Postgraduate Diploma

Abdominal Ultrasound for Small Animals

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Postgraduate Diploma

Abdominal Ultrasound for Small Animals

- Modality: **online**
- Duration: **6 monthst**
- Certificate: **TECH Global University**
- Credits: **18 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/us/veterinary-medicine/postgraduate-diploma/postgraduate-diploma-abdominal-ultrasound-small-animals

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01

Introduction

Abdominal ultrasound has become a basic diagnostic imaging procedure nowadays and is increasingly performed and demanded in daily clinical practice. It provides us with very relevant and sometimes conclusive information to reach a diagnosis in our patients.

With this intensive training you will acquire new skills and techniques for the correct handling of the ultrasound scanner, and you will learn to interpret diagnostic imaging from professionals with years of experience in the sector.

You will have the experience of expert professionals who will contribute their experience in this area to the program, making this training a unique opportunity for professional growth"

Ultrasound scanning is a universal, non-invasive, real-time technique providing very accurate diagnostic information. Ultrasound examinations are gaining great importance in everyday practice and it is increasingly common among veterinary medicine professionals to include them in their diagnostic protocols.

Ultrasound scans provide the veterinary professional with moving images of the structures being studied, as well as information on the condition of the different tissues. It also allows samples to be taken and uses contrast to refine diagnoses.

It is an operator-dependent technique, so in order to perform an adequate ultrasound examination and obtain the best results, it is necessary to be meticulous and protocolized. Therefore, it is necessary to master basic criteria prior to performing the ultrasound examination, such as: the general anatomy of the region to be explored, the specific anatomy of each viscera, to locate each structure properly and recognize its physiological ultrasound image which will allow us to identify the pathological image. It is also necessary to understand the specific physiology, to correlate the ultrasound findings with clinical signs, and to establish differential diagnoses (and sometimes definitive) with clinical sense and criteria.

Given the online format of this program, you will develop confidence, assurance and greater knowledge of pathologies and differential diagnoses when it comes to providing relevant and necessary information in daily ultrasound practice.

As it is an online program, the student is not conditioned by fixed schedules, nor do they need to move to physically move to another location. All of the content can be accessed at any time of the day, so you can balance your working or personal life with your academic life.

This **Postgraduate Diploma in Abdominal Ultrasound for Small Animals** offers you the advantages of a high-level scientific, teaching, and technological course. These are some of its most notable features:

- **The latest technology** in online teaching software.
- **Intensely visual** teaching system, supported by graphic and schematic content that is 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.
- **Self-regulating** learning: full compatibility with other occupations.
- Practical exercises for **self-evaluation** and learning verification.
- **Support groups** and educational synergies: questions to the expert, discussion forums and debates.
- **Communication with the teacher** and individual reflection work.
- Content **available** from any fixed or portable device with internet connection.
- **Supplementary documentation** databases are permanently available, even after the course.

This specialization offers the bases and tools for you to become an expert in veterinary ultrasound with the help of renowned professionals with extensive experience in the field”

Immerse yourself in this training of the highest educational quality, which will allow you to face future challenges that may arise during daily practice in abdominal ultrasound"

Learn from real cases with this highly effective educational Postgraduate Diploma and open up new paths to your professional progress

As the course is online, you will be able to train wherever and whenever you want, balancing your personal and professional life

Our teaching staff is made up of professionals from different fields related to this specialty. In this way, we ensure that we provide you with the training update we are aiming for. A multidisciplinary team of professionals trained and experienced in different environments, who will cover the theoretical knowledge in an efficient way, but, above all, will put the practical knowledge derived from their own experience at the service of the course: one of the differential qualities of this course.

This mastery of the subject is complemented by the effectiveness of the methodological design of this **Postgraduate Diploma in Abdominal Ultrasound for Small Animals**. Developed by a multidisciplinary team of e-learning experts, it integrates the latest advances in educational technology. In this way, you will be able to study with a range of easy-to-use and versatile multimedia tools that will give you the necessary skills you need for your specialization.

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: 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 and fix learning in a more realistic and permanent way.

02

Objectives

Our objective is to train highly qualified professionals for the working A goal that you will reach in just a few months and that will allow you to achieve professional excellence.

