Postgraduate Diploma

Arterial Interventional Procedures

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Postgraduate Diploma

Arterial Interventional Procedures

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Global University**
- Accreditation: **18 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-arterial-interventional-procedures

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01

Introduction

Arterial diseases have become a cause of death on a global scale. According to data from the World Health Organization, these conditions are responsible for 17.9 million deaths annually. In addition, the entity foresees a considerable increase in these conditions due to factors such as unhealthy lifestyle and aging of the population. In this scenario, Arterial Interventional Procedures is a key strategy in reducing mortality associated with these pathologies. For example, through procedures such as angioplasty, physicians can remove blockages in the arteries and restore normal blood flow to the heart. In view of this, TECH implements a pioneering online program in this health branch.

With this Postgraduate Diploma, 100% online, you will master the most sophisticated Arterial Interventional Techniques and perform interventions of the highest level"

The treatment of complex arterial lesions presents a series of challenges for healthcare professionals, requiring not only technical precision, but also a comprehensive understanding of the therapeutic options available. Given the constant advance of procedures in this area, the result of research conducted by the scientific community, physicians need to renew their knowledge on a regular basis in order to enrich their clinical practice with the most innovative treatment methods. However, in the academic panorama there is a lack of pedagogical programs that combine these advances with precision and that have a practical focus that adjusts to the requirements of today's labor market.

For this reason, TECH has developed a unique and comprehensive program in Arterial Interventional Procedures. The syllabus will examine the latest developments in this field, from advanced catheterization techniques to therapies based on local drug release. Likewise, the syllabus will delve into imaging procedures for both the diagnosis and follow-up of Vascular Diseases. This will allow physicians to perform more precise evaluations to detect possible pathologies. In relation to this, the didactic materials will emphasize the various applications of the integration of Artificial Intelligence in Endovascular Procedures, among which the increase in the efficiency of surgical procedures stands out.

This program is delivered through a 100% online modality, making it easy for practitioners to plan their own study schedules to experience a fully efficient update. In addition, specialists will enjoy a wide variety of multimedia resources designed to promote dynamic and natural teaching. To access the Virtual Campus, all professionals will need is a device with Internet access (including their own cell phone). They will also be supported at all times by an experienced teaching staff, who will resolve all the doubts that may arise during their academic itinerary.

This **Postgraduate Diploma in Arterial Interventional Procedures** contains the most complete and up-to-date scientific program on the market. The most important features include:

- The development of case studies presented by experts in Angiology and Vascular Surgery
- The graphic, schematic and practical contents with which it is conceived gather scientific and practical information on those disciplines that are essential 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

Address the most cutting-edge Stroke Therapies at the world's best digital university according to Forbes"

You will delve into the applications of Artificial Intelligence in vascular image analysis and employ it to plan surgical procedures"

You will master the Angioplasty and Stenting Techniques in the Superficial Femoral Artery in only 6 months.

Thanks to TECH's disruptive Relearning method, you will assimilate the essential concepts in a fast, natural and precise way.

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

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide 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.

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Objectives

Upon completion of this program, medical personnel will be characterized by their broad knowledge of Arterial Anatomy and its pathophysiology. At the same time, graduates will acquire advanced skills in arterial interventional techniques such as angioplasty, stent placement or embolization. In this way, professionals will carry out treatments with the highest level of safety and efficiency, minimizing risks to patients. In addition, specialists will be highly qualified to manage complications during the different procedures and make informed, evidence-based decisions at times of high pressure.

You will develop technical skills to perform arterial interventional procedures with high precision and efficiency, using the most sophisticated techniques"

General Objectives

- 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

You will have access to a virtual library full of didactic resources, available 24 hours a day, that will reinforce the concepts of the syllabus in a dynamic way"

Specific Objectives

Module 1. Interventional Procedures in Carotid and Vertebral Arteries

- Identify the indications for interventional procedures in carotid and vertebral arteries, including significant stenosis and aneurysms
- Determine the imaging techniques used in the diagnosis and follow-up of carotid and vertebral artery disease, such as magnetic resonance angiography (MRA) and computed tomography angiography (CTA)
- Establish the therapeutic options for carotid stenosis, including carotid endarterectomy and angioplasty with stenting
- Explore embolization techniques used in the treatment of carotid and vertebral artery aneurysms

