

# Postgraduate Certificate Vascular Malformations and Neurosurgical Stroke Treatment



## Postgraduate Certificate

### Vascular Malformations and Neurosurgical Stroke Treatment

Course Modality: **Online**

Duration: **6 weeks**

Certificate: **TECH Technological University**

**6 ECTS Credits**

Teaching Hours: **150 hours.**

Website: [www.techtitute.com/medicine/postgraduate-certificate/malformations-neurosurgical-stroke-treatment](http://www.techtitute.com/medicine/postgraduate-certificate/malformations-neurosurgical-stroke-treatment)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 20*

06

Certificate

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*p. 28*

# 01

# Introduction

With this high-level intensive program you will learn to identify the different types of vascular malformations and their differences in morphology and bleeding risk. You will also delve into defining the role of neurosurgery in the treatment of both hemorrhagic and ischemic stroke. A unique opportunity to specialise and stand out in a high-demand professional field.





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*A comprehensive program that will help you keep up to date with the latest techniques in Neurosurgery”*

The Postgraduate Certificate in Vascular Malformations and Neurosurgical Stroke Treatment is an updated compilation of the pathologies that require study and treatment by Neurosurgery. The application of diagnostic and therapeutic algorithms enhances student learning and synthesizes the flow of information to facilitate its practical application in the student's environment.

Vascular malformations comprise a broad spectrum of malformative vascular pathology with varying degrees of bleeding risk, and whose treatment is determined precisely by the likelihood of hemorrhage. Classifications of vascular malformations are dynamic and help to understand the pathophysiology and possible therapeutic implications of each type of entity. Each topic focuses on the different types of vascular malformations, the different classifications proposed and the therapeutic indications, especially highlighting how the risk of hemorrhage and the natural history modify the therapeutic approach, as well as the treatment modality indicated in each subtype. Based on this approach, arteriovenous and cavernomatous malformations, dural fistulas both intracranial and spinal, carotid-cavernous fistulas, venous angiomas and telangiectasias are treated.

The second part of the program is focused on identifying the role of neurosurgical treatment in the treatment of strokes, framed within the hospital care of stroke patients. The indications for surgery in the treatment of patients with hemorrhagic stroke are a subject under constant revision according to the updating of the therapeutic guidelines for patients with hemorrhagic stroke, which is also conditioned by the application of the newest and less invasive surgical treatments in this group of patients. On the other hand, the treatment of ischemic strokes currently benefits from the channeling of diagnosis and treatment through the Stroke Code and Stroke Units, and patients with this pathology may require neurosurgical techniques with specific indications such as by-pass surgery or decompressive craniectomy.

For this reason, this Postgraduate Certificate is the most intensive and effective educational program on the market in this field. A high level of training that will allow you to become one of the most up-to-date professionals in the sector, in a field with a high demand for professionals.

This **Postgraduate Certificate in Vascular Malformations and Neurosurgical Stroke Treatment** is the most comprehensive and up-to-date educational program on the market. The most important features of the program include:

- ◆ The development of case studies presented by experts in international cooperation of the peoples of the world.
- ◆ The graphic, schematic, and eminently practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional practice.
- ◆ News on Vascular Malformations and Neurosurgical Treatment of Stroke
- ◆ Practical exercises where the self-assessment process can be carried out to improve learning
- ◆ Emphasis on innovative methodologies in International Cooperation
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection work.
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*Expand your knowledge through this Postgraduate Certificate that will allow you to specialize with a view to achieving excellence in this field"*

“

*This Postgraduate Certificate is the best investment you can make when selecting a refresher program for two reasons: in addition to updating your knowledge of Neurosurgery, you will obtain a qualification endorsed by TECH"*

The teaching staff includes professionals from the International Cooperation sector, who bring their experience to this training 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 an immersive training experience designed to train for real-life situations.

The design of this program is centered around Problem-Based Learning, in which the medical professional will resolve professional practice situations that may arise throughout the program. For this purpose, the specialist will be assisted by an innovative interactive video system created by renowned and experienced experts in Vascular Malformations and Neurosurgical Treatment of Stroke.

*Do not hesitate to take this training with us. You will find the best teaching material with virtual lessons.*

*This 100% online course will allow you to combine your studies with your professional work while increasing your knowledge in this field.*



# 02

# Objectives

The Postgraduate Certificate in Vascular Malformations and and Neurosurgical Stroke Treatment is aimed at aiding the professional Postgraduate Certificate performance with the latest advances and most innovative treatments in the sector.





