Advanced Master's Degree

Anesthesia and Surgery in Small Animals

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Advanced Master's Degree
Anesthesia and Surgery in Small Animals

- Modality: **online**
- Duration: **2 years**
- Certificate: **TECH Global University**
- Credits: **120 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/us/veterinary-medicine/advanced-master-degree/advanced-master-degree-anesthesia-surgery-small-animals

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01

Introduction

Veterinary care for small animals has become one of the most advanced specialties, not only in terms of science and care, but also in the social field. Nowadays, owners consider pets to be important members of the family group. The legal recognition of their rights has also meant a notable change at a general level. All of this has made the search for health care for companion animals more demanding, and owners are willing to pay for longer and more complex interventions and treatments. In these circumstances, veterinary surgery and anesthesiology have taken on a special role. The enormous physiological differences between patients demand a mastery of techniques and protocols on the part of the practitioner. Advances in pharmacology and technology in the different types of anesthesia and the new interventional techniques in surgery mean that professionals need to be constantly updated in order to be able to offer first class care.

This Advanced Master's Degree in Anesthesia and Surgery in Small Animals is an incomparable, highly qualified tool for veterinary professionals, which will allow you, in a single training itinerary, to acquire the most up-to-date knowledge and skills in the sector"

The goal of this complete Advanced Master's Degree is to know all the aspects of Anesthesia and Surgery in Small Animals, which we now present to you. With a wide methodological development, throughout this specialization, you will be able to learn each and every one of the fundamental points in this area of work.

In this sense, the Advanced Master's Degree will prepare you in everything concerning the phases prior to the application of anesthesia on the patient: knowledge of the equipment, previous management of the patient, drugs and study of drug interactions.

The study of the physiology most closely related to anesthesia, focusing on the involvement of the cardiocirculatory, respiratory, nervous system and endocrine systems, is essential to understand the functioning and consequences on the patient of the application of anesthesia.

However, the success of an anesthetic procedure goes far beyond the administration of the appropriate drugs. It is imperative to master the pre-anesthetic assessment, induction, maintenance and education of the process in order to achieve its success and a return to normality without after-effects. Fluid therapy, and even transfusion, must also be taken into account and, therefore, become the subject of study in our comprehensive Advanced Master's Degree in Anesthesia and Surgery in Small Animals.

The anesthesiologist must also take care of pain management. A basic vital sign that, if not adequately controlled, can be one of the main causes of delayed discharge and perioperative complications. Acquiring competence in this part of care is another of our major objectives.

Monitoring, anesthetic complications, management of anesthesia under special conditions and the application of balanced anesthesia and multimodal anesthesia protocols will complete the more extensive review. But the purpose of an anesthetic is usually to allow surgical intervention. For this reason, this Advanced Master's Degree also deals comprehensively with the techniques and new developments in this area.

We will review the new surgical materials available and the advances in infection treatment. In addition, we will learn everything we need to know about wound healing. In this unit, the ways of performing the cures and their progress will be part of the agenda.

This **Advanced Master's Degree in Anesthesia and Surgery in Small Animals** , contains the most comprehensive and up-to-date academic course on the university scene. The most important features include:

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

A complete refresher in Anesthesia and Surgery in Small Animals with this highly effective educational Advanced Master's Degree, which opens new paths to your professional advancement"

This exceptional specialization is the answer to the veterinary professionals' need for updating and specialization. A process that you will finish with the solvency of a high-level professional"

With a methodological design based on proven teaching techniques, this Advanced Master's Degree will take you through different teaching approaches to allow you to learn in a dynamic and effective way.

Our innovative remote practise concept will give you the opportunity to learn through an immersive experience, which will provide you with a faster integration and a much more realistic view of the contents: "Learning from an expert"

Our teaching staff is made up of professionals from different fields related to this specialty. In this way we make sure to offer you the objective of educational updating from all related sectors, with the direct and experienced vision of experts. A multidisciplinary team of doctors with training and experience in different environments, who will develop the theoretical knowledge in an efficient way, but above all, they will bring their practical knowledge from their own experience to the course: one of the differential qualities of this specialization.

This mastery of the subject is complemented by the effectiveness of the methodological design of this Advanced Master's Degree in Anesthesia and Surgery in Small Animals Developed by a multidisciplinary team of *e-learning* experts, it integrates the latest advances in educational technology. This way, you will be able to study with a range of easy-to-use and versatile multimedia tools that, will give you the necessary skills you need for your specialization. A new way of learning that transcends physical and temporal barriers, opening the doors to the highest qualification, regardless of place or time.

02

Objectives

The main objective of this Advanced Master's Degree in Anesthesia and Surgery in Small Animals is to offer you a quality training program: the most complete syllabus, first class teachers, a highly efficient methodology, and a teaching staff of experts in the field. A combination that will lead you to achieve your goals in the easiest possible way, with total compatibility with your professional and personal life.

If your objective is to broaden your skill set to include new paths of success and development, this is your moment. Increase your surgical skills and your mastery of surgical and anesthetic techniques and position yourself as one of the best experts in the industry"

General Objectives

Anesthesiology Area

- Know and understand the main mechanical parts of the anesthesia machine and the importance of the previous management of the patient, in terms of drugs and feeding.
- Know the most important physiological characteristics of the different organ systems and their relationship and modifications that occur during anesthesia.
- Know the general characteristics of pharmacology and the specific characteristics of the main anesthetic drugs used.
- Use of tables for the preparation of anesthetic or anesthesia-related drug combinations
- Know the characteristics of each anesthetic time and the control points to take into account in order to increase patient safety
- Know the specific needs in terms of fluid therapy and transfusion medicine related to the perioperative period.
- Understanding and knowledge of nociceptive and pain physiology, both acute and chronic
- Acquire a logical understanding of the physiological implications of untreated pain
- In-depth knowledge of the different analgesics and their indications
- Know how to assess both acute and chronic pain
- Understand the basics of locoregional anesthesia and analgesia
- Understand the main differences and indications of different drugs
- Understand the different blockages t be performed and the areas affected by them
- Understand the monitoring of the anesthetized patient, from the most basic to the most complicated such as nociception and hypnosis monitoring
- Understand the limitations and the most appropriate monitoring in each patient and in each specific case
- Detect, prevent and treat the main complications during the perioperative period
- Anesthetic management of the patient under specific pathological situations or with specific physiological alterations that will mark a different anesthetic management
- Establish and understand the differences in management of specific anesthetic situations and determine mechanisms to anticipate potential problems that may arise during patient management
- Implement all the topics learned in the management of concrete situations, understanding the protocol used, monitoring, detection of complications and their solution

Surgery Area

- Establish a basis for aseptic compression sterility maintenance
- Highlight the importance of the perioperative care given to the surgical patient
- Define the basic surgical principles to take into account before we perform surgery
- Propose alternatives to deal with surgical complications that appear in daily clinical practice
- Develop knowledge of the techniques used to deal with wounds, establishing guidelines according to clinical characteristics.
- Offer a clear and global vision of the healing process, the factors that promote it and those that hinder it
- Analyze how a decision is made to close a wound in one way or another, establish what complications there may be and how to prevent or solve them
- Compile a list of the available flap techniques
- Implement the most advanced general surgical knowledge to minimise postoperative complications
- Integrate the student's knowledge which will allow them to gain confidence and a sense of security in the interventions developed in this module

- Evaluate the most frequent complications and ensure the student acquires the knowledge to be able to confidently and successfully resolve them
- Present the pathophysiology and treatment of urinary obstruction and trauma
- Make a detailed report of the problems commonly caused by surgical treatment which can affect the genitourinary system
- Present the most advanced and innovative techniques for dealing with patients with genitourinary disease
- Provide the student with theoretical resources and graphic material to help them develop the necessary skills to successfully treat these cases
- Establish the basic principles of oncology surgery to ensure the correct care is given to the patient
- Define each surgical treatment according to the type of tumor we are faced with
- Identify each skin tumor to know its behavior in the tissue and the area in which it is located
- Propose the optimal surgical margins that are appropriate for each type of tumor
- Examine the main surgically treatable diseases affecting the liver and spleen
- Establish the main endocrine principles that affect small animals
- Identify the main key points in the diagnosis and treatment of different illnesses
- Provide the student with the necessary knowledge to implement different surgical techniques and minimize surgical and postoperative complications
- Implement knowledge to be able to decide which is the best treatment in each case
- Present the main surgically treatable diseases which affect the head and neck as well as diseases of the oral and nasal cavity, the ears, the salivary glands, the larynx and trachea
- Integrate the student's knowledge which will allow them to gain confidence and a sense of security in the interventions
- Evaluate the most frequent complications and ensure the student acquires the knowledge to be able to confidently and successfully resolve them
- Examine the main minimally invasive techniques such as laparoscopy and thoracoscopy.
- Define the advantages and disadvantages of minimally invasive techniques
- Analyze interventional radiology, as well as the main techniques that are being performed with this type of approach
- Define the main equipment and instruments necessary to perform laparoscopies and thoracoscopy

Specific Objectives

Anesthesiology Area

- Know the origins of the specialty in human medicine and its incorporation into the veterinary field
- Know the guidelines and importance of perioperative management of feeding of the surgical patient and fasting of solids and liquids
- Know and understand the operation of anesthetic machines and mechanical ventilators
- Know and understand the ventilatory, cardiovascular, digestive, renal, endocrine, nervous (both central and peripheral) physiology and their age-related modifications
- Know and understand the general pharmacological processes and those directly related to each of the pharmacological families related to anesthesia (sedatives, analgesics, inducers, neuromuscular relaxants)
- Practical knowledge of the different phases of anesthesia, from the preoperative assessment to the awakening of the patient, and the main postoperative care
- Know the characteristics of premedication, induction, maintenance and education, in order to minimize anesthetic risks as much as possible
- Understand in a practical way the differences during the maintenance phase in the case of inhalation and intravenous anesthesia
- Know the characteristics and indications of perioperative fluid therapy and the administration of blood products
- Understand the different nociceptive pathways and the phenomena of central and peripheral sensitization
- Understand the action of each family of analgesics and their use in both acute and chronic pain
- Know the importance and the different methods of acute and chronic pain assessment
- Understand the basics of locoregional anesthesia and analgesia with the different technical methods used
- Know the main complications associated with locoregional techniques and their treatment.
- Understand basic pharmacology of local anesthetics and their adjuvants
- Understand the different Blockages to be performed on the head, trunk and limbs
- Inclusion of locoregional techniques explained in specific clinical cases, within multimodal analgesia protocols
- Understand in detail how to make the most of basic patient monitoring based on examination, observation and palpation
- Understand the most important parameters to monitor from a cardiovascular, ventilatory and neurological point of view
- Understand and assess the different methods of monitoring the patient's blood volume
- Assist in the detection, prevention and treatment of complications related to perioperative management (regurgitation, hypothermia)
- Assist in the detection, prevention and treatment of cardiovascular, neurological and ventilatory complications associated with anesthesia
- Assist in the detection and treatment of cardiorespiratory arrest and patient management after resuscitation
- Establish and understand the differences in management of specific anesthetic situations, and determine mechanisms to anticipate potential problems that may arise during patient management

- Establish and understand the differences in the management of specific anesthetic situations and determine the mechanisms to anticipate possible problems that may arise during the management of patients with respiratory or ophthalmologic pathologies, for minimally invasive procedures, with alterations in body condition, extreme body size, brachiocephalic, with thoracic pathology, oncologic or pregnant patients
- See in a practical way the use of different protocols, anesthetic and monitoring techniques applied to specific situations
- Assess the most appropriate protocol for each patient and understand the absence of predetermined protocols, as individualization is necessary for each procedure and each case

Surgery Area

- Refine the rules of conduct for a surgeon
- Explain the correct use of tissue synthesis materials
- Develop knowledge of the surgical equipment available and promote its correct use
- Refine the surgical technique to minimize tissue damage
- Propose new hemostasis techniques
- Identify and successfully treat surgical site infections
- Understand the types of wounds there are, not only from an etiopathogenesis point of view, but also from a microbiological point of view
- Develop an understanding of the criteria involved in making decisions about the medical and surgical treatment of wounds
- Specify the local and systemic factors affecting healing
- Understand what laser therapy consists of, which parameters are important, their indications and their contraindications

- Gain an in-depth understanding of how to manage of the subdermal plexus with the use of local options they provide.
- Propose techniques specially adapted to each different zone on the body, from the head to interdigital areas.
- Specify how axial plexus flaps are designed and implemented in each area
- Explain grafting and the importance of correct patient selection and postoperative management
- Examine the anatomy of the affected area and provide the student with the specialized knowledge to safely and appropriately perform the surgical procedures on the gastrointestinal tract.
- Compile all the latest material and develop it in a clear way so that the student can get the most out of it
- Develop understanding of the most common surgical techniques in the gastrointestinal tract
- Propose diagnostic and therapeutic plans for the different diseases that affect the gastrointestinal tract
- Examine the unique tools used for the diagnosis of gastrointestinal tract diseases
- Explain in detail the different diseases that can occur in each zone and how to treat them
- Develop specialized knowledge so that the student can perfect their clinical practice in the diagnosis and management of gastrointestinal tract diseases
- Examine the most important anatomical considerations in the surgical treatment of genitourinary disease
- Consolidate knowledge of how certain surgical principles are applied in the treatment of urinary tracts

