

Postgraduate Certificate

Sports Injuries and Shockwave Induced Surgery





Postgraduate Certificate

Sports Injuries and Shockwave Induced Surgery

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

Website: www.techtute.com/us/medicine/postgraduate-certificate/sports-injuries-shockwave-induced-surgery

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01

Introduction

The fields that have experienced the greatest growth in recent years in the care of injured professional athletes are shock wave induced surgery and orthobiologicals used in sports injuries. Therefore, the use of platelet-rich plasma, bone marrow, stem cells, adipose tissue or high energy peak acoustic waves in the treatment of athletes has become a practice that requires advanced knowledge, both of its use and its benefits and drawbacks. In this way, TECH provides a 100% online program that offers specialists the most advanced and recent information in this area, through quality content that can be accessed 24 hours a day, from any computer, tablet or cell phone with Internet connection.



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A Postgraduate Certificate with 150 teaching hours of renewed and updated knowledge on Sports and Shock Wave Induced Surgery"

Nowadays, the high demands to which professional athletes are subjected mean that foot and ankle injuries require the most advanced techniques and the most highly trained medical specialists in order to achieve a rapid and optimal recovery.

Therefore, in recent years orthobiological options have become essential in the management of top-level athletes. In this scenario, the medical professional must find, as far as possible, treatments that avoid subjecting the athlete to surgical interventions and in the case of being essential, it is essential to know the latest methods, less invasive techniques and trends in sports orthopedics. It is in this line on which this Postgraduate Certificate has been designed, taught exclusively online, under the direction and delivery of a specialized teaching team.

A program that seeks to offer the medical specialist the latest information under a theoretical and practical vision of the most common pathologies, injury prevention and the best treatment currently available, especially in injuries suffered by athletes. For this purpose, TECH provides the most innovative pedagogical tools (video summaries, videos in detail), essential scientific readings and clinical case studies.

In addition, thanks to the effective *Relearning* method, based on the reiteration of content, the professional will be able to obtain the knowledge update required in a much more agile way. Likewise, this system will help to reduce the long hours of study that are so frequent in other courses.

This academic institution offers a Postgraduate Certificate that can be completed comfortably, whenever and wherever you want. All you need is an electronic device with an Internet connection to consult the syllabus hosted on the virtual platform. This flexibility also allows you to combine the most demanding responsibilities with a quality program.

This **Postgraduate Certificate in Sports Injuries and Shockwave Induced Surgery** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ Practical cases presented by experts in medicine
- ◆ 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
- ◆ The practical exercises where the self-evaluation process can be carried out to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



A program without attendance, or classes with schedules that force you to be connected at certain times of the day. TECH gives you knowledge and flexibility"

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Go into the indications, contraindications, preoperative planning and surgical technique of the main foot and ankle injuries whenever you wish"

The program's teaching staff includes professionals from the sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive training programmed to train in real situations.

The design of this program focuses on problem-based learning, through which the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

Learn about the advances in Orthobiology and the accelerated recovery of injured structures in athletes in this course.

Reduce study time thanks to the Relearning system used by TECH in all its programs.



02 Objectives

As in other medical specialties, surgeons specialized in the approach to foot and ankle injuries must update their knowledge due to technical advances and scientific evidence, which modify treatments and techniques. For this purpose, this 100% online course has been designed, which can be easily accessed at any time of the day, from an electronic device with Internet connection.