Module 2. Interventional Procedures in the Arteries of the Upper Extremities

- Determine the indications for Interventional Procedures in arteries in the upper extremity, including stenosis, occlusions and dissections
- Establish the imaging techniques used in the diagnosis and follow-up of upper extremity artery disease, such as computed tomography arteriography (CTA) and Doppler ultrasonography
- Examine therapeutic options for Stenosis and Occlusions in arteries in the upper extremities, including balloon angioplasty and Stenting
- Explore embolectomy and thrombectomy techniques used in the treatment of acute occlusions in these arteries

Module 3. Interventional Procedures in Lower Extremity Arteries

- Identify the indications for intervention in lower extremity arteries, including Stenosis, Occlusions and Peripheral Arterial Disease
- Determine the imaging techniques used in the diagnosis and follow-up of lower extremity artery disease, such as digital arteriography and Doppler ultrasound
- Discuss the therapeutic options for Stenosis and Occlusions in the lower extremity arteries, including balloon angioplasty and Stent placement
- Explore surgical and endovascular revascularization techniques in the treatment of Peripheral Artery Disease

03

Course Management

For the design and delivery of this Postgraduate Diploma, TECH has a first class teaching staff. This team is made up of professionals highly specialized in Arterial Interventional Procedures, who have a vast work experience in this field. In this way, these specialists have achieved great results that have contributed to optimize the clinical condition of numerous patients and, therefore, their quality of life. Therefore, graduates have the guarantees they demand to access a syllabus of excellent quality and full applicability to the needs of today's labor market.

You will have the support of a teaching group formed by distinguished professionals in the field of Arterial Interventional Procedures"

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 Surgery
- 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

04

Structure and Content

Thanks to this university program, physicians will have a thorough understanding of the function of the arteries, as well as the pathologies that affect them. The academic itinerary will deepen in the interventional procedures in Carotid and Vertebral Arteries, emphasizing aspects such as imaging in the diagnosis or follow-up of vascular diseases. Likewise, the syllabus will delve into treatments for arterial vessels of the Lower and Upper Extremities. In this sense, the program will offer a variety of advanced strategies for the management of the symptoms of conditions among which the following stand out occlusive disease.

You will be able to manage complications during procedures and make informed evidence-based decisions in high-pressure situations"

Module 1. Interventional Procedures in Carotid and Vertebral Arteries

1.1. Key Collateral Pathways in the Cerebral Circulation
- 1.1.1. Collateral Vascularization of the Carotid and Vertebral Arteries
- 1.1.2. Intracranial and Extracranial Collateral Circulation
- 1.1.3. Clinical Significance in Case of Arterial Occlusion

1.2. Imaging in the Diagnosis and Follow-Up of Vascular Diseases
- 1.2.1. Imaging Techniques for Evaluation of the Carotid and Vertebral Arteries
- 1.2.2. Interpretation of Imaging Results: Normal and Pathological Findings
- 1.2.3. Imaging in the Diagnosis and Follow-Up of Vascular Diseases

1.3. Interventional Procedures in Atherosclerotic Occlusive Disease
- 1.3.1. Pathogenesis and Associated Risk Factors
- 1.3.2. Clinical Manifestations and Diagnostic Methods
- 1.3.3. Treatment Options and Prevention of Complications

1.4. Interventional Procedures in Fibromuscular Dysplasia
- 1.4.1. Imaging Findings
- 1.4.2. Differential Diagnosis with Other Vascular Diseases
- 1.4.3. Therapeutic and Prognostic Management of Fibromuscular Dysplasia

1.5. Interventional Procedures in Vasculitis
- 1.5.1. Vasculitis in Carotid and Vertebral Arteries
- 1.5.2. Clinical Manifestations and Differential Diagnosis
- 1.5.3. Immunosuppressive Treatment and Monitoring

1.6. Interventional Procedures in Spontaneous Carotid and Vertebral Dissection
- 1.6.1. Pathophysiologic Mechanisms and Predisposing Factors
- 1.6.2. Diagnostic Methods
- 1.6.3. Acute Management and Long-Term Follow-Up

1.7. Interventional Procedures in Traumatic Lesions of the Carotid and Vertebral Arteries
- 1.7.1. Traumatic Lesions of the Carotid and Vertebral Arteries
- 1.7.2. Initial Evaluation and Diagnostic Imaging
- 1.7.3. Treatment Strategies and Prevention of Complications

1.8. Interventional Procedures in Carotid Body Tumors
- 1.8.1. Diagnostic Imaging
- 1.8.2. Multidisciplinary Treatment: Surgical, Radiotherapy and Chemotherapy Options
- 1.8.3. Prognosis and Long-Term Follow-Up

