

Australian College of Veterinary Scientists

Fellowship Examination

June 2011

Equine Surgery

Paper 1

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

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

Answer your choice of any **SIX (6)** questions from the seven questions **ONLY**

All seven main questions are of equal value

Answer **SIX** questions each worth 30 marks.....total 180 marks

Paper 1: Equine Surgery

Answer your choice of any SIX (6) questions from the seven questions ONLY.

1. In reference to the use of antimicrobial agents in veterinary surgery; answer **all** subparts of this question:
 - a) Outline the mechanism of action, spectrum of activity, possible routes of administration, reported complications of administration, and recommended dose rates for **all** the following drugs when used in the horse:
 - i. ceftiofur (4 marks)
 - ii. marbofloxacin (4 marks)
 - iii. doxycycline (4 marks)
 - iv. metronidazole. (4 marks)
 - b) Describe in detail the pathogenesis of aminoglycoside-induced nephrotoxicity in the horse. (7 marks)
 - c) List the reported mechanisms for the development of antimicrobial resistance by bacteria and indicate which mechanism is most common for **each** of the antimicrobial agents in part 1a) above. (7 marks)

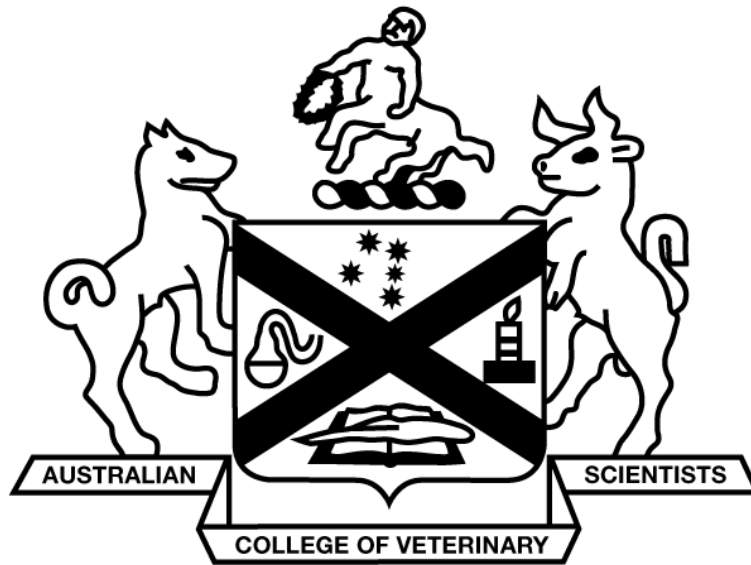
2. Describe in detail the reported arthroscopic approaches to the equine stifle and the intra-articular anatomy that can be viewed by each. Diagrams may be used where appropriate to illustrate your answer. (30 marks)

3. Answer **all** subparts of this question:
 - a) Discuss the aetiopathogenesis of incisional infections in horses. (15 marks)
 - b) Describe how you would investigate a problem of recurring incisional infections in your hospital, including how you might deal with the problem. (10 marks)
 - c) List the reported risk factors for incisional infections in horses after ventral midline laparotomy. (5 marks)

Examination continued on next page

4. Discuss **each** of the following techniques used in equine surgery; including indications and applications, limitations, potential complications, and advantages/disadvantages compared to more conventional techniques:
- a) thoracoscopy (7½ marks)
 - b) computed tomography (7½ marks)
 - c) magnetic resonance imaging (7½ marks)
 - d) fluoroscopy. (7½ marks)
5. Compare and contrast the different techniques for small intestinal anastomosis in the horse. Your answer should include the advantages and disadvantages, reported complications and prognosis for each technique, citing the pertinent literature. State your preferred technique for small intestinal anastomosis with justification, referring to the preceding parts of your answer. (30 marks)
6. Answer **all** subparts of this question:
- a) Discuss the aetiology, pathogenesis and pathophysiology of angular limb deformities in foals. (20 marks)
 - b) Describe the treatment options for angular limb deformity; including the mechanism of action, and advantages and disadvantages of each; citing the relevant literature. (10 marks)
7. The use of various 'regenerative medicine' products has become widespread in equine practice for the treatment of musculoskeletal injury and disease. In most cases the clinical use of these products has not been justified by extensive evidence-based research.
- For **each** of the following: discuss the proposed mechanism of action, indications for use and reported outcomes; citing the relevant literature where appropriate:
- a) platelet rich plasma (7½ marks)
 - b) autologous conditioned serum (7½ marks)
 - c) bone marrow derived stem cells (7½ marks)
 - d) adipose derived stem cells/stromal vascular fraction. (7½ marks)

End of paper



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Paper 2

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

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

Answer your choice of any **SIX (6)** questions from the seven questions **ONLY**

All seven main questions are of equal value

Answer **SIX** questions each worth 30 marks..... total 180 marks

Paper 2: Equine Surgery

Answer your choice of any **SIX (6)** questions from the seven questions **ONLY**.

