

# Postgraduate Diploma

## Sports Physiotherapy: Dysfunctions, Invasive and Manual Techniques, and Percutaneous Neuromodulation

Endorsed by the NBA





## Postgraduate Diploma

Sports Physiotherapy: Dysfunctions,  
Invasive and Manual Techniques, and  
Percutaneous Neuromodulation

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Accreditation: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/physiotherapy/postgraduate-diploma/postgraduate-diploma-sports-physiotherapy-dysfunctions-invasive-manual-techniques-percutaneous-neuromodulation](http://www.techtute.com/us/physiotherapy/postgraduate-diploma/postgraduate-diploma-sports-physiotherapy-dysfunctions-invasive-manual-techniques-percutaneous-neuromodulation)

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# 01 Introduction

The practice of sports has many virtues associated with it, but it also causes a range of pathologies that can be treated using sports physiotherapy. This Postgraduate Diploma contains a comprehensive review of some of the most prevalent techniques, also incorporating the use of invasive techniques, percutaneous neuromodulation and manual techniques. Intensive training that will propel you in your profession.





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*Urinary incontinence, as one of the usual consequences of sports practice, is addressed in all aspects of work from physiotherapy"*

Urinary incontinence (UI) has been defined by the International Continence Society (ICS) as the involuntary loss of urine through the urethra, objectively demonstrable and that constitutes, for the person who suffers it, a social and hygienic problem, something which is very frequent in sports practice.

Throughout this program, the student is trained in aspects such as prevalence, diagnosis, prevention and specific techniques to reduce this dysfunction, especially aimed at female athletes.

Among the applicable techniques, Percutaneous Electrolysis is an invasive physiotherapy technique, which consists of the ultrasound-guided application of a galvanic current through an acupuncture needle, which produces a local inflammatory response, allowing for phagocytosis and repair of the affected soft tissue (tendon, ligament, muscle, etc.). The galvanic electric current and the mechanical stimulus of the needle itself constitute physical agents that are part of the therapeutic field of physiotherapy.

Another form of intervention is ultrasound-guided percutaneous neuromodulation. This technique consists of the application of a low-frequency current near the peripheral nervous system, to increase or decrease the excitability of a group of neurons, stimulating and resetting the nerve impulse for proper neuromuscular functioning.

We achieve a reduction of pain and an improvement of the mobility of the treated region, a method that is applied by means of ultrasound control.

Manual methods are a sports physiotherapist's most basic and common tools.

The progression of Physiotherapy has enabled the creation of this Postgraduate Diploma, which represents a collection of the most used joint and soft tissue techniques for the assessment and treatment of sports injuries, specific to the upper and lower limbs.

A complete compendium that professionals will find extremely useful and interesting to grow in their profession.

This **Postgraduate Diploma in Sports Physiotherapy: Dysfunctions, Invasive and Manual Techniques, and Percutaneous Neuromodulation** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The latest technology in online teaching software
- ♦ A highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand
- ♦ Practical cases presented by practising experts
- ♦ State-of-the-art interactive video systems
- ♦ Teaching supported by telepractice
- ♦ Continuous updating and recycling systems
- ♦ Autonomous learning: full compatibility with other occupations
- ♦ Practical exercises for self-assessment and learning verification
- ♦ Support groups and educational synergies: questions to the expert, debate and knowledge forums
- ♦ Communication with the teacher and individual reflection work
- ♦ Content that is accessible from any fixed or portable device with an Internet connection
- ♦ Supplementary documentation databases are permanently available, even after the course



*Cutting-edge program created to propel you toward greater competitiveness in the labor market"*

**“** *An effective and reliable Postgraduate Diploma that will take you through an interesting and efficient learning process so that you acquire all the knowledge of a university expert in the field”*

Our teaching staff is made up of practicing specialists. In this way, we ensure that we provide you with the educational update we are aiming for. A multidisciplinary team of doctors specialized and experienced in different environments, who will develop the theoretical knowledge in an efficient way, but, above all, will put at the service of the course the practical knowledge derived from their own experience: one of the differential qualities of this program.

This mastery of the subject is complemented by the effectiveness of the methodological design of this Postgraduate Diploma. Developed by a multidisciplinary team of *E-Learning* experts, it integrates the latest advances in educational technology. In this way, you will be able to study with a range of comfortable and versatile multimedia tools that will give you the operability you need for your learning.

