

# Postgraduate Certificate

## Musculoskeletal Injuries and Infections in Large Animals





## Postgraduate Certificate Musculoskeletal Injuries and Infections in Large Animals

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/veterinary-medicine/postgraduate-certificate/musculoskeletal-injuries-infections-large-animals](http://www.techtute.com/us/veterinary-medicine/postgraduate-certificate/musculoskeletal-injuries-infections-large-animals)

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# 01

# Introduction

Having knowledge of the different therapeutic options available for the treatment of musculoskeletal injuries and infections is important due to the frequency of these pathologies in large species: ruminants (cattle, sheep), camelids (camels, alpacas, llamas), swine (pigs, wild boars) and equidae (horses, donkeys and mules).

This program provides the guidelines to follow, the decisions to be made and the treatments to be performed when a patient suffers a musculoskeletal injury or infection. To this end, we have compiled an exhaustive list of techniques that will allow us to treat them effectively.





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*Veterinarians must continue their training to adapt to new developments in this field”*

Veterinarians face new challenges every day in treating their patients. The Postgraduate Certificate in Musculoskeletal Injuries and Infections in Large Animals comprises a complete and up-to-date educational program including the latest advances in traumatology and orthopedic surgery in ruminants (cattle, sheep), camelids (camels, alpacas and llamas), swine (pigs, wild boars) and equidae (horses, donkeys and mules).

The theoretical and practical content has been chosen taking into account its potential practical application in daily clinical practice. Furthermore, the audiovisual material collects scientific and practical information on the essential disciplines for professional practice.

In each topic, practical cases presented by experts in Traumatology and Orthopedic Surgery in Large Animals have been developed, with the objective of the practically applying the knowledge acquired. In addition, students will participate in a self-evaluation process to improve their learning and knowledge during their practical activities.

The teaching team of the Postgraduate Certificate in Musculoskeletal Injuries and Infections in Large Animals has programmed a careful selection of techniques used in the diagnosis and treatment of ruminants (cattle, sheep), camelids (camels, alpacas, llamas), swine (pigs, wild boars) and equidae (horses, donkeys and mules), including the description of musculoskeletal surgery and rehabilitation in those species to which they are applied.

The teaching surgeons of this program are graduates of the European or American College of Veterinary Surgeons and have extensive experience both in the university field and in private practice. In both areas, they are responsible for large animal surgery services in leading veterinary centers and most of them direct residency programs, master's degree programs and research projects.

As a result of the training that the teaching staff of this Postgraduate Certificate undertook in North America and Europe, the techniques have been extensively tested and are internationally recognized.

All of these elements mentioned above make this Postgraduate Certificate a unique specialization program, exclusive and different to all the courses offered in other universities.

This **Postgraduate Certificate in Musculoskeletal Injuries and Infections in Large Animals** contains the most complete and up-to-date educational program on the market. The most important features include:

- ◆ Practical cases presented by experts in Diagnosis and Treatment of Lameness in Large Animals: Equidae, Ruminants and Swine
- ◆ The graphic, schematic, and eminently practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice.
- ◆ Latest information on Musculoskeletal Injuries and Infections in Large Animals
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ Special emphasis on innovative methodologies in Musculoskeletal Injuries and Infections in Large Animals
- ◆ 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



*Don't miss the opportunity to study this  
Athe perfect opportunity to advance in  
your veterinary career"*

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*This course is the best investment you can make when choosing a refresher programme to update your existing knowledge of Large Animal Veterinary Medicine"*

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

This program is designed around Problem Based Learning, whereby the specialist must try to solve the different professional practice situations that arise during the academic year. For this, the professional will have the help of an innovative interactive video system made by renowned and experienced experts in Musculoskeletal Injuries and Infections in Large Animals.

*This training comes with the best didactic material, providing you with a contextual approach that will facilitate your learning.*

*This 100% online Postgraduate Certificate will allow you to combine your studies with your professional work while increasing your knowledge in this field.*



# 02

# Objectives

The Postgraduate Certificate in Musculoskeletal Injuries and Infections in Large Animals is designed to facilitate the performance of the veterinary professional with the latest advances and most innovative treatments in the sector.







