



### Postgraduate Diploma

Hip and Thigh Musculoskeletal Ultrasound for the Rehabilitation Doctor

» Modality: online

» Duration: 6 months

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/pk/medicine/postgraduate-diploma/postgraduate-diploma-hip-thigh-musculoskeletal-ultrasound-rehabilitation-doctor

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Certificate

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### tech 06 | Introduction

The use of ultrasound by rehabilitation Doctors allows greater efficiency in many treatments, as well as to assess the evolution of the patient with objective data and increase the safety of invasive treatments in rehabilitation medicine.

This Postgraduate Diploma is an excellent option for training in ultrasound, due to the quality of the material provided and the quality of the teaching team, made up of professors who are highly prestigious professionals with years of experience in both ultrasound and teaching. In addition, some of them have several high impact scientific publications, and are creators and members of the Board of Directors of the Spanish Society of Ultrasound in Physiotherapy (SEEFI).

The program is designed to provide a specialization equivalent to 16 ECTS credits and 400 hours of study. All theoretical and practical knowledge is presented through high quality multimedia content, analysis of clinical cases developed by expert class and video techniques that allow the exchange of knowledge and experience, maintain and update the training level of its members, create protocols for action and disseminate the most important developments in the specialty. With online training, students can organize their time and pace of learning, adapting it to their schedules, in addition to being able to access the contents from any computer or mobile device.

This Postgraduate Diploma in Musculoskeletal Ultrasound of the Hip and Thigh for the Rehabilitation Doctor contains a complete and up to date scientific program. The most important features include:

- The development of case studies presented by Postgraduate s in Hip and Thigh Musculoskeletal Ultrasound for the Rehabilitation Doctor.
- The graphic, schematic, and eminently practical contents of which they are composed provide scientific and practical information on the disciplines that are essential for professional practice.
- News on the role of the rehabilitation Doctor.
- Practical exercises where the self-assessment process can be carried out to improve learning.
- Algorithm-based interactive learning system for decision-making in the situations that are presented to the student.
- Special emphasis on evidence-based rehabilitative medicine and research methodologies in Musculoskeletal Ultrasound of the Hip and Thigh.
- Theoretical lessons, questions to the expert, discussion forums on controversial issues and individual reflection papers.
- Content that is accessible from any fixed or portable device with an Internet connection.



Upgrade your knowledge through the Postgraduate Diploma program in Hip and Thigh Musculoskeletal Ultrasound for the Rehabilitation Doctor".

### Introduction | 07 tech



In this Postgraduate Diploma you will find the best didactic material, with real clinical cases. As it is 100% online, you can do it from anywhere with a mobile device with an internet connection."

Increase your decision-making confidence by updating your knowledge with this Postgraduate Diploma.

Its teaching staff includes professionals belonging to the field of Musculoskeletal Ultrasound of the hip and thigh for the rehabilitation physician, who bring the experience of their work to this specialization, in addition to recognized specialists belonging to leading scientific societies.

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 program designed to train in real situations.

The design of this program is based on Problem-Based Learning, by means of which the rehabilitation doctor must try to solve the different professional practice situations that arise throughout the course. For this purpose, the rehabilitation physician will be assisted by an innovative interactive video system developed by renowned experts in the field of Musculoskeletal Ultrasound in Rehabilitation Medicine with extensive teaching experience.

Take the opportunity to learn about the latest advances in Hip and Thigh Musculoskeletal Ultrasound for the Rehabilitation Doctor, and develop yourself in this exciting field.



