

# Postgraduate Certificate Hand and Brachial Plexus Nerve Injuries





## Postgraduate Certificate Hand and Brachial Plexus Nerve Injuries

- » 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/hand-brachial-plexus-nerve-injuries](http://www.techtitute.com/us/medicine/postgraduate-certificate/hand-brachial-plexus-nerve-injuries)

# Index

01

Introduction

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*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 18*

05

Methodology

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*p. 22*

06

Certificate

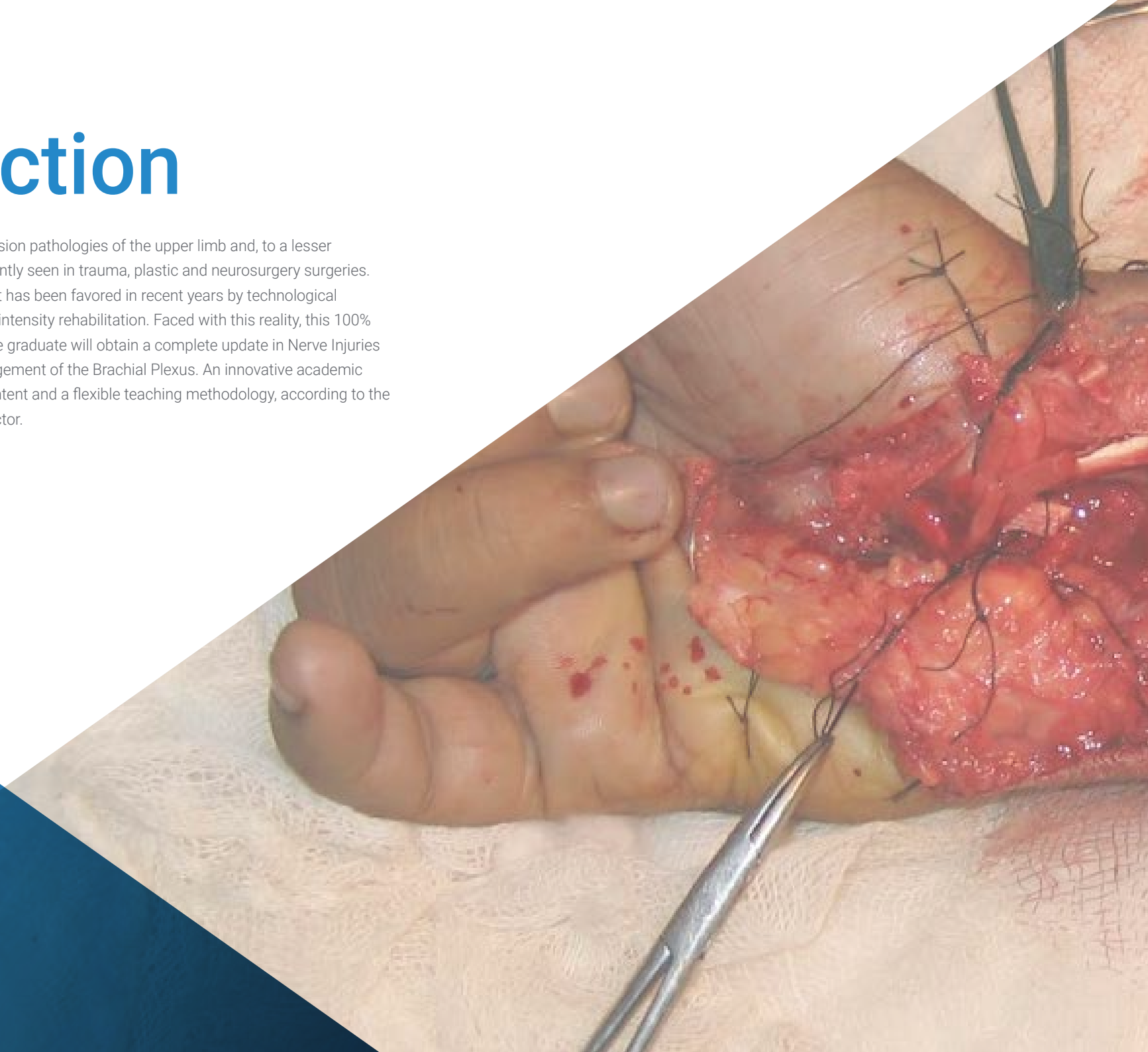
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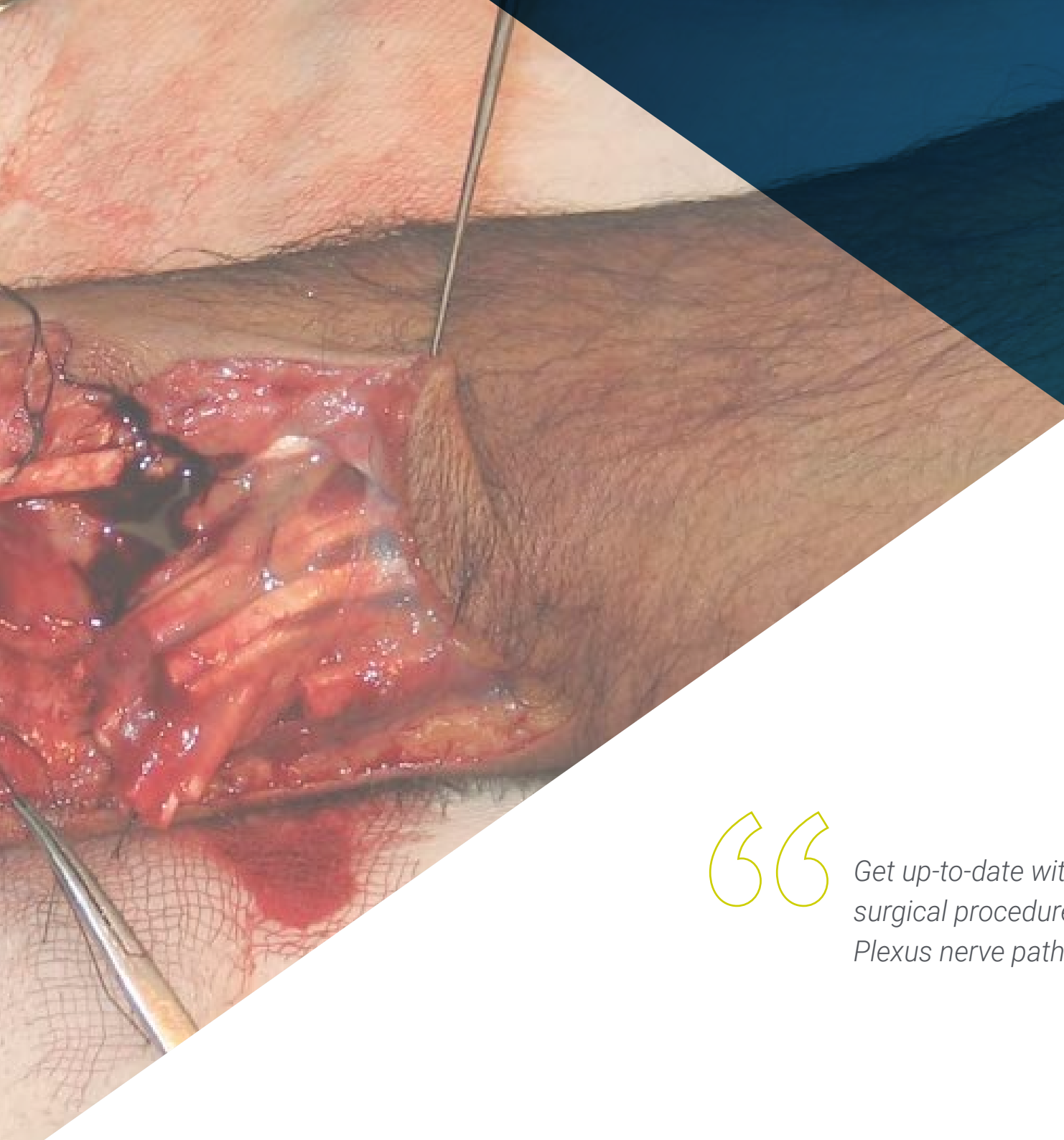
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# 01

