Certificate in Advanced Veterinary Practice

C-SAS.1 Small Animal Surgery (Core)

Module Syllabus

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Learning outcomes

This module will enable you to:

- Gain a sound understanding of the principles of tissue healing and the physiological consequences of surgery on all body systems.
- Critically appraise your 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 your 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.

Learning topics

At the end of the module, you 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, and 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, and strategies available for managing intraoperative contamination
- Understand and promote best practice in postoperative 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 postoperative nursing, to enable you to determine its relevance to your current practice

- Utilise your understanding of Evidence Based Medicine and Decision Analysis to develop practical diagnostic and treatment protocols for your patients
- Use available resources and communicate with owners in such a way as to achieve optimum results in your practice circumstances in relation to surgical cases
- Review the outcomes of at least part of your 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 you to deal with such cases
- Recognise when a case is beyond your personal or practice capabilities and provide an effective channel of referral
- Understand and recognise the moral responsibility for advising owners when you are inexperienced with a particular type of surgery
- Appreciate the importance of adequate facilities and skill necessary for advanced surgery

Syllabus

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, 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 intraoperative 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 postoperative 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 postoperative 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 postoperatively; management of postoperative care instructions
- When to offer referral

Surgical procedures

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.

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 surgical modules:

A. These are procedures in which you 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 you pass the surgical modules, you 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, you 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 specialist 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.

Orthopaedic

Fractures

Humerus	Simple diaphyseal	A
	Comminuted diaphyseal	C
	Severely comminuted diaphyseal	C
	Lateral Condylar	B
	T/Y fracture of Condyles	C
Antebrachium	Simple diaphyseal	A
	Comminuted diaphyseal	B
	Severely comminuted diaphyseal	B/C
Carpus	Radial carpal	B
	Accessory carpal	B/C
	Metacarpals/Phalanges	A/B
	(Racing dogs, etc)	B/C
Femur	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/C
	Distal (Malleolar) Fracture	B
Tarsals	Central Tarsal	B/C
	Multiple Tarsal	B/C
Metatarsal	Metatarsal	A/B
	(Racing dogs)	B
Spinal	Spinal fractures	C
Pelvis	Pelvic fractures	B/C
General	Open fractures	B/C
	Articular fractures	B/C
	Angular limb deformities	C
Spinal Surgery	Atlantoaxial stabilisation/fusion	C
	Ventral Disc Fenestration	C
	Ventral Slot Decompression	C
	Distraction Fusion for CCSM	C
	Conventional Fracture Management	C
	Thoracolumbar disc fenestration	C
	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
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
	Canine unicompartmental elbow replacement (CUE) / Total elbow replacement (TER)	C
	Proximal Abducting Ulnar osteotomy (PAUL)	C
	Shoulder Arthrodesis	C
	Elbow Arthrodesis	C
	Carpal Arthrodesis	B
	Hip Excision Arthroplasty	B
	Total Hip Arthroplasty	C
	Triple Pelvic Osteotomy	C
	Open reduction/fixation of hip luxation	B
	Patellar luxation surgery	B
	‘Lateral suture to stabilise a cranial cruciate ligament rupture’	B
	Tibial Plateau Levelling Procedures (TPLO)	C
	Tibial Tuberosity Advancement (TTA)	C

	Modified Maquet Procedure (MMP)	C
	Traumatic Hock Luxation	B
	Tarsal Shear Injury	B
	Arthrotomy for OCD of Hock	B
	Pantarsal Arthrodesis	C
	Achilles Tendon Repair	B
	Intertarsal Arthrodesis	B
	Tarsometatarsal Arthrodesis	B

Soft Tissue

Skin	Advancement flaps	A
	Bipedicle and transposition flaps	B
	Free skin grafts	B
	Axial pattern flaps	B
	Wound augmentation with omentum	B
	Microvascular techniques	C
	Muscle flaps	C
	Myocutaneous flaps	C
	Compound flaps	C
	Mastectomy – Simple	A
	Mastectomy – radical	B
	Resection for skin fold pyoderma	A
	Screw tail resections	B
Aural	Aural haematoma	A
	Lateral wall resection	A
	Pinnectomy	A
	Total ear canal ablation with lateral bulla osteotomy	C