1.9. Stroke Therapy
- 1.9.1. Acute Approach to Thrombolytic Therapy
- 1.9.2. Endovascular Revascularization: Techniques
- 1.9.3. Acute Phase Management and Postictus Rehabilitation

1.10. Interventional Procedures in Cerebral Venous Thrombosis
- 1.10.1. Etiology and Associated Risk Factors of Cerebral Vein Thrombosis
- 1.10.2. Clinical Manifestations and Diagnosis of Cerebral Vein Thrombosis
- 1.10.3. Treatment and Management. Anticoagulant and Thrombolytic Therapy: Considerations

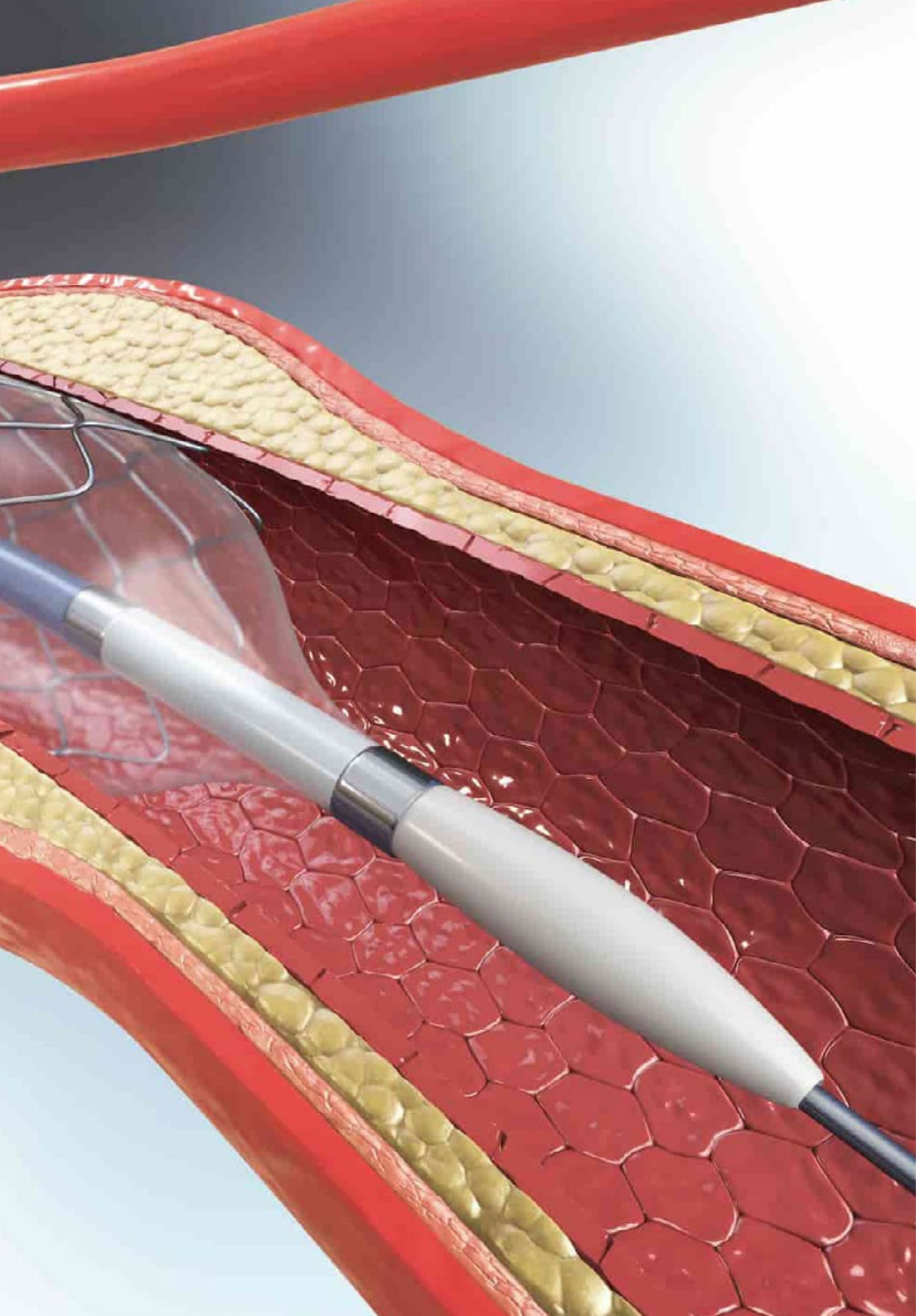
Module 2. Interventional Procedures in the Arteries of the Upper Extremities

