Professional Master's Degree
Exotic Animal Medicine and Surgery

tech technological university

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Professional Master's Degree
Exotic Animal Medicine and Surgery

Course Modality: **Online**
Duration: **12 months.**
Certificate: **TECH Technological University**
60 ECTS Credits
Teaching Hours: **1,500 hours.**
Website: www.techtitute.com/veterinary/professional-master-degree/master-exotic-animal-medicine-surgery

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01

Introduction

The demand for veterinary specialists is a direct consequence of the introduction of unusual species into our homes, as well as a change of mentality in society towards some less novel species, which have been acquired as pets. Treating their diseases can be complex, so training such as this is necessary to specialize veterinarians in the treatment of exotic animals.

Exotic animals can have complex pathologies, so it is necessary to have specialized veterinarians who can treat them"

The **Professional Master's Degree in Medicine and Surgery in Exotic Animals** is aimed at qualified veterinarians who have special interest in this field of specialization. As clinical veterinarians, you have to take care of exotic species that have not been handled during your university studies, hence the importance of a high specialization in this field. Specifically, it covers all the exotic species that come to the clinic on a regular basis, mainly birds, mammals, reptiles and wildlife.

Exotic animals kept in captivity present pathologies derived from incorrect maintenance and feeding, so it is important to know all their particularities.

This Professional Master's Degree develops a reinforced knowledge base that is essential to achieve progress towards an adequate clinical management, diagnosis and treatment of the most common pathologies in each of the species.

In addition, there are exotic animals that tend to mask their pathologies, although most of them are a real emergency.

This training develops specialized and advanced knowledge in emergency assistance. And delves into each of the specialized areas necessary to work as veterinary specialists, with new subjects in ophthalmology, diagnostic imaging, pathology, anesthesia and monitoring, pediatric medicine, new laboratory techniques, soft tissue surgery and traumatology.

This Professional Master's Degree provides students with specific tools and skills to successfully develop their professional activity in the wide field of Exotic Animal Medicine and Surgery. It addresses key competencies such as knowledge of the reality and daily practice of the veterinary professional, and develops responsibility in the monitoring and supervision of their work, as well as communication skills within the essential teamwork.

Furthermore, as it is an online Professional Master's Degree, the student is not bound by fixed schedules or the need to move to another physical location, rather, they can access the content at any time of the day, balancing their professional or personal life with their academic life.

This **Professional Master's Degree in Exotic Animal Medicine and Surgery** contains the most complete and updated Education program on the market. The most important features of the program include:

- Developing practical cases presented by experts in exotic animal medicine and surgery.
- The graphic, schematic, and eminently practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional practice.
- Novelties on exotic animal medicine and surgery.
- Practical exercises where the self-assessment process can be carried out to improve learning.
- Special emphasis on innovative methodologies in exotic animal medicine and surgery.
- 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 do this Professional Master's Degree in Exotic Animal Medicine and Surgery with us. It's the perfect opportunity to advance your career"

This Professional Master's Degree is the best investment you can make when choosing a refresher programme to update your existing knowledge on Exotic Animal Medicine and Surgery"

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

This 100% online Professional Master's Degree will allow you to combine your studies with your professional work while increasing your knowledge in this field.

The teaching staff includes medical professionals from the veterinary field, who bring their experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

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 specialization that is programmed to train students in real situations.

This program is designed around Problem Based Learning, whereby the specialist must try to solve the different professional practice situations that arise during the academic year. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts in exotic animal medicine and surgery with extensive experience.

02

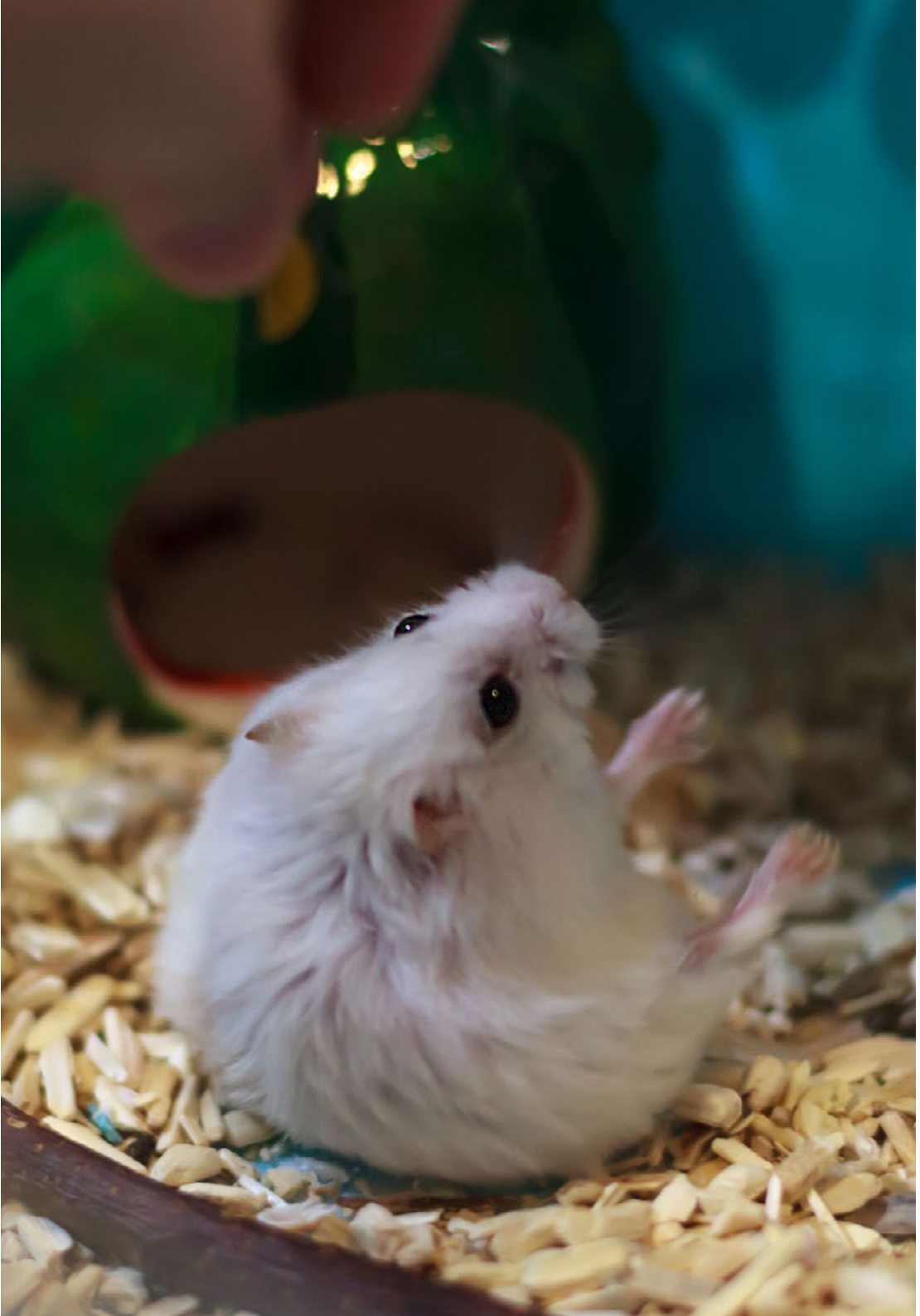
Objectives

The Professional Master's Degree in Exotic Animal Medicine and Surgery is aimed at facilitating the medical professional's performance with the latest advances and most innovative treatments in the sector.

It is the best option to learn about the latest advances in exotic animal medicine and surgery"

General Objectives

- Identify the most important biological traits of these species in order to obtain general knowledge and a reinforced base.
- Examine each species separately to highlight the main particularities to keep in mind.
- Establish the bases for attending to these species in practice.
- Analyze their pathologies to identify them.
- List of the most common diseases of exotic mammals
- Classify and examine the most common diseases according to their origin: bacterial, fungal, viral, parasitic, hereditary and other health problems.
- Prevent the vast majority of common diseases and problems, establishing, as veterinary specialists, preventive medicine, vaccination and deworming schedules applied to each species.
- Make the veterinarian responsible for the importance of providing information to the owner so that he/she carries out adequate hygiene practices with the animal, a healthy diet and exercise as well as rest, ensuring that the animal is free of stress, following the guidelines for examination and physical examination of the animal during the consultation.
- Examine diseases from a practical and applicable point of view.
- Attend to the health status of exotic mammals as a priority for the veterinary specialist.
- Develop advanced knowledge on performing the most common operation in rabbits: castration, both in females and males, in addition to other basic interventions such as oral surgical techniques.
- Develop specialized knowledge on biology, behavior, needs, feeding and care.
- Determine appropriate veterinary advice on handling and diagnostic techniques.
- Recognize the most common diseases in ferrets.
- Explore the various procedures and therapies, including anesthesia and surgical techniques.
- Develop specialized knowledge about the species that regularly come arrive at the exotic animal clinic.
- Establish the basic aspects, reasons for consultation and frequently asked questions by owners.
- Analyze management techniques for exploration and treatment administration.
- Define the most common pathologies in each species.
- Examine the symptoms that a bird has when sick.
- Explain the principles of the use of radiology in poultry and present the most commonly used images.
- Explore ultrasound scanning in birds, a forgotten diagnostic technique.
- Develop the basic principles of endoscopy in birds.
- Examine the different anatomical and physiological aspects of birds in order to apply them to the most effective treatments.
- Develop specialized knowledge in the treatment of emergencies in situations of hemorrhage, bone fractures and their treatment in emergency conditions.
- Establish anesthetic emergency protocols as with any animal that is anesthetized.
- Reach the protocol of state of shock, which is very difficult to determine in avian patients. Clinical signs may include weakness, mucosal paleness and poor peripheral perfusion.
- Examine the most common reptiles in captivity, and their anatomical differences between species.
- Determine the taxonomic classification.
- Develop reptile handling techniques.
- Establish the routes of drug administration and assess the degree of stress produced in each situation; punctual stress, maintained stress and environmental stress.
- Determine the main pathologies of reptiles.



- Examine the changes in behavior or other aspects of the animal following a pathology.
- Establish treatments and cures for the most frequent pathologies.
- Develop specialized knowledge on the most advanced surgical techniques, with updated anesthetic protocols.
- Develop risk prevention for the public, zoonosis and animal escape.
- Carry out management, nutrition, deworming, vaccination, reproductive management and hygiene plans.
- Determine the main diseases, required diagnostics and therapeutics in the main animal species
- Analyze the principles of anesthesia, main techniques.
- Avoid the first common mistake: Go directly to seek information from sick or already dead fish.
- Identify pathologies, understanding that the result of an observation or test can never be considered of absolute diagnostic value without first having assessed and performed other diagnostic tests.
- Take a much more cautious and prudent approach to fish pathologies.
- Establish the necessary guidelines applied to each medical treatment.

