Postgraduate Certificate

Small Animal Neurological Examination and Localization

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Postgraduate Certificate
Small Animal Neurological Examination and Localization

- Modality: **online**
- Duration: **12 weeks**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/pk/veterinary-medicine/postgraduate-certificate/small-animal-neurological-examination-localization**

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01

Introduction

In order to address the neurological conditions that occur in small animals, the veterinary professional needs to possess a set of diagnostic skills that rely on the most comprehensive knowledge of neurological examination and localization. Accordingly, this Postgraduate Certificate has been created as a complete compilation of up-to-date information, with the complete study of the scientific and technological advances that have propelled this area of intervention to a level never before reached.

Acquire the knowledge required for the initial approach to neurological pathologies affecting small animals through a high-quality academic program"

This course deals with the embryology, anatomy and physiology of the nervous system. For a correct understanding of the pathologies that cause nervous system disorders, it is essential to know how the structures that compose it are formed embryologically, to see which are its components and how they function and interrelate with each other.

The study of embryology and the process of nervous system structure formation in the embryo is fundamental for the knowledge of congenital pathologies that can be explained by malformation.

It is important to know the bony structures that protect the central nervous system of the different regions of the brain and spinal cord, which are key to a correct interpretation of the imaging tests. As well as the exhaustive knowledge of the essential anatomy focuses the practitioner on the surgical procedures and in the approach and techniques that neurosurgery demands.

Arterial and venous vascularization, and its presence and disposition in the central nervous system, essential knowledge to know the pathologies that can cause vascular accidents (hemorrhage, infarction), as well as their intraoperative management and the techniques of the different approaches are all studied throughout this program.

Neurological examination consists of several parts, and it must be carried out methodically in order not to miss any data that may have a relevant importance in our assessment of the problem. One the one hand, there is patient observation (mental status, gait and posture) and on the other hand, there is a practical examination, which will include the evaluation of cranial pairs, postural reactions and spinal reflexes.

Neurological examination will indicate the location of the problem within the nervous system (neurolocalization), and in each part of the nervous system there is a series of characteristic clinical signs that we will cover in this unit.

Depending on where the problem is located, i.e., in the central nervous system or in the peripheral nervous system, the clinical and diagnostic tests will be very different; it is essential to recognize this differentiation in order to reach definitive conclusions.

This program will address how to correctly perform a neurological examination, the collection of data such as anamnesis and review, a correct physical examination of the patient and a methodical and systemic evaluation of the neurological examination. Emphasis will also be placed on everything necessary to carry it out and collect the data.

This **Postgraduate Certificate in Small Animal Neurological Examination and Localization** offers the characteristics of a high-level scientific, educational and technological program. 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 course

You will learn how to perform a methodical and efficient neurological examination that will provide you with the first keys to action, guiding your approach in the most efficient and safe way"

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

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 instructional update objective it intends. A multidisciplinary team of communication management trained and experienced in different environments, who will develop the theoretical knowledge in an efficient way, but, above all, will bring their practical knowledge derived from their own experience to the course: one of the differential qualities of this training.

This mastery of the subject matter is complemented by the effectiveness of the methodological design of Postgraduate Certificate. Developed by a multidisciplinary team of e-learning experts, it integrates the latest advances in educational technology. This way, you will be able to study with a range of comfortable and versatile multimedia tools that will give you the operability you need in your training.

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 able to acquire the knowledge as if you were actually dealing with the scenario you are learning about. A concept that will allow you to integrate knowledge in a more realistic and permanent way.

A study that includes knowledge of the anatomy and physiology of the nervous system, brain or spinal cord"

Learn at your own pace, in a process that combines intensity and flexibility to allow you to learn in a comfortable and sustainable way.

02

Objectives

A complete review of the most current knowledge in terms of scientific research and technological development in diagnostic techniques and intervention in neurological pathologies in small animals. The objective is for students to generate specialized knowledge, creating a well-structured basis to identify the clinical signs associated with each neurological location and to be able to establish a list of differential diagnoses, acting correctly to achieve the best possible prognosis in patients.

