



# Postgraduate Diploma Small Animal Neurological Emergencies, Syndromes and Treatments

- » Modality:Online
- » Duration: 6 months.
- » Certificate: TECH Technological University
- » Dedication: 8h/week
- » Schedule: at your own pace

Website: www.techtitute.com/pk/veterinary-medicine/postgraduate-diploma/postgraduate-diploma-small-animal-neurological-emergencies-syndromes-treatments

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# tech 06 Introduction

Currently, Small Animal Neurological Emergencies require constant research, study and understanding by specialists in the area. Movement disorders such as canine and feline epilepsy or nervous system tumors are unfortunately a daily occurrence, which requires veterinarians to constantly update and expand their knowledge.

This has motivated the creation of this program, which includes the main novelties in Neurological Emergencies, providing both a theoretical and practical approach to the most frequent syndromes and treatments given in small animals. Veterinarians will have access to an extensive bibliography on problems such as micturition disorders, spinal trauma, epilepsy and vestibular syndromes.

All this under the guidance of highly specialized teaching staff with proven experience in different high prestige veterinary centers. This way, veterinarians will have access to a multitude of real case studies and true clinical examples with which to contextualize the entire subject.

The 100% online format of the program also makes it the preferred option to get up to date in Small Animal Neurological Emergencies, Syndromes and Treatments in a comfortable and efficient way. The absence of face-to-face classes or fixed schedules means that veterinary professionals have total freedom to take on the course load at their own pace.

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A vision that integrates the One Heath concept in the care of neurological patients, with consideration of antibiotic treatments and a complete study of the real situation of bacterial resistance"

This Postgraduate Diploma in Small Animal Neurological Emergencies, Syndromes and Treatments offers you the characteristics of a course of high scientific, teaching and technological level. These are some of its most notable features:

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

The topics and clinical cases proposed, as well as their resolution, are based on both the teachers' practical experience and on the latest advances in research and development that contribute to this field of work.

All information is presented through high-quality multimedia content, analysis of clinical cases prepared by teachers, master classes and video techniques that allow the exchange of knowledge and experience, maintain and update the skill level of its members, create protocols for action and disseminate the most important developments in the emergencies within medicine of small animals.

TECH's teaching staff is made up of professionals from different fields related to this specialty. In this way TECH makes sure to offer the student the up-to-date knowledge that they are looking for. A multidisciplinary team of professionals trained and experienced in different environments, who will develop the theoretical knowledge in an efficient manner, but, above all, will put at the service of the practical knowledge derived from their own experience: one of the differential qualities of this program.

This mastery of the subject is complemented by the effectiveness of the methodological design of this Postgraduate Diploma. Developed by a multidisciplinary team of *e-learning* experts, it integrates the latest advances in educational technology. This way, the student will be able to use a range of comfortable and versatile multimedia tools that will give him the operability he needs.

The design of this program is based on Problem-Based Learning: an approach that conceives learning as a highly practical process. To achieve this remotely, we will use telepractice learning: with the help of an innovative interactive video system, and learning from an expert, you will be the studies will be able acquire the knowledge as if you were actually dealing with the facing you are learning about. A concept that will allow students to integrate and memorize what they have learnt in a more realistic and permanent way.

Learn about the latest advances in detection and care of cognitive dysfunctions and the alternative therapies that can be applied in different cases.

This program has the best educational material, which will enable a contextual study that will facilitate your learning.







