

# Postgraduate Certificate Arterial Diseases





## Postgraduate Certificate Arterial Diseases

- » 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/arterial-diseases](http://www.techtute.com/us/medicine/postgraduate-certificate/arterial-diseases)

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# 01

# Introduction

The high prevalence of arterial disease throughout the world and the prospect of its growth in countries with fewer resources has led to the development of advanced methods for its treatment. Therefore, techniques such as drug-coated balloon angioplasty or peripheral *bypass* surgery have been perfected in recent years, allowing these conditions to be treated with greater guarantees and safety for the patient. Consequently, the specialist must identify these advances to avoid being left behind with respect to the evolution of this area. For this reason, this educational institution has created this program, with which the student will learn about the state-of-the-art drugs for Arterial Diseases or the procedures for their surgical management, online and from home.



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*Learn the perfected surgical techniques for the approach of Arterial Diseases and place yourself at the forefront of Medicine"*

Scientific research has recently focused on the study of Arterial Diseases, with the aim of significantly improving the quality of life of patients who suffer from them. Along these lines, advanced methods have been developed for the early detection of these conditions, as well as drugs and surgical treatments that favor a rigorous and more effective approach. Given the benefits of these advances for patients' health, it is essential for specialists to be aware of them.

For this reason, TECH has designed this program, through which the professional will delve into the most relevant and advanced aspects of Arterial Diseases in only 180 hours. Throughout this complete educational itinerary, you will learn about the most advanced imaging techniques for the detection of these conditions or vascular function tests. You will also delve into the recent scientific evidence on antiplatelet and anticoagulant drugs or the advances made in the field of carotid endarterectomy.

Since this Postgraduate Certificate is taught by means of a modern methodology completely online, students will have the possibility of managing their own time at their own pace to achieve effective learning. In the same way, you will have at your disposal didactic materials in various formats, among which the explanatory video, the readings or the interactive summary stand out. As a result, you will enjoy a learning experience that is completely adapted to your study preferences.

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

- ♦ Practical cases presented by experts in vascular surgery
- ♦ 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
- ♦ 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



*Delve into antiplatelet and anticoagulant drugs to treat Arterial Diseases, supported by the latest scientific evidence"*

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*Through this program, you will delve into the perfected technique of drug-coated balloon angioplasty to treat Arterial Diseases”*

The program’s teaching staff includes professionals from the field who contribute their work experience to this educational 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 academic year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*Update your knowledge from wherever you want and 24 hours a day, thanks to the 100% online mode of this program.*

*Enjoy a comfortable and interactive update, enjoying excellent didactic resources in multimedia formats.*





# 02

# Objectives

This Postgraduate Certificate has been designed with the aim of providing specialists with the most relevant and advanced knowledge in the field of Arterial Disease management. During this educational experience, you will delve into the latest scientific evidence on the molecular mechanisms involved in the formation of atherosclerotic plaques or advances in diagnostic tests for these conditions. All this, in only 6 weeks and under the guidance of the best specialists in the field.





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*Get your desired update on Arterial Diseases in only 180 hours"*



## General Objectives

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- Learn about the structure and function of blood vessels, both arterial and venous, and the regulation of blood flow in the microcirculation
- Delve into the epidemiology and Risk Factors
- Update knowledge on the main risk factors for the development of vascular diseases and the strategies for primary and secondary prevention
- Gain in-depth understanding of the pathophysiology of vascular diseases
- Inquire into the different diagnostic methods
- Delve into the diagnostic techniques used in vascular pathology, including clinical examination and vascular semiology, imaging methods, laboratory diagnosis and study of vascular function and hemodynamics
- Explain the different research methods and advances in vascular pathology, especially those focused on vascular pathology, including the development of new drug therapies, genetics and genomics in vascular diseases, and the development of new imaging techniques for the diagnosis and follow-up of vascular diseases





## Specific Objectives

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- ◆ Delve into the etiology of arterial diseases, including risk factors and underlying causes, such as chronic inflammation, oxidative damage, hypertension and diabetes
- ◆ Delve into the pathogenesis and molecular mechanisms involved in the formation of atherosclerotic plaques
- ◆ Delve into the clinical evaluation and interpretation of diagnostic tests, such as Doppler ultrasound, angiography and computed tomography

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*Delves into recent scientific evidence on the pathogenesis and molecular mechanisms involved in the formation of atherosclerotic plaques”*



03

# Course Management

With the idea in mind of offering its students a first class education, TECH has selected excellent specialists in Vascular Surgery to be responsible for directing and teaching this program. All these professionals have developed an extensive medical career in prestigious hospitals, occupying relevant positions in them. Therefore, the knowledge they will transmit will preserve a complete applicability in daily practice.





