

REF. NO.	C-SAS.1
TITLE:	SMALL ANIMAL SURGERY SMALL ANIMAL SURGICAL PRACTICE
CATEGORY AND VALUE:	C -10 CREDITS
NOTIONAL STUDY HOURS:	100

LEARNING OUTCOMES

This module will enable the candidate to

- Gain a sound understanding of the principles of tissue healing and the physiological consequences of surgery on all body systems.
- Critically appraise their current working practices with regard to preparation and management of the surgical patient, the surgical environment, staff and instruments.
- Use the information gained in this module to modify their working practices and upgrade to 'best practice' techniques in preparation for gaining the surgical or medical skills in other C modules.
- Recognise the moral responsibility to provide adequate levels of care and facilities for particular surgical procedures.

ASSESSMENT STRATEGY FOR THIS MODULE

Assessment of this module will comprise of one assessment which will evaluate a case log and 3 reflective essays

A case log of 100 consecutive surgical cases should be submitted, which should include elective and routine surgical procedures including brief details of the procedures used and outcome of the case

For each reflective essay, the candidate must select one case from their surgical case-load and use this to illustrate the topic. A separate case must be used for each essay. Each essay must be no longer than 2000 words excluding references and figure legends. References from both the current published literature and standard reference sources should be used sparingly to support major statements in the text. The essay must be typed in 12 font Times New Roman text and be double spaced. References should follow the publishing format of the Journal of Small

Animal Practice. Commercial products should be described using generic terminology (e.g. drug name, dressing type) followed by the trade name and manufacturer in parentheses.

The candidate must clearly indicate which topic the essay demonstrates

Topic 1: Discuss the application of theory and selection of wound products using a case as an example of open wound management in small animal practice.

Topic 2: Demonstrate the importance of surgeon and patient preparation using a case undergoing surgery in small animal practice. This may include a discussion on the rational use of antibiotics in the perioperative period.

Topic 3: One additional case that reflects one aspect of the module outcomes (excluding topics 1 and 2) should be described.

The essays should be laid out in the format

Title + topic number
Introduction
Materials and Methods or Case Description
Discussion
References

MODULE CONTENT

At the end of the module, candidates should be able to:

- Thoroughly understand the anatomical, physiological, immunological and pathological processes involved in surgical disease, including the relationships between surgery and the overall health status of the patient. Understand the pathophysiological responses to trauma including surgical trauma.
- Show thorough familiarity with the clinical presentation of the common surgical conditions affecting dogs, cats and small mammals.
- Understand and promote concepts of best practice in relation to asepsis, preparation of theatre, personnel and patient for surgery. Understand strategies available for managing intra-operative contamination.
- Understand and promote best practice in post surgical nursing, including all aspects of recovery, nutrition and post operative rehabilitation.

- Understand and communicate rational choice and use of antibiotic therapy in relation to surgical cases.
- Identify surgical equipment and know how to package, sterilise and maintain surgical instrumentation and equipment
- Review and constructively criticise current literature on surgical principles, theatre practice and post surgical nursing, to enable them to determine its relevance to their current practice.
- Utilise their understanding of Evidence Based Medicine and Decision Analysis to develop practical diagnostic and treatment protocols for their patients.
- Use available resources and communicate with owners in such a way as to achieve optimum results in their practice circumstances in relation to surgical cases.
- Review the outcomes of at least part of their clinical work, using the process of clinical audit to improve performance.
- Recognise when a case is truly unusual, and become familiar with the information resources available to enable them to deal with such cases.
- Recognise when a case is beyond their personal or practice capabilities, and provide an effective channel of referral. Understand and recognise the moral responsibility for advising owners when they are inexperienced with a particular type of surgery. Appreciate the importance of adequate facilities and skill necessary for advanced surgery.

This module should be seen as a 'core'surgery module, which provides the foundation needed for further development in the other small animal surgery modules.

MODULE CONTENT

The areas to be covered should include the following:

Pathophysiology of surgical disease:

Physiology of normal and disordered bone and soft tissue healing (including tendons, muscle, nerve and other body systems) Pathophysiology of trauma

Diagnosis of surgical disease:

Review history taking, clinical examination including neurological examinations Review diagnostic methods for identification of surgical disease Screening for occult or contributory medical disease Review the impact of concurrent medical disease on surgical outcomes. Principles of decision taking with regard to surgical disease, including when to refer

Theatre Practice:

Instrumentation for surgery (soft tissue and orthopaedic) Identification of instruments for specific use Knowledge of materials used for surgical instrumentation
Correct use and maintenance of surgical equipment Sterilisation of instruments using different techniques, and storage and identification of sterile packs. Preparation of surgeon and assistants Preparation of patient Identification of level of contamination and risks of specific surgeries. (clean, clean-contaminated, contaminated, infected) Rational choice of antiseptic solutions. Draping techniques and materials.
Asepsis, management of intra-operative contamination, sterile technique Theatre design and management of theatre personnel Record keeping in theatre and the use of records to identify sources of breaks in asepsis or post operative infections Appropriate use of perioperative antibiotics and choice of antibiotics.