# Introduction

Patients with peripheral nerve compression pathologies of the upper limb and, to a lesser extent, of the brachial plexus are frequently seen in trauma, plastic and neurosurgery surgeries. A diagnostic and therapeutic praxis that has been favored in recent years by technological advances, microscopic surgery or high intensity rehabilitation. Faced with this reality, this 100% online TECH proposal is born, where the graduate will obtain a complete update in Nerve Injuries of the Hand or in the therapeutic management of the Brachial Plexus. An innovative academic option that bets on rigorous, quality content and a flexible teaching methodology, according to the needs of professionals in the health sector.





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*Get up-to-date with TECH in the medical and surgical procedures of Hand and Brachial Plexus nerve pathology”*



In the last decades more precise diagnostic techniques have been developed to detect nerve lesions such as electromyography or magnetic resonance imaging. At the same time, the existing scientific literature has made it possible to verify the effectiveness of new pharmacological treatments or the impulse of cell therapy.

A scenario that leads specialists to incorporate in their daily practice the most notorious advances in evaluation, intervention and rehabilitation procedures in patients with this type of conditions. For this reason, this 6-week Postgraduate Certificate in Nerve Injuries of the Hand and Brachial Plexus has been created.

It is an intensive program of 150 teaching hours that allows the graduate to be aware of clinical examination methods, converting treatments for nerve decompression, nerve repair procedures or the Supercharge concept. In addition, thanks to the video summaries, detailed videos or clinical cases, it will allow you to delve into the therapeutic management of the Brachial Plexus.

This is an excellent opportunity to update your knowledge through a program that students can take whenever and wherever they want. You only need a cell phone, tablet or computer with internet connection to view, at any time of the day, its content. A first level academic option that is at the academic forefront.

This **Postgraduate Certificate in Hand and Brachial Plexus Nerve Injuries** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of practical cases presented by experts in Upper Limb Surgery, Orthopedic Surgery and Traumatology
- ♦ 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



*Delve into the embryology and anatomy of the brachial plexus through quality multimedia material"*

“

*Are you looking for a Postgraduate Certificate that gives you flexibility? Then this is the right program for you. Adapted to the real needs of professionals”*

The program includes in its teaching staff professionals from the sector who bring to this program the experience of their work, as well as recognized 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.

