



## Postgraduate Certificate

Diagnostic Techniques in Scapular Girdle Pathology

» 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/diagnostic-techniques-shoulder-girdle-pathology

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## tech 06 | Introduction

In the field of scapular girdle pathology, diagnostic techniques play a fundamental role in the evaluation of injuries and conditions affecting this part of the body. However, these techniques can sometimes present challenges in the interpretation of the results. In addition to the anatomical complexity, the variety of lesions and conditions that can affect this area also contributes to the challenges in interpreting diagnostic findings.

Therefore, it is crucial for specialists to keep up to date with the latest diagnostic techniques and the latest advances in the field. Thus, this 6-week Postgraduate Certificate in Diagnostic Techniques in Scapular Girdle Pathology is born, which will lead the graduate to obtain a complete update of their skills in this field.

This is a program that will take you deeper into the use of radiography, Computed Axial Tomography and Nuclear Magnetic Resonance. You will also be able to update your knowledge in ArthroRMN in shoulder pathology, the procedures used for diagnosis by ultrasound and ultrasound-guided techniques and Nuclear Medicine.

All this, through a wide range of didactic and multimedia resources such as clinical case studies or detailed videos. In addition, thanks to the Relearning method, students will be able to remember key concepts in less time and spend fewer hours memorizing. Undoubtedly, a unique academic proposal that only TECH, the largest digital university in the world, offers.

This Postgraduate Certificate in Diagnostic Techniques in Scapular Girdle Pathology 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 expert orthopedic surgeons
- 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





With TECH you will learn more about computed axial tomography and arthroCT to identify the main pathologies of the shoulder"

The program's teaching staff includes professionals from sector who contribute their work experience to this educational 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, the student will be assisted by an innovative interactive video system created by renowned experts.

In just 6 weeks you will learn about magnetic resonance imaging (MRI) and its application in the study of traumatic and non-traumatic injuries.

You will delve into ArthroMRI and how this advanced technique will aid in the diagnosis of rotator cuff instability and tears.



# 02 Objectives

The main objective of this Postgraduate Certificate is to provide the medical professional with a complete update on the most accurate and state-of-the-art diagnostic techniques used for the detection of scapular girdle pathologies. A goal that will be much easier to achieve thanks to the 100% online methodology offered by this academic proposal, which makes it possible to reconcile daily activities with a quality program.



## tech 10 | Objectives



## **General Objectives**

- Analyze the macroscopic anatomy of the shoulder
- Determine the different approaches to open surgery
- Introducing the arthroscopic portals of shoulder surgery
- Delve into new technologies in anatomy and shoulder surgery
- Examine the usefulness of different radiological techniques in the diagnosis of certain shoulder pathologies
- Define ultrasound scans as a treatment technique in some shoulder pathologies
- Expose the usefulness of nuclear medicine in shoulder pathology
- Compile the different objective, subjective and quality of life scales
- Show embryology of the shoulder
- Grouping of shoulder pathologies affecting children: dysplasias, fractures and other acquired pathologies
- Development of rheumatologic, tumor and infectious diseases
- Deepening the role of anesthesia in the shoulder





## Objectives | 11 tech



## **Specific Objectives**

- Define the usefulness of plain radiography within the different diagnostic techniques
- Deepen on the validity of CT and arthroTAC
- Identify the pathologies that can be diagnosed through the use of MRI and ArthroMRI
- Analyze ultrasound from a diagnostic and therapeutic point of view
- Specify the indications for the use of Nuclear Medicine techniques
- Examine objective and subjective scales in Shoulder



You will delve into Nuclear Medicine, gammagraphic imaging and PET-CT for the detection of shoulder pathologies"





## tech 14 | Course Management

#### Management



#### Dr. Ana Belén Fernández Cortina

- Traumatologist at Cosaga Hospita
- Traumatologist (Shoulder Visiting Fellow) at the Massachusetts General Hospital
- Traumatologist at the Ourense University Hospital Complex
- Traumatologist at Gambo General Rural Hospita
- · Journal Clinical Epidemiology Reviewer Affiliation: Clinical epidemiology
- · Scientific Journal Medical Science Melvile USA Reviewer
- Dr. in Medicine and Surgery from the Complutense University of Madrid
- Specialist in Orthopedic and Trauma Surgery
- Degree in Medicine and Surgery from the University of Santiago de Compostela
- Member of: Spanish Association of Orthopedic Surgery and Traumatology (SECOT), Spanish Society of Shoulder and Elbow Surgery (SECHC), Spanish Association of Arthroscopy (AEA), Spanish Society of Sports Traumatology (SETRADE)