Enhance your professional skills by incorporating the diagnostic and treatment capabilities of the latest techniques in veterinary medicine in this field into your own daily practice"

General Objectives

- Examine the embryonic development of the nervous system in its different phases and the mechanisms involved in its training
- Determine, in an exhaustive manner, the different regions of the central nervous system, peripheral nervous system and musculoskeletal system
- Analyze the physiology and mechanism of the functioning of the central nervous system
- Identify the different vascular structures of clinical importance to identify possible vascular pathologies and learn about these structures in surgical procedures
- Perform a correct anamnesis and data collection
- Determine the steps of the neurological examination and its correct performance
- Identify the characteristic clinical signs depending on the site of the lesion
- Define the list of problems depending on the patients course, clinical history and review

Providing better care in the field of neurology will result in the growth of quality care for your patients that today's pet owners demand"

Specific Objectives

- Identify the different stages of embryonic development of the nervous system
- Present, in a clear and concise manner, the anatomy and physiology of the brain and the anatomy and physiology of the spinal cord
- Develop the mechanisms of nerve impulse transmission
- Determine the different bones and joints that protect the brain and spinal cord
- Examine the characteristics of the arterial and venous blood supply to the brain and spinal cord
- Structure the steps to follow for a correct neurological evaluation
- Analyze the different differential diagnoses depending on each case
- Identify the characteristic clinical signs of a lesion in the forebrain, brainstem and cerebellum
- Identify the clinical signs characteristic of a lesion in the different segments of the spinal cord and of a peripheral nervous system involvement

03

Course Management

Through a rigorous selection process, we are able to provide students with a teaching staff of the highest level, chosen for their proven experience. Professionals from different areas and fields of expertise that make up a complete, multidisciplinary team. A unique opportunity to learn from the best.

TECH's objective? To ensure your professional growth"