Surgical technique:

Halstead's principles of surgery Principles of oncologic surgery Tissue handling techniques and setting standards Management of surgical assistants

Introduction to current thinking in anaesthesia for non-routine surgeries:

Analgesia Sedation protocols for diagnostic procedures Premedication Induction Maintenance of anaesthesia Monitoring techniques and how that information is useful to the surgeon/anaesthetist Specific issues with long anaesthetic times Specific issues with patients in shock

Post operative care:

Thermal regulation Nutrition and fluid balance Oxygen supplementation Monitoring techniques Identifying and communicating nursing requirements Management of pain and stress Physiotherapy Monitoring and record keeping, interpretation of records Identification of post operative complications; management strategies and knowing when to refer

Wound management:

Surgical wounds Basic wound first aid Open wound management (lavage, debridement, principles of promoting healing) Primary layer wound dressings Secondary and other dressing layers (including casting materials) Disordered open wound healing Decision making in wound management

Surgical ethics:

Introduce concepts of appropriate and inappropriate surgery Decision making in surgery Communication with owners pre and post operatively; management of post operative care instructions When to offer referral

REFERENCE LIST AND SUGGESTED READING

Textbook of Small Animal Surgery Ed. Slatter 3rd edition W.Bsaunders (2002)
Veterinary Nursing 3rd edition Ed. Lane and Cooper Butterworth Heinemann (2003)
BSAVA manuals of surgery and advanced surgical nursing Brinker, Piermatti and Flo
Manual of Small Animal Orthopaedics and Fracture management Compendium of Continuing Education Journal of Small Animal Practice Veterinary Surgery A list of surgical procedures is provided, indicating the level of competence required for each procedure by candidates following a surgical route through the Certificate.

SURGICAL PROCEDURES

Whilst certain procedures are undeniably within the remit of the Certificate level surgical modules, for example ovariohysterectomy for pyometra; enterotomy for foreign body removal or simple fracture repair, others such as portosystemic shunt ligation or total hip arthroplasty are equally clearly outside the scope at this level. However, many procedures lie in a grey area between the obvious extremes and furthermore it is not unreasonable to expect candidates following the surgical route to have knowledge of even the most complex procedures. Otherwise, proper case selection and appropriate referral cannot take place. Furthermore, to restrict Certificate level surgeons to a limited number of specified procedures would risk producing Certificate holders who would be little more than surgical technicians with a limited repertoire.

A wide range of procedures is therefore listed below, and these have been classified to indicate the level of competence which candidates would be expected to have acquired on completion of the orthopaedic surgical modules.

A. These are procedures in which the candidate should be fully competent. The candidates should be able to execute the procedure to a standard comparable with any other surgeon and be able to demonstrate complete understanding of indications, limitations, alternative techniques, complications, prognosis, etc.

- B. These are more challenging procedures which, by the time the candidate sits and passes the surgical modules, they will be expected to perform competently. Such procedures will be those requiring a more confident, experienced surgeon and a more detailed knowledge and understanding of surgical science in general and the specific details and background of the technique and the underlying disease processes. As before, the candidate must be able to demonstrate a complete understanding of indications, limitations, alternative technique, complications, prognosis, etc.
- C. These are complex and advanced techniques which are usually performed by surgeons with significant postgraduate surgical experience and training. Certificate level candidates will not be expected to demonstrate experience or competence in these techniques. However, candidates will be expected to demonstrate an understanding of indications, limitations, alternative techniques, complications and prognosis, sufficient to advise clients and select appropriate cases for referral.

SURGICAL PROCEDURES

Fractures	Humerus Simple diaphyseal -A Comminuted diaphyseal -B/C Severely comminuted diaphyseal -B/C Lateral Condylar –B T/Y # of Condyles –C
Antebrachium	Simple diaphyseal –A Comminuted diaphyseal –B Severely comminuted diaphyseal –B
Carpus	Radial carpal –B Accessory carpal -B/C Metacarpals/Phalanges -A/B (Racing dogs, etc) -B/C
Femur	Simple diaphyseal -A Comminuted diaphyseal -B Severely comminuted diaphyseal -B/C Capital physeal separation -B Distal physeal fracture -A/B
Tibia	Tibial Crest Avulsion -A Simple diaphyseal -A Comminuted diaphyseal -B Severely comminuted diaphyseal -B Distal (Malleolar) Fracture -B

Tarsals

Central Tarsal -B/C Multiple Tarsal -B/C

Metatarsal

A/B (Racing Dogs -B/C)

Spinal Fractures

B/C

Pelvis

B/C

General

Open Fractures -B/C Articular Fractures -B/C Angular
Limb Deformities -C

Joint Surgery

Shoulder Arthrotomy for OCD –B
Biceps tendon surgery –B
Shoulder Arthroscopy -C

Elbow Arthrotomy for Coronoid Process Disease –B
Elbow Arthroscopy –C
Anconeal Process Surgery –B
Ulnar Osteotomy –B
Open reduction of traumatic luxation –B
Shoulder Arthrodesis –C
Elbow Arthrodesis –C
Carpal Arthrodesis –B
Hip Excision Arthroplasty –B
Total Hip Arthroplasty –C
Triple Pelvic Osteotomy –C
Inter trochanteric Osteotomy -B/C
Femoral Neck Lengthening Osteotomy –C
Open reduction/fixation of hip luxation -B

