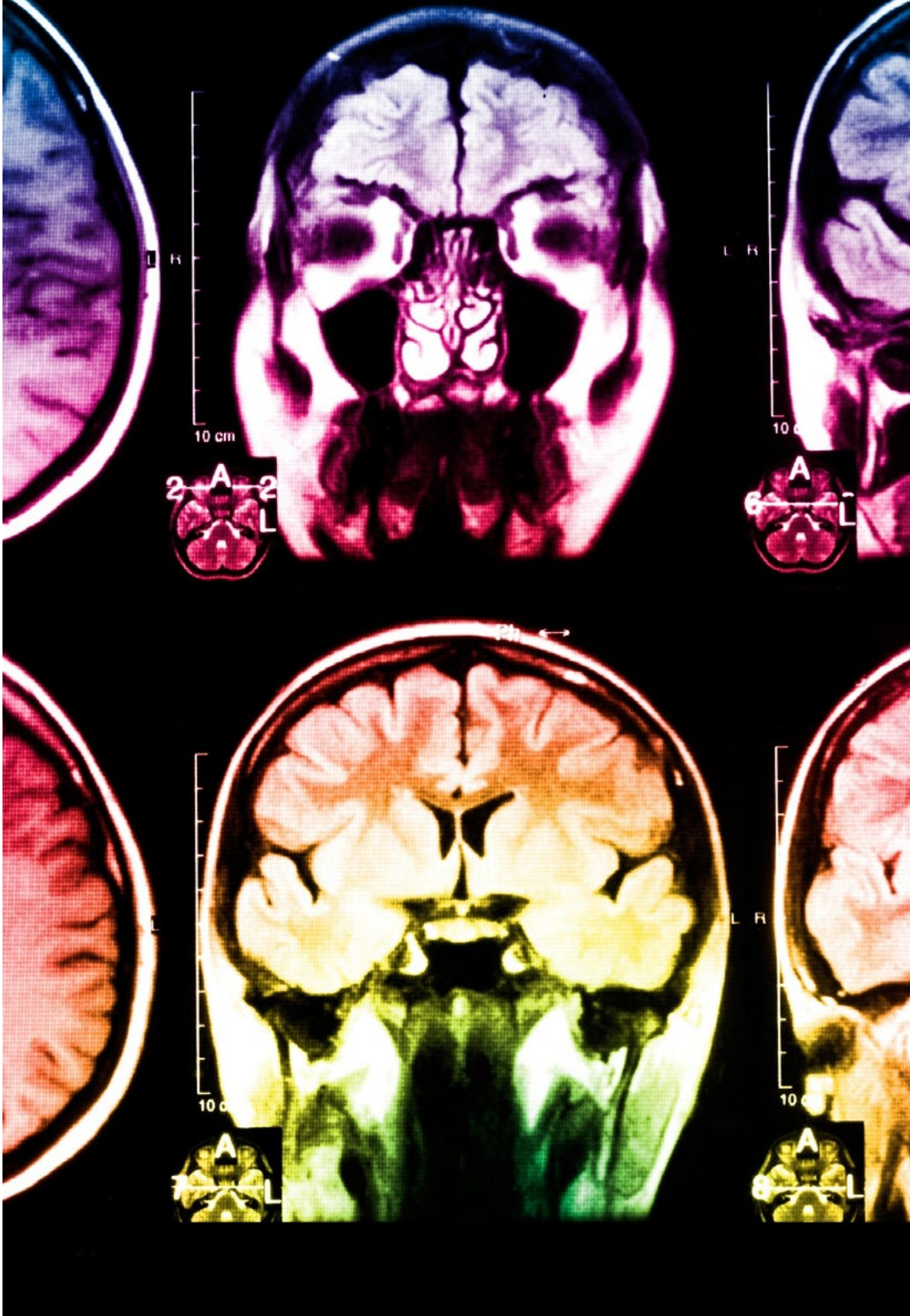
At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

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.