With this comprehensive program in Abdominal Ultrasound for Small Animals carefully designed by experts, become one of the most currently in-demand professionals"

General Objectives

- Introduce the physical principles of an ultrasound scanner, as well as its basic operation in order to understand what we visualize in an ultrasound image and how to obtain it.
- Study the different types of probe, their classification and purpose.
- Determine the different ways in which an ultrasound scanner can be used.
- Propose an adequate positioning of the patient for an ultrasound examination.
- Perform a correct ultrasound approach in exploring the abdominal cavity.
- Assimilate and consolidate the location and positioning of the viscera included in this module.
- Identify the correct scanning technique for each organ.
- Correlate the anatomy of the viscera with its physiological ultrasound image.
- Perform a correct ultrasound approach in exploring the abdominal cavity.
- Assimilate and consolidate the location and positioning of the viscera included in this module.
- Identify the correct scanning technique for each organ.
- Correlate the anatomy of the viscera with its physiological ultrasound image.

Specific Objectives

Module 1.

- Establish the fundamentals of ultrasound physics and how a scan is performed with image formation.
- Determine the different ultrasound artifacts so as to avoid misinterpretation.
- Identify the basic operation system of an ultrasound scanner in order to make the best use of it.
- Establish the different types of probe and their function.
- List the different uses for which an ultrasound scanner can be applied.
- Propose a system for preparing patients before an ultrasound examination.

Module 2.

- Master physiological image identification.
- Identify and recognize ultrasound findings.
- Recognize the main pathologies affecting the previously mentioned organs.
- Differentiate between incidental and relative findings.
- Establish a correlation between ultrasound findings and clinical signs.
- Elaborate the most frequent differential diagnoses.
- Propose appropriate complementary tests.

Module 3.

- Master physiological image identification.
- Identify and recognize ultrasound findings.
- Recognize the main pathologies affecting the previously mentioned organs.
- Differentiate between incidental and relative findings.
- Establish a correlation between ultrasound findings and clinical signs.
- Elaborate the most frequent differential diagnoses.
- Propose appropriate complementary tests.

This program will help you to acquire the skills you need to excel in your daily work"

03

Course Management

Professionals from different areas and skill sets with extensive experience in animal ultrasound will be your tutors throughout this specialist course. A complete multidisciplinary team that stands out for its illustrious professional trajectory and teaching experience.

We have the best teaching team to help you to specialize in a highly-demanded field"

Management

Conde Torrente, María Isabel

- Head of the Diagnostic Imaging and Cardiology Service at Hospital Veterinario Alcor. Currently
- Degree in Veterinary Medicine from the University of Santiago de Compostela in 2012 with a certified European degree
- Advanced Postgraduate Course in Diagnostic Imaging (Computerized Axial Tomography). General Practitioner Advanced Certificate TCESMD. 2019
- Postgraduate General Practitioner Certificate in Diagnostic Imaging (GPCert- DI) 2016
- Professor in Veterinary Practical Training in 2015 as a teacher for the official qualification of veterinary technical assistant.
- Gives training courses on clinical and laboratory analysis for veterinarians at Hospital Veterinario Alberto Alcocer
- Medical Director and head of the Advanced Diagnostic Imaging Service at Grupo Peñagrande. Exclusive handling of TC General Electrics TriAc Revolution 16 cuts. (2017-2019)
- Head of the Diagnostic Imaging Service at Centro Veterinario Mejorada. (2016-2017)
- Responsible for diagnostic services at Hospital Veterinario Alberto Alcocer. (2013-2016)
- University of Santiago de Compostela. Department of Animal Pathology. Collaboration with the research group on Heavy Metal Accumulation in Bovine Meat in collaboration with Cornell University, New York; published in the Journal of Animal Science.

Professors

Pérez López, Luis Alejandro

- Veterinarian at Davies Veterinary Specialists, UK, since January 2020, member of the Diagnostic Imaging team (Digital Radiology, Ultrasound, CT, MRI and Fluoroscopy).
- Degree in Veterinary Medicine from the University of Córdoba 2009.
- AVEPA (Association of Spanish Specialist Veterinarians of Small Animals) Accredited in Diagnostic Imaging (2020).
- Member of the AVEPA Diagnostic Imaging Group.
- Alhaurín El Grande VETSUM Veterinary Hospital (Málaga), from August 2010 to December 2019, responsible for the Diagnostic Imaging Service since 2014, offering Digital Radiology, Ultrasound and CT services.
- Radiological and ultrasound diagnosis of foreign body intestinal obstructions in the small intestine of dogs. ESVPS NEWS, No. 6. October 2017.
- Speaker at national courses in Spain and the United Kingdom.