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If your objective is to update your knowledge in a short period of time, you are in front of the Postgraduate Certificate you are looking for"



General Objectives

- ◆ Analyze the factors that predispose the athlete to suffer injuries
- ◆ Examine the physical assessment of the athlete in the office and on the playing field
- ◆ Establish treatment guidelines and protocols for the care of the injured athlete
- ◆ Evaluate different conservative and surgical treatment options for the injured athlete
- ◆ Develop orthobiologic options in the treatment of sports injuries



Learn about current advances in the management and postoperative care of professional athletes with Achilles tendon injuries"





Specific Objectives

- ◆ Identify predisposing factors for sports injuries
- ◆ Review athlete assessment techniques
- ◆ Explain specific surgical techniques for high-performance athletes in tendon injuries of the foot and ankle
- ◆ Identify indications for orthobiologic treatment of foot and ankle sports injuries
- ◆ Review ligament injuries of the foot and ankle in high-performance athletes
- ◆ Review the indications and technique of shockwave-induced surgery

03

Course Management

The excellent professional background of the teachers who are part of this university program is a guarantee and gives security to the specialist, who seeks in this program to obtain an update of their knowledge in the field of Sports Injuries and Shockwave Induced Surgery. For this purpose, it has a syllabus prepared by a faculty specialized in Traumatology and Orthopedics, who have practiced in first level hospitals in this health area.





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You will be able to solve any doubt about the syllabus thanks to the proximity of the teaching team that integrates this Postgraduate Certificate"

Management



Dr. Pacheco Gutiérrez, Victor Alexander

- ◆ Surgeon Specialist in Orthopedics and Sports Medicine at the Dr. Sulaiman Al Habib Hospital in Dubai
- ◆ Medical advisor for baseball, boxing and cycling teams
- ◆ Specialty in Orthopedics and Traumatology
- ◆ Degree in Medicine
- ◆ Sports Medicine Fellowship in Sportsmed
- ◆ Member of the American Academy of Orthopedic Surgeons

Professors

Dr. Chirinos Castellanos, Raúl Ernesto

- ◆ Medical Specialist in Traumatology and Orthopedics Department
- ◆ Traumatologist in U-13 men's base soccer teams
- ◆ Graduate in Medicine and Surgery
- ◆ Traumatology and Orthopedics Specialty



04

Structure and Content

In the development of this study plan, TECH and its teaching team have invested hundreds of hours to offer the professional the most advanced and comprehensive syllabus on Sports Injuries and Shockwave Induced Surgery. All this, in an academic format that adapts to each professional, and where you can find the latest information on the approach to injuries such as tendinopathies and plantar fasciitis, pathologies affecting the tibialis posterior in athletes, their diagnosis, surgical treatment and possible complications.



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An intensive 150-hour syllabus, providing the most relevant information on the treatment of sports injuries in the lower extremities of the body"

Module 1. Sports Injuries and Shockwave-Induced Surgery

- 1.1. Physical Assessment and Predisposing Factors in Athletes
 - 1.1.1. Intrinsic and Extrinsic Factors
 - 1.1.2. Physical Examination. Recommendations
 - 1.1.3. Static Assessment
 - 1.1.4. Dynamic Assessment:
 - 1.1.4.1. Stability
 - 1.1.4.2. Mobility
 - 1.1.5. Impact
- 1.2. Tendinopathies and Plantar Fasciitis in the Athlete's Foot and Ankle
 - 1.2.1. Anatomy and Histology of the Tendon
 - 1.2.2. Literature Review
 - 1.2.3. Pathogenesis
 - 1.2.4. Common Tendinopathies of the Athlete
 - 1.2.5. Treatment
 - 1.2.6. Complications
- 1.3. Achilles Tendon Injuries in Professional Athletes
 - 1.3.1. Anatomy
 - 1.3.2. Literature Review
 - 1.3.3. Conservative Treatment
 - 1.3.4. Surgical Management
 - 1.3.4.1. Indications
 - 1.3.4.2. Contraindications
 - 1.3.4.3. Preoperative Planning
 - 1.3.4.4. Approach
 - 1.3.4.5. Surgical Technique
 - 1.3.5. Complications
 - 1.3.6. Post-Operative Care
- 1.4. Peroneal Tendon Instability in Athletes
 - 1.4.1. Anatomy
 - 1.4.2. Literature Review
 - 1.4.3. Indications
 - 1.4.4. Contraindications
 - 1.4.5. Preoperative Planning
 - 1.4.6. Approach
 - 1.4.7. Surgical Technique
 - 1.4.8. Complications
 - 1.4.9. Post-Operative Care
- 1.5. Posterior Tibial Injuries in Athletes
 - 1.5.1. Anatomy
 - 1.5.2. Literature Review
 - 1.5.3. Indications
 - 1.5.4. Contraindications
 - 1.5.5. Preoperative Planning
 - 1.5.6. Approach
 - 1.5.7. Surgical Technique
 - 1.5.8. Complications
 - 1.5.9. Post-Operative Care
- 1.6. Ligament Injuries of the Athlete's Ankle
 - 1.6.1. Anatomy
 - 1.6.1.1. Medial Complex
 - 1.6.1.2. Lateral Complex
 - 1.6.2. Literature Review
 - 1.6.3. Non-Surgical Treatment