	Para-aural abscessation	C
	Ventral bulla osteotomy	B
Nasal	Nasal planum resection (cat)	B
	Nasal planum resection (dog)	C
	Dorsal rhinotomy	B/C
	Ventral rhinotomy	C
	Trephination of sinuses and treatment of aspergillosis	A
Oral	Cleft palate repair (soft palate)	B
	Cleft palate repair (Hard palate)	C
	Cleft palate repair (Hare lip)	C
	Rostral mandibulectomy	B
	Horizontal mandibulectomy	B
	Total mandibulectomy	C
	Rostral maxillectomy	B
	Caudal maxillectomy	C
	Radical naso-maxillectomy	C
	Partial glossectomy	B
	Sialoadenectomy	B
	Oronasal fistula reconstruction	B
Airway and thorax	Stenotic nares	A
	Soft palate resection	B
	Excision of everted laryngeal ventricles	B
	Tonsillectomy	B
	Unilateral arytenoid lateralisation	C
	Tracheoplasty for tracheal collapse	C

	Tracheal resection and anastomosis	C
	Tracheal avulsion	C
	Lung lobectomy	C
	Lung biopsy	C
	Thoracic duct ligation	C
	Thoracic omentalisation	C
	Pericardiectomy	B/C
	Lateral thoracotomy	C
	Median sternotomy	C
	Chest wall reconstruction	C
	Ligation of a patent ductus arteriosus	C
	Surgical management of a vascular ring anomaly	B/C
	Thymectomy	C
	Temporary tracheostomy	A
	Permanent tracheostomy	B
Endoscopic surgery	Thoracoscopy	C
	Laparoscopy- all types other than those listed below	C
	Lap cryptorchidectomy	B
	Lap liver biopsies	B
Oncologic surgery	Skin tumours	A/B
	Complex or radical oncological resections and reconstruction	C
Miscellaneous	Limb amputation	B

Alimentary (Oesophageal)	Cricopharyngeal myotomy for achalasia	C
	Oesophagotomy	B/C
	Oesophageal anastomosis	C
	Oesophageal hiatal herniorrhaphy	B/C
Alimentary (Gastrointestinal)	Gastrotomy	A
	Gastropexy: tube, belt, incisional, circumcostal	B
	Tube gastrostomy	A
	Fredet-Ramstedt pyloromyotomy	B
	Pyloroplasty	B
	Bilroth I & II	C
	Partial Gastrectomy	B
	Enterotomy	A
	Enterectomy	B
	Sub-total colectomy	B
	Jejunostomy tube placement	B
Alimentary (Liver, Pancreas and spleen)	Cholecystectomy	C
	Cholecystoduodenostomy	C
	Liver lobectomy	C
	Hepatic biopsy	A
	Portocaval shunts – ligation, constrictor application, intrahepatic PSS	C
	Pancreatic biopsy	A
	Pancreatectomy – partial	B
	Pancreatectomy – total	C
	Splenectomy	B
	Partial splenectomy	B

Genitourinary system	Nephrectomy	B
	Nephrotomy	C
	Surgery for ectopic ureters or other ureteric surgery	C
	Ureteral stent or SUB placement	C
	Cystotomy	A
	Partial Cystectomy	B
	Tube cystostomy	A
	Surgery for incontinence – female and male:	
	Prostatopexy and urethropexy	A
	Colposuspension and hydraulic occluder placement	B
	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	A
	Partial or total penile amputation	C
Anorectal surgery	Pelvic split	C
	Rectal Pull out	B
	Dorsal approach to rectum	B
	Perineal herniorrhaphy	B
	Anal furunculosis	B

	Anal sacculectomy	B
	Resection of anal sac adenocarcinoma	B
Endocrine	Thyroidectomy (cat)	A
	Thyroidectomy (dog)	B
	Parathyroidectomy	B
	Adrenalectomy	C
Diaphragm and body wall	Body wall hernias including inguinal and umbilical	B
	Body wall trauma including rupture of pre-pubic tendon	B
	Body wall resection for oncologic resection	B
	Diaphragmatic rupture/hernia	B
Ophthalmic surgery	Enucleation	A
	Surgery for entropion	A
	Eyelid reconstructive surgery	A/B
	Surgery for prolapsed gland of third eyelid	A
	Conjunctival flap	A

Enrolment guidance

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. Before embarking on this module:

a) You should ideally have completed module B-SAP.1.
b) It is your responsibility to ensure that you have access to sufficient surgical cases to produce adequate material for the module.
c) It is your responsibility to be aware of the limitations of your facilities to carry out surgical techniques that might be covered in the course of this module.

