



**AUSTRALIAN AND NEW ZEALAND
COLLEGE OF VETERINARY SCIENTISTS**

FELLOWSHIP GUIDELINES

Small Animal Surgery

ELIGIBILITY

1. The candidate shall meet the eligibility prerequisites for Fellowship outlined in the *Fellowship Candidate Handbook*.
2. Membership of the College in Small Animal Surgery must be achieved prior to the Fellowship.

OBJECTIVES

To achieve sufficient knowledge, training, experience, and accomplishment to meet the criteria for registration as a specialist in Small Animal Surgery in Australia and New Zealand.

LEARNING OUTCOMES

For the purpose of this document, ‘small animal’ is defined as the dog and cat.

1. The candidate will have a **detailed**¹ knowledge of:
 - 1.1. the surgical anatomy of the small animal
 - 1.2. small animal physiology and pathophysiology as it applies to surgical diseases
 - 1.3. the principles of surgery and use of implants and biomaterials
 - 1.4. the aetiology and pathogenesis of small animal surgical diseases

¹ Knowledge Levels:

Detailed knowledge - candidates must be able to demonstrate an in-depth knowledge of the topic including differing points of view and published literature. The highest level of knowledge.

Sound knowledge – candidate must know all of the principles of the topic including some of the finer detail, and be able to identify areas where opinions may diverge. A middle level of knowledge.

Basic knowledge – candidate must know the main points of the topic and the core literature.

- 1.5. the diagnosis, differential diagnoses, treatment and prognosis of small animal surgical diseases
 - 1.6. diagnostic tests and procedures as they apply to the diagnosis and management of small animal surgical diseases including but not limited to clinical pathology, histopathology, radiology, ultrasound, electromyography, arthroscopy, myelography, computed tomography, magnetic resonance imaging, and scintigraphy (for additional information see **Appendix 2**)
 - 1.7. anaesthesia, analgesia and critical care as they apply to the management of small animal surgical disease and peri-operative care (for additional information see **Appendix 2**)
 - 1.8. pharmacology and chemotherapeutics as it applies to the management of small animal surgical diseases
 - 1.9. tumour biology and clinical oncology as it applies to small animal surgery.
2. The candidate will be able to, with a **detailed² level of expertise**:
- 2.1. perform the breadth of surgical procedures in small animals listed in the Activity Log Category table (below) to a proficient level as supervised and assessed by ANZCVS registered specialist small animal surgeons or equivalent ACVS or ECVS registered specialist surgeons
 - 2.2. analyse clinical data and interpret diagnostic results to formulate and apply management plans to treat complex small animal surgical diseases
 - 2.3. evaluate and incorporate relevant published scientific information in the management of small animal surgical diseases
 - 2.4. communicate effectively with clients, referring veterinarians and peers
 - 2.5. provide the highest quality care for small animals with the most efficient use of resources in a manner that is responsive to the owner's needs and wishes
 - 2.6. advance the knowledge of Small Animal Surgery through clinical investigation, research and publication.

² **Skill levels:**

Detailed expertise – the candidate must be able to perform the technique with a high degree of skill, and have extensive experience in its application. The highest level of proficiency.

Sound expertise – the candidate must be able to perform the technique with a moderate degree of skill, and have moderate experience in its application. A middle level of proficiency.

Basic expertise – the candidate must be able to perform the technique competently in uncomplicated circumstances.

EXAMINATIONS

Refer to the *Fellowship Candidate Handbook*, Section 5. The Fellowship examination has four separate, autonomous components:

- 1. Written Paper 1 (Component 1)**
Principles of the Subject (three hours)
- 2. Written Paper 2 (Component 2)**
Applied Aspects of the Subject (three hours)
- 3. Practical Examination (Component 3)**
Practical (three hours)
- 4. Oral Examination (Component 4)**
Oral (one hour)

The written examination will comprise of two separate three-hour written papers. Written paper 1 and 2 will be comprised of essay-type, short answer or multiple-choice questions taken on two consecutive days. An additional 20 minutes perusal time is allowed for each paper during which no writing in an answer booklet is permitted. ALL questions must be answered. Each question will have the allotted marks clearly indicated.

Written Paper 1 (180 marks):

This paper is designed to test the candidate's knowledge of small animal physiology and pathophysiology, the pathogenesis of disease, pharmacology and chemotherapeutics, and the principles of surgery as described in the learning outcomes (1).

The exam will consist of six (6) questions. Each question may include a series of short answer questions, multiple-choice questions or may require an essay-type response. Each of the six (6) questions is worth 30 marks and all questions must be answered. Allocated marks to each sub-question will be clearly indicated.