International Guest Director

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

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

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

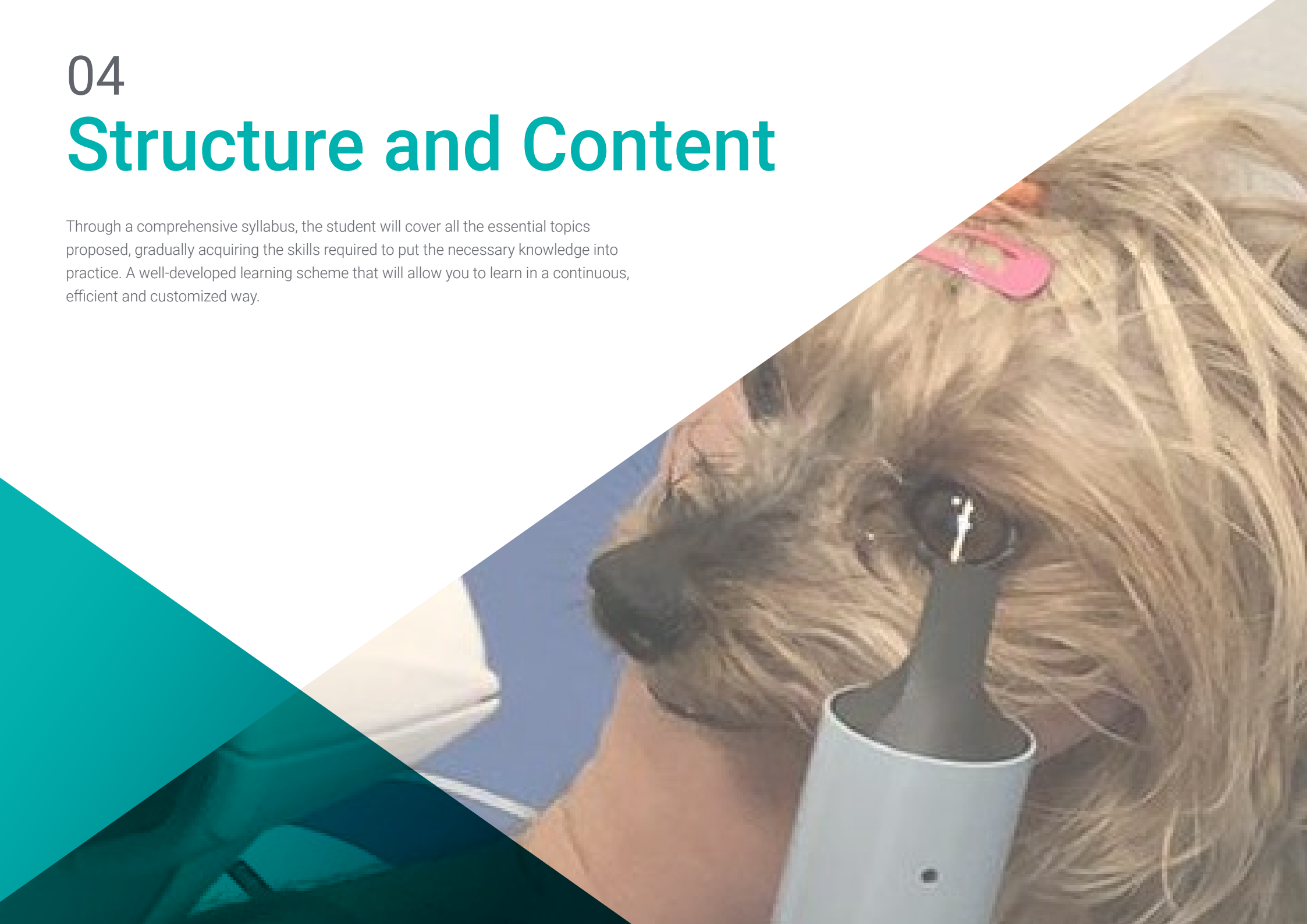
Dr. Sergio Ródenas González

- 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

04

Structure and Content

Through a comprehensive syllabus, the student will cover all the essential topics proposed, gradually acquiring the skills required to put the necessary knowledge into practice. A well-developed learning scheme that will allow you to learn in a continuous, efficient and customized way.



All the units of this Postgraduate Certificate have been developed in such a way that you learn constantly, converting the study into real competences"

Module 1. Nervous System Embryology, Anatomy and Physiology

1.1. Nervous System Embryology
- 1.1.1. Brain Embryology
- 1.1.2. Spinal Cord Embryology

1.2. Basic and Functional Anatomy of the Brain
- 1.2.1. Anatomy of the Prosencephalon
- 1.2.2. Anatomy of the Brain Stem
- 1.2.3. Anatomy of the Cerebellum

1.3. Basic and Functional Spinal Cord Anatomy
- 1.3.1. Spinal Cord Anatomy
- 1.3.2. Main Spinal Cord Pathways

1.4. Anatomy of the Peripheral Nerves I
- 1.4.1. Cranial Nerves
- 1.4.2. Spinal Nerves

1.5. Anatomy of the Peripheral Nerves II
- 1.5.1. Autonomic Nervous System: Sympathetic and Parasympathetic

1.6. Anatomy of the Peripheral Nerves III
- 1.6.1. Sympathetic Nervous System
- 1.6.2. Parasympathetic Nervous System

1.7. Anatomy and Physiology of the Motor Unit
- 1.7.1. Anatomy
- 1.7.2. Physiology

1.8. Vascular Anatomy of the Brain
- 1.8.1. Arterial Irrigation
- 1.8.2. Venous Irrigation

1.9. Vascular Anatomy of the Spinal Cord
- 1.9.1. Arterial Irrigation
- 1.9.2. Venous Irrigation

1.10. Skeletal System
- 1.10.1. Cranial Bones, Joints and Cranial Nerve Outlets
- 1.10.2. Vertebrae, Joints and Intervertebral Discs

Module 2. Neurological Examination and Neurolocalization

2.1. Review and Anamnesis
- 2.1.1. Necessary Tools for a Correct Neurological Examination
- 2.1.2. Medical History: The Importance of a Correct Anamnesis
- 2.1.3. List of Problems

2.2. Neurological Examination Part I
- 2.2.1. State of Mind
- 2.2.2. March
- 2.2.3. Posture

2.3. Neurological Examination Part II
- 2.3.1. Cranial Nerves
- 2.3.2. Postural Reactions
- 2.3.3. Spinal Reflexes
- 2.3.4. Sensitivity

2.4. Clinical Signs Associated with Prosencephalon Injuries
- 2.4.1. Blindness with Absence of Threat Response
- 2.4.2. Facial Sensitivity Deficits
- 2.4.3. Postural Reaction Deficits
- 2.4.4. Behavioral or Mental Status Disorders
- 2.4.5. Cerebral Seizures
- 2.4.6. Wandering and Walking in Circles
- 2.4.7. Head Torsion
- 2.4.8. *Head Pressing*
- 2.4.9. Decerebration Stiffness

2.5. Clinical Signs Associated with Brain Stem Injury
- 2.5.1. Deficiency of Cranial Nerves III to XII
- 2.5.2. Postural Reaction Deficits
- 2.5.3. Mental State Disorders
- 2.5.4. Cardiorespiratory Disorders
- 2.5.5. Narcolepsy/Cataplexy
- 2.5.6. Eye Movement Abnormalities
- 2.5.7. Central Vestibular System Disorders (Metencephalon)

