

Australian College of Veterinary Scientists
Membership Examination

June 2010

Surgery of Horses

Paper 1

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

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

Answer **four (4)** from the five questions **only**.

All questions are of equal value. (25 marks)

Subsections of questions are of equal value unless stated otherwise.

Paper 1: Surgery of Horses

Answer four (4) from the five questions only.

1. Answer **each** of the following:

- a) Justify your preferred suture material, size and pattern for closing a ventral midline laparotomy incision in an adult horse. (6 marks)
- b) Discuss the factors that contribute to infection occurring in a surgical wound in the horse. (7 marks)
- c) Describe an appropriate method of achieving sterilization of a rigid arthroscope. (6 marks)
- d) List the general types of drains used in equine surgery, and describe the principles of drain placement in equine wounds. (6 marks)

2. Answer **each** of the following:

- a) Describe in detail how you would perform an ultrasonographic examination of the forelimb superficial digital flexor tendon of a horse. Include in your answer, discussion of patient preparation, technique and measured variables. (10 marks)
- b) Outline the pathophysiology of superficial digital flexor tendonitis in the horse. Your answer should include discussion of the morphological and functional characteristics of tendon, the effects of exercise and maturation and the mechanisms of injury and repair. (10 marks)
- c) Outline and justify your treatment of an acute tendonitis in a thoroughbred racehorse in which a moderate sized, anechoic lesion in the superficial digital flexor tendon is evident on ultrasound examination at the level of the mid metacarpus. (5 marks)

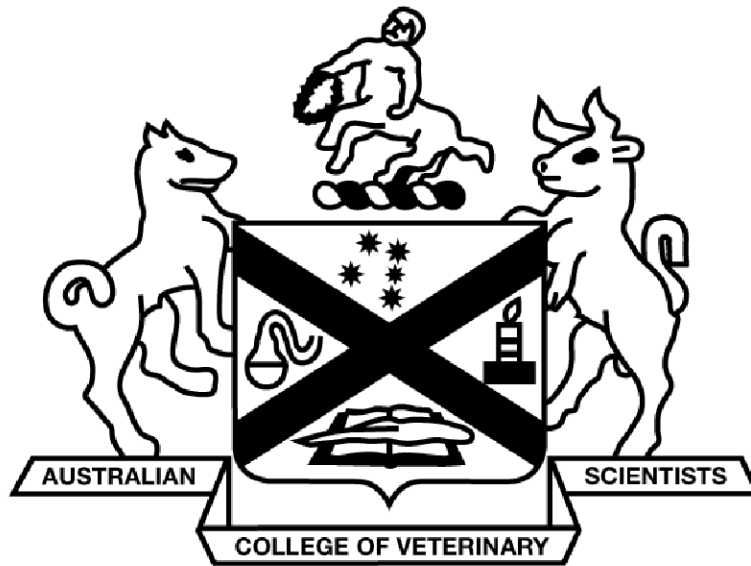
3. Wounds to the equine distal limb are a common occurrence in equine practice and can be slow to heal. Answer **each** of the following:

- a) Discuss second intention wound healing in horses and ponies with particular reference to the distal limb. (10 marks)
- b) Skin grafts are sometimes applied in equine distal limb wounds.
 - i. List the types of skin grafts described for use in distal limb wounds in horses. (5 marks)
 - ii. Outline your approach to skin grafting a granulating dorsal metatarsal wound. Include in your answer: notes on preparation of the wound bed for grafting, your choice of graft type, post operative management and factors likely to influence graft survival. (10 marks)