- Develop knowledge of the problems that occur when urine cannot be excreted from the patient's body.
- Establish clear recommendations for the imaging techniques to choose to diagnose each disease
- Develop a detailed understanding of relevant surgical techniques
- Identify the most common complications in each surgical technique and how to prevent or solve them
- Propose protocols for making decisions in breast oncology
- Demonstrate the importance of peri-operative care of the patients with breast tumors.
- Define the differences between curative, cytoreductive or palliative interventions
- Analyze each patient to understand the optimal treatment for them
- Develop an action protocol for cutaneous tumors, including correct prior diagnosis and staging
- Establish correct surgical management techniques and margins to deal with soft tissue sarcomas
- Establish correct surgical management techniques and margins to deal with mastocytomas
- Establish correct surgical management techniques and margins to deal with cutaneous and subcutaneous tumors relevant to pet animal medicine
- Analyze the liver anatomy and the principal surgical techniques and complications in the most common liver diseases affecting small animals
- Analyze the spleen anatomy, main surgical techniques and complications in the main splenic diseases affecting small animals. Specifically, an action protocol for dealing with a splenic mass will be developed.
- Establish diagnostic and therapeutic plans for the different diseases that affect the liver and the spleen, based on evidence and with the aim of tailoring it to each individual patient and their owner
- Develop the most appropriate techniques and therapeutic plans to treat the most common diseases which affect the thyroid glands, such as thyroid tumors and hyperthyroidism in cats
- Develop the most appropriate techniques and therapeutic plans to treat the most common diseases which affect the adrenal gland, such as adrenal tumors.
- Develop the most appropriate techniques and therapeutic plans to treat the most common diseases which affect the endocrine pancreas, such as pancreatic tumors.
- Establish diagnostic and therapeutic plans for the different endocrine diseases, based on evidence and with the aim of tailoring it to each individual patient and their owner
- Revise the anatomy of the oral cavity, nasal cavity, ear, trachea and larynx, so that the student has the knowledge to adequately and safely perform surgical procedures.
- Develop understanding of the main conditions of the oral cavity such as oral and labial tumors in the context of diagnosis, therapeutic approach, surgical techniques, complications and prognosis
- Develop understanding of the main ear problems such as otohematomas, tumors of the external auditory pavilion and external auditory canal, chronic recurrent otitis and nasopharyngeal polyps. This will be in the context of diagnosis, the therapeutic approach, surgical techniques, complications and prognosis
- Develop understanding of the main conditions of the pharynx such as laryngeal paralysis in the context of diagnosis, therapeutic approach, surgical techniques, complications and prognosis
- Develop understanding of the main conditions of the salivary glands such as sialoceles in the context of diagnosis, therapeutic approach, surgical techniques, complications and prognosis

- Compile all the scientific literature on the subject to create a diagnostic and therapeutic protocol, with the most innovative techniques for the treatment of tracheal collapse
- Compile all the scientific literature on the subject to create a diagnostic and therapeutic protocol, with the most innovative techniques for the treatment of brachycephalic syndrome.
- Define other less frequent diseases which affect the head and neck of small animals, such as nasopharyngeal stenosis, tracheal and laryngeal tumors and cricopharyngeal achalasia.
- Establish different diagnostic and therapeutic techniques for the different head and neck diseases
- Generate up-to-date material, based on evidence from different surgical techniques of the oral cavity, nasal cavity, ears, trachea and larynx
- Provide knowledge of the anatomy to establish the basis for an appropriate surgical technique for procedures in the thoracic cavity
- Present the specific material needed to perform surgical interventions in this area
- Develop knowledge of the most advanced techniques, least common in daily practice due to their complexity, to make them easier to understand and more practical for the student
- Compile up-to-date information on the best surgical techniques for treating thoracic structures.
- Propose diagnostic and therapeutic plans for the different diseases that affect the thoracic cavity
- Examine the unique tools used for the diagnosis of thoracic cavity diseases
- Teach the student how to identify and resolve the most common complications that could occur during thoracic cavity surgery
- Present the most common indications for the amputation of the pelvic limb, thoracic, caudectomy and phalanges
- Compile the different surgical techniques for performing amputations in small animals as a resolution technique for tumors of the pelvic region, including hemipelvectomy
- Revise the preoperative indications, patient selection, post-operative care and complications that could arise when performing amputations in small animals
- Present the most appropriate techniques and therapeutic plans for resolving the different umbilical, inguinal, scrotal and traumatic hernias
- Revise the different techniques for the resolution of a perineal hernia as well as establishing an appropriate therapeutic protocol for treating this condition
- Develop knowledge of a diaphragmatic hernia in the context of the indication for surgery, diagnosis and most effective techniques for its resolution
- Develop knowledge of a peritoneopericardial diaphragmatic hernia in the context of the indication for surgery, diagnosis and most effective techniques for its resolution
- Identify the main equipment and instruments necessary to perform laparoscopies and thoracoscopies.
- Develop knowledge of the main techniques used in a laparoscopy of small animals such as ovarioectomy, cryptorchidism, preventive gastropexy and liver biopsy
- Define other, less-common techniques of laparoscopic approach such as assisted La cystoscopy, digestive examination, cholecystectomy and biopsy of different organs of the abdominal cavity

- Develop knowledge of the main techniques used in thoracoscopic surgery in small animals such as pericardiectomy and establish the most appropriate protocol to follow in each case
- Identify other, less common techniques of the thoracoscopic approach in small animals such as pulmonary biopsies, pulmonary lobectomy, chylothorax resolution technique and vascular rings
- Identify the main equipment and instruments needed to perform interventional radiology
- Define the main techniques with which interventional radiology is performed

03

Skills

This Advanced Master's Degree in Anesthesia and Surgery in Small Animals has been created as a high-skilled training for veterinary professionals. Its intensive specialization will enable you to intervene adequately in the different areas of anesthesiology and surgery, incorporating the latest techniques and the most advanced procedures A compendium of knowledge that will provide you with the appropriate competencies in all stages and developments of the anesthetic and analgesic process and small animal surgery, from the initial approach to the patient's discharge.

The Advanced Master's Degree in Anesthesia and Surgery in Small Animals will provide you with the essential skills to work in each and every one of the different circumstances that the veterinarian may face in the area of surgery and anesthesia, including those referring to special situations and patients"

General Skills

- Acquire the necessary knowledge to be able to carry out a previous anesthetic approach
- Elaborate a specific anesthesia plan for each case
- Know and know how to use the necessary tools effectively
- Know and know how to implement existing protocols
- Know and know how to develop preoperative
- Know and know how to develop operative and postoperative management.
- Know and know how to develop postoperative management
- Master all aspects of anesthetic care for each patient individually
- Be able to create concrete plans in different specific situations: diseases, intolerances, critical states, etc
- Correctly perform surgical procedures
- Deal with surgical and postoperative complications
- Perform appropriate diagnoses according to the type of disease that the animal has
- Use the correct specific surgical material in each case
- Treat the various wounds they could find when examining an animal
- Use the most appropriate instruments for each intervention

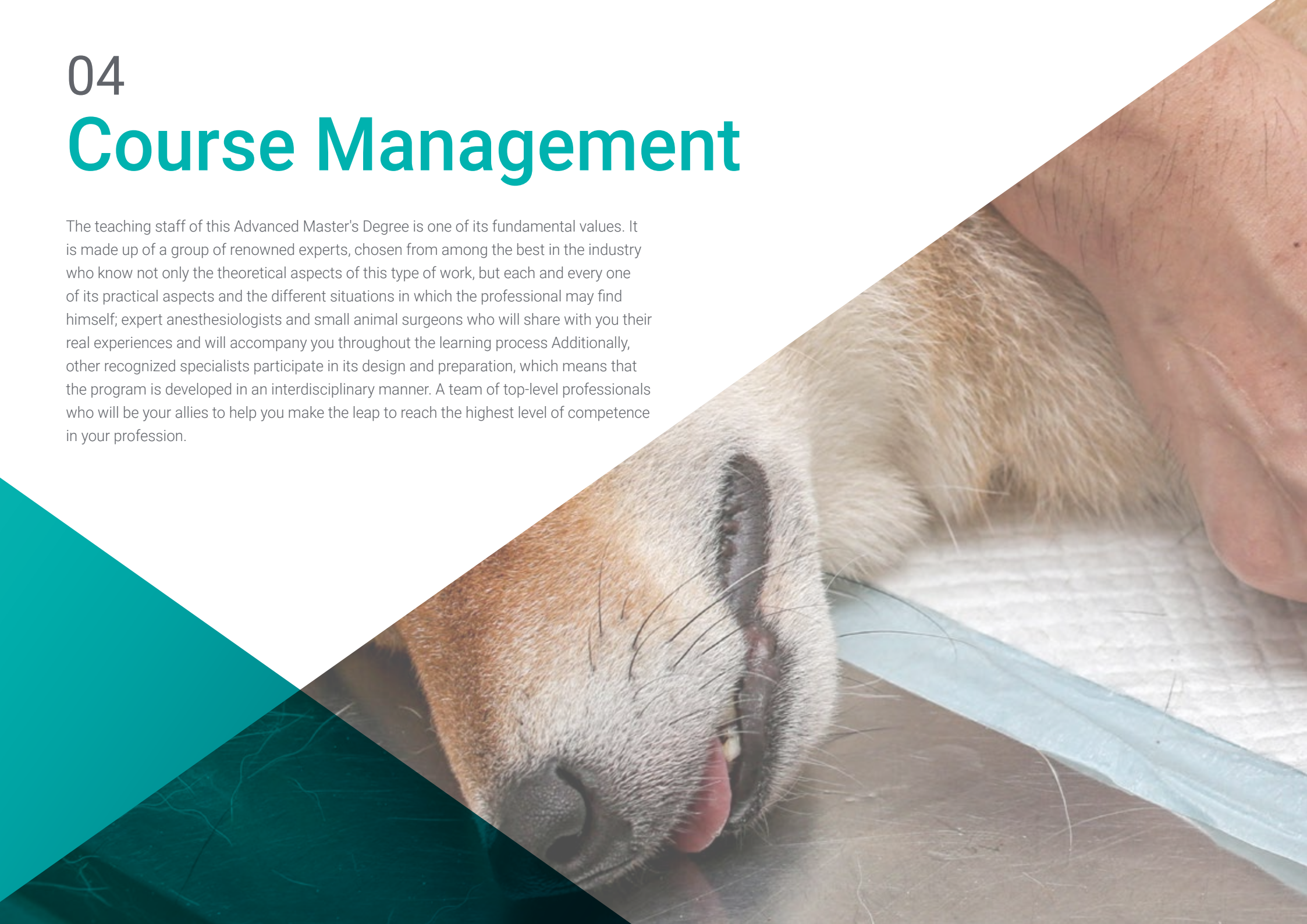
Specific Skills

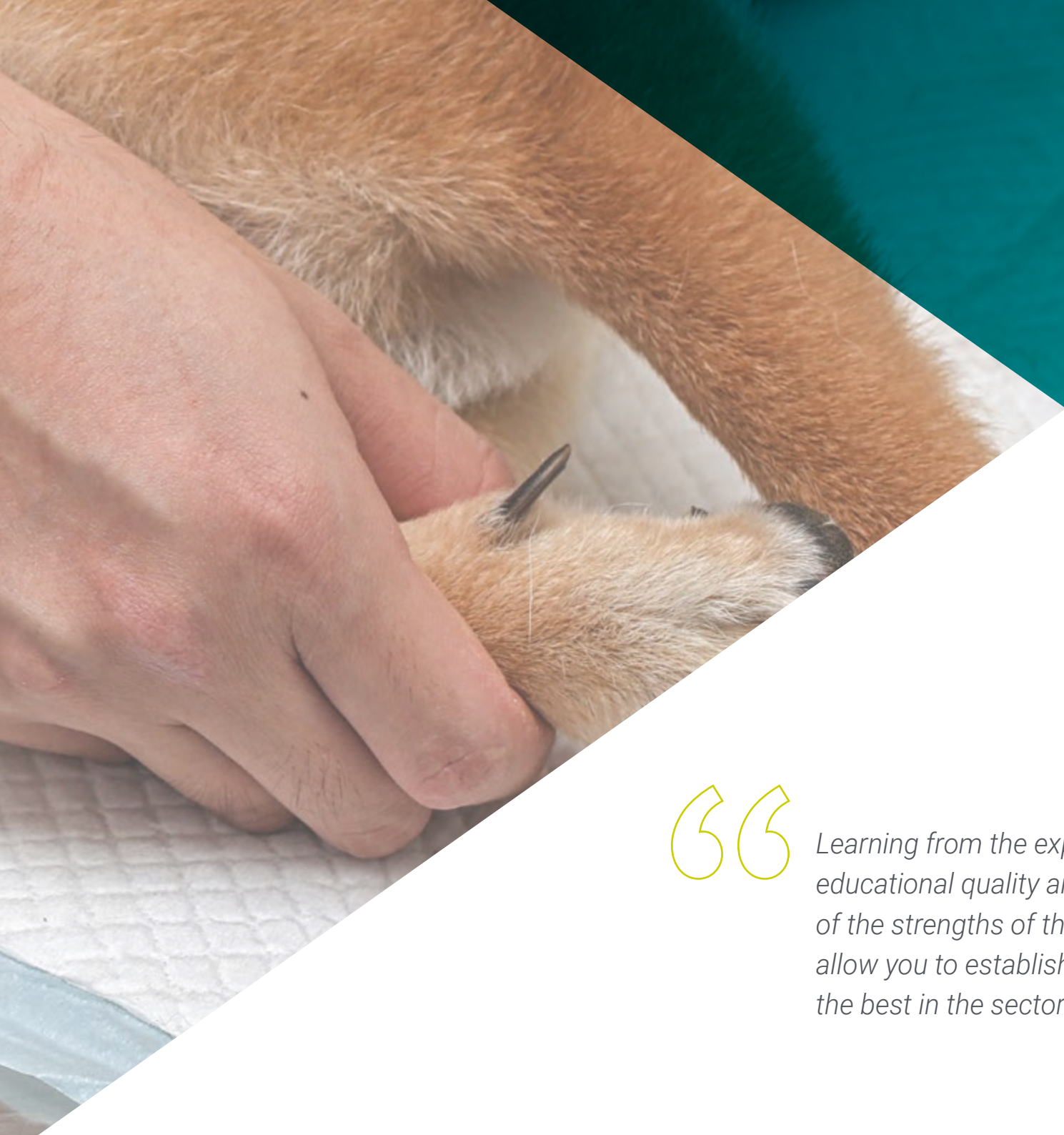
- Use of new anesthetic equipment available on the market
- Include new drugs in anesthesia
- Know what the advances in anesthetic pharmacology are
- Master all physiological aspects in different patients to determine the appropriate anesthetic technique
- Perform a safe and adequate anesthetic assessment
- Recognize the possible and pertinent anesthetic times in each case
- Working with pain from the knowledge of pain physiology
- Use analgesia efficiently
- Recognize cases of locoregional anesthesia application
- Apply the latest locoregional anesthesia techniques successfully, reducing side effects
- Use the most effective monitoring technique
- Correctly interpret the parameters of the monitoring elements
- Use anesthetic techniques knowing the complications of each one of them
- Minimize the risk of these complications and manage them in a therapeutic manner
- Use specific anesthetic techniques and drugs for different types of patients by age, race, size, etc
- Recognize the most appropriate anesthetics for each pathology
- Apply anesthesia to patients with specific pathologies
- Safe anesthesia for different types of interventions
- Understand the most appropriate surgical material for tissue damage and perform this type of surgery
- Treat surgical infections
- Understand the healing process of wounds and the best way to proceed with the treatment
- Perform laser therapy
- Perform skin graft procedures.
- Correctly resolve surgical pathologies that affect the gastrointestinal tract
- Solve a multitude of cases of the gastrointestinal system in a comprehensive manner
- Deal with genitourinary pathologies
- Perform surgical processes that affect the urinary tract
- Solve complications in this area
- Diagnose and treat skin tumors
- Surgical manage soft tissue sarcomas, mastocytomas or cutaneous and subcutaneous tumors, among others
- Diagnose diseases which affect the liver, spleen, thyroid glands, adrenal gland, pancreas or endocrine system
- Choose the most appropriate treatments in each case
- Recognise the main diseases which affect the head and neck
- Diagnose and treat said diseases
- Use the most appropriate material in each of the interventions
- Use the most advanced techniques in interventions related to the thoracic cavity
- Solve the most common complications that occur in thoracic cavity surgery
- Use the most appropriate techniques and therapeutic plans for resolving the different umbilical, inguinal, scrotal and traumatic hernias
- Use the most appropriate laparoscopic techniques for small animals
- Understand interventional radiology, its main uses and how to apply it in practice

04

Course Management

The teaching staff of this Advanced Master's Degree is one of its fundamental values. It is made up of a group of renowned experts, chosen from among the best in the industry who know not only the theoretical aspects of this type of work, but each and every one of its practical aspects and the different situations in which the professional may find himself; expert anesthesiologists and small animal surgeons who will share with you their real experiences and will accompany you throughout the learning process Additionally, other recognized specialists participate in its design and preparation, which means that the program is developed in an interdisciplinary manner. A team of top-level professionals who will be your allies to help you make the leap to reach the highest level of competence in your profession.