#### Dr. Vanesa López Fernández

- · Attending Physician of Orthopedic Surgery and Traumatology, Arthroscopy Unit at the Hospital Rey Juan Carlos
- · Attending Physician of Orthopedic Surgery and Traumatology at the Fundación Jiménez Díaz Hospital
- · Clinical and research fellowship in shoulder, hand and upper limb surgery at the Clinique Generale d'Annecy
- Clinical and research fellowship in shoulder and elbow surgery under the supervision of Dr. Emilio Calvo and Dr. Foruria at the Jiménez Díaz Foundation
- Professor and member of the scientific committee of the CURSOCOT for the training of residents and attendings (recertification courses) in Orthopedic Surgery and Traumatology
- · Honorary Professor of Orthopedic Surgery and Traumatology Universidad Rey Juan Carlos
- Dr. in Medicine from the University of Santiago de Compostela with a doctoral thesis entitled "Effect of intra-articular hyaluronic acid in experimental synovitis"
- · Degree in Medicine from the Santiago de Compostela University
- ${}^{\textstyle \star}$  Master's Degree in Orthopedic Surgery and Traumatology from San Pablo CEU University
- · Postgraduate Certificate in Orthopedic Surgery and Traumatology of the Upper Limb by San Pablo CEU University
- Postgraduate Certificate in Orthopedic Surgery and Traumatology of the Pelvis, Hip and Pediatric Traumatology by San Pablo CEU University
- · Postgraduate Certificate in Orthopedic Surgery and Traumatology of the Knee, Ankle and Foot by San Pablo CEU University
- · Postgraduate Certificate in Orthopedic Surgery and Spine Traumatology, Tumors and Infections by San Pablo CEU University

## tech 16 | Course Management

#### **Professors**

#### Dr. Cristina Casado Pérez

- Nuclear medicine specialist at the Rey Juan Carlos Hospital in Móstoles
- Radiodiagnostic specialist in the musculoskeletal radiology section of the 12 de Octubre University Hospital
- Member of the head and neck and endocrinology committee at Hospital Rey Juan Carlos de Móstoles
- Degree in Medicine from the Faculty of Medicine of the University of Oviedo

#### Dr. Gonzalo Moreno Zamarro

- Assistant Radiodiagnostic Physician at Jiménez Díaz Foundation University Hospital
- Teaching collaborator at Madrid Autonomous University
- Training to operate X-Ray facilities for medical diagnostic purposes
- Degree in Medicine and Surgery from San Pablo CEU University
- Master's Degree in Clinical Reasoning and Practice by the CTO Academy and University of Alcala

#### Dr. Ulrike María Novo Rivas

- Assistant Radiodiagnostic Physician at the Jiménez Díaz Foundation University Hospital
- Assistant Physician of Radiodiagnosis at the Gregorio Marañón University Hospital
- Assistant Radiodiagnostic Physician at the Jiménez Díaz Foundation University Hospital
- Medical Specialist in Occupational Medicine in a national prevention society
- Clinical teaching collaborator of Medicine at the Madrid Autonomous University
- Clinical teaching collaborator of Medicine at the Complutense University of Madrid
- Degree in Medicine from the Santiago de Compostela University
- Master's Degree in Occupational Risk Prevention
- Postgraduate Diploma in Musculoskeletal Ultrasound by the Francisco de Vitoria University

#### Dr. Andrés Abellán Albert

- Radiodiagnostic Specialist in the musculoskeletal radiology section at the Jiménez Díaz Foundation University Hospital
- Radiodiagnostic Specialist in the musculoskeletal radiology section at the Jiménez Díaz Foundation University Hospital
- External rotation physician in Musculoskeletal Radiology at theRey Juan Carlos University Hospital, Madrid
- External rotation physician in Musculoskeletal Radiology at the Jiménez Díaz Foundation University Hospital
- External rotation physician in Musculoskeletal Radiology at Hospital Asepeyo Coslada
- Degree in Medicine and Surgery from the Francisco de Vitoria University
- Master's Degree in Clinical Reasoning and Clinical Practice, Alcalá University

