



AUSTRALIAN AND NEW ZEALAND COLLEGE OF VETERINARY SCIENTISTS

FELLOWSHIP GUIDELINES

Canine Medicine

ELIGIBILITY

1. The candidate must meet the eligibility prerequisites for Fellowship outlined in the *Fellowship Candidate Handbook*.
2. Membership of the College must be achieved prior to the Fellowship examination.
3. Membership must be in canine or small animal medicine.

OBJECTIVES

To demonstrate that the candidate has attained sufficient knowledge, training, experience, and accomplishment to meet the criteria for registration as a specialist in Canine Medicine.

LEARNING OUTCOMES

1. The candidate will have a **detailed**¹ knowledge of:
 - 1.1. the aetiology, pathogenesis and pathophysiology of organ dysfunction in the dog;
 - 1.2. the diagnosis, differential diagnoses, pathophysiology treatment and management of canine diseases;
 - 1.3. diagnostic tests and procedures as these apply to the diagnosis of disease conditions in the dog;
 - 1.4. preventive medicine as it applies to the dog.

¹ Knowledge Levels:

Detailed knowledge - candidates must be able to demonstrate an in-depth knowledge of the topic including differing points of view and published literature. The highest level of knowledge.

Sound knowledge – candidate must know all of the principles of the topic including some of the finer detail, and be able to identify areas where opinions may diverge. A middle level of knowledge.

Basic knowledge – candidate must know the main points of the topic and the core literature.

2. The candidate will have a **sound** knowledge of:
 - 2.1. canine anatomy, physiology and pharmacology;
 - 2.2. chemotherapeutics, vaccines and biologics used for the treatment, prevention and control and management of canine diseases;
 - 2.3. canine nutrition and husbandry, especially as it applies to the management of disease conditions, paediatrics, geriatrics and other special life stage or training requirements;
 - 2.4. canine diseases exotic to Australia and New Zealand but which could be of potential significance or important to canine health in Australia and New Zealand;
 - 2.5. the measures to reduce the public health significance of those diseases of the dog which are zoonotic.

3. The candidate will **be able to**:
 - 3.1. with **detailed**² diagnostic expertise, collect, interpret and record clinical data in complex canine cases including
 - 3.1.1. historical and physical examinations of all body systems;
 - 3.1.2. the results of clinical pathology investigations;

 - 3.2. with **sound** diagnostic expertise, collect, interpret and record clinical data in complex canine cases including
 - 3.2.1. the results of diagnostic imaging examinations including radiography, fluoroscopy, ultrasound, computed tomography and magnetic resonance imaging

 - 3.3. perform the following technical procedures, with a **detailed** level of expertise;
 - 3.3.1. administration of cytotoxic chemotherapy
 - 3.3.2. biopsy techniques (fine needle aspiration and cutting needle core samples, with and without imaging guidance)
 - 3.3.3. blood pressure measurement
 - 3.3.4. body cavity centesis: thoracic, abdominal, pericardial
 - 3.3.5. bone marrow biopsy & aspiration
 - 3.3.6. cerebrospinal fluid collection
 - 3.3.7. electrocardiography (routine)
 - 3.3.8. endoscopy of the respiratory, alimentary and genitourinary tracts

² Skill levels:

Detailed expertise – the candidate must be able to perform the technique with a high degree of skill, and have extensive experience in its application. The highest level of proficiency.

Sound expertise – the candidate must be able to perform the technique with a moderate degree of skill, and have moderate experience in its application. A middle level of proficiency.

Basic expertise – the candidate must be able to perform the technique competently in uncomplicated circumstances.