Learning from the experts is the best guarantee of educational quality and professional progress; one of the strengths of this specialization that will also allow you to establish professional contact with the best in the sector"

International Guest Director

Dr. Wendy Baltzer is a leading figure in the international veterinary community. Her passion and extensive experience in Veterinary Medicine have led her to become involved in the field of research in **Small Animal Veterinary Surgery**. In this way, she has multiple publications in academic and scientific media, most of them very well positioned, reflecting an **index H 20** in **Google Scholar**.

Likewise, in her studies reflected in publications she defends the use of ultrasound and radiographs to predict the time of delivery in small animals, thereby reducing the likelihood of neonatal morbidity and mortality. In addition, she associates a decrease in pup vitality with the use of thiobarbiturates, ketamine and inhalation anesthetics.

Similarly, her work also focuses on the effects of oxidative stress on agility exercise in dogs, ligament and tendon injuries, improved impulse fracture repair, as well as injuries in working, sport, police and military dogs. She has also devoted much of her studies to **osteoarthritis, low back pain**, taping techniques and omentum grafting for bone healing.

She has taught at major academic institutions such as the **School of Veterinary Science** at **Massey University**, as well as **Oregon State University**. In the latter, she held a position of high responsibility, occupying the position of director of its Rehabilitation Center. Likewise, her work at **Sydeny University** focuses on teaching the clinical practice of **Small Animal Surgery**, while continuing to develop her research in the fields of **Surgery, Sports Medicine** and **Rehabilitation**.

Dr. Baltzer, Wendy

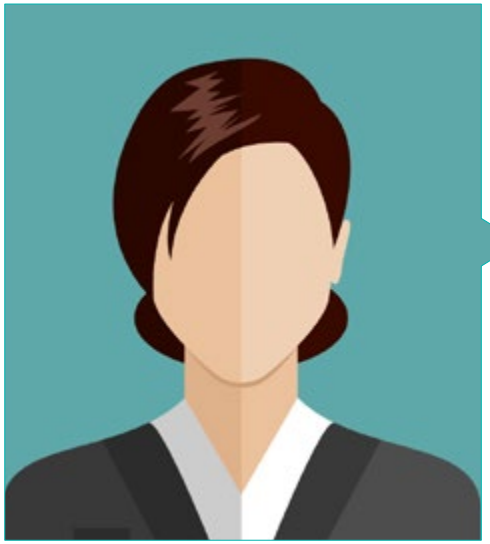
- Head of Veterinary Surgery at the University of Sydney
- Director of the Rehabilitation Center at the University of Oregon
- Associate Professor in the School of Veterinary Science at the University of Sydney
- Ph.D. in Veterinary Physiology, Texas A&M University
- Specialist in Small Animal Surgery at Texas A&M University

Thanks to TECH, you will be able to learn with the best professionals in the world"

Management

Dr. Jiménez Cidre, Miguel Ángel

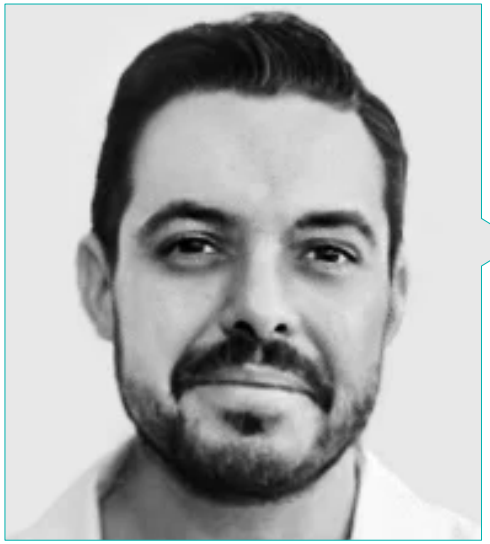
- Degree in veterinary medicine from the Complutense University of Madrid Two-year internship at the Anesthesia Service of the Hospital Clínico Veterinario de la UCM
- Accredited by AVEPA in the Specialty of Anesthesia and Analgesia
- Head of the Anesthesia-Reanimation Service and Pain Unit at Hospital Veterinario Puchol
- Founding member of the Spanish Society of Veterinary Anesthesia and Analgesia (SEAAV) Member of the European Association of Veterinary Anesthesia (AVA), International Association for the Study of Pain (IASP) and the International Veterinary Academy of Pain Management (IVAPM)
- Speaker in several Anesthesia and Analgesia courses and national and international congresses
- Author of the books "Practical Pain Management in Small Animals" and "Role of NSAIDs in Chronic Pain"
- Co-author of the "Clinical Manual of Pharmacology and "Complications in Small Animal Anesthesia"; as well as author of specific chapters in other books



Dr. Soto Martín, María

- Degree in veterinary medicine from the Complutense University of Madrid in 2009, with preferential dedication to anesthesia since 2010 and sole dedication since 2012
- Member of the Spanish Society of Veterinary Anesthesia and Analgesia, with frequent participation in its annual congresses, one of which earned her the award for best oral communication
- Member of the Anesthesia group of AVEPA, having also participated on several occasions with scientific content in its annual congress
- She provided specific small animal anesthesia training throughout his career in the form of lectures, webinars, hands-on workshops and clinic-based training
- She also collaborated in books and scientific articles, published nationally and internationally

Co-Direction



Dr. Ortiz Díez, Gustavo

- PhD and Undergraduate Degree in Veterinary Medicine from the UCM
- Master's Degree in Research Methodology in Health Sciences from the UAB
- Specialist in Traumatology and Orthopedic Surgery in Companion Animals by the UCM Degree in Cardiology of Small Animals by the UCM
- Member of the scientific committee and current president of GECIRA (AVEPA's Soft Tissue Surgery Specialty Group)
- Associate Professor, Department of Animal Medicine and Surgery, Faculty of Veterinary Medicine, Complutense University of Madrid.
- Head of Small Animal Unit at Complutense Clinical Veterinary Hospital.

Professors

Dr. García Fernández, Paloma

- PhD in Veterinary Medicine from the UCM
- Degree in Veterinary Medicine from Madrid's Veterinary University
- Professor of Surgery and Anesthesia, Dept. of Animal Medicine and Surgery, Veterinary Faculty HCVC-UCM
- Head of Small Animal Unit at Complutense Clinical Veterinary Hospital

Dr. Suárez Redondo, María

- PhD from the Complutense University of Madrid (UCM) in 2008
- Degree in Veterinary Medicine from the University of León 2003
- Master's Degree in Traumatology and Orthopedic Surgery of the UCM
- Small Animal Surgeon at the Veterinary Clinic Hospital at UCM

Dr. Carrillo Sánchez, Juana Dolores

- PhD from the University of Murcia (2015)
- Degree in Veterinary Medicine from the University of Murcia (2002)
- Specialist in Endoscopy and Minimally Invasive Small Animal Surgery at the University of Extremadura(2019)
- Head of Surgery and Traumatology Service at the Clinical Veterinary Hospital of the University of Murcia (Since 2014)

Dr. López Gallifa, Raúl

- PhD from University of Alfonso X el Sabio in 2017
- Degree in Veterinary Medicine from the University of Alfonso X el Sabio 2012
- Internship Master's Degree (2012-2013)
- Master in Soft Tissue Surgery and Traumatology at the Hospital Clínico Veterinario UAX (2013-2016)
- Attending the AVEPA accreditation course in soft tissue surgery since 2017
- Outpatient surgeon and surgical consultant in various clinics in the Community of Madrid

The objectives of this broad specialization will become stepping stones that will take your professional skills to the highest levels of competence. An unparalleled journey in today's online teaching market"

05

Structure and Content

The contents of this Advanced Master's Degree 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.

Throughout the syllabus, the professional will cover the two areas of interest of this Advanced Master's Degree; anesthesiology and small animal surgery. Both areas will be developed independently, but in a coordinated manner, covering all possible paradigms of intervention in which the professional may find themselves.

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

A complete and very well-structured syllabus, which will take you through a high impact educational process, with the thorough development of the specific situations that the veterinary professional may encounter in the areas of Anesthesia and Surgery in Small Animals"

Anesthesiology Area

Module 1. Introduction. Anaesthetic Equipment

1.1. Brief History of Anesthesia
- 1.1.1 Important Facts About Human Anesthesiology
- 1.1.2 Relevant Historic Facts in Veterinary Anesthesiology

1.2. Optimization of the Surgical Patient. Pre-operative Fasting
- 1.2.1 Importance of Liquid Fasting
- 1.2.2 Solid Fasting, Why and How Much?

1.3. Peri-operative Drugs
- 1.3.1 Precautions in the Polymedicated Patient. General Aspects
- 1.3.2 Medication Guidelines for Patients with Cardiac Medication
- 1.3.3 Medication Guidelines in Diabetic Patients
- 1.3.4 Medication Guidelines for Patient with Epilepsy
- 1.3.5 Other Chronic Medications

1.4. Anesthetic Machines and Systems
- 1.4.1 General Aspects
- 1.4.2 Technical Description and Equipment Care
- 1.4.3 Anaesthetic Circuits
  - 1.4.3.1. No Reinhalation
  - 1.4.3.2. With Reinhalation

1.5. Mechanical Ventilators
- 1.5.1 Introduction
- 1.5.2. Types of Ventilators

1.6. Systems of Administrating Drugs
- 1.6.1 Systems of Administrating Inhalants
- 1.6.2 Basic Systems
- 1.6.3 Volumetric Infusion Pumps
- 1.6.4 Perfusers

1.7. Patient Classification Systems
- 1.7.1 Introduction
- 1.7.2. Conduction Heating Systems
- 1.7.3 Heating Systems with Hot Air

1.8. Miscellaneous (Endotracheal Tubes and Other Intubation Systems, Laryngoscope)
- 1.8.1 Endotracheal Tubes
- 1.8.2 Supraglottic Devices
- 1.8.3 Laryngoscopy

1.9. Clinical Safety

1.10. Contributions of Current Anesthesiology to Veterinary Medicine and Client Expectations

Module 2. Physiology and Pharmacology Related to Anesthesia

2.1. Ventilatory Physiology
- 2.1.1 Introduction
- 2.1.2. Ventilation of the Awake Patient
- 2.1.3 Ventilation in Anesthesia

2.2. Cardiovascular Physiology
- 2.2.1 Introduction
- 2.2.2. Anesthesia-related Characteristics of the Cardiovascular System

2.3. Neurological Physiology. Central and Autonomic Nervous System
- 2.3.1 Introduction
- 2.3.2. Anesthesia-related Characteristics of the SNA

2.4. Renal Physiology Acid/ Base Balance
- 2.4.1 Introduction
- 2.4.2. Anesthesia-related Characteristics of the Renal System
- 2.4.3 Mechanism of Regulating the Acid/ Base Balance

2.5. Gastrointestinal and Endocrine Physiology
- 2.5.1 Introduction
- 2.5.2. Characteristics of the Digestive System in Anesthesia
- 2.5.3 Characteristics of the Endocrine System in Anesthesia

2.6. Age Related Physiological Changes
- 2.6.1 Ventilatory Changes
- 2.6.2 Cardiovascular Changes
- 2.6.3 Nervous System Changes
- 2.6.4 Endocrine Changes
- 2.6.5 Other Changes Related to Anestesia

2.7. Pharmacology and Anesthesia I. Basic Principles
- 2.7.1 Pharmacokinetics Applied to Anesthesia
- 2.7.2 Pharmacodynamics Applied to Anesthesia

2.8. Pharmacology and Anesthesia II. Inhalation Drugs
- 2.8.1 Main Halogenated Agents
- 2.8.2 Pharmacology of the Main Agents

2.9. Pharmacology and Anesthesia III. Non-inhaled Drugs
- 2.9.1 Pharmacology of Inducers
- 2.9.2 Pharmacology of Sedatives
- 2.9.3 Pharmacology of Opiodes
- 2.9.4 Pharmacology of Non-steroid Anti-inflammatory Drugs
- 2.9.5 Pharmacology of Neuromuscular Blockers

2.10. Physiological Constants Charts, Medication Charts, Dosage Calculation (etc.)
- 2.10.1 Physiological Constants Charts
- 2.10.2 Continuous Medical Infusion Charts
- 2.10.3 Dose Calculation Sheets

Module 3. Anesthetic Timing

3.1. Pre-anesthetic/anesthetic Risk Assessment
- 3.1.1 Anesthetic Risk Vs Procedure Risk
- 3.1.2 ASA Classification

3.2. Pre-medication Premedication Drugs
- 3.2.1 Sedatives
- 3.2.2 Opioids
- 3.2.3 Alpha-2 Agonists
- 3.2.4 Benzodiazepines
- 3.2.5 NSAIDS
- 3.2.6 Others.