Specific objectives

- Examine the different species and their taxonomic classification.
- Determine the different clinical management in each clinical situation.
- Analyze the most frequent questions asked by animal owners in practice.
- Establish a prevention protocol and guidelines for the correct maintenance of rabbits or rodents.
- List the most common pathologies in lagomorphs and rodents.
- Develop a list of problems, with their differential diagnoses to achieve a correct work plan.
- Finally achieve the definitive diagnosis and find the cause of the pathology.
- Visualize the anatomy and physiological functioning of the oral cavity.
- Examine the dental malocclusion disease of lagomorphs.
- Identify all the diseases with zoonotic potential that we will encounter after handling or accidental ingestion.
- Provide advanced knowledge related to the sedation of an exotic mammal, including up-to-date anesthetic protocols for performing surgical treatments.
- Compile the ocular pathologies they present, their causes and the currently available treatments
- Analyze the reason why not all medications currently used in the dog and cat clinic can be used and cite the most commonly used medications used and their dosage.
- Develop specialized knowledge about routine surgical techniques such as sterilization and when it should be performed, as well as more advanced surgical techniques such as cystotomy or enterotomy.

- Establish an adequate anatomo-physiological background, advanced knowledge of dentition, types of molt, skeletal system, digestive system, perianal glands and salivary glands.
- Analyze the cardiorespiratory system and its pathologies.
- Develop the best method of drug administration, access routes, routine radiographic projections and laboratory sampling to achieve a reliable and effective diagnosis.
- List the various types of pathologies that are commonly encountered in daily clinical practice. Gastrointestinal and respiratory pathologies are very common, but so are neoplasms and skin problems.
- Analyze the most frequent and important endocrine pathologies in sterilized ferrets: hyperadrenocorticism, going deeper into the subject with an anatomical reminder of the adrenal glands and paying attention to the non-specific symptoms they present in order to achieve the correct diagnosis.
- Examine the most up-to-date treatments and make decisions about surgical or medical-only processes and the rationale for choosing each one.
- Assess the monitoring of anesthetized patients and the levels of anesthesia that can be used.
- Develop specialized knowledge to attend an emergency and cardiorespiratory resuscitation.
- List the most common surgical techniques and those that are unique and exclusive to ferrets.
- Anatomically and taxonomically describe the differences between each species.

- Design facilities equipped with the necessary requirements, according to their habits, diet, furnishings, environmental enrichment and special characteristics.
- Specify the necessary legal requirements to have invasive exotic pets.
- Establish the most important zoonoses to protect the veterinary specialist and the owners.
- Differentiate between the different techniques for drug administration and laboratory sampling.
- Examine the most common pathologies of each species.
- Describe the exclusive pathologies in each species.
- Develop specialized knowledge about the different bird species.
- To examine the anatomical differences in order to be able to detect them in the daily consultation.
- Design appropriate facilities in each situation and for each species, understanding the key factors for each of them.
- Set a basic list of nutrients for birds.
- To develop the nutritional requirements for Psittacidae, the most frequent exotic birds in practice.
- Perform mathematical energy calculations depending on the needs according to the established classifications.
- Determine the feeding of other bird species that are less frequent but also come to the daily practice.
- Perform management techniques and preventive medicine in avian patients.
- Establish the proper sampling and routes of drug administration, understanding their anatomical differences with the rest of the species.
- Master the techniques of radiology, ultrasound and endoscopy as vital diagnostic imaging tools in avian patients.
- Detect the most common dermal pathologies, such as acariasis, follicular cysts, itching and cutaneous lipomas.
- Classify diseases caused by viruses, as well as important traumatologic pathologies.
- Analyze the most frequent emergencies.
- Establish the appropriate treatment for each of them and understand the most common treatments
- Evaluate the types of facilities that exist and adapt them to each species and its needs. Access to water, the material used for the terrarium, and the crucial importance of temperature, humidity and light are the most important factors in providing reptiles with the basic means they need.
- Identify the natural process of hibernation, taking into account relevant aspects such as the types of hibernation, the species that hibernate and the problems that hibernation can cause during captivity.
- Gain specialized knowledge on radiology in reptiles, a basic diagnostic technique to treat their diseases.
- Explore other imaging techniques, such as ultrasound and endoscopy and cite the situations in which we should use these supportive techniques.
- Identify all the information provided by a coprological analysis, a routine procedure in practices that should always be performed.
- Study the biochemical parameters of reptiles.
- Establish routine necropsy techniques to find pathologies.
- Determine the most frequent zoonoses, prevention and indications for owners
- Analyze the most important diseases in reptiles.
- Treat the species with specific drugs and doses.
- Understand the use of the concepts MEC (Metabolic Energy Constant) and SMEC (Specific Metabolic Energy Constant), understanding that there are differences in the dose depending on the physiological state.

- Inspect updated anesthetic studies.
- Analyze the anatomical and physiological particularities of each species in order to make the appropriate anesthetic considerations.
- Establish the basic and routine surgical techniques in clinical practice.
- Discuss other important surgical issues.
- Describe the pathologies presented by reptiles with more complex causes.
- Establish which are the handling tasks of the veterinarian, together with his work team.
- Develop specialized criteria to decide on the release of a wild species treated for a pathology.
- Develop preventive medicine programs, such as vaccinations, coprologicals, and vermifugations.
- Develop specialized knowledge to perform the mandatory clinical examination of any patient who is hospitalized or has just been admitted to a recovery center.
- Interpret the laboratory tests performed on the animals in order to treat their disease.
- Establish guidelines for nutrition and nutritional diseases, infectious diseases, reproductive aspects and rescue work of primates, ursids and wild felines.
- Analyze the most commonly used anesthesia techniques in zoo animals.
- Analyze, in each case, the 4 main contexts to carry out an adequate anamnesis:
- The general informative context: Identifies the type of customer and general typology.
- The context of the particular system: Technology of the aquatic environment.
- The context of the population: Assesses the number of fish, ages, species.
- The individual context: When all the above points have been evaluated, we identify the affected fish, its organs and pathologies.
- Analyze the clinical management and establish guidelines for the correct collection of laboratory samples.
- Learn the different pathologies of ornamental fish.
- Describe the predisposing causes and establish differential diagnoses for each case.
- Establish a definitive diagnosis and apply a medical or surgical treatment and follow-up of your case.
- Assess the use of anesthetics and updated protocols.
- Examine the most commonly used antiparasitic treatments and external disinfectants.
- Evaluate the degree of learning with the presentation of a clinical case.

Join one of the largest online universities in the world"

03

Skills

After passing the assessments of the **Professional Master's Degree in Exotic Animal Medicine and Surgery**, the professional will have acquired the necessary skills for a quality and up-to-date practice based on the most innovative teaching methodology.

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

After completing this training program, the professional will be able to:

General Skills

- Carry out the clinical management, maintenance and feeding of different exotic species.
- Diagnose, take samples, perform novel laboratory techniques, and implementing medical and surgical treatments to achieve excellence in your daily practice.

Take the step to get up to date in Exotic Animal Medicine and Surgery"

Specific Skills

- Carry out the taxonomic classification of the different exotic species arriving at veterinary or rehabilitation centers.
- Be able to sedate rabbits and rodents, as well as other exotic species, in order to perform diagnostics and ocular treatments.
- Gain in-depth knowledge about all the pathologies that affect ferrets and be able to treat them effectively.
- Learn the specific regulations regarding the possession of exotic animals.
- Identify the different species of exotic birds, with special emphasis on the nutrients and food required.
- Perform the latest techniques in diagnosis and treatment of poultry pathologies.
- Perform diagnostic imaging techniques in reptiles.
- Provide the necessary medicines to the reptiles in each case.
- Perform clinical examinations of specialized wildlife patients.
- Establish diagnoses on fish pathologies and apply specific and necessary treatments in each case.

04

Course Management

The program's teaching staff includes leading experts in **Exotic Animal Medicine and Surgery** who contribute their vast work experience to this training program. Professionals of recognized prestige have joined forces to offer you this high-level training.

Our team of teachers, with expertise in Exotic Animal Medicine and Surgery, will help you achieve success in your profession"

Management

Trigo García, María Soledad

- Veterinarian in charge of the Internal Medicine and Exotic Animal Surgery Service at the Clinical Veterinary Hospital of the Alfonso X El Sabio University in Madrid.
- Degree in Veterinary Medicine from the Alfonso X el Sabio University (2012)..
- Postgraduate degree in General Practitioner Certificate Programme in Exotic Animals, Improve International.
- Postgraduate degree in Food Safety from the Complutense University of Madrid..
- Coordinator and Professor of the subject of Exotic Animal Symptoms and Therapeutics at the Faculty of Veterinary Medicine, Alfonso X El Sabio University of Madrid.
- Lecturer in Food Science and Technology, Alfonso X El Sabio University.
- Veterinary consultant at the José Peña Wildlife Center, and various veterinary clinics in Madrid.
- Director of the Exotic Animal Service at the PRADO DE BOADILLA veterinarian center.
- Tutor of the Final Degree Dissertations of the Exotic and Wild Animal Medicine and Surgery at the Alfonso X El Sabio University,
- External expert evaluator and member of the tribunal of different Final Degree Dissertations.

Professors

Ouro Núñez, Carlos

- Degree in Veterinary from the University of Santiago de Compostela (2007)
- Member of the G.M.C.A.E. (Group of Exotic Animal Medicine and Surgery) of A.V.E.P.A. (Association of Spanish Small Animal Veterinarians).
- Member of the A.A.V. (Association of Avian Veterinarians).
- Member of the A.E.M.V. (Association of Exotic Mammal Veterinarians)
- Member of the A.R.A.V (Association of Reptile and Amphibian Veterinarians)
- Professor and coordinator of the "Master in Exotic Animal Medicine and Surgery", taught by Forvetex, from 2018 to the present.
- Tutor for external internships at different national and international universities.
- Since 2014 he is the owner and administrator of the Madagascar exotic animal specialist clinic (Madrid), a center that in turn supports different veterinary centers and hospitals and breeders of non-conventional species.
- Veterinarian specializing in exotic animals in different veterinary clinics and hospitals in Madrid since 2007.
- Author of several articles in national magazines on exotic and wild fauna.
- Throughout his professional career, he has participated in more than 30 courses, congresses and conferences on exotic and wild animals, both nationally and internationally.
- He was a volunteer at the Rof Codina Veterinary Hospital in Lugo during the Prestige disaster, performing detoxification, treatment, feeding and stabilization of the different maritime avian species received at the center throughout the crisis.

05

Structure and Content

The structure of the content has been designed by the best professionals in the **Exotic Animal Medicine and Surgery** sector, 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 studies.

