# Hybrid Professional Master's Degree Sports Injury Prevention, Rehabilitation and Readaptation

Endorsed by the NBA





# Hybrid Professional Master's Degree Sports Injury Prevention, Rehabilitation and Readaptation

Course Modality: Hybrid (Online + Clinical Internship)
Duration: 12 months
Certificate: TECH Technological University
Teaching Hours: 1,620 hours
Website: www.techtitute.com/us/physiotherapy/hybrid-professional-master-degree/hybrid-professional-master-degree-sports-injury-prevention-rehabilitation-readaptation

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# 01 Introduction

In high-intensity athletes, injuries are common and about 90% of them occur in training, with knees, ankles and thighs being the most affected areas. For this reason, in recent years, athletes have been encouraged to undergo preventive studies and see specialists when they have any ailment. Consequently, it has led to an increase in the demand for skilled and qualified physiotherapists in the area. With this in mind, a program has been designed that offers updated theoretical concepts essential to physiotherapy for the treatment and rehabilitation of sports injuries. Furthermore, students will have an opportunity to spend 3 weeks in a prestigious physiotherapy center in order to put into practice all the knowledge acquired in this Certificate.



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With this program you will be able to analyze the severity of ligament pathologies and create an effective treatment plan"

# tech 06 | Introduction

Nowadays, sports practice has become a social habit that is increasing every year. Physical exercise promotes health, reduces the risk of cardiovascular disease and reduces the risk of bone mass as we age. On the other hand, in high performance sports, the demands placed on athletes have led to an increase in the number of injuries attributed to factors such as equipment, structure and sport characteristics. Consequently, it requires professionals who are trained to assess, prevent and readapt athletes and fitness enthusiasts injuries.

In this sense, the Hybrid Professional Master's Degree in Sports Injury Prevention, Rehabilitation and Readaptation has been designed to help students qualify in the sector. For this reason, an online modality led by an expert physiotherapist will be used in the first instance. They will be in charge of providing all the guidelines required by the students, such as nutritional aspects, taking into account the intake of phytochemicals and their importance to improve their health. Also, you will learn how biological recovery and hydration form pillars that will help improve the readaptation process.

On the other hand, Pilates exercise has been shown to be effective in recovering from injury. This practice has about 500 exercises designed to work the musculature, so it helps to improve postural control in the areas where muscle overloads occur in the body. This way, students will be able to plan exercise programs using Pilates postures to work different areas of the locomotor system.

At the end of the theoretical modality, a practical stay in a center specialized in sports physiotherapy can be taken. This way, students will be able to test their knowledge in a supervised environment, building confidence they need to advance in their professional careers. In addition, this modality will also benefit those students who wish to go a step further and start their own private practice. This Hybrid Professional Master's Degree in Sports Injury Prevention, Rehabilitation and Readaptation contains the most complete and up-to-date scientific program on the market. The most important features include:

- Development of more than 100 clinical cases presented by professional physiotherapists, experts in prevention and treatment of injuries, as well as university professors with extensive experience high performance athletes
- 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
- Patient assessment and monitoring, invasive techniques, and a thorough lifestyle analysis for future injury prevention
- Comprehensive plans of systematized action for upper and lower limb injuries
- Presentation of practical workshops on procedures, diagnosis, and treatment techniques in critical patients
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout course
- Clinical practice guidelines on the approach to different lesions
- All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Availability of content from any fixed or portable device with an Internet connection
- In addition, you will be able to do an internship in one of the best physiotherapy centers in the world

## Introduction | 07 tech

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After completing the internship you will be ready to face your next professional challenge: opening a sports physiotherapy center" It analyzes the severity of muscle injuries in athletes and assesses them for an effective rehabilitation plan.

Employ proprioceptive reeducation in every readaptation and recovery process, improving the recovery of your patients.

In this Professional Master's Degree proposal, of professional character and blended learning modality, the program is intended to update physiotherapists professionals who develop their functions in sports, requiring a high level of qualification. Contents are based on the latest scientific evidence, and oriented in a didactic way to integrate theoretical knowledge in the physiotherapeutic practice, and theoretical-practical elements will facilitate knowledge updating and will allow decision making in patient management.

Thanks to its multimedia content developed with the latest educational technology, they will allow the physiotherapist professional a situated and contextual learning, that is, a simulated environment that will provide an immersive learning programmed to qualify 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 throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

# 02 Why Study this Hybrid Professional Master's Degree?

In the area of prevention, rehabilitation and readaptation of sports injuries, it is essential to know the latest techniques and physical training as well as mechanisms to implement them properly in practice. Because of this, TECH has created this new Certificate, which will allow the professional to combine an excellent theoretical learning in this field of physiotherapy with a practical stay of 3 weeks in a prestigious center. Thanks to this, the expert will acquire a series of competencies that are fully applicable in their work methodology.

Why Study this Hybrid Professional Master's Degree? | 09 tech

This TECH Certificate offers you a unique opportunity in the market, as you will be able to combine cutting-edge theoretical learning with an excellent practical stay of 3 weeks in a high-level physiotherapeutic center"

# **tech** 10 | Why Study this Hybrid Professional Master's Degree?

## 1. Updating from the latest technology available

The Sports Injury Prevention, Rehabilitation and Readaptation field has undergone an evolution due to the emergence of new training systems, rehabilitation techniques or updated instrumentation that favors the athlete's recovery. In view of this situation, TECH has created this Professional Master's Degree, with the intention that the expert knows all these advances from a theoretical-practical perspective.

### 2. Deepening from top experts' experience

This Hybrid Professional Master's Degree has a teaching staff made up of experts in Sports Injury Prevention and Rehabilitation field, who will provide students with the most updated theoretical contents in this area. Furthermore, students will be integrated, during their practical phase, in a work team made up of the best professionals in this field, with whom they will learn the latest techniques in this branch of physiotherapy.

### 3. Entering into first class Physiotherapist environments

TECH carefully selects all available centers for Internship Programs. Thanks to this, specialists will have guaranteed access to a prestigious clinical environment in the area of Sports Injury Prevention and Rehabilitation. In this way, you will be able to see the day-to-day work of a demanding, rigorous and exhaustive sector, always applying the latest theses and scientific postulates in its work methodology.





## Why Study this Hybrid Professional Master's Degree? | 11 tech

## 4. Combining the Best Theory with State-of-the-Art Practice

At present, the vast majority of educational programs have a curriculum based exclusively on the teaching of content with little professional applicability, neglecting its application in practice. For this reason, TECH has developed a learning model that combines theoretical teaching with a 3-week practical stay in a high-level physiotherapy center, in order to provide its students with valuable skills in their daily work.

## 5. Expanding the Boundaries of Knowledge

TECH offers the possibility of performing the practical phase of this blended Master's Degree in centers of international importance. This way, specialists will be able to expand their frontiers and keep up to date with the best professionals, who practice in first class physiotherapy centers and in different continents. A unique opportunity that only TECH, the largest online university in the world, could offer.

**666** You will have a total practical immersion in the center of your choice"

# 03 **Objectives**

The design of this blended Master's Degree in Sports Injury Prevention, Rehabilitation and Readaptation is intended to allow students to work in a controlled environment supervised by experts. Upon completion of the theoretical modality, they will be able to identify the risk factors that lead to physical activity and use different elements to develop a personalized action plan. This way, they will improve their skills and abilities to care for their patients.



