

# Postgraduate Certificate Orthopedic Surgery in Large Animals





## Postgraduate Certificate Orthopedic Surgery in Large Animals

- » Modality: online
- » Duration: 3 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/in/veterinary-medicine/postgraduate-certificate/orthopedic-surgery-large-animals](http://www.techtitute.com/in/veterinary-medicine/postgraduate-certificate/orthopedic-surgery-large-animals)

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# 01

# Introduction

Musculoskeletal diseases are very common in large animals: ruminants (cattle, sheep), camelids (camels, alpacas, llamas), swine (pigs, wild boars) and equidae (horses, donkeys and mules).

As field veterinarians and/or surgeons, we must have specialized and advanced knowledge in both procedures and prognostics to offer and agree with the owner on different treatment options.

This program presents an in-depth study of the most common surgical techniques related to the resolution of fractures and muscle-tendon pathologies, complications, postoperative management and prognosis of distal carpal and tarsal limb pathologies, as well as common tendon and muscle injuries in forelimbs and hind limbs. This will allow students to develop specialized knowledge which will help them to opt for the best treatment according to the case, logistics, economic possibilities and the owner's decision.







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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 Orthopedic Surgery 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 Orthopedic Surgery 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 Postgraduate Certificate 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 Orthopedic Surgery in Large Animals** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ Practical cases presented by experts in Advanced Techniques for Cardiovascular Pathology in Large Animals: Equidae, Ruminants and Swine
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional development
- ♦ Latest innovations on Orthopedic Surgery in Large Animals
- ♦ Practical exercises where self-assessment can be used to improve learning
- ♦ Special emphasis on innovative methodologies in Orthopedic Surgery 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



*Do not miss the opportunity to take this Postgraduate Certificate with TECH. It's the 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 learning 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 throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts in Orthopedic Surgery in Large Animals.

*This program comes with the best educational 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 Orthopedic Surgery in Large Animals is designed to facilitate the performance of veterinary professionals with the latest advances and the most innovative treatments in the sector.





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*This is the best option to learn about  
the latest advances in Orthopedic  
Surgery in Large Animals”*



## General Objectives

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- Establish the surgical methodology for the resolution of musculoskeletal problems in large animals
- Examine each surgical technique in detail for each commonly occurring muscle and tendon pathology
- Determine each surgical technique in detail for each commonly occurring bone pathology
- Establish survival, sports and productive prognoses for the pathologies described
- Establish the most appropriate surgical methodology for the resolution of musculoskeletal problems in large animals
- Examine each surgical technique in detail for each commonly occurring forelimb and hind limb bone pathology and for each commonly occurring axial skeletal bone pathology
- Establish survival, sports and productive prognoses for the pathologies described



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





## Specific Objectives

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- ◆ Discuss the surgical techniques for each particular problem
- ◆ Analyze the surgical techniques related to the common muscle-tendon injuries of the forelimb and hind limb
- ◆ Determine the surgical techniques related to common bone injuries of the forelimb and hind limb including hoof, phalanges and metacarpo-metatarsus
- ◆ Justify surgery for each particular problem described
- ◆ Propose surgical alternatives for some procedures
- ◆ Specify the equipment needed for each procedure
- ◆ Examine the prognosis of each procedure
- ◆ Provide a rationale for the surgical techniques to be described for each particular problem
- ◆ Determine the surgical techniques related to common bone injuries of the forelimb and hind limb including and adjacent to the carpus and tarsus
- ◆ Examine the surgical techniques related to bone injuries of the axial skeleton in large animals
- ◆ Justify surgery for each particular problem described
- ◆ Propose surgical alternatives for some procedures
- ◆ Specify the equipment needed for each procedure
- ◆ Examine the prognosis of each procedure

# 03

# Course Management

The teaching staff of the program includes leading experts in Orthopedic Surgery in Large Animals, who contribute their years of experience to this program. They are world-renowned doctors from different countries with proven theoretical and practical professional experience.