We have the most complete and updated scientific program on the market. We strive for excellence so that you may achieve it too"

Module 1. Relevant Aspects of Lagomorfs and Rodents

1.1. Taxonomic Classification: Is a Lagomorf a Rodent?
- 1.1.1. Lagomorfs.
- 1.1.2. Histricomorph Rodents.
- 1.1.3. Myomorph Rodents.
- 1.1.4. Visible Differences Between the Different Species.

1.2. Technical Requirements: The Importance of Adapting the Facilities to Each Species.
- 1.2.1. Types of Accommodation.
- 1.2.2. Absorbent Hygienic Bedding.
- 1.2.3. Accommodation During the Hospitalization of the Patients.

1.3. Nutritional Aspects: Nutritional Specifications in the Diets.
- 1.3.1. Specific Feeding Pattern in Lagomorphs and Histricomorph Rodents.
- 1.3.2. Nutritional Program for Myomorph Rodents.
- 1.3.3. Nutritional Care in Special Situations.

1.4. Anatomic Reminder: Different Species, Different Anatomies.
- 1.4.1. The Domestic Rabbit.
- 1.4.2. Histricomorph Rodents.
- 1.4.3. Myomorph Rodents.

1.5. Clinical Handling and Preventive Medicine: The Key Factor for Excellence in the Eyes of the Owner.
- 1.5.1. Holding.
  - 1.5.1.1. Handling Techniques in the Practice for Examination.
- 1.5.2. Physical Examination.
  - 1.5.2.1. Sexing: Sexual Dimorphism.
- 1.5.3. Preventative Medicine.
  - 1.5.3.1. Current Legislation and Animal Identification System.
  - 1.5.3.2. Vaccination Protocol.
  - 1.5.3.3. Deworming Guidelines.
  - 1.5.3.4. Information on Sterilization.

1.6. Sampling for Diagnosis and Pathways for Drug Administration.
- 1.6.1. Venipuncture.
- 1.6.2. Administering Drugs.
- 1.6.3. Gathering Urine.
- 1.6.4 Radiographic Images Necessary to Reach the Correct Diagnosis and How to Perform Them.

1.7. Diagnostic Techniques:
- 1.7.1. Sample Analysis: Key Factor for a Reliable Diagnosis.
  - 1.7.1.1. Urine Sample. Interpreting Results.
  - 1.7.1.2. Blood Sample. Different Results.
- 1.7.2. The X-ray as a Basic Tool.
  - 1.7.2.1. Radiographic Interpretation and Diagnostic Imaging.
- 1.7.3. Ultrasound to Diagnose Specific Pathologies.
  - 1.7.3.1. Main Approaches.
- 1.7.4. Other Diagnostic Techniques.

1.8. Skin and Gastrointestinal Pathologies: Listing the Most Frequent Pathologies.
- 1.8.1. External Parasites.
- 1.8.2. Fungal Infections.
- 1.8.3. Bacterial Infections.
- 1.8.4. Viral Infections.
- 1.8.5. Dermal Neoplasms.
- 1.8.6. Other Dermal Alterations.
- 1.8.7. Dental Problems.
- 1.8.8. Mucocele.
- 1.8.9. Foreign Bodies and Impaction.
- 1.8.10. Internal Parasites.
- 1.8.11. Bacterial Enteritis.
- 1.8.12. Ileum

1.9. Respiratory and Genitourinary Disorders
- 1.9.1. Respiratory Diseases of Rabbits and Rodents.
- 1.9.2. Cystitis and Urolithiasis.
- 1.9.3. Dystocia.
- 1.9.4. Hyperestrogenism.
- 1.9.5. Mammary Tumors.
- 1.9.6. Gestational Toxemia,
- 1.9.7. Ovarian Cysts.
- 1.9.8. Paraphimosis.
- 1.9.9. Pyometra and Hemometra.

1.10. Other Less Frequent Pathologies of Interest, But of Equal Importance.
- 1.10.1 Musculoskeletal Alterations.
  - 1.10.1.1. Vitamin C Deficit.
  - 1.10.1.2. Fractures and Dislocation of the Rachis in Rabbits.
- 1.10.2. Neurological Alterations:
  - 1.10.2.1. Vestibular Syndrome in Rabbits.
  - 1.10.2.2. Epilepsy in Gerbils.
- 1.10.3. Other Pathologies:
  - 1.10.3.1. Viral Hemorrhagic Disease.
  - 1.10.3.2. Mixomatosis.
  - 1.10.3.3. Lymphomas.

Module 2. Advanced Criteria in Rabbits and Rodents

2.1. Anatomo-Physiological Reminder of the Oral Cavity.
- 2.1.1. Anatomy of the Oral Cavity.
  - 2.1.1.1. Dental Distribution.
  - 2.1.1.2. Types of Dentition.
  - 2.1.1.3. Types of Mastication.
- 2.1.2. Origin of Dental Pathologies.
  - 2.1.2.1. Genetic Origin.
  - 2.1.2.2. Traumatic Origin.
  - 2.1.2.3. Systemic Origin.
  - 2.1.2.4. Dietary Origin.
- 2.1.3. Types of Oral Pathologies.
  - 2.1.3.1. Malocclusion of Incisors.
  - 2.1.3.2. Malocclusion of Premolars and Molars.

2.2. Oral Pathologies.
- 2.2.1. Symptoms Associated With Dental Pathologies. Early Diagnosis.
  - 2.2.1.1. Symptoms According to the Location.
  - 2.2.1.2. Presumptive Diagnosis and Work Plan.
  - 2.2.1.3. Complementary Diagnostic Tests.
  - 2.2.1.4. Definitive Diagnosis.
- 2.2.2. Prevention, Treatment and Prognosis of Patients With Oral Pathologies.
  - 2.2.2.1. Medical Treatment.
  - 2.2.2.2. Surgical Treatment: New Advances in the Treatment of Oral Abscesses.

2.3. Fundamental Zoonoses in Lagomorphs and Rodents.
- 2.3.1. Basic Aspects of Prevention and Protection of the Veterinary Professional.
- 2.3.2. Diseases of Bacterial Origin.
  - 2.3.2.1. Francisella Tularensis.
  - 2.3.2.2. Pasteurellosis.
  - 2.3.2.3. Salmonellosis.
  - 2.3.2.4. Bordetella Sp.
  - 2.3.2.5. Brucellosis.
  - 2.3.2.6. Yersinia pestis.
  - 2.3.2.7. Q Fever.
- 2.3.3. Parasitic Diseases.
  - 2.3.3.1. Internal Parasites.
  - 2.3.3.2. External Parasites.

2.4. Advanced Zoonoses in Lagomorphs and Rodents.
- 2.4.1. Diseases Caused by Protozoos.
  - 2.4.1.1. Encephalytozoonosis.
  - 2.4.1.2. Toxoplasmosis.
  - 2.4.1.3. Giardiasis.
- 2.4.2. Viral Diseases.
  - 2.4.2.1. Herpesvirus.
- 2.4.3. Diseases of Fungical Origin.
  - 2.4.3.1. Dermatofitosis.
  - 2.4.3.2. Microsporum sp.
  - 2.4.3.3. Trichophyton Mentagrophytes.

2.5. Most commonly Used Anesthesia Techniques in Rodent and Lagomorph Clinics.
- 2.5.1. Basic Concepts.
- 2.5.2. Anaesthesia -Analgesia Epidural.
- 2.5.3. General Sedation and Anesthesia.

2.6. Updates Anesthesia Techniques.
- 2.6.1. Anatomic Reminder of the Facial Nerves.
- 2.6.2. Local Anesthesia and Cranial Nerve Block.
- 2.6.3. Maxillary Nerve Block.
- 2.6.4. Infraorbital Nerve Block.
- 2.6.5. Palatine Nerve Block.
- 2.6.6. Mandibular Nerve Block.
- 2.6.7. Mental Nerve Block.
- 2.6.8. Anesthesia in the Emergency Department: Cardiopulmonary Resuscitation.

2.7. Ophthalmology in Lagomorphs and Rodents.
- 2.7.1. Common Occular Infections.
- 2.7.2. Corneal Ulcers. Diagnosis and Treatment.
- 2.7.3. Protusion of the Nictitating Membrane.
- 2.7.4. Pseudoterigion.
- 2.7.5. Naso-Lacrimal Duct Catheterization in Rabbits.

2.8. Updated Medical Treatments.
- 2.8.1. Relevant Aspects.
- 2.8.2. Safe Drugs and Suitable Dosage.
- 2.8.3. Common Drugs in Other Species, But Banned For Lagomorphs and Rodents.

2.9. Basic Surgical Techniques.
- 2.9.1. Pre-Surgery Factors.
- 2.9.2. Surgery Factors.
- 2.9.3. Post-Surgery Factors.
- 2.9.4. Lagomorph and Rodent Sterilization Techniques.

2.10. Advanced Surgical Techniques.
- 2.10.1. Cystotomy in Rabbits and Guinea Pigs.
- 2.10.2. Urethrotomy and Perineal Urethrostomy in Rabbits.
- 2.10.3. Gastrotomy in Lagomorphs and Rodents.
- 2.10.4. Enterotomy and Enterectomy in Lagomorphs and Rodents.

Module 3. Symptoms and Therapeutics for Ferrets

3.1. Introduction to the Ferret Symptoms. Reinforced Basis Towards a Diagnosis.
- 3.1.1. Anatomy:
  - 3.1.1.1. Taxonomic Classification.
  - 3.1.1.2. Anatomophysiological Peculiarities.
  - 3.1.1.3. Noticeable Differences With Other Domestic Carnivores.
  - 3.1.1.4. Sexual Dimorphism.
  - 3.1.1.5. Physiological Parameters.
- 3.1.2. Maintenance and Nutritional Requirements of Ferrets.
  - 3.1.2.1. Interior and Exterior Accommodation.
  - 3.1.2.2. Specific Facilities.
  - 3.1.2.3. Absorbent Hygienic Bedding.
  - 3.1.2.4. Hospitalization Maintenance Requirements.
    - 3.1.2.4.1. Nutritional Classification.
    - 3.1.2.4.2. Feeding Guidelines.
    - 3.1.2.4.3. Nutritional Requirements in Special Physiological Situations.

3.2. Clinical Handling and Preventive Medicine: The Importance of the First Visit to the Veterinarian Center.
- 3.2.1. Receiving the Patient and Clinical History.
- 3.2.2. Physical Examination: Systematic Physical Examination Protocol.
- 3.2.3. Clinical Handling and Veterinary Actions. Physical Containment of the Ferret for Examination, Diagnostic Techniques and to Apply Treatments.
  - 3.2.3.1. No Contact With the Patient.
  - 3.2.3.2. Light Containment.
  - 3.2.3.3. Light Immobilization.
  - 3.2.3.4. Full Immobilization.
- 3.2.4. Sexing: Sexual Dimorphism.
- 3.2.5. Preventative Medicine.
  - 3.2.5.1. Current Legislation and Animal Identification System.
  - 3.2.5.2. Vaccination Protocol.
  - 3.2.5.3. Deworming Guidelines.
  - 3.2.5.4. Information on Sterilization.