Written Paper 2 (180 marks):

This paper is designed to test the candidate's ability to apply the principles of small animal surgery to clinical circumstances and to test the candidate's familiarity with the current practices and issues that exist within the discipline of small animal surgery as outlined in the learning outcomes (1) and (2).

The exam will consist of six (6) questions. Each question may include a series of short answer questions, multiple-choice questions or may require an essay-type response. Each of the six (6) questions is worth 30 marks and all questions must be answered. Allocated marks to each sub-question will be clearly indicated.

Practical Examination (150 marks):

This examination will consist of a series of 15 case-based questions with each question containing a series of short answer sub-questions. The questions can be related to images, videos and/or examples of diagnostic imaging or tests. Allocated marks to each question will be clearly indicated.

Oral Examination:

The oral examination is of one hour in duration and may consist of questions of a theoretical and practical nature. The oral examination is designed to test all aspects of the Learning Objectives. Candidates may be asked to discuss detailed case material. Five (5) cases are presented with supporting questions asked verbally in a face-to-face setting. The oral examination has a total of 100 marks with each case allocated 20 marks. Images, CT scans, histology slides, MRI scans, radiographs, laboratory data, results of relevant additional diagnostic tests may be used during this examination.

Achievement Standard:

The candidate's ability to practically manage and perform the breadth of procedures described in the Activity Log Category table (section 2.1) will be assessed directly by the candidate's supervisors and indirectly by the Training and Credentials Committee of the Board of Examiners. Section 2.4 and 2.5 of the Learning Outcomes will be assessed by the candidate's primary supervisor.

The candidate's performance in the formal examination process described above will be assessed by an Examination Committee comprised of registered small animal surgery specialists not including the candidate's primary supervisor.

The following table is a guide to the expectations of the Examination Committee. The assessable criteria will be drawn from the Learning Outcomes listed in section 1 and 2 of this document.

Expectation	Comment
Recall information, facts and data from the literature	Referencing may be requested. Appropriate referencing comprises of noting the <i>name</i> of <i>one</i> of the authors and the <i>year</i> of publication. No additional information is required. For example, questions may ask specific information, specific information from cited articles or literature, or require an assessment of the broader literature.
Show a clear understanding of terminology, concepts, cause and effect and 'pathophysiology'.	Appropriate use of scientific and veterinary terminology is required.
Apply scientific information, rules and concepts to new situations	
To identify contentious scientific and clinical issues and discuss arguments for and against	Referencing the scientific literature will be required. Justification of your arguments will be expected.
An ability to critically evaluate the scientific and clinical evidence to make and justify a decision	
An ability to consider future directions for topics related to the management of small animal surgical patients based on the scientific literature and recent scientific research	

TRAINING PROGRAMS

Refer to the *Fellowship Candidate Handbook*, Section 3.3

1. The training program must provide intensive training in small animal surgery under direct supervision at a specialist referral level.
2. The training program requires three years (144 weeks) of directly supervised training (DST) (at least 40 hours each week) at an approved facility:
 - 2.1. at least 94 weeks is to be spent in clinical practice including a four week externship
 - 2.2. eight weeks is to be spent in training in related disciplines
 - 2.3. the remaining period (42 weeks) is to be spent on other requirements including clinical research, conference attendance and participation and the preparation of presentations and publications
 - 2.4. four weeks annual leave/year.
3. Direct supervision means simultaneous physical presence of a supervisor and the candidate. The supervisor is scrubbed in together with the candidate as Primary or Assistant surgeon and logged in the Activity Log Summary as the supervising surgeon. After the first 12 months of training, and at the supervisors discretion, a surgical procedure may also be considered as directly supervised when the candidate has previously performed the surgical procedure under direct supervision and has achieved a standard of competence to act as the primary surgeon without the supervisor scrubbed in. In these instances the supervisor should be immediately available (i.e. in the same building) if required to assist with the procedure. The supervisor and candidate must still discuss all aspects of the case management.
4. The candidate must be actively involved in the provision of an emergency service with the same supervision requirements as outlined above. Evidence of this commitment must be provided in the credentials document. Emergency cases that do not meet this criteria cannot be included in case minima.
5. The candidate should be able to demonstrate active participation in formal teaching conferences such as clinico-pathologic case conferences, resident seminars and teaching and case rounds. A minimum of five seminar presentations must be made by the candidate during the training period and reported in the credentials document. A seminar is defined as a scientific presentation attended by surgical peers and followed by informed discussion.
6. The candidate is expected to attend relevant scientific meetings and conferences. The credentials document must show documentary evidence that the candidate has prepared and presented at least one scientific paper at a national or international surgical meeting or conference.