3.3. Induction Intubation
- 3.3.1 Induction Drugs
  - 3.3.1.1. Propofol
  - 3.3.1.2. Alfaxalone
  - 3.3.1.3. Thiopental
  - 3.3.1.4. Etomidate
  - 3.3.1.5. Adjuvants
- 3.3.2 Intubation Maneuver
  - 3.3.2.1. Sellick Maneuver

3.4. Maintenance. Inhalation Anesthesia
- 3.4.1 Characteristics of Inhalation Maintenance
- 3.4.2 Main Anesthetic Agents (Halothane, Isoflurane, Sevoflurane, Desflurane)

3.5. Maintenance. Total Intravenous Anesthesia (*TIVA*)
- 3.5.1 Maintenance Characteristics in Total Intravenous Anesthesia
- 3.5.2 Drugs Used in *TIVA* (Propofol, Alfaxalone)
- 3.5.3 Partial Intravenous Anesthesia (*PIVA*)
  - 3.5.3.1. Characteristics
  - 3.5.3.2. Drugs:

3.6. Mechanical Ventilation
- 3.6.1. Principles of Mechanical Ventilation
- 3.6.2 Controlled Ventilatory Modes
  - 3.6.1.1. Volume Mode
  - 3.6.1.2. Pressure Mode
- 3.6.3 Assisted Ventilatory Modes
  - 3.6.3.1. Pressure Support
  - 3.6.3.2. Intermittent Synchronized Ventilation
- 3.6.4 End-expiratory Pressure (*PEEP*)
- 3.6.5 Alveolar Recruitment Maneuvers

3.7. Eduction. Immediate Postoperative
- 3.7.1 Precautions Before Eduction
- 3.7.2 Precautions In the Immediate Postoperative Period

3.8. Intraoperative Fluid Therapy
- 3.8.1 Principles of Fluid Therapy
- 3.8.2 Types of Fluid
- 3.8.3 Fluid Choice and Infusion Rate

3.9. Coagulation During the Perioperative Period
- 3.9.1 Coagulation Physiology
- 3.9.2 Basic Alterations in Perioperative Coagulation
- 3.9.3 Disseminated Intravascular Coagulation

3.10. Perioperative Transfusion
- 3.10.1 Indications
- 3.10.2. Transfusion Techniques

Module 4. Analgesia

4.1. Pain Physiology
- 4.1.1 Nociceptive Pathways
- 4.1.2 Peripheric Sensitization
- 4.1.3 Central Sensitization

4.2. Chronic Pain I. Osteoarthrosis
- 4.2.1 Peculiarities of OA Pain
- 4.2.2 Basic Lines of Pain Treatment Due to OA.

4.3. Chronic Pain II. Oncological Pain, Neuropathic Pain
- 4.3.1 Peculiarities of Oncological Pain
- 4.3.2 Peculiarities of Neuropathic Pain
- 4.3.3 Basic Lines of Treatment

4.4. Opioid Analgesics
- 4.4.1 General Characteristics of Opioids
- 4.4.2 Opioid Peculiarities in Felines

4.5. Nonsteroidal Anti-Inflammatory Drugs
- 4.5.1 General Characteristics of NSAIDS
- 4.5.2 NSAIDS Peculiarities in Felines

4.6. Other Analgesics I: Ketamine, Lidocaine
- 4.6.1 Ketamine General Characteristics
- 4.6.2 Lidocaine General Characteristics
  - 4.6.2.1. Precautions with Felines

4.7. Other Analgesics II
- 4.7.1 Paracetamol
- 4.7.2 Dipyrone
- 4.7.3 Gabapentinoids (Gabapentin and Pregabalin)
- 4.7.4 Amantadine
- 4.7.5 Grapiprant

4.8. Assessment of Post-Surgical Pain
- 4.8.1 Implications of Post-Surgical Pain
- 4.8.2 Perioperative Pain Assessment Scales
  - 4.8.2.1. Canines
  - 4.8.2.2. Felines

4.9. Assessment of Chronic Pain
- 4.9.1 Implications of Chronic Pain
- 4.9.2 Chronic Pain Assessment Scales
  - 4.9.2.1. Canines
  - 4.9.2.2. Felines

4.10. Analgesia in the Emergency Department and in the Hospitalized Patient
- 4.10.1 Peculiarities in Emergency and Hospitalized Patients
- 4.10.2 Analgesic Protocols for Hospitalized Patients

Module 5. Locoregional Anesthesia/Analgesia

5.1. Pharmacology of Local Anesthetics
- 5.1.1 General Aspects of Local Aaesthetics
- 5.1.2 Adjuvants in Locoregional Anesthesia

5.2. Basics of Locoregional Anesthesia: Anatomical Localization, Neurolocalizer, Ultrasound
- 5.2.1 Basic Aspects of Locoregional Anesthesia
- 5.2.2 Basic Locoregional Anesthesia: Anatomical Localization
- 5.2.3 Locoregional Anesthesia With Neurolocalizer
- 5.2.4 Ultrasound-guided Locoregional Anesthesia

5.3. Complications Associated with Locoregional Anesthesia
- 5.3.1 Toxicity of Local Anaesthetics
- 5.3.2 Puncture Injury

5.4. Head Blockages I
- 5.4.1 Anatomic Introduction
- 5.4.2 Jaw Nerve Blockade
- 5.4.3 Mandibular Nerve Block

5.5. Head Blockages II
- 5.5.1 Ophthalmic Blockages
- 5.5.2 Blockages Related to the Pinna

5.6. Forelimb Blockages
- 5.6.1 Anatomic Introduction
- 5.6.2 Paravertebral Brachial Plexus Blockade
- 5.6.3 Subscapularis Brachial Plexus Blockade
- 5.6.4 Axillary Brachial Plexus Blockade
- 5.6.5 RUMM Blocking

5.7. Trunk Blockages I
- 5.7.1 Intercostal Blockages
- 5.7.2 Serratus Blockage
- 5.7.3 Pleural Instillation

5.8. Trunk Blockages II
- 5.8.1 Lumbar Square Blockage
- 5.8.2 Transverse Abdominal Blockage
- 5.8.3 Peritoneal Instillation

5.9. Rear Limb Blockages
- 5.9.1 Anatomic Introduction
- 5.9.2 Sciatic Nerve Block
- 5.9.3 Femoral Nerve Block

5.10. Epidural
- 5.10.1 Anatomic Introduction
- 5.10.2 Location of the Epidural Space
- 5.10.3 Epidural Drug Administration
- 5.10.4 Epidural Vs Raquidea
- 5.10.5 Contraindications and Complications

Module 6. Monitoring

6.1. Basic Monitoring
- 6.1.1 Palpitation
- 6.1.2 Observation
- 6.1.3 Auscultation
- 6.1.4 Temperature Monitoring

6.2. Electrocardiography
- 6.2.1 Introduction to Electrocardiography
- 6.2.2 ECG Interpretation in Anesthesia

6.3. Arterial Pressure
- 6.3.1 Introduction to Arterial Pressure Physiology
- 6.3.2 Medication Methods of Arterial Pressure
- 6.3.3 Non-invasive Arterial Pressure
- 6.3.4 Invasive Arterial Pressure

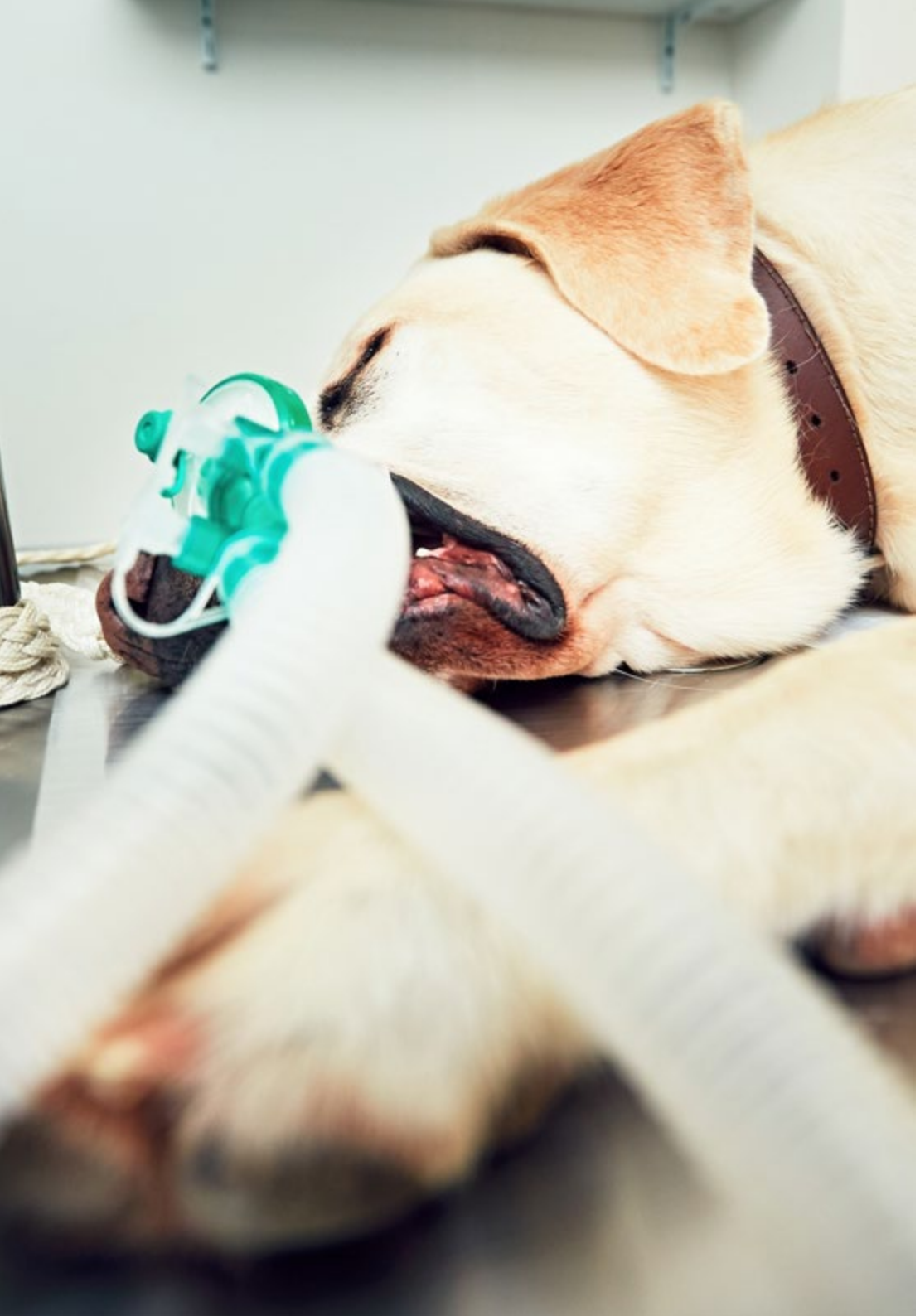
6.4. Cardiac Output Monitoring
- 6.4.1 Introduction to Cardiac Output Physiology
- 6.4.2 Different Methods of Monitoring Cardiac Output

6.5. Ventilatory Monitoring I. Pulse Oximetry
- 6.5.1 Physiological Introduction
- 6.5.2 Plethysmogram Interpretation

6.6. Ventilatory Monitoring II Capnography
- 6.6.1 Physiological Introduction
- 6.6.2 Capnogram Interpretation

6.7. Ventilatory Monitoring III
- 6.7.1 Spirometry
- 6.7.2 Anesthetic Gases
- 6.7.3 Arterial Blood Gases

6.8. Hypnosis Monitoring
- 6.8.1 Introduction to Hypnosis During Anesthesia
- 6.8.2 Subjective Monitoring of the Hypnosis Plane
- 6.8.3 *BIS* Monitoring



6.9. Nociception Monitoring
- 6.9.1 Physiology Introduction of Intraoperative Nociception
- 6.9.2 Monitoring of Nociception by ANI
- 6.9.3 Other Methods of Intraoperative Nociception Monitoring

6.10. Volemia Monitoring Acid/ Base Balance
- 6.10.1 Introduction to the Physiology of Volemia During Anesthesia
- 6.10.2 Monitoring Methods

Module 7. Anesthetic Complications

7.1. Regurgitation/ Aspiration
- 7.1.1 Definition
- 7.1.2. Management

7.2. Hypotension/ Hypertension
- 7.2.1 Definition
- 7.2.2. Management

7.3. Hypocapnia/ Hypercapnia
- 7.3.1 Definition
- 7.3.2. Management

7.4. Bradycardia/ Tachycardia
- 7.4.1 Definition
- 7.4.2. Management

7.5. Other Alterations in an Electrodiagram
- 7.5.1 Definition
- 7.5.2. Management

7.6. Hypothermia/ Hyperthermia
- 7.6.1 Definition
- 7.6.2. Management

7.7. Nociception/Intraoperative Awakening
- 7.7.1 Definition
- 7.7.2. Management

7.8. Airway Complications/Hypoxia
- 7.8.1 Definition
- 7.8.2. Management

7.9. Cardiorespiratory Arrest
- 7.9.1 Definition
- 7.9.2. Management

7.10. Various Complications
- 7.10.1 Post-anesthetic Blindness
- 7.10.2 Postanesthetic Tracheitis
- 7.10.3 Post-anesthesia Cognitive Dysfunction

Module 8. Anesthetic Management in Specific Situations I

8.1. Anesthesia in Elderly Patients
- 8.1.1 Characteristics to Take into Account
- 8.1.2 Post-Operative Management
- 8.1.3 Anesthetic Management
- 8.1.4 Postoperative Management

8.2. Anesthesia in Pediatric Patients
- 8.2.1 Characteristics to Take into Account
- 8.2.2 Postoperative Management
- 8.2.3 Anesthetic Management
- 8.2.4 Postoperative Management

8.3. Anesthesia in Patients with Cardiac Pathology I (Congenital Heart Disease)
- 8.3.1 Characteristics to Take into Account
- 8.3.2 Postoperative Management
- 8.3.3 Anesthetic Management
- 8.3.4 Postoperative Management

8.4. Anesthesia in Patients with Cardiac Pathology II (Acquired Heart Disease)
- 8.4.1 Characteristics to Take into Account
- 8.4.2 Postoperative Management
- 8.4.3 Anesthetic Management
- 8.4.4 Postoperative Management