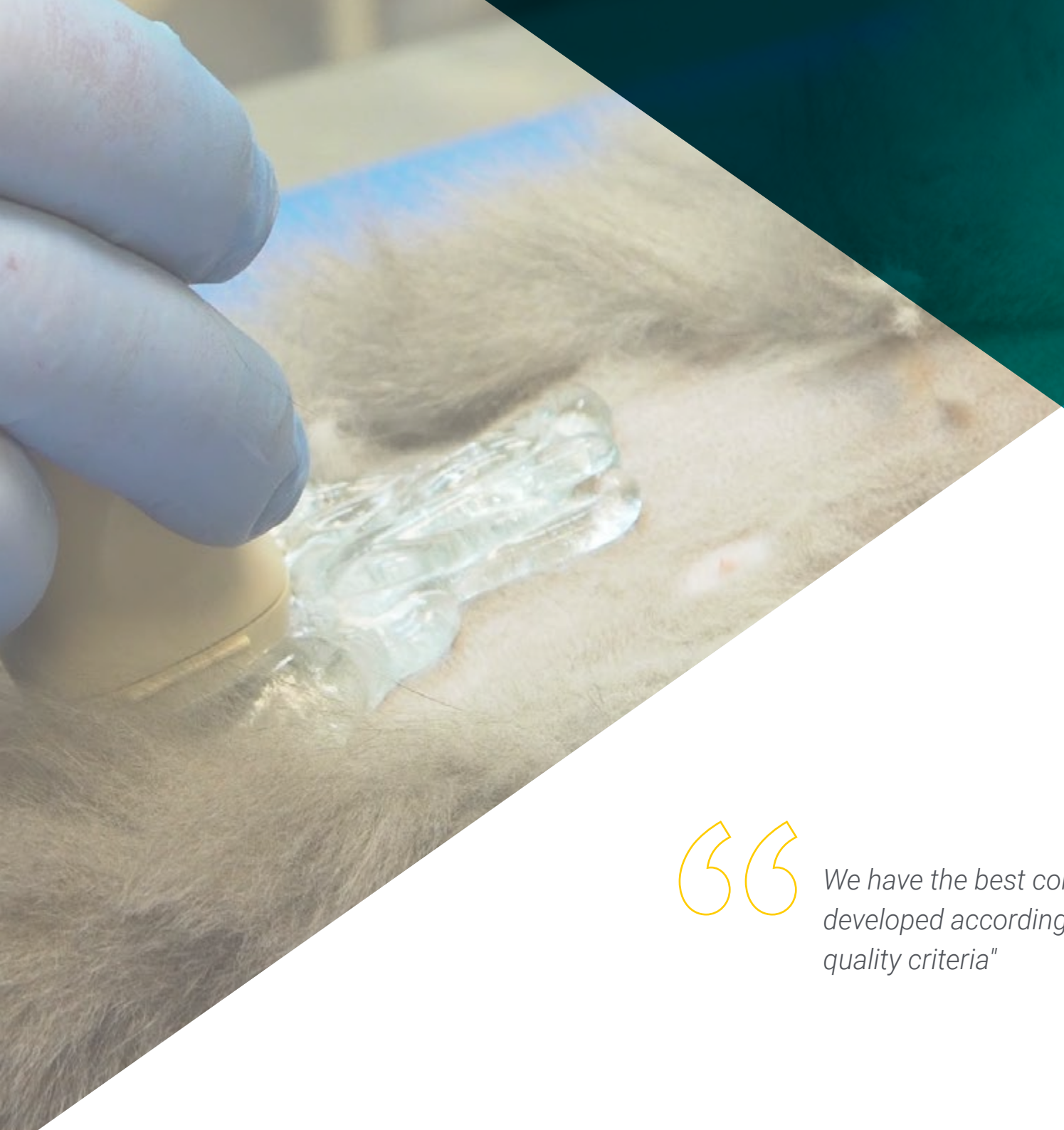
With this high level program, you will train with the best. A unique opportunity to achieve professional excellence"

04

Structure and Content

The contents of this Postgraduate Diploma course have been developed by the different experts on this course, with a clear purpose: to ensure that our students acquire each and every one of the necessary skills to become true experts in this field.