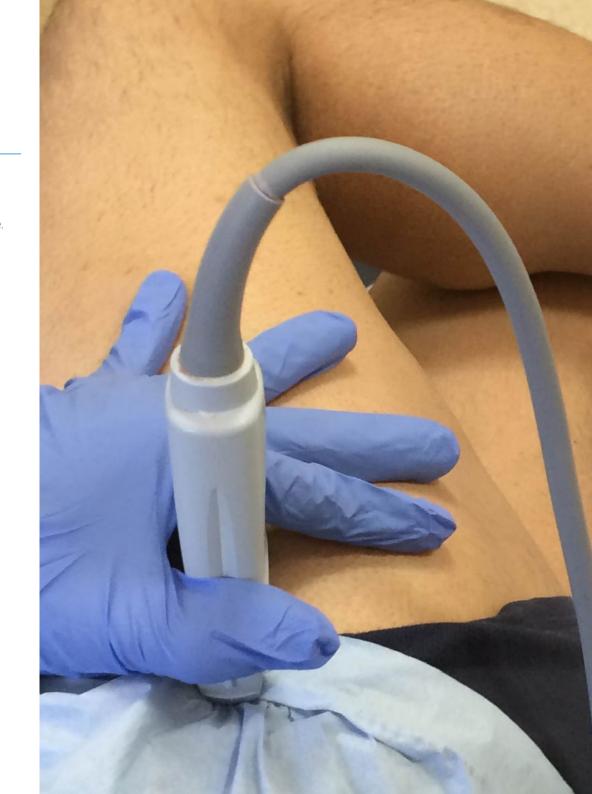


## tech 10 | Objectives



### **General Objectives**

- Learn to locate the different anatomical structures of the region.
- Identify pathologies for a correct treatment of ultrasound-guided rehabilitative medicine.
- Define the limits of ultrasound.
- Learn the use of the ultrasound scanner in the context of the rehabilitation physician's competencies.



### Objectives | 11 tech



#### **Specific Objectives**

- Learn about ultrasound and an ultrasound scanner, its history and application to physical therapy.
- Identify the ultrasound patterns of the different structures of the Locomotor System.
- Study the various devices available in ultrasound and learn how to use them beneficially.
- Explain the use of ultrasound by the physical therapist and its legal considerations.
- Describe the piezoelectric effect and the physical basis of ultrasound.
- Explain the different components of the equipment.
- Explain the production of the ultrasound image.
- Describe the terminology used in ultrasound.
- Define the types of images obtained by ultrasound and the different tissue patterns.
- Identify the main structures of the shoulder visible on ultrasound.
- Describe the normal examination of the structures of the anterior face.
- Describe the normal examination of the lateral facet structures.
- Describe the normal examination of the structures of the posterior face.
- Recognize the most common lesions, for a correct ultrasound-guided treatment and/or follow-up of their evolution.
- Describe less common pathologies that may affect the shoulder joint.
- $\bullet\,$  Learn how to perform dynamic ultrasound-guided assessment tests.
- Learn the ecoanatomy of the different structures of the hip.
- Describe the normal examination of the structures of the anterior face.
- Describe the normal examination of the lateral facet structures.
- Describe the normal examination of the structures of the posterior face.

- Describe the normal examination of the medial facet structures.
- Identify the most common lesions, for a correct ultrasound-guided treatment and/or follow-up of their evolution.
- Learn how to perform dynamic ultrasound-guided assessment tests.
- Describe less common pathologies that may affect the hip.
- Learn the ecoanatomy of the different structures of the thigh.
- Describe the normal examination of the structures of the anterior face.
- Describe the normal examination of the lateral facet structures.
- Describe the normal examination of the structures of the posterior face.
- Describe the normal examination of the medial facet structures.
- Identify the most common lesions, for a correct ultrasound-guided treatment and/or follow-up of their evolution.
- Learn how to perform dynamic ultrasound-guided assessment tests.
- Describe less common pathologies that can affect the thigh.
- Identify the most common thigh muscles and muscle injuries.





### tech 14 | Course Management

#### **Guest Director**



### Dr. Castillo, Juan Ignacio

- Head of Physical Medicine and Rehabilitation Service. 12 de Octubre Hospital. Madric
- Associate Professor Complutense University of Madrid. Faculty of Medicine. 2016
- Collaborating Professor at Complutense University of Madrid. 2011-2016
- Teaching coordinator in continuing education courses of the Health Department of the Community of Madrid: "Tertiary Prevention in Chronic Cardiopathic Patients. Cardiac Rehabilitation".
- Master's Degree in Cardiac Rehabilitation. SEC-UNED
- Master's Degree in Disability Assessment. Autonomous University of Madrid.
- Master's Degree in Children's Disability. Complutense University of Madrid.
- Doctorate Course: Neurosciences. University of Salamanca.
- Degree in Medicine and Surgery. University of Salamanca.
- Coordinator of continuing education of the Spanish Society of Cardiology in Exercise Testing with Oxygen Consumption.