#### Dr. Cristina Victoria Asenjo Gismero

- Shoulder and Elbow Specialist in the +Qtrauma Team at Beata María Ana Hospital
- Traumatology Assistant, Upper Extremity Unit, Majadahonda Hospital
- FEA at the Ramón y Cajal Hospital
- Lecturer in Use of corticosteroids in acute postoperative pain by SECOT
- Lecturer in Surgical application of the Glenoid Track. AEA
- Program of Management, Research and Innovation in Health by Instituto de Empresa Business School
- Doctorate in Medicine, University of Alcala
- Degree in Medicine from the University of Alcalá, Spain
- Shoulder and Elbow Fellow at the Ramón y Cajal Hospital



## Course Management | 17 tech

#### Dr. Cristina González Roiz

- Nuclear Medicine Specialist at the Rey Juan Carlos Hospital in Móstoles, Spain
- Associate Chief of Nuclear Medicine at the Rey Juan Carlos Hospital
- Physician at the San Carlos Clinical Hospital
- Responsible for training at the School of Diagnostic Imaging Technicians
- Lecturer in the Department of Nuclear Medicine at the Rey Juan Carlos Hospital
- Degree in Medicine from the University of Oviedo

#### Dr. Ignacio de Rus Aznar

- Specialist Physician at the Hospital Olympia Quirón Salud
- Specialist Physician at the Beata María Ana Hospital
- Specialist Physician at HM Sanchinarro Hospital
- Fellowship in Shoulder and Elbow Surgery at the Hospital Ramón y Cajal
- Doctor of Medicine from the Alcalá de Henares University
- Master's Degree in Medicine, Complutense University of Madrid
- Degree in Medicine from the Complutense University of Madrid
- Member of: Spanish Society of Orthopedic Surgery and Traumatology SECOT, Spanish Association of Arthroscopy AEA, Spanish Society of Sports Traumatology SETRADE, European Society of Shoulder and Elbow Surgery SECHC

#### Dr. Yolanda Bracamonte López

- Internist in Clinical Neurophysiology at the Rey Juan Carlos University Hospital, Madrid
- Doctor of the Rural and Urban Marginal Urban Health Service at the Primary Care Health Center of the National Health Police of Ventanilla
- Degree in Medicine from the Cayetano Heredia Peruvian University
- Member of: Spanish Society of Clinical Neurophysiology, Spanish Sleep Society,
   Multidisciplinary Sleep Committee of the Rey Juan Carlos University Hospital, Rey Juan
   Carlos University Hospital Facial Paralysis Committee

## tech 18 | Course Management

#### Dr. Ziba Ghazizadeh Monfared Croigny

- Specialist in Clinical Neurophysiology at the Rey Juan Carlos University Hospital, Madrid
- Specialist in Clinical Neurophysiology at the General Hospital of Villalba
- Specialist in Clinical Neurophysiology at the Jiménez Díaz Foundation University Hospital
- Specialist in Clinical Neurophysiology at the Virgen Macarena University Hospital
- Specialist in Clinical Neurophysiology at the Mérida Hospital
- Specialist in Clinical Neurophysiology at the Virgen del Rocío University Hospital
- Honorary Tutor at the Universidad Rey Juan Carlos
- MIR teaching collaborator Honorary tutor at Rey Juan Carlos University
- Master's Degree in Physiology and Sleep Medicine from the University of Murcia
- Degree in Medicine from the University of Zaragoza
- Member of: Spanish Society of Clinical Neurophysiology, Multidisciplinary Unit of Facial Paralysis HRJC, Multidisciplinary Committee of Neuromuscular Diseases HRJC

#### Dr. Luisa Fernanda León Ramírez

- Nuclear Medicine specialist at the Rey Juan Carlos Hospital in Móstoles
- Head of Radioguided Surgery at the Rey Juan Carlos Hospital in Móstoles
- Nuclear Medicine Specialist at the San Carlos Clinical Hospital
- Extremadura Health Service Continuous Care Plan in Don Benito
- Pediatric Emergency Physician at the Cardio Infantil Foundation
- General Practitioner at the University Hospital Clínica San Rafael
- Professor and coordinator of the Nuclear Medicine course at the School of Diagnostic Imaging Technicians
- Collaborating physician in the Department of Nuclear Medicine of the Rey Juan Carlos Hospital
- Degree in Medicine from Universidad Colegio Mayor Nuestra Señora del Rosario Bogotá



