

**Traumatology and Surgery**

Code: 104671  
ECTS Credits: 3

Degree	Type	Year	Semester
2502445 Veterinary Medicine	OT	5	A

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

### Contact

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### Use of Languages

Principal working language: catalan (cat)  
Some groups entirely in English: No  
Some groups entirely in Catalan: Yes  
Some groups entirely in Spanish: No

### Teachers

María Carmen Díaz-Bertrana Sánchez  
Katrin Steffanie Rappe

### Prerequisites

Although there are no specific mandatory prerequisites, the student is recommended to have passed subjects such as Animal Reproduction, Pharmacology, Surgery and Anesthesiology in the third year and Medicine and Surgery in Pets I and II in the fourth year.

### Objectives and Contextualisation

Advances in Traumatology and Soft Tissue Surgery is a subject that aims to provide students advanced knowledge in the subjects of Traumatology and Soft Tissue Surgery. With this subject the student achieves advanced clinical knowledge in pathologies of surgical treatment affecting both soft tissues or the musculoskeletal system.

The main training objectives of the subject are:

Acquire the ability to develop different diagnostic protocols for surgical pathologies and traumatology.

Be able to carry out a surgical therapeutic plan adapted to each clinical case.

Know the basics of a complete traumatological examination fundamental for the subsequent diagnosis of different pathologies.

Properly understand the basics of the most advanced surgical techniques in soft tissue surgery and traumatology.

### Competences

- Analyse, synthesise and resolve problems and make decisions.
- Apply scientific method to professional practice, including medicine

- Apply the basic cures that guarantee the correct function of the reproduction cycle and the resolution of obstetric problems.
- Attend to emergencies and perform first aid in veterinary science.
- Collect, preserve and issue all types of samples with the corresponding report.
- Demonstrate knowledge and understanding of the general bases of medical and surgical treatments.
- Demonstrate knowledge of the rights and duties of the veterinarian, with a special focus on ethical principles
- Diagnose different individual and collective animal diseases, and know about prevention measures, with emphasis on zoonoses and notifiable disease.
- Diagnose the most common diseases using different general and instrumental techniques.
- Have basic knowledge of the profession, and in particular of the organisation and functions of professional practice.
- Make clinical records and accurate and complete clinical exploration of animals.
- Perform basic analytical techniques and interpret the clinical, biological and chemical results, and interpret the results of tests generated by other laboratories.
- Perform the most common medical and surgical treatments of animals.
- Prescribe and dispense medicines correctly and responsibly in accordance with legislation, and ensure that the medicines and waste are stored and eliminated properly.
- Properly apply the principles of sterilisation of surgical equipment and the principles of surgical asepsis.
- Recognise when euthanasia is necessary and perform it humanely by employing the appropriate method.
- Safely perform sedations and regional and general anaesthesia, and evaluate and control the pain.
- Treat and handle animals in a safe and humanitarian manner, and instruct other people to properly employ these techniques.

## Learning Outcomes

1. Adequately close surgical wounds of different considerations.
2. Analyse, synthesise and resolve problems and make decisions.
3. Apply and interpret control and surveillance systems in ICU, hospitalisation and surgery, specifically in complex interventions on animals with serious disorders of the general state or interventions in neurology, ophthalmology, traumatology and orthopaedics or special surgery.
4. Apply ethical values that govern the behavior of veterinarians in clinical practice in relations with other veterinarians.
5. Apply scientific method to professional practice, including medicine
6. Apply the concepts acquired for recognition and manipulation of instruments, manipulation of tissues, haemostasis, drainage and sutures, as well as helping effectively in surgical interventions recognising the typical instruments of surgical specialities (traumatology and orthopaedics, thoracic surgery, ophthalmology, neurology, exotic...).
7. Care for neonates after delivery or a caesarean.
8. Defend the ethical values that determine the decision making in diagnostic procedures, medical or surgical treatment or any medical procedure, subject to the rights of animals and their owners.
9. Define the general principles of special surgery (thoracic, tumours, special surgery of the digestive system...).
10. Define the problems found in physical examinations or clinical record of an animal, and produce a list of problems, differential diagnosis and the diagnostic protocol in all clinical specialities and for different species.
11. Determine the ideal positions to obtain radiographic images of the different pathological processes and X-rays and use and apply contrast methods in small, equine, exotic and zoo animals.
12. Diagnose and treat the main traumatology and orthopaedic disorders in small animals and equines.
13. Evaluate whether the concepts of asepsis-antisepsis, preparation of surgery and preparation of the surgical patient and the material and instruments to be used have integrated properly, along with their application to the operating theatre depending on the type of intervention and the animal species.
14. Explain the general principles of the medical and surgical treatments of traumatology and orthopaedic disorders in small, equine and exotic animals.
15. Fill in anamnesis and exploration records in all clinical specialities.
16. Fill in reports on surgical and diagnostic techniques used on patients.
17. Handle different autochthonous wildlife species in a safe way for them and the veterinarian.