2.1. Collateral Routes for Vascular Interventional Procedures
- 2.1.1. Collateral Circulation in the Upper Extremities
- 2.1.2. The Collateral Veins in Case of Arterial Occlusion
- 2.1.3. Clinical Evaluation and Diagnosis of the Collateral Circulation

2.2. Imaging in the Diagnosis and Follow-Up of Upper Extremity Arteries
- 2.2.1. Imaging Methods in the Study of the Arteries of the Upper Extremities
- 2.2.2. Interpretation of Radiologic Findings in Vascular Imaging
- 2.2.3. Imaging in Diagnosis and Follow-up of Upper Extremity Arteries

2.3. Interventional Procedures in Vasospastic Disorders
- 2.3.1. Vasospastic Disorders
- 2.3.2. Differential Diagnosis
- 2.3.3. Treatment and Symptom Management Strategies

2.4. Interventional Procedures in Chronic Ischemia
- 2.4.1. Associated Risk Factors
- 2.4.2. Diagnosis of Chronic Ischemia in Lower Extremities
- 2.4.3. Therapeutic Options for the Management of Chronic Ischemia



2.5. Interventional Procedures in Acute Ischemia
- 2.5.1. Acute Ischemia in the Upper Extremities
- 2.5.2. Urgent Diagnostic Evaluation and Treatment Prioritization
- 2.5.3. Strategies for Revascularization and Management in the Acute Phase

2.6. Interventional Procedures in the Upper Thoracic Operculum Syndrome
- 2.6.1. Pathophysiologic Mechanisms of the Upper Thoracic Operculum Syndrome
- 2.6.2. Differential Diagnosis
- 2.6.3. Conservative Treatment and Surgical Options

2.7. Interventional Procedures in Aneurysms
- 2.7.1. Surgical Indication of Aneurysms in the Arteries of the Upper Extremities
- 2.7.2. Diagnostic Imaging and Assessment of the Risk of Rupture
- 2.7.3. Endovascular Therapeutic Management and Long-term Follow-up

2.8. Interventional Procedures in Vasculitis and Fibromuscular Dysplasia
- 2.8.1. Vasculitis and Fibromuscular Dysplasia
- 2.8.2. Imaging Findings
- 2.8.3. Endovascular Therapeutic Management and Prognosis

2.9. Interventional Procedures in Vascular Trauma
- 2.9.1. Traumatic Injuries to the Arteries of the Upper Extremities
- 2.9.2. Evaluation and Diagnosis of Traumatic Arterial Injuries
- 2.9.3. Urgent Management and Postoperative Rehabilitation after Endovascular Treatment of Arterial Traumatic Injuries

2.10. Use of Artificial Intelligence in Interventional Procedures in the Arteries of the Upper Extremities
- 2.10.1. AI Applications in Vascular Image Analysis
- 2.10.2. Outcome Prediction and Treatment Selection
- 2.10.3. Integration of AI in Endovascular Procedures

Module 3. Interventional Procedures in Lower Extremity Arteries

3.1. Interventional Procedures in Chronic Occlusive Disease
- 3.1.1. Occlusive Disease in the Arteries of the Lower Extremities
- 3.1.2. Clinical Evaluation and Diagnosis of Chronic Occlusive Disease
- 3.1.3. Endovascular Therapeutic Strategies for the Management of Chronic Occlusive Disease

3.2. Percutaneous Interventions in the Superficial Femoral and Popliteal Artery
- 3.2.1. Percutaneous Interventions in the Superficial and Popliteal Arteries
- 3.2.2. Angioplasty and Stenting Techniques in the Superficial Femoral and Popliteal Artery
- 3.2.3. Complications and Postoperative Management of Percutaneous Interventions

