



Australian and New Zealand College of Veterinary Scientists

Fellowship Examination

June 2013

Small Animal Surgery Paper 1

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

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

Answer **ALL FOUR (4)** questions

Answer **FOUR** questions each worth 45 markstotal 180 marks

Paper 1: Small Animal Surgery

Answer all four (4) questions

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

- a) Review the stages of wound healing, providing for each stage a detailed description of the cellular and chemical events that occur during the normal healing process. *(20 marks)*
- b) Discuss how negative pressure wound therapy (NPWT) influences the wound healing environment. *(15 marks)*
- c) Review the experimental and clinical evidence regarding the use of NPWT in small animals. *(10 marks)*

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

- a) Explain neuronal plasticity in relation to pathological pain. *(25 marks)*
- b) Justify how your treatment plan for a dog with a closed, comminuted, diaphyseal tibial fracture is designed to target and limit the negative effects of pathological pain. *(20 marks)*

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

- a) State **five (5)** different cellular mechanisms by which antimicrobial agents may work. For **each** mechanism, give **one (1)** example of an antimicrobial agent that acts in such a way **and** state how resistance to this agent may exist and/or may develop in the future. (20 marks)
- b) Describe measures to reduce the establishment and dissemination of methicillin resistant *Staphylococcus aureus* (MRSA) in a specialist small animal surgery practice. (15 marks)
- c) Justify your in-hospital management of a patient with confirmed MRSA. (10 marks)

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

- a) Describe the gross anatomy and histologic characteristics of the normal canine cranial cruciate ligament (CrCL). (7 marks)
- b) Describe the histologic changes within the CrCL thought to occur preceding complete cruciate rupture and explain how these changes affect ligament function. (8 marks)
- c) The tibial plateau leveling osteotomy (TPLO) and tibial tuberosity advancement (TTA) are commonly performed to treat cranial cruciate ligament disease in the dog. Describe using diagrams the **two (2)** theoretical models of stifle biomechanics upon which these procedures are based (15 marks). Your answer should include the biomechanic aim of **each** procedure with reference to the available literature. (5 marks)
- d) Review the available evidence to justify the use or non-use of **one (1)** of the above procedures. (10 marks)

End of paper



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Paper 2

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Answer **ALL FOUR (4)** questions

Answer **FOUR** questions each worth 45 markstotal 180 marks

Paper 2: Small Animal Surgery

Answer all four (4) questions

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

- a) After a traumatic incident at a park, a two-year-old Chihuahua presents with neurologic findings suggesting a lesion within the C1–C5 neuroanatomical segment.
 - i. Detail the specific neurological examination findings you would expect in this patient. *(6 marks)*
 - ii. Provide a list of differential diagnoses ranked in order of likelihood. *(3 marks)*
 - iii. Describe and justify your plans for diagnostic investigation and pre-surgical management for this patient. *(9 marks)*
 - iv. List **two (2)** techniques for dorsal stabilisation of the atlantoaxial joint, and **two (2)** techniques for ventral stabilisation of the atlantoaxial joint. *(2 marks)*
- b) Discuss the management options for Chiari-like malformation in the Cavalier King Charles spaniel. Justify your preferred treatment of choice. *(25 marks)*

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2. A 25 kg mixed breed dog presents with a one centimetre diameter malignant melanoma adjacent to the left upper canine tooth and adherent to the lateral gingiva.

Answer **all** parts of this question:

- a) Using a table if you wish, list and describe the different stages of this disease (4 marks). Explain the possible limitations of the tumour staging system with this disease. (2 marks)
- b) Define 'sentinel node' (2 marks), and explain its value in veterinary oncology. (2 marks)
- c) List **five (5)** techniques that may be used to determine the location of the sentinel node in this case (5 marks). Describe in further detail **one (1)** of these techniques and justify its use in veterinary oncology. (5 marks)
- d) Outline your treatment options for this case, explaining how the status of the sentinel node influences your approach and the dog's prognosis. (25 marks)

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

- a) Describe the expected clinical signs in a cat with an extrahepatic portosystemic shunt (4 marks). Explain the optimal diagnostic approach in this case (4 marks). Justify your preferred treatment and provide evidence to support the prognosis you give the owner. (7 marks)
- b) Answer **both** parts of the following:
 - i. Discuss perineal herniation in the cat. Your answer should include reference to the typical signalment, proposed aetiopathogenesis and surgical repair in the cat. (12 marks)
 - ii. Describe the significant anatomical differences between the cat and dog to consider when performing herniorrhaphy in the cat. (3 marks)
- c) Answer **both** parts of the following:
 - i. When investigating laryngeal paralysis in the cat, describe and justify the sedative and/or anaesthetic protocol used to facilitate assessment of clinically significant abnormal laryngeal movement. (5 marks)
 - ii. Describe important anatomical differences between the dog and cat larynx, and how this influences surgical management. (10 marks)

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4. An eight-year-old Labrador retriever presents with a chronic, progressive unilateral forelimb lameness. Clinical examination suggests pain on full extension of the shoulder.

Answer **all** parts of this question:

- a) Provide a comprehensive list of differential diagnoses, ranked in order of likelihood, for this dog's shoulder. (5 marks)
- b) Describe the stabilisers of the canine shoulder and explain how shoulder stability is achieved in the normal animal. (25 marks)
- c) Formulate and justify a diagnostic plan for this patient. (10 marks)
- d) Briefly discuss the optimal treatment plan considering a final diagnosis of supraspinatus tendinopathy. (5 marks)

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