



## AUSTRALIAN AND NEW ZEALAND COLLEGE OF VETERINARY SCIENTISTS

### MEMBERSHIP GUIDELINES

#### *Veterinary Practice (Equine)*

#### INTRODUCTION

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

#### ELIGIBILITY

Refer to the *Membership Candidate Handbook*.

#### OBJECTIVES

The key objective of Membership in this subject is to demonstrate that the candidate has the ability to integrate technical and academic knowledge into an advanced level of clinical diagnostic ability and practical acumen. As such, the candidate will have sufficient knowledge of, and experience in, the aetiology and pathophysiology of common diseases of horses and the ability to choose and perform appropriate diagnostic tests encountered in Equine Veterinary Practice. Membership in Veterinary Practice Equine is not a specialist qualification and successful candidates should never be referred to as specialists.

#### LEARNING OUTCOMES

**Specific Objectives:** The candidate is required to have knowledge and experience in Equine Veterinary Practice beyond that of a graduating veterinarian but below that required of fellows. For definitions of knowledge levels please refer to the footnote “<sup>1</sup> Knowledge levels”.

#### 1. Anatomy, Physiology and Pathophysiology

The candidate will have a **sound**<sup>1</sup> knowledge of the integrated and applied anatomy, physiology and pathophysiology of the following systems of the horse: musculoskeletal, gastrointestinal, cardiorespiratory, hepatic and renal systems, eye and associated structures, reproductive tract - male and female, endocrine, skin and neurological.

#### 2. Preventative Health, Wellness and Nutrition

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##### <sup>1</sup> 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.

The candidate will have **sound**<sup>1</sup> knowledge of aspects of general care required for optimum horse health throughout their life. This includes nutrition, vaccination, parasite control, grooming, hoof care and routine veterinary procedures including, but not limited to, dental and geriatric examinations.

### 3. Wound Healing

- 3.1 The candidate will have **basic**<sup>1</sup> knowledge of the principles of wound healing and have **sound**<sup>1</sup> knowledge in the management of a variety of wounds and common complications encountered in equine practice. Examples include but are not limited to: accurate assessment of wound complexity, management of synovial penetration or structural injury, management of exuberant granulation tissue, assessment and management of non-healing wounds including basic grafting techniques.
- 3.2 The candidate will be competent in the assessment of musculoskeletal trauma and emergency management including emergency stabilization of fractures and a broad understanding of injuries for which immediate humane destruction is indicated.

### 4. Therapeutics

The candidate will have **sound**<sup>1</sup> knowledge of the indications for, clinical application and potential complications of commonly used therapeutics. These include, but are not limited to: antimicrobials, anti-inflammatories, vaccines, biologics, fluid therapy, sedatives, and hormones.

### 5. Biosecurity

- 5.1 The candidate will have **sound**<sup>1</sup> knowledge of infectious diseases (and their management) that are of importance to horses in Australia and New Zealand. These include, but are not limited to: *Salmonella* spp., *Clostridia* spp., *Rhodococcus equi*, *Streptococcus equi ss equi*, Equine Herpes viruses Hendra virus and basic knowledge of causes of encephalomyelitis (Kunjin, Murray Valley, Japanese encephalitis)
- 5.2 The candidate will have **basic**<sup>1</sup> knowledge of exotic and zoonotic diseases as relevant to Australia and New Zealand. These include, but are not limited to: Equine influenza, Contagious equine metritis, African Horse Sickness and exotic causes of equine encephalomyelitis (EPM, EEE, VEE, WEE).

### 6. Diagnostic Imaging

- 6.1 Radiography
  - 6.1.1 The candidate will have **basic**<sup>1</sup> knowledge of the acquisition of radiographs of the distal limb up to and including the stifle and shoulder and the skull.
  - 6.1.2 The candidate will have basic knowledge of the assessment of radiographs for correct exposure, processing and positioning and the legal requirements for image labelling and image storage.
- 6.2 The candidate should have **basic**<sup>1</sup> knowledge of ultrasound:
  - 6.2.1 Principles of ultrasound image formation including frequency, acoustic impedance, resolution, artefacts and transducers.
  - 6.2.2 Controls of the ultrasound machine used in image optimisation: depth, focal zone, and gain.
- 6.3 The candidate should have **basic**<sup>1</sup> knowledge of radiation safety and the ALARA principle.

- 6.4 The candidate should have **basic**<sup>2</sup> expertise in the interpretation of common radiographic and ultrasound abnormalities as it pertains to sections 7-20.
- 6.5 The candidate will have an awareness of the indications for the use of computed tomography (CT), magnetic resonance imaging (MRI) and nuclear medicine.