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Use Pilates exercises as an integral system for the rehabilitation of the locomotor system in athletes"

# tech 14 | Objectives

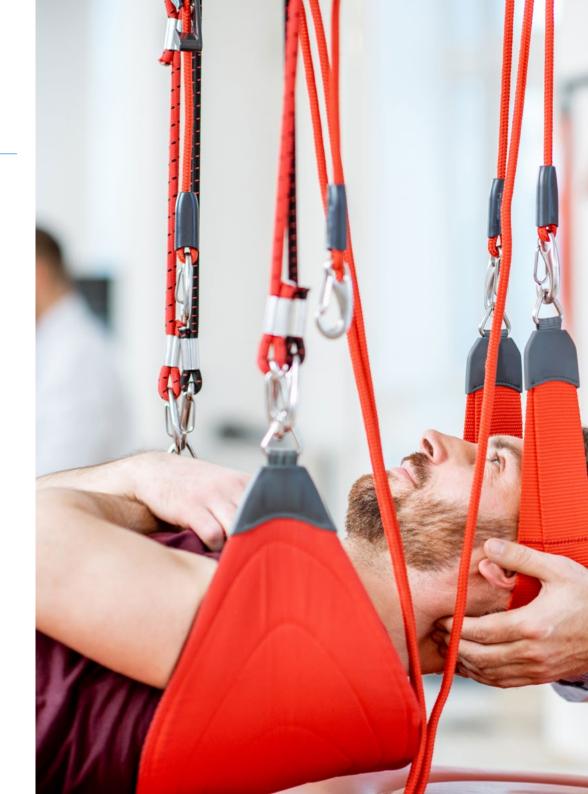


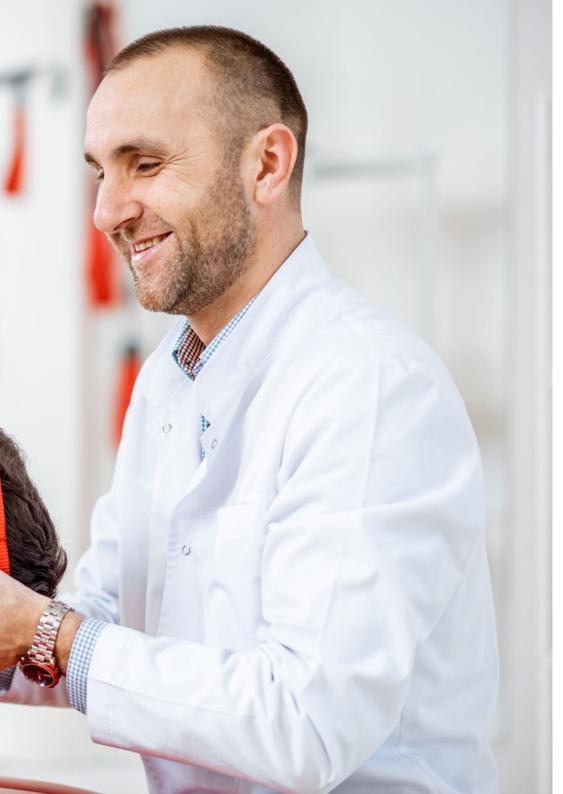
## **General Objective**

• The main objective of this program is to achieve the professional consolidation of students, mastering in a practical way the latest treatments in the sector, to help professional athletes recover from their injuries. So that they acquire indispensable competences to guarantee a quality and updated praxis

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This Semipresential Master will provide you with the most efficient theoretical and practical knowledge for the physiotherapeutic treatment of knee and ankle injuries"





# Objectives | 15 tech



## **Specific Objectives**

## Module 1. Personal Training

- To integrate concepts of balance training, cardiovascular, strength, plyometrics, speed, agility, etc. as a key tool for personnel for injury prevention and rehabilitation
- To design training programs individualized to the characteristics of the subject in order to achieve better results

## Module 2. Preventive Work for Sports Practice

- To identify the risk factors involved in the practice of physical-sports activities
- To use different types of materials for the planning of different types of exercises in a personalized training program
- To learn Pilates exercises with different types of machines designed to be fundamental in preventive work
- To delve Stretching and Postural Re-Education as essential methods for the prevention of injuries and alterations of the locomotor system

## Module 3. Structure of the Locomotor System

- To handle the different anatomical concepts: axes, planes and anatomical position
- To differentiate elements that make up the locomotor apparatus
- To observe the functioning processes of the integrated active and passive locomotor apparatus

# tech 16 | Objectives

## Module 4. Fitness, Functional and Biomechanical Assessment

- To use biomechanics of movement as a key tool in the prevention and rehabilitation process
- To clarify the importance of nutritional, biochemical, genetic and quality of life assessment from the initial period to the end of the process
- To evaluate the different parameters related to physical fitness: strength, speed, flexibility, endurance, etc
- To detect anomalies that hinder or prevent a correct recovery/rehabilitation process

## Module 5. Frequent Injuries in Athletes

- To determine the etiology of the most frequent injuries that occur in sports practice
- To identify the causes of the main injuries in sports
- To distinguish the different types of injuries: tendon, muscle, bone, ligament and joint injuries

## Module 6. Exercise for the Readaptation of Sports Injuries

- To establish exercise and physical activity as a strategy for health improvement
- To classify the different types of exercises according to the planning of the personalized training to be performed
- To differentiate the different types of specific physical exercises according to the muscles or muscle groups to be readapted
- To manage the different techniques applied in the treatment of injuries produced in sports practice

- To employ proprioceptive re-education in the whole process of rehabilitation and recovery, as well as for a lower prevalence of injury recurrence
- To plan and design specific programs and protocols with preventive effects
- To manage the different types of sports and essential sports practices as adjuvants during the process of functional rehabilitation and recovery

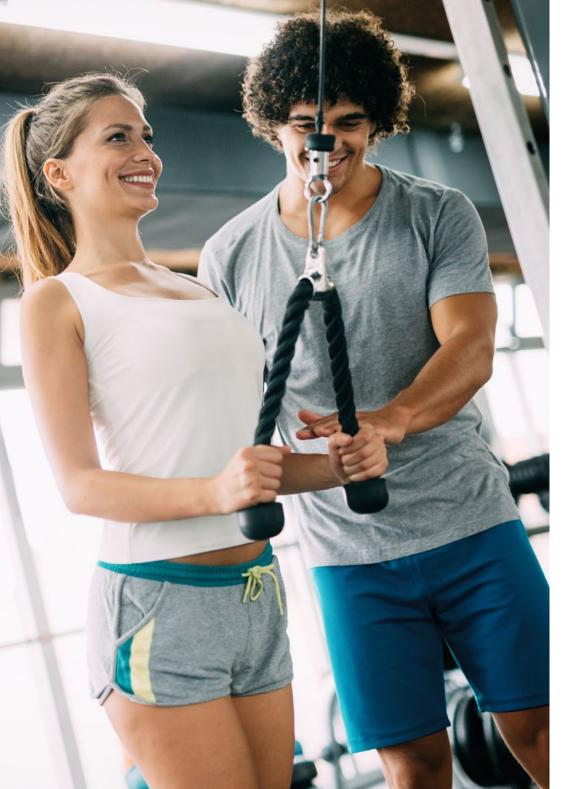
## Module 7. Frequent Pathologies of the Locomotor System

- To analyze the severity of ligament pathologies and their assessment for a better and more efficient rehabilitation
- To focus on the analysis of joint pathologies due to their high incidence in sports
- To examine the most common pathologies that usually occur in the spine
- To assess pain as an element to be taken into account in the diagnosis of a greater or lesser degree of injury

### Module 8. Exercise for Functional Recovery

- To analyze the different possibilities offered by functional training and advanced rehabilitation
- To apply the Pilates method as an integral system for the rehabilitation of the locomotor system in functional recovery
- To plan specific Pilates exercises and programs for the different areas of the locomotor system with and without apparatus

