



Australian and New Zealand College of Veterinary Scientists

Membership Examination

June 2018

Small Animal Surgery

Paper 1

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

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

Answer **ALL FOUR (4)** questions

Answer **FOUR (4)** questions, each worth 30 marks.....Total: 120 marks

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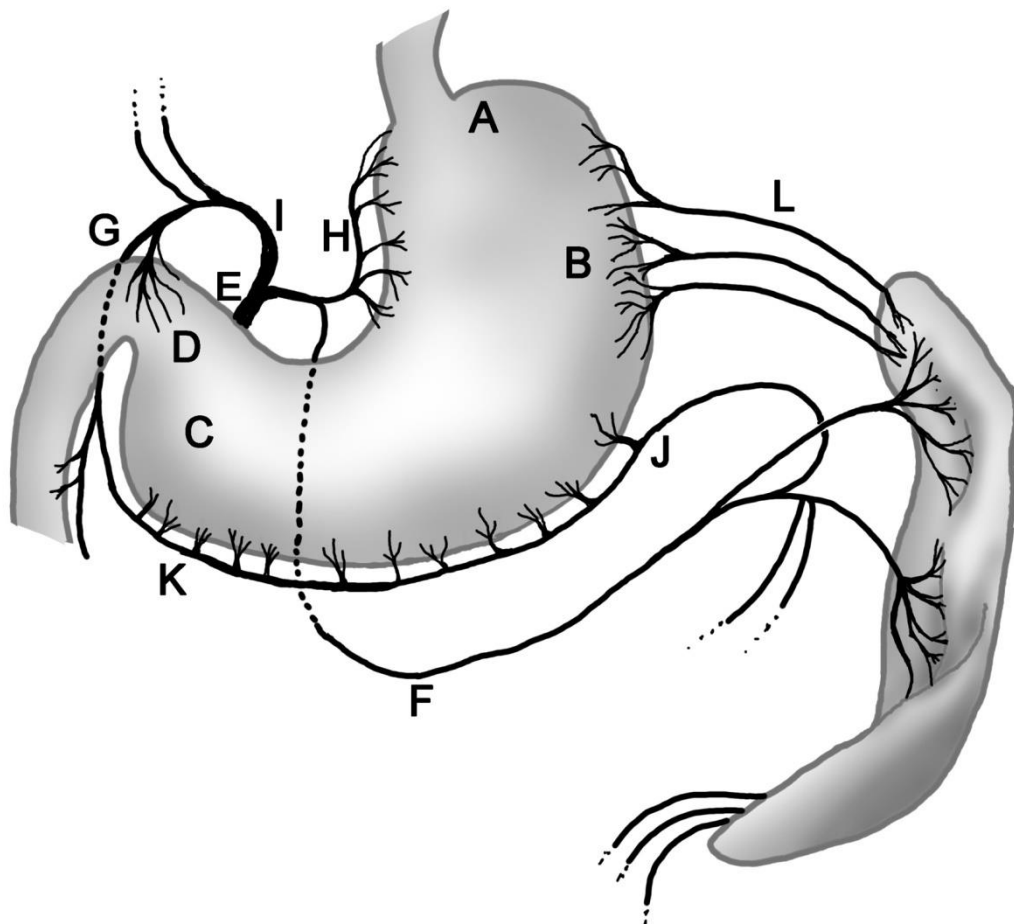
Paper 1: Small Animal Surgery

Answer all four (4) questions

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

- a) Referring to the diagram, identify the different gross anatomical parts of the stomach **and** the major arterial vessels that supply the stomach and spleen, as indicated by the letters **A** to **L**. Write your answers in the answer booklet.

(6 marks)



Question 1 continued over page

- b) A splenectomy can be performed by ligation of the individual hilar arteries. Alternatively, the main vessels can be ligated for rapid removal of the spleen. What are the names of these vessels **and** which organ is affected if they are ligated in the incorrect location? (4 marks)
- c) Answer **both** sub-parts of this question: (2 marks)
- i. Name the structure that needs to be opened to visualise the left limb of the pancreas.
 - ii. State the anatomic components that make up the boundaries of the epiploic foramen.
- d) List the **three (3)** openings within the diaphragm and the structures that pass through **each** one. (9 marks)
- e) Name the **two (2)** main arteries that supply the colon **and** explain the importance of blood supply when performing surgery on the descending colon. (4 marks)
- f) Provide the anatomic name of the adipose tissue structure identified at the cranial aspect of a ventral midline coeliotomy **and** discuss the embryological origin of this structure. (2 marks)
- g) List the **three (3)** main ligaments associated with the support of the ovary. Name the vessel(s) that supply the ovarian artery and the vessel(s) that the ovarian vein(s) enter. (3 marks)

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

- a) Following haemostasis, name and describe the stages of open skin wound healing. Include in your answer the processes occurring within the wound, the main cells/tissues involved **and** the approximate time an uncomplicated wound will spend in **each** stage. (15 marks)
- b) Discuss the treatments or interventions that could be utilised to reduce infection risk and optimise wound healing in an open wound, including reference to what stage of healing is at the highest risk of infection and why. (15 marks)