*Delve whenever and wherever you want in palliative tendon surgery in case of failure of other nerve rescue techniques.*

*You will be able to get up-to-date with the basic principles in the assessment of the indication and choice of empirical antibiotic treatment with this Postgraduate Certificate.*



# 02 Objectives

Upon completion of this university proposal, the graduate will have managed to enhance their skills and abilities for the intervention of patients with Nerve Injuries of the Hand and Brachial Plexus. For this purpose, the course is provided with high quality multimedia tools and case studies that allow to fix the concepts treated in a much more dynamic way. Moreover, thanks to the proximity of the teaching staff, students will be able to solve any doubts they may have about the content of this program.







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*Clinical cases will allow you to delve into the Supercharge technique to improve the recovery of Brachial Plexus and Peripheral Nerve Injuries”*

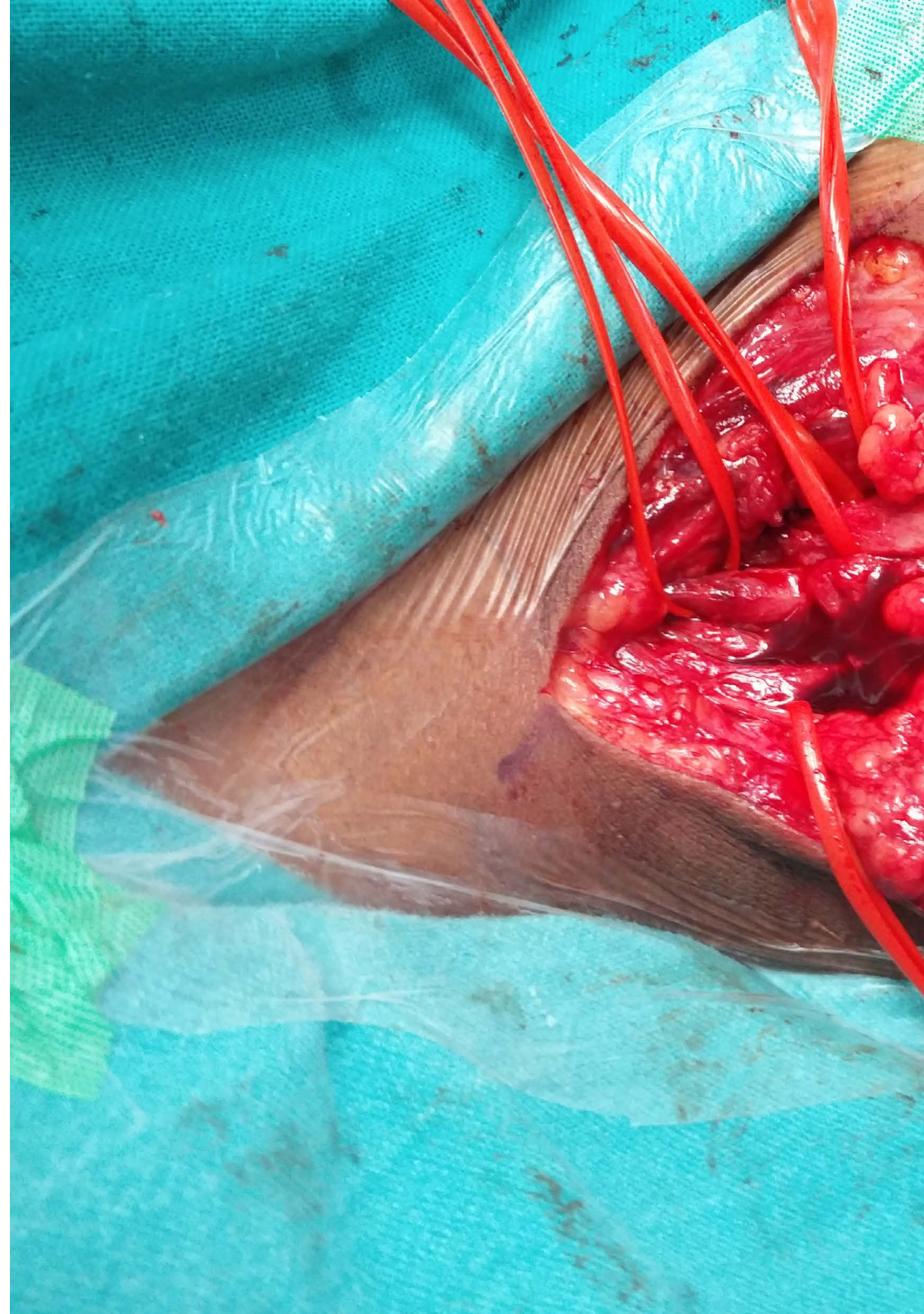




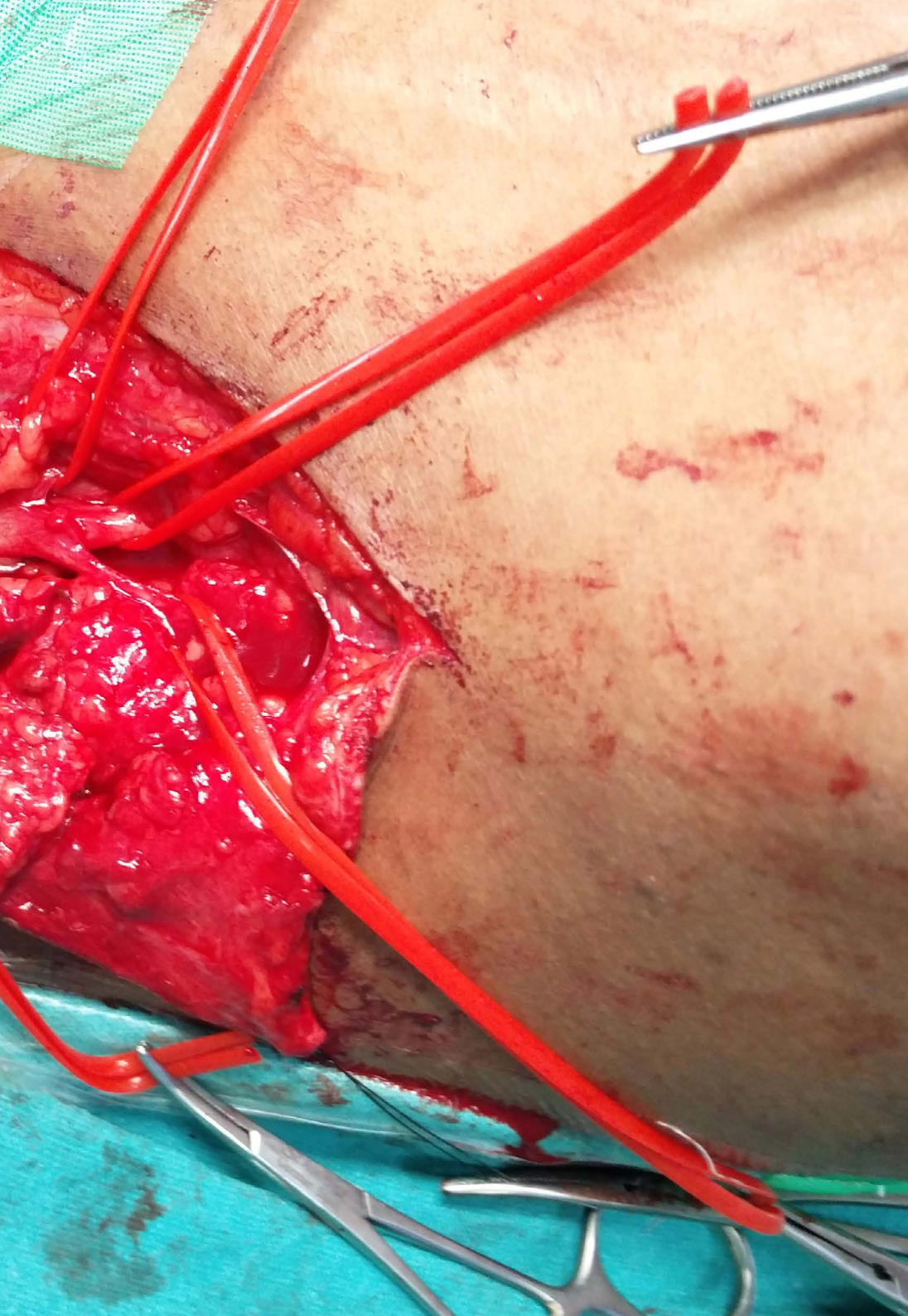
## General Objectives

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- ♦ Update knowledge in the different medical and basic specialties surrounding hand pathology.
- ♦ Determine the types of wound healing, sutures and skin grafts to specify the treatment of less complex wounds; escalating to the management of complex wounds
- ♦ Analyze the basic anatomy of the wrist and hand to provide a starting point from which to recognize injuries that may occur after trauma or injury of any kind
- ♦ Analyze different surgical approaches to the hand
- ♦ Compile current arthroscopic treatment methods
- ♦ Establish general criteria for the anatomy and pathophysiology of osteoarthritis in the various joints of the wrist and hand
- ♦ Analyze in detail the anatomy of the flexor and extensor tendons of the hand, as well as the detailed development of their vascularization and the biology of tendon healing