# Objectives | 17 tech



## Module 9. Nutrition for Functional Recovery and Rehabilitation

- To approach the concept of integral nutrition as a key element in the process of readaptation and functional recovery
- To distinguish the different structures and properties of both macronutrients and micronutrients
- To prioritize the importance of both water intake and hydration in the recovery process
- To analyze the different types of phytochemicals and their essential role in improving the state of health and regeneration of the organism

## Module 10. Coaching and Personal Trainer Business

- To acquire and understand the different healthy habits and lifestyles, as well as their implementation possibilities
- To apply motivational strategies to achieve better results in the process of sports rehabilitation and functional recovery
- To plan and design spaces that favor a better development of the specific personal training work to be performed
- To understand the personal training process where the relationship with the client and the feedback he/she provides are fundamental to the process

# 04 **Skills**

At the end of the theoretical modality of this Hybrid Professional Master's Degree in Sports Injury Prevention, Rehabilitation and Readaptation, students will have acquired a series of skills and knowledge necessary to work as physical therapists specialized in the sports area. This way, you will be able to provide comprehensive and personalized care to your patients.

This Certificate will enable you to assess, design, plan and execute different strategies for the recovery of ligament and muscle injuries"

# tech 20 | Skills



**General Skills** 

- Program, plan and investigate the process of prevention, sports readaptation and functional recovery through an individualized training program
- Plan and execute programs aimed at prevention, sports rehabilitation and functional recovery to be carried out in a sports club, sports federation and/or sports centers, entities related to physical activity for health, and centers working with people with physical disabilities or injuries







# **Specific Skills**

- Know the particularities of personal training adapted to each person and to design individualized and specific programs according to the needs of the athletes
- Plan specific exercises for each workout, using machines to perform functional training
- Mastering particularities of the locomotor system
- Manage the biomechanics of movement and apply it in the rehabilitation process
- Identify the main sports injuries
- Design and carry out customized training
- Analyze the main joint and ligament pathologies
- Use rehabilitation exercises applying the Pilates method for the recovery of the locomotor system
- Provide nutritional diets adapted to the needs of each athlete and taking into account his or her type of injury
- Apply coaching techniques to personal training and encourage motivation to obtain better results in the recovery of the athlete

# 05 Course Management

The teaching staff that makes up this Hybrid Professional Master's Degree in Sports Injury Prevention, Rehabilitation and Readaptation, has worked in the medical field as a doctor in Health Sciences, in addition to having an extensive background in regenerative medicine and dietetics. This way, the multidisciplinary nature of the program will be guaranteed, helping students to acquire comprehensive knowledge.

Become the best sports physiotherapist with the support and backing of an excellent teaching staff"

## tech 24 | Course Management

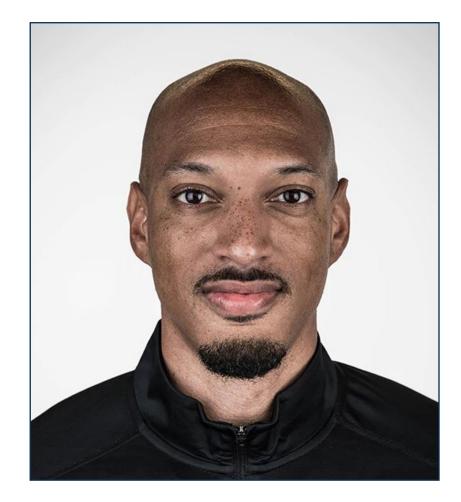
## **International Guest Director**

Charles Loftis, M.D., is a renowned specialist who serves as a sports performance **therapist** for the **Portland Trail Blazers in the NBA**. His impact on the world's premier basketball league has been significant, bringing distinguished expertise in creating strength and conditioning programs.

Prior to joining the Trail Blazers, he was the head strength and conditioning coach for the Iowa Wolves, implementing and overseeing the development of a comprehensive player program. In fact, his experience in the field of sports performance began with the establishment of XCEL Performance and Fitness, of which he was founder and head coach. There, Dr. Charles Loftis worked with a wide range of athletes to develop strength and conditioning programs, as well as work on the **prevention and rehabilitation of sports injuries**.

His academic background in the field of chemistry and biology provides him with a unique perspective on the science behind sports performance and physical therapy. As such, he holds CSCS and RSCC designations from the National Strength and Conditioning Association (NSCA), which recognize his knowledge and skills in the field. He is also certified in PES (Performance Enhancement Specialist), CES (Corrective Exercise Specialist) and dry needling.

With all of this, Dr. Charles Loftis is a vital member of the NBA community, working directly with both the strength and performance of elite athletes and the necessary prevention and rehabilitation of various types of sports injuries.



# Dr. Loftis, Charles

- Sports Performance Specialist with the Portland Trail Blazers Oregon, United States
- Head strength and conditioning coach for the Iowa Wolves
- Founder and head trainer at XCEL Performance and Fitness
- Head performance coach for the Oklahoma Christian University men's basketball team
- Physical Therapist at Mercy
- D. in Physical Therapy from Langston University
- Degree in Chemistry Biology from the University of Barcelona

**GGG** Thanks to TECH you will be able to learn with the best professionals in the world"

## tech 26 | Course Management

## **International Guest Director**

Isaiah Covington is a highly skilled performance coach with extensive experience in treating and addressing various injuries in elite athletes. In fact, his professional career has been directed **towards the NBA**, one of the most important sports leagues in the world. He is **the performance coach of the Bolton Celtics**, one of the top teams in the Eastern Conference and one of the most promising teams in the United States.

His work in such a demanding league has made him specialize in maximizing the **physical and mental** potential of players. Key to this has been his past experience with other teams, such as the Golden State Warriors and the Santa Cruz Warriors. This has allowed him to work also in the field of sports injuries, deepening in the **prevention and readaptation** of the most frequent injuries in elite athletes.

In academia, his interests have been in the fields of kinesiology, exercise science and high performance sport. All of this has led him to excel prolifically in the NBA, working day in and day out with some of the most important basketball players and coaching staffs in the world.



# D. Covington, Isaiah

- Boston Celtics Performance Coach Massachusetts, U.S.A.
- Golden State Warriors Performance Coach
- Santa Cruz Warriors Head Performance Coach
- Performance Coach at Pacers Sports & Entertainment
- B.S. in Kinesiology and Exercise Science from the University of Delaware
- Specialization in Training Management
- Professional Master's Degree in Kinesiology and Exercise Science from Long Island University
- Professional Master's Degree in High Performance Sport from the Catholic University of Australia

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

# tech 28 | Course Management

## Management



## Dr. González Matarín, Pedro José

- Researcher and Professor in Health Sciences
- Technical researcher of Health Education in Murcia
- Teacher and researcher at the University of Almeria
- · Teacher and researcher at the University of Almeria
- High Performance Coach
- Doctor in Health Sciences
- Graduate in Physical Education
- Master's Degree in Functional Recovery in Physical Activity and Sport
- Master's Degree in Regeneration Medicine
- Master's Degree in Physical Activity and Health
- Master in Dietetics and Diet Therapy
- Member of: SEEDO, AEEM

# 06 Educational Plan

The syllabus of this program has been designed following the requirements of the group of experts in charge of teaching contents. This way, the Syllabus includes all the aspects that a specialist in sports physiotherapy should know. In this sense, students will be able to evaluate, plan and treat different injuries in high performance athletes, considering new practices and disciplines that complement the sector. Likewise, they will be able to acquire communication skills to help the relationship with the patient.