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*Enjoy a program directed and taught by active specialists in Vascular Surgery, who will provide you with the most advanced knowledge on Arterial Diseases"*

## Management



### Dr. Del Río Sola, María Lourdes

- Head of the Angiology and vascular surgery at Valladolids Clinical University Hospital
- Specialist in Angiology and Vascular Surgery
- European Board in Vascular Surger
- Permanent Correspondents of the Royal Academy of Medicine and Surgery
- Professor at Miguel de Cervantes European University
- Associate Teacher in Health Sciences, University of Valladolid





## Professors

### Dr. Martín Pedrosa, José Miguel

- ♦ Head of the Angiology and vascular surgery at Valladolids Clinical University Hospital
- ♦ Specialist in Angiology and Vascular Surgery
- ♦ PhD Cum Laude in Surgery from the University of Valladolid
- ♦ Member of Scientific Committee of the Endovascular Surgery Chapter of the Spanish Society of Angiology and Vascular Surgery (SEACV)

# 04

# Structure and Content

The syllabus of this program has been developed with the premise of providing the professional with the latest advances in the approach to Arterial Diseases, with a special focus on surgical management. All the didactic materials that the student will enjoy throughout these very complete topics are available in supports such as complementary readings, video or interactive summary. Consequently, enjoying a 100% online methodology, your learning will be completely enjoyable and efficient.



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*The syllabus of this program has been designed by specialists with extensive experience in the management of Arterial Diseases, who will provide you with the most professionally applicable knowledge"*



## Module 1. Arterial Diseases

- 1.1. Arterial Diseases
  - 1.1.1. Coronary Arterial Disease
  - 1.1.2. Peripheral Arterial Disease
  - 1.1.3. Cerebral arterial Disease
- 1.2. Etiology of Arterial Diseases
  - 1.2.1. Cardiovascular risk factors: hypertension, diabetes, hyperlipidemia, smoking, sedentary lifestyle
  - 1.2.2. Autoimmune diseases: giant cell arteritis, Takayasu's disease
  - 1.2.3. Genetic diseases: Marfan syndrome, Ehlers-Danlos disease
- 1.3. Symptoms and Signs of Arterial Diseases
  - 1.3.1. Chest pain and other symptoms of coronary artery disease
  - 1.3.2. Intermittent claudication and other symptoms of peripheral arterial disease
  - 1.3.3. Stroke and other symptoms of cerebral arterial disease
- 1.4. Diagnosis of Arterial Diseases: methods and techniques
  - 1.4.1. Imaging tests: angiography, Doppler ultrasonography, computed tomography, magnetic resonance imaging
  - 1.4.2. Vascular function tests: ankle-brachial indices, plethysmography, Doppler study
  - 1.4.3. Clinical evaluation: medical history, physical examination, stress tests
- 1.5. Medical treatment of arterial diseases: antiplatelet and anticoagulant drugs
  - 1.5.1. Antiplatelet agents: aspirin, clopidogrel, ticagrelor
  - 1.5.2. Analgesia: Warfarin, heparin, rivaroxaban
  - 1.5.3. Treatment of hypertension, diabetes and hyperlipidemia to reduce the risk of arterial disease
- 1.6. Endovascular treatment of arterial disease: angioplasty, stenting, atherectomy
  - 1.6.1. Balloon angioplasty: technique to open a narrowed artery
  - 1.6.2. Stent placement: metal tube that keeps an artery open
  - 1.6.3. Atherectomy: technique to remove plaque from an artery
- 1.7. Surgical Treatment of Arterial Diseases: bypass, endarterectomy
  - 1.7.1. Coronary artery bypass: technique for bypassing blood around a blocked coronary artery
  - 1.7.2. Carotid Endarterectomy: technique to remove plaque from the carotid artery
  - 1.7.3. Peripheral bypass surgery: technique to bypass blood around a blocked peripheral artery



- 1.8. Management of Diabetic Foot
  - 1.8.1. Prevention: regular foot care and diabetes control
  - 1.8.2. Wound and ulcer treatment: wound healing and foot care
  - 1.8.3. Revascularization surgery: technique to improve blood flow to the foot
- 1.9. Vascular rehabilitation
  - 1.9.1. Supervised exercise programs
  - 1.9.2. Education on vascular disease management
  - 1.9.3. Occupational therapy and physical therapy
- 1.10. Prognosis and Follow-up of Arterial Diseases
  - 1.10.1. Periodic assessment of disease status
  - 1.10.2. Assessment of response to treatment
  - 1.10.3. Identification and Management of Complications



*Enjoy a pleasant and decisive learning experience through didactic content available in formats such as video or interactive summary"*

# 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. 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.

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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 Arterial Diseases 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 program will allow you to obtain your **Postgraduate Certificate in Arterial Diseases** 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** title 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 Arterial Diseases**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



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



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