

**Postgraduate Certificate**  
Neuroaxial Blocks in  
Locoregional Anesthesia





## Postgraduate Certificate Neuroaxial Blocks in Locoregional Anesthesia

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

Website: [www.techtitute.com/us/medicine/postgraduate-certificate/neuroaxial-blocks-locoregional-anesthesia](http://www.techtitute.com/us/medicine/postgraduate-certificate/neuroaxial-blocks-locoregional-anesthesia)

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# 01

# Introduction

Locoregional anesthesia (LRA) has experienced a significant boom in recent years due to better pain control, reduced complications and improved recovery. years due to better pain control, reduced complications and faster patient recovery. and faster patient recovery. Neuroaxial blocks, such as epidural and spinal, are essential ALR techniques, used in approximately 60% of surgical procedures worldwide. In this context, TECH has designed a program that addresses these techniques, offering an updated and specialized educational basis, deepening theoretical fundamentals, pharmacology and complications. Its 100% online format online, employs the innovative pedagogical methodology of Relearning, and offers flexibility to organize to organize academic resources, allowing health professionals to adapt their learning to their needs and schedules. their learning to their needs and schedules.





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*Master the fundamentals and most advanced techniques of neuroaxial blocks in locoregional anesthesia with this 100% online Postgraduate Certificate"*

In the field of anesthesiology, Locoregional Anesthesia (LRA) has gained prominence in recent years due to its multiple advantages, such as better control of postoperative pain, reduction of complications associated with general anesthesia, and early recovery of the patient, which favors a rapid return to daily life.

Neuroaxial blocks, such as epidural and spinal anesthesia, are indispensable techniques within ALR, used in a wide variety of surgical interventions, from abdominal and thoracic surgeries to gynecological and orthopedic procedures.

Given the growing demand for professionals trained in these techniques, TECH has designed the Postgraduate Certificate in Neuroaxial Blocks in Locoregional Anesthesia that seeks to meet this need, providing a complete and comprehensive update in the application of neuroaxial blocks in different clinical contexts. During the program, participants will study the applied anatomy and physiology, pharmacology used, specific techniques of spinal, epidural, caudal and paravertebral blocks, their application in different clinical contexts and paravertebral blocks, their application in obstetrics and the management of complications. In addition, the latest imaging techniques will be discussed, the latest imaging and simulation techniques to improve accuracy and safety in the performance of these procedures and safety in the performance of these procedures.

One of the main advantages of this program is its 100% online modality, which allows health professionals to reconcile their work and personal responsibilities with their studies. Relearning's pedagogical methodology, based on active learning and constant reinforcement of knowledge, facilitates the acquisition and retention of skills, adapting to the individual needs and rhythms of each student of each student.

In addition, the flexibility in the organization of academic resources enables students to learn and update themselves without complications, accessing from any time and place to the vast library of contents that the teaching staff has designed from their experience in this important medical field.

This **Postgraduate Certificate in Neuroaxial Blocks in Locoregional Anesthesia** 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 Neuroaxial Blocks in Locoregional Anesthesia
- ♦ 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 the self-assessment process can be carried out 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



*You will take control of your learning through a 100% online format that will allow you to access the content 24/7"*

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*Get up to date on the latest advances in applied pharmacology, covering local anesthetics, opioids, clonidine, corticosteroids and other relevant drugs in neuroaxial blocks"*