Coverage of this module may be integrated with others, particularly other B and C modules. All candidates will normally have completed A-FAVP.1 Foundations in Advanced Veterinary Practice module and at least one of the practice B modules, before undertaking a C module, although candidates can choose to work through modules in a different order if they wish. In whichever order modules are tackled, compliance with best practice for all the topics covered by module A-FAVP.1 will be expected whenever these are appropriate in C modules. For example, awareness of, and compliance with, all relevant legislation, welfare and ethical principles will be required throughout.

This module is one of a range of C modules covering Small Animal Surgery; the aim of the module is to enable you to extend and consolidate clinical knowledge and skills gained at undergraduate level, and to develop an in-depth understanding of the application of that knowledge in a practice environment.

You are advised to plan a structured programme of continuing professional development to help you achieve your objectives. Involvement in ‘learning sets’ and networks of other candidates working towards the same or similar modules is encouraged; this could be initiated by the candidates themselves via RVC Learn. The RCVS considers that you will need advisers/mentors to support you through the programme. You are free to choose your own advisers/mentors and the RCVS guidelines strongly advise you to seek advice from your mentor regarding ‘seeing practice’ with specialist surgeons.

For a designated Certificate in Advanced Veterinary Practice (General Small Animal Surgery) you must complete this module, two surgery modules, a fourth 10 credit module of your choice and an RCVS synoptic assessment.

Assessment

- A case diary of 100 consecutive surgical cases should be submitted, which should **not** include neutering or simple procedures (see case diary and synopsis guidelines).

- At the end of the case diary you should include a synopsis up to 1,500 words of what you have learned from the cases.

- You then select up to 5 cases you wish to expand on, with a paragraph per case stating your reason for each choice. Each case must have complete case history and follow up, including, where applicable, laboratory results and pre- and postoperative imaging. Fractures must be followed up until radiographic evidence of bony union or to the point of identification of failure of fracture fixation. You must be primary surgeon for all 5 case and the assessor will select 2 cases to be written up by you.

- Two cases to be written up in detail up to 2,000 words in length with appropriate illustrations. The discussion in these two case reports will critically appraise the case management and demonstrate your ability to apply the learning outcomes to the management of cases in your practice. **The discussion should be very specific to the surgical case**. It should be based around discussing what went well and what went badly with the surgery. The discussion should also critically review the wider literature relating to the surgery case. In some cases this may involve discussing alternative treatment/management options based on the current literature. Proper and appropriate referencing is expected. A useful guideline is that the discussion should comprise approximately half of the word limit (i.e. 1,000 words).

- One case report can be submitted for review prior to being marked. This is only permitted once per candidate per discipline. It must be submitted as a fully written report and not a draft version. Feedback will be given on the approach to writing the case report that can be applied to all future surgery reports and modules, rather than specific comments on management of the individual case.

- A reflective essay, of about 800 words, completed at the end of the module reflecting upon how the course of study has resulted in a more competent practitioner. This may include a detailed critical review of a specific aspect of theatre practice or surgical technique.

Annual assessment timetable

Late August	'Student check in' – online Teams call with the CertAVP team and other students
1st October	Case diary, synopsis and case selection to be uploaded for marking
5th November	You will be notified of your case diary and synopsis results. If successful, you will be notified of which 2 cases are to be written as case reports.
Mid December	'Student check in' – online Teams call with the CertAVP team and other students
1st February	Submit a case report for formative feedback (only one permitted per discipline; generally it will be submitted for your first Surgery module)
5th March	Case report feedback returned to you
Early April	'Student check in' – online Teams call with the CertAVP team and other students
1st May	Two case reports to be submitted for marking
5th June	You will be notified of your case report results
15th July	Reflective essay to be submitted
19th August	You will be notified of your essay result

Where possible, failed work can be re-submitted within an agreed timeframe, rather than waiting for the next assessment cycle.