#### **Co-Direction**



### Dr. Santiago Nuño, Fernando

- Physiotherapist Osteopath, Podiatrist and Co-director of Clínica Nupofis
- Diploma in Physiotherapy from San Pablo CEU University.
- Diploma in Podiatry from San Pablo CEU University.
- Postgraduate or in CO Osteopathy by the School of Osteopathy of Madrid University of Alcalá
- Currently lecturer in Ultrasound courses for podiatrists and rehabilitation doctors and in the Master of Advanced Ultrasound Sonoanatomy for rehabilitation doctors at the European University of Madrid.
- Postgraduate in Advanced Musculoskeletal Ultrasound Donostia-San Sebastián
- Specialist in Biomechanical Gait Exploration
- Master's Degree in Manual Therapy from the Complutense University of Madrid.
- Master in On-line Research in Podiatry by Rey Juan Carlos University.
- Postgraduate in Echoguided Infiltrations by Avanfi
- International Course on Musculoskeletal Ultrasound by the Spanish Society of Ultrasound.
- International Podiatric Surgical Specialist Course by the New York College of Podiatric Medicine
- Postgraduate course in Medical and Surgical Podiatry of the foot by the Complutense University of Madrid.

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#### **Professors**

#### Dr. Rivillas Gómez, Alberto

- Resident intern in Physical Medicine and Rehabilitation at University Hospital 12 de Octubre.
- Graduate in Medicine from Rovira i Virgil University.
- Director of doctoral theses at the Rovira i Virgil University, Faculty of Medicine.
- Course Management of spinal cord injury, multidisciplinary approach in the National Hospital of Paraplegics in Toldedo.
- Online continuing education course on Analgesics Management at Grunenthal
- Course "Center of Excellence in Peripheral Neuropathic Pain" at the University Hospital of La Princesa, Madrid.
- Course "Initiation to Cardiac Rehabilitation" in Hospital Doce de Octubre, Madrid.

#### Dr. Juano Bielsa, Álvaro

- Resident intern in Physical Medicine and Rehabilitation at University Hospital 12 de Octubre.
- Degree in Medicine from the University of Zaragoza
- · Master's Degree in Clinical Medicine at Camilo José Cela University
- Introductory Course on Pain Treatment at the Madrid Pain Society, Rey Juan Carlos University.
- Introductory course on Musculoskeletal Ultrasound at the Official College of Physicians of Madrid.
- Postgraduate Course in Musculoskeletal Ultrasound. Panamericana/UFV
- Spinal Cord Injury Course. Multidisciplinary approach. (National Hospital of Paraplegics)

#### Dr. Uzquiano Guadalupe, Juan Carlos

- Resident intern of Physical Medicine and Rehabilitation at the University Hospital 12 de Octubre, Madrid.
- Collaborating physician in practical teaching at the Department of Radiology, Rehabilitation and Physiotherapy of the Faculty of Medicine of the Complutense University of Madrid 20218-2029
- Master's Degree in Musculoskeletal Ultrasound and Interventional Ultrasound by San Pablo CEU Foundation.
- Postgraduate Course in Children's Rehabilitation by Francisco de Vitori University.
- Extracorporeal Shock Waves Course by European College of Physical Medicine and Rehabilitation
- Master's Degree in Clinical Reasoning and Practice from the University of Alcalá, Spain
- Medical Degree from the University of Alcalá in Madrid, Spain.
- Specialist in Physical Medicine and Rehabilitation at the 12 de Octubre University Hospital in Madrid, Spain.

#### Dr. Carmona Bonet, María A.

- Associate Professor in Health Sciences. Complutense University of Madrid. Faculty of Medicine. Department of Radiology, Rehabilitation and Physiotherapy
- Specialist Physician in Physical Medicine and Rehabilitation University Hospital 12 de octubre, Madrid
- Collaborating doctor of practical teaching, Department of Physical Medicine and Rehabilitation and Medical Hydrology at the University Hospital 12 de Octubre, in the subject "Physical Medicine and Rehabilitation" of the 3rd year of Medicine at the Complutense University of Madrid 2008-2019.
- Doctor from the Complutense University of Madrid, School of Medicine, Department of Physical Medicine and Rehabilitation.
- Master's Degree in Childhood Disability. Complutense University of Madrid
- Degree in Medicine and Surgery from the Complutense University of Madrid
- Member of the Spanish Society of Rehabilitation and Physical Medicine.

