



# Australian and New Zealand College of Veterinary Scientists

## Membership Examination

June 2014

## Surgery of Horses Paper 1

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

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

Answer **ALL FOUR (4)** questions

Answer **FOUR** questions each worth 30 marks .....total 120 marks

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# Paper 1: Surgery of Horses

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Answer all four (4) questions

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

- a) Provide a detailed anatomical description of intrathecal structures within the digital flexor tendon sheath (DFTS). Include in your answer the name of **each** structure and their anatomical locations relative to one another at various levels of the sheath. Use a diagram if helpful. *(12 marks)*
- b) Identify **three (3)** reported sites of intrathecal injury within the DFTS. *(3 marks)*
- c) List **three (3)** methods used for further investigation of lameness that has been localised to the DFTS and describe the diagnostic advantages and disadvantages of **each** method. *(15 marks)*

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

- a) List **four (4)** specific anatomical locations where stress fractures typically occur in the Thoroughbred racehorse. *(8 marks)*
- b) Discuss the aetiopathogenesis of stress fracture in horses. *(18 marks)*
- c) Identify **four (4)** factors that increase the risk of stress fracture. *(4 marks)*

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3. Justify your preferred suture material and pattern for the following, including in your answer suture size and type:
- a) conjunctival pedicle graft (6 marks)
  - b) primary repair of a superficial digital flexor tendon laceration at the level of the mid-metacarpus (6 marks)
  - c) closure of the linea alba in a 500 kg horse following repeat laparotomy, performed three days after the initial surgery (6 marks)
  - d) repair of a ruptured bladder in a neonatal foal (6 marks)
  - e) primary closure of a degloving wound on the dorsal metatarsus. (6 marks)
4. Answer **all** parts of this question:
- a) Describe your preferred method for presurgical preparation of a distal limb wound to reduce the bacterial load prior to surgery. (6 marks)
  - b) Briefly outline key cellular processes in **each** of the **three (3)** phases of wound healing. (12 marks)
  - c) Explain how aspects of tissue healing, specific to the lower limb of horses, delay wound healing and, describe how wound management may be modified in response to these factors. (12 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

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Answer all four (4) questions

1. A 500 kg broodmare had a large colon volvulus corrected at surgery. The colon had a significant degree of ischaemia but did not require resection. Immediate post-operative blood work (following return to the stable), and clinical examination findings showed a number of abnormalities.

Parameter	Patient value	Reference range
PCV	48%	
TP	50 g/L	
pH	7.30	7.35–7.45
Lactate	4.5	0.6–2.0 mmol/L
Na <sup>+</sup>	130	140–153 mmol/L
K <sup>+</sup>	2.7	3.6–4.6 mmol/L
Cl <sup>-</sup>	96	106–120 mmol/L
Ca <sup>++</sup>	1.10	1.13–1.33 mmol/L
HCO <sub>3</sub> <sup>-</sup>	21	26–32 mmol/L

Heart rate                    80 beats per minute  
Respiratory rate            40 breaths per minute  
Temperature                37.0°C  
Cool extremities  
Congested mucous membranes

Answer **all** parts of this question:

- a) Explain these abnormalities based on the pathophysiological consequences of large colon volvulus. (10 marks)
- b) Outline and justify your fluid plan for the following 12 hours. Include the type of intravenous fluid(s), rate of delivery and any electrolyte supplementation required. Do not include pharmacological management in your answer. (10 marks)
- c) Briefly describe how to monitor the horse's response to your fluid plan. (10 marks)

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

- a) List **four (4)** conditions of the equine upper respiratory tract that can only be definitively diagnosed using dynamic endoscopy. *(4 marks)*
- b) Describe the work up of a two-year-old Thoroughbred filly with intermittent poor performance and upper respiratory noise during high speed exercise. Details of the diagnostic work up unrelated to the upper respiratory tract are not required in this answer. *(8 marks)*
- c) You diagnose intermittent dorsal displacement of the soft palate (iDDSP). List the available surgical and non-surgical treatment options for this condition. *(8 marks)*
- d) State your recommended treatment for this horse (two-year-old Thoroughbred), justify your reasoning and give a prognosis for resolution of iDDSP using this approach. *(5 marks)*
- e) iDDSP recurs during the filly's next race preparation, state and justify your recommended treatment at this stage. *(5marks)*

3. You are presented with a 10-day-old foal with acute onset severe lameness and generalised swelling and effusion of the right metacarpophalangeal joint.

Answer **all** parts of this question:

- a) Describe the investigation of this case *(10 marks)*
- b) List the **three (3)** most likely differential diagnoses and rank them from the most to least likely *(5 marks)*
- c) Assuming your first differential diagnosis is the cause of the lameness, describe and justify your recommended management of this case. *(15 marks)*

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4. You are presented with a horse with a large (seven centimetre diameter) sarcoid that extends over the entire dorsolateral aspect of the fetlock joint.

Answer **both** parts of this question:

- a) Discuss the proposed aetiopathogenesis of sarcoid in horses. *(10 marks)*
- b) The owners wish to pursue treatment that offers a reasonable chance of resolution. Describe and justify your recommended treatment of this case with consideration for the size and location of the lesion. *(20 marks)*

**End of paper**