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*Thanks to this Postgraduate Certificate you will be able to specialize in Neurosurgery and learn about the latest advances in the field”*



## General Objectives

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- ◆ Acquire more in-depth knowledge of the speciality, with a practical approach to help professionals apply the information learned in their clinical practice, focusing on the latest diagnostic and therapeutic guidelines and the most recent scientific evidence.
- ◆ Learn the latest surgical techniques that have been implemented in recent years along with the knowledge of technological development in multiple areas of Neurosurgery



*Allowing you to complete your training in a context that connects you to the professional world. Are you ready to start your project”*





## Specific Objectives

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- ◆ Learn to identify the different types of vascular malformations and their differences in morphology and bleeding risk
- ◆ Describe the different therapeutic modalities in the management of vascular malformations, understanding the need for a multidisciplinary approach and the possibility of combining different treatments.
- ◆ Define the role of neurosurgery in the treatment of both hemorrhagic and ischemic stroke, providing examples that help to understand the indications for surgery and its role in the overall therapeutic management required for this type of patient.



03

# Course Management

The program includes in its teaching staff leading experts in Neurosurgery, who bring to this training the experience from their work. Additionally, other recognized experts participate in its design and preparation, completing the program in an interdisciplinary manner.



An MRI scan of a brain, showing a cross-section of the cerebral cortex and underlying structures. A white scale bar is visible on the right side of the scan. The image is overlaid on a dark blue background that transitions into a white background.

“

*Leading experts in Neurosurgery have joined forces to share all their knowledge in the field with you”*

## Management



### Dr. Fernández Carballal, Carlos

- ◆ Head of the Spinal Pathology Section. Neurosurgery Service
- ◆ Gregorio Marañón General University Hospital
- ◆ Associate Neurosurgery Professor. Faculty of Medicine. Complutense University of Madrid
- ◆ PhD in Surgery from the Autonomous University of Madrid Faculty of Medicine, obtaining the qualification of outstanding cum laude.
- ◆ Member of the Spanish Society of Neurosurgery, Member of the Neurorachis Society, Member of the Spanish Society of Functional Neurosurgery (SENE)
- ◆ Master's Degree in Medical and Clinical Management from the Spanish Distance University (UNED).
- ◆ Degree in Medicine (University of Navarra, 1999)

## Professors

### Dr. Valera Melé, Marc

- ◆ Neurosurgery Department. Gregorio Marañón General University Hospital
- ◆ Degree in Medicine from the Clinical Hospital of Barcelona.

### Dr. Iza Vallejo, Begoña

- ◆ Neurosurgery Department. Gregorio Marañón General University Hospital
- ◆ Degree in Medicine from the Faculty of Medicine at the University of the Basque Country.
- ◆ Master's Degree in Neurological Oncology. CEU Cardenal Herrera University



# 04

# Structure and Content

The structure of the content has been designed by the best professionals in the Neurosurgery sector, with extensive experience and recognized prestige in the profession, backed by the volume of cases reviewed, studied, and diagnosed, and with extensive knowledge of new technologies applied to teaching.







