2025

AUSTRALIAN AND NEW ZEALAND COLLEGE OF VETERINARY SCIENTISTS

MEMBERSHIP GUIDELINES

Equine Dentistry

INTRODUCTION

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

ELIGIBILITY

Refer to the *Membership Candidate Handbook.*

OBJECTIVES

To demonstrate that the candidate has sufficient knowledge of and experience in Equine Dentistry to be able to give sound advice in this field to veterinary colleagues, appropriate stakeholders and the general public.

LEARNING OUTCOMES

The candidate is expected to be able to confidently apply the following knowledge to the diagnosis and treatment of diseases of the oral cavity and related structures.

A. A **basic**[1] knowledge of the principles of veterinary medicine and surgery

B. A **sound** knowledge and competency in Equine Dentistry

C. A **basic** knowledge of infection control and biosecurity principles

The candidate should have **sound** knowledge and understanding of all aspects of equine dentistry including the examination, diagnosis, treatment and prevention of diseases of the oral cavity of the horse.

[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

1. Oral and Paradental Anatomy:

1.1. The osseous, nervous, muscular, and vascular anatomy of maxillofacial and oral structures-including salivary structures, nasal passages, para-nasal sinuses and temporo-mandibular joint

1.2. The dental and periodontal anatomy of the equine, including an understanding of head shapes, dentition and occlusion

1.3. Ultrastructure of teeth

1.4. The sequence of tooth eruption, maturation and aging

1.5. An understanding of the function of mastication and dentition including for ageing the equine.

2. Oral Disease - The aetiology, pathophysiology, diagnosis and treatment of:

2.1. Abnormalities of development and eruption

2.2. Periodontal disease and abnormalities of wear

2.3. Oral and dental trauma

2.4. Endodontic disease

2.5. Oral and dental neoplasia

2.6. Sinus disease relating to dentition

2.7. Metabolic and endocrine disorders that may affect the oral cavity

2.8. Diseases that have oral manifestations or consequences, including viral, bacterial and fungal diseases.

3. Demonstrate an ability and understanding of dental instrumentation and procedures, including:

3.1. The range, use and maintenance of hand and power dental instrumentation

3.2. Ancillary dental equipment including stalls/crushes, gags, specula and lighting

3.3. Use of instruments for a specific condition or treatment

3.4. Dental charting and record keeping.

4. Diagnostic Imaging:

4.1. Principles and techniques used to obtain a diagnostic radiograph, including extra-oral and intra-oral positioning and the use of the parallel, and bisecting angle and occlusal views

4.2. Patient preparation and positioning

4.3. Normal radiographic development and appearance of the teeth, jaws and hard and soft tissue structures of the head

4.4. Radiographic interpretation of craniofacial structures including the sinuses and teeth and any pathology of these

4.5. Orientation and labelling of dental radiographs

4.6. Basic understanding of advanced imaging including computed tomography (CT), magnetic resonance imaging (MRI), scintigraphy

4.7. Radiation safety guidelines, identifying artefacts and identifying and resolving image quality issues.

5. Oral Surgery:

5.1. Indications for and techniques of tooth extraction and sinus/oral surgery pertaining to dental disease

5.2. Comparison of intra-oral, lateral buccotomy, trephination and repulsion techniques and their potential complications

5.3. Recognise and describe the use of the different types of extraction instruments

5.4. Describe the diagnosis and treatment of fractures of the maxilla and mandible

5.5. Describe the use and deficiencies of intra-oral 'plastics', plates, screws, pins, wires and external fixators used in oral fracture repair

5.6. The significance of malocclusions such as mandibular mesocclusion (brachygnathism) and mandibular distocclusion (prognathism) in the development of dental disease

5.7. Suture materials, suturing techniques and wound healing

5.8. Para-nasal sinus surgery.

6. Restorative Dentistry:

6.1. Indications and case selection

6.2. The composition of and use of dental restorative materials including composite resin cements, glass ionomer cements and other applicable plastics/acrylics

6.3. Cavity design and preparation.

7. Orthodontics:

7.1. The common malocclusions and their management

7.2. The ethics surrounding veterinary orthodontic procedures.

8. Endodontics as it relates to the equine:

8.1. Aetiology and pathogenesis of endodontic pathology

8.2. The symptoms, clinical signs and treatment of endodontic disease. An understanding of endodontic techniques such as direct and indirect pulp capping, pulpotomy, pulpectomy, apexification and apicoectomy