2.6. Associated Clinical Signs in Cerebellum
- 2.6.2. Ataxia and Increase of Sustentation Base
- 2.6.3. Dysmetria
- 2.6.4. Tremors of Intention
- 2.6.5. Nystagmus
- 2.6.6. Deficiency or Absence of Threat Response
- 2.6.7. Decerebellation Stiffness

2.7. Associated Clinical Signs in the Spinal Cord
- 2.7.1. Spinal Cord Segment Injury C1-C5
- 2.7.2. Spinal Cord Segment Injury C6-T2
- 2.7.3. Spinal Cord Segment Injury T3-L3
- 2.7.4. Spinal Cord Segment Injury L4-S3

2.8. Clinical Signs Associated with Neuropathies
- 2.8.1. Common Clinical Signs
- 2.8.2. Clinical Signs According to the Different Neuropathies

2.9. Clinical Signs Associated with Neuromuscular Junction
- 2.9.1. Common Clinical Signs
- 2.9.2. Clinical Signs According to the Different Neuropathies

2.10. Clinical Signs Associated with Myopathies
- 2.10.1. Common Clinical Signs
- 2.10.2. Clinical Signs According to the Different Neuropathies

A structured and complete study that will go through all the points of interest you need to update your intervention in small animal neurology"

05

Methodology

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

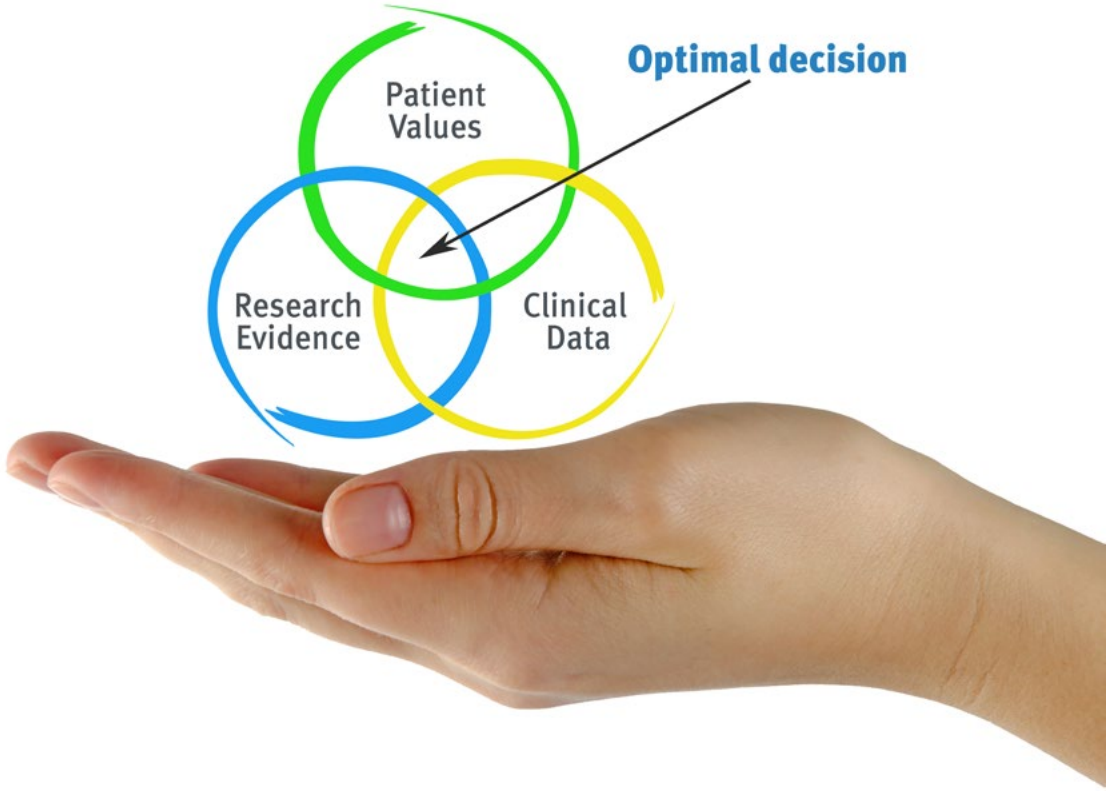
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the ***New England Journal of Medicine*** have considered it to be one of the most effective.