The design of this program is based on Problem-Based Learning: an approach that conceives learning as a highly practical process. To achieve this remotely, we will use telepractice: with the help of an innovative interactive video system and Learning from an Expert, you will be able to acquire the knowledge as if you were facing the scenario you are learning at that moment. A concept that will allow you to integrate and fix learning in a more realistic and permanent way.

*With a methodological design based on proven teaching techniques, this Postgraduate Diploma will take you through different teaching approaches to allow you to learn in a dynamic and effective way.*

*A complete Postgraduate Diploma created for physiotherapy professionals, which will allow you to combine your education with other occupations and access from anywhere with total flexibility.*





# 02 Objectives

This comprehensive program has been created from start to finish, to serve as a tool for personal and professional growth for physiotherapists. Its objective is to take you through a course that will allow you to acquire the most up-to-date knowledge and techniques for the most advanced and competitive practice in this field.





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*With a real practical objective, this Postgraduate Diploma will allow you to achieve your training objectives in dysfunctions, invasive and manual techniques, and percutaneous neuromodulation"*



## General Objectives

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- ♦ Understand the pathomechanical principles that support the most frequent sports injuries by region or sport
- ♦ Develop the therapeutic options from the fundamentals of Evidence-Based Physiotherapy for a better understanding of the injuries and their approach.
- ♦ Possess knowledge of advanced exploration of the locomotor system and the alterations that can be found in it
- ♦ Know the fundamentals of modern approaches to pain management, tissue repair and normal movement disorders, necessary for correct sporting gestures
- ♦ Elaborate a physiotherapy diagnosis according to internationally recognized standards and scientific validation tools
- ♦ Manage skills in functional assessment from interviews, observation, measurement and planning in physiotherapy actions.
- ♦ Execute, direct and coordinate the physiotherapy intervention plan, taking into account the principles of patient individuality, using the therapeutic tools of physiotherapy, that is, the different methods, procedures, actions and techniques, to treat the alterations caused by sports injuries, relating the current pathophysiological knowledge with the physiotherapy treatment
- ♦ Assess the evolution of the results obtained with the treatment, in relation to the objectives set and the established outcome criteria and if appropriate, redesign the objectives and adapt the intervention or treatment plan





## Specific Objectives

### Module 1. Sphincter Dysfunction and Sport

- ♦ Provide the student with knowledge about the structures and function of the abdomino-perineal area
- ♦ Understand the most frequent perineal dysfunctions associated with sports practice
- ♦ Delve into the aspects of medical history and examination of patients with pelvic floor pathology, as well as what prevention consists of

### Module 2. Invasive Techniques in Sports: Percutaneous Musculoskeletal Electrolysis

- ♦ Evaluate the evolution of the results obtained with invasive physiotherapy techniques, in relation to the objectives set.
- ♦ Acquire the theoretical knowledge required for the proper, safe and effective application of invasive physiotherapy techniques
- ♦ Acquire the practical skills and technical ability necessary for the application of percutaneous musculoskeletal electrolysis.

### Module 3. Pain and Percutaneous Ultrasound-Guided Neuromodulation

- ♦ Assess pain and its affection with neuromodulation techniques
- ♦ Acquire the theoretical knowledge required for the proper, safe and effective application of neuromodulation techniques
- ♦ Acquire the practical skills and technical capacity necessary for the application of Neuromodulation

### Module 4. Manual Techniques in Sports Physiotherapy

- ♦ Specialize in joint alterations in the different structures
- ♦ Correctly diagnose these alterations
- ♦ Select the most appropriate treatment technique for these disorders in relation to the assessment obtained.
- ♦ Apply joint techniques
- ♦ Apply soft tissue techniques



*Highly specialized objectives in a qualification created by the best professionals in Sports Physiotherapy"*

# 03 Course Management

For our course to be of the highest quality, we are proud to work with a teaching staff of the highest level, chosen for their proven track record. Professionals from different areas and fields of expertise that make up a complete, multidisciplinary team. A unique opportunity to learn from the best.





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*With the expertise of industry professionals who will teach you based on the reality of the sector in a contextual and realistic learning"*

## Management



### Dr. Martínez Gómez, Rafael

- ♦ CEO and founder of RehabMG
- ♦ PhD in Physical Activity and Sport Science
- ♦ Master's Degree in Sports Biomechanics and Physiotherapy
- ♦ Graduate in Physiotherapy.