- ♦ Homogenize knowledge and skills in the pathology of the peripheral nerve of the upper limb and brachial plexus
- ♦ Update diagnostic and therapeutic knowledge based on the fundamental principles of nerve and brachial plexus injuries
- ♦ Guide the different therapeutic options (conservative and surgical) as well as the appropriate time to perform them
- ♦ Examine the different surgical techniques used in the treatment of the different pathologies of the pediatric upper limb
- ♦ Develop the latest technological advances in Hand Surgery







## Specific Objectives

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- ◆ Develop the embryology and anatomy of the brachial plexus and distal branching to the peripheral nerves of the upper limb
- ◆ Establish the etiology and pathophysiology of compressive syndromes of the ulnar, median and radial nerves
- ◆ Identify other compressive factors in wrist and hand or other pathologies, such as thoracic gorge
- ◆ Examine the principles, indications and surgical recommendations for nerve repair and nerve transfer techniques
- ◆ Demonstrate palliative tendon surgery as a valid option for the treatment of peripheral nerve palsy after failure of other nerve rescue techniques
- ◆ Fundamentals of basic principles of strategy and management of brachial plexus pathology
- ◆ Define central nervous system lesions, analyze signs and symptoms of spasticity and generate surgical strategies for tetraplegia

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*With this program you will be aware of the therapeutic strategies used in tetraplegic patients”*



03

# Course Management

This academic institution carries out meticulous selection processes for each and every one of the teachers that make up its programs. Therefore, students are guaranteed to have access to a quality syllabus that meets their needs for updating their knowledge. In this sense, in this program, the graduate has at their disposal a syllabus prepared by Hand surgeons with extensive experience in Nerve Injuries of the Hand and Brachial Plexus, both in teaching and research.