# tech 10 | Objectives

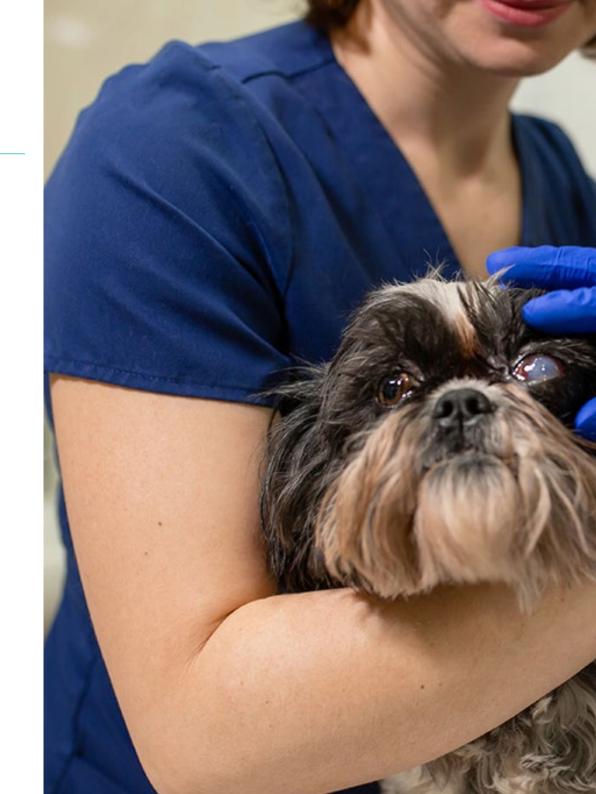


# **General Objectives**

- Cover different cranial nerve disorders
- Present vestibular syndrome, types and its management
- Define the different entities of movement disorders
- Deepen and develop the knowledge of neuro-ophthalmology.
- Examine the most important syndromes in small animal neurology.
- Analyze the different urination disorders
- Determine alternative therapies for neurological processes.
- Further study oncological treatments and its application
- Analyze the management of anesthesia with a neurological emergency
- Develop and evaluate patients with cranioencephalic and spinal cord trauma.
- Identify the necessary actions to be taken in clusters or status epilepticus.
- Examine the most common toxicological and metabolic emergencies.



With the support of the most efficient audiovisual systems, the goal is that you not only acquire the knowledge, but that, upon completion, you possess the working skills you need in this field"







# **Specific Objectives**

# Module 1. Cranial Nerve Disorders, Vestibular Syndrome and Canine and Feline Epilepsy. Involuntary Movement Disorders

- Identify cranial nerve disorders
- Develop the causes, diagnosis and treatment of vestibular syndrome and facial paralysis
- Analyze neuro-ophthalmology as a fundamental basis of neurology.
- Define and identify the causes of laryngeal and megaesophageal paralysis.
- Developing canine and feline epilepsy
- Examine the different types of movement disorders