## Professors

### Ms. Fernández, Judit

- ♦ Personal Trainer
- ♦ Master's Degree in Personal Training, Sports Nutrition and Body Composition
- ♦ Degree in Physical Activity and Sport Science
- ♦ Knowledge in Injury Rehabilitation and Readaptation
- ♦ Rhythmic Gymnastics Trainer

### Mr. Boal Hernández, Guillermo

- ♦ Physiotherapist of the Spanish Federation Basketball
- ♦ Physiotherapist of Basketball Students
- ♦ Degree in Physiotherapy, CEU San Pablo University
- ♦ MSc in Biomechanics and Sports Physiotherapy from Universidad Pontificia Comillas

### Mr. Ruiz González, Eduardo

- ♦ Director and Physiotherapist of the Physiotherapy Center FISIONES
- ♦ Director and Physiotherapist at Las Cruces Multipurpose Health Center
- ♦ MSc in Biomechanics and Sports Physiotherapy from Universidad Pontificia Comillas
- ♦ Expert in Fascial and Craniosacral Therapy by the European University of Madrid
- ♦ Graduate in Physiotherapy Universidad Pontificia Comillas





# 04 Structure and Content

The contents of this Postgraduate Diploma have been developed by the different teachers of this course, with a clear purpose: to ensure that our students acquire each and every one of the skills necessary to become true experts in this field.

A complete and well-structured program that will take you to the highest standards of quality and success.





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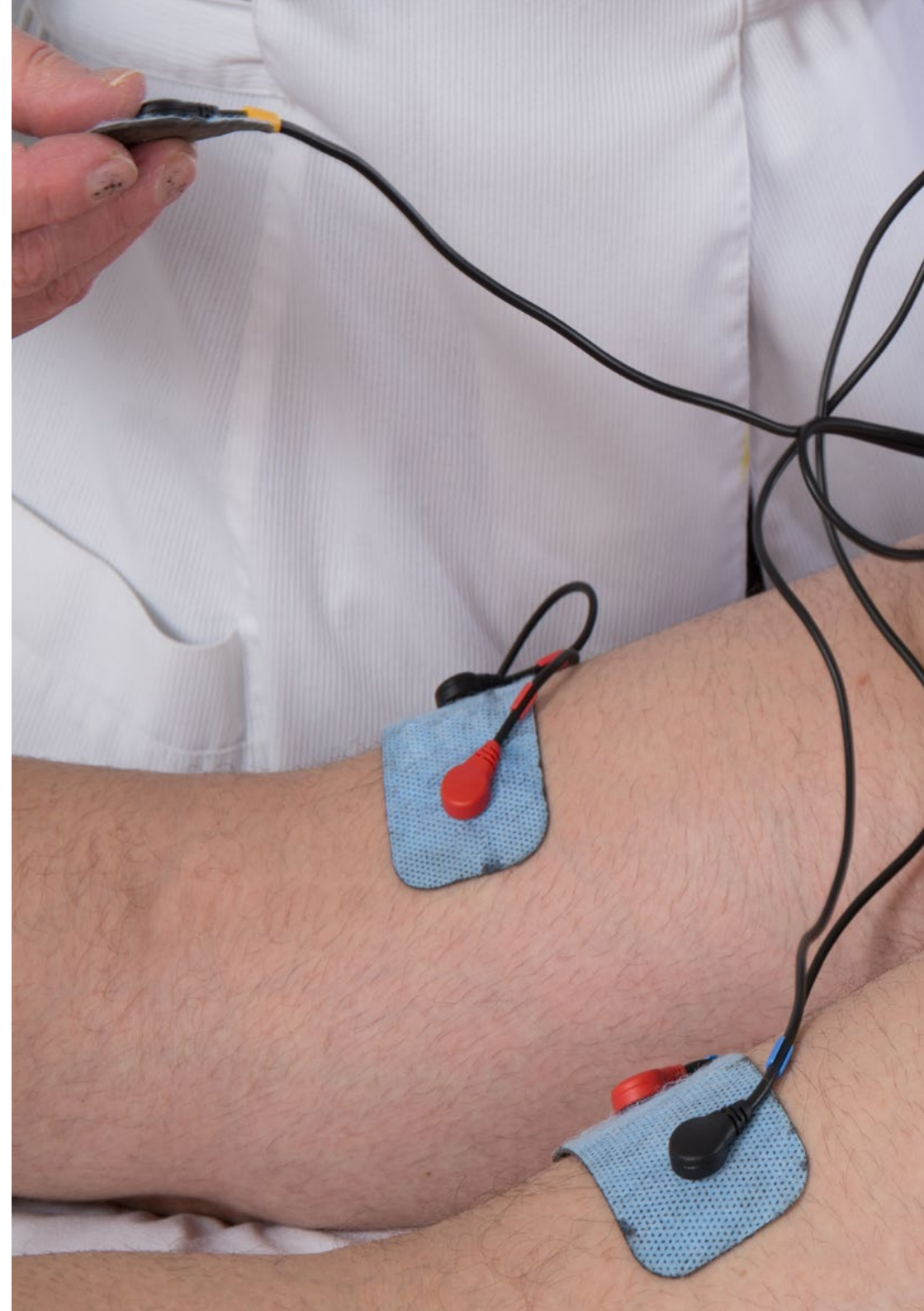
*A highly comprehensive syllabus that will take you, gradually, through each and every one of the key aspects that the Sports Physiotherapy professional needs to learn. With an added bonus: the commitment to excellence that characterizes us"*

