2023

AUSTRALIAN AND NEW ZEALAND
COLLEGE OF VETERINARY SCIENTISTS

MEMBERSHIP GUIDELINES

Australasian Wildlife Health Management

INTRODUCTION

These Membership Guidelines should be read in conjunction with the *Membership Candidate Handbook.*

ELIGIBILITY

Refer to Section 2 of the *Membership Candidate Handbook.*

OBJECTIVES

Membership of this chapter is an official recognition of a veterinary surgeon's knowledge and experience in the field of Australasian Wildlife Health Management. Membership is an indication to the profession and the general public of an advanced practitioner, representing a middle-tier of knowledge, competence and experience in a specific area of veterinary practice The objective of this examination is to demonstrate that the candidate has sufficient knowledge of the health management of Australasian wildlife to be able to give sound advice in this field to veterinary colleagues.

LEARNING OUTCOMES

Terminology: For the purposes of the ANZCVS Membership in Australasian Wildlife Health Management, and the Subject Guidelines outlined in this document, 'wildlife' is defined as the mammalian, avian, reptilian, and amphibian taxa native to Australia and New Zealand, with an emphasis on species commonly encountered in veterinary contexts. Fish and invertebrates are not included. This subject covers the health management of captive and free-ranging populations, and the rescue and rehabilitation of Australasian wildlife.

1. BIOLOGY

The candidate will have **basic** knowledge of:

a. The taxonomic classification, including phylogenetic groupings, of Australasian wildlife.
b. The biology of Australasian wildlife, including natural distributions, habitat, diet, reproduction, normal social structure, population dynamics and other relevant aspects of ecology.
c. Comparative anatomy and physiology of clinical significance, including commonly used methods for age and sex determination.

2. CAPTIVE MANAGEMENT

The candidate will have **sound** knowledge of:

a. the captive management and husbandry of Australasian wildlife, including reproductive management, hygiene, handling, transportation, enclosure and housing design, care of orphaned young, enrichment, identification, and record keeping.
b. the components of a comprehensive preventative health program for captive Australasian wildlife, including the evaluation and composition of appropriate diets, disease surveillance, parasite management, vaccination, pest control, and biosecurity (including quarantine considerations for regional animal movements).

3. WILDLIFE POPULATION HEALTH

The candidate will have **basic** knowledge of the principles and practices of wildlife management and conservation, including an understanding of endangered species programs, recovery teams, translocation operations, disease risk analysis and wildlife legislation.

The candidate will have **sound** knowledge of:

a. Veterinary involvement in wildlife management and conservation programs.
b. The principles and practices of disease outbreak investigation.

4. RESCUE AND REHABILITATION

The candidate will have **basic** knowledge of the current principles and practices of wildlife rescue, triage and rehabilitation.

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[1] **Knowledge levels:**
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 major literature

5. MEDICINE AND SURGERY

The candidate will have **sound** knowledge of:

a. Common diseases of Australasian wildlife in free-ranging, captive and rehabilitation settings, including aetiology, epidemiology, pathogenesis, clinical signs, diagnosis, treatment, control and prevention.
b. Commonly encountered clinical presentations of Australasian wildlife and demonstrate sound clinical decision making for individual animals and groups.
c. The collection and interpretation of clinically relevant data, including historical and environmental information, physical examination, and appropriate diagnostics, including diagnostic imaging.
d. Clinical techniques for the collection of diagnostic samples using best-accepted practice, including blood sampling, crop/gastric lavage, centesis, biopsy, and other appropriate samples for testing for common or significant diseases.
e. Common soft tissue and orthopaedic surgical procedures in Australasian wildlife.
f. The administration of appropriate therapeutics for common diseases of Australasian wildlife following best-accepted practice, including relevant considerations for drug selection and delivery method.

6. PATHOLOGY

The candidate will have **sound** knowledge of the pathology associated with common diseases of Australasian wildlife, with respect to:

a. Clinical pathology, including appropriate sample collection and the interpretation of:
    i. Haematology, biochemistry and urinalysis results.
    ii. Haematological and cytological preparations.
    iii. Microbiological cultures.
    iv. Results of relevant antibody, antigen, and molecular tests.
b. Gross pathology, including appropriate techniques for the post-mortem examination of Australasian wildlife.

