



# Australian and New Zealand College of Veterinary Scientists

## Membership Examination

June 2014

## Equine Dentistry Paper 1

Perusal time: **Fifteen (15)** minutes

Time allowed: **Two (2)** hours after perusal

Answer **ALL FIVE (5)** questions

Answer **FIVE** questions each worth 20 marks .....total 100 marks

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# Paper 1: Equine Dentistry

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Answer all five (5) questions

1. Understanding the gross ultra structure of equine teeth is a fundamental component of equine dentistry.

Answer **all** parts of this question:

- a) List the types of enamel and describe **each** with specific reference to their structure, location and functional properties. Your answer may include drawings or diagrams. (5 marks)
  - b) Draw the occlusal surface of 207 cheek tooth and label the enamel, dentine and cementum, as well as correctly labelling the pulp horns using either the Dacre or the du Toit system. Ensure that you clearly identify palatal and buccal, mesial and distal. (5 marks)
  - c) Use a second fully labelled diagram to illustrate a longitudinal cross section from occlusal surface to tooth apex of a 401 and immediately surrounding structures (1st right lower incisor). Include all relevant anatomical structures in your diagram. (5 marks)
  - d) List and describe the different types of equine dentine. (5 marks)
2. Explain the aging of horses from their dentition throughout life (from birth to death). Include in your answer age indicators, eruption times, information on accuracy and age specific anatomical structures. The use of diagrams is encouraged. (20 marks)

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3. Answer **all** parts of this question:

- a) Name the nerves that innervate equine maxillary teeth and describe their pathways. In your answer include information on foramina. (5 marks)
- b) Regarding neural pathways identified in 3 a), list indications for neural blockade of these structures. (5 marks)
- c) Describe the required equipment, anatomical landmarks and techniques necessary to perform these blocks. Include in your answer information on occupational health and safety and biosecurity considerations. (10 marks)

4. Answer **both** parts of this question:

- a) Describe radiographic views used in the evaluation of the following anatomical structures. Your answer should include radiographic technique, positioning of machine and plate, and advantages of **each** projection and clinical indications for radiographic imaging. The use of diagrams may be appropriate.
  - i. upper cheek teeth (5 marks)
  - ii. upper incisors (5 marks)
  - iii. sinuses. (5 marks)
- b) List all the equipment required to obtain the radiographic views detailed above, and discuss the use of markers and labels as well as occupational health and safety issues to be considered. (5 marks)

5. Answer **all** parts of this question:

- a) Describe the anatomy and function of the periodontal ligament including its relation to surrounding tissues. (5 marks)
- b) List the causes, pathology and end results of periodontal disease. (5 marks)
- c) Discuss the investigative techniques and treatment options when periodontal pockets are diagnosed. (10 marks)

**End of paper**



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## Paper 2

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Answer **ALL FIVE (5)** questions

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# Paper 2: Equine Dentistry

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## Answer all five (5) questions

1. You are presented with a 22-year-old pony previously diagnosed with pituitary pars intermedia dysfunction [PPID] / Equine Cushing's syndrome. It has bilateral high eight wave and hooks are present on upper 6s and lower 11s. The hooks are only 5 mm high and you successfully reduce these, however after flushing the mouth you notice that there is a red spot on the mesial surface of 106. As you continue to observe a small drop of blood wells up at the site.

Describe what has happened, how you explain it to the owner and the approach to dealing with the situation. Include descriptions of instruments and materials used as well as the expected healing process and possible complications. (20 marks)

2. The owner of a recently acquired three-year-old Quarter horse has asked you to perform a dental on her new horse. She is interested in getting into cutting and has heard that these horses need to be bit seated otherwise they won't compete. On examination of the horse 105 and 205 are present and the other cheek teeth have some enamel points present buccally on the upper arcades and lingually on the lower arcades.

Describe the approach to this case in helping this owner achieve her goals. Detail any specific procedures that should be performed. (20 marks)

3. You are presented with a 10-year-old jumper that has had on and off bouts of purulent malodorous unilateral nasal discharge for the past 12 months. It has responded for a short period of time to antimicrobial therapy then the discharge has returned. The horse has been able to compete in between bouts and even during bouts, but now the discharge has increased and it is affecting the horse's breathing and its ability to compete.

Describe the approach to the diagnosis of a chronic unilateral nasal discharge; list ancillary diagnostic procedures and describe an appropriate technique for **each**. Include in your answer any potential biosecurity and occupational health and safety issues associated with this case. (20 marks)

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4. A three-year-old Thoroughbred filly has returned after being on a spelling farm receiving treatment for a chest wound, which has healed well. As the filly is geared up the trainer notices that there is golf ball sized lump on the filly's lower jaw. Nothing had been noticed at the time the horse had sustained the chest injury. The mass appears to be pushing the incisors 302 and 303 apart. It is mostly smooth but does have areas of ulceration present on the most rostral margin. The owner syndicate is keen to get this filly back to the track as she has shown some potential.

Describe a rational approach to investigating this mass; include a **list** of differential diagnoses for oral masses and include prognosis for **each** condition. Pick **one (1)** of the most likely differential diagnoses and describe appropriate treatment. (20 marks)

5. A 13-year-old Standardbred mare has been referred to you because she has a fractured cheek tooth that requires extraction. The referring veterinarian had attempted intraoral extraction but the crown 'fell apart'. On examination you discover that the 209 tooth has suffered bilateral slab fractures (buccally and palatally). These fractures extend subgingivally and the tooth fragments are missing. The remaining supragingival crown is not capable of sustaining the force required to achieve intraoral extraction. Radiographs reveal an intact root structure is present.

Describe **two (2)** different approaches to the removal of this tooth. Explain the advantages and disadvantages of **each** approach including short and long term complications and sequelae of extracting this tooth. (20 marks)

**End of paper**