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*You have the best syllabus made by authentic experts in Hand Surgery with accumulated surgical experience”*



## Management



### Dr. Ríos García, Beatriz

- Medical Specialist in Orthopedic Surgery and Traumatology in the Hand and Microsurgery Unit at the Monographic Hospital of Orthopedic Surgery and Traumatology ASEPEYO
- Medical Specialist in Orthopedic Surgery and Traumatology (Dr. Rayo and Amaya Team) at the Hospital San Francisco de Asís
- Resident Tutor at the Hospital ASEPEYO
- Medical Specialist in Hand Surgery (Dr. de Haro Team) at the San Rafael Hospital
- Teacher of Knee, Shoulder, Osteosynthesis, Locomotor System and Ultrasound Pathology Courses
- Degree in Medicine and Surgery from the Complutense University of Madrid
- Member of: Spanish Society of Orthopedic Surgery and Traumatology, Spanish Society of Orthopedic Surgery and Traumatology, Spanish Society of Hand Surgery and Microsurgery



### Dr. Valdazo Rojo, María

- ♦ Traumatology and Orthopedic Surgery Service at the Hospital Universitario San Francisco de Asis
- ♦ Traumatology and Orthopedic Surgery Area Specialist at the Hospital Fundación Jiménez Díaz
- ♦ Specialist in Traumatology and Orthopedic Surgery at the Albacete University Hospital Complex
- ♦ Professor of Medicine at the Universidad Alfonso X el Sabio, Madrid
- ♦ Professor of Medicine at the Autonomous University of Madrid
- ♦ Professor of Medicine at the University of Albacete
- ♦ PhD in Medicine and Surgery from the Complutense University of Madrid
- ♦ Graduated from the Universidad Autónoma de Madrid

## Professors

### Dr. Maroto Rodríguez, Raquel

- ♦ Assistant Specialist in Upper Limb Unit at Hospital de Mataró, Consorci Sanitari del Maresme
- ♦ Specialist in Reconstructive Hand Surgery and Microsurgery at ASST Gaetano Pini-CTO
- ♦ Teaching collaborator in FESSH Academy / Foundation Course
- ♦ Teaching collaborator at Universidad Autónoma de Madrid
- ♦ Teaching collaborator at the Hospital Universitario de la Princesa
- ♦ Master in Emergency Medicine at Centro de estudios de preparación al MIR (CTO) in Madrid
- ♦ Master in Clinical and Medical Professionalism at the Universidad de Alcalá de Henares

### Dr. García Prieto, Alfonso Luis

- ♦ Specialist in the area of Orthopedic Surgery and Traumatology at the Regional Hospital San Juan de la Cruz de Úbeda
- ♦ Specialist in Orthopedic and Trauma Surgery
- ♦ Author and coordinator of the book "Traumatology for Emergency Doctors"
- ♦ Utility Model / Patent Inventor (55%) of the Utility Model "Osteotomy guide for surgery of the first metatarsal", approved by the Spanish Patent and Trademark Office
- ♦ Degree in Medicine from the University of Cadiz
- ♦ Postgraduate Diploma in Biostatistics applied to Health Sciences by the UNED
- ♦ Member of the teaching and research committee of the Hospital San Juan de la Cruz

**Dr. Noriego Muñoz, Diana**

- ♦ Specialist Physician at the Hospital Universitari de Girona Dr Josep Trueta
- ♦ Specialist Physician at Hospital Fundació Salut Empordà since March
- ♦ Specialist Physician at the Hospital Universitari de Girona Dr Josep Trueta
- ♦ Medical Associate Lecturer at the Faculty of Medicine of the University of Girona
- ♦ Professor in Basic Courses in principles of fracture management by AO Trauma
- ♦ Doctor in Orthopedic Surgery and Traumatology by the Universitat de Girona
- ♦ Degree in Medicine from the Autonomous University of Barcelona.
- ♦ UAB Postgraduate Certificate in "Cirurgia d'Espatlla i Colze"

**Dr. Rayo Navarro, María Jesús**

- ♦ Assistant Physician of Orthopedic Surgery and Traumatology at the Hospital Francisco de Asis
- ♦ Assistant Doctor of Orthopedic Surgery and Traumatology at Hospital Universitario Príncipe de Asturias
- ♦ Doctor in the University Hospital of Getafe
- ♦ Degree in Medicine and Surgery from the Autonomous University of Madrid

