

Australian College of Veterinary Scientists  
**Fellowship Examination**

June 2010

**Small Animal Surgery**  
**Paper 1**

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

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

Answer **four (4)** from the six questions only.

Answer **two (2)** questions from **Section A** and  
**two (2)** questions from **Section B**.

All questions are of equal value.

Subsections of questions are of equal value unless stated otherwise.

Answer **all** parts of the question unless requested otherwise.

# Paper 1: Small Animal Surgery

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Answer four (4) from the six questions only.

Answer two (2) questions from Section A and two (2) questions from Section B.

## Section A

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Answer two (2) questions from Section A.

1. Answer **all** of the following:
  - a) Describe the pathophysiology of thromboembolic disease in dogs. Include in your answer a description of Virchow's triad.
  - b) Discuss the diagnostic evaluation of thromboembolic disease in the dog.
  - c) Discuss the mechanism and prevention of peri-operative pulmonary thromboembolic disease secondary to adrenal-dependent hyperadrenocorticism in the dog.
  
2. Regarding skin reconstruction in the dog, answer **all** of the following:
  - a) Describe the vascular anatomy of canine skin and compare it to that of human skin. Include in your answer, the influence that the anatomical differences have on skin reconstruction techniques.
  - b) Define the 'delay phenomenon'. Describe the proposed mechanisms for how it occurs and how it can be used to improve the viability of skin flaps.
  - c) Discuss the pathophysiology of microvascular free tissue skin flap failure, including technical errors in microvascular techniques that can predispose to flap failure.
  
3. Regarding surgical management of septic peritonitis, discuss **all** of the following:
  - a) The use of cytological evaluation and fluid analysis and how the results may affect decision making. (40%)
  - b) Antibiotic choice when enteral leakage has occurred. (20%)
  - c) Methods of abdominal drainage for generalised septic peritonitis. (40%)

**End of Section A**

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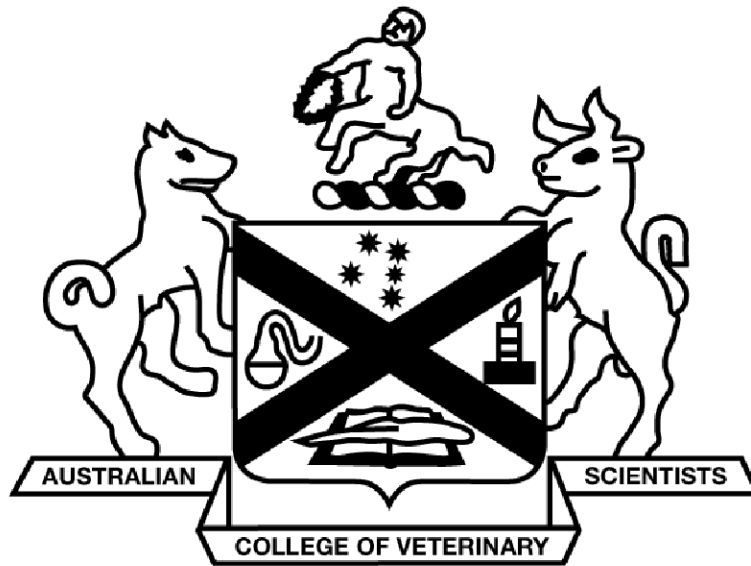
## Section B

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Answer two (2) questions from Section B.

4. Regarding patent ductus arteriosus (PDA) in dogs, answer **all** of the following:
  - a) Discuss the pathophysiology of normal duct occlusion versus continued patency. (40%)
  - b) Compare and contrast the alternative methods of surgical dissection to isolate a PDA for intra-thoracic ligation. (30%)
  - c) Discuss the risks and benefits to the patient of minimally invasive surgical methods of repair versus standard surgical intervention. (30%)
  
5. Answer **both** of the following:
  - a) Discuss the pathogenesis and aetiology of osteochondrosis.
  - b) The osteoarticular transfer system (OATS) procedure was recently introduced to veterinary orthopaedics. Explain what OATS entails, and discuss its indications, technique and potential applications in veterinary patients.
  