7. The Chapter requires the candidate to document a minimum of 400 directly supervised surgical procedures over the training period. 160 of the 400 cases must be obtained whilst the supervisor is physically scrubbed in with the candidate. Cases must be of the type seen in surgical referral institutions which are considered to be specialist procedures. The minimum numbers of specific surgical procedures per body system must be accomplished. The minimum numbers of surgical cases that must be managed by the candidate are shown in the following table. Any single case can be allocated to a single organ system that most appropriately describes the major clinical problem. The candidate should attempt to gain as broad a range of experience as possible. A narrow range of experience within each category (e.g. 80% cystotomies or visceral biopsies) will not meet the minimum requirements. The procedures listed in each category are examples. Candidates need not necessarily accomplish these examples nor restrict themselves to these examples.
8. Exceeding the minimum threshold of cases does not guarantee the required level of competency to pass the Fellowship examination.
9. Cases suitable for inclusion are those supervised cases where the candidate is directly involved in the decision and planning of the surgical case and is the Primary or Assistant Surgeon. The candidate is the Primary Surgeon when he or she plans and performs the essential parts of the surgical procedure. The candidate should be the Primary Surgeon in at least 40% (160) of the cases. Revisit appointments on the same case for the same presenting problem are NOT to be entered separately in the Activity Log Summary.
10. The Chapter requires the candidate to document out-patients that are seen over the training period in the Activity Log Summary. Out-patient cases are all those that undergo evaluation and management for a major surgical procedure, whether or not the surgical procedure is then performed. Outpatients cannot be included in case minima Evaluation and managements include, but are not limited to orthopaedic examination, endoscopic examination and lameness investigation.
11. Candidates applying for retrospective approval of training or fast tracking based on eminence must be a resident of Australia or New Zealand.
12. All Small Animal Surgery Fellows must comply with any Australian and New Zealand College requirement for quality assurance and recertification.
13. It is a requirement of the chapter that Small Animal Surgical Fellows must agree to contribute to Membership or Fellowship examinations as an examiner at least twice in the first 10 years after achieving Fellowship of the college.

CATEGORY	Minimum NUMBER*
Neurological surgery Includes disc decompression, fenestration, fracture stabilisation, atlantoaxial stabilisation, and cauda equine	40
Thoracic surgery Includes lateral or median sternotomy for exploratory thoracotomy, excision and biopsy of tumours, foreign bodies, patent ductus arteriosus, lung lobectomy, pericardiectomy, cardiac surgery	20
Gastrointestinal surgery Includes biopsies of liver, pancreas and gastrointestinal tract, gastric and intestinal resections, anastomosis, gastropexy, liver lobectomy, portosystemic shunts, cholecystectomy, cholecystoenterotomy, partial pancreatectomy.	70
Abdominal surgery Includes abdominal surgery not associated with gastrointestinal or urogenital tracts, i.e. splenectomy, adrenalectomy, inguinal hernia, diaphragmatic hernia, perineal hernia.	20
Urogenital surgery Includes cystotomy, cystostomy, partial cystectomy, colposuspension, ectopic ureters, urethrostomy, urethrotomy, nephrectomy, ovariectomy for pyometron or tumour, prostatic surgery	30
Head/neck surgery Includes ear, salivary gland, rhinotomy, sinusotomy, mandibular or maxillary fractures, mandibulectomy, maxillectomy, thyroidectomy, arytenoids lateralization	25
Skin/Reconstructive surgery Includes skin grafts, axial pattern flaps, pedicle flaps, degloving injuries, anal saccullectomy, skin and subcutaneous tumours	45
Orthopaedic surgery <ul style="list-style-type: none"> • Osteosynthesis • Joint Surgery • Arthroscopic surgery • Other orthopaedic procedures 	50 50 30 20
Total	400

TRAINING IN RELATED DISCIPLINES

Refer to the Fellowship Candidate Handbook, section 2.4.2

Candidates for Fellowship in Small Animal Surgery must spend 8 of the **144** weeks supervised full time in the related disciplines training as per the following:

- Small Animal Medicine (2 weeks) (with the recommendation that the trainee gain as much exposure to specialists with expertise in neurology, cardiology and oncology),
- Diagnostic Imaging (2 weeks),
- Anaesthesia and Critical Care (2 weeks) and
- Clinical and Gross Pathology (2 weeks).