- 3.3.9. interventional/therapeutic endoscopy
- 3.3.10. joint fluid aspiration
- 3.3.11. thoracostomy tube placement
- 3.3.12. transtracheal aspiration & bronchoalveolar lavage

- 3.4. perform the following technical procedures, with a **sound** level of expertise;
 - 3.4.1. arterial blood gas sample collection
 - 3.4.2. central line placement and central venous pressure measurement
 - 3.4.3. electrocardiography –ambulatory event-based and continuous recorders
 - 3.4.4. electromyography, nerve conduction studies, brainstem auditory evoked response evaluation
 - 3.4.5. enteral nutrition tube placement
 - 3.4.6. partial and total parenteral nutrition
 - 3.4.7. peritoneal dialysis
 - 3.4.8. prostatic massage/ejaculate collection

- 3.5. analyse complex clinical problems and make sound clinical judgements
- 3.6. communicate effectively with clients, referring veterinarians and peers;
- 3.7. integrate these skills to provide high quality care for dogs with the most efficient use of resources in a manner that is responsive to the owner’s needs and wishes;
- 3.8. evaluate and incorporate new scientific information relevant to the practice of canine medicine;
- 3.9. advance knowledge in canine medicine through clinical innovation, research and publication

EXAMINATIONS

Refer to the *Fellowship Candidate Handbook*, Section 5.

The Fellowship examination has **four separate, autonomous components**:

1. **Written Paper 1** (*Component 1*)
Principles of the Subject (four hours)
2. **Written Paper 2** (*Component 2*)
Applied Aspects of the Subject (four hours)
3. **Practical Examination** (*Component 3*)
Practical (three hours)
4. **Oral Examination** (*Component 4*)
Oral (two hours)

The written examination will comprise of two separate four-hour written papers taken on two consecutive days. There will be an additional 20 minutes perusal time for each paper, during which no writing in an answer booklet is permitted. In each paper you are provided with five (5) questions to answer, worth 48 marks each, giving a total of 240 marks per paper. There is no choice of questions. Marks allocated to each question and to each subsection of questions will be clearly indicated on the written paper.

Written Paper 1:

This paper is designed to test the Candidate's knowledge of the principles of Canine Medicine as described in the Learning Outcomes using essay-style, short answer and note-point formats. Answers may cite specific examples where general principles apply, but should primarily address the theoretical basis underlying each example.

Written Paper 2:

This paper is designed to (a) test the Candidate's ability to apply the principles of Canine Medicine to particular cases/problems or tasks, and to (b) test the Candidates' familiarity with current practices and current issues that arise from activities within the discipline of Canine Medicine in Australia and New Zealand using essay-style, short answer and note-point formats. The Candidate may be required to justify their clinical approach and treatment options using their knowledge of pathophysiology and pharmacology.

Practical Examination:

The practical examination is designed to test practical aspects of the Learning Outcomes. Candidates will be required compose short written answers (each requiring 5 –15 minutes) pertaining to case-based material presented. Candidates must demonstrate deep understanding and practical application of equipment used in Canine Medicine. No perusal time will be given for the practical exam. The practical will consist of a series of fifteen (15) questions with sub-questions, equating to a total of 150 marks. Marks allocated to each question and to each sub-section will be clearly indicated on the written paper. Patient images or videos, radiographs, ultrasound images, CT studies, MR images, ECG recordings, EMG recordings, NCV recordings, cytology images as well as copies of pathology, radiography or other ancillary test reports are likely to be used during this examination.

Oral Examination:

The oral examination (1-2 hours) may cover case-based material or more general discussion, including areas of recent interest or controversy in Canine Medicine.

The oral examination may cover case-based material or more general discussion, including areas of recent interest or controversy in Canine Medicine. The oral examination is designed to test practical aspects of the Learning Outcomes. To pass this examination, the candidate must be able to demonstrate the required level of knowledge in the Learning Outcomes to the examiners and to support their opinions with citations of the veterinary literature. Five (5) cases or topics are presented with supporting questions asked verbally in a face-to-face setting. The oral examination has a total of 100 marks with each case/topic allocated 20 marks. Images and pathology reports are likely to be used during this examination.

TRAINING PROGRAMS

Refer to the *Fellowship Candidate Handbook*, Section 3.3.

In addition to the Requirements of the *Fellowship Candidate Handbook*, the Chapter imposes the following additional requirements.

1. Minimum thresholds to be accomplished

The Chapter requires the candidate to document, within the Activity Log Summary, a minimum of 500 (five hundred) cases over the training period. Cases suitable for inclusion are those where the candidate is the primary clinician performing the majority of the clinical procedures and client communication on the case. Revisit appointments on the same case for the same presenting problem are NOT to be entered separately in the Activity Log Summary.