## Module 1. Sphincter Dysfunction and Sport

- 1.1. Anatomical Overview
- 1.2. Physiology of Urination
- 1.3. Pelvic Floor Functions
- 1.4. Sport-Related Pelvic Floor Dysfunctions
- 1.5. Panamnesia, Assessment, Description of Treatment and Prevention

## Module 2. Invasive Techniques in Sports: Percutaneous Electrolysis

- 2.1. Neuromechanical Model
  - 2.1.1. Invasive Physiotherapy Techniques in Sports
  - 2.1.2. Structural Analysis
- 2.2. Ultrasound-Guided Percutaneous Electrolysis
  - 2.2.1. Concept and Clinical Utility
- 2.3. Mechanisms of Action
- 2.4. Physiotherapy Diagnosis
  - 2.4.1. Selection of the Target Tissue
  - 2.4.2. Clinical reasoning
- 2.5. Application Method. Tendon and Muscle
- 2.6. Usage Parameters
- 2.7. Clinical Cases 1. Tendinopathies. Part I. Percutaneous Electrolysis
- 2.8. Clinical Cases 2. Muscle Injury. Neuromechanical Model. Part I. Percutaneous Electrolysis





### Module 3. Pain and Percutaneous Echoguided Neuromodulation

- 3.1. Neuromechanical Model
  - 3.1.1. Invasive Physiotherapy Techniques in Sports
  - 3.1.2. Functional Analysis
- 3.2. Ultrasound-Guided Percutaneous Neuromodulation
  - 3.2.1. Concept
  - 3.2.2. Clinical Utility
- 3.3. Mechanisms of Action
- 3.4. Physiotherapy Diagnosis
  - 3.4.1. Selection of the Target Tissue
  - 3.4.2. Clinical reasoning
- 3.5. Application Methodology in Peripheral Nerve
- 3.6. Usage Parameters
- 3.7. Clinical Cases 1. Tendinopathies. Part II. Percutaneous Neuromodulation.
- 3.8. Clinical Cases 2. Muscle Injury. Part II. Percutaneous Neuromodulation.

### Module 4. Manual Techniques in Sports Physiotherapy

- 4.1. Shoulder Joint Techniques
- 4.2. Elbow Joint Techniques
- 4.3. Wrist and Hand Joint Techniques
- 4.4. Hip Joint Techniques
- 4.5. Knee Joint Techniques
- 4.6. Ankle and Foot Joint Techniques
- 4.7. Soft Tissue Techniques in the Upper Extremities
- 4.8. Soft Tissue Techniques in the Lower Extremities
- 4.9. Osteopathic Techniques of the Cervical Spine
- 4.10. Osteopathic Techniques of the Dorsal Spine
- 4.11. Osteopathic Techniques of the Lumbar Spine
- 4.12. Pelvic Osteopathic Techniques



# 05 Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.





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*TECH will prepare you to face new challenges in uncertain environments and achieve success in your career”*

## The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.

The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

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*At TECH you will NOT have live classes  
(which you might not be able to attend)”*



### The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

“*TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want*”



## Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.





## Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

*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.*



## A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.



*The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule”*

### 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 assess 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.

### The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

*Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.*

*You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.*



As such, the best educational materials, thoroughly prepared, will be available in this program:



#### 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.

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.



#### Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



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

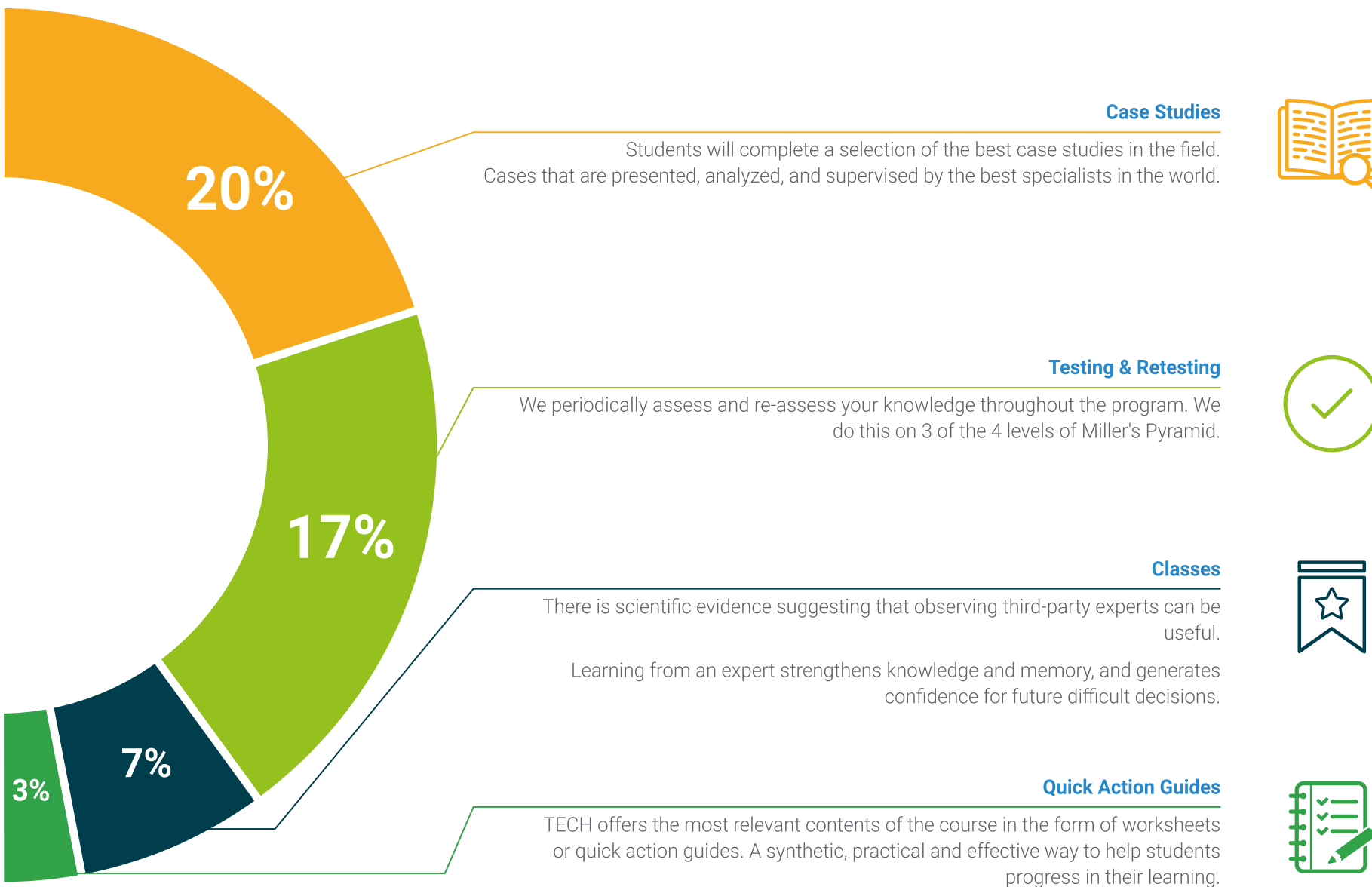


#### Additional Reading

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







# 06 Certificate

The Postgraduate Diploma in Sports Physiotherapy: Dysfunctions, Invasive and Manual Techniques, and Percutaneous Neuromodulation guarantees students, in addition to the most rigorous and up-to-date education, access to a diploma for the Postgraduate Diploma issued by TECH Global University.



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



This private qualification will allow you to obtain a diploma for the **Postgraduate Diploma in Sports Physiotherapy: Dysfunctions, Invasive and Manual Techniques, and Percutaneous Neuromodulation** endorsed by **TECH Global University**, the largest digital university in the world.

**TECH Global University**, is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** private qualification, is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

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