Related disciplines training must be undertaken with a specialist in that discipline, or other person approved by the TCC. Guidelines for TRD are to be found in **Appendix 2**.

EXTERNSHIPS

Refer to the Fellowship Candidate Handbook, section 2.4.1

All candidates must complete at least one (1) externship of a minimum of four weeks in Small Animal Surgery to allow exposure to other specialists, facilities and a greater range of cases.

ACTIVITY LOG SUMMARY

For general information regarding the Activity Log Summary refer to the *Fellowship Candidate Handbook*. In the interim, a template provided in Appendix 1 will allow candidates to record the required information. This information can then be transferred when the online system becomes available.

Candidates are to log outpatients in the ALS as a distinct group under categories. They do not contribute to case numbers however and hence should not be allocated with a case number. Outpatients can also not contribute to case numbers for other categories.

PUBLICATIONS AND PRESENTATIONS

Refer to the Fellowship Candidate Handbook, Section 2.10

Two (2) first author publications accepted in peer reviewed journals are required (*if credentialing to Fellowship Candidate Handbook requirements 2.10 from January 2016*). Second author papers are not acceptable.

The publications must cover at least two (2) of the following categories: neurological surgery, thoracic surgery, gastrointestinal surgery, urogenital surgery, other abdominal surgery, head/neck surgery, skin/reconstructive surgery and orthopaedic surgery.

Papers must be about an aspect relevant to Small Animal Surgery

Papers must each cover a different topic and not largely similar material.

Conference abstracts are not acceptable as publications for credentials purposes.

RECOMMENDED READING LIST

The candidate is expected to be familiar with the depth and breadth of the published scientific literature related to small animal surgery. The following reading list is intended as a guide only. This list is not comprehensive and **not intended to include all of the content of the examination**. Study of the reading list should be supplemented with relevant additional textbooks, journal articles, conference proceedings and other learning aids to ensure adequate knowledge of the subject area.

The candidate should consult with their supervisor to ensure their scholarly training is sufficient to prepare them for the formal examinations.

Textbooks³

Tobias and Johnston *Veterinary Surgery Small Animal* 2nd edn, (Volumes 1 and 2), Elsevier, 2017

Brinker, Piermattei and Flo's *Handbook of Small Animal Orthopedics and Fracture Repair*. 5th Edition, Saunders, 2015.

Sharp N, Wheeler S, *Small Animal Spinal Disorders, Diagnosis and Treatment*, 2nd edn, Mosby 2004

Kudnig and Seguin *Veterinary Surgical Oncology* Wiley Blackwell 2012

Muir W.W. *Handbook of Small Animal Anaesthesia* (5th edn), Mosby 2012

Journals⁴

Veterinary Surgery

Veterinary Comparative Orthopaedics and Traumatology

Journal of the American Veterinary Medical Association

Veterinary Radiology and Ultrasound

Compendium on Continuing Education for the Practicing Veterinarian

Journal of Veterinary Internal Medicine

American Journal of Veterinary Research

³ Definitions of Textbooks:

Core textbook: candidates are expected to own a copy of the textbook and have a detailed knowledge of the contents.

Recommended textbook: candidates should own or have ready access to a copy of the book and have a sound knowledge of the contents.

Additional references: candidates should have access to the book and have a basic knowledge of the contents.

⁴ Definitions for Journals:

Core Journal: candidates are expected to have ready access to either print or electronic versions of the journal and have a detailed knowledge of the published articles in the subject area.

Recommended Journal: candidates should have ready access to either print or electronic versions of the journal and have a sound knowledge of the published articles in the subject area.

Additional Journal: candidates should be able to access either printed or electronic versions of the journal and have a basic knowledge of the published articles in the subject area.

FURTHER INFORMATION

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**APPENDIX 1:
ACTIVITY LOG SUMMARY**

DATE :
SUBJECT: Small Animal Surgery

NAME:

Case #	Date	Case Id	Species	Category	Procedure	Primary Surgeon	Supervising Surgeon
1	3-Jul		Feline	Neurological Surgery		Yes	
-	4-Jul		Canine	Outpatients		No	W. Cox
2	6-Jul		Canine	Gastrointestinal surgery			
3	6-Jul		Feline	Abdominal surgery			
4	8-Jul		Feline	Urogenital surgery			
5	9-Jul			Head and neck			
6				Skin/recon surgery			
7				Orthopaedic surgery			
-				Outpatients			
8				Skin/recon surgery			
9				Urogenital surgery			
10				Thoracic surgery			

APPENDIX 2: LIST OF LEARNING OUTCOMES FOR TRAINING IN RELATED DISCIPLINES (TRD)

Throughout the three year training program, the Fellowship candidate in Small Animal Surgery must be exposed to and actively involved in training in related veterinary disciplines. The Fellowship candidate is encouraged to develop a working relationship with one or more specialists in each discipline to facilitate **regular discussion and interaction regarding case management.** In addition, involvement and participation of a specialist in these disciplines in clinical rounds and seminars attended by the Fellowship candidate is encouraged, as is participation of the Fellowship candidate in relevant rounds and seminars specific to this discipline.