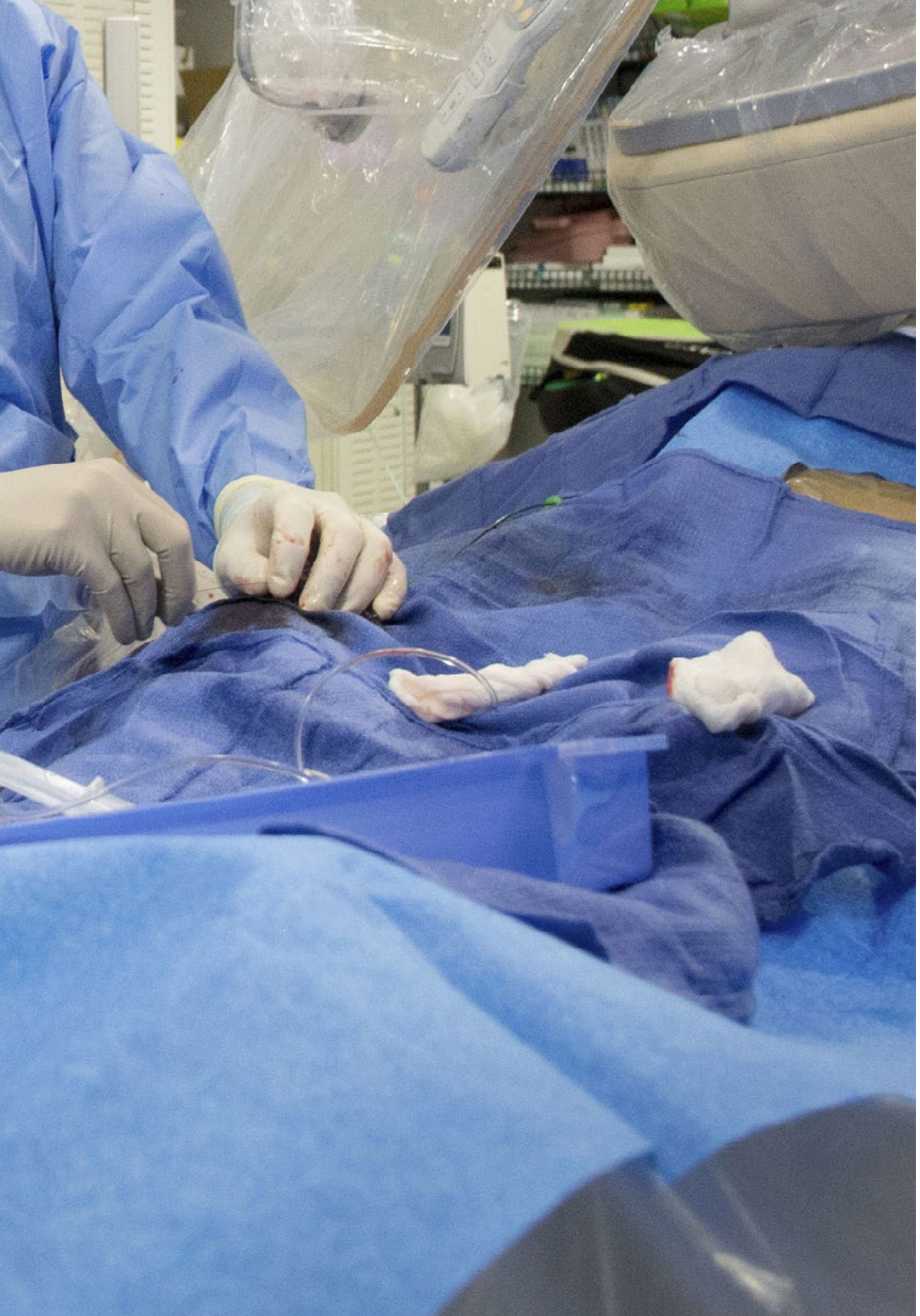
3.3. Angioplasty and Stents in the Tibial Artery
- 3.3.1. Evaluation and Diagnosis of Arterial Disease in the Tibial Arteries
- 3.3.2. Techniques of Angioplasty and Stenting in the Tibial Artery
- 3.3.3. Clinical Outcome and Prognosis After Tibial Angioplasty and Stenting

3.4. Interventional Procedures in Acute Limb Ischemia
- 3.4.1. Acute Ischemia in the Lower Extremities
- 3.4.2. Diagnostic Evaluation and Differential Diagnosis of Acute Ischemia
- 3.4.3. Emergency Management and Endovascular Treatment of Acute Ischemia of the Extremities

3.5. Endovascular Treatment of Popliteal Artery Aneurysm
- 3.5.1. Development of Popliteal Aneurysms
- 3.5.2. Diagnosis and Evaluation of Popliteal Artery Aneurysms
- 3.5.3. Endovascular Treatment Options and Management of Popliteal Aneurysms