Through a 100% online theoretical teaching modality, you will adapt your study schedules to your personal and professional needs to optimize your learning"

## tech 32 | Educational Plan

## Module 1. Personal Training

- 1.1. Personal Training
- 1.2. Flexibility Training
- 1.3. Endurance and Cardiorespiratory Training
- 1.4. Core Training
  - 1.4.1. Core Musculature
  - 1.4.2. The Training of Stabilization Systems
  - 1.4.3. Core Science and Training
  - 1.4.4. Core Training Guidelines
  - 1.4.5. Core Training Program Design
- 1.5. Balance Training
- 1.6. Plyometric Training
  - 1.6.1. Principles of Plyometric Training
  - 1.6.2. Designing a Plyometric Training Program
- 1.7. Speed and Agility Training
- 1.8. Strength Training
- 1.9. Integrated Program Design for optimal performance
- 1.10. Exercise Modalities

#### Module 2. Preventive Work for Sports Practice

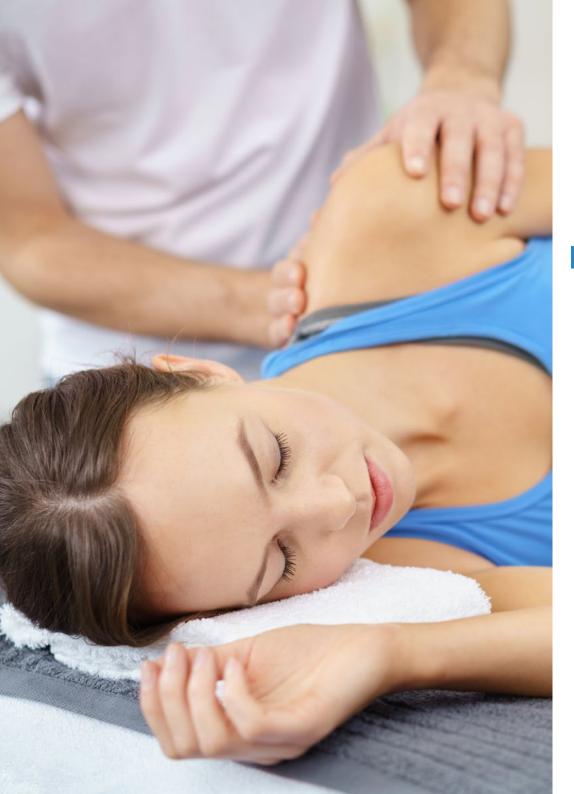
- 2.1. Risk Factors in Sports
- 2.2. Working with Mat Exercises
- 2.3. Reformer and Cadillac
- 2.4. Wunda Chair
- 2.5. Active Global Stretching and Global Postural Re-education
- 2.6. FITBALL
- 2.7. TRX
- 2.8. Body Pump
- 2.9. Medicine Ball and Kettlebells
- 2.10. Thera Band
  - 2.10.1. Advantages and Properties
  - 2.10.2. Individual Exercises
  - 2.10.3. Exercises in Pairs
  - 2.10.4. Respiratory muscles

## Module 3. Structure of the Locomotor System

- 3.1. Anatomical Position, Axes and Planes
- 3.2. Bone
- 3.3. Joints
  - 3.3.1. Etiology
  - 3.3.2. Synarthrosis
  - 3.3.3. Amphiarthrosis
  - 3.3.4. Diarthrosis
- 3.4. Cartilage
- 3.5. Tendons and Ligaments
- 3.6. Skeletal Muscle
- 3.7. Development of the Musculoskeletal System
- 3.8. Components of the Musculoskeletal System
- 3.9. Nervous Control of Skeletal Muscles
- 3.10. Muscle Contraction
  - 3.10.1. Functioning of Muscle Contraction
  - 3.10.2. Type of Muscle Contraction
  - 3.10.3. Muscle Bioenergetics

### Module 4. Fitness, Functional and Biomechanical Assessment

- 4.1. Anatomy and Kinesiology
- 4.2. The Science of Human Motion
- 4.3. Applied Biomechanics
- 4.4. Initial Customer Inquiry
- 4.5. Physical Fitness Testing Protocols and Standards
- 4.6. Functional Movement Assessment
  - 4.6.1. Motion Detection, Testing and Assessment
  - 4.6.2. Pantalla de Movimiento Funcional (FMS)
  - 4.6.3. Selective Assessment of Functional Movement
  - 4.6.4. Specific Functional Performance Tests
- 4.7. Nutritional Assessment, Genetic Evaluation, Biochemistry and Quality of Life



## Educational Plan | 33 tech

### 4.8. Biomechanics

- 4.8.1. Biomechanical Fundamentals
- 4.8.2. Biomechanics of Human Movement
- 4.8.3. Muscular Control of Movement
- 4.8.4. Biomechanics of Resistance Exercise
- 4.9. Evaluation of Physical Fitness
- 4.10. Risk Detection and Stratification

## Module 5. Frequent Injuries in Athletes

- 5.1. Shoulder Injuries in Sports
  - 5.1.1. Relevant Aspects of the Shoulder
  - 5.1.2. Injuries and Disorders Related to Acute and Chronic Shoulder Instability
  - 5.1.3. Clavicular Injuries
  - 5.1.4. Nerve Injuries in the Shoulder Region
  - 5.1.5. Brachial Plexus Injuries
- 5.2. Upper Arm Injuries
- 5.3. Elbow Injuries in Sports
- 5.4. Forearm, Wrist and Hand Injuries in Sports
- 5.5. Head and Facial Injuries in Sports
- 5.6. Throat, Chest and Abdominal Injuries in Sports
- 5.7. Back/Spine Injuries in Sports
  - 5.7.1. Aspects Relevant to the Back and Spine
  - 5.7.2. Diagnosis of Back Pain
  - 5.7.3. Neck and cervical Injuries
  - 5.7.4. Injuries of the Thoracic and Lumbar Area
- 5.8. Hip Joint, Pelvic and Groin Injuries in Sports
- 5.9. Thigh, Knee and Leg Injuries in Sport
- 5.10. Ankle and Foot Injuries in Sport

## tech 34 | Educational Plan

### Module 6. Exercise for the Readaptation of Sports Injuries

- 6.1. Physical Activity and Physical Exercise for Health Improvement
- 6.2. Classification and Selection Criteria for Exercises and Movements
- 6.3. Principles of Sports Training
  - 6.3.1. Biological Principles
    - 6.3.1.1. Functional Unit
    - 6.3.1.2. Multilaterality
    - 6.3.1.3. Specificity
    - 6.3.1.4. Overload
    - 6.3.1.5. Supercompensation
    - 6.3.1.6. Individualization
    - 6.3.1.7. Continuity
    - 6.3.1.8. Progression
  - 6.3.2. Pedagogical Principles
    - 6.3.2.1. Transfer
    - 6.3.2.2. Efficacy
    - 6.3.2.3. Voluntary Stimulation
    - 6.3.2.4. Accessibility
    - 6.3.2.5. Periodization
- 6.4. Techniques Applied to the Treatment of Sports Injuries
- 6.5. Specific Action Protocols
- 6.6. Phases of the Process of Organic Recovery and Functional Recovery
- 6.7. Design of Preventive Exercises
- 6.8. Specific Physical Exercises by Muscle Groups
- 6.9. Proprioceptive Reeducation
  - 6.9.1. Bases of Proprioceptive and Kinesthetic Training
  - 6.9.2. Proprioceptive Consequences of Injury
  - 6.9.3. Development of Sport Proprioception
  - 6.9.4. Materials for Proprioception Work
  - 6.9.5. Phases of Proprioceptive Re-education
- 6.10. Sports Practice and Activity During the Recovery Process