A complete and well-structured program that will take you to the highest standards of quality and success.



We have the best content of the moment, developed according to the current teaching quality criteria"

Module 1. Ultrasound Diagnosis

1.1. Ultrasound Scanners
- 1.1.1. Frequency (F)
- 1.1.2. Depth
- 1.1.3. Acoustic Impedance
- 1.1.4. Physical Phenomena
  - 1.1.4.1. Reflection
  - 1.1.4.2. Refraction:
  - 1.1.4.3. Absorption
  - 1.1.4.4. Dispersion
  - 1.1.4.5. Attenuation
- 1.1.5. Transduction and Transducer

1.2. Operation of an Ultrasound Scanner
- 1.2.1. Patient Selection and Data Entry
- 1.2.2. Types of Exam (Preset)
- 1.2.3. Transducer Position
- 1.2.4. Freeze, Save, or Pause Image
- 1.2.5. Cineloop
- 1.2.6. Image Mode Selection
- 1.2.7. Depth
- 1.2.8. Zoom
- 1.2.9. Focus
- 1.2.10. Gain
- 1.2.11. Frequency (F)
- 1.2.12. Sector Size

1.3. Types of Probe
- 1.3.1. Sectorial
- 1.3.2. Lineal
- 1.3.3. Microconvex

1.4. Ultrasound Modes
- 1.4.1. M-Mode
- 1.4.2. Two-dimensional Mode
- 1.4.3. Transesophageal Echocardiogram

1.5. Doppler Ultrasound
- 1.5.1. Physical Principles
- 1.5.2. Indications
- 1.5.3. Types
  - 1.5.3.1. Spectral Doppler
  - 1.5.3.2. Pulsed Doppler
  - 1.5.3.3. Continuous Doppler

1.6. Harmonic and Contrast Ultrasound
- 1.6.1. Harmonic Ultrasound
- 1.6.2. Contrast Ultrasound
- 1.6.3. Utilities

1.7. Patient Preparation
- 1.7.1. Prior Preparation
- 1.7.2. Positioning.
- 1.7.3. Sedation?

1.8. Ultrasounds on the Patient
- 1.8.1. How Do Ultrasound Waves Behave When Passing Through Tissue?
- 1.8.2. What Can We See in the Image?
- 1.8.3. Echogenicity

1.9. Image Orientation and Expression
- 1.9.1. Orientation
- 1.9.2. Terminology
- 1.9.3. Examples:

1.10. Artifacts
- 1.10.1. Reverberation
- 1.10.2. Acoustic Shadow
- 1.10.3. Lateral Shadow
- 1.10.4. Posterior Acoustic Enhancement
- 1.10.5. Margin Effect
- 1.10.6. Mirror or Specular Image
- 1.10.7. Scintillation Artefact
- 1.10.8. Aliasing

Module 2. Abdominal Ultrasound Scan I

2.1. Scanning Technique
- 2.1.1. Introduction
- 2.1.2. Methodology
- 2.1.3. Systematization

2.2. Retroperitoneal Cavity
- 2.2.1. Introduction
- 2.2.2. Limits
- 2.2.3. Ultrasound Approach
- 2.2.4. Pathologies of the Retroperitoneal Cavity

2.3. Urinary Bladder
- 2.3.1. Introduction
- 2.3.2. Anatomy
- 2.3.3. Ultrasound Approach
- 2.3.4. Pathologies of the Urinary Bladder

2.4. Kidneys
- 2.4.1. Introduction
- 2.4.2. Anatomy
- 2.4.3. Ultrasound Approach
- 2.4.4. Kidney Pathology

2.5. Ureters
- 2.5.1. Introduction
- 2.5.2. Ultrasound Approach
- 2.5.3. Ureter Pathology

2.6. Urethra
- 2.6.1. Introduction
- 2.6.2. Anatomy
- 2.6.3. Ultrasound Approach
- 2.6.4. Urethral Pathologies

2.7. Female Genital System
- 2.7.1. Introduction
- 2.7.2. Anatomy
- 2.7.3. Ultrasound Approach
- 2.7.4. Pathologies of the Female Reproductive System