3.3. Pathways for Administering Drugs and Diagnostic Techniques.
- 3.3.1. Venipuncture.
  - 3.3.1.1. Access to the Cephalic Vein.
  - 3.3.1.2. Vena Cava: Location and Common Use.
  - 3.3.1.3. Lateral Saphenous Vein.
- 3.3.2. Administering Drugs.
  - 3.3.2.1. Oral Posology.
  - 3.3.2.2. Subcutaneous Route.
  - 3.3.2.3. Intramuscular Route.
  - 3.3.2.4. Intravenous Route.
  - 3.3.2.5. Intracardiac Route.
  - 3.3.2.6. The Importance of Nebulizations.
- 3.3.3. Urine Collection.
- 3.3.4. Radiographic Images Necessary to Reach the Correct Diagnosis and How to Perform Them
  - 3.3.4.1. Handling Techniques for Performing X-Rays Without Sedation.
  - 3.3.4.2. The X-ray as a Basic Tool.
- 3.3.5. Laboratory Samples: Interpretation and Results.
  - 3.3.5.1. Urine Sample. Interpreting Results.
  - 3.3.5.2. Blood Sample. Different Results.
- 3.3.6. Ultrasound to Diagnose Specific Pathologies.
  - 3.3.6.1. Main Ultrasound Approaches.

3.4. Skin Diseases. Update on Dermatologic Cases in Ferrets.
- 3.4.1. Alopecia: Very Common in Clinical Practice.
  - 3.4.1.1. Non-Specific Symptoms That Should Not Be Forgotten.
- 3.4.2. Ectoparasites. Symptoms and Treatment Discussion.
  - 3.4.2.1. Ear mites.
  - 3.4.2.2. Fleas. Ctenocephalides Felis and C. Canis.
  - 3.4.2.3. Ticks.
- 3.4.3. Dermal Neoplasms: Very Common in Ferrets.
  - 3.4.3.1. Carcinomas.
  - 3.4.3.2. Sebaceous Adenomas.
  - 3.4.3.3. Epitheliomas.
  - 3.4.3.4. Cystadenomas.
  - 3.4.3.5. Epitheliotrophic Cutaneous Lymphomas.

3.5. Problems of the Oral Cavity: Pathologies Similar to Those of Other Domestic Carnivores.
- 3.5.1. Dental Malocclusion: Congenital Causes.
- 3.5.2. Double Dentition: Supranumerary Incisors.
- 3.5.3. Dental Fractures: The Most Common Dental Pathology.
- 3.5.4. Periodontal Disease: Ferrets of Medium - Advanced Age. Geriatrics.
- 3.5.5. Tooth Abscesses.
  - 3.5.5.1. Advanced Periodontal Disease.
  - 3.5.5.2. Malpractice.
- 3.5.6. Alterations in Dental Coloring. There are Two Classifications.
  - 3.5.6.1. Dental Stains.
    - 3.5.6.1.1. Intrinsic Staining of the Teeth.
    - 3.5.6.1.2. Extrinsic Staining.
  - 3.5.6.2. Dental Coloring.

3.6. Gastrointestinal Pathologies. The Importance of Diagnostic Tools.
- 3.6.1. Gastritis.
  - 3.6.1.1. Gastric Ulcers.
  - 3.6.1.2. Causes. Diagnosis and Treatment.
- 3.6.2. Diarrheic Processes: Most Common Symptoms in Ferrets.
- 3.6.3. Presence of Internal Parasites.
  - 3.6.3.1. Toxascaris Leonina.
  - 3.6.3.2. Toxacara Cati.
  - 3.6.3.3. Ancylostoma Sp.
  - 3.6.3.4. Dipylidium Caninum.
  - 3.6.3.5. Giardia Sp.
  - 3.6.3.6. Coccidiosis.
- 3.6.4. Inflammatory Bowel Disease.
  - 3.6.4.1. Lymphoplasmacytic.
  - 3.6.4.2. Eosinophilic.
- 3.6.5. Epizootic Catarrhal Enteritis (Coronavirus).
  - 3.6.5.1. Frequency, Clinical Picture and Diagnosis.
- 3.6.6. Infectious Peritonitis (Systemic Coronavirus).
  - 3.6.6.1. High Frequency.
  - 3.6.6.2. Symptoms and Diagnosis.
  - 3.6.6.3. Prognosis of the Disease.

3.7. Respiratory Pathology.
- 3.7.1. Human Influenza: Orthomyxovirus.
  - 3.7.1.1. Transmission.
  - 3.7.1.2. Clinical Picture.
  - 3.7.1.3. Diagnosis.
  - 3.7.1.4. Treatment.
- 3.7.2. Distemper Virus: Paramyxovirus.
  - 3.7.2.1. Progression of the Disease.
  - 3.7.2.2. Diagnosis.
  - 3.7.2.3. Prevention: The Best Tool Currently Available.

3.8. Endocrine Pathologies. The Main Issue With Ferrets.
- 3.8.1. Hyperadrenocorticism in Ferrets.
  - 3.8.1.1. Definition and General Concepts.
  - 3.8.1.2. Adrenal Gland Anatomy. Location.
  - 3.8.1.3. Endocrinological Functioning of the Adrenal Glands.
    - 3.8.1.3.1. Reminder of Hormonal Functioning.
  - 3.8.1.4. Typical and Non-Specific Symptoms.
    - 3.8.1.4.1. Alopecia.
    - 3.8.1.4.2. General Malaise: Anorexia.
    - 3.8.1.4.3. Genital Inflammation.
    - 3.8.1.4.4. Other Symptoms.
  - 3.8.1.5. Establishing a Diagnosis.
    - 3.8.1.5.1. Differential Diagnosis and Work Plan.
    - 3.8.1.5.2. Complementary Tests: The Importance of Ultrasound.
      - 3.8.1.5.2.1. Studies Measuring Adrenal Glands.
    - 3.8.1.5.3. Other Complementary Tests.
  - 3.8.1.6. Treatment: Patient Stabilization.
    - 3.8.1.6.1. Surgical: Left or Bilateral, Total or Partial Adrenalectomy.
    - 3.8.1.6.2. Medical:
      - 3.8.1.6.2.1. Deslorelin Implant.
      - 3.8.1.6.2.2. Gonadotropin-Releasing Hormone (GnRH) Agonists.
      - 3.8.1.6.2.3. Other Medical Treatments Used.
- 3.8.2. Hyperestrogenism.
  - 3.8.2.1. Symptoms, Diagnosis and Treatment.

3.9. Other Important Pathologies:
3.9.1. Urinary Pathologies.
3.9.1.1. Renal Cysts.
3.9.1.1.1. Clinical Findings.
3.9.1.1.2. Treatment.
3.9.1.2. Bladder Uroliths.
3.9.1.2.1. Frequency.
3.9.1.2.2. Types of Stones and Recommended Treatment.
3.9.2. The Cardiac Patient.
3.9.2.1. The Most Common Symptoms.
3.9.2.2. The Diagnostic Tools: X-rays, Electrocardiograms, Ultrasound Scans.
3.9.2.3. Common Treatments and Case Monitoring.
3.9.3. Aleutian Disease.
3.9.3.1. Causes.
3.9.3.2. Characteristic Symptomatology.
3.9.3.3. Early Diagnosis.
3.9.4. Neoplasties
3.9.4.1. Insulinoma: Very Common Pathology in Middle-Aged Ferrets.
3.9.4.1.1. Causes. Symptoms.
3.9.4.1.2. Diagnostic Plan.
3.9.4.1.3. Effective Treatment.
3.9.4.2. Lymphoma.
3.9.4.2.1. Causes.
3.9.4.2.2. Diagnostic Plan.
3.10. Surgical Techniques in Ferrets.
3.10.1. Most Commonly Used Anesthesia and Analgesia in Ferrets.
3.10.1.1. Analgesia:
3.10.1.2. Sedation.
3.10.1.3. General Anesthesia.
3.10.1.4. Anesthesia in the Emergency Department: Cardiopulmonary Resuscitation.
3.10.2. Basic Surgical Techniques.
3.10.2.1. Pre-Surgical, Surgical and Post-Surgical Factors.
3.10.2.2. Lagomorph and Rodent Sterilization Techniques.
3.10.3. Advanced Surgical Techniques.
3.10.3.1. Adrenalectomy in Ferrets.
3.10.3.1.1. Surgical Technique: Bilateral, Unilateral, Total or Partial. Previous Decisions.
3.10.3.2. Saculectomy: Anal Sacs Located in the Perianal Space.
3.10.3.2.1. The Most Common Approaches Currently Used.
3.10.3.2.2. When It Goes Wrong: Complications.
3.10.3.3. Cystotomy.
3.10.3.3.1. Indications: Neoplasms and Urinary Obstructions.
3.10.3.3.2. Surgical Technique.
3.10.3.4. Urethrotomy and Urethrostomy in Ferrets.
3.10.3.4.1. Anatomic Reminder: Os Penis (Penis Bone).
3.10.3.4.2. Indications: Neoplasms, Distal Urethral Strictures and Urinary Obstructions.
3.10.3.4.3. Surgical Technique.
3.10.3.5. Gastrotomy, Enterotomy and Enterectomy in Ferrets.
3.10.3.5.1. Indications: Gastrointestinal Obstructions, Foreign Bodies, Neoplasms and Biopsies.
3.10.3.5.2. Surgical Technique.

Module 4. New Pets

4.1. Taxonomic Classification: Noticeable Differences Between Species.
4.1.1. Squirrels, Prairie Dogs and Richardson's Squirrels: Small Rodents of Worldwide Distribution.
4.1.1.1. Common or Red Squirrel (Sciurus vulgaris).
4.1.1.2. Grey Squirrel (Sciurus carolinensis).
4.1.1.3. Siberian Chipmunk (Eutamias Sibiricus).
4.1.1.4. Eastern Chipmunk (Tamias striatus).
4.1.1.5. Prairie Dog (Cynomys Spp).
4.1.1.6. Richardson's Squirrels (Urocitellus / Spermophilus Rochardsonii).

4.1.2. Hedgehogs: The Most Common Species.
4.1.2.1. African White-Bellied, 4-Toed or Pygmy Hedgehog (Atelerix Albiventris).
4.1.2.2. Egyptian Hedgehog (Hemiechinus Auritus).
4.1.2.3. European Hedgehog (Erinaceus Europaeus).
4.1.2.4. Moorish Hedgehod (Erinaceus Algirus).
4.1.3. Pet Pigs.
4.1.3.1. Vietnamese Pig (Sus Scrofa Domestica).
4.1.3.2. Kune Pig (Sus Scrofa Domestica).