## Module 7. Frequent Pathologies of the Locomotor System

- 7.1. Cervical pain, Dorsalgia and Lumbago
- 7.2. Scoliosis
- 7.3. Herniated Disc
- 7.4. Shoulder Tendinitis
- 7.5. Epicondylitis
  - 7.5.1. Epidemiology
  - 7.5.2. Pathologic Anatomy
  - 7.5.3. Clinical Symptoms
  - 7.5.4. Diagnosis
  - 7.5.5. Treatment
- 7.6. Hip Osteoarthritis
- 7.7. Gonarthrosis
- 7.8. Plantar Fasciitis
  - 7.8.1. Conceptualization
  - 7.8.2. Risk Factors
  - 7.8.3. Symptoms
  - 7.8.4. Treatment
- 7.9. Hallux Valgus and Flat Feet
- 7.10. Sprained Ankle

### Module 8. Exercise for Functional Recovery

- 8.1. Functional Training and Advanced Rehabilitation
  - 8.1.1 Function and Functional Rehabilitation
  - 8.1.2 Proprioception, Receptors and Neuromuscular Control
  - 8.1.3 Central Nervous System: Integration of Motor Control
  - 8.1.4 Principles for the Prescription of Therapeutic Exercise
  - 8.1.5 Restoration of Proprioception and Neuromuscular Control
  - 8.1.6 The 3-Phase Rehabilitation Model
- 8.2. The Science of Pilates in Rehabilitation
- 8.3. Principles of Pilates
- 8.4. The Integration of Pilates in Rehabilitation
- 8.5. Methodology and Equipment Necessary for Effective Practice

## Educational Plan | 35 tech

- 8.6 Cervical and Thoracic Spine
- 8.7. The Lumbar Spine
- 8.8. Shoulder and Hip
- 8.9. Knee
- 8.10. Foot and Ankle

### Module 9. Nutrition for Functional Recovery and Rehabilitation

- 9.1. Integral Nutrition as a Key Element in Injury Prevention and Recovery
- 9.2. Carbohydrates
- 9.3. Proteins
- 9.4. Fats
  - 9.4.1. Saturation
  - 9.4.2. Unsaturated
    - 9.4.2.1. Monounsaturated
    - 9.4.2.2. Polyunsaturated
- 9.5. Vitamins.
  - 9.5.1. Water soluble
  - 9.5.2. Fat soluble
- 9.6. Minerals
  - 9.6.1. Macrominerals
  - 9.6.2. Microminerals
- 9.7. Fibre
- 9.8. Water
- 9.9. Phytochemicals
  - 9.9.1. Phenols
  - 9.9.2. Tioles
  - 9.9.3. Terpenes
- 9.10. Food Supplements for Prevention and Functional Recovery

## Module 10. Coaching and Personal Trainer Business

- 10.1. The Beginning of the Personal Trainer
- 10.2. Coaching for the Personal Trainer
- 10.3. The Personal Trainer as an Exercise Promoter and the Effects on Health and Performance
  - 10.3.1. Basic Fundamentals of Physical Exercise
  - 10.3.2. Acute Exercise Responses
  - 10.3.3. Health Effects of Exercise
    - 10.3.3.1. Resistance
    - 10.3.3.2. Strength and Power
    - 10.3.3.3. Balance
  - 10.3.4. Health Effects of Exercise
    - 10.3.4.1. Physical Health
    - 10.3.4.2. Mental Health
- 10.4. Need for Behavioral Changes
- 10.5. The Personal Trainer and the Relationship with the Client
- 10.6. Motivational Tools
  - 10.6.1. Appreciative Exploration
  - 10.6.2. Motivational Interview
  - 10.6.3. Building Positive Experiences
- 10.7. Psychology for the Personal Trainer
- 10.8. Personal Trainer's Career Path
- 10.9. Design and Maintenance and Material Installations
- 10.10. Legal Aspects of Personal Training

# 07 Clinical Internship

After passing the online program, students will be prepared to face the practical period in a physiotherapeutic center of excellence. To this end, you will be supported by a specialist who will accompany you throughout the process, both in your preparation and in consultations with patients.

Clinical Internship | 37 tech

*Start your physiotherapy internship in a center of great international prestige"* 

## tech 38 | Clinical Internship

The practical part of this Hybrid Professional Master's Degree consists of a 3-week stay in a prestigious physiotherapy center, from Monday to Friday, with 8 consecutive hours of work with an assistant specialist. This experience will allow students to deal with real patients alongside a team of professionals of reference in the area of Sports Injury Prevention, Rehabilitation and Readaptation, applying the most innovative therapeutic procedures in each pathology.

In this training proposal, completely practical in nature, the activities are aimed at the development and improvement of the necessary skills for the provision of physiotherapeutic care in the sports and high performance area, and are oriented to the specific training for the exercise of the activity, in a safe environment for the user and a high professional performance.

It is undoubtedly an opportunity to put into practice in a real environment all the procedures of sports physiotherapy, performing an adequate treatment of injuries for athletes, depending on their physical, functional and biomechanical condition. This is a new way of understanding and integrating health processes, and makes a reference center the ideal teaching scenario for this innovative experience in the improvement of professional competencies.

Practical education will be performed with student's active participation performing activities and procedures of each area of competence (learning to learn and learning to do), with accompaniment and guidance of teachers and other fellow students that facilitate teamwork and multidisciplinary integration as transversal competencies for physiotherapy praxis (learning to be and learning to relate).



# Clinical Internship | 39 tech

The procedures described below will form basis of practical part of the program, and their implementation is subject both to patient suitability and to center's availability and workload, with proposed activities being the following:

Module	Practical Activity	
	To plan physical training with the objective of increasing endurance and cardiorespiratory endurance and cardiorespiratory capacity	
Personal Training	Perform personal training oriented to strengthen the Core	
	Design training plans focused on strengthgains in the gym	
	Perform training programs based on the work of Body Pump to promote muscular aerobic stimulation	
Preventive Work for Sports Practice	Design training plans based on the use of TRX, extracting the maximum performance offered by this tool forthe maximum performance offered by this tool for the injury prevention	
	Undertake partner or individual training planscentered on the development of exercises with Thera Band	
	Developing a recovery plan for shoulder, elbow or wrist injuries	
Frequent Injuries in Athletes	Develop rehabilitation planning for neck and cervical injuries	
Athletes	Perform recovery treatments for athletes with knee and ankle injuries	
Exercise for rehabilitation of sports	Design exercises aimed at strengthening the injured the injured area and avoid a possible relapse	
	Apply specific physical exercises for each muscle group, with the objective of favorir the readaptation to the sport practice	
	Planning a training program focused on muscle health improvement for athletes	
Exercise for	Elaborate functional training to ensure the rehabilitation of injuries	
recovery functional	Use Pilates as a method of muscle strengthening and and rehabilitation of injuries	
	Use the latest equipment for the effective practice of functional recovery	



# tech 40 | Clinical Internship

## **Civil Liability Insurance**

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.



## **General Conditions of the Internship Program**

The general terms and conditions of the internship agreement for the program are as follows:

1. TUTORING: during the Hybrid Professional Master's Degree the student will be assigned two tutors who will accompany them throughout the process, resolving any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, the student will also be assigned an academic tutor whose mission will be to coordinate and help the student during the whole process, resolving doubts and facilitating everything they may need. This way, the professional will be accompanied at all times and will be able to consult any doubts that may arise, both of a practical and academic nature.