## 7. Musculoskeletal System

- 7.1 The candidate will have **sound**<sup>1</sup> knowledge of the investigation, differential diagnosis and management of common causes/presentations of lameness including interpretation of diagnostic procedures for localising lameness in the distal limb and an awareness of the applications and limitations of imaging modalities
- 7.2 The candidate will have a **basic**<sup>1</sup> knowledge of:
- 7.2.1 Lameness presentation and diagnosis associated with the upper limb, neck and back
  - 7.2.2 The breed and discipline differences in the presentation of lameness and musculoskeletal injuries

## 8. Respiratory System

The candidate will have **sound**<sup>1</sup> knowledge of the investigation, differential diagnosis and management of common clinical presentations of respiratory dysfunction including, but not limited to: coughing, epistaxis, dyspnoea, nasal discharge, respiratory noise and exercise intolerance.

## 9. Cardiovascular System

The candidate will have **basic**<sup>1</sup> knowledge of the investigation, differential diagnosis and management of common clinical presentations of cardiovascular dysfunction including, but not limited to: murmurs and arrhythmias.

## 10. Equine Abdomen

The candidate will have **sound**<sup>1</sup> knowledge of the investigation, differential diagnosis and management of: colic, diarrhoea and weight loss.

## 11. Endocrinology

The candidate will have **basic**<sup>1</sup> knowledge of the pathophysiology, investigation, differential diagnosis and management of endocrine diseases with **sound**<sup>1</sup> knowledge of the investigation and treatment of: Equine metabolic syndrome (EMS), Pituitary Pars Intermedia dysfunction (PPID) and hyperlipaemia.

## 12. Eye and associated structures

The candidate will have **basic**<sup>1</sup> knowledge of the investigation, differential diagnosis and management of common eye conditions including but not limited to: uveitis, corneal ulceration and ocular trauma

## 13. Dermatology

The candidate will have **basic**<sup>1</sup> knowledge of the investigation, differential diagnosis and management of common skin diseases including but not limited to: pruritus, dermal lesions/masses, alopecia

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<sup>2</sup> Skill levels:

**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

## 14. Reproductive System

The candidate will have **basic**<sup>1</sup> knowledge of

- 14.1 Assessment for breeding soundness
- 14.2 Reproductive cycle management: mare and stallion
- 14.3 Artificial insemination and natural mating management
- 14.4 Investigation of subfertility in mares and stallions
- 14.5 Pregnancy management including conception
- 14.6 Periparturient problems

## 15. Dentistry

The candidate will have **basic**<sup>1</sup> knowledge of:

- 15.1 Dental anatomy and ageing
- 15.2 Routine dentistry and preventative dental management
- 15.3 Disorders of wear and common dental problems
- 15.4 Diagnosis and treatment of common oral pathology
- 15.5 Diagnosis and treatment of periodontal disease

## 16. Analgesia and Anaesthesia

The candidate will have **basic**<sup>1</sup> knowledge of:

- 16.1 Performance of general anaesthesia under field conditions including common complications
- 16.2 Pain assessment and management. Examples include, but are not limited to laminitis, fractures and colic pain management using a variety of modalities including infusions and other delivery methods
- 16.3 Local anaesthesia techniques
- 16.4 Euthanasia

## 17. Neurology

The candidate will have **basic**<sup>1</sup> knowledge of the investigation, differential diagnosis and management of neurological conditions seen in Australia and New Zealand including but not limited to: ataxia, the recumbent horse, cranial nerve dysfunction, common toxic/infectious/traumatic conditions.

## 18. Neonatology

The candidate will have **sound**<sup>1</sup> knowledge of the investigation, differential diagnosis and management of the neonate including but not limited to: the normal and compromised foal, common sites of septic foci, ruptured bladder, angular and flexural limb deformities.

## 19. Surgery

- 19.1 The candidate will have a **sound**<sup>2</sup> knowledge of commonly performed field surgical procedures including, but not limited to, routine castration, basic mare reproductive surgeries and the surgical management of lacerations, including an understanding of complications which may occur and the management of these complications
- 19.2 The candidate will have a **basic**<sup>1</sup> knowledge of the commonly performed surgical procedures of horses including indications for these surgeries, complications and their management, and post-operative care of surgical cases

## 20. Pre-purchase and Insurance Examinations

The candidate will have **sound**<sup>1</sup> knowledge in the undertaking and communication of pre-purchase and insurance examinations.