18. Hold animals when performing examinations, caring or taking samples in a way that causes the minimum possible stress and be able to explain to other people how to do the same.
19. Identify and treat the processes that affect the reproduction apparatus of male and females in small, equine and exotic animals.
20. Identify the biopsy techniques that can be applied for obtaining samples of different organs and tissues.
21. Identify the conditions in which euthanasia is the only possible option, or the most suitable, depending on the general state of the sick animal and appropriately propose this to the owners.
22. Interpret the results of diagnostic tests (analytical tests, X-rays, echography, endoscopy, PCR, serology...) that are fundamental for advanced diagnosis in the medication and surgery of small, equine and exotic animals.
23. Monitor animals during surgical and/or anaesthetic recovery in different species, including wildlife.
24. Objectively evaluate the pain of sick animals and decide on the analgesia scheme depending on the species, age, location and cause of the pain and the state of the patient.
25. Perform a hemogram and blood test with emergency equipment, and recognise the limitations of these systems and defend interpretations.
26. Perform differential diagnoses and diagnostic plans, taking into account the available complementary techniques applied to all clinical specialities and different species.
27. Perform the basic surgical procedures of different clinical specialities and take samples in small, equine, exotic and zoo animals.
28. Plan the most suitable anaesthetic protocol depending on the animal species and the general state of the patient, as well as the type of intervention required.
29. Properly apply euthanasia to small, equine and exotic animals.
30. Properly apply knowledge acquired on sedation and pain therapy to interventions in the nervous system, ophthalmology, traumatology and orthopaedics, and special surgery.
31. Properly calculate the doses of medicine for different animal species. Know the limitations of some drugs depending on the species or even the breed, as well as the specific contraindications.
32. Properly treat wounds (cleansing, debridement and additional cures) and apply basic bandages.
33. Properly use all radiographic protection measures and describe applicable legislation.
34. Realise complete basic examinations in different clinical specialities (dermatology, neurology, ophthalmology, traumatology and orthopaedics...).
35. Recognise personal limitations and know when to ask for professional advice and help.
36. Recognise the adverse effects that different medications can cause and observe established pharmacovigilance legislation
37. Recognise the disorders that require urgent assistance and know how to prioritise them by severity.
38. Recognise the main problems that will require emergency surgery.
39. Recognise the moment when a case needs to be passed to a specialist for diagnosis and/or treatment, and if required, or not, an urgent examination.
40. Show responsibility regarding the need to perform necessary complementary tests on the patient and know how to evaluate the meaning and integrate it in the evolution of hospitalised patients of different species.

## Content

### THEORY CONTENT (16hs)

The theoretical contents will be taught in a non-contact format and the duration of each topic is indicative depends on ourselves

Topic 1: Traumatologic Patient Examination. (1h)

Topic 2: Premature physeal closures and growth diseases. (1h)  
 Topic 3: Scapular-humeral joint. (1h)  
 Topic 4: Elbow dysplasia I. (1h)  
 Topic 5: Hip Dysplasia I (1h)  
 Topic 6: Hip Dysplasia II (1h)  
 Unit 7: Hip luxation. (1h)  
 Item 8: Patellar luxation. (1h)  
 Topic 9: Rupture of the anterior cruciate ligament I. (1h)  
 Topic 10: Rupture of the anterior cruciate ligament II. (1h)  
 Topic 11: Arthrodesis. (1h)  
 Unit 12: Muscle-tendon pathologies. (1h)  
 Topic 13: Surgery of the rectum and anus. (1h)  
 Topic 14: Male and Female Genital System Surgery I (1h)  
 Topic 15: Perineal Hernias and Salivary Glands (1h)  
 Topic 16: Endocrine system surgery. Thyroid tumors. Pancreatic tumors.

## PRACTICE CONTENT (20hs)

Non-presential workshops

SESP Seminars

- 1.-AO method
- 2.-Surgical approaches
- 3.-Interlocking Nails
- 4.-Clinical cases of forelimb fractures
- 5.-Clinical cases of hindlimb fractures

Presential workshops

PLC  
 Traumatology Workshop  
 PCAs  
 Traumatology Consultations and Surgeries at HCV. In case that not all th  
 "\*\*Unless the requirements enforced by the health authorities demand a p

## Methodology

The teaching methodology, based on a semi-face-to-face format, includes the presentation in digital format (tear

"\*The proposed teaching methodology may experience some modifications depending on the restrictions to face-to-face activities enforced by health authorities."

## Activities

Title	Hours	ECTS	Learning Outcomes
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Type: Autonomous

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Study and non-contact training	39	1.56	12, 39
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## Assessment

The evaluation will be based on:

Short questions related to seminars and workshop (25%)

Multiple choice questions about the topics (50%)

Assessment of radiographs or clinical images related to the subjects (25%)

"\*Student's assessment may experience some modifications depending on the restrictions to face-to-face activities enforced by health authorities."

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Assessment of x-rays and clinical-case images related to the matter	25%	8	0.32	2, 30, 5, 12, 16, 39
Multiple choice questions	50%	16	0.64	2, 30, 29, 5, 6, 4, 3, 7, 31, 8, 9, 10, 40, 11, 12, 14, 26, 27, 25, 19, 21, 20, 22, 17, 23, 16, 15, 28, 34, 39, 36, 38, 37, 35, 18, 1, 32, 33, 24, 13
Short questions related to seminars and workshop	25%	12	0.48	5, 12, 14, 39

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## Bibliography

DeCamp CE (2016) Brinker WO, Piermattei DL, Flo GL. Handbook of Small Animal Orthopedics & Fracture Treatment. 5th Ed. WB Saunders Co. Philadelphia. 2016.

Fossum TW. (2018) Small Animal Surgery. 5a ed. Elsevier, St. Louis

Donald L. Piermattei, Kenneth A. Johnson. An Atlas of Surgical Approaches to the Bones and Joints of the Dog and Cat. Saunders 2014.

Franch J. López C (2017). Atlas de abordajes quirúrgicos en traumatología canina. Multimedica. Barcelona.