1. Compare and contrast the different techniques that have been described for proximal interphalangeal joint arthrodesis in the horse, citing the relevant literature. Indicate the technique you would use to arthrodese a luxated proximal interphalangeal joint in the forelimb of a thoroughbred yearling, describing it in detail and justifying your preferred choice. *(30 marks)*

2. Management of surgical complications is an important part of veterinary surgery. Briefly discuss your management of **all** of the following complications:
 - a) haemoabdomen in the immediate post-operative period following small intestinal resection and anastomosis in a five-year-old Clydesdale gelding *(6 marks)*
 - b) endotoxaemia six hours after correction of colonic torsion in a ten-year-old thoroughbred broodmare *(6 marks)*
 - c) caecal impaction 72 hours after internal fixation of a condylar fracture in a two-year-old thoroughbred filly in training *(6 marks)*
 - d) osteomyelitis following double plate repair of a comminuted second phalanx (P2) fracture in a six-year-old quarterhorse stallion *(6 marks)*
 - e) excessive coughing four weeks following prosthetic laryngoplasty in a three-year-old thoroughbred racehorse. *(6 marks)*

3. For **all** of the following conditions, outline your surgical approach with justification, referring to the recent literature where applicable:
 - a) chondroids of the medial compartment of the guttural pouch in a thoroughbred yearling *(7½ marks)*
 - b) repeated nephrosplenic entrapment of the large colon in a twelve-year-old thoroughbred broodmare *(7½ marks)*
 - c) thoracic oesophageal traction diverticulum in a fifteen-year-old pony *(7½ marks)*
 - d) cleft palate in a five-day-old Arabian foal. *(7½ marks)*

Examination continued on next page

4. You are presented with a 24-year-old standardbred gelding who has had repeated bouts of stranguria over several weeks. Urethrocystoscopy reveals the presence of an approximately spherical, 6 cm diameter type 1 urolith within the bladder.

Answer **all** subparts of this question:

- a) List the types of uroliths encountered in horses and briefly describe their physical and chemical composition. *(5 marks)*
- b) Discuss the management of urolithiasis in horses; outlining the different treatment options, complications and reported prognosis for each treatment. *(15 marks)*
- c) Outline your preferred management of this case, citing relevant literature. *(10 marks)*

5. A four-week-old thoroughbred foal is presented to you with dyspnoea and bilateral guttural pouch tympany.

Answer **all** subparts of this question:

- a) Describe how you would evaluate this case. *(5 marks)*
- b) Describe how you would treat this case, and determine a prognosis. *(13 marks)*
- c) Discuss potential complications arising from surgical treatment of guttural pouch tympany and state how the risks therein may be minimised. *(12 marks)*

6. Describe your preferred surgical treatment and post-operative management of **all** of the following conditions, justifying your answer and giving a prognosis for each:

- a) strangulating lipoma of the small (descending) colon in a twelve-year-old Arabian mare *(10 marks)*
- b) gastric impaction in a fourteen-year-old stallion *(10 marks)*
- c) subchondral cystic lesion of the medial femoral condyle of a two-year-old thoroughbred. *(10 marks)*

7. You are presented with a two-year-old standardbred filly that has been reported to have a decrease in racing performance and has started to make a gurgling noise at maximal exercise.

Answer **all** subparts of this question:

- a) Outline how you would approach this case diagnostically, briefly discussing the advantages and disadvantages of your diagnostic methods. *(8 marks)*
- b) Discuss the aetiopathogenesis of intermittent dorsal displacement of the soft palate (IDDSP) in racehorses. *(10 marks)*
- c) Discuss the surgical treatment options for IDDSP in the horse; outlining different treatment options, complications and reported prognosis for each treatment. State your preferred treatment for this case, with justification. *(12 marks)*

End of paper