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

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:

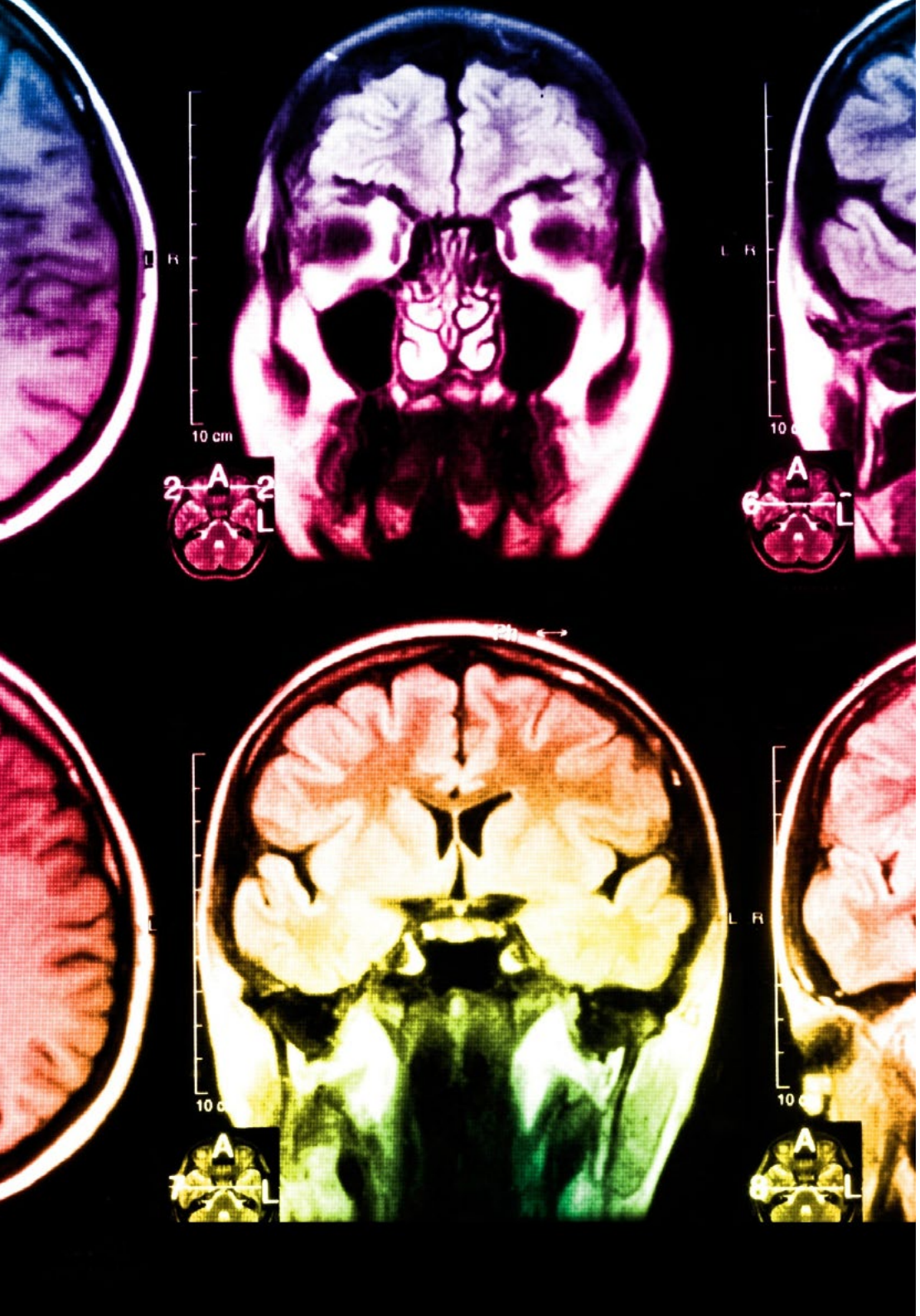
1. Veterinarians who follow this method not only manage to assimilate concepts, but also develop their mental capacity through exercises to evaluate real situations and knowledge application
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real 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.



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.