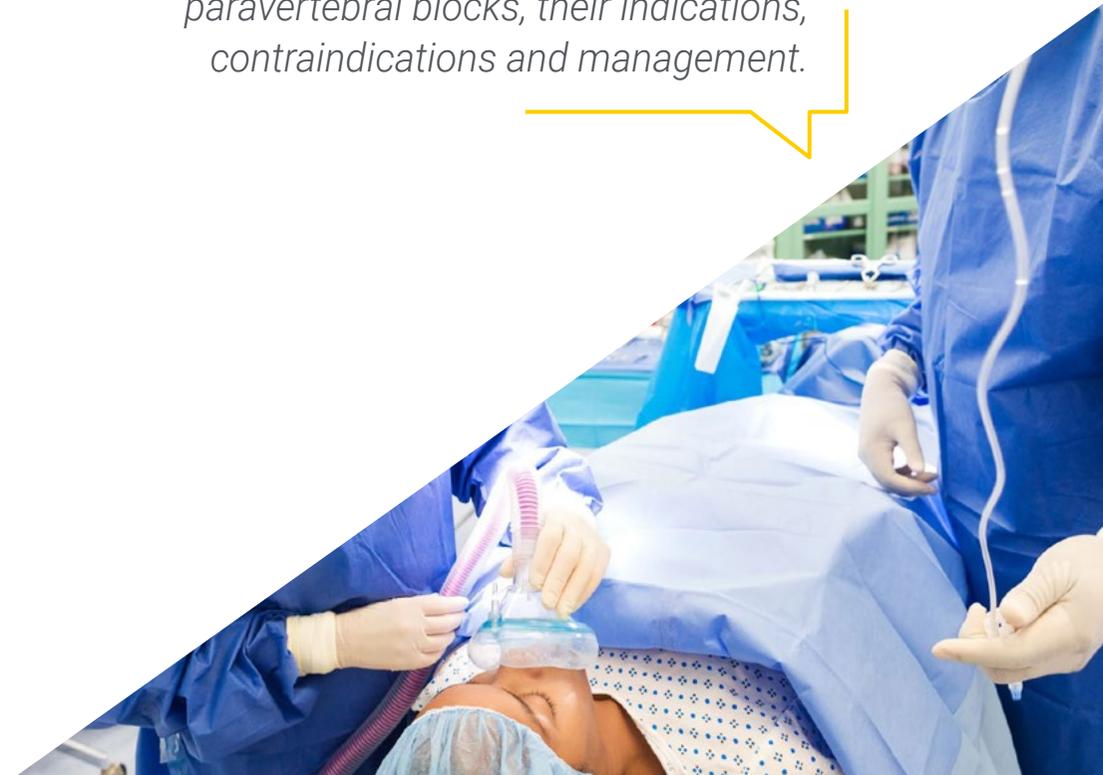
The program's teaching staff includes professionals in the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

Its 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 education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose students will be assisted by an innovative interactive video system developed by renowned experts.

*Update yourself based on real cases, simulations and the constant reiteration of information, thanks to TECH's of information, thanks to the pedagogical methodology of TECH's Relearning.*

*You will cover specific block techniques, such as spinal, epidural, caudal and paravertebral blocks, their indications, contraindications and management.*



# 02

# Objectives

With the advances that Medicine has achieved, it is also appropriate for the graduate to master the latest scientific postulates in this field, in order to obtain the best results in their daily practice the best results in their daily practice. For this reason, TECH is that thanks to this Postgraduate Certificate in Neuroaxial Blocks in Locoregional Anesthesia, the student will advance in his professional career with a complete update in this area. Thus, their learning will allow them to successfully perform their professional practice successfully, using the most innovative and avant-garde methods and techniques innovative and avant-garde methods and techniques.





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*A program that will allow you to perfect your skills in the management of complications and the application of ultrasound in neuroaxial blocks in only 150 hours of intensive study”*



## General Objectives

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- ♦ Learn in depth the fundamentals that allow us to perform procedures with regional anesthesia
- ♦ Familiarize with the anatomy, physiology and pharmacology applied to regional anesthesia
- ♦ Specifically study the types of central blocks, as well as their indications, contraindications, technical aspects and complications
- ♦ Specifically study the types of peripheral blocks, as well as their indications, contraindications, technical aspects and complications
- ♦ Review limb, head, neck, thoracic and abdominal blocks, as well as those useful for difficult airway management
- ♦ Review the basic fundamentals of electrostimulation and ultrasound and apply them to the performance of blocks
- ♦ Being familiar with the equipment necessary to perform the blocks
- ♦ Know in depth the current clinical practice guidelines for the preoperative management of patients requiring regional anesthesia
- ♦ List the particularities of outpatient surgery requiring regional anesthesia. Specifically study the types of Peripheral blocks, as well as their indications, contraindications, technical aspects and complications





## Specific Objectives

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- ♦ Acquire knowledge of the anatomy and physiology of neuroaxial blocks
- ♦ Identify the different types of neuroaxial blocks and establish their indications and contraindications
- ♦ Become familiar with the pharmacology applied to neuroaxial blocks
- ♦ Learn the technique, the effects on the organism, the necessary equipment and the and the management of spinal, epidural, combined, caudal and paravertebral blocks
- ♦ Learn in depth the role of ultrasound in these blocks



*Take the next step in your professional career by getting up to date in a medical sector that is increasingly in demand"*

# 03

# Course Management

With the purpose of providing an excellent education in the Postgraduate Certificate, TECH has selected highly recognized professionals in the field of Locoregional in the field of Locoregional Anesthesia to ensure that the students acquire the most the most updated knowledge on Neuroaxial Blocks. Through an extensive catalog of educational resources developed by this outstanding teaching team, students will have access to theoretical lessons, video summaries, specialized forums and individual activities, elaborated from real clinical cases and the from real clinical cases and the vast experience of the educators.