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*This is the best option to learn about the latest advances in Musculoskeletal Injuries and Infections in Large Animals”*



## General Objectives

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- ♦ Gain fundamental knowledge of musculoskeletal injuries and infections
- ♦ Establish an appropriate methodology for its exploration, diagnosis and treatment
- ♦ Generate specialized knowledge of the different materials and techniques used for the treatment of these pathologies
- ♦ Propose therapeutic strategies in wound management alternative to the conventional ones



*Join one of the largest online universities in the world"*





## Specific Objectives

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- ◆ Develop knowledge of the different phases of skin healing.
- ◆ Specify the different types of wounds that can occur in large animal clinics
- ◆ Indicate the tests to be performed on a patient with a musculoskeletal injury or infection to determine the significance of the injury
- ◆ Determine the techniques of tissue management, hemostasis, suturing, reconstruction and skin grafting
- ◆ Set guidelines for the choice of different types of sutures, needles and drains
- ◆ Select the appropriate dressing or bandage for each clinical situation
- ◆ Expose the importance and application of the fiberglass technique
- ◆ Apply the different therapeutic guidelines in acute and chronic wounds
- ◆ Carry out a correct diagnosis and treatment of synovial and bone infections
- ◆ Specify the use of the different tenorrhaphy techniques
- ◆ Present the different causes of exuberant granulation and its treatment.
- ◆ Apply the different therapeutic guidelines in burns

03

# Course Management

The program's teaching staff includes leading experts in Musculoskeletal Injuries and Infections in Large Animals, who bring their work experience to this training program. They are world-renowned doctors from different countries with proven theoretical and practical professional experience.



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*Our team of teachers, with expertise in Musculoskeletal Injuries and Infections in Large Animals, will help you reach success in your profession”*

## Management



### Dr. Muñoz Morán, Juan Alberto

- PhD in Veterinary Science
- Degree in Veterinary Medicine from the Complutense University of Madrid
- Graduate of the European College of Veterinary Surgeons
- Professor in Large Animal surgery at the Veterinary University of Pretoria, South Africa
- Head of the Equine Surgery Residency Program at the Veterinary University of Pretoria, South Africa
- Head of the Large Animal Surgery Department and professor at the Alfonso X el Sabio University, Madrid
- Surgeon at the Equine Hospital of Aznalcollar, Seville



# 04

# Structure and Content

The structure of the content has been designed by the best professionals in the field of Musculoskeletal Injuries and Infections in Large Animals in Large Animals, with extensive experience and recognized prestige in the profession, backed by the volume of cases reviewed, studied, and diagnosed, and with extensive knowledge of new technologies applied to veterinary medicine.







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*This Postgraduate Certificate in Musculoskeletal Injuries and Infections in Large Animals contains the most complete and up-to-date scientific program on the market”*