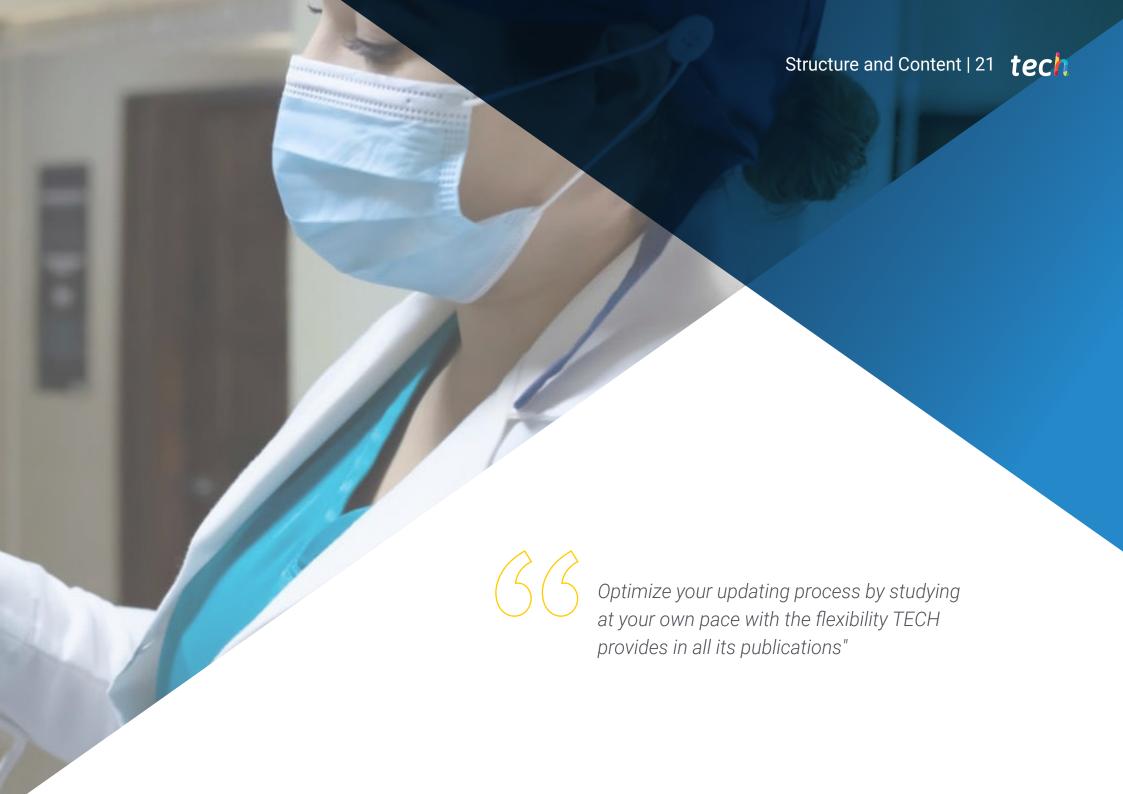


## Course Management | 19 tech

#### Dr. Víctor Naula

- Director of the Integral Miniinvasive & Arthroscopic Center
- Director of the Comprehensive Shoulder Arthroscopic Improvement Center
- Chief of the Traumatology and Orthopedics Service of the Clínica María Auxiliadora
- Associate Physician at San Jacinto Orthopedic and Traumatology Department
- Doctor of Medicine and Surgery
- Specialist in Traumatology and Orthopedics
- Shoulder and Knee Arthroscopic and Open Shoulder and Knee Surgeon
- Bachelor of Medicine, State University of Medical Sciences
- Fellowship Hospital San Gerardo of Monza
- Fellowship Shoulder Surgery Center Forlì
- Fellowship Arthroscopic and Open Shoulder Surgery
- Member of: Italian Arthroscopy Society, Ecuadorian Arthroscopy Group, Latin American Society of Arthroscopy, Knee and Sports, Guayas Medical and Surgical Society, American Academy of Orthopaedic Surgeons, Ecuadorian Society of Orthopedics and Traumatology

