



**AUSTRALIAN AND NEW ZEALAND
COLLEGE OF VETERINARY SCIENTISTS
MEMBERSHIP GUIDELINES**

Avian Medicine and Surgery

INTRODUCTION

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

ELIGIBILITY

The candidate shall meet the eligibility prerequisites for Membership outlined in the *Membership Candidate Handbook*.

OBJECTIVES

To demonstrate that the candidate has acquired a high level of knowledge and competence in the principles and application of the medicine and surgery of companion, aviary and wild birds, and is able to give sound advice in this field to veterinary colleagues.

Membership of the College is an official recognition of a veterinarian's knowledge and experience in Avian Medicine and Surgery. 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 Avian Medicine and Surgery. Membership is not a specialist qualification. Membership requires examination with members signified by post-nominals MANZCVS.

LEARNING OUTCOMES

Definition

These guidelines relate to the discipline of Avian Medicine and Surgery which includes veterinary care for companion, aviary and wild birds which are likely to be encountered in avian practice in Australia and New Zealand including:

- Native and exotic bird species which are kept as companion or aviary birds
- Backyard show and pet poultry, including waterfowl and game birds (but not commercial poultry)
- Pigeons

- Native and non-native wild birds found in Australia and New Zealand including pelagic (birds that spend a large portion of their lives on the open ocean) species
 - Other species such as ratites (ostrich, emu, cassowary and kiwi) and other birds kept as zoological specimens.
1. The candidate will have a **sound knowledge**¹, in birds commonly kept in Australia and New Zealand, of:
 - 1.1. Principles of Avian Medicine
 - a. Anatomy and physiology, of the following, including knowledge of significant differences between genera and species where clinically relevant
 - i. Integument
 - ii. Musculoskeletal system
 - iii. Respiratory system
 - iv. Gastrointestinal system
 - v. Metabolic system
 - vi. Cardiovascular system
 - vii. Urinary system
 - viii. Reproductive system
 - ix. Nervous system and special senses, including the eyes and ears
 - b. Taxonomy
 - c. Nutrition and husbandry of commonly kept species including during hospitalisation / rehabilitation.
 - d. The aetiology, pathogenesis, pathophysiology, and epidemiology of infectious and non-infectious avian diseases.
 - e. Measures to reduce the public health significance of those diseases of birds that are zoonotic
 - 1.2. Application of Avian Medicine
 - a. Clinical techniques for avian patients including, but not limited to:
 - i. Restraint and handling
 - ii. The conduct of a detailed physical examination
 - iii. Supportive care, fluid therapy, blood transfusion
 - iv. Administration of medication
 - v. Collection and storage of diagnostic samples
 - b. The diagnostic tests applied to the diagnosis of disease conditions in birds, including, but not limited to:

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 core literature

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- i. Clinical pathology (haematology; biochemistry; cytology; bacterial, fungal and viral culture and interpretation; serology; molecular diagnostics)
 - ii. Necropsy and histopathology
 - iii. Endoscopy
 - iv. Electrocardiology
 - v. Application and interpretation of diagnostic imaging including but not limited to radiology, ultrasound, echocardiography and computed tomography.
 - c. Therapeutics and pharmacology, including knowledge of the pharmacokinetics, pharmacodynamics, indications, and contraindications of drugs which are commonly used in avian medicine
 - d. Anaesthesia and analgesia
 - e. Surgery, both soft tissue and orthopaedic
 - f. Avicultural medicine, including artificial incubation and paediatrics
 - g. Behaviour of commonly kept bird species, including:
 - i. Normal species appropriate behaviour and how it relates to captivity
 - ii. The principles and application of behavioural analysis and behavioural modification
 - iii. Principles of animal welfare as applied to birds kept in captivity
2. The candidate will have a **basic knowledge** of:
- 2.1. Principles
 - a. The embryology of avian organ systems
 - b. Avian immunology
 - c. The nutrition and husbandry of less commonly kept species (native wild birds, ratites and other birds kept as zoological specimens).
 - d. Oncology
 - e. Lymphatic and haematopoietic systems
 - 2.2. Application
 - a. Applied avicultural techniques such as genetic selection (including colour mutation, sex-linked genes and heritable diseases), artificial incubation, and the hand rearing of neonates
 - b. Biosecurity principles as they relate to the management of avian collections, either small or large
 - c. Welfare and legislative issues relevant to the avian species and the provision of veterinary services
 - d. Infectious diseases of birds currently exotic to Australia and New Zealand but which could be of potential significance or importance to avian health if introduced, including those of importance to poultry. This includes:

- i. Knowledge of the aetiology, epidemiology, and diagnosis of exotic infectious disease
 - ii. Government controls including:
 - a. Legislative responses to exotic disease incursion
- 3. The candidate will be able to explain the following with sound expertise:
 - a. Catch and handle birds,
 - b. Perform a clinical examination and obtain diagnostic samples
 - c. Apply splints and bandages
 - d. Perform necropsies of birds
 - e. Perform soft tissue and orthopaedic surgery.