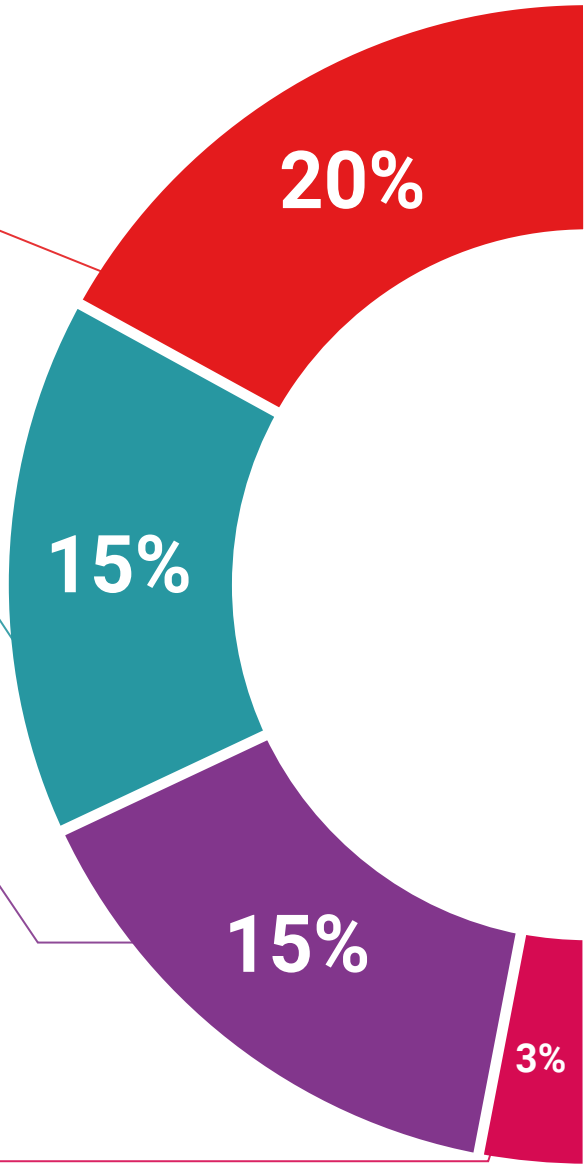
Interactive Summaries

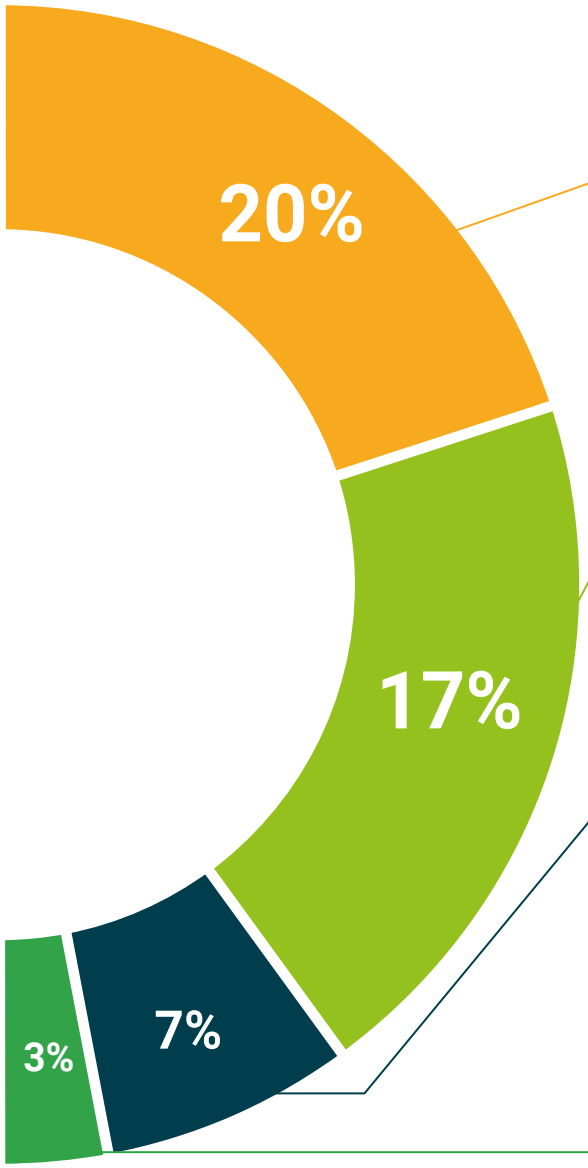
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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.





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

This Postgraduate Certificate in Small Animal Neurological Examination and Localization guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.

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

This **Postgraduate Certificate in Small Animal Neurological Examination and Localization** contains the most complete and up-to-date scientific program on the market.

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

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

Title: **Postgraduate Certificate in Small Animal Neurological Examination and Localization**

Official Nº of Hours: **300 hours.**


tech technological university

Awards the following

CERTIFICATE

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Small Animal Neurological Examination and Localization

This is a qualification awarded by this University, equivalent to 300 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.

June 17, 2020

Tere Guevara Navarro
Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates

*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.

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