3.6. Interventional Procedures in the Common Femoral Artery Aneurysm
- 3.6.1. Common Femoral Artery Aneurysms
- 3.6.2. Diagnostic Evaluation and Imaging of Common Femoral Aneurysms
- 3.6.3. Endovascular Therapeutic Approaches and Surgical Considerations for Common Femoral Aneurysms

3.7. Interventional Procedures in Penetrating Trauma. Knee Dislocation
- 3.7.1. Penetrating Trauma in the Lower Extremities
- 3.7.2. Vascular Complications Associated with Knee Dislocation
- 3.7.3. Endovascular Treatment Strategies and Postoperative Rehabilitation



3.8. Interventional Procedures in Vasculitis. Ergotism
- 3.8.1. Vasculitis in the Lower Extremities
- 3.8.2. Ergotism: Etiology, Clinical Presentation and Vascular Manifestations
- 3.8.3. Endovascular Management and Treatment of Vasculitis and Ergotism in the Context of the Lower Extremities

3.9. Interventional Procedures in Popliteal Artery Entrapment Adventitial Cystic Disease
- 3.9.1. Popliteal Artery Entrapment
- 3.9.2. Adventitial Cystic Disease of the Popliteal Artery
- 3.9.3. Endovascular Treatment and Management of Popliteal Artery Entrapment and Cystic Adventitial Disease

3.10. Use of Artificial Intelligence in Intervention in Lower Extremity Arteries
- 3.10.1. AI Applications in Vascular Image Analysis
- 3.10.2. Outcome Prediction and Treatment Selection
- 3.10.3. Integration of AI in Endovascular Procedures

You will renew your knowledge through real cases and the resolution of complex situations in simulated learning environments. Enroll now!"

05

Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning.**

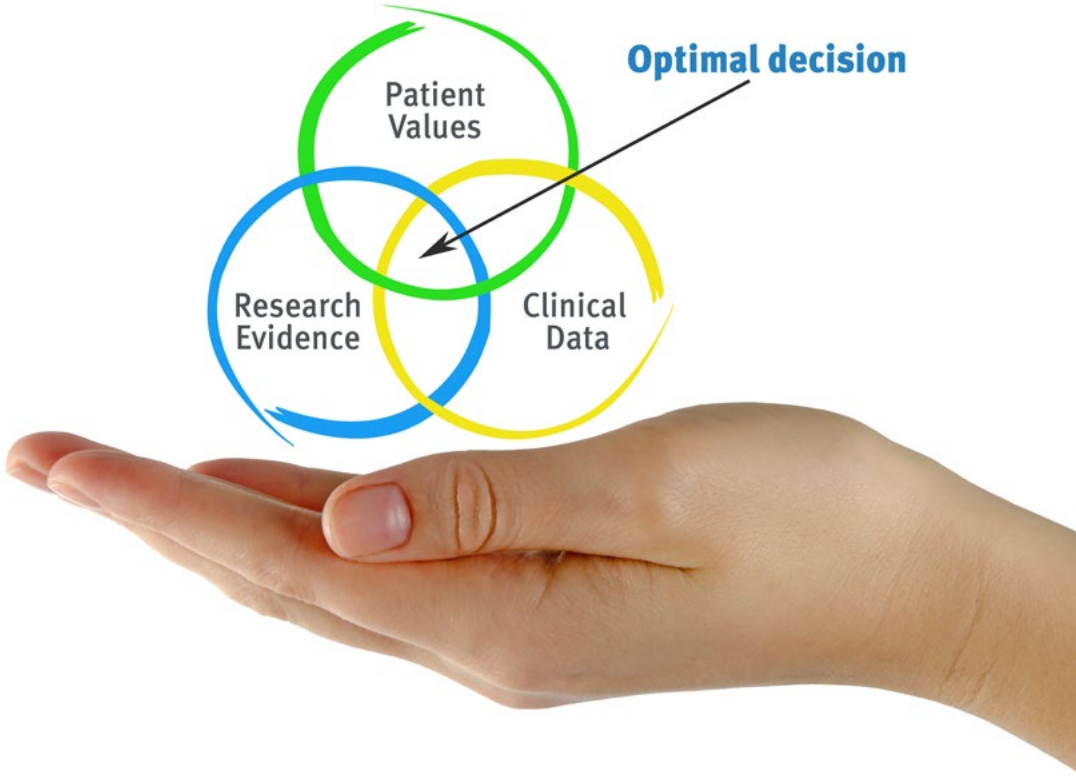
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

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. 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:

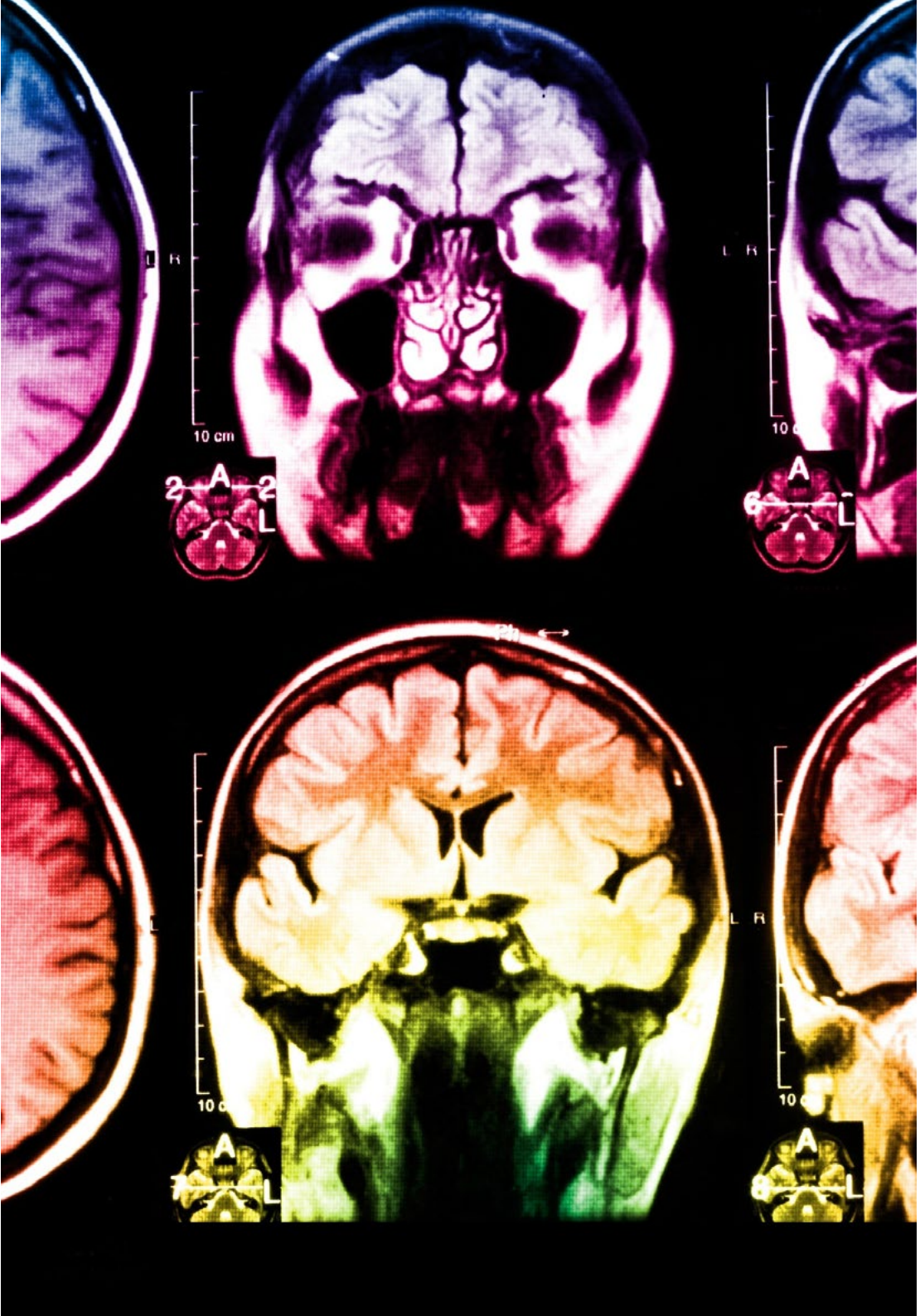
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better 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.