**Dr. Gimeno García-Andrade, María Dolores**

- ♦ Specialist in Traumatology and Orthopedic Surgery at the Hospital Clínico San Carlos de Madrid
- ♦ Medical Director of Procion-Hathayama Medical Center
- ♦ Traumatology and Orthopedic Surgery Consultation Meditrafic
- ♦ Traumatology and Orthopedic Surgery Consultation at Vaguada Medical Center
- ♦ Traumatology and Orthopedic Surgery Consultation at Proci3n-Hathayama Medical Center
- ♦ Teacher and internship to MIR and students of the Complutense University of Madrid
- ♦ Teacher at the Hospital Clínico San Carlos
- ♦ Collaborator with the NGO Vicente Ferrer Foundation in Anantapur (India) with the RDT Project for the treatment of disability
- ♦ Degree in Medicine and Surgery from the Complutense University of Madrid

**Dr. Rizea, Christian**

- ♦ Clinical neurophysiology
- ♦ Resident tutor at Hospital Universitario La Paz, Madrid
- ♦ Degree in Medicine from the Complutense University of Madrid
- ♦ Fellow at Cleveland Clinic



**Dr. Hernández Aguado, Juan José**

- ♦ Head of the Upper Limb and Peripheral Nerve Surgery Unit of the Virgen del Rocío University Hospital
- ♦ Coordinator of the CSUR of Brachial Plexus Surgery at the Virgen del Rocío University Hospital
- ♦ Teacher of the Department of Surgery of the University of Seville from 2018 to the present
- ♦ Teacher of Master of the International University of Andalusia
- ♦ Teacher of Master of the University of Seville
- ♦ Degree in Medicine from the University of Extremadura
- ♦ Specialist in Orthopedic Surgery and Traumatology at the Hospital Virgen del Rocío
- ♦ Doctor of Medicine, University of Seville
- ♦ Official Master's Degree in Biomedical Research from the University of Seville
- ♦ Official Master's Degree in Health Management by UNIDAM

**Dr. Diéguez Rey, Pablo**

- ♦ Specialist in Traumatology and Hand Surgery
- ♦ Graduated in Medicine from the University of Santiago de Compostela
- ♦ Teacher in the Ultrasound Course "Mánchate las manos"



# 04

## Structure and Content

The syllabus for this university program provides the specialist with a comprehensive update on the evaluation and treatment of Peripheral Nerve and Brachial Plexus Injuries. A complete syllabus of 150 teaching hours includes diagnostic, repair and nerve transfer techniques, and discusses therapeutic management strategies for patients with these conditions. All this, in addition, through the best didactic content in the university environment.