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*A prestigious teaching staff will guide you in the study of anatomy, physiology and pharmacology applied to neuroaxial blocks"*

## Management



### Dr. Burgueño González, María Dolores

- ♦ FEA in Anesthesiology and Resuscitation at the HU La Paz
- ♦ Anesthesia Coordinator of Cantoblanco Hospital
- ♦ Responsible for Surgical Patient Safety at Cantoblanco Hospital
- ♦ Specialist Physician at the Virgen del Mar Hospital
- ♦ MIR in Anesthesiology, Resuscitation and Pain Therapy at the University Hospital La Paz
- ♦ Master PROANES: Official Updating Program in Anesthesiology, Resuscitation and Pain Therapy by the Catholic University of Valencia
- ♦ Postgraduate Diploma in Airway Management by the Catholic University of Valencia

## Professors

### Dr. Rodríguez Roca, María Cristina

- ♦ FEA of Anesthesiology and Resuscitation at the University Hospital La Paz
- ♦ Teaching and research experience in several university centers
- ♦ PhD from the Autonomous University of Madrid
- ♦ European Postgraduate Certificate in Anesthesia and Critical Care (EDAIC)
- ♦ Member of the Spanish Society of Anesthesiology and Pain Treatment (SEDAR)
- ♦ Member of the working group of Chronic Pain of the Spanish Society of Anesthesiology and Resuscitation

### Dr. Canser Cuenca, Enrique

- ♦ FEA of Anesthesiology and Resuscitation at El Escorial Hospital
- ♦ Specialist in Anesthesiology and Resuscitation at the University Hospital La Paz
- ♦ Residency in the Department of Anesthesiology and Resuscitation at the University Hospital La Paz
- ♦ PhD in "Neurosciences: Morphofunctional organization of the nervous system"
- ♦ Master in Pathophysiology and Treatment of Pain by the Autonomous University of Barcelona
- ♦ Master's Degree in Palliative Medicine and Supportive Care of the Cancer Patient

**Dr. Zurita Copoví, Sergio**

- ♦ FEA of Anesthesiology and Resuscitation at the University Hospital La Paz
- ♦ Specialist Physician at the Virgen del Mar Hospital
- ♦ Resident Tutor at the University Hospital La Paz
- ♦ Clinical teaching collaborator at the Autonomous University of Madrid
- ♦ Master's Degree in Clinical Management, Medical and Health Care Management
- ♦ Master in Patient Management
- ♦ European Postgraduate Certificate in Anesthesia and Critical Care
- ♦ Member of the Spanish Society of Anesthesiology and Pain Treatment (SEDAR)

**Dr. Vallejo Sanz, Irene**

- ♦ FEA in Anesthesiology and Resuscitation at the HU La Paz
- ♦ Collaborator in Clinical Simulation workshops
- ♦ MIR in Anesthesiology, Resuscitation and Pain Therapy
- ♦ European Diploma of Anaesthesiology and Intensive Care, EDAIC part I
- ♦ Member of the Illustrious Official College of Physicians of Madrid
- ♦ Member of the Spanish Society of Anesthesiology and Pain Treatment (SEDAR)

**Dr. Salgado Aranda, Patricia**

- ♦ FEA in Anesthesiology and Resuscitation at the HU La Paz
- ♦ Teaching and research experience
- ♦ Clinical Teaching Collaborator of the University Hospital La Paz
- ♦ PhD from the Autonomous University of Madrid
- ♦ Degree in Medicine from the University of Alcalá, Spain
- ♦ Master's Degree in Infectious Diseases in Intensive Care
- ♦ Member of the Illustrious Official College of Physicians of Madrid

**Dr. Sancho De Ávila, Azahara**

- ♦ Free practice anesthesiologist at La Zarzuela Hospital
- ♦ FEA of Anesthesiology and Resuscitation at the University Hospital of La Paz
- ♦ Free practice anesthesiologist at the University Hospital of La Luz
- ♦ Free practice anesthesiologist at Nuestra Señora del Rosario Hospital
- ♦ Doctor in Medicine and Surgery from the University of La Laguna
- ♦ Specialist in Anesthesiology, Resuscitation and Pain Therapy by MIR examination at the University Hospital Nuestra Señora de la Candelaria

**Dr. Martín Martín, Almudena**

- ♦ FEA in Anesthesiology and Resuscitation at the HU La Paz
- ♦ Clinical Teaching Collaborator of the University Hospital La Paz
- ♦ MIR in Anesthesiology, Resuscitation and Pain Therapy at the University Hospital La Paz
- ♦ Master of Continuing Education in "Patient Management"



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

# 04

## Structure and Content

The syllabus of this Postgraduate Certificate, developed by a group of leading experts and supported by the latest technology in online teaching platforms, integrates current advances and approaches in aspects such as applied anatomy and physiology, pharmacology used in neuroaxial blocks and with the support of the latest technology in online teaching platforms, integrates current advances and approaches in aspects such as applied anatomy and physiology, pharmacology used in neuroaxial blocks and the application of ultrasound in these procedures. All this in a convenient and flexible format 100% online that will allow the student to access the content 24/7 without interfering with their personal and professional commitments.