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4. An average of five litres of nasogastric reflux is recovered every two hours from a 500 kg mare over a 24 hour period following a small intestinal resection and anastomosis. Answer **each** of the following:
- a) Describe in detail how you would formulate a suitable intravenous fluid plan for this mare. (15 marks)
 - b) Briefly describe how you would monitor the response to your fluid plan. (5 marks)
 - c) Thrombophlebitis is a relatively common complication encountered in these cases. List intravenous catheter types. State and justify what catheter type you prefer in this scenario. (5 marks)
5. You suspect sepsis of a midcarpal joint 48 hours after an intra-synovial injection of local anaesthetic in a thoroughbred filly. Answer **each** of the following:
- a) Describe in detail how you would assess this horse to confirm a diagnosis of septic arthritis. Include in your answer a description of how you would interpret clinical findings, diagnostic procedures and laboratory tests. (10 marks)
 - b) List the methods of antibiotic delivery that may be used to treat this case. (5 marks)
 - c) Briefly discuss how you would determine when to discontinue antibiotic therapy. (5 marks)
 - d) Explain the factors likely to determine the prognosis for successful return to racing in this case. (5 marks)

End of paper



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Paper 2

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Answer **four (4)** from five questions **only**.

All questions are of equal value. (25 marks)

Subsections of questions are of equal value unless stated otherwise.

Paper 2: Surgery of Horses

Answer four (4) from the five questions only.

1. A two-year-old standardbred colt is presented to you with a two-week history of an upper respiratory tract noise during fast-work, and associated poor performance. Answer **each** of the following:
 - a) Outline your diagnostic work-up of this case. (5 marks)
 - b) List **five (5)** conditions in this case that may only be identified during high-speed treadmill endoscopy. (5 marks)
 - c) Explain the advice you would give the client if you diagnosed intermittent dorsal displacement of the soft palate. Include in your answer the treatment options you would discuss and justification for your recommendations. (15 marks)

2. Answer **each** of the following:
 - a) Discuss the management options and list the potential complications and prognosis for **both** of the following cases:
 - i. a large subchondral bone cyst in the medial femoral condyle of a three-year-old cutting horse (8 marks)
 - ii. a 1.5 cm diameter nodular sarcoid, 1 cm from the margin of the ventral eyelid in a bay Arabian show horse. (8 marks)
 - b) Describe your diagnostic evaluation of a horse with an acute, deep laceration to the palmaro-medial aspect of the forelimb pastern, extending from the coronet to mid-pastern. (9 marks)

3. A mare is noted to have urine in her anterior vagina during artificial insemination. Answer **each** of the following:
 - a) Explain how you would assess whether this mare needs treatment for this condition. (5 marks)
 - b) List the surgical and non-surgical options for the management of mares with urine pooling. (5 marks)
 - c) Briefly describe **one (1)** surgical method for the treatment of this condition and the potential complications associated with this surgery. (10 marks)
 - d) List the factors that affect the prognosis for pregnancy after surgical correction of urine pooling. (5 marks)

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4. A 10-year-old quarterhorse mare, six weeks postpartum, is presented to you with abdominal pain. As you start your examination she repeatedly tries to lie down and roll. Answer **each** of the following:
- a) Describe in detail, how you would assess this mare to determine if an exploratory laparotomy is indicated. (10 marks)
 - b) A decision is made to progress to surgery. A routine ventral midline laparotomy is performed and a 360° volvulus of the large colon is diagnosed and corrected. Discuss criteria that may be useful in assessing viability of the colon. (5 marks)
 - c) On further discussion with the owner, it is revealed that this is the second time the horse has undergone surgery for this condition. Discuss the surgical options for reducing the risk of colonic volvulus in the future and potential complications with **each**. (10 marks)
5. A thoroughbred gelding pulls up with severe forelimb lameness after racing. The attending veterinarian suspects a fracture of the third metacarpal bone. Answer **each** of the following:
- a) Explain the advice you would give in regard to stabilisation of this limb prior to transport to a radiographic facility. (5 marks)
- Radiographs reveal a non-displaced fracture of the third metacarpal bone which originates adjacent to the sagittal ridge and exits the lateral cortex, approximately 15 cm from the fetlock joint.
- b) Discuss the principles of lag screw fixation in relation to this fracture. (10 marks)
 - c) You elect to place three 4.5 mm, cortical bone screws in lag fashion. List the instrumentation required to place these screws. (5 marks)
 - d) If the decision is made to repair this fracture under general anaesthesia, describe the steps you would take to minimise the risk of fracture breakdown during recovery from anaesthesia. (5 marks)

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