#### Dr. López Sáez, Mireya

- Specialist in Physical Medicine and Rehabilitation at the University Hospital 12 de Octubre, Madrid.
- Post-Covid assessment unit, through the evaluation of possible sequelae after COVID-19 infection in the rehabilitation office.
- Collaborating physician in practical teaching at the Department of Physical Medicine and Rehabilitation, Medical Hydrology of the Faculty of Medicine at the Complutense University of Madrid. 2015-2019
- Degree in Medicine from Rey Juan Carlos University, Madrid, Spain.
- Basic and Advanced Cardio-Pulmonary Resuscitation Course. Doce de Octubre University Hospital, Madrid
- Member of ICOMEN: Illustrious Official College of Physicians of the Community of Madrid
- Full Member of the Rehabilitation Center Society

#### Dr. García Gómez, Nuria

- Specialist in Physical Medicine and Rehabilitation. Doce de Octubre Hospital. Madrid
- Specialist in Family and Community Medicine: Gregorio Marañón General University Hospital
- Collaborating Physician of the Department of Physical Medicine and Rehabilitation and Medical Hydrology of the Complutense University of Madrid, at the University Hospital 12 de Octubre 2013-2020.
- Multiprofessional Teaching Unit of Family and Community Care, Southeast Health Area, Madrid 2011
- Postgraduate in Neurorehabilitation, Institute of Continuing Education of the University of Barcelona.
- Degree in Medicine and Surgery: Alcalá de Henares University.

#### Dr. Sevilla Torrijos, Gustavo

- Area Specialist in the Rehabilitation Service of the University Hospital 12 de Octubre,
   Madrid
- Area Specialist in the Rehabilitation Service of the University Hospital of Torrejón, Madrid 2012 - 2018.
- Specialist Physician in the Rehabilitation Unit of the Hospital de Guadarrama 2008 2012
- "Specialist in Comprehensive Assistance in Emergencies and Health Emergencies",
   Degree of the European University Miguel de Cervantes.
- Member of the Spanish Society of Rehabilitation and Physical Medicine (SERMEF).
- Course in Diagnostic Imaging in Musculoskeletal Pain
- Refresher Course in Localized Neuropathic Pain
- Course on Osteoarthritis and Pain Sensitization
- Degree in Medicine from the Complutense University of Madrid...

#### Dr. Belón Pérez, Pedro

- Postgraduate in musculoskeletal ultrasound.
- Postgraduate Professor at UCM, USAL, UAM and UMA.
- Master's Degree in Traumatological and Sports Physiotherapy from the Pontifical University of Salamanca.
- SEECO.

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#### Dr. Casado Hernández, Israel

- Podiatrist Ultrasonographer.
- Master's Degree in Podiatric Research.
- Postgraduate in Podiatric foot surgery or podiatry.
- GP, Phd, MSc, BSc, PG Cert Vitalpie Clinic.

#### Dr. García Expósito, Sebastián

- Degree in Diagnostic Imaging and Radiation Therapy.
- Postgraduate or in musculoskeletal ultrasound.
- Professor of Ultrasound.
- Armstrong International Clinic.

#### Dr. Moreno, Cristina Elvira

- Physiotherapist.
- Postgraduate in dry needling and MSK ultrasound.
- Floor Pilates and Hypopressive Abdominal Gymnastics teacher.
- Nupofis Clinic, Madrid.

#### Dr. Nieri, Martín

- Degree in Diagnostic Imaging and Radiation Therapy.
- Postgraduate or in musculoskeletal ultrasound.
- Professor of Ultrasound.





### Course Management | 19 tech

#### Dr. Pérez Calonge, Juan José

- Podiatric sonographer.
- Master's Degree in health expertise.
- Postgraduate or in Podiatric foot surgery and podiatry.
- PhDs, MSc, BSc, PG Cert Clinica Gayarre.

#### Dr. Sánchez Marcos, Julia

- Physiotherapist, Osteopath
- Postgraduate in sonoanatomy of the locomotor system Clínica Nupofis Madrid.