2.8. Pregnancy and Post-partum
- 2.8.1. Introduction
- 2.8.2. Pregnancy Diagnosis and Estimation of Gestation Time
- 2.8.3. Pathologies

2.9. Male Genital System
- 2.9.1. Introduction
- 2.9.2. Anatomy
- 2.9.3. Ultrasound Approach
- 2.9.4. Pathologies of the Female Reproductive System

2.10. Adrenal Glands
- 2.10.1. Introduction
- 2.10.2. Anatomy
- 2.10.3. Ultrasound Approach
- 2.10.4. Pathologies of the Adrenal Gland

Module 3. Abdominal Ultrasound Scan II

3.1. Peritoneal Cavity
- 3.1.1. Introduction
- 3.1.2. Methodology
- 3.1.3. Pathologies of the Peritoneal Cavity

3.2. Stomach.
- 3.2.1. Introduction
- 3.2.2. Anatomy
- 3.2.3. Ultrasound Approach
- 3.2.3. Stomach Pathologies

3.3. Small Intestine
- 3.3.1. Introduction
- 3.3.2. Anatomy
- 3.3.3. Ultrasound Approach
- 3.3.4. Pathologies of the Small Intestine

3.4. Large Intestine
- 3.4.1. Introduction
- 3.4.2. Anatomy
- 3.4.3. Ultrasound Approach
- 3.4.4. Pathologies of the Large Intestine

3.5. Bladder
- 3.5.1. Introduction
- 3.5.2. Anatomy
- 3.5.3. Ultrasound Approach
- 3.5.4. Pathologies of the Spleen

3.6. Liver
- 3.6.1. Introduction
- 3.6.2. Anatomy
- 3.6.3. Ultrasound Approach
- 3.6.4. Pathologies of the Liver

3.7. Gallbladder
- 3.7.1. Introduction
- 3.7.2. Anatomy
- 3.7.3. Ultrasound Approach
- 3.7.4. Gallbladder Pathologies

3.8. Pancreas.
- 3.8.1. Introduction
- 3.8.2. Anatomy
- 3.8.3. Ultrasound Approach
- 3.8.4. Pathologies of the Pancreas

3.9. Abdominal Lymph Nodes
- 3.9.1. Introduction
- 3.9.2. Anatomy
- 3.9.3. Ultrasound Approach
- 3.9.4. Pathologies of the Abdominal Lymph Nodes

3.10. Abdominal Masses
- 3.10.1. Ultrasound Approach
- 3.10.2. Localisation
- 3.10.3. Possible Causes/Origins of Abdominal Masses

This Postgraduate Diploma in Abdominal Ultrasound for Small Animals will take you through different teaching approaches which will allow you to learn in a dynamic and efficient way"

05

Methodology

This training provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning***.

This teaching system is used 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 Re-learning, 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

In a given clinical situation, what would you do? 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 adundant scientific evidence on the effectiveness of this method. Specialists learn better, faster, and more sustainably over time.

With TECH you can 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 potential or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions of professional veterinary 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:

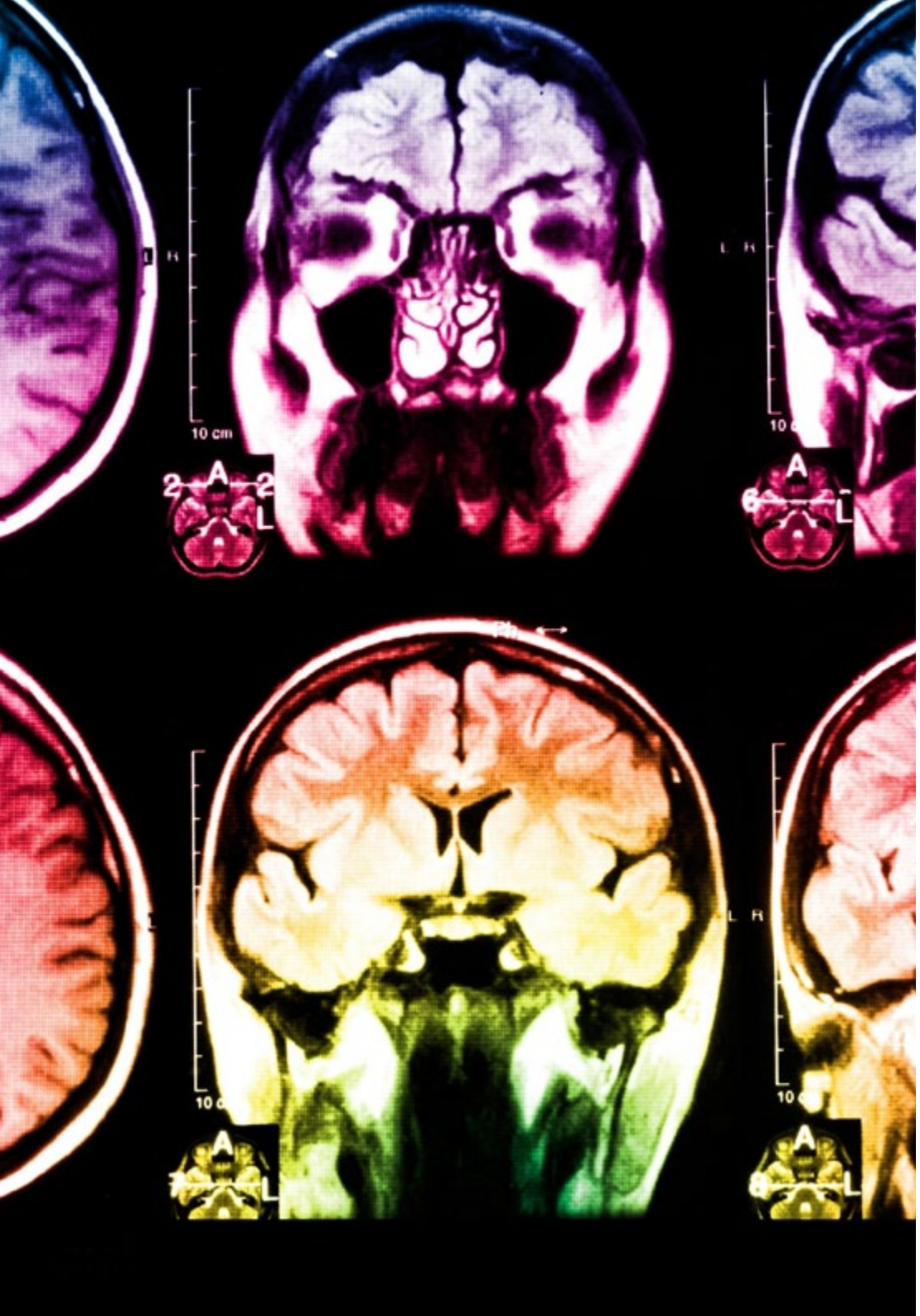
1. Veterinarians who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity through exercises to evaluate real situations and the application of knowledge.
2. The learning process has a clear focus on practical skills that allow the student to 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.

Re-learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

Our 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, which represent a real revolution with respect to simply studying and analyzing 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 Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking online university (Columbia University).

With this methodology we have trained more than 65,000 veterinarians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

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

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

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

In this program you will have access to the best educational material, prepared with you in mind:

Study Material

All the teaching materials are specifically created for the course, by specialists who teach on the course, so that the teaching content is highly specific and precise.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.

Latest Techniques and Procedures on Video

We bring you closer to the latest Techniques, to the latest Educational Advances, to the forefront of current Veterinary Techniques and Procedures. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.