**2. DURATION:** the internship program will have a duration of three continuous weeks of practical training, distributed in 8-hour days and five days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

**3. ABSENCE**: in case of non-attendance on the starting day of the Hybrid Professional Master's Degree, the student will lose the right to the same without the possibility of reimbursement or change of dates. Absence for more than two days from the internship without justified/medical cause will result in the resignation of the internship and, therefore, its automatic termination. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

**4. CERTIFICATION:** the student who passes the Hybrid Professional Master's Degree will receive a certificate accrediting the stay at the center in question.

**5. EMPLOYMENT RELATIONSHIP:** the Hybrid Professional Master Program shall not constitute an employment relationship of any kind.

6. PRIOR EDUCATION: some centers may require a certificate of previous studies for the completion of the Hybrid Professional Master's Degree. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

**7. NOT INCLUDED:** the Hybrid Professional Master's Degree will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed.

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

# 08 Where Can I Do the Clinical Internship?

To help its students in their academic and work preparation, TECH has been willing to broaden the horizons of this practical stay, offering access to a training center of international prestige, where they will be able to implement all the knowledge learned in the theoretical phase. This is a unique opportunity for students to continue to grow in their professional area, alongside the best physiotherapist specialists in the sector.

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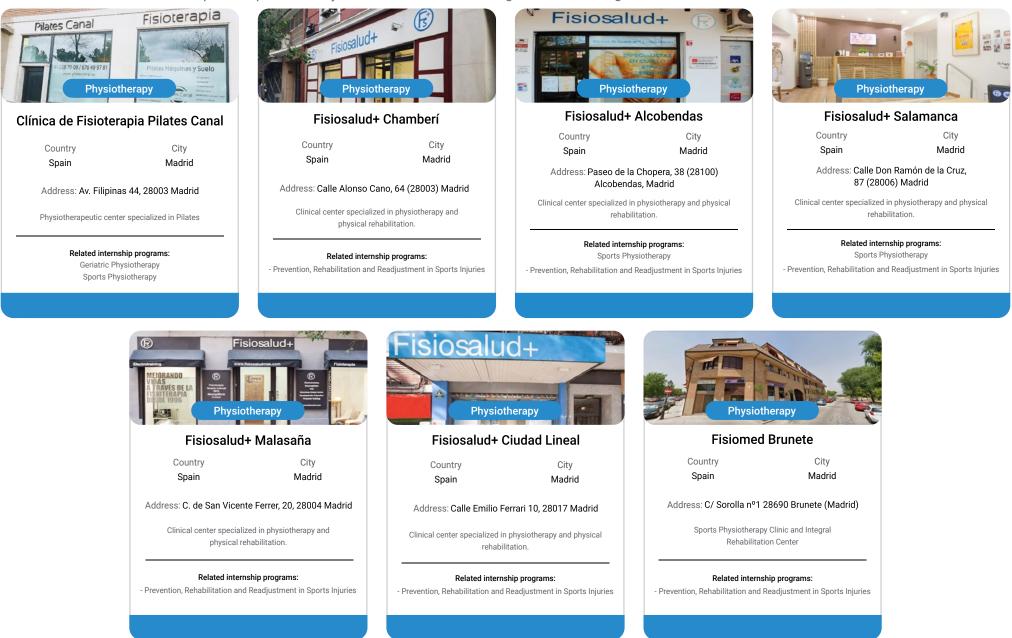
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# Where Can I Do the Clinical Internship? | 43 tech

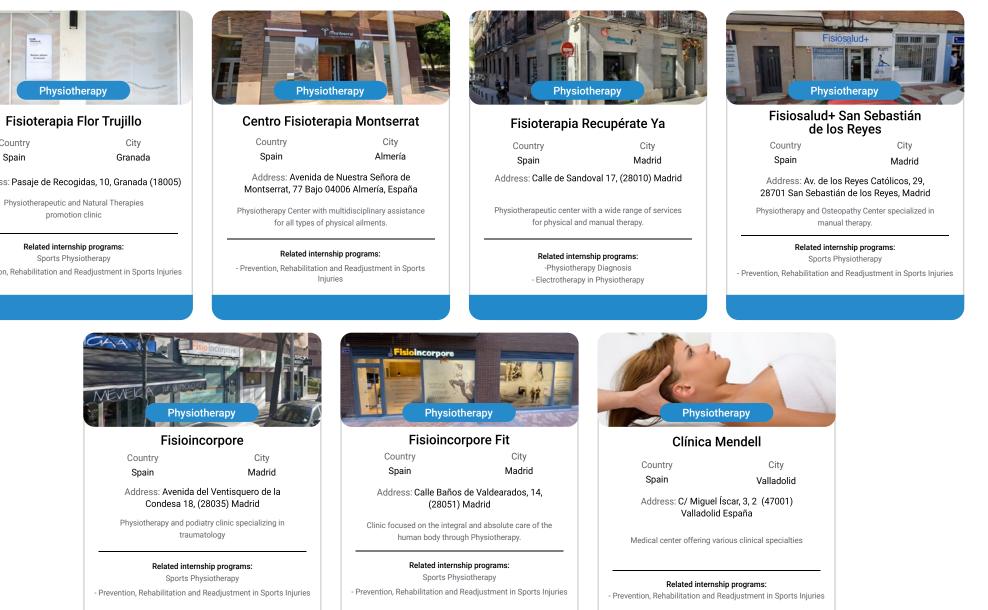
G This program will provide you with the best center to complete your internship in Injury Prevention and Readaptation"

## tech 44 | Where Can I Do the Clinical Internship?

The student will be able to take the practical part of this Hybrid Professional Master's Degree in the following centers:



## Where Can I Do the Clinical Internship? | 45 tech





### Country Spain

Address: Pasaje de Recogidas, 10, Granada (18005)

Physiotherapeutic and Natural Therapies

Related internship programs: Sports Physiotherapy - Prevention, Rehabilitation and Readjustment in Sports Injuries

# tech 46 | Where Can I Do the Clinical Internship?



Country City Spain Madrid Address: Avenida Camino de Santiago 1, esquina de Calle Puerto de Somport, 28050, Madrid

Multidisciplinary center specialized in sports and locomotor physiotherapy.

Related internship programs: Sports Physiotherapy - Prevention, Rehabilitation and Readjustment in Sports Injuries



TG Sp	ortclinic
Country	City
Spain	Madrid
Address: Calle Golfo de S	Salónica, 73, 28033, Madrid

Comprehensive health care clinic for athletes

Related internship programs: Sports Physiotherapy - Prevention, Rehabilitation and Readjustment in Sports Injuries