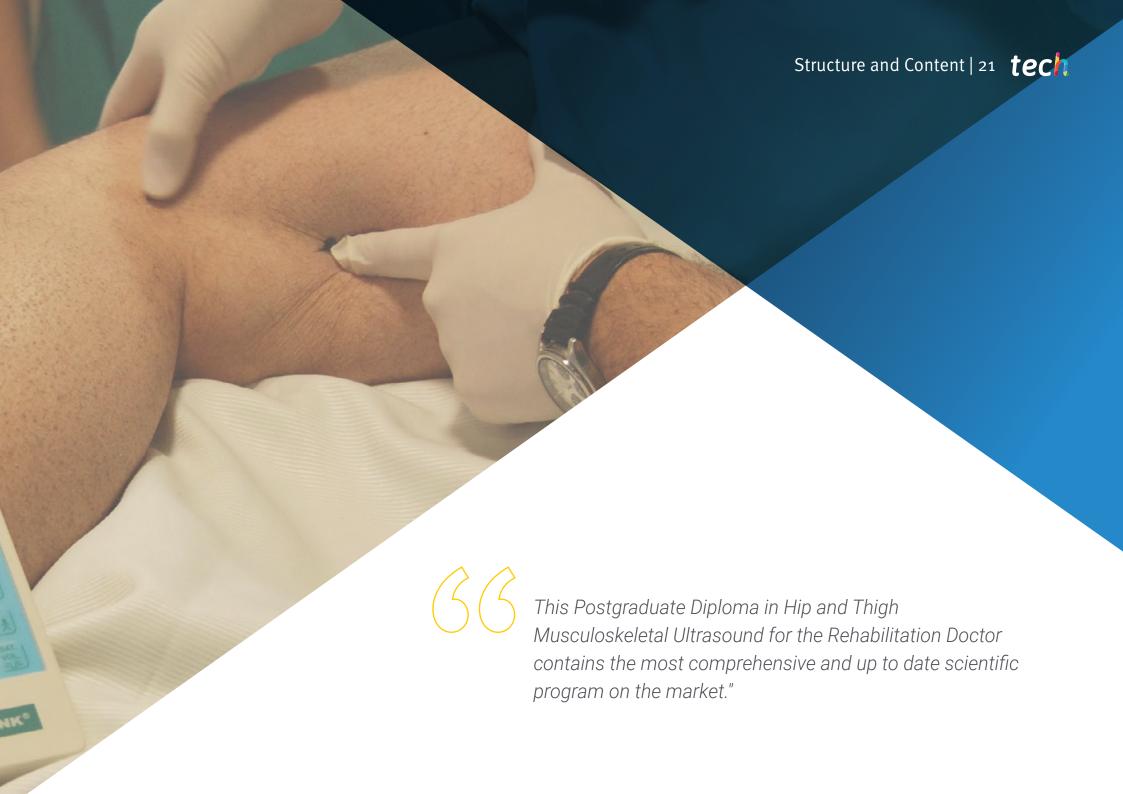
#### Dr. Santiago Nuño, José Ángel

- Physiotherapy, Osteopathy and Nutrition.
- Postgraduate or in Musculoskeletal Ultrasound.
- Nupofis Clinic Madrid.

#### Dr. Teijeiro, Javier

- Physiotherapy and Osteopathy.
- Professor of Musculoskeletal Ultrasound.
- SEEFI SEECO.
- Service Director in Ultrasound Assistance Teleradiology SL.





### tech 22 | Structure and Content

#### Module 1. Basic Ultrasound

- 1.1. Basic Ultrasound I.
  - 1.1.1. General Aspects of Ultrasound.
  - 1.1.2. Physical Basis of Ultrasound. Piezoelectric effect.
- 1.2. Basic Ultrasound II.
  - 1.2.1. Knowledge of the Equipment.
  - 1.2.2. Equipment Operation: Parameters.
  - 1.2.3. Technological Improvements.
- 1.3. Basic Ultrasound III.
  - 1.3.1. Artifacts in Ultrasound.
  - 1.3.2. Foreign Bodies
  - 1.3.3. Types of Ultrasound Images and Different Tissue Patterns in Ultrasound.
  - 1.3.4. Dynamic Maneuvers.
  - 1.3.5. Advantages and Disadvantages of Ultrasound.