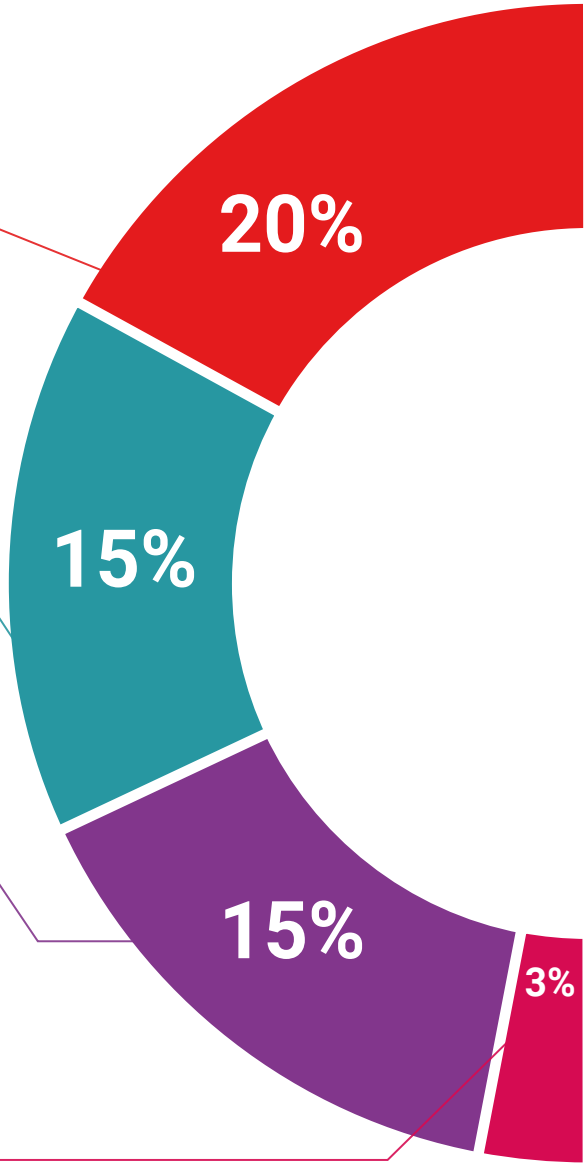
Interactive Summaries

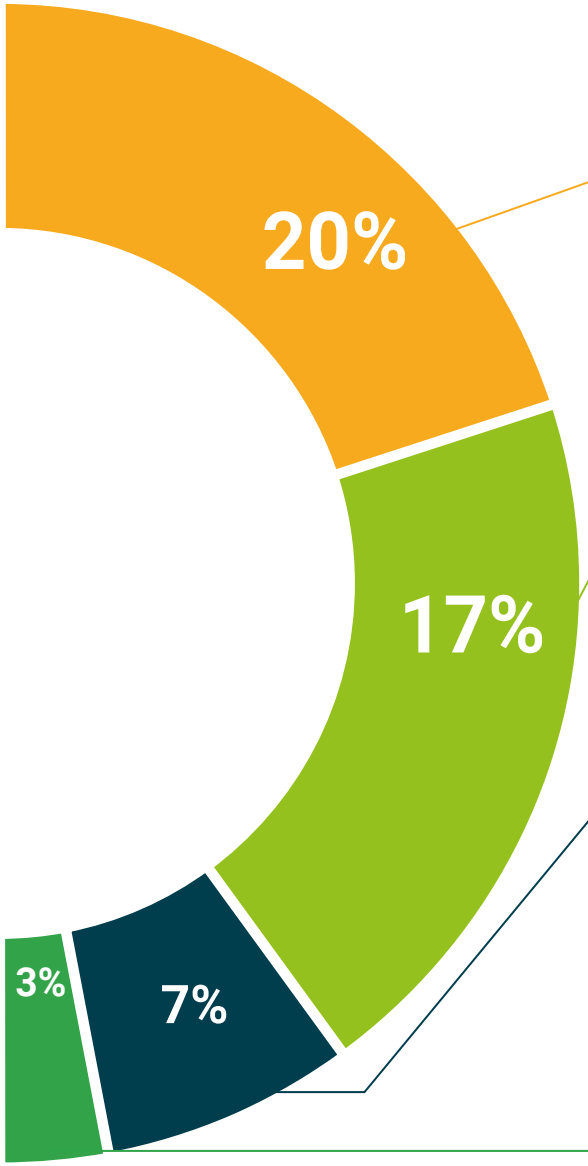
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".

Additional Reading

Recent articles, consensus documents, international guides. in our virtual library you will have access to everything you need to complete your training.





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.

Testing & Re-Testing

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your 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 our future difficult decisions.

Quick Action Guides

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.

06

Certificate

Through a different and stimulating learning experience, you will be able to acquire the necessary skills to take a big step in your training. An opportunity to progress, with the support and monitoring of a modern and specialized university, which will propel you to another professional level.

Include the Postgraduate Diploma in Abdominal Ultrasound for Small Animals on your resume: A high-quality added value for any professional in the field"

This program will allow you to obtain your **Postgraduate Diploma in Abdominal Ultrasound for Small 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 Diploma in Abdominal Ultrasound for Small Animals**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**


tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Postgraduate Diploma in Abdominal Ultrasound for Small Animals

This is a program of 450 hours of duration equivalent to 18 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

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 diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

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