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

- a) Briefly define shock. (1 mark)
- b) List **four (4)** different types of shock. For **each** type, briefly describe the mechanism **and** give **one (1)** example. (8 marks)
- c) Discuss how the body detects an acute reduction of circulating blood volume due to haemorrhage. (6 marks)
- d) Discuss how the body attempts to maintain cardiac output and blood pressure in the face of acute blood loss greater than 30%. Include in your answer **both** neural and hormonal responses. (12 marks)
- e) Describe how to calculate the quantity of whole blood needed to transfuse an anaemic patient. (3 marks)

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

- a) Briefly define hip dysplasia. (2 marks)
- b) Describe the proposed aetiological factors, pathogenesis and biomechanics of hip dysplasia. (28 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: Small Animal Surgery

Answer all four (4) questions

1. A two-year-old, 10 kg Toy poodle cross is presented for intermittent skipping lameness of the left hindlimb. On physical examination of this limb, you can easily luxate the patella from the groove and it does not immediately return with flexion and extension of the stifle.

Answer **all** parts of this question:

- a) Describe the commonly used grading system for categorising this disease in dogs based on clinical examination. (8 marks)
- b) Based on this system, how would the case described above be classified? (2 marks)
- c) The owner elects for corrective surgery.

Answer **all** sub-parts of this question:

- i. List the surgical procedures that would be appropriate for this dog. (3 marks)
 - ii. List any major potential complications specific to **each** of these corrective surgical procedures. (4 marks)
 - iii. Describe how to determine whether the femoral sulcus was of adequate depth. (1 mark)
- d) A 15 kg Staffordshire bull terrier dog is presented with a grade 4 luxating patella.

Answer **all** sub-parts of this question:

- i. List the likely radiographic characteristics present in a dog with grade 4 medially luxating patella. (4 marks)
- ii. Name the surgical procedures that may be indicated, in addition to those listed in question 1 c) i. (2 marks)
- iii. List the factors that affect the prognosis for luxating patella cases treated surgically. (6 marks)

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2. A four-year-old, neutered Border collie, weighing 23 kg is presented, after a fall, with non-weight-bearing lameness of the right pelvic limb. Thorough clinical and laboratory evaluation has detected no evidence of other injury and you suspect a right coxofemoral luxation.

Answer **all** parts of this question:

- a) List the **three (3)** primary stabilisers and **three (3)** secondary stabilisers of the coxofemoral joint. (3 marks)
- b) Describe the findings on general physical and specific limb examination that would support the suspicion of a craniodorsal luxation. (4 marks)
- c) Describe the steps you would follow for closed reduction of a craniodorsal hip luxation in an appropriately anaesthetised patient. (5 marks)
- d) Discuss factors that should be considered when deciding whether surgical management or closed reduction of a traumatic craniodorsal coxofemoral luxation is appropriate. (10 marks)
- e) Hip toggle is one technique for stabilisation after open reduction of coxofemoral luxation. Name **three (3)** other currently described surgical procedures for stabilisation of the joint following open reduction of coxofemoral luxation. (3 marks)
- f) You elect to perform an open reduction with hip toggle. Describe the potential complications and aftercare for this repair. (5 marks)

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3. A two-year-old, male, neutered Labrador presents to you with a three-day history of vomiting. Diagnostic imaging is supportive of a small intestinal obstruction and you perform a surgical exploration. The surgical finding is an intestinal foreign body obstruction in the jejunum.

Answer **all** parts of this question:

- a) List **four (4)** ways that the viability of the small intestinal wall can be assessed intra-operatively. (2 marks)

- b) In relation to the obstruction, where should the enterotomy incision be? (1 mark)

- c) Briefly describe **two (2)** methods of augmenting/reinforcing the enterotomy incision. (6 marks)

- d) List **four (4)** functions of the omentum. (2 marks)

- e) Three days after surgery, post-operative septic peritonitis is suspected. Discuss the physical, chemical and cytological characteristics of peritoneal fluid for a generalised septic peritonitis of gastrointestinal origin. (5 marks)

- f) Answer **both** sub-parts of this question:
 - i. Assume that initial stabilisation has been performed already. Outline the surgical management of a generalised septic peritonitis of gastrointestinal origin. Do **not** include anaesthetic considerations. (8 marks)

 - ii. Discuss patient management and considerations for the generalised septic peritonitis patient in the first 24 hours post-operatively. (6 marks)

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4. A two-year-old, male, entire Bulldog is presented in respiratory distress due to brachycephalic obstructive airway syndrome (BOAS).

Answer **all** parts of this question:

- a) List **six (6)** anatomical abnormalities that have been associated with respiratory compromise in BOAS. *(3 marks)*
- b) Discuss the gastrointestinal conditions that are commonly associated with BOAS **and** describe their perioperative management. *(4 marks)*
- c) Describe the anatomic features of the **three (3)** stages of laryngeal collapse. *(6 marks)*
- d) Discuss the stabilisation of this patient. *(7 marks)*
- e) The patient is successfully stabilised and corrective airway surgery is performed. On recovery from this procedure, the dog shows significant respiratory distress. Discuss the further stabilisation options for the patient at this time. *(5 marks)*
- f) Describe the surgical placement of a temporary tracheostomy tube in a canine patient. *(5 marks)*

End of paper