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*Our team of teachers, experts in Orthopedic Surgery in Large Animals, will help you reach success in your profession"*

## Management



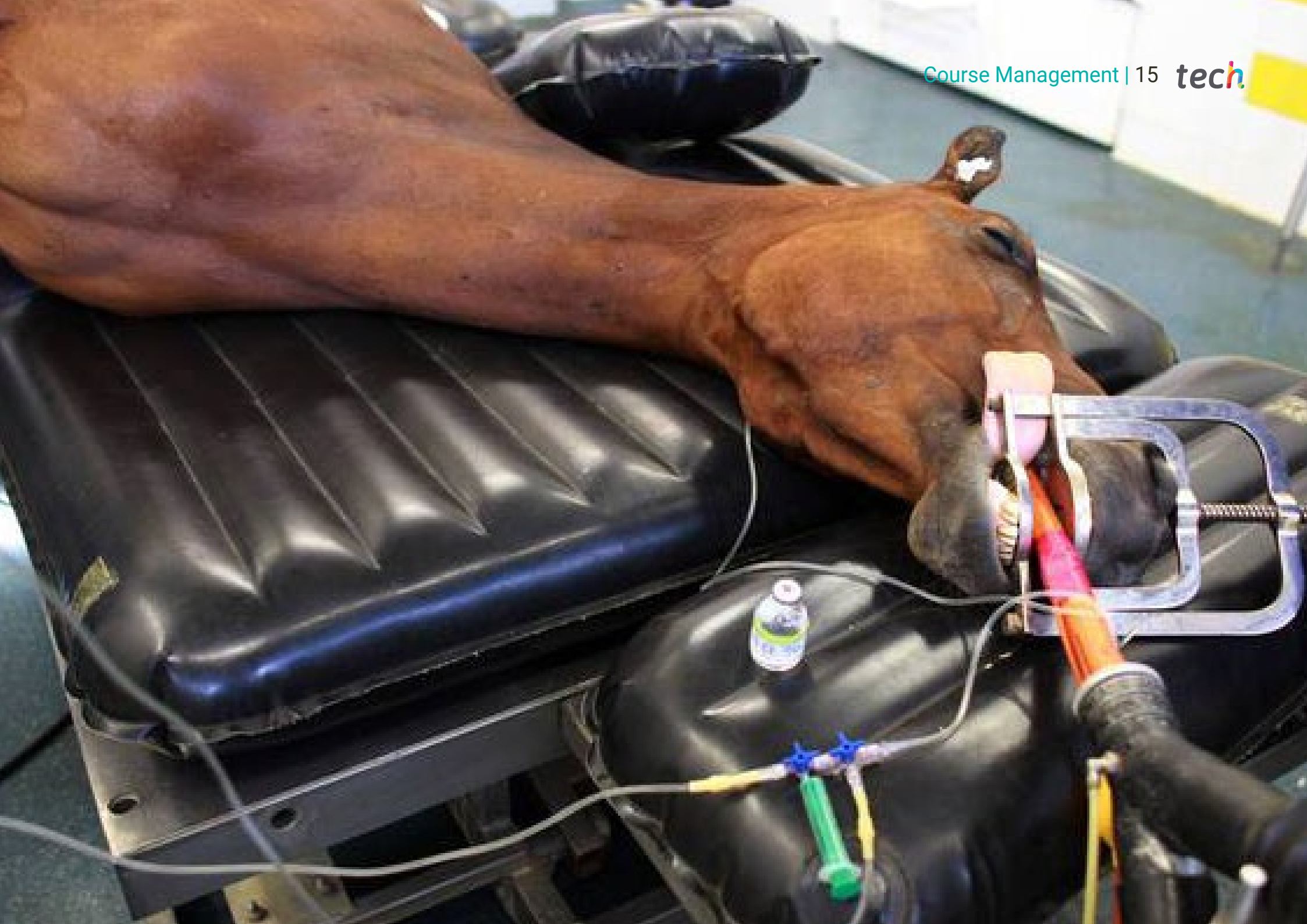
### Dr. Muñoz Morán, Juan Alberto

- ♦ 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.