Patellar luxation surgery –B
Conventional Cranial Cruciate Surgery –B
Tibial Plateau Levelling Procedures –C
Tarsal Shear Injury –B
Traumatic Hock Luxation -B

Arthrotomy for OCD of Hock –B
Tibiotarsal Arthrodesis –B
Achilles Tendon Repair –B
Intertarsal Arthrodesis –B
Tarsometatarsal Arthrodesis -B

Spinal Surgery

Atlantoaxial stabilisation/fusion -C
Ventral Disc Fenestration –B
Ventral Slot Decompression –C
Distraction Fusion for CCSM –C
Conventional Fracture Management -C

Thoracolumbar disc fenestration –B
Decompressive T/L hemilaminectomy-C
T/L Fracture Management –C
Dorsal Lumbosacral Laminectomy –B
Lumbosacral Distraction Fusion –C
Lumbar or L/S Fracture Management -C

SOFT TISSUE PROCEDURES

Endoscopic surgery abdomen & thorax -C

Skin
Simple skin flaps Advancement flaps –A
Bipedicle flap, Transposition flaps –B
Free Skin Grafts -B

Axial pattern flaps -B/C
Wound augmentation with omentum B

Microvascular techniques C
Muscle flaps C
Myocutaneous flaps C
Compound flaps (skin, muscle & bone) C

Mastectomy
Simple A
Radical B

Resection for skin fold pyoderma A
Screw Tail resections B

Aural Aural haematoma -A
Lateral wall resection -A/B
Pinnectomy –A
Total ear canal ablation with lateral bulla osteotomy -B/C
Ventral bulla osteotomy -B/C

Nasal Nasal Planum resection
Dog –C
Cat -B
Dorsal rhinotomy –B
Ventral Rhinotomy -C

Trephination of sinuses -B

Oral Cleft Palate Repair
Soft palate -B/C
Hard palate –C
Hare Lip -C
Rostral mandibulectomy –B

Rostral maxillectomy –B
Horizontal mandibulectomy –C
Total mandibulectomy –C
Radical Naso-maxillectomy –C
Partial glossectomy -B
Sialadenectomy -A/B

Airway

Stenotic nares –A
Soft palate resection – B
Excision of everted laryngeal ventricles –B
Tonsillectomy –B
Unilateral arytenoid lateralisation -B/C
Tracheoplasty for tracheal collapse –C
Tracheal resection & anastomosis -B/C

Chest tube placement & management -A/B
Lung Lobectomy -B/C
Lung Biopsy –C
Thoracic duct ligation –C
Thoracic omentalisation -C

Pericardectomy -B/C

Lateral thoracotomy –B
Median Sternotomy –C
Diaphragmatic herniorrhaphy – traumatic & PPDH –B
Chest wall reconstruction -C

Ligation of a Patent ductus arteriosus -C

Surgical Management of a vascular ring anomaly -B/C

Alimentary

Cricopharyngeal myotomy for achalasia – C
Oesophagotomy -B/C Oesophageal anastomosis -C
Oesophageal Hiatal Herniorrhaphy -B/C

Gastrotomy – A
Gastropexy: tube, belt, incisional, circumcostal or midline -B
Tube gastrostomy -A//B

Fredet-Ramstedt Pyloromyotomy –B
Heineke-Mikulicz Pyloroplasty –B
Y-U antral pyloroplasty –B
Bilroth I & II -C

Cholecystectomy –C

Cholecystoduodenostomy -C

Enterotomy –A

Enterectomy –A

Sub-total colectomy -A/B

Liver lobectomy -B/C

Hepatic biopsy -B

Portocaval shunts – ligation, constrictor application,
intrahepatic PSS -C

Pancreatic biopsy -B/C

Pancreatectomy – partial; total -C

Genitourinary System Nephrectomy –B

Nephrotomy -C

Surgery for ectopic ureters -C

Cystotomy –A

Tube cystotomy -A/B

Surgery for incontinence – female & male -C

Vulvovaginectomy -C

Urethrotomy, urethrostomy -B

Perineal urethrostomy (cats) -B

Castration -A

Prostatic abscess omentalisation –B

Prostatic cysts (omentalisation) -B

Ovariohysterectomy – routine & for pyometra –A

Caesarean section -A

Episiotomy –A

Episioplasty -B

Anorectal Surgery

Pelvic split, -C

Rectal Pull out, -B

Dorsal approach to rectum –C

Perineal herniorrhaphy –B

Anal furunculosis –B
Anal saccullectomy –B
Resection of anal sac adenocarcinoma -B/C

Miscellaneous

Thyroidectomy –B
Adrenalectomy –C
Herniorrhaphy of body wall -A/B
Complex oncological resections and reconstruction -B/C