In an attempt to ensure adequate exposure to the variety of medical cases seen in specialist practice, the Chapter suggests the following minimum of cases per organ system (as set out in the Activity Log Summary):

Neurological	30
Haematopoietic	30
Endocrine	30
Respiratory	30
Cardiovascular	30
Alimentary	30
Genito-Urinary	30
Musculo-Skeletal	15
Infectious	30

Any single case can be allocated to a single organ system that most appropriately describes the major clinical problem. Note that oncology is not a separate category, but cases are included in the organ system affected.

2. Techniques to be accomplished
Rather than imposing a minimum threshold of specific procedures to be performed and mastered by the candidate, the Chapter strongly advises that proficiency in and understanding of the procedures listed in the learning outcomes should be achieved prior to the time of examination and recorded in the Candidate's Activity Log Summary. The candidate may be questioned on these and any related issues in any part of the examination process.
3. The supervisor must have a recognised qualification in canine or small animal medicine.

TRAINING IN RELATED DISCIPLINES

Refer to the *Fellowship Candidate Handbook*, 2.4.2.

As stipulated by the *Fellowship Candidate Handbook*, the Candidate in Canine Medicine must spend time training in related disciplines, provided there is a predominance (>75%) of canine case material. Related disciplines are those considered relevant to the practice of canine medicine, but that are not specifically assessed under these guidelines, and may include diagnostic imaging, clinical pathology, anatomical pathology, anaesthesia and emergency & critical care. Related disciplines must be in subjects for which Australian College of Veterinary Scientists Fellowship guidelines exist. Cardiology, neurology and oncology are considered core Canine Medicine disciplines rather than related disciplines.

EXTERNSHIPS

Refer to the *Fellowship Candidate Handbook*, Section 2.4.1.

ACTIVITY LOG SUMMARY

The Activity Log Summary (ALS) should be recorded using the template example included in Appendix 1 of these guidelines. The Activity Log Summary (ALS) template samples are available from the College website.

Categories for the ALS are as follows:

- Neurological
- Haematopoietic
- Endocrine
- Respiratory
- Cardiovascular
- Alimentary
- Genito-urinary
- Musculo-skeletal
- Infectious
- Miscellaneous other (including dermatological, behavioural etc)

Note that the Techniques Log from the College website, is NOT required.

PUBLICATIONS

Refer to the *Fellowship Candidate Handbook*, Section 2.10

RECOMMENDED READING LIST

The candidate is expected to research the depth and breadth of the knowledge of the discipline under the guidance of their Supervisor. This list is intended to guide the candidate to some core references and source material. The list is not comprehensive and is not intended as an indicator of the content of the examination. Candidates should consult with their Supervisor to formulate an appropriate reading programme.

JOURNALS

Core Journals

1. *Journal of Veterinary Internal Medicine*
2. *Australian Veterinary Journal*
3. *Journal of Feline Medicine and Surgery*
4. *Journal of Small Animal Practice*
5. *Journal of the American Veterinary Medical Association*
6. *New Zealand Veterinary Journal*

Additional Journals

1. *Veterinary and Comparative Oncology*
2. *Veterinary Clinics of North America: Small Animal Practice*
3. *American Journal of Veterinary Research*
4. *Compendium of Continuing Education for the Practising Veterinarian*
5. *Journal of the American Animal Hospital Association*
6. *Journal of Veterinary Cardiology*

TEXTBOOKS

TEXTBOOKS

Core textbooks

- *Textbook of Veterinary Internal Medicine* Vols I & II. Ettinger SJ & Feldman EC, editors. 7th edn. Elsevier, 2010.
- *Kirk's Current Veterinary Therapy XV: Small Animal Practice*. Bonagura JD & Twedt DC, editors. Elsevier, 2014 (and any subsequent editions).
- *Consultations in Feline Medicine*. August JR, editor. 6th edn. Saunders, 2009 (and any subsequent editions)

Additional References

General

- *Fluid, Electrolyte and Acid-Base Disorders in Small Animal Practice*. DiBartola SP, editor. 4th edn. Saunders, 2011.
- *Small Animal Internal Medicine*. Nelson RW & Couto CG, editors. 5th edn. Mosby, 2013.