8.5. Anesthesia for Patients With Thyroid Pathologies
- 8.5.1 Hypothyroid Patient
  - 8.5.1.1. Characteristics to Take into Account
  - 8.5.1.2. Postoperative Management
  - 8.5.1.3. Anesthetic Management
  - 8.5.1.4. Postoperative Management
- 8.5.2 Hypothyroid Patient
  - 8.5.2.1. Characteristics to Take into Account
  - 8.5.2.2. Postoperative Management
  - 8.5.2.3. Anesthetic Management
  - 8.5.2.4. Postoperative Management

8.6. Anesthesia for Patients With Adrenal Pathologies
- 8.6.1 Patient with Hypoadrenocorticism
  - 8.6.1.1. Characteristics to Take into Account
  - 8.6.1.2. Postoperative Management
  - 8.6.1.3. Anesthetic Management
  - 8.6.1.4. Postoperative Management
- 8.6.2 Patient with Hyperadrenocorticism
  - 8.6.2.1. Characteristics to Take into Account
  - 8.6.2.2. Postoperative Management
  - 8.6.2.3. Anesthetic Management
  - 8.6.2.4. Postoperative Management

8.7. Anesthesia in Diabetic Patients
- 8.7.1 Characteristics to Take into Account
- 8.7.2 Postoperative Management
- 8.7.3 Anesthetic Management
- 8.7.4 Postoperative Management

8.8. Anesthesia for Patients With Digestive Pathologies I
- 8.8.1 Characteristics to Take into Account
- 8.8.2 Postoperative Management
- 8.8.3 Anesthetic Management
- 8.8.4 Postoperative Management

8.9. Anesthesia in Patients with Digestive Pathology II (HepatobiliarySystem)
- 8.9.1 Characteristics to Take into Account
- 8.9.2 Postoperative Management
- 8.9.3 Anesthetic Management
- 8.9.4 Postoperative Management

8.10. Anesthesia for Patients With Neurological Pathologies
- 8.10.1 Characteristics to Take into Account
- 8.10.2 Postoperative Management
- 8.10.3 Anesthetic Management
- 8.10.4 Postoperative Management

Module 9. Anesthetic Management in Specific Situations II

9.1. Anesthesia for Patients With Respiratory Pathologies
- 9.1.1 Characteristics to Take into Account
- 9.1.2 Postoperative Management
- 9.1.3 Anesthetic Management
- 9.1.4 Postoperative Management

9.2. Anesthesia for Ophthalmologic Procedures
- 9.2.1 Characteristics to Take into Account
- 9.2.2 Postoperative Management
- 9.2.3 Anesthetic Management
- 9.2.4 Postoperative Management

9.3. Anesthesia for Endoscopic and Laparoscopic Procedures
- 9.3.1 Characteristics to Take into Account
- 9.3.2 Postoperative Management
- 9.3.3 Anesthetic Management
- 9.3.4 Postoperative Management

9.4. Anesthesia in Patients with Altered Body conditions (Obesity, Cachexia).
- 9.4.1 Obese Patient
  - 9.4.1.1. Characteristics to Take into Account
  - 9.4.1.2. Postoperative Management
  - 9.4.1.3. Anesthetic Management
  - 9.4.1.4. Postoperative Management
- 9.4.2 Cachectic Patient
  - 9.4.2.1. Characteristics to Take into Account
  - 9.4.2.2. Postoperative Management
  - 9.4.2.3. Anesthetic Management
  - 9.4.2.4. Postoperative Management

9.5. Anesthesia in Brachiocephalic Patients
- 9.5.1 Characteristics to Take into Account
- 9.5.2 Postoperative Management
- 9.5.3 Anesthetic Management
- 9.5.4 Postoperative Management

9.6. Anesthesia in Patients with Extreme Sizes (Miniature vs. Giant patient)
- 9.6.1 Characteristics to Take into Account
- 9.6.2 Postoperative Management
- 9.6.3 Anesthetic Management
- 9.6.4 Postoperative Management

9.7. Anesthesia for Patients With Genitourinary Pathologies. Pyometra, Urinary Obstruction
- 9.7.1 Characteristics to Take into Account
- 9.7.2 Postoperative Management
- 9.7.3 Anesthetic Management
- 9.7.4 Postoperative Management

9.8. Anesthesia in Pregnant Patients and for Cesarean Section
- 9.8.1 Characteristics to Take into Account
- 9.8.2 Postoperative Management
- 9.8.3 Anesthetic Management
- 9.8.4 Postoperative Management

9.9. Anesthesia in Oncology Patients (*OFA*)
- 9.9.1 Characteristics to Take into Account
- 9.9.2 Postoperative Management
- 9.9.3 Anesthetic Management
- 9.9.4 Postoperative Management

9.10. Anesthesia in Thoracic Surgery
- 9.10.1 Characteristics to Take into Account
- 9.10.2 Postoperative Management
- 9.10.3 Anesthetic Management
- 9.10.4 Postoperative Management

Module 10. Anesthetic Management in Specific Situations III

10.1. Hemoabdomen
- 10.1.1 Characteristics to Take into Account
- 10.1.2 Postoperative Management
- 10.1.3 Anesthetic Management
- 10.1.4 Postoperative Management

10.2. Ovariohysterectomy and Orchiectomy in Healthy Patients
- 10.2.1 Characteristics to Take into Account
- 10.2.2 Postoperative Management
- 10.2.3 Anesthetic Management
- 10.2.4 Postoperative Management

10.3. Sedation Procedures in the Hospitalized Patient
- 10.3.1 Characteristics to Take into Account
- 10.3.2 Postoperative Management
- 10.3.3 Anesthetic Management
- 10.3.4 Postoperative Management

10.4. Pulmonary Lobectomy
- 10.4.1 Characteristics to Take into Account
- 10.4.2 Postoperative Management
- 10.4.3 Anesthetic Management
- 10.4.4 Postoperative Management

10.5. Anesthetic Management With Felines
- 10.5.1 Characteristics to Take into Account
- 10.5.2 Postoperative Management
- 10.5.3 Anesthetic Management
- 10.5.4 Postoperative Management

10.6. Anesthesia for Imaging Procedures
- 10.6.1 Characteristics to Take into Account
- 10.6.2 Postoperative Management
- 10.6.3 Anesthetic Management
- 10.6.4 Postoperative Management

10.7. Enterotomy and Enterectomy
- 10.7.1 Characteristics to Take into Account
- 10.7.2 Postoperative Management
- 10.7.3 Anesthetic Management
- 10.7.4 Postoperative Management

10.8. Perineal Hernia.
- 10.8.1 Characteristics to Take into Account
- 10.8.2 Postoperative Management
- 10.8.3 Anesthetic Management
- 10.8.4 Postoperative Management

10.9. Cutaneous Tumor Excision and Dermatological Surgery (Mastocytoma, for Example).
- 10.9.1 Characteristics to Take into Account
- 10.9.2 Postoperative Management
- 10.9.3 Anesthetic Management
- 10.9.4 Postoperative Management

10.10. Anesthesia for Dentistry and Maxillofacial Surgery
- 10.10.1 Characteristics to Take into Account
- 10.10.2 Postoperative Management
- 10.10.3 Anesthetic Management
- 10.10.4 Postoperative Management

Surgery Area

Module 11. Basic Principles of Soft Tissue Surgery. Medical-surgical Techniques. Exploratory Laparotomy

11.1. Principles of Asepsis and Sterilization
- 11.1.1 Definition of the Concepts of Asepsis, Antisepsis and Sterilization
- 11.1.2 Main Methods for Disinfection
- 11.1.3 Main Methods for Sterilization

11.2. The Operating Room
- 11.2.1 Preparation of Surgical Personnel
- 11.2.2 Hand Washing
- 11.2.3 Clothing
- 11.2.4 Preparation of the Operating Environment
- 11.2.5 Sterilization Maintenance

11.3. Instruments
- 11.3.1 General Materials
- 11.3.2 Specific Materials

11.4. Hemostasis Sutures Alternative Hemostasis Methods
- 11.4.1 Hemostasis Physiopathology
- 11.4.2 Suture Features
- 11.4.3 Suture Materials
- 11.4.4 Suture Patterns
- 11.4.5 Alternative Techniques of Hemostatis

11.5. Surgical Site Infection (SSI)
- 11.5.1 Nosocomial Infections
- 11.5.2 Definition of SSI Types of ISQ
- 11.5.3. Types of Surgery
- 11.5.4 Risk Factors
- 11.5.6. Treatment of SSI
- 11.5.7 Use of Antimicrobials
- 11.5.8 Precautions to Avoid SSI

11.6. Surgical Defects. Bandages and Drainage
- 11.6.1 Use of Cutting Instruments
- 11.6.2 Use of Gripping Instruments
- 11.6.3 Use of Retractors
- 11.6.4 Aspiration
- 11.6.5 Bandages
- 11.6.6 Drainages

11.7. Electrosurgery and Lasers.
- 11.7.1 Physical Fundamentals
- 11.7.2 Monopolar
- 11.7.3 Bipolar
- 11.7.4 Sealants
- 11.7.5 Basic Rules of Use
- 11.7.6 Main Techniques
- 11.7.7 Laser
  - 11.7.7.1. CO2 Laser
  - 11.7.7.2. Diode Laser

11.8. Postsurgical Monitoring and Care
- 11.8.1 Nutrition
- 11.8.2 Pain Management
- 11.8.3 Decubitus Patients
- 11.8.4 Renal Monitoring
- 11.8.5 Hemostasis
- 11.8.6 Hyperthermia and Hypothermia
- 11.8.7 Anorexia

11.9. Medical-surgical Procedures
- 11.9.1 Feeding Tubes
- 11.9.2 Nasoesophageal
- 11.9.3 Esophagostomy
- 11.9.4 Gastronomy
- 11.9.5 Thoracostomy Tubes
- 11.9.6 Temporary Tracheostomy
- 11.9.7 Other Procedures
- 11.9.8 Abdominocentesis
- 11.9.9 Jejunostomy Tubes

11.10. Exploratory Laparotomy. Abdominal Cavity Closure.
- 11.10.1 Abdominal Opening and Closure
- 11.10.2 Topographic Anatomy

Module 12. Skin. Treatment of Wounds and Reconstructive Surgery

12.1. Skin: Anatomy, Vascularization and Tension
- 12.1.1 Skin Anatomy
- 12.1.2 Vascular Contribution
- 12.1.3 Correct Treatment of the Skin
- 12.1.4 Tension Lines
- 12.1.5 Ways to Manage Tension
- 12.1.6 Sutures
- 12.1.7 Local Techniques
- 12.1.8 Flap Types

12.2. Pathophysiology of Healing
- 12.2.1 Inflammatory Phase
- 12.2.2 Types of Debridement
- 12.2.3 Proliferative Phase
- 12.2.4 Maturation Phase
- 12.2.5 Local Factors Which Affect Healing
- 12.2.6 Systemic Factors Which Affect Healing

12.3. Wounds: Types and How to Treat Them
- 12.3.1 Types of Wounds (Etiology)
- 12.3.2 Wound Assessment
- 12.3.3 Wound Infection
- 12.3.4 Surgical Site Infection (SSI)
- 12.3.5 Wound Management
- 12.3.6 Preparation and Cleaning
- 12.3.7 Dressings
- 12.3.8 Bandages
- 12.3.9 Antibiotics: Yes or No
- 12.3.10. Other Medication

12.4. New Techniques to Aid Healing
- 12.4.1 Laser Therapy
- 12.4.2 Vacuum Systems
- 12.4.3 Others

12.5. Plasties and Subdermal Plexus Flaps
- 12.5.1 Z-plasty, V-Y Plasty
- 12.5.2 Bow-tie Technique
- 12.5.3 Advance Flaps
- 12.5.4 U
- 12.5.5 H
- 12.5.6 Rotation Flaps
- 12.5.7 Transposition Flaps
- 12.5.8 Interpolation Flaps

12.6. Other Flaps. Grafts
- 12.6.1 Pedicle Flaps
- 12.6.2 What They Are and Why Do They Work?
- 12.6.3 Most Common Pedicle Flaps
- 12.6.4 Muscle and Myocutaneous Flaps
- 12.6.5 Grafts
- 12.6.6 Indications
- 12.6.7. Types
- 12.6.8. Bedding Requirements
- 12.6.9 Collection and Preparation Technique
- 12.6.10. Postoperative Care

12.7. Common Head Injuries
- 12.7.1 Eyelids
- 12.7.2 Techniques for Eyelid Reconstruction
- 12.7.3 Advance Flaps
- 12.7.4 Rotation
- 12.7.5 Transposition
- 12.7.6 Superficial Temporalis Axial Flap
- 12.7.7 Nose
- 12.7.8 Rotation Flaps
- 12.7.9 *Lip to Nose Plasty*
- 12.7.10. Lips
- 12.7.11. Direct Closure
- 12.7.12. Advance Flaps
- 12.7.13. Rotation Flaps. *Lip to Eye*
- 12.7.14. Ears

12.8. Neck and Torso Techniques
- 12.8.1 Advance Flaps
- 12.8.2 Myocutaneous Flap of the *Latissimus Dorsi*
- 12.8.3 Axillary Crease and Inguinal Crease
- 12.8.4 Cranial Epigastric Axial Flap
- 12.8.5 Episioplasty

12.9. Techniques for Wounds and Defects in the Extremities (I)
- 12.9.1 Problems Related to Compression and Tension
- 12.9.2 Alternative Closure Methods
- 12.9.3 Thoracodorsal Axial Flap
- 12.9.4 Lateral Thoracic Axial Flap
- 12.9.5 Superficial Brachial Axial Flap
- 12.9.6 Caudal Epigastric Axial Flap

12.10. Techniques for Wounds and Defects in the Extremities (II)
- 12.10.1 Problems Related to Compression and Tension
- 12.10.2 Axial Flap of the Deep Iliac Circumflex (Dorsal and Ventral Branches).
- 12.10.3 Genicular Axial Flap
- 12.10.4 Reverse Saphenous Flap
- 12.10.5 Pads and Interdigital Pads

Module 13. Gastrointestinal Surgery

13.1. Anatomy of the Gastrointestinal Tract
- 13.1.1 Stomach
- 13.1.2 Small Intestine
- 13.1.3 Large Intestine

13.2. General Aspects
- 13.2.1 Sutures and Materials
- 13.2.2 Laboratory and Imaging Tests

13.3. Stomach
- 13.3.1 Surgical Principles
- 13.3.2 Clinical Stomach Pathologies
- 13.3.3 Foreign Bodies
- 13.3.4 Gastric Dilatation-Volvulus Syndrome
- 13.3.5 Gastropexy
- 13.3.6 Gastric Retention and Obstruction
- 13.3.7 Gastroesophageal Intussusception
- 13.3.8 Hiatal Hernia
- 13.3.9 Neoplasty

13.4. Surgical Techniques
- 13.4.1 Biopsy Sampling
- 13.4.2 Gastronomy
- 13.4.3 Gastrectomy
  - 13.4.3.1. Simple Gastrectomy
  - 13.4.3.2. *Billroth* I
  - 13.4.3.3. *Billroth* II

13.5. Small Intestine
- 13.5.1 Surgical Principles
- 13.5.2 Clinical Pathologies of the Small Intestine
  - 13.5.2.1. Foreign Bodies
  - 13.5.2.1. Non-linear
  - 13.5.2.2. Linear
  - 13.5.2.3. Duplication of the Intestinal Wall
  - 13.5.2.4. Intestinal Perforation
  - 13.5.2.5. Intestinal Incarceration
  - 13.5.2.6. Intestinal Intussusception
  - 13.5.2.7. Mesenteric Volvulus
  - 13.5.2.8. Neoplasty

13.6. Surgical Techniques
- 13.6.1 Biopsy Sampling
- 13.6.2 Enterotomy
- 13.6.3 Enterectomy
- 13.6.4 Enteroplication

13.7. Large Intestine
- 13.7.1 Surgical Principles
- 13.7.2 Clinical Pathologies
  - 13.7.2.1. Ileocolic Intussusception or Cecal Inversion
  - 13.7.2.2. Megacolon
  - 13.7.2.3. Transmural Migration
  - 13.7.2.4. Neoplasty.

