



Australian and New Zealand College of
Veterinary Scientists

Membership Examination

June 2022

Small Animal Surgery

Paper 1

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

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

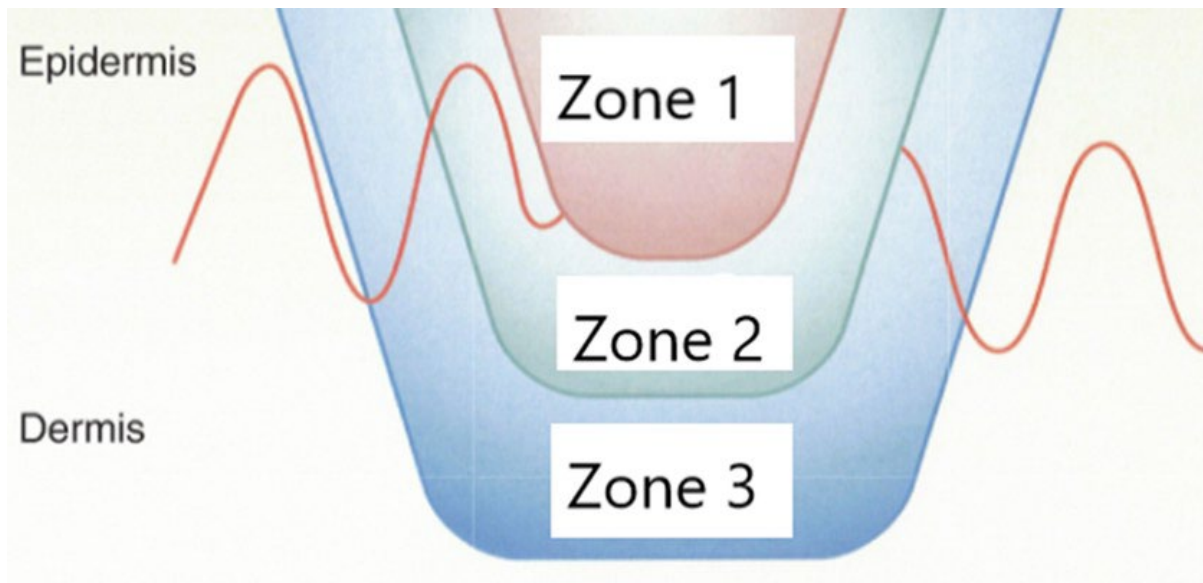
Answer **ALL FOUR (4)** questions

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

1. Answer **all** parts of this question relating to burns (parts A – F):

a) Discuss thermal burns in terms of the four usual classifications: (8 marks)

b) Name the following zones: (3 marks)



c) Describe the pulmonary and cardiovascular effects that are seen with a patient that has been exposed to an environment that has resulted in **two (2)** areas of second-degree burn extending over the left lateral thorax from the cranial aspect of the scapula to its caudal margin in an irregular circle and a second caudally with a radius ~ 10cm as depicted in the image. (13 marks)



- d) Define what the acronym “SIRS” stands for, give a brief explanation of how it may occur and what it may involve. (3 marks)
- e) Define the acronym “MODS” give a brief explanation of how it may occur and what it may involve. (3 marks)
2. Answer **all** parts of this question relating to Gastric Dilation Volvulus (GDV) (Parts A – D):
- a) Outline the proposed predisposing factors for the development of GDV, and include examples or brief details of each factor. (8 marks)
- b) Describe the proposed pathogenesis and pathophysiology of GDV at the level of the stomach (6 marks)
- c) Describe the systemic pathophysiology of GDV. (10 marks)
- d) According to the most current research, discuss prognostic factors that dictate outcomes relating to GDV. (6 marks)
3. Answer **all** parts of this question relating to Orthopaedics (parts A – D):
- Both external fixator and locking compression plate (LCP) can be used to stabilise a simple transverse distal diaphyseal radioulnar fracture in a toy breed dog.

- a) Name **five (5)** classifications of linear external skeletal fixator frame configuration and provide a brief description of each. (5 marks)
- b) Describe the process of healing that is expected following application of an LCP in compression mode. (10 marks)
- c) Describe the process of healing that is expected following closed reduction and application of a linear external skeletal fixator. (10 marks)
- d) Discuss the anatomy and physiology of distal antebrachial fracture repair in toy breed dogs that may impact the fracture healing and fixation option. (5 marks).

4. Answer **all** parts of this question that relate to the shoulder – (Parts A – E).
- a) List the important stabilising structures. of the shoulder joint. In your answer, include key muscles and ligaments responsible for the stability of this joint . (6 marks)
 - b) Describe the typical clinical presentation and pathogenesis of:
 - i. Biceps brachii tendinopathy (5 marks)
 - ii. Medial shoulder instability (5 marks)
 - c) List the components of a tendon unit. (4 marks)
 - d) Compare and contrast the process of healing in sheathed tendons and tendons with associated paratenon. (6 marks)
 - e) Briefly discuss factors contributing to delayed tendon healing. (4 marks)



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Answer **ALL FOUR (4)** questions

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

1. Answer **ALL** parts of this question – (sub questions A – J):

- a) A five-month-old male neutered Spoodle presents to you with a **three (3)** day history of right hindlimb lameness after playing vigorously at the park with other dogs. The dog is intermittently weight bearing and your physical examination localises pain in the coxofemoral joint.

Radiographs show a displaced capital physal fracture. Primary repair of the fracture is planned.

Name and describe the surgical approach to the coxofemoral joint for this procedure?
(6 marks)

- b) A five-month-old male neutered Spoodle presents to you with a **three (3)** day history of right hindlimb lameness after playing vigorously at the park with other dogs. The dog is intermittently weight bearing and your physical examination localises the pain to the coxofemoral joint.