Assessment weighting

- Case diary with synopsis 15%
- Case reports 70%
- Reflective essay 15%

Support

Learning support is provided to aid self-directed learning and to provide easy access to published articles. You will be given a username and password which will allow you to log on to these different systems:

1. RVC Learn (http://learn.rvc.ac.uk/)

- Sample case reports and practice exam questions for SAS.2, .3, .6 and .7.
- A very helpful webinar to guide you through the assessment requirements
- Interesting articles to read
- Discussion boards between other candidates enrolled on the module and with surgery tutors
- Access to the RVC online library. This is invaluable when researching literature for writing up case reports. This means that (with rare exception) all journal articles that you want to view can be downloaded to your PC with a few mouse clicks. This includes original research articles as well as review articles and case reports. IT and Library support is available for this facility (email library@rvc.ac.uk or helpdesk@rvc.ac.uk).
- There are several CPD courses run each year at the RVC that support some of the learning outcomes for C-SAM modules. CertAVP candidates receive a 20% discount on RVC CPD courses – please contact the CertAVP office for further details.

2. RVC Intranet (https://intranet.rvc.ac.uk)

Access to all information available to all RVC students and employees, for example, news, events, policies, committees, services, Library, IT helpdesk, etc.

3. Athens (http://www.openathens.net/)

A huge amount of any library's information is now available online, e.g. electronic journals, e-books and databases. 'Athens' is a system used by UK universities for controlling access to these type of online services and with your username and password, you can access many of a library's online databases, electronic journals and e-books seamlessly.

4. Email (http://mail.rvc.ac.uk)

You are given an RVC email address, which is **compulsory** to use for CertAVP communication and submission of work.

Case diary guidelines

A case diary template is available on Learn. You must include a variety of surgeries in your case diary. To maintain this variety, stop including surgeries after 25% of the same of any one type has been reached (e.g. no more than 25% TPLO surgeries for the treatment of cruciate disease). This equates to 25 surgeries in the C-SAS.1 module and 5 surgeries in the other surgery modules.

No more than 10% of cases should list you as the assistant (second) surgeon. In cases where you are the primary surgeon but someone else is listed as an assistant surgeon please clarify in the synopsis who they are (e.g. nurse, colleague, mentor) and whether they are simply assisting with retraction and passing of instruments or to what extent they were involved in performing the surgery.

- Cases can be collected from up to 12 months prior to the date of enrolment on the CertAVP programme (not just from the date of your C-SAS module enrolment).

- Make sure you only include cases that relate to the syllabus content for the module, which vary for each module.

- You must be primary surgeon for the five cases you select to write up.

- Specifics are needed e.g. for masses state size and location; for enterotomy/enterectomy state location in the bowel.

- For mass excision define e.g. excisional, incisional, and excisional with the type/size of margins. Do not include simple/small “lumpectomies” or lipoma removal, diathermy excision of gingival epulides, subcutaneous/cutaneous excision of other small/simple/benign lesions etc.

- Brief description is necessary for orthopaedic cases including implants used – it is not enough just to say “bone plate” or “cruciate surgery”. For example, state: spiral tibial fracture with minimal displacement; stabilised with 9-hole DCP and two lag screws. You must be accurate with the description of screw sizes, measurements, etc.

- Minimally invasive surgeries (laparoscopy/thoracoscopy) may be included so long as they are of a certain level of difficulty/not routine neutering. For example, gastropexy, pericardiectomy, retained testicle, full abdominal exploration with organ biopsies may be included. Regardless, no more than 10% of the case diary should contain minimally invasive procedures so that we can assess a full variety of surgeries.

- Do not include the following:
  - Routine neutering procedures (include those performed using laparoscopy – see note above)
  - Routine dew claw removal
  - Routine uncomplicated/small umbilical hernias corrected at the same time as neutering
  - Chest drains
  - Skin biopsies
  - Lance abscess
  - Critical care procedures e.g. O-tube placement
  - Simple wedge biopsies from masses
  - Suturing of small or simple skin wounds
  - Simple implant removal e.g. K-wire removal
  - ESF removal
  - Non-surgical cases (i.e. septic arthritis managed medically)
  - Etc.

- You may use well-known abbreviations as long as these are explained in an appendix.

Case diary synopsis and case selection

A 1,500 word synopsis essay is required to accompany the case diary. This synopsis might include:

- discussion of what might have changed in your approach to a new case
- any new procedures or investigations that are now considered during case investigations
- any unexpected features of a case which might influence decision making or case management in the future
- discuss whether there has been any impact on you and your team for future practice and learning
- any additional reading which was helpful

This is a good opportunity to explain or clarify any aspects of your case diary to the examiner and to state any plans you have for future study. Wherever appropriate use your further reading and available evidence to support any statements that you make. Examples of reflective essays are provided on Learn although please note that there is not a specific format that must be followed. You must stay within the word limit given or the work will be returned unmarked.