13.8. Surgical Techniques
- 13.8.1 Biopsy Sampling
- 13.8.2 Typhlectomy
- 13.8.3 Colopexy
- 13.8.4 Colotomy
- 13.8.5 Colectomy

13.9. Rectum
- 13.9.1 Surgical Principles
- 13.9.2 Clinical Pathologies and Rectum Surgical Techniques
  - 13.9.2.1. Rectal Prolapse
  - 13.9.2.3. Anal Atresia
  - 13.9.2.4. Neoplasty

13.10. Perianal Zone and Anal Sacs
- 13.10.1 Pathology and Perianal Area Surgical Technique
  - 13.10.1.1. Perianal Fistulas
  - 13.10.1.2. Neoplasms
- 13.10.2 Pathologies and Anal Sacs Surgical Techniques

Module 14. Genitourinary Surgery. Mammary Surgery

14.1. Introduction to Urogenital Surgical Pathology
- 14.1.1 Surgical Principles Applied in Urogenital Surgery
- 14.1.2 Surgical Material Used
- 14.1.3 Suture Materials
- 14.1.4 Pathophysiology of Urinary Surgical Problems: Introduction
- 14.1.5 Urinary Obstruction
- 14.1.6. Urinary Trauma

14.2. Kidney
- 14.2.1 Anatomy Recap
- 14.2.2 Techniques (I)
  - 14.2.2.1. Renal Biopsy
  - 14.2.2.2. Nephrotomy. Pyelolithotomy
- 14.2.3 Techniques (II)
  - 14.2.3.1. Nephrectomy
  - 14.2.3.2. Nephropexy
  - 14.2.3.3. Nephrostomy
- 14.2.4 Congenital Diseases
- 14.2.5 Renal Trauma
- 14.2.6 Infection. Abscesses

14.3. Urether
- 14.3.1 Anatomy Recap
- 14.3.2 Techniques (I)
  - 14.3.2.1. Ureterotomy
  - 14.3.2.2. Anastomosis.
- 14.3.3 Techniques (II)
  - 14.3.3.1. Ureteroneocystostomy
  - 14.3.3.2. Neoureterostomy.
- 14.3.4 Congenital Diseases
- 14.3.5 Urethral Trauma
- 14.3.6 Ureteral Obstruction
  - 14.3.6.1. New Techniques

14.4. Bladder
- 14.4.1 Anatomy Recap
- 14.4.2 Techniques (I)
  - 14.4.2.1. Cystostomy.
  - 14.4.2.2. Cystectomy.
- 14.4.3 Techniques (II)
  - 14.4.3.1. Cystopexy Serosal Patch.
  - 14.4.3.2. Cystostomy
  - 14.4.3.3. Boari Flap
- 14.4.4 Congenital Diseases
- 14.4.5 Bladder Trauma
- 14.4.6 Bladder Lithiasis
- 14.4.7 Bladder Torsion
- 14.4.8 Neoplasms

14.5. Urethra
- 14.5.1 Anatomy Recap
- 14.5.2 Techniques (I)
  - 14.5.2.1. Urethrotomy
  - 14.5.2.2. Anastomosis
- 14.5.3 Techniques (II): Urethrostomy
  - 14.5.3.1. Introduction
  - 14.5.3.2. Feline Perineal Urethrostomy
  - 14.5.3.3. Canine Pre-scrotal Urethrostomy
  - 14.5.3.4. Other Urethrostomies
- 14.5.4 Congenital Diseases
- 14.5.5 Urethral Trauma
- 14.5.6 Urethral Obstruction
- 14.5.7 Urethral Prolapse
- 14.5.8 Sphincter Incompetence

14.6. Ovaries, Uterus, Vagina
- 14.6.1 Anatomy Recap
- 14.6.2 Techniques (I)
  - 14.6.2.1. Ovariectomy
  - 14.6.2.2. Ovariohysterectomy
- 14.6.3 Techniques (II)
  - 14.6.3.1. Cesarean Section
  - 14.6.3.2. Episiotomy
- 14.6.4 Congenital Diseases
  - 14.6.4.1. Ovaries and Uterus
  - 14.6.4.2. Vagina and Vestibule
- 14.6.5 Ovarian Remnant Syndrome
  - 14.6.5.1. Effects of Gonadectomy
- 14.6.6 Pyometra
  - 14.6.6.1. Stump Pyometra
- 14.6.7 Uterine Prolapse and Vaginal Prolapse
- 14.6.8 Neoplasms

14.7. Penis, Testicles and Scrotum
- 14.7.1 Anatomy Recap
- 14.7.2 Techniques (I)
  - 14.7.2.1. Pre-scrotal Orchiectomy
  - 14.7.2.2. Feline Scrotal Orchiectomy
  - 14.7.2.3. Abdominal Orchiectomy
- 14.7.3 Techniques (II)
  - 14.7.3.1. Scrotum Ablation
  - 14.7.3.2. Penis Amputation
- 14.7.4 Techniques (III)
  - 14.7.4.1. Preputial Plasties
  - 14.7.4.2. Phallopexy
- 14.7.5 Congenital Alterations of the Penis and Foreskin
  - 14.7.5.1. Hypospadias
  - 14.7.5.2. Phimosis vs Paraphimosis
- 14.7.6 Congenital Alterations to the Testicles
  - 14.7.6.1. Anorchia/Monorchidism
  - 14.7.6.2. Cryptorchidism
- 14.7.7 Neoplasms in the Penis
- 14.7.8 Testicular Neoplasms

14.8. Prostate Ancillary Techniques in Urogenital Surgery
- 14.8.1 Anatomy Recap
- 14.8.2 Techniques
  - 14.8.2.1. Omentalization
  - 14.8.2.2. Marsupialization
- 14.8.3 Prostatic Hyperplasia
- 14.8.4 Prostatic Cysts
- 14.8.5 Prostatitis and Prostatic Abscesses
- 14.8.6 Neoplasms
- 14.8.7 Auxiliary Techniques Catheterization and Cystopuncture
- 14.8.8 Abdomen Drainage

14.9. Complementary Tests in Urogenital Surgical Pathology
- 14.9.1 Diagnostic Imaging Techniques(I)
  - 14.9.1.1. Simple Radiography
  - 14.9.1.2. Contrast Radiography
- 14.9.2 Diagnostic Imaging Techniques (II)
  - 14.9.2.1. Ultrasound
- 14.9.3. Diagnostic Imaging Techniques (III)
- 14.9.4 Importance of Laboratory Diagnosis

14.10. Breast
- 14.10.1 Anatomy Recap
- 14.10.2 Techniques (I)
  - 14.10.2.1. Nodulectomy
  - 14.10.2.2. Lymphadenectomy
- 14.10.3. Techniques (II)
  - 14.10.3.1. Simple Mastectomy
  - 14.10.3.2. Regional Mastectomy
  - 14.10.3.3. Radical Mastectomy
- 14.10.4 Postoperative Care
  - 14.10.4.1. Analgesic Catheters
- 14.10.5 Hyperplasia and Pseudo-gestation
- 14.10.6 Canine Mammary Tumors
- 14.10.7 Feline Mammary Tumors

Module 15. Surgical Oncology. Basic Principles. Cutaneous and Subcutaneous Tumors

15.1. Principles of Surgical Oncology (I)
- 15.1.1 Pre-operative Considerations
- 15.1.2 Surgical Approach
- 15.1.3 Biopsies and Sample Collecting

15.2. Principles of Surgical Oncology (II)
- 15.2.1 Surgical Considerations
- 15.2.2 Definition of Surgical Margins
- 15.2.3 Cytoreductive and Palliative Surgeries

15.3. Principles of Surgical Oncology (III)
- 15.3.1 Post-operative Considerations
- 15.3.2 Adjuvant Therapy
- 15.3.3 Multimodal Therapy

15.4. Cutaneous and Subcutaneous Tumors Soft Tissue Sarcomas (I)
- 15.4.1 Clinical presentation
- 15.4.2. Diagnosis
- 15.4.3. Staging.
- 15.4.4. Surgical Aspects

15.5. Cutaneous and Subcutaneous Tumors Soft Tissue Sarcomas (II)
- 15.5.1 Reconstructive Surgery
- 15.5.2 Adjuvant Therapies
- 15.5.3 Paliative Procedures
- 15.5.4 Prognosis

15.6. Cutaneous and Subcutaneous Tumors Mastocytoma (I)
- 15.6.1 Clinical presentation
- 15.6.2. Diagnosis
- 15.6.3. Staging.
- 15.6.4. Surgery (I)

15.7. Cutaneous and Subcutaneous Tumors Mastocytoma (II)
- 15.7.1 Surgery (II)
- 15.7.2 Post-operative Recommendations
- 15.7.3 Prognosis

15.8. Cutaneous and Subcutaneous Tumors Other Cutaneous and Subcutaneous Tumors (I)
- 15.8.1 Melanoma
- 15.8.2 Epitheliotropic Lymphoma
- 15.8.3 Hemangiosarcoma

15.9. Cutaneous and Subcutaneous Tumors Other Cutaneous and Subcutaneous Tumors (II)
- 15.9.1 Cutaneous and Subcutaneous Benign Tumors
- 15.9.2 Feline Injection Site Sarcoma

15.10. Interventional Oncology
- 15.10.1 Material
- 15.10.2 Vascular Interventions
- 15.10.3 Non-Vascular Interventions

Module 16. Liver and Biliary System Surgery Spleen Surgery Endocrine System Surgery

16.1. Liver Surgery Basic Principles
- 16.1.1 Liver Anatomy
- 16.1.2 Liver Pathophysiology
- 16.1.3 General Principles of Liver Surgery
- 16.1.4 Hemostasis Techniques

16.2. Liver Surgery (II). Techniques
- 16.2.1 Hepatic Biopsy
- 16.2.2 Partial Hepatectomy
- 16.2.3 Hepatic Lobectomy

16.3. Hepatic Surgery (III) Liver Cysts and Abscesses
- 16.3.1 Liver Tumors
- 16.3.2 Hepatic Abscesses

16.4. Liver Surgery (IV)
- 16.4.1 Portosystemic Shunt

16.5. Extrahepatic Biliary Tree Surgery
- 16.5.1 Anatomy
- 16.5.2 Techniques Cholecystectomy
- 16.5.3 Cholecystitis (Biliary Mucocele)
- 16.5.4 Bladder Stones

16.6. Spleen Surgery (I)
- 16.6.1 Spleen Anatomy
- 16.6.2 Techniques
- 16.6.3 Splenorrhaphy
- 16.6.4 Partial Splenectomy
- 16.6.5 Complete Splenectomy
- 16.6.6 Three Clamp Technique Approach

16.7. Spleen Surgery (II)
- 16.7.1 Splenic Mass Approach
- 16.7.2 Hemoabdomen

16.8. Thyroid Gland Surgery
- 16.8.1 Anatomy Recap
- 16.8.2 Surgical Techniques
- 16.8.3 Thyroidectomy
- 16.8.4 Parathyroidectomy
- 16.8.5 Diseases
- 16.8.6 Thyroid Tumors in Dogs
- 16.8.7 Hyperthyroidism in Cats
- 16.8.8 Hyperparathyroidism

16.9. Adrenal Gland Surgery
- 16.9.1 Anatomy Recap
- 16.9.2 Surgical Technique
- 16.9.3 Adrenalectomy
- 16.9.4. Hypophysectomy
- 16.9.5 Diseases
- 16.9.6 Adrenal Adenomas/Adenocarcinomas
- 16.9.7 Pheochromocytomas

16.10. Endocrine Pancreatic Surgery
- 16.10.1 Anatomy Recap
- 16.10.2 Surgical Technique
- 16.10.3 Pancreatic Biopsy
- 16.10.4 Pancreatectomy
- 16.10.5 Diseases
- 16.10.6 Insulinoma.