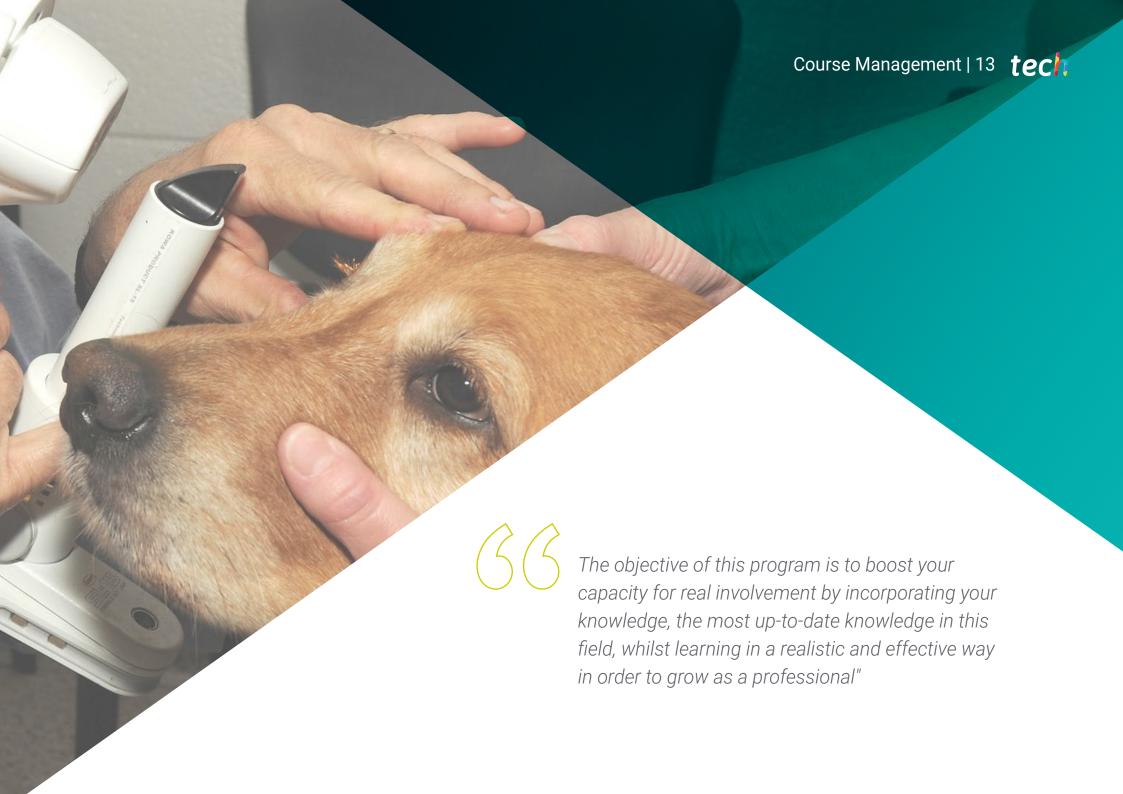
## Module 2. Major Syndromes and Specific Treatments

- Examine cognitive dysfunction syndrome, Horner's syndrome and cauda equina syndrome.
- Analyze the correct application of antibiotics in neurology
- Present the different micturition disorders.
- Establish the use of chemotherapy in oncology of neurological processes and the use of radiotherapy in oncology

# Module 3. Neurological Emergencies

- Specify the types of anesthesia and protocols most commonly used in the anesthesia of patients with neurological emergencies
- Determine the management and prognosis of traumatic brain injury and spinal cord injury
- Examine the most common metabolic emergencies
- Analyze the diagnostic picture and management of weakness and collapse, botulism and tetanus, as well as their diagnosis





# **Director Invitado Internacional**

Dr. Steven de Decker's interest in the field of Veterinary Neurology has led him to be one of the most important figures in this area worldwide. He has participated in several international congresses, including the Singapore Vet Show, the largest veterinary conference in the Asian continent.

Such is his relevance that he has become president of the British Society of Veterinary Neurology. He is also a senior lecturer and head of the Neurology and Neurosurgery service at the Royal Veterinary College, considered one of the best veterinary institutions in the world.

His main area of research is spinal disorders and neurosurgery, having delved into the diagnosis and treatment of cervical disc-associated spondylomyelopathy or Wobbler's syndrome in dogs. His most cited studies deal with the prevalence of thoracic vertebral malformations, meningoencephalomyelitis of unknown origin and spinal arachnoid diverticula in dogs.



# Dr. De Decker, Steven

- Head of Neurology and Neurosurgery Service, Royal Veterinary College -Hertfordshire, United Kingdom
- Head and Professor of the Neurology and Neurosurgery Service of the Royal Veterinary College - Hertfordshire, UK
- Past President of the British Veterinary Neurological Society.
- Doctor of Veterinary Neurology and Neurosurgery, University of Ghent, Belgium
- Graduate of the University of Ghent, Belgium