6. Answer **all** of the following:
  - a) Define **both** 'nociception' and 'pain'.
  - b) There are **four (4)** distinct physiological processes involved in the nociception pathway. Explain these processes and your rationale for multi-modal analgesia based on this pathway.
  - c) Explain the benefits of analgesia and the reason why post-operative pain is deleterious.

**End of paper**



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### Paper 2

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

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

Answer **four (4)** from the six questions only.

Answer **two (2)** questions from **Section A** and  
**two (2)** questions from **Section B**.

All questions are of equal value.

Subsections of questions are of equal value unless stated otherwise.

Answer **all** parts of the question unless requested otherwise.

# Paper 2: Small Animal Surgery

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Answer four (4) from the six questions only.

Answer two (2) questions from Section A and two (2) questions from Section B.

## Section A

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Answer two (2) questions from Section A.

1. Discuss **two (2)** of the following:
  - a) The radiographic assessment of distal femoral varus and the implications for medial patellar luxation repair in large breed dogs.
  - b) The clinical signs, diagnosis, treatment and prognosis for nerve sheath tumours of the brachial plexus in dogs.
  - c) The compartment biomechanical models used to classify spinal fractures and how they affect treatment planning.
  
2. Regarding laryngeal paralysis in the dog, answer **each** of the following:
  - a) Describe the investigation and diagnostic confirmation of laryngeal paralysis. Include in your answer, a comparison of laryngeal examination techniques and any pharmacological interactions with laryngeal function.
  - b) List the risk factors reported for the development of aspiration pneumonia post arytenoid lateralization.
  - c) Discuss the technical aspects of unilateral arytenoid lateralization that have been proposed to improve outcome and decrease the risk of aspiration pneumonia.
  - d) List **all** the reported techniques for the surgical treatment of laryngeal paralysis.
  
3. Regarding ectopic ureters in the dog, answer **each** of the following:
  - a) Describe the congenital and acquired urinary tract abnormalities that can be seen with this condition.
  - b) Compare and contrast the diagnostic imaging techniques used to confirm the diagnosis.
  - c) Describe the surgical options for correction and the prognosis following surgery.

**End of Section A**

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## Section B

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Answer two (2) questions from Section B.

4. Write detailed notes on **two (2)** of the following (include prognosis and treatment options):
  - a) multilobular osteochondrosarcoma in a dog
  - b) adenocarcinoma of the nasal cavity in a dog
  - c) thymoma in a cat.
  
5. An eight-year-old labrador retriever presents for recurrence of lameness following surgical stabilisation of a cranial cruciate ligament rupture by an extracapsular prosthesis. Previous radiographs and a surgical report from the referring clinic that performed the surgery are available. Answer **each** of the following:
  - a) Explain the aspects of the history, medical records and physical examination that you consider of importance, and why. (25%)
  - b) Discuss the possible reasons for the poor outcome in this particular case and how you would investigate them. (40%)
  - c) Draw an algorithm of how you would proceed to diagnose and manage the potential cause(s) of this dog's ongoing lameness. (35%)
  
6. A 10-year-old red setter is presented for an oral mass growing from the fixed gingival margin of the upper first and second premolar region. The referring veterinarian has performed an incisional wedge biopsy and confirmed a histopathological diagnosis of fibrosarcoma. Answer **each** of the following:
  - a) List the **two (2)** other most common malignant oral neoplasms in dogs. Compare and contrast their biological behaviour with that of fibrosarcoma. (50%)
  - b) Describe the staging procedures you would perform and provide justification for **each**. (20%)
  - c) Describe your surgical management of this case including pre-, intra- and post-operative considerations for a patient undergoing maxillectomy. (30%)

**End of paper**