## Professors

### Dr. Quinteros, Diego Daniel

- ♦ Certificate from the American College of Veterinary Surgeons
- ♦ Latin American Board on Equidae AOVET Foundation
- ♦ Veterinary Surgeon (2015-present) Integral Equine Veterinary Surgeons - Pincen, Cordoba, Argentina





# 04

# Structure and Content

The structure of the content has been designed by the best professionals in the field of Orthopedic Surgery 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 Orthopedic Surgery in Large Animals contains the most complete and up-to-date educational program on the market”*

**Module 1. Common Orthopedic Surgery Procedures of the Musculoskeletal System in Large Animals: Ruminants, Swine and Equidae Part I**

- 1.1. Fractures of Distal Phalanx and Navicular Bone
  - 1.1.1. Distal Phalanx
    - 1.1.1.1. Causes
    - 1.1.1.2. Classification
    - 1.1.1.3. Clinical Signs
    - 1.1.1.4. Treatment
  - 1.1.2. Navicular Bone Fracture
    - 1.1.2.1. Causes
    - 1.1.2.2. Clinical Signs and Diagnosis
    - 1.1.2.3. Treatment
  - 1.1.3. Digital Neurectomy
  - 1.1.4. Bovine Distal Phalanx Fracture
  - 1.1.5. Bovine Pedal Osteitis
  - 1.1.6. Sepsis of the Common Digital Flexor Tendon Sheath in Ruminants
    - 1.1.6.1. Tenosynoviotomy With Resection of Affected Tissue
- 1.2. Middle Phalanx Fracture
  - 1.2.1. Etiology
  - 1.2.2. Clinical Signs
  - 1.2.3. Diagnosis
  - 1.2.4. Settings
    - 1.2.4.1. Palmar/Plantar Eminence Fractures
      - 1.2.4.1.1. Uni- and Biaxial Fractures
    - 1.2.4.2. Axial Fractures
    - 1.2.4.3. Comminuted Fractures
- 1.3. Proximal Phalangeal and Proximal Interphalangeal Joints
  - 1.3.1. Osteoarthritis
  - 1.3.2. Subchondral Cystic Lesions
  - 1.3.3. Dislocations and Subluxations
  - 1.3.4. Fracture Configurations
  - 1.3.5. Clinical Signs
  - 1.3.6. Diaphyseal Fractures
  - 1.3.7. Incomplete Sagittal Fractures
  - 1.3.8. Non-Displaced Long Incomplete Sagittal Incomplete Fractures
  - 1.3.9. Displaced Complete Sagittal Fractures
  - 1.3.10. Frontal Fractures
  - 1.3.11. Comminuted Fractures
- 1.4. Metacarpal- Metatarsal Phalangeal Joint
  - 1.4.1. Proximal Sesamoid Bone Fractures
    - 1.4.1.1. Mid-Body
    - 1.4.1.2. Basal
    - 1.4.1.3. Abaxial
    - 1.4.1.4. Sagittal
    - 1.4.1.5. Biaxial
  - 1.4.2. Osteoarthritis
  - 1.4.3. Subchondral Cystic Lesions
  - 1.4.4. Dislocation
  - 1.4.5. Tenosynovitis/Desmitis/Constriction of the Annular Ligament
    - 1.4.5.1. Mass Removal
    - 1.4.5.2. Section of the Annular Ligament
    - 1.4.5.3. Tendon Debridement
- 1.5. Metacarpal/Metatarsal Bones
  - 1.5.1. Lateral Condylar Fractures
    - 1.5.1.1. Signs
    - 1.5.1.2. Diagnosis
    - 1.5.1.3. Emergency Treatment
    - 1.5.1.4. Surgery of Displaced Fractures
    - 1.5.1.5. Surgery of Non-Displaced Fractures
  - 1.5.2. Medial Condylar Fractures
    - 1.5.2.1. Open Approach Surgery
    - 1.5.2.2. Minimally Invasive Surgery
    - 1.5.2.3. Post-Operative Care
    - 1.5.2.4. Prognosis