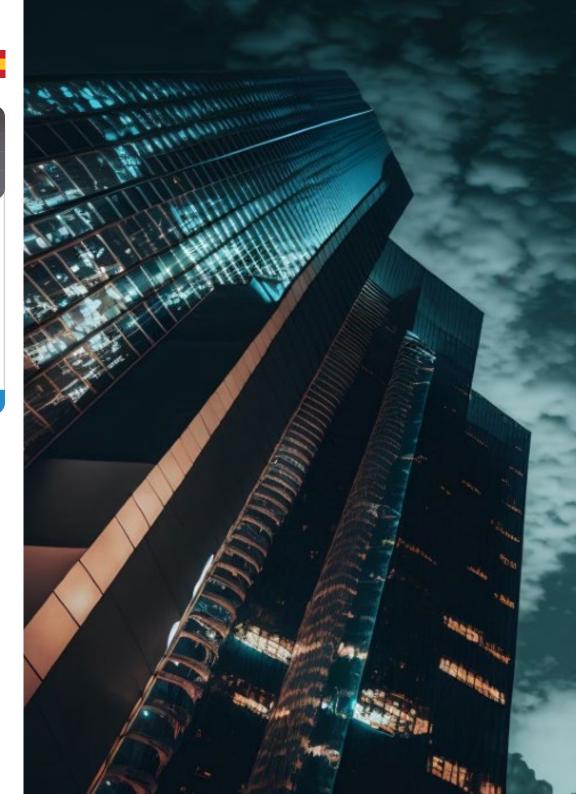
#### Clínica Abla

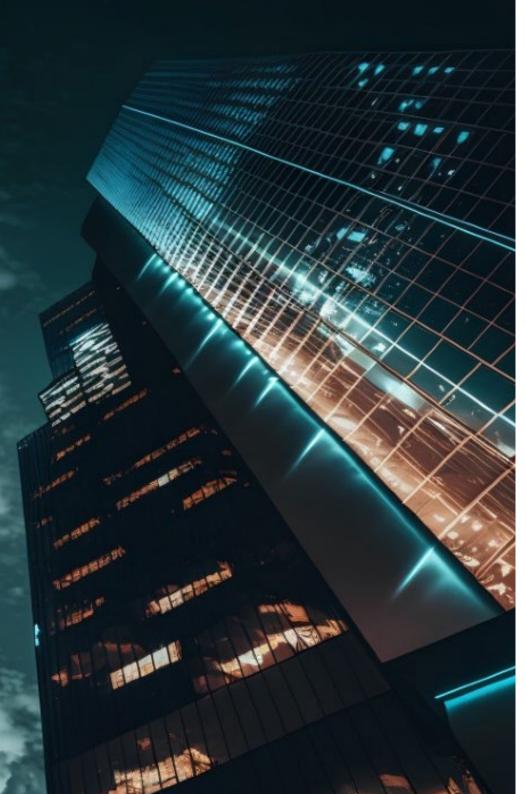
Country City Spain Madrid

Address: Calle de Antonio Machado, 61, 28830, San Fernando de Henares, Madrid

Center specialized in psychiatric, psychological and pedagogical assistance.

Related internship programs: Sports Physiotherapy - Prevention, Rehabilitation and Readjustment in Sports Injuries





## Where Can I Do the Clinical Internship? | 47 tech

Country

Spain



#### Pasos Fisioterapia

Country City Madrid Spain Address: Calle Rafael Sánchez Ferlosio, 11, local 3, 28830, San Fernando de Henares, Madrid

Center for Advanced Comprehensive Physiotherapy

Related internship programs: Sports Physiotherapy - Prevention, Rehabilitation and Readjustment in Sports Injuries



#### Centro de Rehabilitación y Fisioterapia Castellón

Castellón

City

Address: Calle Doctor Fleming, 3, Bajo, Castellón de la Plana, 12005, Castellón

Physiotherapeutic clinic specialized in the prevention of pain

#### Related internship programs:

- Prevention, Rehabilitation and Readjustment in Sports Injuries



#### FisioSanfer

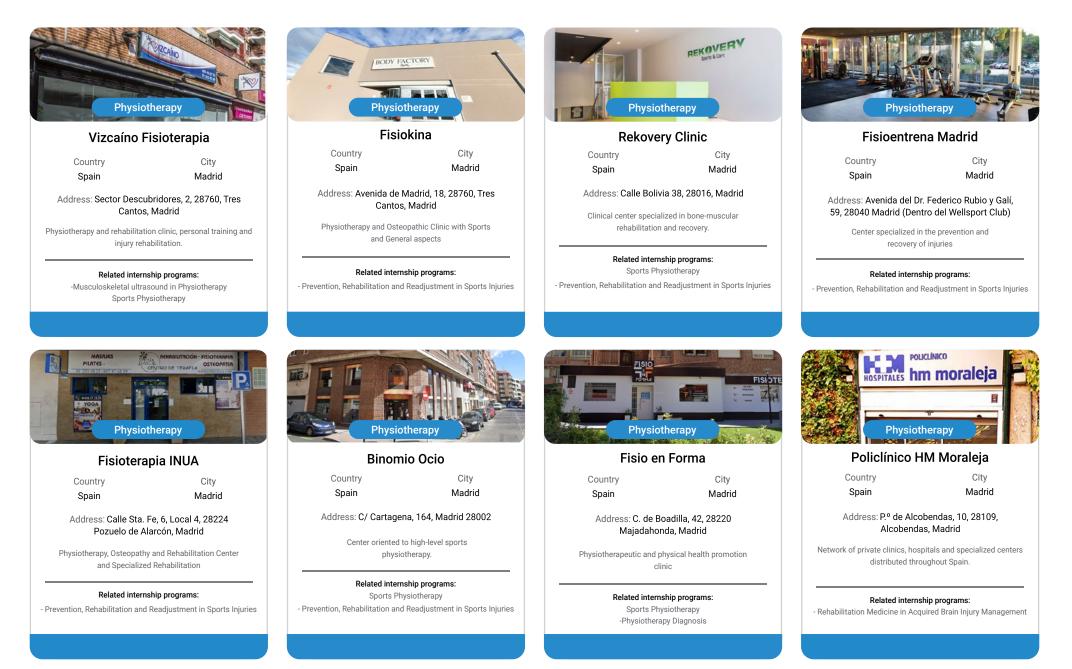
Country City Madrid Spain Address: Calle Nazario Calonge, 13, 28830, San Fernando de Henares, Madrid

Physiotherapy and Osteopathic Clinic with integral assistance

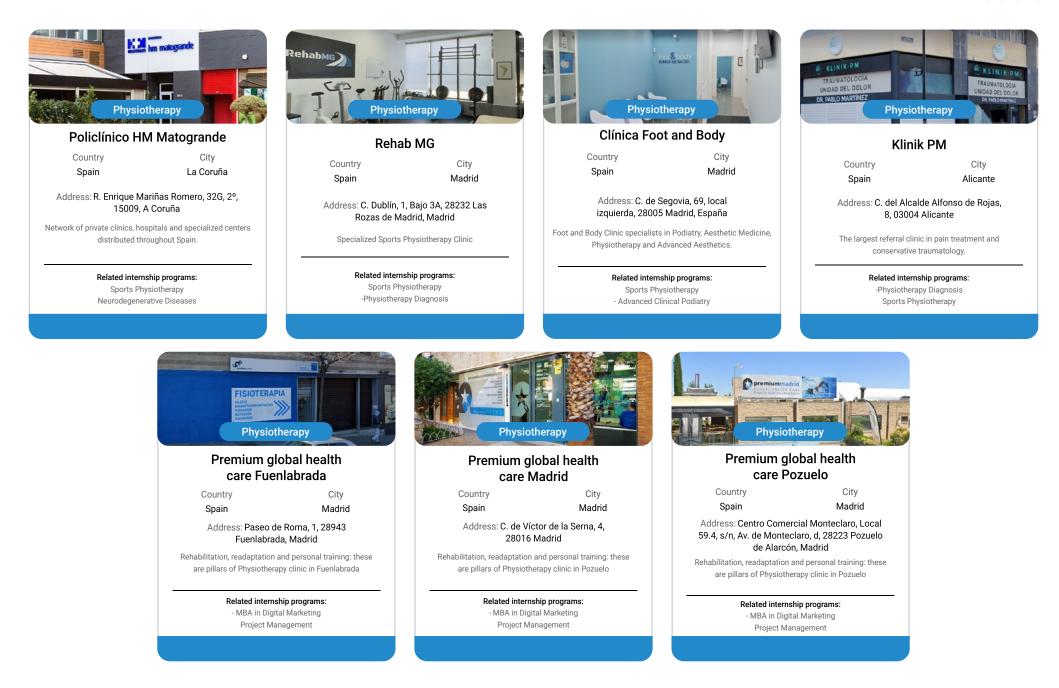
> Related internship programs: Sports Physiotherapy

-Musculoskeletal ultrasound in Physiotherapy

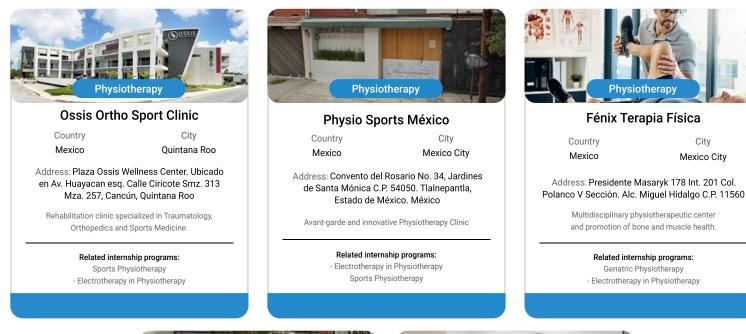
## tech 48 | Where Can I Do the Clinical Internship?