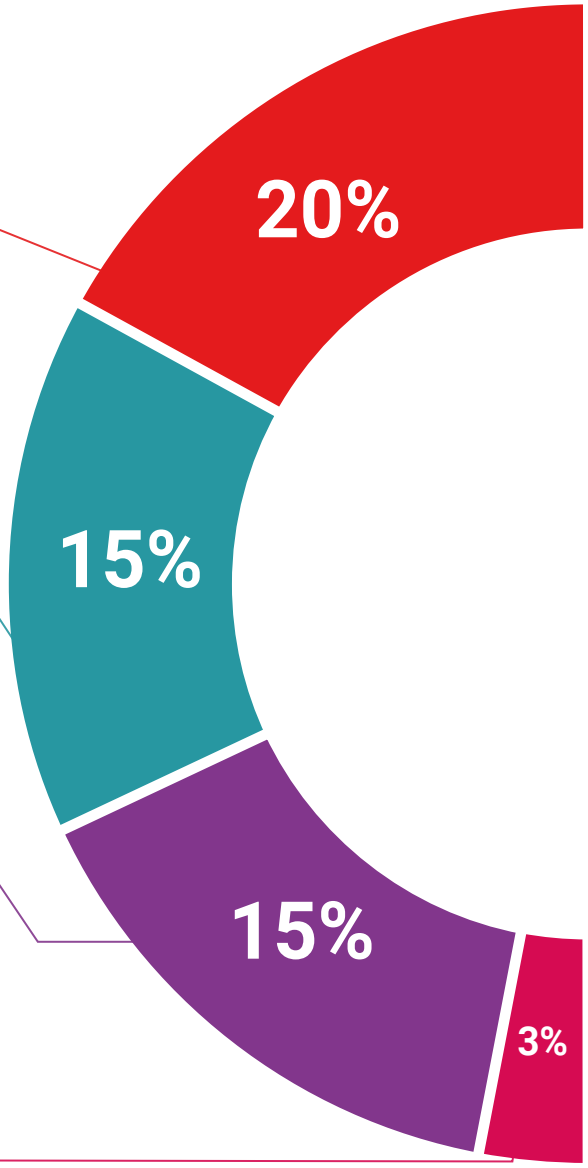
Interactive Summaries

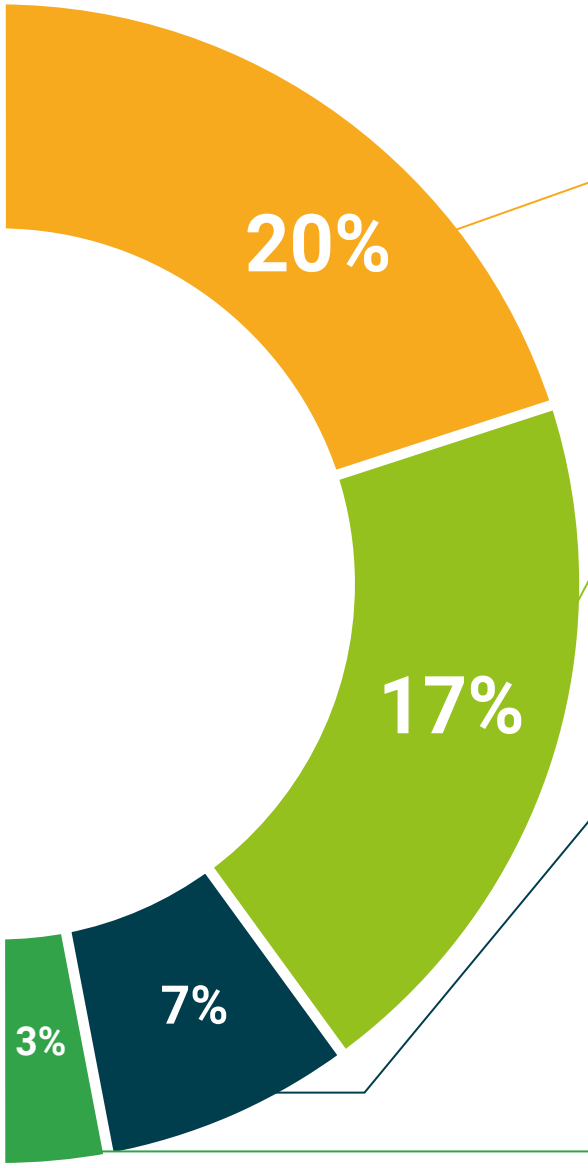
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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 Arterial Interventional Procedures guarantees students, in addition to the most rigorous and up-to-date education program, access to a Postgraduate Diploma issued by TECH Global University.

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 Diploma in Arterial Interventional Procedures** 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 Diploma in Arterial Interventional Procedures**

Modality: **Online**

Duration: **6 months**

Accreditation: **18 ECTS**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Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Postgraduate Diploma in Arterial Interventional Procedures

This is a private qualification of 540 hours of duration equivalent to 18 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
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 issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

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