8.3. Endodontic emergencies, radiology, instrumentation, principles of treatment, and materials used, including an understanding of the use of the different materials available

8.4. Restorative techniques following endodontic procedures

8.5. The reimplantation of avulsed teeth, stabilisation, follow up treatment and prognosis.

9. Periodontal Disease as it relates to the equine:

9.1. Aetiology and pathogenesis

9.2. Diagnosis: symptoms/clinical signs

9.3. Record keeping and documentation techniques: dental charting, photography, and imaging

9.4. Treatment options and planning.

10. Biosecurity and Infection control especially as it relates to the equine and its environment:

10.1. On and off-farm biosecurity practices and principles

10.2. Principles of infection control

10.3. Safe workplace practices – compliance with occupational and workplace safety legislation.

11. Anaesthesia and Analgesia:

11.1. Indication for and use of regional nerve blocks, including drug choices

11.2. Pharmacologic and physiologic mechanisms of action for injectable inhalant and constant rate infusion anaesthetics and analgesics

11.3. Standing sedation and analgesic protocols, indications and contraindications

11.4. General anaesthetic protocols, indications and contraindications.

EXAMINATIONS

For information on both the standard and the format of the Written and Oral examinations, candidates are referred to the *Membership Candidate 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 two (2) separate 2-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. Each paper may include a series of short answer questions, multiple-choice questions or may require an essay-type response. Each paper 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 basic knowledge of the principles of veterinary medicine and surgery as they relate to Equine Dentistry

Written Paper 2:

This paper is designed to (a) test the candidate's ability to apply the principles of Equine Dentistry to particular cases, problems or tasks and (b) test the Candidate's familiarity with current topics in Equine Dentistry and recommended current diagnostic and management practices in Equine Dentistry.

Oral Examination:

This examination requires the candidate to demonstrate achievement of the above-mentioned Learning Outcomes. The duration of this examination is approximately one (1) hour. A PowerPoint presentation may be used during this examination.
A series of questions will be presented with supporting information and asked verbally in a face-to-face setting online via Zoom; the oral examination has a total of 100 marks.

RECOMMENDED READING MATERIAL

The Candidate is expected to be familiar with the depth and breadth of the knowledge of the discipline. 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 mentor to formulate an appropriate reading program.

Recommended textbooks:[2]

- Easley, J, Dixon, P & du Toit, N 2022, *Equine Dentistry and Maxillofacial Surgery*, Cambridge Scholars Publishing, Newcastle upon Tyne
- Easley, J, Dixon, P & Schumacher, J 2010, *Equine Dentistry*, 3rd edn, Elsevier, China
- Veterinary Clinics of North America: Equine Practice 2020, *Equine Dentistry and Oral Surgery*, Vol 36, No 3, Elsevier, United States of America
- Veterinary Clinics of North America: Equine Practice 2013, *Advances in Equine Dentistry*, Vol 29, No 2, Elsevier, United States of America

Suggested textbooks:

- Lobprise, HB & Dodd, JR 2019, *Wigg's Veterinary Dentistry*, 2nd edn, Wiley Blackwell, India
- Budras, KD, Sack, WO & Röck, S 2009, *Anatomy of the Horse*, 6th edn, Schlütersche, Germany

Journals:[3]

Recommended

Equine Veterinary Education

Equine Veterinary Journal

Journal of Veterinary Dentistry

Additional

Australian Equine Veterinarian

Australian Veterinary Journal

The Veterinary Journal

Veterinary Record

Veterinary Surgery

Frontiers in Veterinary Science

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[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.

[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 References

- AAEP Guide for Determining the Age of the Horse
- BEVA & AAEP Conference Proceedings
- Australian Veterinary Association 2017, *Guidelines for Veterinary Personal Biosecurity*, 3rd edn, St Leonards: https://www.ava.com.au/library-journals-and-resources/ava-other-resources/veterinary-personal-biosecurity/
- Biosecurity Queensland 2018, *Guidelines for veterinarians handling potential Hendra virus infection in horses*, State of Queensland, Department of Agriculture Fisheries and Forestry: https://www.business.qld.gov.au/industries/service-industries-professionals/service-industries/veterinary-surgeons/guidelines-hendra

FURTHER INFORMATION:

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