#### Module 2. Lower Limb Ultrasound: Hip

- 2.1. Normal Sonoanatomy of the Hip.
  - 2.1.1. Exploration of Structures of the Anterior Face.
  - 2.1.2. Exploration of Structures of the Lateral Face.
  - 2.1.3. Exploration of Structures of the Medial
  - 2.1.4. Exploration of Structures of the Posterior Face.
- 2.2. Hip Pathology.
  - 2.2.1. Most Common Tendon Pathology.
    - 2.2.1.1. Tensor Fascia Lata Injuries.
    - 2.2.1.2. Injuries to the Inframuscular Tendon of the Anterior Rectus.
    - 2.2.1.3. Adductor Longus Tendon Injury.
    - 2.2.1.4. Painful Syndrome of the Greater Trochanter.





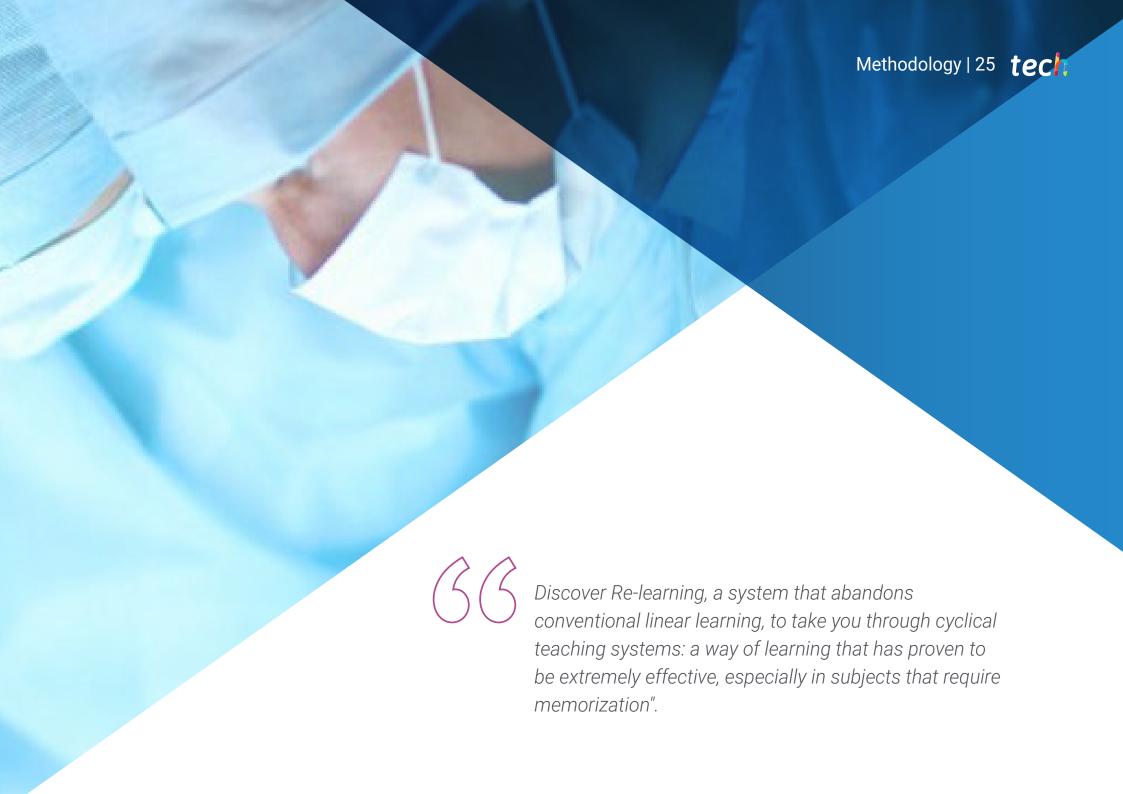
### Structure and Content | 23 tech

- 2.2.2. Most Common Muscular Pathology.
  - 2.2.2.1. Iliopsoas Muscle Injury.
  - 2.2.2.2. Deep Gluteal Syndrome.
- 2.2.3. Other Hip Joint Pathologies.
  - 2.2.3.1. Coxofemoral Joint Injuries.
    - 2.2.3.1.1. Coxarthrosis.
    - 2.2.3.1.2. Hip Arthroplasty.
- 2.3. Dynamic Hip Tests.
  - 2.3.1. Hip Rotation Test for Pyramidal.
  - 2.3.2. Flexion and Extension Test for Iliotibial Band Snapping.