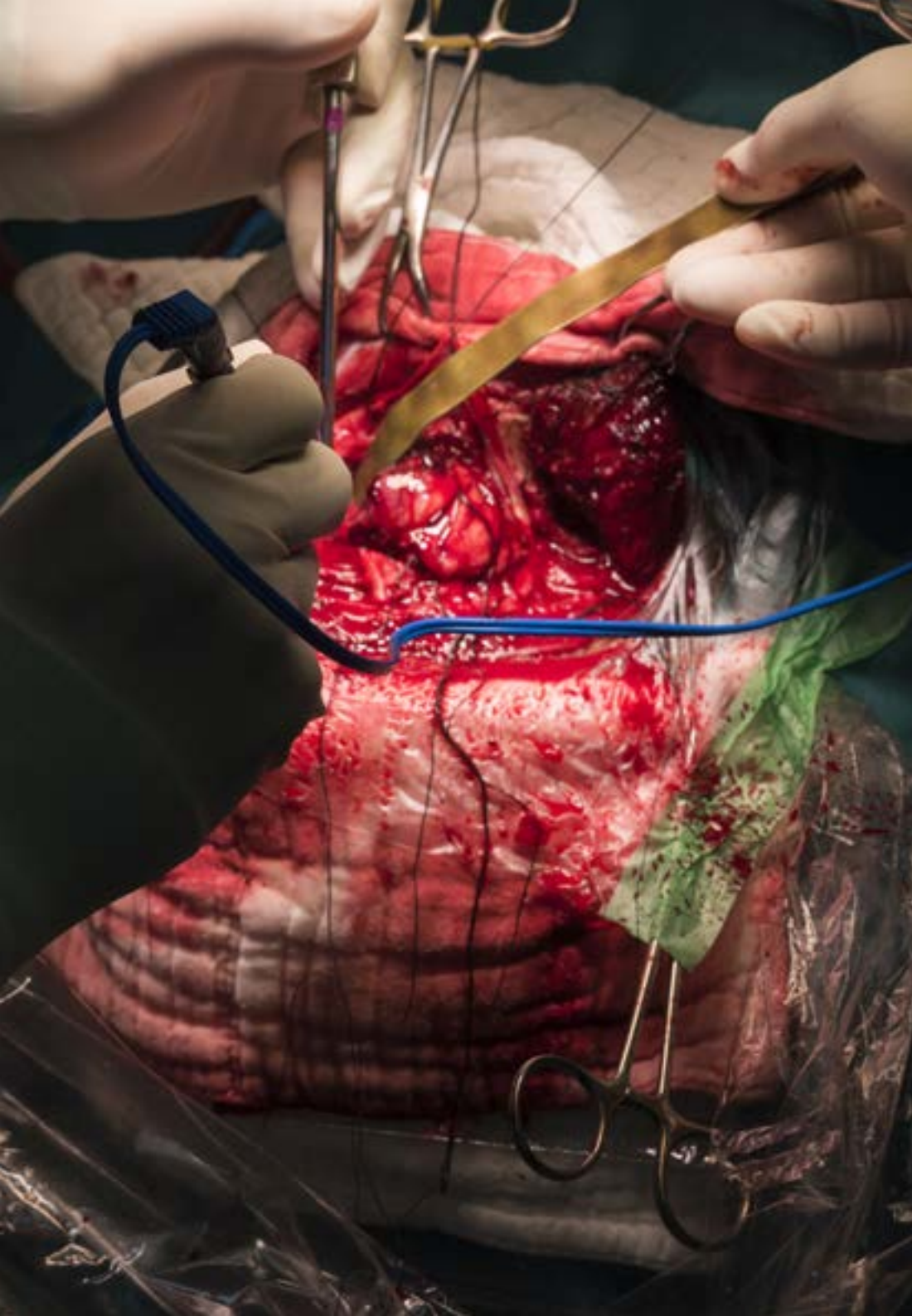
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*This Postgraduate Certificate in Vascular Malformations and Neurosurgical Stroke Treatment is the most comprehensive and up-to-date scientific program on the market”*

## Module 1. Vascular Pathology II. Vascular Malformations and Neurosurgical Treatment of Stroke

- 1.1. Arteriovenous Malformations: Clinical Features, Natural History, and Classification
- 1.2. Therapeutic Approaches in the Treatment of Arteriovenous Malformations
  - 1.2.1. Surgery
  - 1.2.2. Radiosurgery
  - 1.2.3. Endovascular Treatment
- 1.3. Cavernomatous Malformations
- 1.4. Venous Angiomas and Telangiectasias
- 1.5. Classification and Management of Intracranial Dural Arteriovenous Fistulas
- 1.6. Spinal Dural Fistulas Classifications and Treatment
- 1.7. Carotid–Cavernous Fistulas
  - 1.7.1. Treatment Options in Carotid-Cavernous Fistulas
- 1.8. Surgical Indication for Hemorrhagic
- 1.9. Current Status of Neurosurgical Treatment in Ischemic Stroke
  - 1.9.1. Indications for Decompressive Craniectomy in Ischemic Stroke





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

05

# 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, 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 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 abundant 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.



## Re-Learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

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 Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking 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 high socioeconomic profile and an average age of 43.5 years old.

*Re-learning 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 multimedia content presentation training Exclusive system 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 & Re-testing**

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 your goals.



**Classes**

There is scientific evidence on the usefulness of learning by observing experts: The system termed Learning from an Expert strengthens knowledge and recall capacity, and generates confidence in the face of difficult decisions in the future.



**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 Vascular Malformations and Neurosurgical Stroke Treatment** guarantees, in addition to the most rigorous and up-to-date training, access to a Postgraduate Certificate issued by **TECH Technological University**.



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*Successfully complete this training program  
and receive your university certificate without  
travel or laborious paperwork”*

This **Postgraduate Certificate in Vascular Malformations and Neurosurgical Stroke Treatment** contains the most comprehensive and up-to-date scientific program on the market.

After passing the evaluations, the student will receive by mail their corresponding **Postgraduate Certificate** issued by **TECH Technological Univeristy** via tracked delivery.

This diploma contributes to the academic development of the professional and adds a high university curricular value to their training. It is 100% valid in all competitive examinations, labour exchanges and professional career evaluation committees.

Title: **Postgraduate Certificate in Vascular Malformations and Neurosurgical Stroke Treatment**

ECTS: 6

Official N° of Hours: **150 hours**.



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



**Postgraduate  
Certificate**  
Vascular Malformations  
and Neurosurgical Stroke  
Treatment

Course Modality: Online

Duration: 6 weeks

Certificate: TECH Technological University

6 ECTS Credits

Teaching Hours: 150 hours.

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