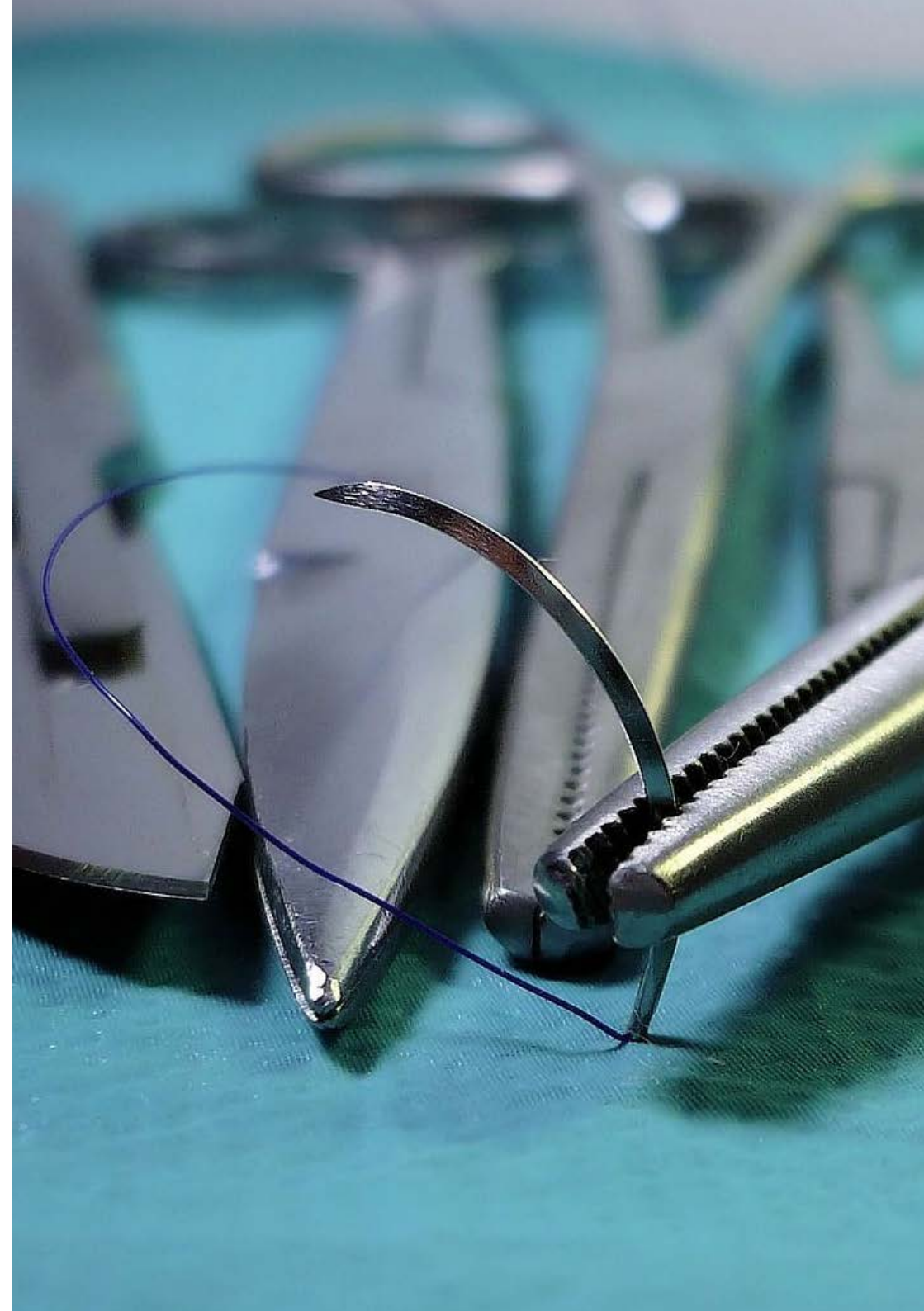


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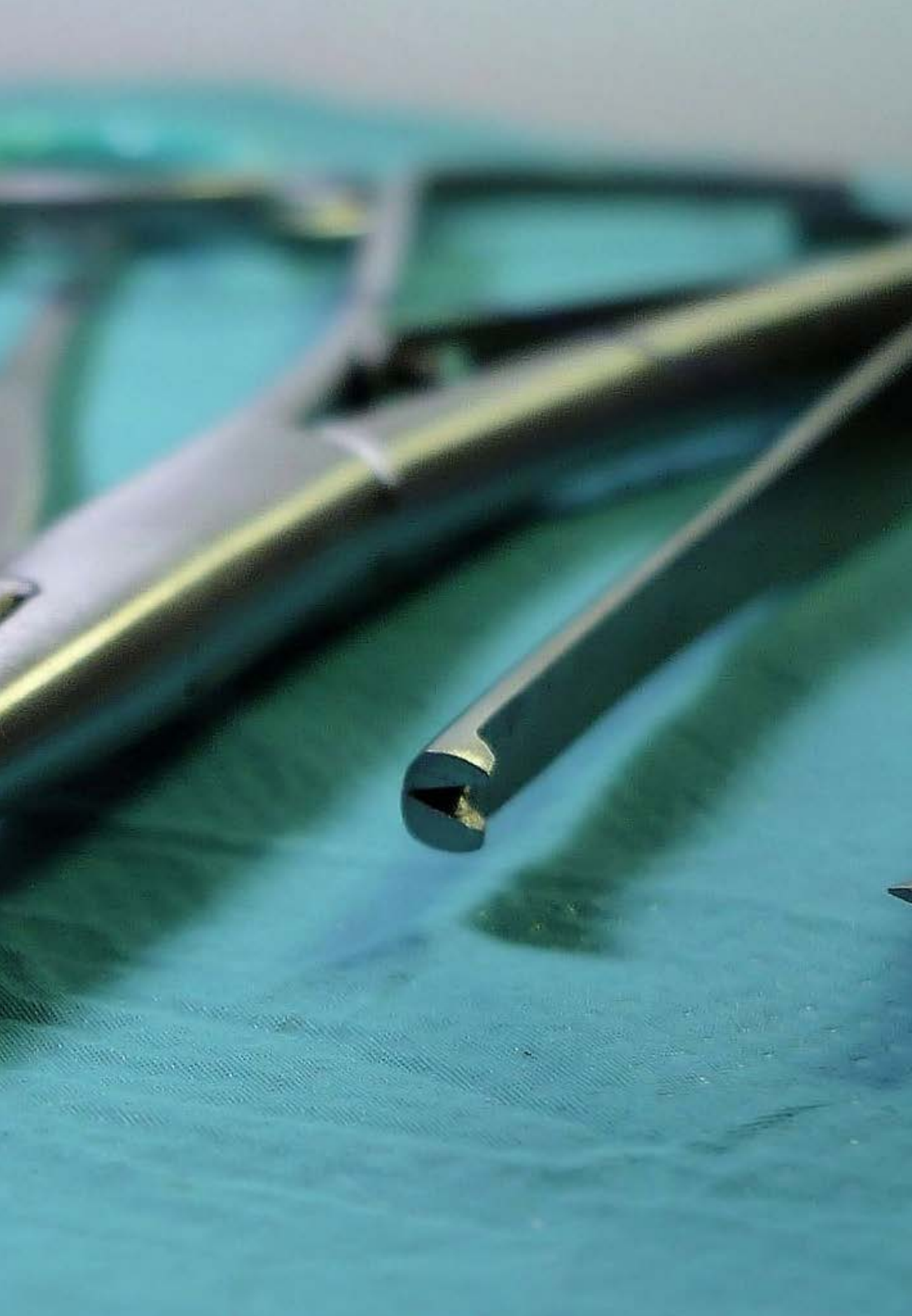
*Access 24 hours a day, 7 days a week to the extensive library of teaching resources of this academic option”*