Module 17. Head and Neck Surgery

17.1. Salivary Glands
- 17.1.1 Anatomy
- 17.1.2 Surgical Technique
- 17.1.3 Sialocele

17.2. Laryngeal Paralysis
- 17.2.1 Anatomy
- 17.2.2 Diagnosis
- 17.2.3. Pre-operative Considerations
- 17.2.4 Surgical Techniques
- 17.2.5 Post-operative Considerations

17.3. Brachycephalic Syndrome (I)
- 17.3.1 Description
- 17.3.2 Syndrome Components
- 17.3.3 Anatomy and Physiopathology
- 17.3.4 Diagnosis

17.4. Brachycephalic Syndrome (II)
- 17.4.1 Pre-operative Considerations
- 17.4.2 Surgical Techniques
- 17.4.3 Post-operative Considerations

17.5. Tracheal Collapse
- 17.5.1 Anatomy
- 17.5.2 Diagnosis
- 17.5.3. Medical Management
- 17.5.4 Surgical Management

17.6. Ears (I)
- 17.6.1 Anatomy
- 17.6.2 Techniques
- 17.6.3 Technique for Treating Otohematoma
- 17.6.4 Aurectomy
- 17.6.5 External Auditory Canal Ablation with Trephination of the Bulla
- 17.6.6 Ventral Osteotomy of the Tympanic Bulla

17.7. Ears (II)
- 17.7.1 Diseases
- 17.7.2 Otohematomas
- 17.7.3 External Auricular Pavilion Tumors
- 17.7.4 Chronic Otitis
- 17.7.5 Nasopharyngeal Polyps

17.8. Oral and Nasal Cavity (I)
- 17.8.1 Anatomy
- 17.8.2 Techniques
- 17.8.3 Maxillectomy
- 17.8.4 Mandibulectomy
- 17.8.5 Techniques for Oral Cavity Reconstruction
- 17.8.6 Rhinotomy

17.9. Oral and Nasal Cavity (II)
- 17.9.1 Diseases
- 17.9.2 Oral and Lip Tumors
- 17.9.3 Nasal Cavity Tumors
- 17.9.4 Aspergillosis
- 17.9.5. Cleft Palate
- 17.9.6 Oronasal Fistulas

17.10. Other Head and Neck Diseases
- 17.10.1 Nasopharyngeal Stenosis
- 17.10.2 Laryngeal Tumors
- 17.10.3 Tracheal Tumors
- 17.10.4 Cricopharyngeal Achalasia

Module 18. Thoracic Cavity Surgery

18.1. Pleural Cavity Surgery (I)
- 18.1.1 Basic Principles and Anatomy
- 18.1.2 Pleural Effusions
  - 18.1.2.1. Pleural Drainage Techniques

18.2. Pleural Cavity Surgery (II)
- 18.2.1 Clinical Pathologies
  - 18.2.1.1. Trauma
  - 18.2.1.2. Pneumothorax
  - 18.2.1.3. Chylothorax
    - 18.2.1.3.1. Thoracic Duct Ligation
    - 18.2.1.3.2. Cisterna Chyli Ablation
  - 18.2.1.4. Pyothorax
  - 18.2.1.5. Hemothorax
  - 18.2.1.6. Malignant Pleural Effusion
  - 18.2.1.7. Benign Cysts
  - 18.2.1.8. Neoplasty

18.3. Rib Wall Surgery
- 18.3.1 Basic Principles and Anatomy
- 18.3.2 Clinical Pathologies
  - 18.3.2.1. Floating Thorax
  - 18.3.2.2. Pectus Excavatum
  - 18.3.2.3. Neoplasty

18.4. Diagnostic Methods
- 18.4.1 Laboratory Tests
- 18.4.2 Imaging Tests

18.5. Thorax Surgery Approaches
- 18.5.1 Instruments and Material
- 18.5.2 Types of Thorax Approach
  - 18.5.2.1. Intercostal Thoracotomy
  - 18.5.2.2. Thoracotomy for Costal Resection
  - 18.5.2.3. Median Sternotomy
  - 18.5.2.4. Transsternal Thoracotomy
  - 18.5.2.5. Transdiaphragmatic Thoracotomy
- 18.5.3 Restoration of Negative Pressure

18.6. Lung Surgery
- 18.6.1 Basic Principles and Anatomy
- 18.6.2 Surgical Techniques
  - 18.6.2.1. Partial Lobectomy
  - 18.6.2.2. Total Lobectomy
  - 18.6.2.3. Pneumonectomy
- 18.6.3 Clinical Pathologies
  - 18.6.3.1. Trauma
  - 18.6.3.2. Pulmonary Abscess
  - 18.6.3.3. Pulmonary Torsion
  - 18.6.3.4. Neoplasty

18.7. Heart Surgery (I)
- 18.7.1 Basic Principles and Anatomy
- 18.7.2 Surgical Techniques
  - 18.7.2.1. Pericardiocentesis
  - 18.7.2.2. Partial Pericardiectomy
    - 18.7.2.3. Partial Auriculectomy
    - 18.7.2.4. Pacemaker Insertion

18.8. Heart Surgery (II)
- 18.8.1 Clinical Pathologies
  - 18.8.1.1. Septal Defects
  - 18.8.1.2. Pulmonary Stenosis
  - 18.8.1.3. Subaortic Stenosis
  - 18.8.1.4. Tetralogy of Fallot
  - 18.8.1.5. Pericardial Effusion
  - 18.8.1.6. Neoplasty

18.9. Vascular Anomalies and Vascular Rings
- 18.9.1 Basic Principles and Anatomy
- 18.9.2 Clinical Pathologies
  - 18.9.2.1. Persistent Ductus Arteriosus
  - 18.9.2.2. Persistent Right Aortic Arch

18.10. Thoracic Esophageal Surgery
- 18.10.1 Basic Principles and Anatomy
- 18.10.2 Surgical Techniques
  - 18.10.2.1. Esophagotomy
  - 18.10.2.2. Esophagectomy
- 18.10.3 Clinical Pathologies
  - 18.10.3.1. Foreign Bodies
  - 18.10.3.2. Idiopathic Megaesophagus
  - 18.10.3.3. Neoplasty

Module 19 Amputations: Thoracic Limb, Pelvic Limb, Caudectomy, Phalanges. Umbilical, Inguinal, Scrotal, Traumatic, Perineal, Diagrammatic and Peritoneopericardial Diaphragmatic Hernias

19.1. Thoracic Limb Amputation
- 19.1.1 Indications
- 19.1.2. Pre-operative Considerations Patient Selection and Owner Aesthetic Considerations
- 19.1.3 Surgical Techniques
- 19.1.4 With Scapulectomy
- 19.1.5 Humeral Osteotomy
- 19.1.6 Post-operative Considerations
- 19.1.7 Short and Long-Term Complications

19.2. Pelvic Limb Amputation
- 19.2.1 Indications
- 19.2.2. Patient Selection Aesthetic Considerations
- 19.2.3 Pre-operative Considerations
- 19.2.4 Surgical Techniques
- 19.2.5 Coxofemoral Disarticulation
- 19.2.6 Femoral and Tibial Osteotomy
- 19.2.7 Hemipelvectomy
- 19.2.8 Post-operative Considerations
- 19.2.9 Complications

19.3. Diseases
- 19.3.1 Osteosarcoma
- 19.3.2 Other Bone Tumors
- 19.3.4 Trauma, Old Articular Fractures, Osteomyelitis

19.4. Other Amputations
- 19.4.1 Phalange Amputation
- 19.4.2 Caudectomy
- 19.4.3 Tumors that Affect the Phalanges

19.5. Umbilical, Inguinal, Scrotal and Traumatic Hernias
- 19.5.1 Umbilical Hernia
- 19.5.2 Inguinal Hernia
- 19.5.3 Scrotal Hernia
- 19.5.4 Traumatic Hernias

19.6. Traumatic Hernias
- 19.6.1 Polytraumatized Patient Care
- 19.6.2 Pre-operative Considerations
- 19.6.3 Surgical Techniques
- 19.6.4 Post-operative Considerations

19.7. Perineal Hernia (I)
- 19.7.1 Anatomy
- 19.7.2 Pathophysiology
- 19.7.3 Types of Perineal Hernias
- 19.7.4 Diagnosis

19.8. Perineal Hernia (II)
- 19.8.1 Preoperative Considerations
- 19.8.2 Surgical Techniques
- 19.8.3 Postoperative Considerations
- 19.8.4 Complications

19.9. Diaphragmatic Hernia
- 19.9.1 Diaphragmatic Hernia
- 19.9.2 Anatomy
- 19.9.3 Diagnosis
- 19.9.4. Preoperative Considerations
- 19.9.5 Surgical Techniques.
- 19.9.6 Postoperative Considerations

19.10. Peritoneopericardial Diaphragmatic Hernia
- 19.10.1 Anatomy
- 19.10.2 Diagnosis
- 19.10.3. Preoperative Considerations
- 19.10.4 Surgical Techniques.
- 19.10.5 Postoperative Considerations

Module 20. Minimally Invasive Surgery Laparoscopy Thoracoscopy Interventional Radiology

20.1. History and Advantages/ Disadvantages of Minimally Invasive Surgery
- 20.1.1 History of Laparoscopy and Thoracoscopy
- 20.1.2 Advantages and Disadvantages
- 20.1.3 New Perspectives

20.2. Equipment and Instruments
- 20.2.1 Equipment
- 20.2.2 Instruments

20.3. Laparoscopy Techniques Training Program
- 20.3.1 Laparoscopy Sutures
- 20.3.2 Conventional Sutures
- 20.3.3 Mechanical Sutures
- 20.3.4 Laparoscopy Training Program

20.4. Laparoscopy (I) Approaches
- 20.4.1 Techniques for Performing Pneumoperitoneum Surgery
- 20.4.2 Port Placement
- 20.4.3 Ergonomics

20.5. Laparoscopy (II) Most Common Techniques
- 20.5.1 Ovariectomy
- 20.5.2 Abdominal Cryptorchidism
- 20.5.3 Preventive Gastropexy
- 20.5.4 Hepatic Biopsy

20.6. Laparoscopy (III) Less Common Techniques
- 20.6.1 Cholecystectomy
- 20.6.2 Assisted Cystoscopy
- 20.6.3 Digestive Examination
- 20.6.4 Splenectomy
- 20.6.5 Biopsy
- 20.6.6 Renal
- 20.6.7 Pancreatic
- 20.6.8 Lymph Nodes

20.7. Thoracoscopy (I) Approaches. Specific Materials
- 20.7.1 Specific Materials
- 20.7.2 Most Common Approaches Port Placement

20.8. Thoracoscopy (II) Most Common Techniques Pericardiectomy
- 20.8.1 Indications and Techniques for Pericardiectomy
- 20.8.2 Pericardial Examination Subtotal Pericardiectomy Versus Pericardial Window

20.9. Thoracoscopy (II) Less Common Techniques
- 20.9.1 Pulmonary Biopsy
- 20.9.2 Pulmonary Lobectomy
- 20.9.3 Chylothorax
- 20.9.4 Vascular Rings

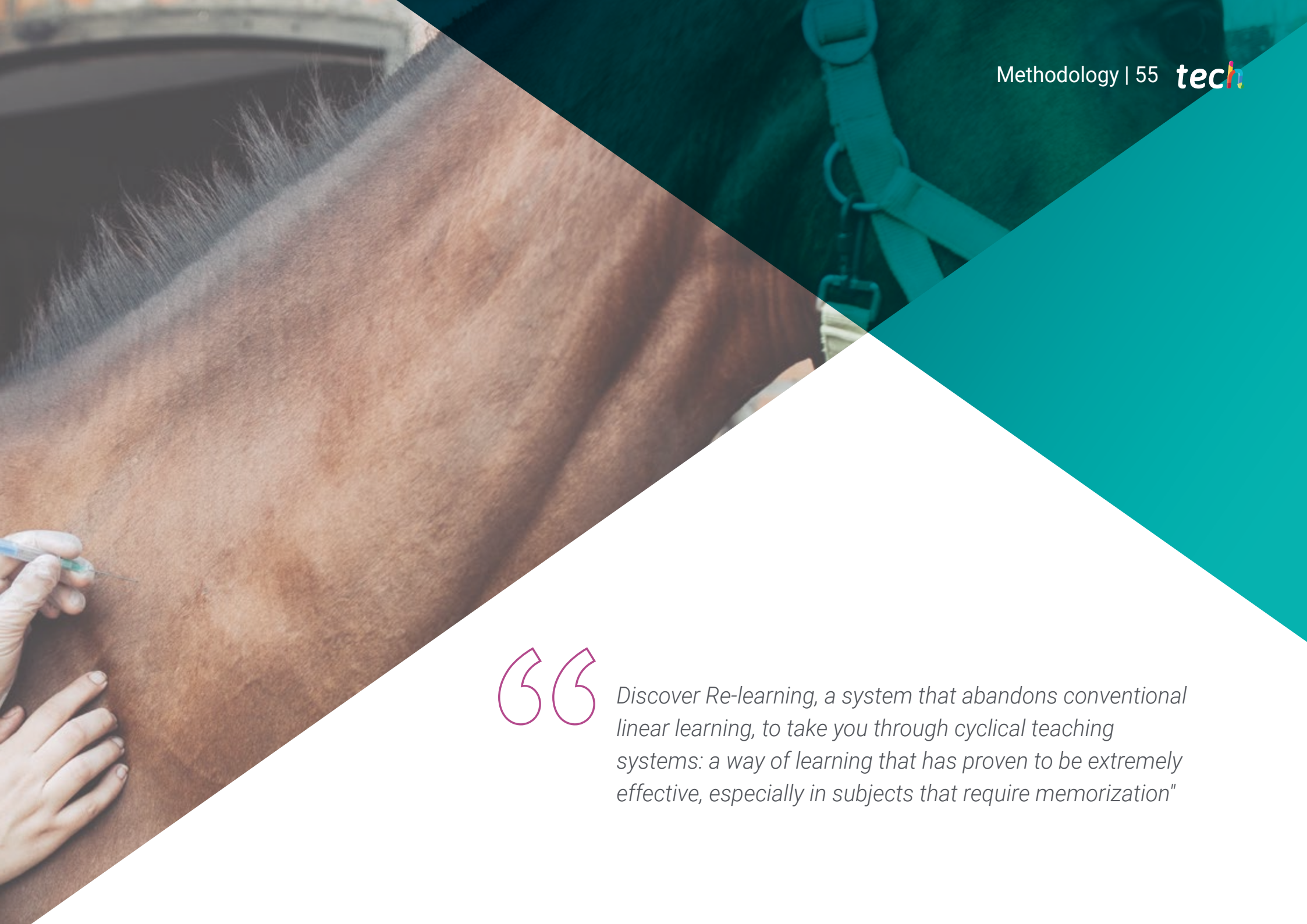
20.10. Interventional Radiology
- 20.10.1 Equipment
- 20.10.2 More Common Techniques