- 1.5.3. Transverse Fractures of the Distal Diaphysis of the Third Metacarpal Bone
    - 1.5.3.1. Non-Surgical Treatment
    - 1.5.3.2. Surgical Treatment
    - 1.5.3.3. Prognosis
  - 1.5.4. Diaphyseal Fractures
    - 1.5.4.1. Non-Surgical Treatment
    - 1.5.4.2. Surgical Treatment
    - 1.5.4.3. Prognosis
  - 1.5.5. Distal Physial Fractures
  - 1.5.6. Proximal Articular Fractures
  - 1.5.7. Dorsal Cortical Fractures
    - 1.5.7.1. Non-Surgical Treatment
    - 1.5.7.2. Surgical Treatment
    - 1.5.7.3. Prognosis
  - 1.5.8. Metacarpal/Metatarsal Bone Fractures in Ruminants (Cattle, Sheep) and Camelids (Camels, Alpacas and Llamas)
- 1.6. Rudimentary Metacarpal/Metatarsal Bones
    - 1.6.1. Fractures
    - 1.6.2. Clinical Examination
    - 1.6.3. Diagnosis
    - 1.6.4. Proximal Fractures
      - 1.6.4.1. Debridement
      - 1.6.4.2. Internal Fixation
      - 1.6.4.3. Ostectomy
      - 1.6.4.4. Complete Removal
      - 1.6.4.5. Prognosis
      - 1.6.4.6. Complications
    - 1.6.5. Mid-Body Fractures
      - 1.6.5.1. Non-Surgical Treatment
      - 1.6.5.2. Surgical Treatment
      - 1.6.5.3. Prognosis
    - 1.6.6. Distal Fractures
      - 1.6.6.1. Non-Surgical Treatment
      - 1.6.6.2. Surgical Treatment
      - 1.6.6.3. Prognosis
    - 1.6.7. Exostosis
      - 1.6.7.1. Pathophysiology
      - 1.6.7.2. Clinical Examination
      - 1.6.7.3. Diagnosis
        - 1.6.7.3.1. Treatment
        - 1.6.7.3.2. Non-Surgical Treatment
        - 1.6.7.3.3. Surgical Treatment
      - 1.6.7.4. Prognosis
    - 1.6.8. Polydactyly in Ruminants and Equidae
    - 1.6.9. Neoplasty.
  - 1.7. Tendon and Ligament Pathologies That Can Be Resolved Surgically
    - 1.7.1. Carporadic Extensor Carpi Radialis Tendon Rupture
      - 1.7.1.1. Pathophysiology
      - 1.7.1.2. Diagnosis
      - 1.7.1.3. Treatments
      - 1.7.1.4. Prognosis
    - 1.7.2. Biceps Brachii Tendon and Infraspinatus Tendon Pathologies
      - 1.7.2.1. Treatment
        - 1.7.2.1.1. Biceps Tendon Transection
      - 1.7.2.2. Prognosis
    - 1.7.3. Surgery for Suspensory Ligament Desmopathy in the Forelimb
    - 1.7.4. Surgery of Suspensory Ligament Branches
    - 1.7.5. Suspensory Ligament Damage in Ruminants
    - 1.7.6. Tenectomy of the Medial Head of the Deep Digital Flexor Tendon
    - 1.7.7. Surgery for Suspensory Ligament Dismopathy of the Hind Limb
    - 1.7.8. Intermittent Patella Fixation in Equidae
    - 1.7.9. Patella Fixation in Ruminants
    - 1.7.10. Tears or Avulsions of Collateral Ligaments in Ruminants