4.2. Maintenance in Captivity: Specific Facilities. Furniture and Special Features.
4.2.1. Sciuromorphs. Thermal Factor
4.2.1.1. Body and Environmental Temperature in Each Species.
4.2.2. Hedgehogs: Nocturnal, Territorial and Solitary Animals.
4.2.2.1. Body and Environmental Temperature.
4.2.2.2. Behavior in the Wild and in Captivity.
4.2.2.3. The "Self-Anointing". A Characteristic Behavior of the Species.
4.2.3. Pet Pigs: Dwarf Pigs.
4.2.3.1. Body and Environmental Temperature.
4.2.3.2. Interior and Exterior Facilities.
4.2.3.3. Environmental Enrichment: Techniques for Preventing Destructive Behavior.
4.2.3.4. Behavior in the Wild: Extrapolation to Captivity.

4.3. Nutritional Aspects: Nutritional Specifications in the Diets. Different Nutritional program for Each Species.
4.3.1. Sciuromorphs.
4.3.1.1. Classification According to their Habits.
4.3.1.1.1. Arboreal.
4.3.1.1.2. Mixed.
4.3.1.1.3. Terrestrial.
4.3.1.2. General Dental Distribution.
4.3.1.3. Changes in Feeding for Hibernation.
4.3.1.4. Nutritional Deficiencies.
4.3.2. Hedgehogs: Very Different Nutrition in Captivity Than in the Wild.
4.3.3. Pet Pigs: They Are Omnivores.

4.4. Anatomic Reminder: Different Species, Different Anatomies.
4.4.1. Sciuromorphs.
4.4.1.1. Oral Cavity. Types of Dentition.
4.4.1.2. Sexual Dimorphism: Only Clear in Adult Specimens.
4.4.1.3. Special Criteria for Reproduction: One Litter Per Year.
4.4.1.4. Differences Between Species.
4.4.2. Hedgehogs: They Are Polygamous.
4.4.2.1. Sexual Dimorphism.
4.4.2.2. Special Criteria for Reproduction.
4.4.2.3. Anatomic Considerations.
4.4.3. Pet Pigs:
4.4.3.1. Special Criteria for Reproduction.
4.4.3.2. Anatomy Recap.

4.5. Clinical Handling and Preventive Medicine: The Key Factor for Excellence in the Eyes of the Owner. Key Questions.
4.5.1. Sciuromorphs
4.5.1.1. Handling Techniques in the Practice for Examination.
4.5.2. Hedgehogs:
4.5.3. Pet Pigs
4.5.4. Preventative Medicine.
4.5.4.1. Current Legislation and Animal Identification System.
4.5.4.2. Vaccination Protocol.
4.5.4.3. Deworming Guidelines.
4.5.4.4. Information on Sterilization.

4.6. Sampling for Diagnosis and Pathways for Drug Administration.
4.6.1. Sciuromorphs.
4.6.2. Hedgehogs.
4.6.3. Pet Pigs.

4.7. The Most Important Zoonoses: Protection as a Key Factor in the Veterinarian's Practice.
4.7.1. Sciuromorphs.
4.7.1.1. Animals Born in Captivity.
4.7.1.2. Captured Animals Who Live in Captivity.

4.7.2. Hedgehogs.
4.7.2.1. Demodex Spp.
4.7.2.2. Notoedrees Cati.
4.7.3. Pigs:
4.7.3.1. Hydatidosis.
4.8. Most Common Pathologies in Sciuromorphs.
4.8.1. Update on Dermatology in Squirrels, Prairie Dogs and Richardson's Squirrels.
4.8.1.1. Alopecia.
4.8.1.2. Scabies: Sarcoptes Scabiei and Notoedres Cati.
4.8.1.3. Dermatofphytosis.
4.8.2. Pathologies of the Oral Cavity: Most Frequent Dentistry Problems.
4.8.2.1. Most Common Causes.
4.8.2.2. Treatment
4.8.2.3. The Pseudo-Odontoma: The Most Common Dental Problem in Prairie Dogs.
4.8.2.3.1. Predisposing Causes: Repeated Trauma.
4.8.2.3.2. Symptoms: The Reason for Coming to the Practice.
4.8.2.3.3. Effective Treatment.
4.8.2.3.4. Definitive Treatment.
4.9. The Most Common Pathologies in Hedgehogs.
4.9.1. Scabies: Loss of Spikes That Scares the Owner.
4.9.1.1. Caparinia Tripilis.
4.9.1.2. Symptoms and Treatment.
4.9.2. Dermatofphytosis
4.9.2.1. Trichophyton Mentagrophytes and Microsporum Spp.
4.9.2.2. Symptoms and Treatment.
4.9.3. Respiratory Pathologies: Pneumonias.
4.9.3.1. Bordetella Bronchiseptica.
4.9.3.2. Pasteurella Multocida.
4.9.3.3. Mycoplasma Spp.
4.9.4. Nerve Pathologies: Whobbly Hedgehog Syndrom.
4.9.4.1. Definition.
4.9.4.2. Symptoms.
4.10. The Most Common Pathologies in Dwarf Pigs.
4.10.1. Dermal Pathologies: A Common Issue in the Practice.
4.10.2. Parasitosis.
4.10.2.1. Sarcoptes Scabiei.
4.10.2.2. Haematopinus Suis.
4.10.3. Botulism: Similar Symptoms to Other Dermal Lesions.
4.10.3.1. Erysipelothrix Rusopathiae.
4.10.4. Nail Overgrowth
4.10.4.1. Specific Anatomy of the Nails.
4.10.5. Obesity: A Common Issue with Pigs in Captivity.
4.10.6. Swine Pleuropneumonia: Low Incidence but High Mortality.
4.10.6.1. Actinobacilus Pleuroneumoniae.

Module 5. Relevant Aspects of Birds

5.1. Taxonomic Classification of Psittaciformes: The Majority of Birds Brought to the Practice.
5.1.1. Taxonomic Classification.
5.1.2. Worldwide Distribution.
5.1.3. Anatomic Differences.
5.2. Taxonomic Classification of Passerine Birds: The Vast Majority of Wild Birds.
5.2.1. Taxonomic Classification.
5.2.2. Worldwide Distribution.
5.2.3. Anatomic Differences.
5.3. Taxonomic Classification of Falconiformes: Birds of Prey.
5.3.1. Taxonomic Classification.
5.3.2. Worldwide Distribution.
5.3.3. Anatomic Differences.
5.4. Anatomy Recap.
5.4.1. Generalized Anatomy Among Species.
5.4.2. Anatomy of the Skeletal System.
5.4.3. Anatomy of the Organs.
5.5. Maintenance: Suitable Facilities for Each Species.
5.5.1. Special Furniture: Types of Cages.
5.5.2. Stress.
5.5.3. Physical exercise
5.5.4. Ultraviolet Light.
5.5.5. Maintenance of Birds in Captivity.

5.5.6. Coloring of the Feathers.
5.5.7. Availability of Water.
5.5.8. Drugs Added to the Water.
5.5.9. Baths and Sprays With Water.
5.6. Nutritional Requirements: Nutrition
5.6.1. Feeding Guidelines:
5.6.2. Nutritional Composition of the Food.
5.6.2.1. Carbohydrates.
5.6.2.2. Proteins.
5.6.2.3. Fats.
5.6.2.4. Vitamins.
5.6.2.4.1. Liposoluble Vitamins.
5.6.2.4.2. Hydrosoluble Vitamins.
5.6.2.4.3. Antivitamins.
5.6.2.5. Minerals.
5.7. Type of Nutrition in Psittacine Birds.
5.7.1. Seed Mixture: Nature in Captivity.
5.7.2. Feed: Differences Between Granulated and Extruded.
5.7.3. Fruits and Vegetables: Environmental Enrichment.
5.7.4. Germinated Seeds: With High Amounts of Vitamins.
5.7.5. Cooked Legumes: In Raw Form They Generate Digestive Alterations.
5.7.6. Breeding Paste: Desired and Undesired Effects.
5.7.7. Other Products.
5.7.8. Calculating Energy Needs: Basal Metabolic Rate (BMR) and Maintenance Energy Requirements (MER)
5.8. Generalized Diet for the Most Frequent Psittacines in the Clinic.
5.8.1. Australian Parakeet (Melopsittacus undulattus).
5.8.2. Nymph (Nymphicus Hollandicus).
5.8.3. Lovebird (Agapornis Spp.).
5.8.4. African Grey Parrot, Yaco (Psithacus Erithacus).
5.9. Generalized Diet for the Least Frequent Psittacines in the Clinic.
5.9.1. Amazona (Amazona Sp).
5.9.2. Macaw (Ara Sp).
5.9.3. Cockatoo (Cacatua Sp).
5.9.4. Ecleptus (Ecleptus Roratus).
5.9.5. Loris.
5.9.6. Conversion of Psittacine Feeding.
5.10. Other Feeding Aspects.
5.10.1. Relevant Aspects.
5.10.2. Feeding in Passerine Birds.
5.10.3. Food in Hospitalized Patients.

Module 6. Diagnostic Criteria and Treatments in Birds

6.1. The Most Important Zoonoses.
6.1.1. Prevention and Protection of the Veterinary Professional.
6.1.2. Risk of Zoonosis from Handling.
6.1.3. Risk of Zoonosis from Ingesting.
6.2. Clinical Handling and Preventive Medicine.
6.2.1. Physical Examination: Complete and Orderly.
6.2.2. Containing the Bird.
6.2.3. Sampling and Drug Administration.
6.2.3.1. Intravenous Route.
6.2.3.2. Intraosseous Route.
6.2.3.3. Oral Posology.
6.2.3.4. Intramuscular Route.
6.2.3.5. Subcutaneous Route.
6.2.3.6. Topical Route.
6.2.4. Preventative Medicine.
6.2.4.1. Vaccination.
6.2.4.2. Deworming.
6.2.4.3. Sterilization.
6.3. Diagnostic Imaging: Radiology in Birds.
6.3.1. Ultrasound Equipment.
6.3.2. Handling Techniques in Radiography.
6.3.3. Ultrasound Visualization.

6.4. Advanced Diagnostic Imaging.
- 6.4.1. Ultrasound in Birds: The Use of Ultrasound.
- 6.4.2. Technical Issues.
- 6.4.3. Preparing and Positioning the Patient.
- 6.4.4. Endoscopy in Birds: Necessary Instruments.

6.5. Pathologies of the Skin.
- 6.5.1. Acariasis: In Parakeets and Canaries.
- 6.5.2. Follicular Cysts: Usual Reason for Attending a Practice in Canaries.
- 6.5.3. Itching: A Major Disorder.
- 6.5.4. Cutaneous Lipomas: Very Common in Parakeets and Other Species.