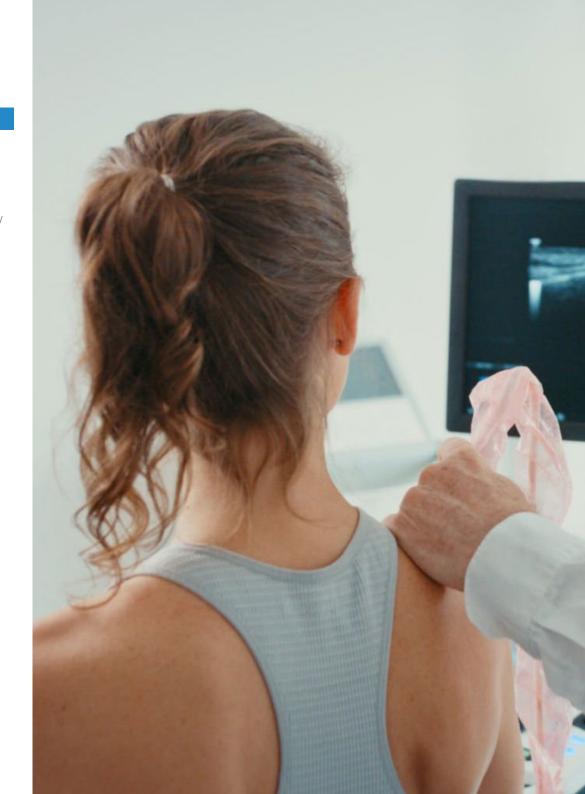


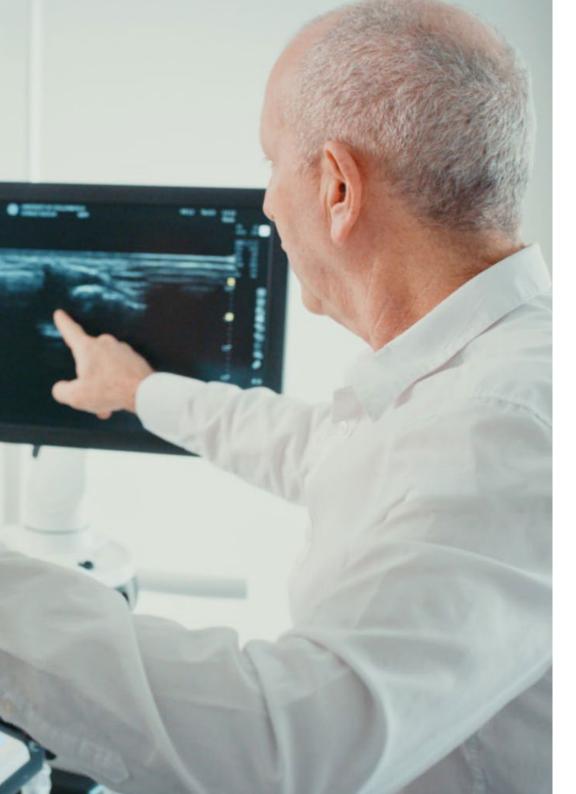


## tech 22 | Structure and Content

#### Module 1. Radiology, other diagnostic techniques and scales

- 1.1. Radiography in the Diagnosis of Shoulder Pathology
  - 1.1.1. Radiography as an initial study in shoulder pathology
  - 1.1.2. Indication of radiography in pathology of the shoulder
  - 1.1.3. Radiographic projections of the shoulder
- 1.2. Computed Axial Tomography (CT) and ArthroTAC in the Diagnosis of Shoulder Pathology
  - 1.2.1. CT and arthroCT
  - 1.2.2. CT in Shoulder Pathology
  - 1.2.3. ArthroTAC in the pathology of the shoulder
- 1.3. Magnetic Resonance Imaging (MRI) in Shoulder Pathology
  - 1.3.1. Magnetic Resonance Imaging (MRI) for the study of the shoulder
  - 1.3.2. MRI in traumatic shoulder pathology
  - 1.3.3. MRI in non-traumatic shoulder pathology
- 1.4. ArthroMRI in Shoulder Pathology
  - 1.4.1. ArthroMRI in Shoulder Pathology
  - 1.4.2. ArthroRMN in Shoulder Instability
  - 1.4.3. ArthroRMN in rotator cuff tears
- 1.5. Diagnosis by ultrasound. Eco-guided Techniques
  - 1.5.1. Ultrasound. Principles of Ultrasound Study of the Shoulder
  - 1.5.2. Ultrasound in the pathology of the shoulder
  - 1.5.3. Ultrasound-guided techniques in shoulder pathology
- 1.6. Nuclear Medicine in Shoulder Pathology
  - 1.6.1. Important Aspects
    - 1.6.1.1. Planar Gammagraphic and SPTECT CT images
    - 1.6.1.2. PET-CT
  - 1.6.2. Conventional Nuclear Medicine in Infectious Pathology
    - 1.6.2.1. Bone scan
    - 1.6.2.2. Labeled leukocyte scintigraphy and bone marrow scintigraphy
  - 1.6.3. Clinical PET-CT Applications