EXAMINATIONS

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

- 1. Written Examination (Component 1)**
 - Written Paper 1** (two hours): Principles of the Subject
 - Written Paper 2** (two hours): Applied Aspects of the Subject
- 2. Oral Examination (Component 2)**
 - Oral** (approximately one hour)

The written examination will comprise of two separate two-hour written papers taken on the same day. There will be an additional 15 minutes perusal time for each paper, during which no typing is permitted. The exam may include a series of short answer questions, multiple-choice questions or may require an essay-type response. The exam is worth a total of 120 marks and all questions must be answered. Allocated marks to each question/sub question will be clearly indicated.

Written Paper 1:

This paper is designed to test the Candidate's knowledge of the principles of avian medicine and surgery, as described in the Learning Outcomes. 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 avian medicine and surgery to particular cases/problems or tasks and (b) test the Candidate's familiarity with the current practices and current issues that arise from activities within the discipline of medicine and surgery of companion and aviary birds in Australia and New Zealand.

Oral Examination:

This examination requires the candidate to demonstrate achievement of the above-mentioned Learning Outcomes. The duration of this examination is approximately (1) hour. This will be a computer-based presentation including images, tables, videos or other visual aids. A set number case scenarios / questions will be presented with supporting questions asked verbally in a face-to-face setting either via a digital platform (such as Zoom) or in person. The oral examination has a total of 100 marks.

RECOMMENDED READING MATERIAL

The candidate is expected to read widely within the discipline, paying particular attention to areas not part of their normal work experiences. The list is not comprehensive and is not intended as an indicator of the content of the examination.

Avian related sections in the following textbooks, journals and online resources.

Recommended textbooks²

General textbooks

Membership Candidates should be thoroughly familiar with these general textbooks.

Chitty J & Monks D., (Eds.). *BSAVA Manual of Avian Practice: A Foundation Manual*. British Small Animal Veterinary Association, 2018

Speer B. *Current Veterinary Therapy in Avian Medicine and Surgery*. Elsevier, 2016

Anatomy and Physiology

König, H. E., Korbel, R., Liebich, H., & Klupiec, C. *Avian anatomy: textbook and colour atlas*. Sheffield: 5m Publishing, 2016

Pathology

Schmidt, R.E., Reavill, D.R., & Phalen, D.N., *Pathology of Pet and Aviary Birds*, Second Edition. Wiley 2015.

Diagnostic testing

Silverman S. and Tell LA. *Radiology of birds: an atlas of normal anatomy and positioning*. Saunders Elsevier 2010

Taxonomy and species specific books

Greenacre CB, Morishita TY. *Backyard Poultry Medicine and Surgery: A Guide for Veterinary Practitioners*. Wiley, 2015

² Definitions of Textbooks

Recommended textbook – candidates should own or have ready access to a copy of the book and have a sound knowledge of the contents.
Additional references – candidates should have access to the book and have a basic knowledge of the contents.

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Recommended Journals³

- Australian Veterinary Journal (avian articles from the last five years only)
- New Zealand Veterinary Journal (avian articles from the last five years only)
- Journal of Avian Medicine and Surgery (last five years only)

Additional Journals

- Australian Veterinary Practitioner
- Journal of Exotic Pet Medicine
- Veterinary Clinics of North America, Exotic Animal Practice

Additional Reading Material

- Association of Avian Veterinarians Annual Conference Proceedings
- Association of Avian Veterinarians, Australian Committee Conference Proceedings
- Association of Avian Veterinarians, European Committee Conference Proceedings (ICARE)
- Fowler A. Husbandry and Rehabilitation of Water-birds and Seabirds, FaunaOz Education, 2016
- Fowler A. Husbandry and Diseases of Orphaned Birds, OzFauna Education, 2018
- Walker C. The Pigeon, its veterinary care, management and culture, Australian Pigeon Company, 2014
- Wombaroo Feeding Guidelines for Native Birds, 2018

³ **Definitions of Journals**

Recommended Journal – candidates should have ready access to either print or electronic versions of the journal and have a sound knowledge of the published articles in the subject area.

Additional Journal – candidates should be able to access either printed or electronic versions of the journal and have a basic knowledge of the published articles in the subject area.

Additional Reading Materials - These are conference proceedings, other non-refereed publications and other journals that would offer some information in the subject area including differing points of view, but are not required reading.

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FURTHER INFORMATION

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