6.6. Other Important Diseases.
- 6.6.1. Avian Smallpox: Poxvirus.
- 6.6.2. Circovirus: Diseases of the Beak and Feathers.
- 6.6.3. Gout: Visceral or Articular.
- 6.6.4. Limping: Multifactorial Cause.
- 6.6.5. Spikes: "Bumblefoot".

6.7. Reproductive Diseases.
- 6.7.1. Introduction.
- 6.7.2. Egg Retention.
- 6.7.3. Chronic Egg Laying Nymphs, Parakeets and Lovebirds.

6.8. Listing Frequent Pathologies.
- 6.8.1. Macrorhabdus Ornithogaster: The Megabacteria.
- 6.8.2. Vomiting and Regurgitating: Nonspecific Type.
- 6.8.3. PDD: Proventiculus Dilatation Disease.
- 6.8.4. Hepatic Lipidosis: The Most Common Liver Problem.
- 6.8.5. Nonspecific Diarrhea: In Passerines and Psittaciformes.

6.9. Other Pathologies.
- 6.9.1. Psittacosis: Potential Zoonosis.
- 6.9.2. Hypovitaminosis A: Common in Birds Fed Exclusively on Seeds.
- 6.9.3. Aspergillosis: Fungi of the Aspergillus Genus.
- 6.9.4. Nonspecific Respiratory Problems: The Major Issue.
- 6.9.5. Heavy Metal Poisoning.
- 6.9.6. Hypocalcemia: Very common in Yacos.

6.10. Treatments.
- 6.10.1. Key Aspects to Perform a Surgical Procedure.
- 6.10.2. Making Bandages.
  - 6.10.2.1. Bandaging Wings.
  - 6.10.2.2. Bandaging Spikes.
- 6.10.3. Feather Cutting.

Module 7. Relevant Aspects of Reptiles I

7.1. Introduction.
- 7.1.1. Taxonomic Classification.
- 7.1.2. The Most Common Species of Reptiles in Captivity.
- 7.1.3. Other Reptiles Kept in Captivity.

7.2. Anatomy:
- 7.2.1. Common Aspects in Reptiles
  - 7.2.1.1. Skeletal System.
  - 7.2.1.2. Circulatory System.
  - 7.2.1.3. Digestive System.
- 7.2.2. Particular Anatomy of Turtles.
- 7.2.3. Anatomy of Lizards.
- 7.2.4. Anatomy of Snakes.

7.3. Maintenance: Suitable Facilities for Each Species.
- 7.3.1. Special Furniture: Types of Terrariums and Their Dimensions.
- 7.3.2. Water: Calculation of Daily Water Requirements.
- 7.3.3. The Material of the Terrarium.
- 7.3.4. The Importance of temperature: POTZ (Preferred Optimum Temperature Zone)
- 7.3.5. The Importance of Humidity.
- 7.3.6. Controlling Light: Effects on Their Organism.
  - 7.3.6.1. Types of Radiation.
  - 7.3.6.2. Existing Materials on the Market.
- 7.3.7. Coexistence.
  - 7.3.7.1. Interspecific.
  - 7.3.7.2. Intraspecific.

7.4. Hibernation or Diapause.
- 7.4.1. Relevant Concepts.
- 7.4.2. Types of Hibernation.
- 7.4.3. Species that Hibernate.
- 7.4.4. Problems Derived from Hibernation.

7.5. Nutritional Requirements: Nutrition.
- 7.5.1. Classification Depending on the Type of Diet.
- 7.5.2. Aspects to be Assessed in Each Physiological State.
- 7.5.3. Diet for Herbivore Species.
- 7.5.4. Diet for Insectivore Species.
- 7.5.5. Diet for Carnivore Species.

7.6. Clinical Handling.
- 7.6.1. Reptile Transportation.
  - 7.6.1.1. How to Go to the Practice.
  - 7.6.1.2. Long-Term Transportation.
  - 7.6.1.3. Legislation.
- 7.6.2. Containing the Reptile for its Examination.
- 7.6.3. Caudal Autotomy.
- 7.6.4. Physical Examination.
- 7.6.5. Sexing Techniques.
  - 7.6.5.1. Turtles.
  - 7.6.5.2. Lizards.
  - 7.6.5.3. Ophidians.
- 7.6.6. Handing During Hospitalization.

7.7. Sampling and Drug Administration.
- 7.7.1. Oral Posology.
  - 7.7.1.1. Suitable Techniques.
  - 7.7.1.2. Administering Food During Hospitalization.
- 7.7.2. Subcutaneous Route
- 7.7.3. Intramuscular Route
- 7.7.4. Intravenous Route Intravenous Catheterization.
  - 7.7.4.1. Chelonids.
  - 7.7.4.2. Lizards.
  - 7.7.4.3. Ophidians.
- 7.7.5. Intraosseous Route: Intraosseous Catheterization.
- 7.7.6. Intracellular Route: Similar to the Intraperitoneal Route in Mammals.

7.8. X-Rays as a Basic Diagnostic Techniques.
- 7.8.1. Radiological Technique: Machinery and Optimum Radiographic Contrast.
- 7.8.2. Handling During X-Rays and Radiographic Visualization.
  - 7.8.2.1. Chelonids.
  - 7.8.2.2. Lizards.
  - 7.8.2.3. Snakes.

7.9. Other Diagnostic Imaging Techniques Used: Ultrasound and Endoscopy.
- 7.9.1. Ultrasound in Reptiles: The Complement to X-Rays.
- 7.9.2. Endoscopy: With Several Uses.

7.10. Other Diagnostic Techniques
- 7.10.1. Biopsies: Highly Valuable Information.
- 7.10.2. Clinical Biochemistry.
- 7.10.3. Cytological Techniques.
- 7.10.4. Coprology in Reptiles.
- 7.10.5. Microbiology: Detecting Viruses, Bacteria and Parasites.
- 7.10.6. Necropsy: Post-Mortem Examination.

Module 8. Relevant Aspects of Reptiles II

8.1. The Most Important Zoonoses.
- 8.1.1. Prevention and Protection.
- 8.1.2. Risk of Zoonosis from Handling.
- 8.1.3. Risk of Zoonosis from Ingesting.

8.2. Dermal Diseases:
- 8.2.1. Lesions: Trauma and Aggressions.
- 8.2.2. Dysecdysis: Alteration of Skin Shedding.
- 8.2.3. Thermal Burns Caused by a Lack of Information of the Owner.
- 8.2.4. Pyramiding: Deformation of the Shell.
- 8.2.5. Otic Abscesses: Habitual in Chelonians.
- 8.2.6. Ectoparasites.
- 8.2.7. Hypovitaminosis A: Multifactorial Cause.

8.3. Digestive Alterations.
- 8.3.1. Estomatitis: Very Common in Reptiles.
- 8.3.2. Intestinal Obstruction: Causes.
- 8.3.3. Hepatic Lipidosis: Obesity in Reptiles.
- 8.3.4. Internal Parasites: Different Species.

8.4. Other Pathologies.
- 8.4.1. Rhinitis: Dyspnea and Emergencies:
- 8.4.2. Pneumonia: The Deficient Mucociliary System of Their Lungs.
- 8.4.3. Renal Insufficiency: Very Common in Reptiles.
- 8.4.4. Gout: Multifactorial Cause.

8.5. What Dose of a Drug to Use?
- 8.5.1. Metabolic Energy Constant.
- 8.5.2. MEC (Metabolic Energy Constant) and SMEC (Specific Metabolic Energy Constant) Dose Values.
- 8.5.3. Dose Examples.

8.6. Common Treatments.
- 8.6.1. Antibiotics
- 8.6.2. Disinfectants.
- 8.6.3. Nutritional Treatments.
- 8.6.4. Antimycotics.
- 8.6.5. Antiparasitics.
- 8.6.6. Harmful Treatments.

8.7. The Success of Anesthesia.
- 8.7.1. Preanesthetic Evaluation.
- 8.7.2. Pre.-Medication
- 8.7.3. Induction With Anesthetic Gas.
  - 8.7.3.1. Types of Gases.
  - 8.7.3.2. Anesthetic Circuitry.
- 8.7.4. Anesthetic Recovery.

8.8. Techniques and Applications of Basic Surgery.
- 8.8.1. Esophagotomy.
- 8.8.2. Intracellular access in Saurians and Ophidians: Celiotomy.
- 8.8.3. Cloacal Replacement.
- 8.8.4. Tympanic Removal Due to Abscesses.

8.9. Advanced Surgical Techniques:
- 8.9.1 Cloaca or Penis Prolapse.
- 8.9.2. Egg Retention.
- 8.9.3. Liver Biopsy.
- 8.9.4. Renal Biopsy.

8.10. Common Orthopedic Surgeries.
- 8.10.1. Metabollic Bone Disease: SNHP (Secondary Nutritional Hyperparathyroidism).
- 8.10.2. Tail Amputation.
- 8.10.3. Limb Amputation and Fractures.
- 8.10.4. Shell Fractures.

Module 9. Wild Animal Medicine and Surgery

9.1. Triage and Emergency Care of Wildlife.
- 9.1.1. Legislation, Organization and Function of Animal Centers.
- 9.1.2. The Philosophy and Ethics of Wild Life.
- 9.1.3. Answering Questions About Treatment and Release to Wildlife.
- 9.1.4. The Relationship With the Wildlife Rehabilitator.
- 9.1.5. Emergency Treatment of Wildlife.
- 9.1.6. Animal Identification Techniques: Indispensable for Population Control.

9.2. Selection and Emergency Treatment in Wild Patients.
- 9.2.1. Trauma.
- 9.2.2. Oil Spills.
- 9.2.3. Intoxications.
- 9.2.4. Infectious Diseases.
- 9.2.5. Geriatric Animals.
- 9.2.6. Natural Disasters.
- 9.2.7. Rehabilitation and Release of Wild Patients.

9.3. Real Situations of Wildlife Anesthesia and Immobilization.
- 9.3.1. Ideal Situation.
- 9.3.2. Real Situation.
- 9.3.3. Pre-Anesthetic Considerations.
- 9.3.4. Public Safety.

9.4. The Anesthetic Procedure in Wildlife
- 9.4.1. The Immobilization Process.
- 9.4.2. Non-Injectable Anesthetics.
- 9.4.3. Non-Injectable Anesthetics.
- 9.4.4. Anesthetic Recovery: Capture Myopathy.

9.5. Bacterial Diseases of Wildlife I
- 9.5.1. Leptospirosis: Leptospira Spp.
- 9.5.2. Brucellosis: Undulant Fever.
- 9.5.3. The Bubonic plague: Yersinia Pestis.