## Module 1. Nerve and Brachial Plexus Injuries

- 1.1. Clinical Exam. Electrophysiological diagnosis of peripheral nerve and brachial plexus.
  - 1.1.1. Anamnesis and clinical nerve examination
  - 1.1.2. Electrophysiological techniques
  - 1.1.3. Interpretation of neurophysiological results
- 1.2. Compressive lesions of the ulnar nerve
  - 1.2.1. Distribution, exploration and definition of the areas of innervation of the ulnar nerve
  - 1.2.2. Compression areas of the ulnar nerve. Functional Alterations
  - 1.2.3. Conservative treatment and nerve decompression techniques
- 1.3. Compressive lesions of the median nerve
  - 1.3.1. Distribution, exploration and definition of the areas of innervation of the median nerve
  - 1.3.2. Compression areas of the median nerve. Functional Alterations
  - 1.3.3. Conservative treatment and nerve decompression techniques
- 1.4. Compressive lesions of the radial nerve. Other compressive injuries in wrist and hand. Thoracic gorge
  - 1.4.1. Distribution, exploration and definition of the areas of innervation of the radial nerve
  - 1.4.2. Areas of compression of the radial nerve. Functional Alterations
  - 1.4.3. Conservative treatment and nerve decompression techniques
  - 1.4.4. Other compressive lesions. Thoracic gorge syndrome
- 1.5. Peripheral nerve palsy and palliative tendon surgery
  - 1.5.1. Indications for tendon transfer. Sequence of the procedure
  - 1.5.2. Tendon transfers for ulnar nerve palsy
  - 1.5.3. Tendon transfers for median nerve palsy
  - 1.5.4. Tendon transfers for radial nerve palsy





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- 1.6. Nerve repair techniques
    - 1.6.1. Neuroanatomy. General principles of nerve repair
    - 1.6.2. Neurolysis and nerve transposition
    - 1.6.3. Terminoterminal neurorrhaphy: epineural, perineural or fascicular, epiperineural
    - 1.6.4. Nerve transfer (neurotization)
    - 1.6.5. Nerve grafts. Types of Grafts: Results
    - 1.6.6. Tubulization. Indications, techniques, results
  - 1.7. Principle of nerve repairs: timing, tension, debridement, technique, strategy
    - 1.7.1. Ideal timing for nerve repair. Nerve repair vs. Nerve replacement
    - 1.7.2. Nerve repair surgery. Characteristics and Techniques
    - 1.7.3. Nerve pathology surgery. Practical know-how
    - 1.7.4. Pre- and post-surgical strategy. Medium and long term prognosis
  - 1.8. Principle of nerve transfers. Nerve transfers of paralysis. Supercharge concept
    - 1.8.1. Neurophysiological and technical principles of nerve transfers
    - 1.8.2. Types of nerve transfers of paralysis
    - 1.8.3. Supercharge technique. Concept, technique, results
  - 1.9. Brachial plexus injuries. Strategy and management. Management of BPP
    - 1.9.1. Brachial plexus injuries. Congenital and traumatic
    - 1.9.2. Therapeutic strategy and management
    - 1.9.3. Management of BPP
  - 1.10. Spasticity and lesions of the central nervous system. Surgery of tetraplegia
    - 1.10.1. Central nervous system lesions and spasticity clinic
    - 1.10.2. Therapeutic strategy of the tetraplegic patient
    - 1.10.3. Results and prognosis in the medium and long term

# 05 Methodology

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

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



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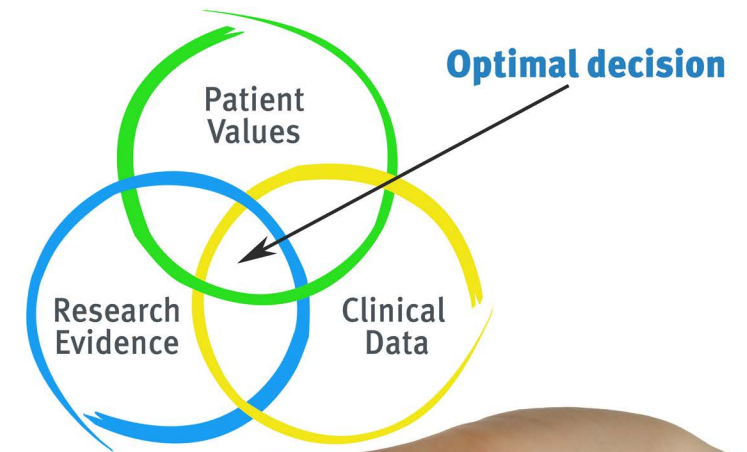
*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*



## At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.*



According to Dr. Gervas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

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*Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”*

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

*Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*





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

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

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

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.





This program offers the best educational material, prepared with professionals in mind:



#### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### Interactive Summaries

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

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



#### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



#### Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



06

# Certificate

The Postgraduate Certificate in Hand and Brachial Plexus Nerve Injuries 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 Hand and Brachial Plexus Nerve Injuries** contains the most complete and up-to-date scientific on the market.

After the student has passed the assessments, they will receive their corresponding issued **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 Hand and Brachial Plexus Nerve Injuries**

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.

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**  
Hand and Brachial Plexus  
Nerve Injuries

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



Postgraduate Certificate  
Hand and Brachial Plexus  
Nerve Injuries