You then select up to 5 cases you wish to expand on, with a paragraph per case stating your reason for each choice. Each case must have complete case history and follow up, including, where applicable, laboratory results and pre- and postoperative imaging. Fractures must be followed up until radiographic evidence of bony union or to the point of identification of failure of fracture fixation. You must be primary surgeon for all 5 case and the assessor will select 2 cases to be written up by you.

Case report guidelines

The discussion in these two case reports will critically appraise the case management and demonstrate your ability to apply the learning outcomes to the management of cases in your practice. **The discussion should be very specific to the surgical case**. It should be based around discussing what went well, what did not go well with the surgery and what you have learnt from the surgery to take to your next cases. The discussion should also critically review the wider literature relating to the surgery case. In some cases this may involve discussing alternative treatment/management options based on the current literature. Proper and appropriate referencing is expected. A useful guideline is that the discussion should comprise approximately half of the word limit (i.e. 1,000 words).

Each case must have complete case history and follow up, including, where applicable, laboratory results and pre- and postoperative imaging. Fractures must be followed up until radiographic evidence of bony union or to the point of identification of failure of fracture fixation.

Each case report is to be written up in detail up to 2,000 words in length with appropriate illustrations. Photographic illustrations of procedures must be clear, unambiguous and labelled to enable orientation for the reviewer. All tables, figures, photographs and radiographs must be accompanied by a figure legend, which is referred to in the main text in brackets, e.g. (Figure 1), but interpretation must be included within the body of the text and is included in the word count. For radiographs lateral views of any part should be orientated with the cranial or rostral part to the viewers left. Ventrodorsal and dorsoventral images should be viewed with the left side on the views right. Images of the distal limbs should have the proximal portion at the top of the image. Lateral and medial should be consistent throughout the report. For ultrasound images cranial should be to the left with ventral surface at the top of the image. Please ensure digital images are submitted in a **compressed** format so that they can be easily transferred via e-mail. Images are not essential to pass a case report but they increase the quality of the report.

The case report should be written in the third person in a style suitable for publication in a Journal (for example Journal of Small Animal Practice). You are expected to demonstrate a high standard of literacy and please ensure that any spelling and grammatical errors have been corrected.

The following framework should be used as a guide to the structure of the case report:

- Identification of patient
- History
- Clinical signs
- Problem list and differential diagnoses
- Investigation
- Diagnosis
- Treatment (including postoperative care/instructions)
- Follow up
- Result
- Discussion
- References
- Appendices (optional)

References:

- These should be properly cited in the text, in accordance with the style in the Journal of Small Animal Practice (JSAP). Avoided listing references that were not cited in the text or vice versa.
- We recommend using Harvard referencing as described by the Anglia-Ruskin University (http://libweb.anglia.ac.uk/referencing/harvard.htm).
- You will find it very helpful to use a program such as Endnote or Mendeley to organise your references.

Appendices:

- You may include appendices to provide laboratory reports or other information that you may wish the examiner to have access to but please note that the examiners are not obliged to read them (so please don't include essential case information).
- The appendices may not be used to provide additional information that should be within the case report e.g. justification for us of antibiotics. Any such information will not be marked and will not contribute to the overall grade.
- Images may be included here or in the main body of text. Include any images that you think are relevant as these generally enhance your report and enable examiners to assess your interpretation. Normal ultrasound images need not be included unless you would like to do so but clear abnormal images should be included if possible. Radiographs must be interpreted within the text of the case report and not as part of the figure legends or within the appendices.

- Laboratory reports may be included here but all abnormalities need to be written in the text and reference ranges must be included. All laboratory results should be interpreted appropriately within the text of the case report and not within the appendices.
- It is acceptable to scan printed reports rather than re-type them if you prefer, but any case details or details of your name or practice must be blanked out.

The word limit is 2,000 words per case report. Tables, figure legends (including descriptions of radiographs), appendices and reference list are NOT included in the word count. The report title and titles within the report ARE included. You should not put important information, such as the physical examination, into a table to avoid the word count; only numerical data should appear within a table (such as laboratory results). In the interests of fairness to all candidates the word count is adhered to strictly and reports that exceed it will be returned unmarked.