## Where Can I Do the Clinical Internship? | 49 tech



## tech 50 | Where Can I Do the Clinical Internship?





#### Clínica de Fisioterapia Integral Mover-T

Country	City
Mexico	Mexico City

Address: Calle Pilares 506, Colonia del Valle Centro, Benito Juárez,03100 Ciudad de México, CDMX, México

Integral Physiotherapy Clinic

#### Related internship programs: -Physiotherapy Diagnosis - Electrotherapy in Physiotherapy



#### Sports Clinic

Country	City
Mexico	Mexico City

Address: WTC, Montecito 38, Niv 1 local 01-09, Niv 2 Local 02-01, 02-13 y 02- 14l C.P. 03810, Benito Juárez , CDMX

Specialized clinic for the care of sportsmen and women

Related internship programs: Sports Physiotherapy - Electrotherapy in Physiotherapy



## Where Can I Do the Clinical Internship? | 51 tech



#### Domus Medica Caserta

Country Italy City Campania

Address: Via Giuseppe Maria Bosco, 63, 81100 Caserta CE, Italia

Integral Health Clinic and Physiotherapy

#### Related internship programs:

- Prevention, Rehabilitation and Readjustment in Sports Injuries

66

You will combine theory and professional practice through a demanding and rewarding educational approach"

# 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.

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"

# tech 54 | 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. Physiotherapists/kinesiologists 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 of professional physiotherapy 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. Physiotherapists/kinesiologists 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 physiotherapist/kinesiologist 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.

 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.



# tech 56 | Methodology

### **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.

The physiotherapist/kinesiologist 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 | 57 tech

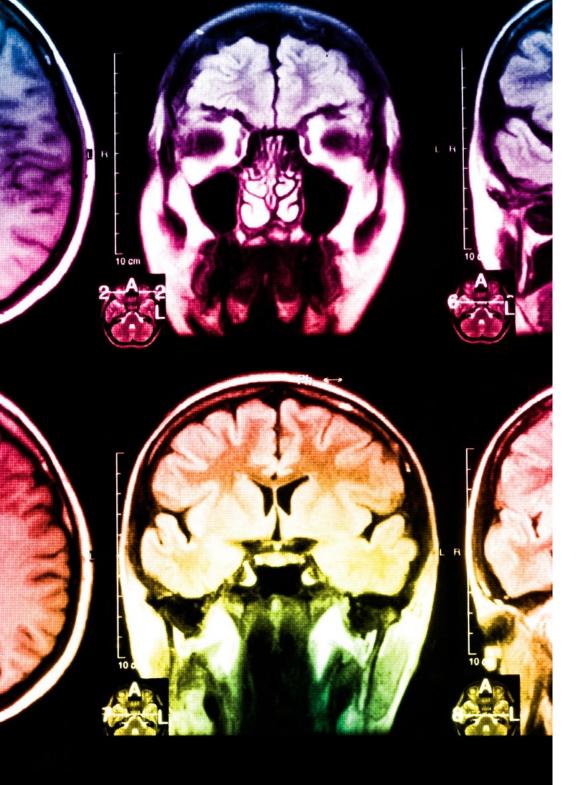
At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology we trained more than 65,000 physiotherapists/kinesiologists with unprecedented success in all clinical specialties, regardless of the workload. 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 training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for 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 our learning system is 8.01, according to the highest international standards.



# tech 58 | Methodology

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 really specific and precise.

20%

15%

3%

15%

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.



#### **Physiotherapy Techniques and Procedures on Video**

TECH brings students closer to the latest techniques, the latest educational advances and to the forefront of current Physiotherapy techniques and procedures. 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 them as many times as you want.



#### **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 unique multimedia content presentation training system 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.

## Methodology | 59 tech



#### **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.



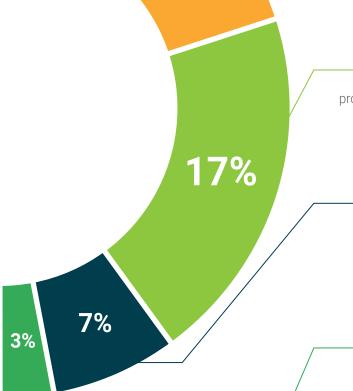
Classes

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.



20%

# 10 **Certificate**

The Hybrid Professional Master's Degree in Sports Injury Prevention, Rehabilitation and Readaptation guarantees students, in addition to the most rigorous and upto-date education, access to a Professional Master's Degree diploma issued by TECH Technological University.



Successfully complete this program and receive your university certificate without having to travel or fill out laborious paperwork"

# tech 62 | Certificate

This Hybrid Professional Master's Degree in Sports Injury Prevention, Rehabilitation and Readaptation contains the most complete and up-to-date program on the professional and educational field.

After the student has passed the assessments, they will receive their corresponding Hybrid Professional Master's Degree diploma issued by TECH Technological University via tracked delivery\*.

In addition to the diploma, students will be able to obtain an academic transcript, as well as a certificate outlining the contents of the program. In order to do so, students should contact their academic advisor, who will provide them with all the necessary information. Title: Hybrid Professional Master's Degree in Sports Injury Prevention, Rehabilitation and Readaptation Course Modality: Hybrid (Online + Clinical Internship) Duration: 12 months Certificate: TECH Technological University Teaching Hours: 1,620 h. Endorsed by the NBA





		Const	General Structure of the Syllabus			
Subject type	Hours	Year	Subject	Hours	Туре	
Compulsory (CO)	1,500	1	Personal Training	150	CO	
Optional (OP)	0	1	Preventive Work for Sports Practice	150	CO	
External Work Placement (WP) Master's Degree Thesis (MDT)	120	1	Structure of the Locomotor System	150	CO	
	0	1	Fitness, Functional and Biomechanical Assessment	150	CO	
	Total 1,620	1	Frequent Injuries in Athletes	150	CO	
		1	Exercise for the Readaptation of Sports Injuries	150	CO	
		1	Frequent Pathologies of the Locomotor System	150	CO	
		1	Exercise for Functional Recovery	150	CO	
		1	Nutrition for Functional Recovery and Rehabilitation	150	CO	
		1	Coaching and Personal Trainer Business	150	CO	



technological

\*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.

technological university Hybrid Professional Master's Degree Sports Injury Prevention, Rehabilitation and Readaptation Course Modality: Hybrid (Online + Clinical Internship) Duration: 12 months Certificate: TECH Technological University Teaching Hours: 1,620 hours

Hybrid Professional Master's Degree Sports Injury Prevention, Rehabilitation and Readaptation

Endorsed by the NBA

