



Australian and New Zealand College of Veterinary Scientists

Fellowship Examination

November 2020

Equine Surgery

Paper 1

Perusal time: **Twenty (20)** minutes

Time allowed: **Three (3)** hours after perusal

Answer **ALL SIX (6)** questions

All six (6) questions are of equal value

Answer **SIX (6)** questions, each worth 30 markstotal 180 marks

Paper 1: Equine Surgery

Answer all six (6) questions

1. Besides the broadly used antimicrobial categories of bactericidal and bacteriostatic, there are two other pharmacodynamic categories which should be taken into consideration when a surgeon is selecting an appropriate antimicrobial agent.

Answer **all** parts of this question:

- a) Discuss these categories and include examples of antimicrobials for each category in your answer. *(10 marks)*
- b) Discuss the potential toxic side-effects of antibiotic use in horses. *(10 marks)*
- c) List **three (3)** advantages of using local antimicrobial agents in horses, and discuss using poly methyl methacrylate (PMMA) or Plaster of Paris (POP) as an alternate route of antimicrobial administration. *(10 marks)*

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

- a) Describe the anatomy of the epiploic foramen in horses. *(5 marks)*
- b) Discuss the epidemiology and predisposing factors for epiploic foramen entrapment (EFE) in horses, citing relevant literature where appropriate. *(10 marks)*
- c) Describe, in detail, **one (1)** open and **one (1)** laparoscopic surgical option for closure of the epiploic foramen in horses. *(15 marks)*

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

- a) Outline how laser energy interacts with and causes its effects on tissues in a surgical setting. *(10 marks)*
- b) List **three (3)** laser types commonly used in equine veterinary surgery. Using clinical cases as examples discuss the indications and use of each of those **three (3)** types. *(20 marks)*

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

- a) A 10-year-old Warmblood mare presents with a three-month history of unilateral, odourless, purulent nasal discharge, facial swelling and epiphora. Describe the appropriate diagnostic investigation for this presentation, and the expected findings to confirm a paranasal sinus cyst. Describe in detail an appropriate surgical technique to remove the cyst, and list the advantages, disadvantages and potential complications of this technique. Briefly outline the prognosis. *(15 marks)*
- b) A nine-year-old Thoroughbred gelding is referred to you for removal of a 209 (1st maxillary molar). A peri-apical infection with secondary sinusitis has been confirmed radiographically; there is pulp exposure in one horn, but the crown of the tooth is intact. Describe in detail the pre-operative preparation, anaesthesia and surgical technique indicated to perform an intra-oral extraction. Outline the potential surgical complications and their management. *(15 marks)*

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

- a) Discuss, in detail, the advantages and disadvantages of available skin grafting techniques in horses. *(20 marks)*
- b) For a large dorsal cannon degloving wound describe in detailed steps and justify the selection of one surgical approach to achieve optimal cosmetic outcome. *(10 marks)*

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

- a) Briefly describe the physics underlying image acquisition in nuclear medicine of the horse. *(10 marks)*

- b) Artifacts are a common occurrence in nuclear imaging of horses. Outline and discuss how these artifacts occur and how they can affect common clinical diagnoses. *(10 marks)*

- c) List and discuss technique considerations to minimize the above artifacts.
(10 marks)

End of paper



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Paper 2

Perusal time: **Twenty (20)** minutes

Time allowed: **Three (3)** hours after perusal

Answer **ALL SIX (6)** questions

All six (6) questions are of equal value

Answer **SIX (6)** questions, each worth 30 markstotal 180 marks

Paper 2: Equine Surgery

Answer all six (6) questions

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

- a) Outline methods available to determine intestinal viability during laparotomy in horses. Include in your answer reference to any relevant literature evaluating the methods. *(5 marks)*
- b) Discuss the different techniques available to perform a large colon resection in the horse. Your answer should include the advantages and disadvantages, reported complications and prognosis for each technique, citing the pertinent literature. *(25 marks)*

2. Discuss the challenges in the diagnosis of proximal suspensory desmopathy of the hind limbs in horses under each of the following headings. Include reference to relevant literature where appropriate:

- a) Interpretation of response to perineural injection of the deep branch of the lateral plantar nerve (DBLPN). *(15 marks)*
- b) Selection of diagnostic imaging modalities to assess the proximal metatarsal region. *(12 marks)*
- c) Outline potential reasons for surgical failure following neurectomy of DBLPN. *(3 marks)*

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3. A three-year-old Thoroughbred racehorse has fallen during a race. Immediate digital radiographs confirmed a biaxial proximal sesamoid bone fracture of the right front leg.

Answer **all** parts of this question:

- a) Describe the emergency management of this horse at the racetrack. Justify any suggested treatments. *(5 marks)*
- b) What surgery should be performed? Describe the procedure including what implants should be used to repair this fracture. Justify the surgical and implant choices. *(20 marks)*
- c) List the expected complications. Briefly describe the steps that should be taken to attempt to prevent these complications and how they should be managed if they occur. *(5 marks)*

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

- a) Discuss the surgical considerations in performing a partial arytenoidectomy procedure in the horse including reference to relevant literature where appropriate. *(10 marks)*
- b) Outline, in detail, the partial arytenoidectomy procedure using the literature to justify the approach. Include in your answer the possible complications and expected success rates. *(20 marks)*

5. List the different surgical treatments for each of the following conditions and justify in detail **one (1)** treatment choice as a preferred option:

- a) Urinary pooling in mares. *(10 marks)*
- b) Urethrorrhexis. *(10 marks)*
- c) Cystolithiasis. *(10 marks)*

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6. Answer **all** the questions below:

a) Discuss the diagnosis, medical and surgical management of patent urachus. In your answer, include the criteria for surgical intervention, surgical options, and a detailed description of **one (1)** surgical technique. Briefly discuss the prognosis, and potential complications of the surgery. *(15 marks)*

b) A seven-year-old Thoroughbred mare is presented to you for evaluation and repair of a recto-vestibular fistula. The injury has been present for over a year, and measures three (3) centimetres. The owner wishes to breed from the mare as soon as possible.

List **four (4)** different surgical repair options. *(2 marks)*

c) From the four surgical repair options you have listed in 6 b) select **one (1)** surgical technique and describe in detail: *(13 marks)*

- i. pre-surgical preparation of the horse;
- ii. anaesthesia technique, including drugs and dose rates;
- iii. surgical technique; post-operative care; potential surgical complications and indicate when the mare can be bred.

End of paper