Reflective essay guidelines

A reflective essay, of about 800 words, completed at the end of the module reflecting upon how the course of study has resulted in a more competent practitioner. This may include a detailed critical review of a specific aspect of theatre practice or surgical technique.

You should focus upon your own learning and consider particularly how your attitudes may have changed during the course of the module, how your approach has changed and how this may affect your own and/or your team's current and future practice.

It can be helpful to base the essay using the reflective three What's approach:

- What? (did I do/observe/write about)
- So What? (did I learn)
- Now What? (how will this change my practice in the future)

Instructions for submitting work

Each piece of work you submit must be anonymous and please ensure that your written work includes this table on the front page (not needed for the case diary):

Student number:	
Module:	C-SAS.1
Piece of work:	*case diary synopsis, case report 1, case report 2 etc*
Word count:	

Contact the CertAVP office if you need a reminder of your student number (found on your Rover/Student Records email when you first enrolled). All work is submitted online via Learn; you will be given further instructions when you enrol.

The case diary should be written in Excel (with your student number in the heading or in the first cell) and organised in such a way that it can be easily viewed on one page/screen in landscape view. The synopsis, case reports and essay should be in Word.

The content of case reports must also be anonymous, e.g., removing practice details from discharge notes or laboratory reports.

All written work submitted to the Royal Veterinary College is passed through plagiarism detection software. Work submitted for this module should not have been submitted for any other CertAVP modules, other courses at RVC, or other institutions.

These submissions should be retained by you as you may need to be referred to again as part of a final RCVS synoptic assessment for the full Certificate qualification.

Mentors

Candidates who study for the CertAVP surgery C modules with RVC are advised to find a mentor who can guide them. Finding a mentor and maintaining appropriate and regular contact are the responsibility of the candidate, and mentors operate on a goodwill basis only. Mentors are usually either holders of the RCVS, CertSAS or RCVS CertAVP qualifications or holders of American, European or RCVS Diploma qualifications. Ideally mentors will have some experience of teaching and examining at either undergraduate or postgraduate level. Members of the RVC Small Animal Surgery department cannot act as mentors as they are involved in setting and marking the assessed work. We recommend that an individual mentor does not take on more than 5 CertAVP candidates if possible.

We consider that the role of a mentor should/may include:

- Becoming familiar with the module outlines that are supplied to candidates.
- Encouraging candidates to undertake continuing professional development and to 'see practice' at a relevant centre/s appropriate to your strengths and weaknesses.
- Encourage candidates to join relevant societies and associations and attend meetings where appropriate.
- Guide candidates on the level and amount of reading that they should be doing during their period of study.
- Encourage candidates to plan their time carefully for logging cases, writing case reports and essays, reading and exam preparation. A reminder of good examination technique may also be useful for some candidates.
- Encourage candidates to get support from other CertAVP candidates either through the RVC learning support discussion forums or by other means.

What is the mentor's role regarding submitted work?

We consider that a mentor can give general advice on preparation of a case log and selection of cases for writing up into full length reports. We ddo not recommend that mentors read any of the case reports in detail and/or give detailed written advice. However, one read through of one case report and some general feedback (ideally verbally) is acceptable.

Recommended reading list

The following list is given as a guide as to where to start and for this reason cannot be considered ‘complete’. We also don’t expect candidates to buy these texts, to read texts from cover to cover or to use all of the texts listed. However, we do recommend you make use of the most recent edition of textbooks where available. We apologise if you feel a particular favourite is missing - feel free to use the Learn discussion board to pass on additional suggestions to other candidates.

Essential reading:

- Veterinary Small Animal Surgery, Volumes 1 and 2: Ed. Tobias and Johnston, Elsevier Saunders
- Manual of Small Animal Orthopaedics and Fracture management: Brinker, Piermatti and Flo

Books:

- Small Animal Surgery: Ed. Fossum. W.B. Saunders
- The various BSAVA manuals of surgery and advanced surgical nursing
- Piermattei's Atlas of Surgical Approaches to the Bones and Joints of the Dog and Cat, Elsevier, (5th Ed), 2013
- Miller’s anatomy of the dog, Malcolm Miller (good for reviewing your anatomy for surgical descriptions)

Journals:

- Journal of Small Animal Practice
- Veterinary Surgery Journal
- Journal of Feline Medicine and Surgery
- Journal of the American Veterinary Medical Association