06

Methodology

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

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

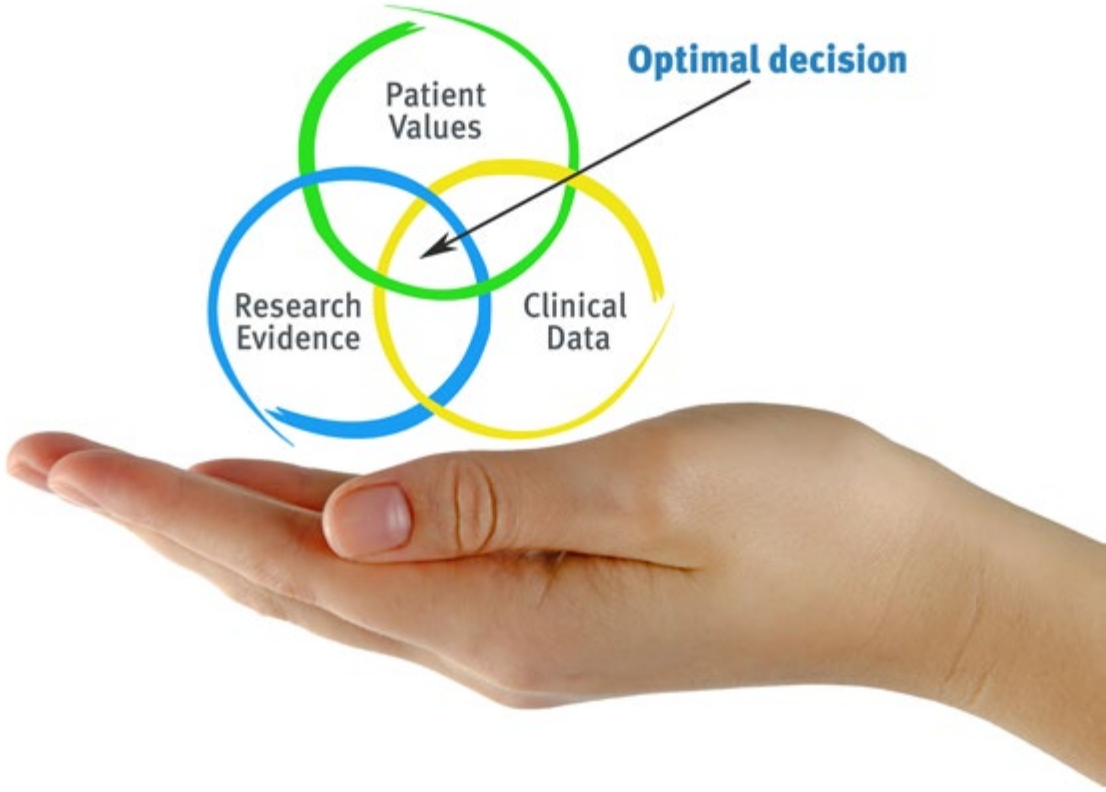


Discover Re-learning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

At TECH we use the Case Method

In a given situation, what should a professional 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 power 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 psychologist'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:

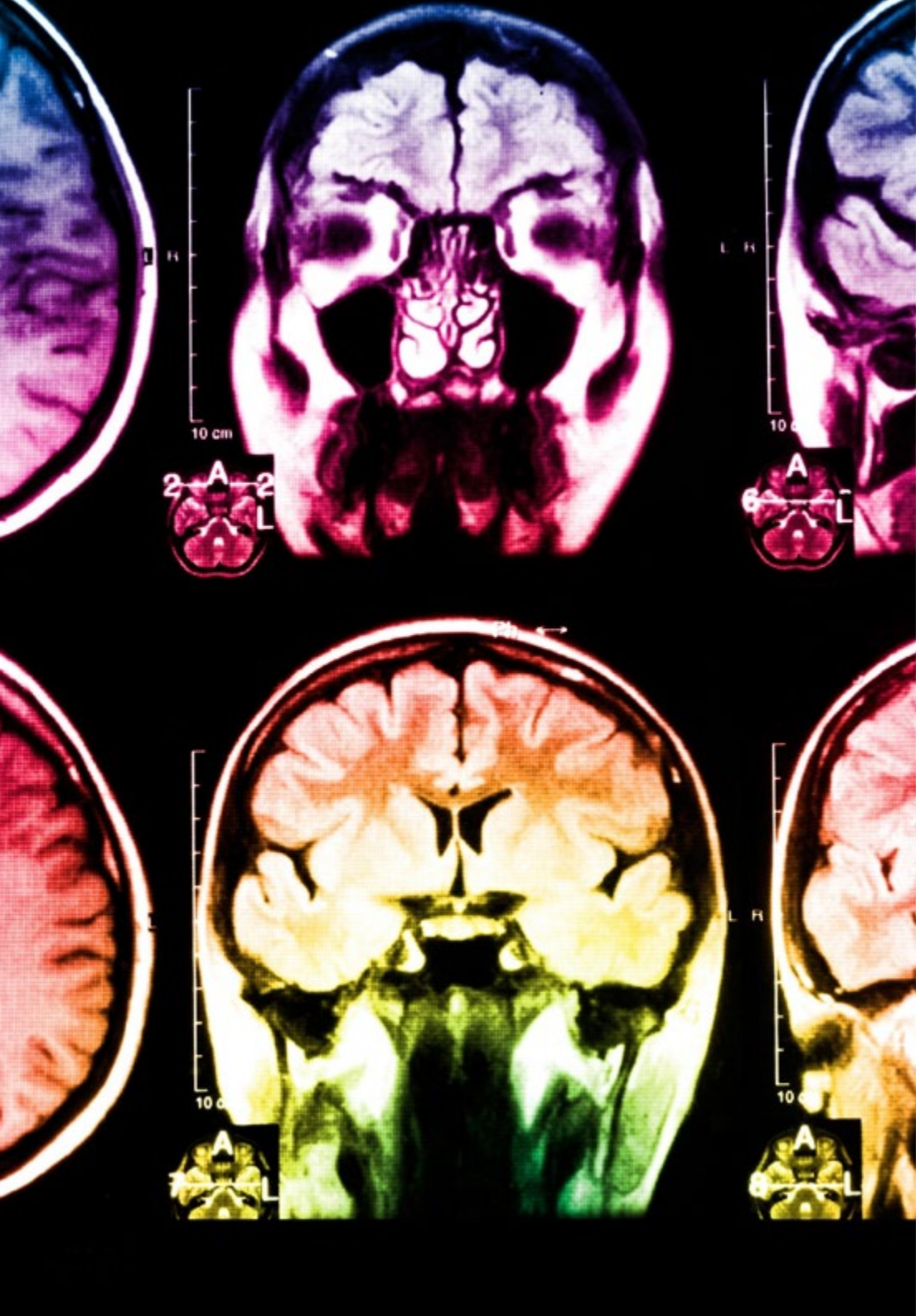
1. Veterinarians who follow this method not only achieve the assimilation of concepts, but also develop their mental capacity, through exercises involving the evaluation of real situations and the application of knowledge.
2. The learning process has a clear focus on practical skills that allow the student 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 of efficiency of the effort invested becomes a very important stimulus for the veterinarian, which translates into a greater interest in learning and an increase in the time spent 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.

This university is the first in the world to combine case studies with a 100% online learning system based on repetition combining a minimum of 8 different elements in each lesson, which is a real revolution compared to the simple study and analysis of cases.

The veterinarian will learn through real cases and the resolution of 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 prepared more than 65,000 Veterinary with unprecedented success in all clinical specialties regardless of the surgical load. All this 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 (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.

This program offers the best educational material, prepared with professionals in mind:

Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is really specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.

Latest Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All this, in first person, with the maximum rigour, explained and detailed for your assimilation and Studies understanding. And best of all, you can watch them as many times as you want.

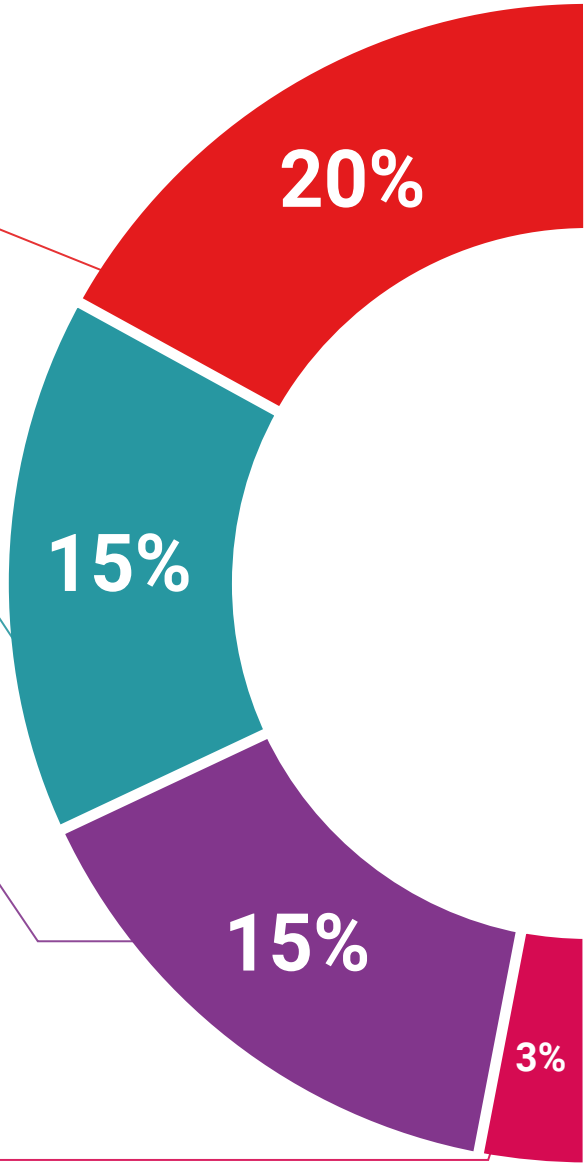
Interactive Summaries

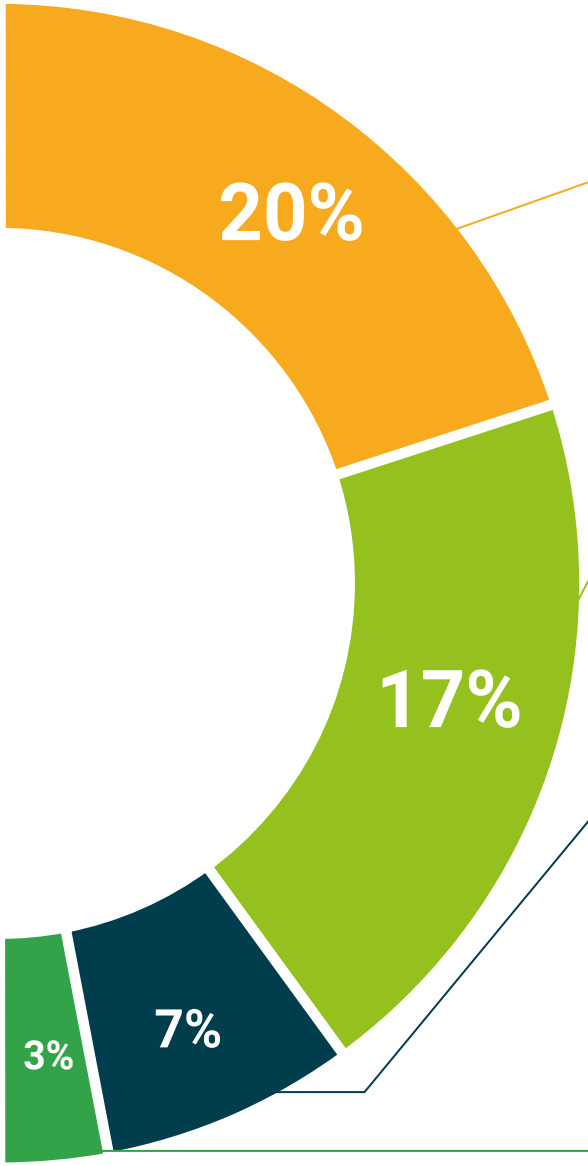
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.

Testing & Re-Testing

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

Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.

07

Certificate

This Advanced Master's Degree in Anesthesia and Surgery in Small Animals guarantees you, in addition to the most rigorous and up-to-date training, access to a Advanced Master's Degree issued by TECH Global University.

Successfully complete this training program and receive your university certificate without travel or laborious paperwork"

This program will allow you to obtain your **Advanced Master's Degree diploma in Anesthesia and Surgery in 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: **Advanced Master's Degree in Anesthesia and Surgery in Small Animals**

Modality: **online**

Duration: **2 years**

Accreditation: **120 ECTS**


tech global university

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

Advanced Master's Degree in Anesthesia and Surgery in Small Animals

This is a program of 3,000 hours of duration equivalent to 120 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
Chancellor

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


Advanced Master's Degree in Anesthesia and Surgery in Small Animals

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	Introduction. Anaesthetic Equipment	6	CO
1º	Physiology and Pharmacology Related to Anesthesia	6	CO
1º	Anesthetic Timing	6	CO
1º	Analgesia	6	CO
1º	Locoregional Anesthesia/Analgesia	6	CO
1º	Monitoring	6	CO
1º	Anesthetic Complications	6	CO
1º	Anesthetic Management in Specific Situations I	6	CO
1º	Anesthetic Management in Specific Situations II	6	CO
1º	Anesthetic Management in Specific Situations III	6	CO
1º	Basic Principles of Soft Tissue Surgery. Medical-surgical Techniques. Exploratory Laparotomy	6	CO
1º	Skin. Treatment of Wounds and Reconstructive Surgery	6	CO
2º	Gastrointestinal Surgery	6	CO
2º	Genitourinary Surgery. Mammary Surgery	6	CO
2º	Surgical Oncology. Basic Principles. Cutaneous and Subcutaneous Tumors	6	CO
2º	Liver and Biliary System Surgery Spleen Surgery Endocrine System Surgery	6	CO
2º	Head and Neck Surgery	6	CO
2º	Thoracic Cavity Surgery	6	CO
2º	Amputations: Thoracic Limb, Pelvic Limb, Caudectomy, Phalanges. Umbilical, Inguinal, Scrotal, Traumatic, Perineal, Diagrammatic and Peritoneopericardial Diaphragmatic Hernias	6	CO
2º	Minimally Invasive Surgery Laparoscopy Thoracoscopy Interventional Radiology	6	CO

Dr. Pedro Navarro Illana
Chancellor

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*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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Advanced Master's Degree
Anesthesia and Surgery in Small Animals

- Modality: **online**
- Duration: **2 years**
- Certificate: **TECH Global University**
- Credits: **120 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Advanced Master's Degree

Anesthesia and Surgery in Small Animals

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