Universitat Autònoma de Barcelona

2020/2021

Clinical Reasoning and Clinical Pathology of Small Animals

Code: 104670
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

Name: Josep Pastor Milán
Email: Josep.Pastor@uab.cat

Use of Languages

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

Other comments on languages

The seminars (SESP) and the classroom practices (PAUL) will be conducted in English

Teachers

Teresa Rigau Mas
Rafael Ruíz de Gopegui Fernández
Laia Maria Solano Gallego
Carlos Torrente Artero
Marta Planellas Bachs

Prerequisites

There are no prerequisites, but it is strongly recommended that students review the concepts and diseases studied in the course " Medicina i Cirurgia d'Animals de companyia I , MiCAC-I".

Objectives and Contextualisation

The objective of the course is to provide the student with the tools to carry out reasoned clinical approaches, based on a list of problems, differential diagnoses with the correct interpretation of analytical tests followed with a diagnostic plans according to each clinical situation.

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.
- 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. Administer chemotherapy agents in accordance with safety standards for work with toxic products and recognise their uses and secondary effects in animals (protection and waste regulations).
2. Analyse, synthesise and resolve problems and make decisions.
3. Apply advanced knowledge of internal medicine in small, equine and exotic animals.
4. Apply ethical values that govern the behavior of veterinarians in clinical practice in relations with other veterinarians.
5. Apply methods of cardiopulmonary resuscitation in emergency conditions.
6. Apply scientific method to professional practice, including medicine
7. 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...).
8. Be responsible for the medication and daily care of patients (small, equine and exotic animals).
9. 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.
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. Demonstrate basic notions and practices of assisted reproduction in pets and equines.
12. 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.
13. Diagnose, treat and issue prognosis of the main problems with neonate and geriatric patients that affect small, equine and exotic animals.
14. Diagnose, treat and issue prognosis of the main types of oncological disorders that affect small, equine and exotic animals.
15. Dispense and administer fluids, drugs and other treatments indicated (O2?) for sick animals.
16. Evaluate in writing the clinical progress of the patient during its time in hospital.
17. Fill in anamnesis and exploration records in all clinical specialities.
18. Fill in and understand medication and follow-up forms on hospitalised animals and be able to administer the prescribed treatments.
19. Handle different autochthonous wildlife species in a safe way for them and the veterinarian.

20. 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.
21. Identify and treat the processes that affect the reproduction apparatus of male and females in small, equine and exotic animals.
22. Identify the available laboratory methods to perform hemograms and determine biochemical parameters, advantages and disadvantages of different systems, and recognise the derived complications of treatment and/or obtainment of a sample.
23. Identify the biopsy techniques that can be applied for obtaining samples of different organs and tissues.
24. 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.
25. Identify the types, indications and limitations of radiotherapy.
26. Identify, treat and prevent the problems that affect neonates.
27. Interpret X-rays and echography, and have basic knowledge of the interpretation of MR and IMR applied to clinical cases. Know the indications and limitations of different techniques (with and without contrast, type of apparatus, limitations...) in small, equine, exotic and zoo animals
28. 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.
29. 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.
30. Obtain a sample for microbiological culture.
31. Obtain blood (jugular, cephalic, saphenous, arterial), synovial, peritoneal, AT, LBA and urine samples from different animal species, and process them for dispatch to the laboratory.
32. Perform a hemogram and blood test with emergency equipment, and recognise the limitations of these systems and defend interpretations.
33. Perform cytology (surface masses, skin, ear, conjunctive...), recognise the indications and limitations, fixate and stain cells, and defend interpretations.
34. Perform differential diagnoses and diagnostic plans, taking into account the available complementary techniques applied to all clinical specialities and different species.
35. 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.
36. Practise basic procedures in emergency situations.
37. Prepare an animal for echography, recognise the type of probe and suitable positioning for exploration of the different organs and/or tissues in small, equine, exotic and zoo animals.
38. Properly apply euthanasia to small, equine and exotic animals.
39. 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.
40. Properly fill in forms requesting biopathological and histopathological analyses of pertinent samples of pet, equine, exotic or zoo animals.
41. Recognise cases where methods of hospitable nutrition are to be applied and know how to choose the most suitable administration method depending on the animal species, the general state of the patient and the type of pathology.
42. Recognise pathological changes in X-rays, echography, endoscopies, CAT and MR and interpret them properly.
43. Recognise personal limitations and know when to ask for professional advice and help.
44. Recognise the adverse effects that different medications can cause and observe established pharmacovigilance legislation
45. Recognise the disorders that require urgent assistance and know how to prioritise them by severity.
46. Recognise the main problems that will require emergency surgery.
47. 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.
48. Recognise the utility of complementary techniques such as Doppler, ultrasound biomicroscopy, mode A echography, etc.
49. Responsibly store necessary drugs in accordance with the law (opiates, etc.)
50. 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.
51. Stabilise animals with convulsive seizures.