# tech 16 | Course Management

# Management



# Dr. Moya García, Sergio

- Doctoral candidate with the Chair of Surgery at the Faculty of Veterinary Medicine of Córdoba
- Miembro de Royal Collage Veterinary Surgeon (MRCVS)
- Member of the Endoscopy Group (GEA) of the Association of Veterinary Specialists in Small Animals (GEA-AVEPA) and of the Association of Veterinary Specialists in Minimally Invasive Medicine (AEVMI) and of the Neurology Group of AVEPA
- Vocal of Small Animals of the Official College of Veterinarians of Malaga since 2014
- Headof ATV training for AVEPA. Postgraduate in Neurology by the European School of Veterinary Studies Postgraduate (ESVP) Master's Degree in Clinical and Therapeutic Research from the University of Las Palmas de Gran Canaria
- Veterinary Specialist Degree in Endoscopy and Minimally Invasive Surgery by the University of Extremadura
- Assistance Director of the Vetersalud Dr. Moya Day Hospital and Head of the Neurology Department of the Bluecare Animal Hospital
- Currently pursuing neurology accreditation by AVEP

# **Professors**

# Dr. Ródenas González, Sergio

- Graduated from the Veterinary University of Cáceres (Uex), he did an internship in the Surgery Department of the same faculty
- Doctorate in Neurology at the Faculty of Veterinary Medicine of Maisons Alfort
- Stays in American Universities and European reference centers in Neurology and Neurology services (University of Davis California, Pennsylvania, Guelph (OVC), Animal Health Trust, etc).
- ECVN Diplomate and European specialist in veterinary neurology

- 2 years in a referral center in England (SCVS) in the Neurology and Neurosurgery service
- One year clinical instructor in Neurology and Neurosurgery at the Faculty of Veterinary Medicine of the University of Montreal (Canada)
- In Canada, responsible for Neurology and Neurosurgery in two referral centers while continuing his work in England for two years
- Numerous national and international publications, as well as speaker at numerous international congresses on veterinary neurology and neurosurgery

### Dr. Cartagena Albertus, Juan Carlos

- Clinical Veterinarian in Small Animal and Exotic Veterinary Clinic
- Veterinary Expert
- Graduated in Veterinary Medicine in 1987 from the University of Zaragoza
- Doctor in Veterinary Oncology from the University of Las Palmas de Gran Canaria.
- Member of the Royal College of Veterinary Surgeons of London
- Accredited Specialist in Soft Tissue Surgery by AVEPA
- Accredited Specialist in Oncology by AVEPA