The candidate will have **basic** knowledge of the histopathology of common diseases of Australasian wildlife.

7. RESTRAINT AND ANAESTHESIA

The candidate will have **sound** knowledge of methods of capture and restraint for Australasian wildlife in both field and captive settings – behavioural (e.g. via operant conditioning), physical (including capture equipment, restraint devices, and exhibit design features), and chemical restraint techniques; including:

a. The relative merits of different restraint techniques in particular scenarios.
b. The pharmacology and clinical effects of chemical restraint drugs commonly used in Australasian wildlife.
c. The safe and effective use of commonly used remote drug delivery systems.
d. Anaesthetic monitoring techniques, and measures to reduce the risk of anaesthetic complications.

8. BEHAVIOUR

The candidate will have **basic** knowledge of:

a. Normal behaviour of Australasian wildlife and the ability to recognise aberrant behaviour.
b. Approach to the diagnosis and management of behavioural problems in Australasian wildlife.
c. The principles of appropriate use of psychotropic medications in Australasian wildlife.

9. WELFARE AND ETHICS

The candidate will have **sound** knowledge of:

a. Animal welfare principles as they apply to Australasian wildlife.

b. Current approaches for the welfare assessment of Australasian wildlife, including aged animals.

The candidate will have **basic** knowledge of:

a. ethical issues that may arise in the management of Australasian wildlife.
b. animal ethics, including the role of animal ethics committees, in wildlife research.

10. ONE HEALTH

The candidate will have **sound** knowledge of the implications and outcomes of interactions between Australasian wildlife and domestic/introduced animal species or humans, including:

a. Zoonotic (and reverse zoonotic) diseases associated with Australasian wildlife: their diagnosis and treatment in animals, their control and prevention, and occupational health and safety implications for wildlife management.
b. Appropriate biosecurity measures.

The candidate will have a **basic** knowledge of:

a. The role of Australasian wildlife in disease spill-over and emergence in humans, domestic animals or introduced animal species.
b. Exotic animal diseases of relevance to Australasian wildlife living within Australasia (both captive and free-ranging), including considerations arising from the importation of animals into Australia or New Zealand.

11. COMMUNICATION

The candidate will have **basic** understanding of effective and empathetic communication with wildlife rehabilitators, keepers, members of the public and other non-veterinarians involved in wildlife care and management.

EXAMINATIONS

For information on the standard and format of both the Written and Oral examinations,candidates are referred to the Membership Candidate Handbook. The Membership examination has **two separate, components**:

1. **Written Examinations** *(Component 1)*
   Written Paper 1 (two hours): Principles of Australasian Wildlife Health Management
   Written Paper 2 (two hours): Application of the principles of Australasian Wildlife Health Management

2. **Oral Examination** *(Component 2)*
   (approximately 45 minutes)

Written Examinations

The two separate two-hour computer-based written papers are taken on the same day. There will be an additional 15 minutes of perusal time for each paper during which notes may be hand-written but no typing is permitted. In each paper there will be four (4) questions to answer, worth 30 marks each, giving a total of 120 marks per paper. All questions must be answered; there is nochoice of questions. Each of the four (4) questions may take the form of one long essay question, multi-part questions requiring a series of shorter answers, or a series of multiple-choice questions. Marks allocated to each question (and to each part for multi-part questions) will be clearly indicated on the examination paper.

Written Paper 1:

This paper is designed to test the candidate's knowledge of the principles of Australasian Wildlife Health Management as described in the Learning Outcomes. Where questions relate to general principles, answers may cite specific examples, but should primarily demonstrate an understanding of the underlying theoretical basis.

Written Paper 2:

This paper is designed to (a) test the candidate's ability to apply the principles of Australasian Wildlife Health Management to particular cases/problems or tasks and (b) test the candidate's familiarity with the current practices and issues within the discipline of Australasian Wildlife Health Management in Australia and New Zealand.

