



The Australian and New Zealand
College of Veterinary Scientists

Fellowship Examination

June 2012

Small Animal Surgery

Paper 1

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

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

Answer **ALL FOUR (4)** questions

All questions are of equal value

Answer **FOUR** questions each worth 25 markstotal 100 marks

Paper 1: Small Animal Surgery

Answer **ALL** four (4) questions.

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

- a) Describe the innervation of the canine larynx and list the action of each of the muscles involved in vocal cord movement. (7 marks)
- b) Name the neurologic conditions leading to laryngeal paralysis that have been identified in dogs. (4 marks)
- c) Using an evidence-based approach, compare how the various procedures designed to treat laryngeal paralysis in dogs influence laryngeal airflow. (14 marks)

2. Answer **both** parts a) and b) of this question.

a) Answer **all** subparts of this question:

- i. Define the terms intramural and extramural ureteral ectopia. (3 marks)
- ii. List the common **structural** features and signalment of ureteral ectopia in dogs and cats. (3 marks)
- iii. Ureteral ectopia is commonly associated with additional anomalies of the urinary system; one such anomaly is hydroureter. Define hydroureter and explain why this may arise secondary to ureteral ectopia. (3 marks)
- iv. List **four (4)** other anomalies that may be associated with ureteral ectopia. (2 marks)
- v. Explain, with the aid of diagrams if you wish, the faulty embryogenesis which occurs with ureteral ectopia, compared to that of a normal dog. (6 marks)

b) Answer **all** subparts of this question.

Demineralised bone matrix (DBM) is a type of bone allograft processed to preserve its osteoinductive properties.

- i. Define the term “osteinduction”. (1 mark)
- ii. Explain how the osteoinductive efficacy of DBM may be assessed. (2 marks)
- iii. Explain the composition of DBM and how DBM provides osteoinductive stimuli. (3 marks)
- iv. Describe **two (2)** potential adverse effects of DBM. (2 marks)

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3. Answer **all** subparts of this question.
- a) Describe a typical canine physis. *(7 marks)*
 - b) Describe the control of the process of growth plate maturation in the canine radius of a normal animal. *(6 marks)*
 - c) List the known prognostic factors in treating antebrachial growth deformities with a lengthening procedure. *(4 marks)*
 - d) Explain the newly proposed classification system for tibial tuberosity avulsions in the immature dog. *(4 marks)*
 - e) Explain the differences in development and anatomy of the tibial tuberosity in people and dogs. Explain the relevance of these differences with reference to Osgood-Schlatter disease. *(4 marks)*
4. Discuss the advantages and limitations of various canine gait analysis technologies. Include in your answer an evidence-based approach to justify the use of these technologies as part of lameness evaluations in dogs. *(25 marks)*

End of paper



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Paper 2

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

Answer **ALL four (4)** questions

All questions are of equal value

Answer **FOUR** questions each worth 25 markstotal 100 marks

Paper 2: Small Animal Surgery

Answer **ALL** four (4) questions.

1. Answer **all** subparts of this question:
 - a) Describe the range of possible clinical findings in a dog presenting with lumbosacral degenerative stenosis (DLSS). *(6 marks)*
 - b) List the non-surgical management options available and give an indication of the success of these interventions in the management of DLSS. *(6 marks)*
 - c) State the main surgical aims of treating DLSS. Describe and justify your preferred method of surgical treatment. *(9 marks)*
 - d) State the prognostic indicators that have been identified for DLSS. *(4 marks)*

2. Answer **all** subparts of this question:
 - a) List the types of urethral trauma most frequently encountered in cats. *(3 marks)*
 - b) Describe the clinical signs that may be associated with this trauma and list the predicted abnormalities in laboratory values resulting from such trauma in these patients. *(4 marks)*
 - c) Justify the surgical alternative you would employ in the event that restoration of normal urethral integrity is not feasible. *(7 marks)*
 - d) Discuss factors influencing the timing of such surgical intervention. *(4 marks)*
 - e) Discuss the short term and long term complications that have been described following prepubic urethrostomy and transpelvic urethrostomy in cats. *(7 marks)*

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

Regarding the cranial cruciate ligament deficient canine stifle and *extra-capsular* repair techniques:

- a) Discuss the concepts of geometric isometry and physiologic isometry, and their relevance to extra-capsular repair techniques. (5 marks)
- b) Compare the effectiveness of knotting and crimp-clamp methods of securing the loop of material used as the extra-capsular prosthesis. (7 marks)
- c) Outline the expected mechanisms of failure for the various extra-capsular prostheses. (3 marks)
- d) Compare how different methods of sterilisation affect the mechanical properties of the various prosthetic materials used as the extra-capsular prosthesis. (3 marks)
- e) List proposed risk factors for bilateral cranial cruciate ligament rupture. (3 marks)
- f) Discuss the evidence to suggest that cranial cruciate ligament rupture in dogs may be a consequence of pathologic change within the joint, rather than accidental injury to the stifle in most cases. (4 marks)

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

- a) State and explain your pre-operative and post-operative management of a 6-month-old pug who has been diagnosed with an extrahepatic portocaval shunt and shunt-related encephalopathic signs of depression, head pressing and ataxia. (15 marks)
- b) State **two (2)** clinical scenarios in which surgery is not indicated for the treatment of portosystemic shunting (PSS) and explain, demonstrating a knowledge of the vascular anatomy and pathophysiology, why surgical intervention is not indicated in these patients. (5 marks)
- c) Discuss the prognosis for canine PSS managed with medical intervention. (5 marks)

End of paper