## Módulo 1. Musculoskeletal Injuries and Infections in Large Animals: Ruminants, Swine and Equidae

- 1.1. Exploration and Wound Types
  - 1.1.1. Anatomy
  - 1.1.2. Initial Assessment, Emergency Treatment
  - 1.1.3. Wound Classification
  - 1.1.4. Wound Healing Process
  - 1.1.5. Factors Influencing Wound Infection and Wound Healing
  - 1.1.6. Primary and Secondary Intention Wound Healing
  - 1.1.7. Particularities in Ruminants and Swine
- 1.2. Tissue Management, Hemostasis and Suture Techniques
  - 1.2.1. Incision and Tissue Dissection
  - 1.2.2. Hemostasis
    - 1.2.2.1. Mechanical Hemostasis
    - 1.2.2.2. Ligatures
    - 1.2.2.3. Tourniquet
    - 1.2.2.4. Electrocoagulation
    - 1.2.2.5. Chemical Hemostasis
  - 1.2.3. Tissue Management, Irrigation and Suctioning
- 1.3. Suturing Materials and Techniques
  - 1.3.1. Materials Used
    - 1.3.1.1. Instruments
    - 1.3.1.2. Suture Material Selection
    - 1.3.1.3. Needles
    - 1.3.1.4. Drainages
  - 1.3.2. Approaches to Wound Suturing
  - 1.3.3. Suture Patterns
- 1.4. Acute Wound Repair
  - 1.4.1. Wound Treatment Medication
  - 1.4.2. Debriding
  - 1.4.3. Hoof Wounds
  - 1.4.4. Emphysema Secondary to Wounds
- 1.5. Repair and Management of Chronic and/or Infected Wounds
  - 1.5.1. Particularities of Chronic and Infected Wounds
  - 1.5.2. Causes of Chronic Wounds
  - 1.5.3. Management of Severely Contaminated Wounds
  - 1.5.4. Laser Benefits
  - 1.5.5. Larvotherapy
  - 1.5.6. Cutaneous Fistulas Treatment
- 1.6. Management and Repair of Synovial Wounds, Joint Lavage and Phytitis
  - 1.6.1. Diagnosis
  - 1.6.2. Treatment
    - 1.6.2.1. Systemic and Local Antibiotic Therapy
    - 1.6.2.2. Types of Joint Lavage
    - 1.6.2.3. Analgesia
  - 1.6.3. Phytitis
    - 1.6.3.1. Diagnosis
    - 1.6.3.2. Treatment
  - 1.6.4. Particularities in Ruminants and Swine
- 1.7. Bandages, Dressings, Topical Treatments and Negative Pressure Therapy
  - 1.7.1. Types and Indications of the Different Types of Bandages and Dressings
  - 1.7.2. Topical Treatment Types
  - 1.7.3. Ozone Therapy
  - 1.7.4. Negative Pressure Therapy
- 1.8 Tendon Lacerations Management and Repair
  - 1.8.1. Diagnosis
  - 1.8.2. Emergency Treatment
  - 1.8.3. Paratendinous Laceration
  - 1.8.4. Tenorrhaphy
  - 1.8.5. Avulsion and Rupture of Tendons in Ruminants
  - 1.8.6. Ligament Lacerations in Ruminants and Swine



- 1.9. Reconstructive Surgery and Skin Grafting
  - 1.9.1. Principles and Techniques of Reconstructive Surgery
  - 1.9.2. Principles and Techniques of Skin Grafts
- 1.10 Treatment of Exuberant Granulation Tissue Sarcoid Burns
  - 1.10.1. Causes of the Appearance of Exuberant Granulation Tissue
  - 1.10.2. Treatment of Exuberant Granulation Tissue
  - 1.10.3. Sarcoid Appearance in Wounds
    - 1.10.3.1. Wound Associated Sarcoid Type
    - 1.10.3.2. Treatment
  - 1.10.4. Burn Treatment

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*This training will allow you to advance in your career comfortably"*

# 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 you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

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



According to Dr. Gervas, 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, in an attempt to recreate the actual conditions in a veterinarian'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:

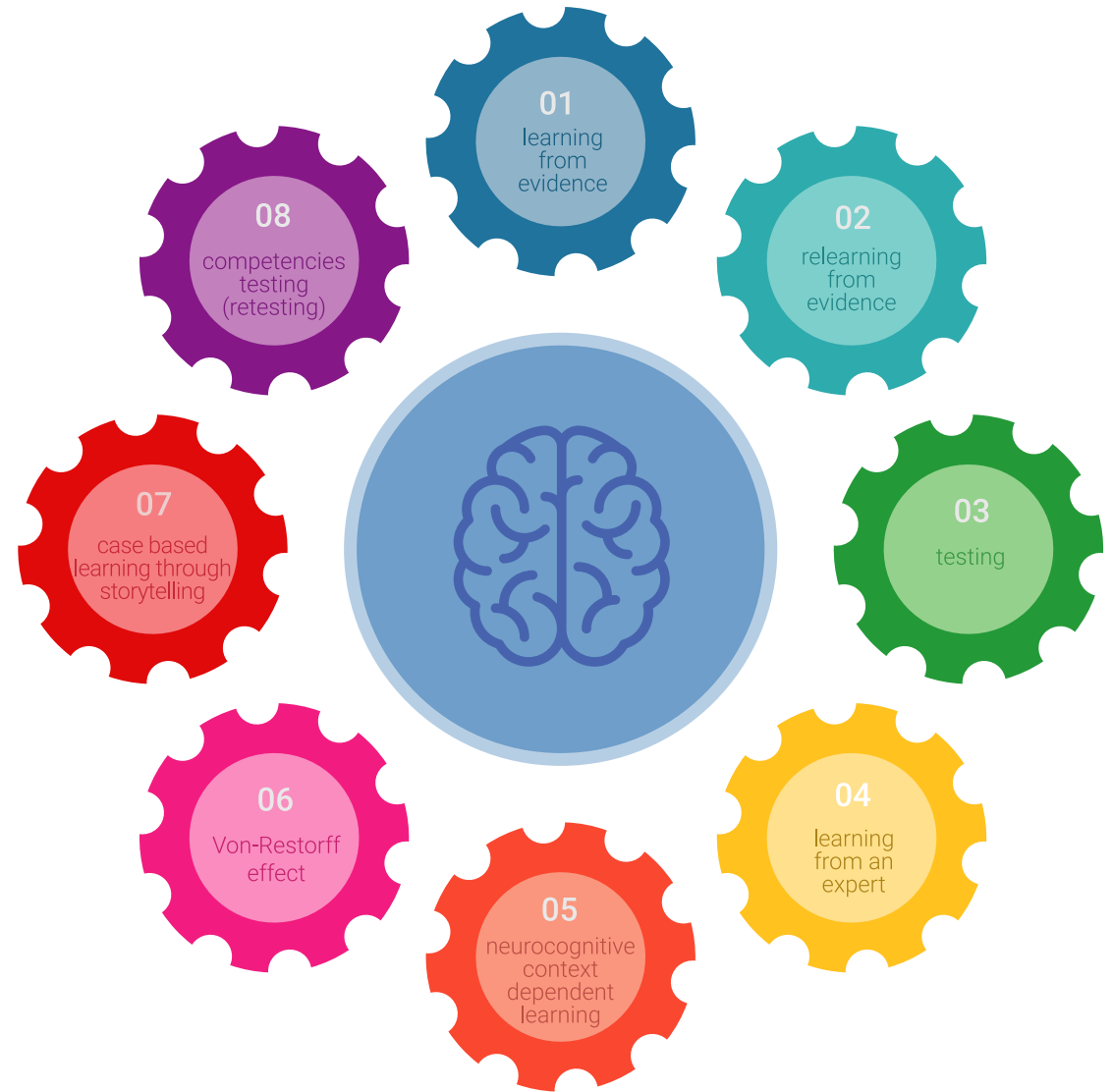
1. Veterinarians who follow this method not only manage to assimilate concepts, but also develop their mental capacity through exercises to evaluate real situations and knowledge application
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. The feeling that the effort invested is effective becomes a very important motivation for veterinarians, which translates into a greater interest in learning and an increase in the 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.



*Veterinarians 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 65,000 veterinarians have been trained with unprecedented success in all clinical specialties, regardless of the surgical load. Our teaching method is developed in a highly demanding environment, where the students have a high socio-economic profile and an average age of 43.5 years.

*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 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.



#### Latest Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current and procedures of veterinary 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 suggesting that observing third-party experts can be useful.

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 Musculoskeletal Injuries and Infections in Large Animals guarantees, in addition to the most rigorous and up-to-date training, access to a Postgraduate Certificate issued by TECH Global University.





*Successfully complete this training and receive your university qualification without travel or laborious paperwork"*

This program will allow you to obtain your **Postgraduate Certificate in Musculoskeletal Injuries and Infections in Large Animals** endorsed by **TECH Global University**, the world's largest online university.

**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** title 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.

Title: **Postgraduate Certificate in Musculoskeletal Injuries and Infections in Large Animals**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**





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