# Dr. Maeso Ordás, Christian

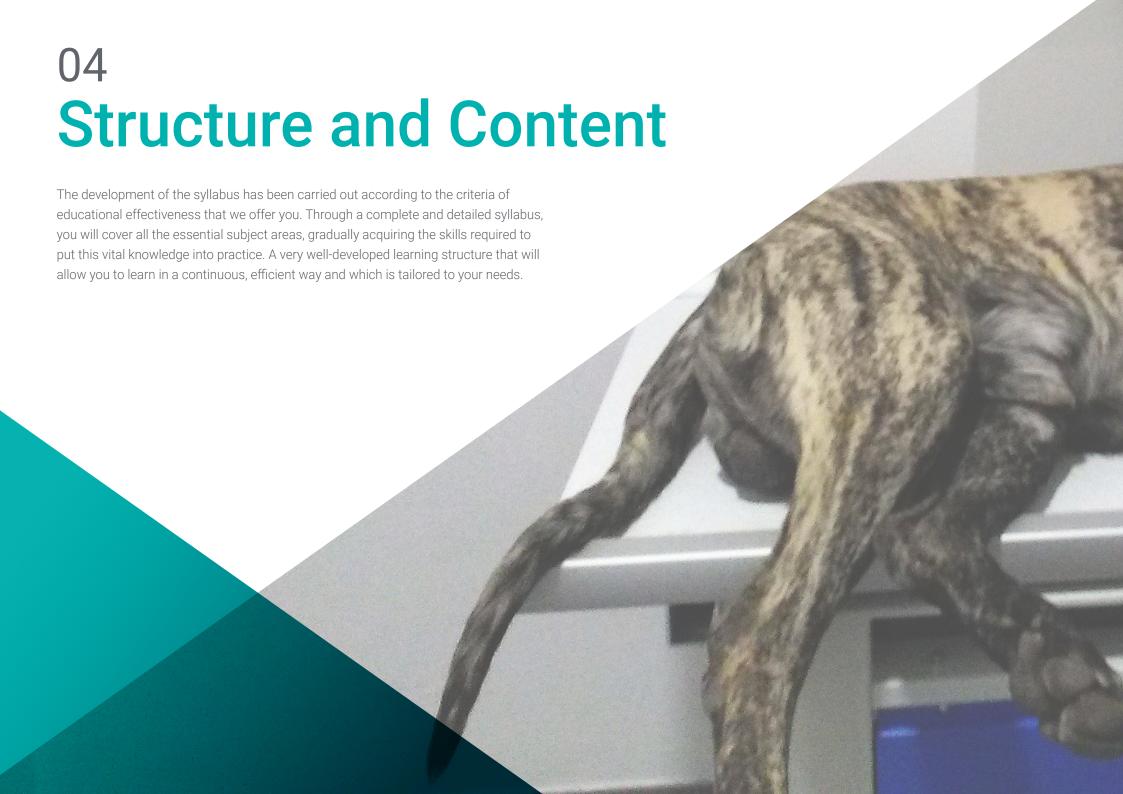
- LV. PGCert Neuro. Degree in Veterinary Medicine from the University of Extremadura (2011)
- 2020, he joined Anicura Ars Veterinaria as a clinical veterinarian in the Neurology Service
- General veterinarian for three years in different veterinary clinics nationwide
- Two general internships at Rof Codina Veterinary Hospitals in Lugo (University of Compostela) and Ars Veterinaria (Barcelona) in 2013 and 2015, respectively
- 2016: a specialty internship in Neurology and Neurosurgery at the Anicura Valencia Sur Veterinary Hospital
- ECVN European Residency in 2017 at Ars Veterinaria
- He has attended multiple national and international program and congresses in the specialty of Neurology
- Dr. Blasco has published in national and international journals and congresses.
   Training in different European reference veterinary hospitals (United Kingdom, Italy).
- Member of veterinary associations such as AVEPA and ESVN. He focuses his current interest within the field of neurology on neuromuscular diseases, epilepsy, as well as neurosurgery

### Dr. Gómez Álvarez, Christian Mauricio

- Veterinarian Doctor Universidad de La Salle (ULS)
- More than 10 years of experience in Clinical Neurology.
- Master's Degree (MSc) in Physiology UNAL
- ACVIM-Neurology Course Neuroimaging, Neuropathology and Electrophisiology 2020
- Ohio State University Braincamp Course in Neurology and Neuroscience 2016
- Postgraduate Course in Advanced Clinical Neurology, UCASAL, Argentina
- · Clinical Neurology Fellowship, University of Montreal, Canada

### Dr. Mangas Ballester, Teresa

- Degree in Veterinary Medicine from the University of Extremadura (2009).
- Since 2017 she has been working as Head of the Anesthesia Service at AniCura Valencia Sur Veterinary Hospital.
- Subsequently, she worked as a resident intern at the Complutense University Veterinary Clinic Hospital for 3 years.
- In 2015 she began working at the Jesús Usón Minimally Invasive Surgery Center as a researcher in the Anesthesiology Unit.
- There, in addition to participating as a professor in the official university Master in endoscopy and minimally invasive surgery in small animals and program in small animal anesthesia, she participated in several research projects.
- During his professional career, he has made stays in hospitals in Europe and North America, as well as participating in several publications and communications in congresses.