Oral Examination:

This examination requires the candidate to demonstrate achievement of the Learning Outcomes through the discussion of case material or relevant scenarios with two examiners via an online video conferencing platform (e.g. Zoom). A series of principal questions are presented sequentially, each question typically comprising a series of parts that relate to different aspects of the presented case/scenario. The number of principal

questions will be indicated at the commencement of the oral examination.

The oral examination has a total of 100 marks with each question allocated equal marks. The duration of this examination is approximately forty-five (45) minutes. Questions will be in the form of both short answers and more extended discussions that may include, but are not limited to case management, techniques and procedures, interpretation of diagnostic findings, and species identification. Questions may have supporting images or information that the candidate will be required to interpret.

RECOMMENDED READING MATERIAL

The candidate is expected to read widely across the scope of the Subject Guidelines. The following is a suggested list of reference material to support the candidate in their preparation for examination. Candidates should seek guidance from their mentor on additional resources and approach to preparation for the exam.

General Wildlife Health Management

- Rose K. *Wildlife Health Investigation Manual*. The Australian Registry of Wildlife Health, 2021.

- Relevant chapters in Miller RE *et al*. (2015, 2019, 2023). *Fowler's Zoo and Wild Animal Medicine*, volumes 8, 9, and 10. Elsevier.

Australian Mammals

- Vogelnest L, Portas T (2019) Current Therapy in Medicine of Australian Mammals. CSIRO Publishing.

- Vogelnest L, Woods R (2008) Medicine of Australian Mammals. CSIRO Publishing.

Avian

Comprehensive texts in avian medicine and surgery to complement relevant avian chapters in other reference material listed. For example:

- Speer BL (2016) Current Therapy in Avian Medicine and Surgery.

- Doneley B (2016) Avian medicine and surgery in practice: companion and aviary birds. CRC press.

Reptiles and Amphibians

Comprehensive texts in reptile and amphibian medicine and surgery, to complement relevant reptile and amphibian chapters in other reference material listed. For example:

- Divers SJ, Stahl SJ (2018) Mader's Reptile and Amphibian Medicine and Surgery. Elsevier Health Sciences.

- Doneley B, Monks D, Johnson R, Carmel B, Wiley J (2018) Reptile medicine and surgery in clinical practice. Wiley Blackwell.

Chemical Restraint

A good comprehensive text on chemical restraint of wildlife, outlining general principles and approach to relevant taxa to complement other reference material listed. For example:

- West G, Heard D, Caulkett N (2014) Zoo Animal and Wildlife Immobilization and Anesthesia. 2nd Edition. Wiley-Blackwell.

Web-Based Resources

- Relevant Wildlife Health Australia resources, including:

    - Fact Sheets
      https://www.wildlifehealthaustralia.com.au

    - National Wildlife Biosecurity Guidelines

https://www.wildlifehealthaustralia.com.au/Portals/0/Documents/ProgramProjects/National_Wildlife_Biosecurity_Guidelines.PDF

  - National Guidelines for the Management of Disease in Free-ranging Wildlife https://wildlifehealthaustralia.com.au/Portals/0/Documents/ProgramProjects/National_Guidelines_Management_Disease_Freeranging_Aust_Wildlife_Nov_2020.pdf

- IUCN 2013 Guidelines for Reintroductions and Other Conservation Translocations https://portals.iucn.org/library/efiles/documents/2013-009.pdf

- IUCN 2014 Guidelines for Wildlife Disease Risk Analysis https://portals.iucn.org/library/sites/library/files/documents/2014-006.pdf

- AUSVETPLAN Operational Manual – Wild Animal Response Strategy https://animalhealthaustralia.com.au/ausvetplan/

- National Zoo Biosecurity Manual https://zooaquarium.org.au/public/Public/Animal-Welfare/Biosecurity.aspx

- World Association of Zoos and Aquariums resources, including Animal Welfare Strategy https://www.waza.org/priorities/animal-welfare/animal-welfare-strategies

Peer-Reviewed Journals
Candidates are encouraged to deepen their knowledge of important topics and recent developments in Australasian wildlife health management through targeted reading of relevant peer-reviewed articles.

FURTHER INFORMATION

For further information contact The College Office:

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