Cardiology

- *Cardiovascular Disease in Small Animal Medicine*. Ware WA. 2nd edn. Manson, 2011.
 - *Small Animal Cardiovascular Medicine*. Kittleson MD & Kienle RD. 1st edn. Mosby, 1998.
 - online edition via Veterinary Information Network includes updates:
<http://www.vin.com/Members/proceedings/Proceedings.plx?CID=SACARDIO&O=VIN>
 - *Textbook of Canine and Feline Cardiology*. Fox P, Sisson DD, Moise NS, editors. 2nd edn. WB Saunders Co, 1999.
- Manual of canine and feline Cardiology*. Tilley LP, Smith FWK, et al, editors 4th edn. WB Saunders Co, 2008.

Clinical Pathology

- *Duncan & Prasse's Veterinary Laboratory Medicine: Clinical pathology*. Latimer KS. 5th edn. Wiley-Blackwell, 2011.
- *Fundamentals of Veterinary Clinical Pathology*. Stockham SL & Scott MA. 2nd edn. Blackwell Publishing, 2008.

Diagnostic Imaging

- *Small Animal Diagnostic Ultrasound*. Nyland TG & Mattoon JS. 2nd edn. Saunders, 2002.
- *Textbook of Veterinary Diagnostic Radiology*. Thrall DE. 6th edn. Saunders, 2012.

Endocrinology

- *Canine and Feline Endocrinology and Reproduction*. Feldman EC & Nelson RW, editors. 3rd edn. Saunders, 2003.
- *Clinical endocrinology of dogs and cats*. Rjinberk A & Kooistra HS, editors 2nd edn Manson, 2010.

Haematology

- *Schalm's Veterinary Hematology*. Weiss DJ, Wardrop KT, editors. 6th edn. Wiley-Blackwell, 2010.

Immunology

- *Clinical Immunology of the Dog and Cat*. MJ Day, editor. 2nd edn. Manson Publishing, Ltd, 2011.
- *Veterinary Immunology: An Introduction*. Ian R Tizard. 9th Edn. Saunders, 2012.

Infectious

- *Infectious Diseases of the Dog and Cat*. Greene CE, editor. 4th edn. Saunders, 2011.

Neurology

- *Braund's Clinical Neurology in Small Animals - Localisation, Diagnosis and Treatment*. Vite CH, Braund KG, editors. <http://www.ivis.org/advances/Vite/toc.asp>
- *BSAVA Manual of Canine and Feline Neurology*. Platt SR, Olby NJ, editors. BSAVA Publications, 2013.
- *Fundamentals of Veterinary Clinical Neurology*. Bagley RS. Wiley-Blackwell, 2005.
- *Handbook of Veterinary Neurology*. Lorenz MD, Coates J, Kent M. 5th edn. Saunders, 2010.

- *Veterinary Neuroanatomy and Clinical Neurology*. De Lahunta A, Glass EN. 3rd edn. Saunders, 2008.

Nutrition

- *Small Animal Clinical Nutrition*. Hand MS, Thatcher CD, Remillard RL, Roudebush P, editors. 5th edn. Mark Morris Institute, 2010.

Oncology

- *Small Animal Clinical Oncology*. Withrow CJ, Vail D.M, editors. 5th edn. Saunders, 2012.
- *BSAVA Manual of Canine and Feline Oncology*. Dobson JM & Lascelles BD, editors. 3^d edn. BSAVA Publications, 2011.

Pharmacology

- *Veterinary Drug Handbook*. Plumb DC, editor. 7th edn. Wiley-Blackwell, 2011
- *Small Animal Clinical Pharmacology*. Maddison JE, Page S, Church DB, editors. 2nd edn. Saunders 2008.

Respiratory

- *Textbook of Respiratory Disease in Dogs and Cats*. King LG, editor. 1st edn. Saunders, 2004.

Gastroenterology

Canine and Feline Gastroenterology. Washabau RJ, Day MJ, editors. 1st Edn. Elsevier, 2012.

FURTHER INFORMATION

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