- 1.7.11. Cranial Cruciate Ligament Rupture in Ruminants
  - 1.7.11.1. Peri-Surgical Planning
  - 1.7.11.2. Imbrication of Stifle Joint
  - 1.7.11.3. Cranial Cruciate Ligament Replacement
    - 1.7.11.3.1. With Gluteobiceps Tendon
    - 1.7.11.3.2. With Synthetic Material
    - 1.7.11.3.3. Post-Surgery and Prognosis
- 1.7.12. Damage to Collateral Ligaments of the Stifle
  - 1.7.12.1. Surgery
  - 1.7.12.2. Prognosis
- 1.7.13. Superficial Digital Flexor Tendon Dislocation
- 1.8. Muscle Pathologies That Can Be Resolved Surgically
  - 1.8.1. Fibrotic Myopathy
    - 1.8.1.1. Pathophysiology
    - 1.8.1.2. Diagnosis
    - 1.8.1.3. Treatments
    - 1.8.1.4. Prognosis
  - 1.8.2. Arpeo (Equine Reflex Hypertonia)
    - 1.8.2.1. Pathophysiology
    - 1.8.2.2. Diagnosis
    - 1.8.2.3. Treatments
    - 1.8.2.4. Prognosis
  - 1.8.3. Third Peroneal
    - 1.8.3.1. Pathophysiology
    - 1.8.3.2. Diagnosis
    - 1.8.3.3. Treatments
    - 1.8.3.4. Prognosis
  - 1.8.4. Rupture and Avulsion of the Gastrocnemius Muscles
    - 1.8.4.1. Pathophysiology
    - 1.8.4.2. Diagnosis
    - 1.8.4.3. Treatments
    - 1.8.4.4. Prognosis
  - 1.8.5. Aerophagia
    - 1.8.5.1. Pathophysiology
    - 1.8.5.2. Diagnosis
    - 1.8.5.3. Treatments
    - 1.8.5.4. Prognosis
  - 1.8.6. Spastic Paresis
- 1.9. Arthrodesis
  - 1.9.1. Equine Distal Interphalangeal Joint
  - 1.9.2. Arthrodesis of the Distal Bovine Interphalangeal Joint
  - 1.9.3. Proximal Interphalangeal Joint
  - 1.9.4. Metacarpal/Metatarsophalangeal Joint
  - 1.9.5. Of the Carpus
  - 1.9.6. Of the Shoulder
  - 1.9.7. Of Distal Tarsal Joints
  - 1.9.8. Talocalcaneal
- 1.10. Laminitis and Amputations in Ruminants, Swine and Equidae
  - 1.10.1. Laminitis
    - 1.10.1.1. Deep Digital Flexor Tendon Tenotomy
      - 1.10.1.1.1. At Pastern Level
      - 1.10.1.1.2. At Mid Metacarpal-Metatarsal Level
    - 1.10.1.2. Prognosis
  - 1.10.2. Amputations in Ruminants, Swine and Equidae
    - 1.10.2.1. Bovine Digit Amputation
    - 1.10.2.2. Bovine Extra Digit Amputation
    - 1.10.2.3. Tail Amputation
    - 1.10.2.4. Limb Amputation
    - 1.10.2.5. Specifics in Swine



**Module 2. Common Orthopedic Surgery Procedures of the Musculoskeletal System in Large Animals: Ruminants, Swine and Equidae Part II**