# tech 20 | Structure and Content

# **Module 1.** Cranial Nerve Disorders, Vestibular Syndrome and Canine and Feline Epilepsy. Involuntary Movement Disorders

- 1.1. Neuro-Ophthalmology
  - 1.1.1. Anatomy
  - 1.1.2. Clinical Examination and Tests
- 1.2. CN III. IV and VI Disorders
  - 1.2.1. Anatomy
  - 1.2.2. Clinical Examination and Tests
- 1.3. Chewing and Swallowing Disorders
  - 1.3.1. Anatomy of the Affected Cranial Nerves
  - 1.3.2. Clinical Examination and Tests
- 1.4. Laryngeal Paralysis and Megaesophagus
  - 1.4.1. Anatomy of the Affected Cranial Nerves
  - 1.4.2. Physical Examination and Tests
- 1.5. Facial Paralysis
  - 1.5.1. Anatomy and Function of Facial Nerves
  - 1.5.2. Physical Examination and Tests
  - 1.5.3. Causes of Facial Paralysis
- 1.6. Vestibular Syndrome I
  - 1.6.1. Vestibular System Anatomy
  - 1.6.2. Causes of Peripheral Vestibular Syndrome
  - 1.6.3. Causes of Central Vestibular Syndrome
- 1.7. Vestibular Syndrome II
  - 1.7.1. Diagnosis
  - 1.7.2. Treatment
- 1.8. Canine Epilepsy
  - 1.8.1. Etiology and Pathophysiology
  - 1.8.2. Classification
  - 1.8.3. Treatment
- 1.9. Feline Epilepsy
  - 1.9.1. Etiology and Pathophysiology
  - 1.9.2. Classification
  - 1.9.3. Treatment

- 1.10. Involuntary Movement Disorders
  - 1.10.1. Etiology and Classification
  - 1.10.2. Treatment

# Module 2. Important Syndromes and Specific Treatments

- 2.1. Cognitive Dysfunction Syndrome
  - 2.1.1. Clinical Signs
  - 2.1.2. Diagnosis, Treatment and Prevention
- 2.2. Horner Syndrome
  - 2.2.1. Anatomy and Sympathetic Nerve Tracts
  - 2.2.2. Functional Tests
  - 2.2.3. Causes and Diagnosis
  - 2.2.4. Treatment
- 2.3. Cauda Equina Syndrome
  - 2.3.1. Neurology Examination and Clinical Signs
  - 2.3.2. Diagnostic Tests
  - 2.3.3. Main Causes
    - 2.3.3.1. Lumbosacral Degenerative Stenosis and Foraminal Stenosis
    - 2.3.3.2. Neoplasms
    - 2.3.3.3. Vascular
    - 2.3.3.4. Disc Spondylitis and Empyema
- 2.4. Urination Disorders
  - 2.4.1. Anatomy and Physiology of Urination
  - 2.4.2. Urination Disorders
- 2.5. Immunoneurology
  - 2.5.1. Important Aspects
  - 2.5.2. Main Pathologies, Diagnoses and Treatments
- 2.6. Alternative Therapies for Neurological Patients
  - 2.6.1. New Trends
  - 2.6.2. Treatments and Applications
- 2.7. Antibiotic Therapy for Neurological Patients
  - 2.7.1. Pharmacodynamics: Blood-Brain Barrier
  - 2.7.2. Most Frequently Used Antibiotics: Types and Indications
  - 2.7.3. Usage Protocol

# Structure and Content | 21 tech

- 2.8. Use of Corticosteroids in Veterinary Neurology
  - 2.8.1. Use in Spinal Cord Diseases
  - 2.8.2. Use in Brain Diseases
  - 2.8.3. Use in Neuromuscular System Diseases
- 2.9. Oncological Treatment of the Nervous System I: Chemotherapy
  - 2.9.1. Main Chemotherapeutic Agents
  - 2.9.2. Indications and Protocols
- 2.10. Oncological Treatments of the Nervous System II: Radiotherapy
  - 2.10.1. Radiotherapy Basic Principles
  - 2.10.2. Radiotherapy Main Indications

