



Australian and New Zealand College of Veterinary Scientists

Membership Examination

June 2021

Surgery of Horses

Paper 1

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

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

Answer **ALL FOUR (4)** questions

Answer **FOUR (4)** questions, each worth 30 marks.....total 120 marks

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Paper 1: Surgery of Horses

Answer all four (4) questions

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

- a) Briefly describe the structure of the equine cornea. An appropriately labelled diagram may assist your answer. *(5 marks)*
- b) Outline how the ocular surface and adnexa should be prepared for ocular surgery. *(3 marks)*
- c) Briefly describe the phases of healing of an uncomplicated, 7 mm diameter corneal ulcer of 30% stromal depth, and explain how infection of the ulcer could affect this process. *(12 marks)*
- d) Outline the basic principles of oncological surgery and briefly explain how these principles are used to get the best outcome in the surgical management of eyelid tumours in horses. *(10 marks)*

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

- a) Outline the principles and describe the required steps for placement of a 4.5 mm cortical screw in lag fashion. *(10 marks)*
- b) Outline the principles and describe the required steps for the application of a single transphyseal screw for the correction of an angular limb deformity of the distal third metacarpus/metatarsus (MCIII/MTIII) in foals. *(10 marks)*
- c) Briefly describe the stages of bone healing within a lateral condylar fracture that has been accurately reduced and where rigid compression has been achieved. Contrast this to the stages of fracture healing in a fracture of the middle third of the fourth metatarsal bone (lateral 'splint' bone) that is managed conservatively. *(10 marks)*

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

- a) Explain the pathophysiologic mechanisms that cause tachycardia, hyperlactataemia, pink-red mucous membranes and rapid capillary refill time in a horse with a non-strangulating small intestinal lesion. *(10 marks)*
- b) State the dose and administration recommendations for 7.2% hypertonic saline in horses. Outline the mechanism of action, potential beneficial effects and contraindications of the intravenous administration of hypertonic saline in horses with colic. *(8 marks)*
- c) Outline the general recommendations for a fluid therapy plan for the initial 24 hours for a horse with a non-strangulating obstructive lesion of the small intestine when in hospital. *(8 marks)*
- d) Briefly explain the pathophysiology of an increased volume of modified transudate peritoneal fluid in this situation. *(4 marks)*

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

- a) Outline the key principles for lavage of a contaminated wound and give an example of an appropriate technique to use. *(6 marks)*

- b) Briefly discuss the use of drains in equine wound management under the following headings:
 - i General indications and key surgical principles to consider when using a drain. *(10 marks)*

 - ii The main classification types of drains and give an example of each. *(4 marks)*

 - iii Potential disadvantages of the use of drains in equine wounds. *(4 marks)*

- c) Briefly explain why aminoglycosides are a good first line choice for intravenous regional perfusion (IVRP) in the treatment of orthopaedic infection in horses. *(6 marks)*

End of paper



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Paper 2

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Answer **ALL FOUR (4)** questions

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Paper 2: Surgery of Horses

Answer all four (4) questions

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

- a) The terms 'open', 'closed' and 'half-closed' are used to describe surgical techniques for routine castration in horses. Define these terms and outline any proposed advantages and disadvantages of each. Outline considerations that are important, regardless of the technique used, to reduce the risk of post-operative complications. *(15 marks)*

- b) Discuss the evaluation and management of a horse with post castration haemorrhage. *(15 marks)*

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

- a) Summarise the main objectives of the temporary immobilisation of a patient at the racetrack with a lower limb fracture. *(8 marks)*

- b) Briefly describe the main consideration(s) and acceptable techniques for the temporary immobilisation of the following fractures:
 - i A fracture of the lateral condyle of the third metacarpal bone. *(8 marks)*

 - ii A fracture of the metacarpal condyle, in conjunction with a breakdown of the suspensory apparatus, due to fracture of both proximal sesamoid bones. *(6 marks)*

 - iii A fracture of the olecranon. *(8 marks)*

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

a) Regarding sinusitis:

- i. List the radiographic views recommended for the evaluation of a horse with chronic sinusitis. *(5 marks)*
- ii. Briefly describe and/or illustrate with use of a diagram, the surgical landmarks for placement of trephine holes to allow optimal direct sinusoscopic examination of the paranasal sinuses using a flexible endoscope. *(5 marks)*
- iii. Outline the optimal technique for the thorough sinusoscopic examination of horses with chronic sinusitis. *(10 marks)*

b) Describe an appropriate diagnostic approach for a horse with arytenoid chondritis. Include in your answer information gained from ultrasonographic and endoscopic findings that would allow differentiation from recurrent laryngeal hemiplegia and aid decision making on appropriate treatment. *(10 marks)*

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

- a) Describe the recommended diagnostic approach for a horse with acute abdominal pain that is poorly responsive to initial administration of analgesics, and indicate findings that may help to differentiate a strangulating obstruction of the small intestine from enteritis of the anterior small intestine. *(15 marks)*
- b) Outline the ultrasound assessment for a horse with acute abdominal pain, indicating the preferred transducer selection, key areas that should be assessed and structures assessed at each of these sites. *(15 marks)*

End of paper