- 2.1. Carpus
  - 2.1.1. Pathophysiology
  - 2.1.2. Multifragmentary Fractures
    - 2.1.2.1. Pathogenesis
    - 2.1.2.2. Diagnosis
    - 2.1.2.3. Treatment
  - 2.1.3. Accessory Bone Fracture
    - 2.1.3.1. Pathogenesis
    - 2.1.3.2. Diagnosis
    - 2.1.3.3. Treatment
    - 2.1.3.4. Non-Surgical Treatment
    - 2.1.3.5. Surgical Treatment
    - 2.1.3.6. Prognosis
  - 2.1.4. Carpal Hygroma
  - 2.1.5. Radial Distal Exostosis
    - 2.1.5.1. Clinical Examination
    - 2.1.5.2. Diagnosis
    - 2.1.5.3. Treatment
      - 2.1.5.3.1. Non-Surgical Treatment
      - 2.1.5.3.2. Surgical Treatment
    - 2.1.5.4. Prognosis
  - 2.1.6. Dislocation
    - 2.1.6.1. Pathogenesis
    - 2.1.6.2. Diagnosis
    - 2.1.6.3. Treatment
      - 2.1.6.3.1. Non-Surgical Treatment
      - 2.1.6.3.2. Surgical Treatment
    - 2.1.6.4. Prognosis
  - 2.1.7. Coronation
    - 2.1.7.1. Pathogenesis
    - 2.1.7.2. Diagnosis
    - 2.1.7.3. Treatment
  - 2.1.8. Synovial Osteochondromatosis
  - 2.1.9. Circumscribed Calcinosis
    - 2.1.9.1. Pathophysiology
    - 2.1.9.2. Diagnosis
    - 2.1.9.3. Treatments
    - 2.1.9.4. Prognosis
- 2.2. Radio and Ulna
  - 2.2.1. Ulna Fracture
    - 2.2.1.1. Anatomy
    - 2.2.1.2. Pathogenesis.
    - 2.2.1.3. Diagnosis
    - 2.2.1.4. Treatment
      - 2.2.1.4.1. Emergency Stabilization
      - 2.2.1.4.2. Non-Surgical Treatment
      - 2.2.1.4.3. Surgical Treatment
    - 2.2.1.5. Prognosis
    - 2.2.1.6. Complications
  - 2.2.2. Radius Fractures
    - 2.2.2.1. Anatomy
    - 2.2.2.2. Pathogenesis.
    - 2.2.2.3. Diagnosis
    - 2.2.2.4. Treatment
      - 2.2.2.4.1. Emergency Stabilization
      - 2.2.2.4.2. Non-Surgical Treatment
      - 2.2.2.4.3. Surgical Treatment
    - 2.2.2.5. Prognosis
    - 2.2.2.6. Complications
  - 2.2.3. Radial Osteochondroma
    - 2.2.3.1. Pathogenesis.
    - 2.2.3.2. Diagnosis
    - 2.2.3.3. Treatment
    - 2.2.3.4. Prognosis

- 2.2.4. Subchondral Cystic Lesions
- 2.2.5. Enostosis-Like Lesions
- 2.3. Humerus Fractures
  - 2.3.1. Anatomy
  - 2.3.2. Greater Tubercle Fracture
    - 2.3.2.1. Diagnosis
    - 2.3.2.2. Treatment
      - 2.3.2.2.1. Non-Surgical Treatment
      - 2.3.2.2.2. Surgical Treatment
    - 2.3.2.3. Prognosis
  - 2.3.3. Fracture of the Deltoid Tuberosity
    - 2.3.3.1. Diagnosis
    - 2.3.3.2. Treatment
    - 2.3.3.3. Prognosis
  - 2.3.4. Stress Fractures
    - 2.3.4.1. Diagnosis
    - 2.3.4.2. Treatment
    - 2.3.4.3. Prognosis
  - 2.3.5. Physiological Fractures
  - 2.3.6. Diaphyseal Fractures
    - 2.3.6.1. Diagnosis
    - 2.3.6.2. Treatment
      - 2.3.6.2.1. Non-Surgical Treatment
      - 2.3.6.2.2. Surgical Treatment
    - 2.3.6.3. Prognosis
  - 2.3.7. Supraglenoid Tubercle Fractures
    - 2.3.7.1. Treatment
      - 2.3.7.1.1. Fragment Removal
      - 2.3.7.1.2. Internal Fixation
    - 2.3.7.2. Prognosis
- 2.4. Tarsus
  - 2.4.1. Osteoarthritis of the Distal Intertarsal Joints
    - 2.4.1.1. Surgical Treatment
    - 2.4.1.2. Post-Operative Care
    - 2.4.1.3. Prognosis
  - 2.4.2. Osteoarthritis of Talocalcaneal Joint
  - 2.4.3. Fractures of the Distal Tibia
  - 2.4.4. Talus Bone
    - 2.4.4.1. Trochlear Ridges
    - 2.4.4.2. Sagittal Fractures
  - 2.4.5. Calcaneus
    - 2.4.5.1. Chip Fractures of the Heel Pad
  - 2.4.6. Small Tarsal Bone Fractures
  - 2.4.7. Tarsal Hygroma in Ruminants
- 2.5. Tibia and Femorotibiorotullary Joint
  - 2.5.1. Enostosis-Like Lesions
  - 2.5.2. Stress Fractures
    - 2.5.2.1. Etiology
    - 2.5.2.2. Signs
    - 2.5.2.3. Diagnosis
    - 2.5.2.4. Treatment
  - 2.5.3. Tibial Fissures
    - 2.5.3.1. Clinical Signs and Diagnosis
    - 2.5.3.2. Treatment
  - 2.5.4. Proximal Physial Fractures
    - 2.5.4.1. Clinical Signs and Diagnosis
    - 2.5.4.2. Treatment
    - 2.5.4.3. Post-Operative Care
    - 2.5.4.4. Complications
    - 2.5.4.5. Prognosis
  - 2.5.5. Diaphyseal Fractures
    - 2.5.5.1. Clinical Signs and Diagnosis
    - 2.5.5.2. Treatment
    - 2.5.5.3. Post-Operative Care
    - 2.5.5.4. Complications
    - 2.5.5.5. Prognosis
  - 2.5.6. Distal Physial Fractures
  - 2.5.7. Tibial Ridge Fractures