# Module 3. Neurological Emergencies

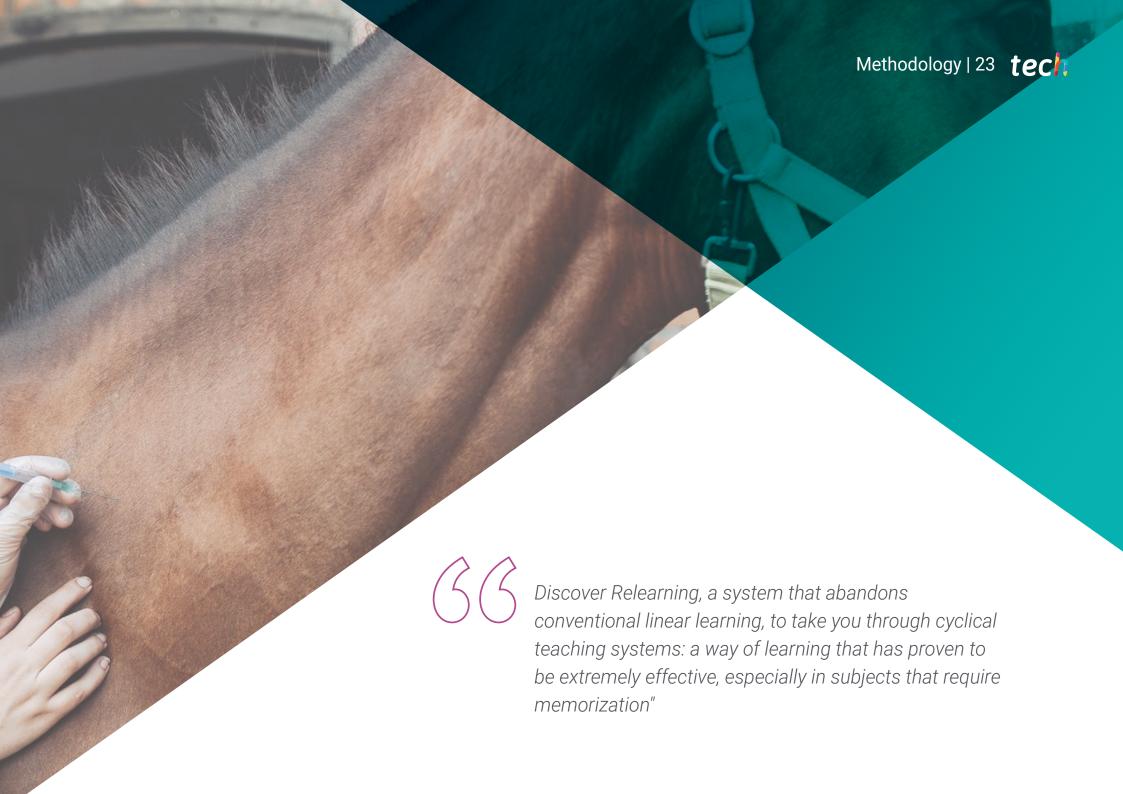
- 3.1. Anesthesia and Management in Patients with Neurological Emergencies
  - 3.1.1. Active Ingredients Used in Urgent Anesthetic Procedures
  - 3.1.2. Monitoring
- 3.2. Traumatic Brain Injury I
  - 3.2.1. Medical History
  - 3.2.2. Pathophysiology
  - 3.2.3. Glasgow Scale
- 3.3. Cranial Encephalic Trauma II
  - 3.3.1. Treatment Levels of Action
  - 3.3.2. Surgery
- 3.4. Spinal Trauma I
  - 3.4.1. Causes
  - 3.4.2. Pathophysiology
- 3.5. Spinal Trauma II
  - 3.5.1. Diagnosis
  - 3.5.2. Treatment
- 3.6. Clusters and Status Epilepticus
  - 3.6.1. Pathophysiology and Causes
  - 3.6.2. Treatment and Stabilization