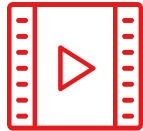
*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

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

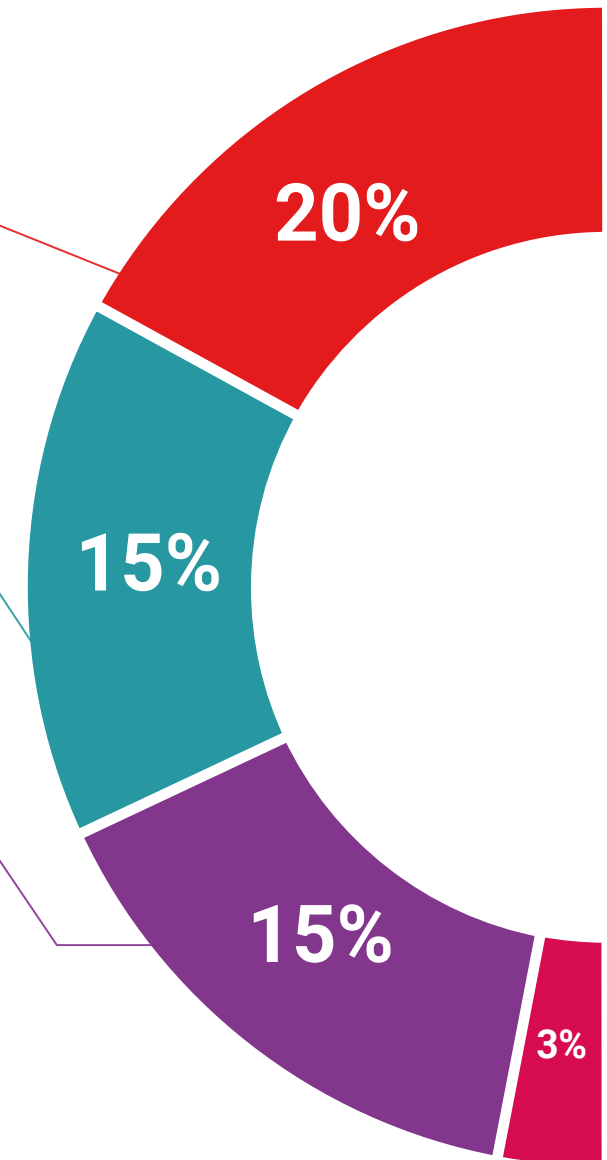
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

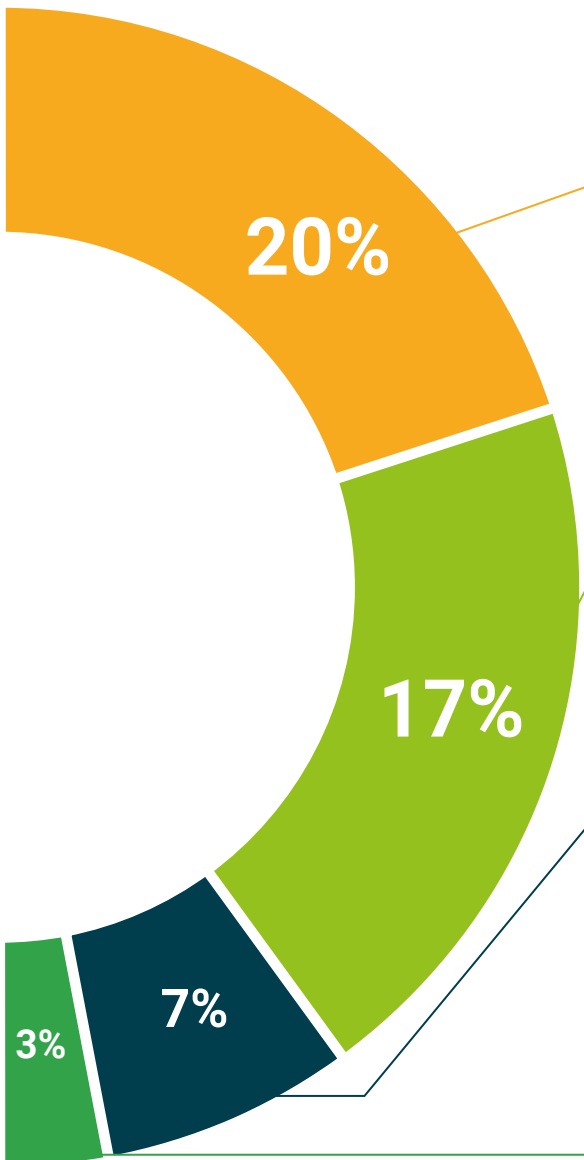
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### 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 Certificate in Interventional Procedures in Limb, Neck and Central Thoracic Veins guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”*

This private qualification will allow you to obtain a **Postgraduate Certificate in Interventional Procedures in Limb, Neck and Central Thoracic Veins** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

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

Title: **Postgraduate Certificate in Interventional Procedures in Limb, Neck and Central Thoracic Veins**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



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



## Postgraduate Certificate

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