- 2.5.8. Stifle
  - 2.5.8.1. Patella Fractures
  - 2.5.8.2. Subchondral Cystic Lesions
    - 2.5.8.2.1. Transcondylar Screw
- 2.6. Femur and Pelvis
  - 2.6.1. Head and Neck Fractures
  - 2.6.2. Third Trochanter Fractures
  - 2.6.3. Diaphysis Fractures
  - 2.6.4. Distal Fractures
    - 2.6.4.1. Prognosis
  - 2.6.5. Pelvis Fractures
    - 2.6.5.1. Clinical Signs
    - 2.6.5.2. Diagnosis
    - 2.6.5.3. Treatment
    - 2.6.5.4. Of the Coxal Tuberosity
      - 2.6.5.4.1. Clinical Signs
      - 2.6.5.4.2. Diagnosis
      - 2.6.5.4.3. Treatment
    - 2.6.5.5. Of the Wing of the Ileum
    - 2.6.5.6. Of the Body of the Ileum
    - 2.6.5.7. Pubis and Ischium
    - 2.6.5.8. Acetabulum
- 2.7. Luxations and Subluxations in Ruminants and Equidae
  - 2.7.1. Distal Interphalangeal Joint
  - 2.7.2. Proximal Interphalangeal Joint
  - 2.7.3. Metacarpal- Metatarsal Phalangeal Joint
  - 2.7.4. Carpus
  - 2.7.5. Scapulohumeral Joint
  - 2.7.6. Coxofemoral Joint
  - 2.7.7. Dorsal Defect of the Patella
  - 2.7.8. Lateral Patella Dislocation in Equidae
  - 2.7.9. Of Patella in Calves and Small Ruminants
    - 2.7.9.1. Lateral Capsule Imbrication
    - 2.7.9.2. Transposition of Tibial Tuberosity
    - 2.7.9.3. Sulcoplasty
  - 2.7.10. Of the Tarsal Joint
- 2.8. Head
  - 2.8.1. Temporomandibular Joint
    - 2.8.1.1. Condylectomy
  - 2.8.2. Craniomaxillofacial Fractures
    - 2.8.2.1. Incisors, Mandible and Premaxillary
      - 2.8.2.1.1. Diagnosis
      - 2.8.2.1.2. Surgical Management
      - 2.8.2.1.3. Post-Operative
  - 2.8.3. Fractures of the Skull and Paranasal Sinuses
    - 2.8.3.1. Clinical Signs and Diagnosis
    - 2.8.3.2. Treatment
    - 2.8.3.3. Post-Operative Care
    - 2.8.3.4. Complications
    - 2.8.3.5. Prognosis
  - 2.8.4. Periorbital Fractures
    - 2.8.4.1. Clinical Signs and Diagnosis
    - 2.8.4.2. Treatment
    - 2.8.4.3. Post-Operative Care
    - 2.8.4.4. Complications
    - 2.8.4.5. Prognosis
  - 2.8.5. Paranasal Sinus Fistulas
  - 2.8.6. Dehorning
    - 2.8.6.1. Indications
    - 2.8.6.2. Techniques
    - 2.8.6.3. Complications