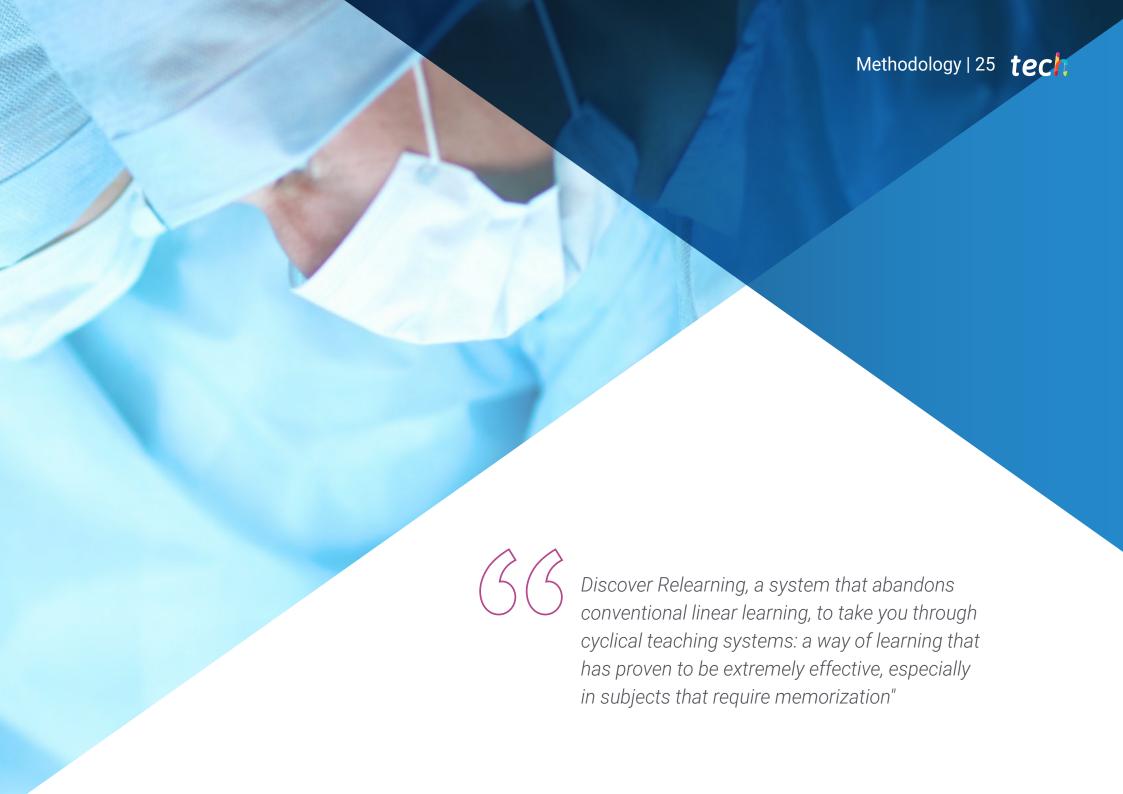
## Structure and Content | 23 tech

- 1.7. Neurophysiology
  - 1.7.1. Neurophysiology
  - 1.7.2. Neurophysiology in the Locomotor System
  - 1.7.3. Neurophysiological diagnosis of the most frequent injuries of the shoulder girdle
- 1.8. Objective Scales in Shoulder Pathology
  - 1.8.1. Objective scale
  - 1.8.2. Objective scales in Shoulder Pathology
  - 1.8.3. Applications of objective scales in shoulder pathology
- 1.9. Subjective Scales in Shoulder Pathology
  - 1.9.1. Subjective scale
  - 1.9.2. Objective scales in Shoulder Pathology
  - 1.9.3. Applications of subjective scales in shoulder pathology
- 1.10. Quality of life scales. Applications in Shoulder Pathology
  - 1.10.1. Quality of life scale
  - 1.10.2. Quality of life scales in shoulder pathology
  - 1.10.3. Applications of quality of life scales in shoulder pathology



You will integrate in your clinical practice the objective scales in the diagnosis and follow-up of shoulder pathology"





## tech 26 | Methodology

#### At TECH we use the Case Method

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

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



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



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

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

- 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.



## Methodology | 29 tech

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.









## tech 34 | Certificate

This **Postgraduate Certificate in Diagnostic Techniques in Scapular Girdle Pathology** 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 Diagnostic Techniques in Scapular Girdle Pathology Official N° of hours: 150 h.



<sup>\*</sup>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.

health confidence people information tutors education information teaching guarantee accreditation teaching institutions technology learning



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