



Australian and New Zealand College of Veterinary Scientists

Fellowship Examination

June 2018

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

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Paper 1: Equine Surgery

Answer all six (6) questions

1. Answer **both** parts of this question:
 - a) Discuss the principles of locking compression plate (LCP) fixation. Include in your answer the biomechanical advantages, as compared to dynamic compression plate (DCP) and limited contact dynamic compression plate (LC-DCP) fixation. *(15 marks)*
 - b) Provide **three (3)** examples of the use of LCP fixation in equine patients from the recent literature. Discuss the advantages and disadvantages of using the LCP system in these **three (3)** examples. *(15 marks)*
2. With reference to the anatomy of the nasopharynx, describe how dysfunction of the intrinsic and extrinsic muscles relates to the current understanding of the pathophysiology of soft palate dysfunction. *(30 marks)*
3. Answer **both** parts of this question:
 - a) Describe the proposed pathophysiology of post-operative ileus in the horse. *(20 marks)*
 - b) Discuss, based on the current understanding of the pathophysiology of post-operative ileus, the pharmacological options for the treatment of post-operative ileus. *(10 marks)*

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

a) Briefly describe the physics underlying image acquisition in the following diagnostic modalities:

i. computed tomography (CT) (5 marks)

ii. magnetic resonance imaging (MRI). (5 marks)

b) Discuss the evidence for the use of CT and MRI for the diagnosis of lameness, localised to the distal limb (fetlock and below) of the horse. Include specific reference to contrast-enhanced CT **and** both low- **and** high-field MRI.

(20 marks)

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

a) Define the following terms:

i. pain (2.5 marks)

ii. allodynia. (2.5 marks)

b) Describe **one (1)** pain assessment tool used in horses, citing the relevant literature. (5 marks)

c) With the use of a diagram, describe nociception. (5 marks)

d) List the class, mechanism of action, route(s) of administration, side effect(s) and duration of effect for **all** of the following pharmaceuticals:

i. methadone (5 marks)

ii. ropivacaine (5 marks)

iii. gabapentin. (5 marks)

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

- a) List and discuss risk factors for surgical site infection. (*15 marks*)

- b) Describe in detail how to perform regional limb perfusion. List and discuss with specific reference to the literature which factors can be varied when performing regional limb perfusion and the effects these changes result in. (*15 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

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Paper 2: Equine Surgery

Answer all six (6) questions

1. You are presented with a three-year-old Thoroughbred colt with poor performance and making an abnormal respiratory noise during racing.

Answer **all** parts of this question:

- a) Describe the diagnostic approach to this case. *(3 marks)*
- b) List the surgical options for treating this case, assuming a diagnosis of left arytenoid cartilage collapse. *(2 marks)*
- c) Using an evidence based approach, discuss how you would perform a prosthetic laryngoplasty in this horse. *(25 marks)*

2. A 16-year-old Thoroughbred gelding is referred to your practice with a history of mild abdominal pain following urination and the passage of pigmented urine.

Answer **all** parts of this question:

- a) Describe the diagnostic approach to this case. *(5 marks)*
- b) Following your initial evaluation, you identify an enlarged, abnormally shaped left kidney (approximately 15 x 20 cm). Describe the most appropriate approach to further evaluate this mass, with a view to surgical removal. *(7.5 marks)*
- c) Describe, in detail, how to perform a nephrectomy **and** justify the method you have described. *(10 marks)*
- d) List **three (3)** potential surgical complications and describe, in detail, how to manage **one (1)** of these. *(7.5 marks)*

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3. Answer **both** parts of this question:
- a) Discuss the pathogenesis of osseous, cyst-like lesions. *(15 marks)*
 - b) Discuss, using evidence reported in the literature, the treatment options and associated prognosis for osseous cyst like lesions affecting the medial femoral condyle. *(15 marks)*
4. Management of surgical complications is an important part of equine surgery. Describe the **most** appropriate approach to the management of the following complications:
- a) Severe and prolonged (>24 hours) intra-abdominal haemorrhage following castration in a two-year-old Thoroughbred gelding. *(6 marks)*
 - b) Acute severe respiratory distress in the recovery box. *(6 marks)*
 - c) Wound dehiscence following mid-cervical oesophageal resection and anastomosis. *(6 marks)*
 - d) Acute laminitis 24 hours after correction of a large colon torsion in a six-year-old Warmblood mare. *(6 marks)*
 - e) A 600 kg draft horse unable to stand post-operatively. *(6 marks)*
5. You are presented with a four-year-old Warmblood gelding that is exhibiting stallion-like behaviour and without palpable testicles in the scrotal/inguinal area. The horse has an uncertain castration history.

Answer **both** parts of this question:

- a) Discuss the relative merits of diagnostic test(s) and/or procedure(s) for confirming the presence of testicular tissue in this horse. *(15 marks)*
- b) The results confirm the presence of testicular tissue. State the preferred surgical technique for abdominal cryptorchid castration in this case **and** justify your answer. Describe, in detail, the surgical approach. *(15 marks)*

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6. Describe, in detail, the optimal surgical management for **each** of the following conditions **and** justify your answer:
- a) Type 2 caecal impaction with fluid-filled ingesta and no reflex contractility. *(7.5 marks)*
 - b) Volvulus of the large colon at the level of the caecocolic ligament, which appears non-viable following correction of the volvulus. *(7.5 marks)*
 - c) Strangulating obstruction of 2 metres of jejunum and ileum, secondary to epiploic foramen entrapment, leaving 25 centimetres of viable distal ileum. *(7.5 marks)*
 - d) A two-month-old foal with gastric outflow obstruction, secondary to pyloric and duodenal obstruction. *(7.5 marks)*

End of paper