- 2.8.7. Frontal Sinus Trepanation in Ruminants
  - 2.8.7.1. Indications
  - 2.8.7.2. Anatomy
  - 2.8.7.3. Clinical Signs
  - 2.8.7.4. Technique
  - 2.8.7.5. Postoperative Care and Complications
- 2.8.8. Mandibular, Premaxillary and Maxillary Rostral Resection
  - 2.8.8.1. Treatment
  - 2.8.8.2. Post-Operative Care
  - 2.8.8.3. Complications
  - 2.8.8.4. Prognosis
- 2.8.9. Wry Nose
  - 2.8.9.1. Treatment
  - 2.8.9.2. Post-Operative Care
  - 2.8.9.3. Complications
  - 2.8.9.4. Prognosis
- 2.8.10. Upper and Lower Prognathism
  - 2.8.10.1. Treatment
  - 2.8.10.2. Post-Operative Care
- 2.8.11. Suture Periostitis
  - 2.8.11.1. Diagnosis
  - 2.8.11.2. Treatment
- 2.9. Spinal Column Surgery in Equidae
  - 2.9.1. Considerations of the Patient and Operating Room
  - 2.9.2. Approaches
  - 2.9.3. Incisions Sutures
  - 2.9.4. Anesthetic Recovery
  - 2.9.5. Post-Operative Care
  - 2.9.6. Cervical Fractures
    - 2.9.6.1. Atlas and Axis
    - 2.9.6.2. Subluxation and Atlantoaxial Dislocation
    - 2.9.6.3. From C3 to C7
  - 2.9.7. Thoracolumbar Fractures
    - 2.9.7.1. Dorsal Spinal Processes
    - 2.9.7.2. Vertebral Bodies
  - 2.9.8. Traumatic Sacral Injury
  - 2.9.9. Traumatic Coccygeal Injury
  - 2.9.10. Crushed Tail Head Syndrome
  - 2.9.11. Developmental Disorders
    - 2.9.11.1. Cervical Vertebral Stenotic Spinal Myelopathy
      - 2.9.11.1.1. Surgical Treatment
        - 2.9.11.1.1.1. Intervertebral Fusion
        - 2.9.11.1.1.2. Laminectomy
      - 2.9.11.1.2. Complications
    - 2.9.11.2. Occipitoatlantoaxial Malformation
    - 2.9.11.3. Atlantoaxial Subluxation
    - 2.9.11.4. Atlantoaxial Instability
- 2.10. Neurosurgery
  - 2.10.1. Cerebral Trauma Surgery
  - 2.10.2. Peripheral Nerve Surgery
    - 2.10.2.1. General Surgical Repair Techniques
    - 2.10.2.2. Suprascapular and Axillary Nerve Damage
      - 2.10.2.2.1. Treatment
      - 2.10.2.2.2. Non-Surgical Treatment
      - 2.10.2.2.3. Decompression of the Scapular Nerve
      - 2.10.2.2.4. Prognosis



*This program 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. 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, 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 Orthopedic Surgery in Large Animals 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 Orthopedic Surgery in Large Animals** contains the most complete and up-to-date educational 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 certificate 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 Orthopedic Surgery in Large Animals**

Official N° of Hours: **300 h.**



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



future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development language  
classroom



## Postgraduate Certificate Orthopedic Surgery in Large Animals

- » Modality: online
- » Duration: 3 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

# Postgraduate Certificate Orthopedic Surgery in Large Animals