9.6. Bacterial Diseases of Wildlife II
- 9.6.1. Psittacosis: Ornithosis and Chlamydiosis.
- 9.6.2. Salmonellosis: Salmonella Spp.
- 9.6.3. Tetanus: Clostridium Tetanii.
- 9.6.4. Tularemia: Rabbit Fever.

9.7. Other Important Diseases in Wildlife III
- 9.7.1. Aspergillosis: Aspergillus Fumigatus.
- 9.7.2. Histoplasmosis: Histoplasma Capsulatum.
- 9.7.3. Rabies: Rhabdovirus.
- 9.7.4. Helminth Diseases: Parasites.

9.8. Ursid Medicine.
- 9.8.1. Taxonomy: Ursidae Family.
- 9.8.2. Most Common Species of Bears.
- 9.8.3. Eye Anesthesia: Required Drugs.
- 9.8.4. Most Common Infectious Diseases.
- 9.8.5. Biometrics.
- 9.8.6. Diagnostic Techniques.
- 9.8.7. Vaccination: Vaccine Types and Protocols.

9.9. Wild Feline Medicine.
- 9.9.1. Taxonomy: Felidae Family.
- 9.9.2. Most Common Species of Wild Felines.
- 9.9.3. Anesthesia in Wild Felines: Common Drugs.
- 9.9.4. Most Common Infectious Diseases.
- 9.9.5. Other Important Diseases.
- 9.9.6. Biometrics.
- 9.9.7. Diagnostic Techniques.

9.10. Medicine in Primates.
- 9.10.1. Taxonomic Classification: Primates of the New World and the Old World.
- 9.10.2. The Most Common Species of Primates.
- 9.10.3. Anesthesia in Primates: Common Drugs.
- 9.10.4. Most Common Infectious Diseases.

Module 10. Care and Pathologies in Fish

10.1. Veterinary Clinical Activity in Fish: Basis for Clinical Diagnosis.
- 10.1.1. Global Profile of the Clinical Picture.
- 10.1.2. The Different Aquatic Environments
  - 10.1.2.1. Natural Aquatic Environment and Ornamental Fish Keeping Facilities.
  - 10.1.2.2. Technological Role in Water Maintenance.
- 10.1.3. Chemical Properties of Water.
  - 10.1.3.1. Chemical Criteria.
  - 10.1.3.2. Biological Criteria.

10.2. Anatomic Reminder: Guidelines to Achieve Cross-Species Identification.
- 10.2.1. Taxonomic Classification.
- 10.2.2. Most Common Species of Fish
  - 10.2.2.1. Ornamental Fish
  - 10.2.2.2. Fish for Consumption
  - 10.2.2.3. Laboratory Fish

10.3. Clinical Handling: Guidelines for Their Appropriate Handling.
- 10.3.1. Appropriate Anamnesis.
- 10.3.2. Correct Physical Evaluation.
- 10.3.3. Basic Handling Techniques.
- 10.3.4. Specialized Methods in Clinical Techniques.
  - 10.3.4.1. Taking Samples for Complementary Tests.

10.4. Clinical Guidelines: The Definitive Diagnosis.
- 10.4.1. Identifying Clinical Problems.
- 10.4.2. Postmortem Diagnostic Techniques: The Major Finding.
  - 10.4.2.1. Necropsy Technique.
- 10.4.3. Interpreting Clinical Findings.
- 10.4.4. Zoonosis: The Importance of Knowledge for Our Protection.
- 10.4.5 Biosafety:
- 10.4.6. Patient Protection.
- 10.4.7. Food Safety.

10.4.8. Environmental Safety.

10.5. Pathologies Diagnosed with Simple Water Analysis Kits: Improper Handling of the Acuatic Environment.
- 10.5.1. Low Concentration of Oxygen.
- 10.5.2. Appropriate Control of the Temperature.
  - 10.5.2.1. Thermal Gradients.
- 10.5.3. Toxicity Due to Ammonia Concentration.
- 10.5.4. Toxicity Due to Nitrite Concentration.
- 10.5.5. Control of the pH of the Water.
- 10.5.6. Appropriate Use and Measuring of the pH of the Water.
- 10.5.6. Concentration of Solutes in Water.
  - 10.5.6.1. Hard Waters.
  - 10.5.6.2. Inadequate Salinity.

10.6. Pathologies Derived from an Improper Maintenance: The Fish as an Individual Patient.
- 10.6.1. Nutritional Deficiency.
- 10.6.2. Presence of Inappropriate Toxic Substances: Poisons.
- 10.6.3. Pathologies Due to the Presence of Algae.
- 10.6.4. Trauma.
- 10.6.5. Genetic Alterations.

10.7. Pathologies Caused by Microorganisms:
- 10.7.1. Viral.
- 10.7.2. Bacterial
- 10.7.3. Parasitic

10.8. Pathologies that Require Complementary Diagnostic Tests.
- 10.8.1. Incorrect Concentration of Gas.
- 10.8.2. Trematode Infections.
- 10.8.3. Nematode Infections.
- 10.8.4. Cestode Infections.
- 10.8.5. Ceratomyxa Shasta Infection.
- 10.8.6. Microsporidiosis.
- 10.8.7. Coccidiosis.
- 10.8.8. Processes of Renal Destruction.

10.9. Treatment Administration: General Concepts and the Most Used Methods.
- 10.9.1. Guide of Treatments Used.
- 10.9.2. Medicine Administration Routes.
- 10.9.3. Choosing the Right Dosage.

10.10. Most Commonly Used Anesthesia Techniques: Administering Anesthesia.
- 10.10.1. Patient Response to Anesthesia.
- 10.10.2. Euthanasia.
- 10.10.3. Produced Toxicity and Residues Generated to the Environment.

This training will allow you to advance your career comfortably"

06

Methodology

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

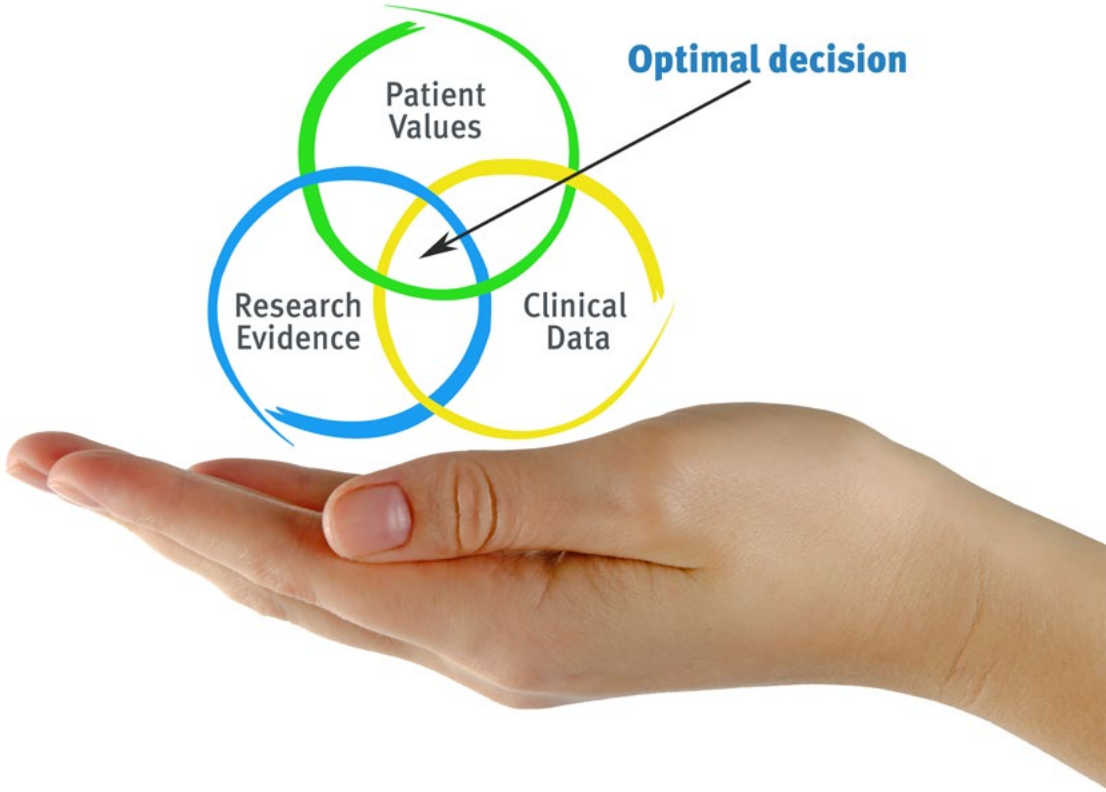
This teaching system is used in the most prestigious medical schools in the world, and major publications such as the ***New England Journal of Medicine*** have considered it to be one of the most effective.

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 abundant scientific evidence on the effectiveness of the 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 in the 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:

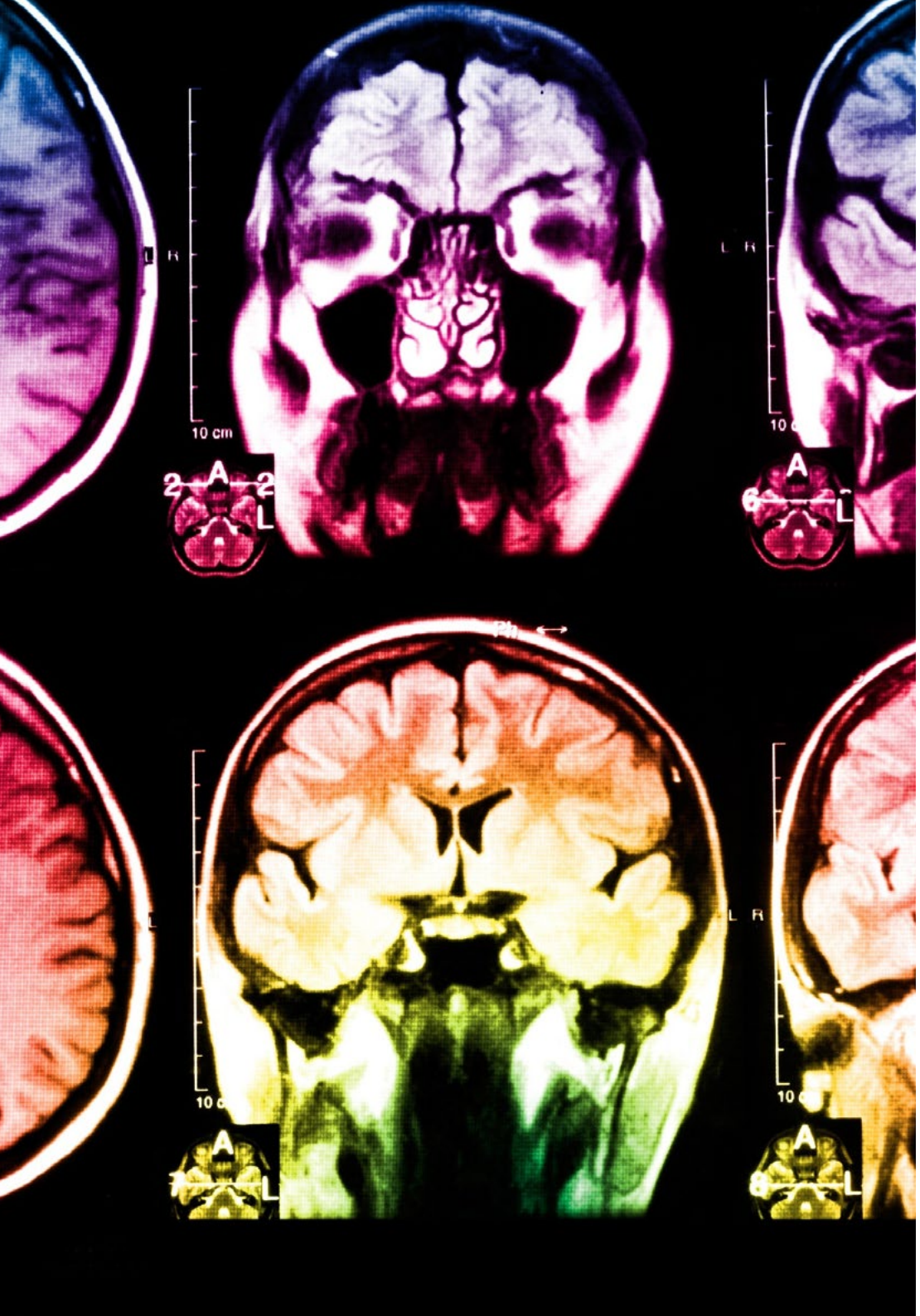
1. Veterinarians who follow this method not only grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Veterinarians 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 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.

The veterinarian will learn through real cases and by solving 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 specialities regardless of from 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 training, 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 teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is really 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 introduce you to the latest techniques, to the latest educational advances, to the forefront of current veterinary procedures and techniques. 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.

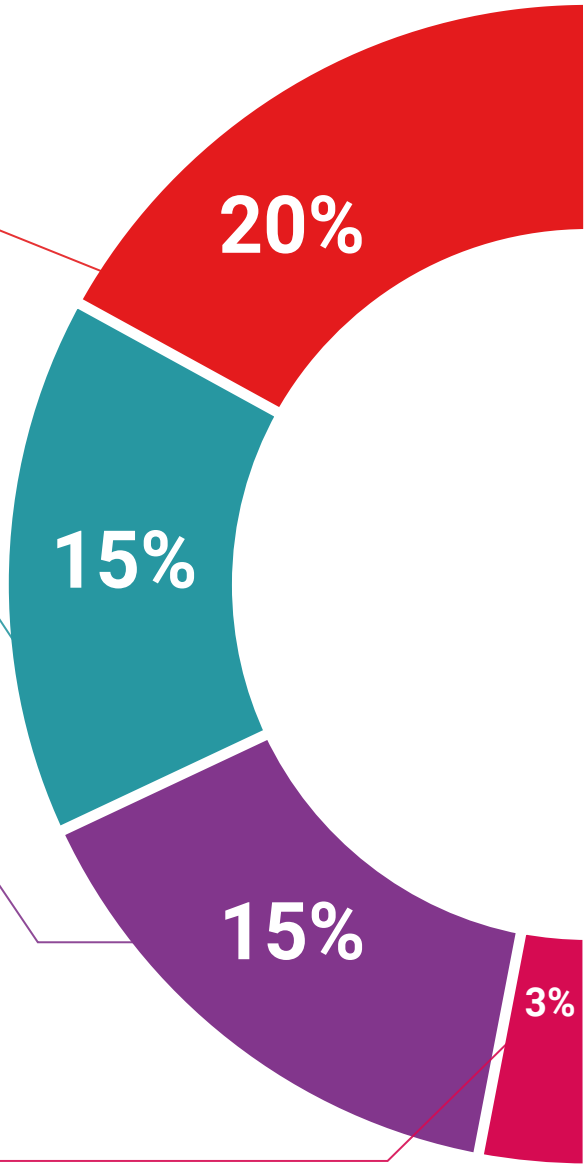
Interactive Summaries

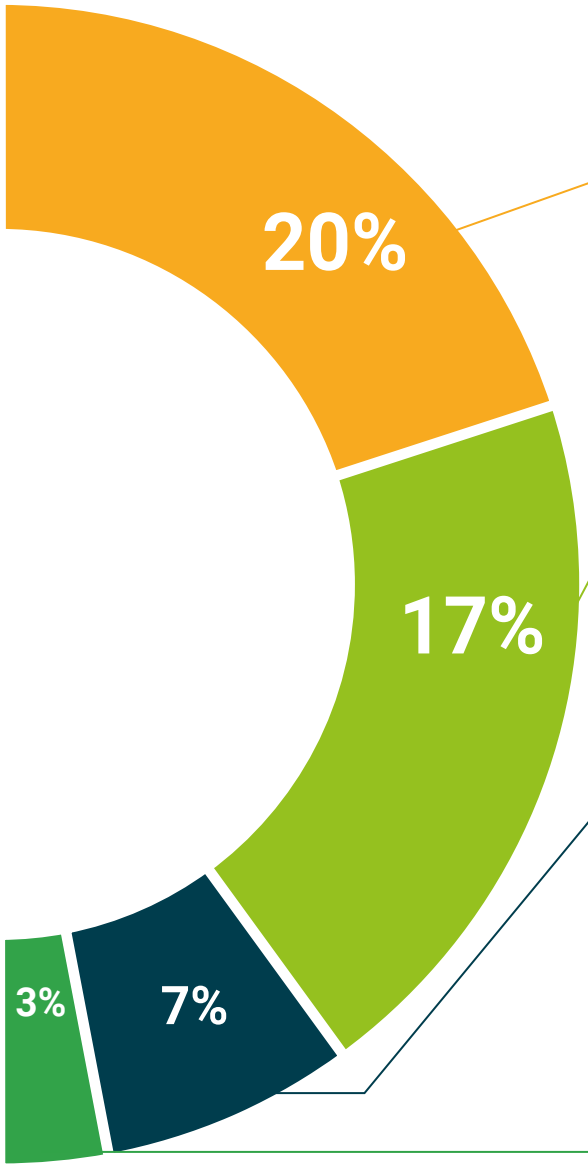
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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.

07

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 in your training a Professional Master's Degree in Exotic Animal Medicine and Surgery: a highly qualified added value for any medical professional"

This **Professional Master's Degree in Exotic Animal Medicine and Surgery** contains the most complete and updated education program on the market.

After the student has passed the evaluations, they will receive their corresponding **Professional Master's Degree** issued by **TECH Technological University**

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

Title: **Professional Master's in Exotic Animal Medicine and Surgery**

ECTS: **60**

Official Number of Hours: **1,500**


tech technological university

Awards the following

DIPLOMA

to

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

For having successfully passed and accredited the following program

PROFESSIONAL MASTER'S DEGREE

in

Exotic Animal Medicine and Surgery

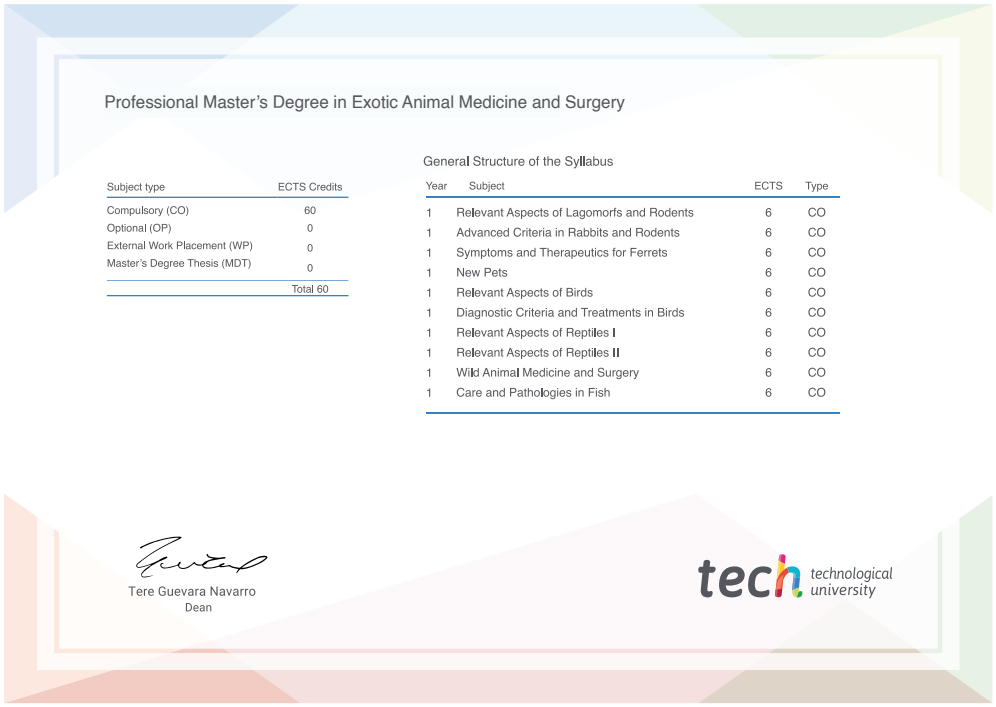
This is a qualification awarded by this University, with 60 ECTS credits and equivalent to 1,500 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

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


Professional Master's Degree in Exotic Animal Medicine and Surgery

Subject type	ECTS Credits
Compulsory (CO)	60
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
	Total 60

General Structure of the Syllabus

Year	Subject	ECTS	Type
1	Relevant Aspects of Lagomorfs and Rodents	6	CO
1	Advanced Criteria in Rabbits and Rodents	6	CO
1	Symptoms and Therapeutics for Ferrets	6	CO
1	New Pets	6	CO
1	Relevant Aspects of Birds	6	CO
1	Diagnostic Criteria and Treatments in Birds	6	CO
1	Relevant Aspects of Reptiles I	6	CO
1	Relevant Aspects of Reptiles II	6	CO
1	Wild Animal Medicine and Surgery	6	CO
1	Care and Pathologies in Fish	6	CO

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*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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Professional Master's Degree
Exotic Animal Medicine and Surgery

Course Modality: **Online**

Duration: **12 months.**

Certificate: **TECH Technological University**

60 ECTS Credits

Teaching Hours: **1,500 hours.**

Professional Master's Degree
Exotic Animal Medicine and Surgery

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