Name four (4) other differential diagnoses for this patient (2 marks)

- c) A five-month-old male neutered Spoodle presents to you with a **three (3)** day history of right hindlimb lameness after playing vigorously at the park with other dogs. The dog is intermittently weight bearing and your physical examination localises the pain to the coxofemoral joint.

Describe the blood supply to the femoral head and neck and why it is important (4 marks)

- d) A five-month-old male neutered Spoodle presents to you with a **three (3)** day history of right hindlimb lameness after playing vigorously at the park with other dogs. The dog is intermittently weight bearing and your physical examination localises pain the coxofemoral joint.

What technique would be used to primarily repair this fracture and why? (2 marks)

- e) A five-month-old male neutered Spoodle presents to you with a **three (3)** day history of right hindlimb lameness after playing vigorously at the park with other dogs. The dog is intermittently weight bearing and your physical examination localises the pain to the coxofemoral joint.

What are some technical considerations when performing this technique/procedure?
(4 marks)

- f) A five-month-old male neutered Spoodle presents to you with a **three (3)** day history of right hindlimb lameness after playing vigorously at the park with other dogs. The dog is intermittently weight bearing and your physical examination localises the pain to the coxofemoral joint.

List any potential complications that might occur with this procedure? (4 marks)

- g) A two-year-old male neutered 6 kg Domestic shorthair cat presents to you with a **six (6)** week history of left hindlimb lameness. He is an indoor cat and there is no history of trauma. Examination reveals a mild to moderate lameness and pain localises to the coxofemoral joint.

Name two (2) differential diagnoses for this patient (2 marks)

- h) A two-year-old male neutered 6 kg Domestic shorthair cat presents to you with a **six (6)** week history of left hindlimb lameness. He is an indoor cat and there is no history of trauma. Examination reveals a mild to moderate lameness and pain localises pain to the coxofemoral joint.

Radiographs show a displaced capital physal fracture.

What syndrome is of concern with this signalment? (1 mark)

- i) A two-year-old male neutered 6 kg Domestic shorthair cat presents to you with a **six (6)** week history of left hindlimb lameness. He is an indoor cat and there is no history of trauma. Examination reveals a mild to moderate lameness and pain localises pain to the coxofemoral joint.

What surgical options are available for salvage of joint functions? (2 marks)

- j) A two-year-old male neutered 6 kg Domestic shorthair cat presents to you with a **six (6)** week history of left hindlimb lameness. He is an indoor cat and there is no history of trauma. Examination reveals a mild to moderate lameness and pain localises pain to the coxofemoral joint

What procedure would be recommended and why? (3 marks)

2. Answer **ALL** parts of this question that relate to renal carcinoma – (sub questions A - E)

A 10-year-old female neutered Labrador retriever is presented to your clinic with a **three (3)** day history of haematuria, anorexia and being generally unwell. On physical examination, she also appears to be emaciated with a left dorsal abdominal mass. You suspect that she has a renal tumour.

- a) Outline and justify diagnostic investigation of this case. (10 marks)
- b) A ureteronephrectomy is performed to remove the renal mass.
Briefly describe the technique of ureteronephrectomy. (5 marks)
- c) Outline the appropriate post-operative management of this case in the first 72 hours after surgery. (10 marks).
- d) List **four (4)** common sites of metastasis for renal cell carcinoma. (2 marks)
- e) List **three (3)** prognostic factors for renal cell carcinoma. (3 marks)

3. Answer **ALL** parts of this question that relate to the small intestine.

A clinic is presented with a five-month-old, female entire Domestic short hair with a history of lethargy, inappetence and intermittent vomiting. Abdominal palpation reveals a cylindrical mass effect in the mid-abdomen. There is a suspicion of a small intestinal intussusception.

- a) List **four (4)** aetiologic factors associated with small intestinal intussusception in small animals. (2 marks)
- b) State **three (3)** circumstances where a small intestinal resection and anastomosis may be required to treat an intussusception. (3 marks)
- c) State your choice of suture material and suture pattern for a sutured anastomosis of the small intestine and justify your choice with respect to small intestinal wound healing. (5 marks).
- d) Describe **two (2)** methods that may be used to correct luminal disparity between transected ends of bowel during intestinal resection and anastomosis. (5 marks)
- e) Enteroplication is a technique described to reduce the risk of recurrence of an intussusception.

Briefly describe the method of performing enteroplication. Include in your answer any relevant anatomy pertaining to the technique. Include complications associated with enteroplication. (7 marks)

- f) Septic peritonitis is a major complication associated with dehiscence of a small intestinal closure.

Outline the available diagnostic tests and describe the specific findings that may lead to a diagnosis of septic peritonitis in a patient that shows deterioration after small intestinal surgery. (8 marks)

4. A five-year-old Domestic short hair presents to your clinic after being hit by a car. Upon thorough examination, this cat is stable and ambulatory, however very painful at the tail base, and you are suspicious of a sacrocaudal luxation or 'tail pull injury'.

Answer **ALL** parts of this question (sub-questions A – F)

- a) Briefly outline the initial assessment of this patient to help assess the extent of the sacrocaudal injury (6 marks)
- b) Describe how the perineal reflex is performed and a normal response, and list the nerve assessed. (3 marks)
- c) List the nerves that involved in micturition, and briefly discuss their involvement in the process. (12marks)
- d) Identify and explain the expected clinical findings in regards to bladder function in a patient with a spinal fracture-luxation at the level of L1-L2. (3 marks)
- e) This patient has a flaccid bladder with poor detrusor tone, that is difficult to express. List **two (2)** medications available to help manage this cat's bladder and state the mechanism of action of each. (4 marks)
- f) Briefly list indications to amputate the tail in a case of sacrocaudal luxation. (2 marks)

End of paper