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*Focus your learning on neuroaxial blocks in obstetrics, understanding the physiological changes in pregnancy and the applications of neuroaxial anesthesia and analgesia in labor and cesarean section”*

## Module 1. Neuroaxial Blocks

- 1.1. Neuroaxis blockages
  - 1.1.1. Definition
  - 1.1.2. History
  - 1.1.3. Current utility and use
- 1.2. Current utility and use
  - 1.2.1. Applied Anatomy
  - 1.2.2. Applied physiology
- 1.3. Pharmacology applied to neuroaxial blocks
  - 1.3.1. Local anesthetics
  - 1.3.2. Opioids
  - 1.3.3. Clonidine
  - 1.3.4. Corticosteroids
  - 1.3.5. Neostigmine
  - 1.3.6. Ketamine
  - 1.3.7. Others
- 1.4. Spinal block
  - 1.4.1. Definition and anatomical memory
  - 1.4.2. Indications
  - 1.4.3. Contraindications
  - 1.4.4. Necessary Material
  - 1.4.5. Single puncture spinal block technique
  - 1.4.6. Technique in continuous spinal block
  - 1.4.7. Effects of the block and management
  - 1.4.8. Specific complications
- 1.5. Epidural block
  - 1.5.1. Definition and anatomical memory
  - 1.5.2. Indications
  - 1.5.3. Contraindications
  - 1.5.4. Necessary Material
  - 1.5.5. Exclusive epidural block technique
  - 1.5.6. Combined spinal-epidural block technique
  - 1.5.7. Effects of the block and management
  - 1.5.8. Specific complications
- 1.6. Caudal Block
  - 1.6.1. Definition and anatomical memory
  - 1.6.2. Indications
  - 1.6.3. Contraindications
  - 1.6.4. Necessary Material
  - 1.6.5. Technique
  - 1.6.6. Effects of the block and management
  - 1.6.7. Specific complications
- 1.7. Paravertebral Block
  - 1.7.1. Definition and anatomical memory
  - 1.7.2. Indications
  - 1.7.3. Contraindications
  - 1.7.4. Necessary Material
  - 1.7.5. Technique
  - 1.7.6. Effects of the block and management
  - 1.7.7. Specific complications
- 1.8. Neuroaxial blocks in obstetrics
  - 1.8.1. Physiological Changes in Pregnancy
  - 1.8.2. Neuroaxial Analgesia in Labor
  - 1.8.3. Neuroaxial anesthesia for cesarean section, instrumental delivery and postoperative analgesia
  - 1.8.4. Effects of neuroaxial blocks on the progression of labor and about the fetus
  - 1.8.5. Specific complications
- 1.9. Complications of neuroaxial blocks
  - 1.9.1. Lumbalgia/dorsalgia
  - 1.9.2. Hypotension
  - 1.9.3. Accidental dural puncture and post dural puncture headache
  - 1.9.4. Blood puncture, intravascular injection and intoxication by local anesthetics
  - 1.9.5. Subarachnoid injection
  - 1.9.6. Intraosseous injection
  - 1.9.7. High spinal block and total spinal block
  - 1.9.8. Failed block
  - 1.9.9. Neurological injury
  - 1.9.10. Urinary Retention



- 1.9.11. Pneumoencephalon
- 1.9.12. Pneumothorax
- 1.9.13. Venous Air Embolism
- 1.9.14. Spinal hematoma
- 1.9.15. Infectious complications: spinal abscess, arachnoiditis and meningitis
- 1.9.16. Complications due to the effect of drugs
- 1.10. Ultrasound in Neuroaxial Blocks
  - 1.10.1. Ultrasound in neuroaxial blocks
  - 1.10.2. General principles and limitations
  - 1.10.3. Ultrasound-guided epidural block
  - 1.10.4. Ultrasound-guided caudal block
  - 1.10.5. Ultrasound-guided paravertebral block

“ *A degree designed in detail for you, with complete material multimedia and the possibility of accessing to it from any device with Internet connection*”

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 Neuroaxial Blocks in Locoregional Anesthesia guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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

This **Postgraduate Certificate in Neuroaxial Blocks in Locoregional Anesthesia** contains the most complete and up-to-date scientific program on the market.

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

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

Title: **Postgraduate Certificate in Neuroaxial Blocks in Locoregional Anesthesia**  
Official N° of Hours: **150 h.**



\*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.



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- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

# Postgraduate Certificate Neuroaxial Blocks in Locoregional Anesthesia