### EXAMINATIONS

The Membership examination has **two separate components**:

- 1. Written Examination** (*Component 1*)  
**Written Paper 1** (Two hours): Principles of Veterinary Practice (Equine)  
**Written Paper 2** (Two hours): Applied Veterinary Practice (Equine)
- 2. Oral Examination** (*Component 2*)  
**Oral (1 hour)**

#### Written Examination

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. Each written examination will have a total of 120 marks.

Paper 1 will assess the Principles of Veterinary Practice and comprise of eight (8) questions of 15 marks each. Paper 2 will assess Applied Veterinary Practice and comprise of four (4) questions of 30 marks each. There is no choice of questions in either paper. Questions may be long essay type, a series of shorter answer sub-questions, or multiple-choice questions. Marks allocated to each question and to each subsection of questions will be clearly indicated on the written paper.

#### Oral Examination

The oral examination further tests the candidate's achievement of the learning outcomes during a face-to-face assessment with the examiners. The duration of the examination is approximately one hour. Images, video clips, radiographs, ultrasound images or clips, clinical pathology results and relevant material are likely to be used during this examination. The aim of the examination is to assess the candidate's diagnostic ability, communication skills, problem solving skills and capability to apply the principles of Equine Practice to clinical scenarios.

Four (4) to six (6) cases will be presented with supporting questions asked verbally in a face-to-face setting online. The oral examination has a total of 120 marks with each case allocated 20 to 30 marks.

## RECOMMENDED READING LIST

The candidate is expected to read widely within the discipline, paying particular attention to areas not part of their normal work experiences. This list of books and journals is intended to guide the candidate to some core references and other source material. Candidates also should be guided by their mentors. Due to the broad nature of this examination it is not expected that the candidate has covered the entire content of these textbooks but should understand the common conditions described therein. *The list is not comprehensive and is not intended as an indicator of the content of the examination.*

### Recommended textbooks<sup>3</sup>

1. Mair T, Love S, Schumacher J, Smith RKW, Frazer G. Equine Medicine, Surgery and Reproduction (2<sup>nd</sup> Ed), Saunders, 2013.
2. Guide to the Examination of Horses, The EVA Blue Book 5th edition (2017). Published by Equine Veterinarians Australia

### Additional reading material

#### Textbooks

1. Reed S, Bayly W, Sellon D. Equine Internal Medicine (4<sup>th</sup> Ed), Elsevier, 2018.
2. Auer JA Stick JA. Equine Surgery (5<sup>th</sup> Ed) WB Saunders, 2019.
3. Hubbell JAE, Muir WW, Muir W. Equine Anaesthesia Monitoring and Emergency Therapy (2<sup>nd</sup> Ed), Elsevier Health Sciences, 2008.
4. Butler JA, Colles CM Dyson SJ, Kold SE, Poullos PW. Clinical Radiology of the Horse (4<sup>th</sup> Ed), Blackwell Science, 2017.
5. Kidd JA, Lu KG, Frazer ML. Atlas of Equine Ultrasonography, Wiley-Blackwell, 2014.
6. McKinnon A, Squires E. Vaala, W, Varner D. Equine Reproduction. (2<sup>nd</sup> Ed) Wiley-Blackwell, 2011.
7. Easley J, Dixon P, Schumacher J. Equine Dentistry (3<sup>rd</sup> Ed), Saunders, 2010.
8. Orsini JA, Divers TJ. Equine Emergencies (4<sup>th</sup> Ed), Saunders, 2013.
9. Ross MW, Dyson SJ. Diagnosis and Management of Lameness in the Horse (2<sup>nd</sup> Ed), Saunders, 2010.
10. Samper JC, Pycock JF, McKinnon AO. Current therapy in Equine Reproduction (1<sup>st</sup> Ed), Elsevier, 2007.
11. Sprayberry KA, Robinson NE. Current therapy in Equine Medicine (7<sup>th</sup> Ed), Elsevier, 2015.

#### Proceedings

Proceedings of the Bain-Fallon Memorial Lectures

Proceedings of the Annual Convention of the American Association of Equine Practitioners

#### Other resources

IVIS website

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<sup>3</sup> Textbook definitions

**Suggested textbook** – candidates should own or have ready access to a copy of the book and have a basic knowledge of the contents, with a sound knowledge required only for the subjects specified in the guidelines.

**Additional references** – candidates should have access to the book and have a basic knowledge of the contents

**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.

## Journals

Candidates in this subject may find useful material in the list of following journals; however, access to these journals is not required to pass at membership level.

- Equine Veterinary Journal
- Equine Veterinary Education
- Australian Veterinary Journal
- Australian Equine Veterinarian
- Veterinary Clinics of North America – Equine Practice

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## **FURTHER INFORMATION**

For further information contact the College Office

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