52. Stabilise critical animals.
53. Use the necessary basic knowledge to deal with an animal with a cardiologic disorder (small, equine and exotic animals).

Content

Schedule of the course:

A) 9 theoretical classes:

1h: Introduction to clinical reasoning.
1h: Fever of unknown origin.
1h: Anorexia and weight loss.
1h: Polyuria / Polydipsia.
1h: Vomiting and regurgitation.
1h: Diarrhea.
1h: Dyspnoea, cough and sneezing.
1h: Decision making in clinical emergencies.
1h: Infertility.

- For the academic year 2020-21, asynchronous presentations will be given for each topic, and two clinical cases to be solved and a questionnaire to be delivered to comment in the team meetings on the corresponding topics. A synchronous team meeting will be held for every 4 theory topics.

B) Classroom seminars. 5 seminars of two hours. Students with clinical cases presented by the teacher will practice their reasoning strategies and the concepts of clinical pathology. The main objectives of the seminars are the interpretation of analytical and clinical data as a complement to the theoretical classes.

- 5 asynchronous seminars will be held to discuss with students distributed in 3 groups in a team meeting for each group and seminar.

C) Parctical Classrooms (PAUL): Two tseminars will be held. The objectives of the seminars will be to practice cases of arrhythmias and alterations of the acid-base equilibrium.

- There will be an asynchronous activity with exercises to solve in a team meeting scheduled for each seminar.

D) Clinical practices (PCA):

- In previous courses it used to be 8 hours of practices at the HCV during two days (4 hours (day), for this academic year there will be 4 horus at the hCV and 4 hours with be done with clinical cases associated with theory classes. *

**Unless the requirements enforced by the health authorities demand a prioritization or reduction of these contents.*

Methodology

The course will use different methodologies to achive its objectives. Mainly:

1.- Discussion of clinical csases to ilustrate the most common clinical problems.

2.- Examples of clinical pathologic results and their clinical interpretation.

3.- Traditional lectures to provide basic information.

All above will be conducted by a asyncronomous model with teams meetings and activities at the HCV.*

**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
Type: Directed			
Lectures	9	0.36	2, 6, 3, 4, 5, 39, 9, 10, 50, 13, 14, 34, 21, 26, 27, 36, 42, 44, 46, 48, 45, 53, 29
PAUL	4	0.16	2, 6, 3, 14, 53
PCA	8	0.32	1, 2, 6, 3, 4, 5, 16, 9, 10, 50, 13, 14, 15, 52, 33, 34, 32, 28, 27, 31, 30, 40, 18, 17, 36, 42, 47, 44, 46, 41, 20, 53, 29
SESP	10	0.4	2, 6, 3, 4, 9, 50, 13, 14, 34, 22, 46, 43, 53
Type: Autonomous			
Study	24	0.96	2, 6, 3, 39, 10, 13, 14, 15, 23, 26, 37, 47, 48, 43, 29

Assessment

The evaluation of the course will be continuous with the delivery of the questionnaires of the theoretical classes (30%), of the seminars (10%) and delivery of the resolution of the cases that represent the replacement of the PCA-HCV (30% of the note). Classroom seminars will have their own evaluation, when solving a case or presenting a case in seminar 5 and will count 30% of the grade. *

**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
Lectures and PAUL	40%	2	0.08	2, 3, 50, 13, 14, 28, 44, 45
PCA	30%	8	0.32	1, 2, 38, 6, 7, 3, 4, 5, 16, 39, 9, 10, 11, 50, 12, 13, 14, 15, 51, 52, 33, 34, 32, 49, 22, 25, 21, 24, 23, 26, 28, 27, 19, 31, 30, 40, 18, 17, 35, 36, 37, 42, 47, 44, 46, 41, 48, 45, 43, 8, 20, 53, 29
Seminars	30%	10	0.4	2, 6, 13, 14, 28, 47

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