- 1.6.4. Surgical Management
 - 1.6.4.1. Indications
 - 1.6.4.2. Contraindications
 - 1.6.4.3. Preoperative Planning
 - 1.6.4.4. Approach
 - 1.6.4.5. Surgical Technique
 - 1.6.4.6. Post-Operative Care
- 1.6.5. Complications
- 1.7. Sports Injuries in Immature Skeleton
 - 1.7.1. Anatomy of the Immature Skeleton
 - 1.7.2. Sever's Disease
 - 1.7.3. Tendinopathies
 - 1.7.4. Scaphoid Avascular Necrosis
 - 1.7.5. Metatarsal Avascular Necrosis
 - 1.7.6. Treatment
 - 1.7.7. Complications
 - 1.7.8. Recommendations
- 1.8. Basic Principles of Shockwaves
 - 1.8.1. Physical Characteristics of Shockwaves
 - 1.8.2. Types of Wave Generating Equipment
 - 1.8.3. Mechanical and Biological Effects: Mechanotransduction
 - 1.8.4. Clinical Expression of the Shockwave Effect
 - 1.8.5. Regulation of the Use of Shockwaves
 - 1.8.6. Indications
 - 1.8.7. Contraindications
- 1.9. Shockwaves and Sports Injuries of the Foot and Ankle
 - 1.9.1. Indications
 - 1.9.2. Protocol in Tendinopathies
 - 1.9.3. Protocol in Bone Injuries
 - 1.9.4. Contraindications
 - 1.9.5. Complications
 - 1.9.6. Recommendations
- 1.10. Orthobiologicals in Sports Injuries
 - 1.10.1. Uses of Hyaluronic Acid
 - 1.10.1.1. Literature Review
 - 1.10.1.2. Indications
 - 1.10.1.3. Contraindications
 - 1.10.1.4. Technique
 - 1.10.1.5. Complications
 - 1.10.1.6. Recommendations
 - 1.10.2. Platelet-rich Plasma
 - 1.10.2.1. Literature Review
 - 1.10.2.2. Recommendations for Use
 - 1.10.2.3. Contraindications
 - 1.10.2.4. Technique
 - 1.10.2.5. Complications
 - 1.10.2.6. Recommendations



A program designed to provide you with the latest scientific information on the use of platelet-rich plasma for the recovery of elite athletes"

05

Methodology

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

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



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

At TECH we use the Case Method

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

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



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

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

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

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



Relearning Methodology

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

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

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



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

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

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

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

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



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



Study Material

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

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



Surgical Techniques and Procedures on Video

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



Interactive Summaries

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

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



Additional Reading

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





Expert-Led Case Studies and Case Analysis

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



Testing & Retesting

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



Classes

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



Quick Action Guides

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



06

Certificate

The Postgraduate Certificate in Sports Injuries and Shockwave Induced Surgery guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.





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

This **Postgraduate Certificate in Sports Injuries and Shockwave Induced Surgery** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Sports Injuries and Shockwave Induced Surgery**
Official N° of Hours: **150 h.**



*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.



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