- 3.7. CNS Neurotoxicity
  - 3.7.1. Main Toxins Affecting the Nervous System
  - 3.7.2. Action to Be Taken in the Event of Poisoning
- 3.8. Metabolic Emergencies
  - 3.8.1. Hypoglycemia
  - 3.8.2. Uremic Crisis
  - 3.8.3. Hepatic Encephalopathy
- 3.9. Tetanus and Botulism
  - 3 9 1 Tetanus
  - 3.9.2. Botulism
- 3.10. Exercise Intolerance and Collapse
  - 3.10.1. Diagnostic Algorithm
  - 3.10.2. Management and Treatments



You will learn in such a way that what you have studied becomes fixed and transformed into knowledge, through a structured study that will cover all the points of interest you need to update your intervention in Small Animal Neurology"



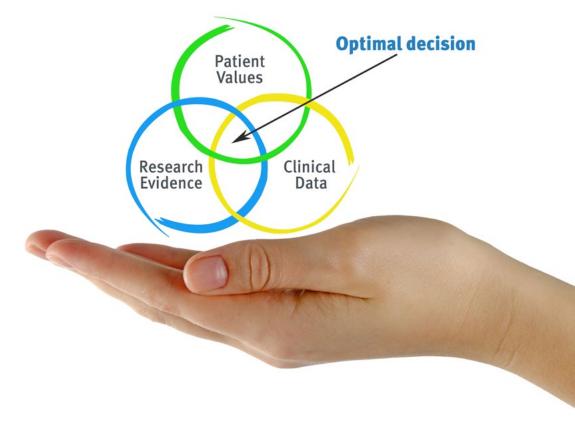


# tech 24 | Methodology

# 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.



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.** 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 program.





# Relearning Methodology

At TECH, we enhance the Harvard 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.



# Methodology | 27 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 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 students have a high socio-economic profile and an average age of 43.5.

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 adapted in 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**

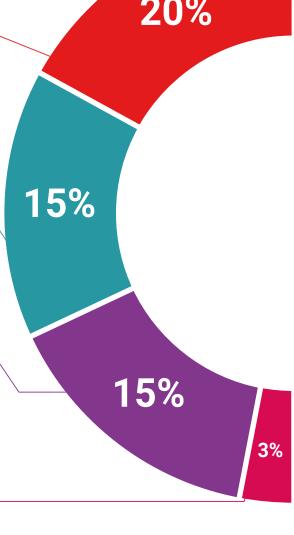
TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current and procedures of veterinary techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch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



# **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.

and direct way to achieve the highest degree of understanding.

## Classes



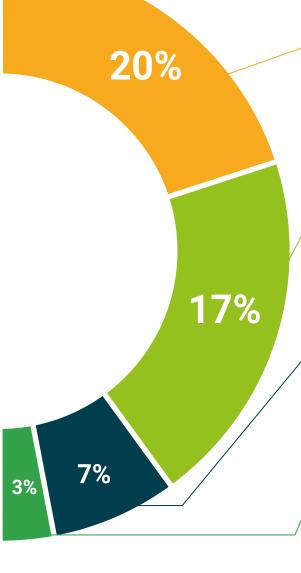
There is scientific evidence suggesting that observing third-party experts can be useful.

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.







# tech 32 | Certificate

This Postgraduate Diploma in Small Animal Neurological Emergencies, Syndromes and Treatments 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 Diploma**issued by **TECH Technological University via tracked delivery\*.** 

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

Title: Postgraduate Diploma in Small Animal Neurological Emergencies, Syndromes and Treatments

Official No of Hours: 450 hours.



Mr./Ms. \_\_\_\_\_, with identification number \_\_\_\_\_ For having passed and accredited the following program

### **POSTGRADUATE DIPLOMA**

in

### Neurological Emergencies, Syndromes and Treatments in Small Animals

This is a qualification awarded by this University, equivalent to 450 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

ine 17, 2020

Tere Guevara Navarro

ualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each coun

ique TECH Code: AFWORD23S techtitute.com/certific

<sup>\*</sup>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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