#### Module 3. Ultrasound of Lower Limb: Thigh

- 3.1. Normal Sonoanatomy of the Thigh.
  - 3.1.1. Exploration of Structures of the Anterior Face.
  - 3.1.2. Exploration of Structures of the Lateral Face.
  - 3.1.3. Exploration of Structures of the Medial
  - 3.1.4. Exploration of Structures of the Posterior Face.
- 3.2. Pathology of the Thigh.
  - 3.2.1. Most Common Tendon Pathology.
    - 3.2.1.1. Hamstring Injury.
    - 3.2.1.2. Adductor Injury.
    - 3.2.1.3. Quadriceps Muscle Injury.
  - 3.2.2. Other Thigh Pathologies.
    - 3.2.2.1. Derrame of Morel-Lavallée.
- 3.3. Dynamic Tests of the Thigh.
  - 3.3.1. Contraction and Relaxation Test of the Thigh Musculature.





### tech 26 | Methodology

#### At TECH we use the Case Method

In a given situation, what would you do? Throughout the program you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, 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 can 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 potential 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 Doctor'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:

- 1. Students who follow this method not only grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.
- 2. The learning process has a clear focus on 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.

Our 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, which represent a real revolution with respect to simply studying and analyzing cases.

The Doctor will learn through real cases and by solving 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 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 we have trained more than 250,000 Doctors with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Re-learning will allow you to learn with less effort and better performance, involving you more in your training, 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 (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

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

### tech 30 | Methodology

In this program you will have access to the best educational material, prepared with you 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 really specific and precise.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



#### **Latest Techniques and Procedures on Video**

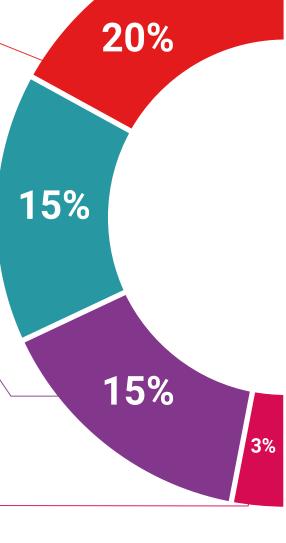
We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



#### **Interactive Summaries**

We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

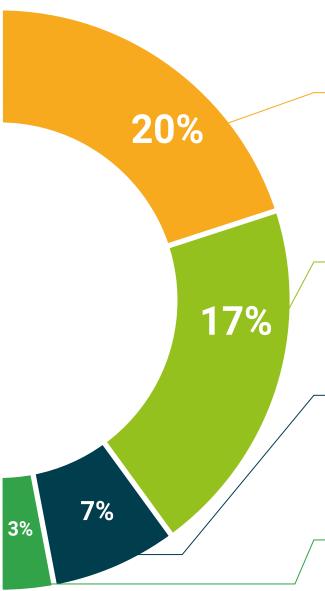
This unique training system for presenting multimedia content was awarded by Microsoft as a "European Success Story".





#### **Additional Reading**

Recent articles, consensus documents, international guides... in our virtual library you will have access to everything you need to complete your training.



#### Analysis of cases developed and guided by experts

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through the development of attention and the resolution of different situations: a clear and direct way to achieve the highest degree of understanding.



#### **Testing & Retesting**

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your goals.



#### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.





#### **Quick Action Guides**

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.







### tech 34 | Certificate

This Postgraduate Diploma in Hip and Thigh Musculoskeletal Ultrasound for the Rehabilitation Doctor contains the most complete and up to date scientific program on the market.

After the student has passed the evaluations, they will receive their corresponding **Postgraduate Diploma** issued by TECH - Technological University

The certificate issued by TECH - Technological University will express the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by job exchanges, competitive examinations and professional career evaluation committees.

Title: Postgraduate Diploma in Hip and Thigh Musculoskeletal Ultrasound for the Rehabilitation Doctor.

ECTS: 18

Official Number of Hours: 450 hours.



<sup>\*</sup>Apostille Convention. In the event that the student wishes to have their paper diploma Apostilled, TECH EDUCATION will make the necessary arrangements to obtain it at an additional cost of €140 plus shipping costs of the Apostilled diploma.

technological university



### Postgraduate Diploma

Hip and Thigh Musculoskeletal Ultrasound for the Rehabilitation Doctor

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