In addition, a minimum of two weeks full time must be devoted exclusively to the study and practice of each of these related disciplines. The Fellowship candidate must ensure that this time is spent effectively in consolidating knowledge and skills and in covering aspects of this discipline that will not be addressed adequately during the remainder of their program. The Fellowship candidate is expected to be proactive in searching out opportunities, materials and expert tuition and in compiling and organizing relevant material for future reference.

Training in the related discipline of small animal medicine

The two weeks full time training must be **directly supervised** by a Fellow of the ANZCVS (Small Animal Medicine, Canine Medicine or Feline Medicine), or a Diplomate of the ECVIM or ACVIM, or exceptionally- and with prior approval from the credentials committee- another recognised expert. **The role of the supervisor is to provide guidance and training in internal medicine as it applies to the small animal surgical patient.**

Essential areas that should be covered include but are not limited to:

1. Formulation of a treatment plan that encompasses the medical needs of the surgical patient. Developing the ability to consider an overall view of the patient's situation should be promoted.
2. Monitoring the patient's response to treatment and modifying treatment as indicated.
3. Medical conditions that may affect the patient during anaesthesia, surgery or recovery.
4. Medical treatment as an alternative or as a complement to surgical treatment in selected conditions.
5. Indications for laboratory and other diagnostic tests and interpretation of results

Training in the related discipline of diagnostic imaging

The two weeks full time training must be **directly supervised** by a Fellow of the ANZCVS (Veterinary Radiology), or a Diplomate of the ECVDI or ACVR, or exceptionally - and with prior approval from the credentials committee - another recognised expert. **The role of the supervisor is to provide guidance and training in diagnostic imaging as it applies to the small animal surgical patient.**

Training in this discipline is an extremely important component of the three year training program. In many centres, especially for emergency admissions, the surgeon will be directly responsible for performing (or supervising the performance of) and interpreting diagnostic imaging studies. It is essential that the Fellowship candidate be competent in performing or supervising imaging studies, particularly using radiography, and ultrasonography, and is able to perform the immediate and timely interpretation of findings, correlate these studies with clinical findings and make appropriate decisions for determining the treatment of the patient. A methodical and thorough approach to interpretation of images must be developed.

Topics to be reviewed throughout the training program, and techniques to gain practical experience with include, but are not limited to the following as they apply to the small animal surgical patient:

Principles, indications, limitations, application and interpretation of the following imaging modalities:

1. Radiography including digital radiography, contrast radiography and fluoroscopy
2. Ultrasonography including ultrasonography of the musculoskeletal system, abdomen and thorax
3. Nuclear scintigraphy
4. Computed tomography (CT)
5. Magnetic resonance imaging (MRI)
6. Storing images and construction of reports

Training in the related discipline of anaesthesia, pain management and critical care

The two weeks full time training must be **directly supervised** by a Fellow of the ANZCVS (Anaesthesia and Analgesia) or (Veterinary Emergency and Critical Care), Diplomates of the ECVAA or ACVAA, or exceptionally - and with prior approval from the credentials committee - another recognised expert. **The role of the supervisor is to provide guidance and training in the discipline of anaesthesia, pain management and critical care as it applies to the small animal surgical patient.** Either a specialist in anaesthesia or a specialist in Veterinary Emergency and Critical Care may sign off and be ultimately responsible for this specific Training in Related Discipline requirements. However, to optimise learning, candidates are recommended to spend some time in an anaesthesia department and some time in ICU if they are staffed separately.

Topics to be reviewed throughout the training program and techniques to gain practical experience with include but are not limited to the following as they apply to small animal surgical patient:

1. Review of basic physiology-cardiovascular physiology, respiratory gas transport, the GI barrier; regulation of arterial blood pressure, blood and ECF volume, local control of blood flow
2. Review of pathophysiology-infection and inflammation, fever, sepsis and SIRS, disorders of haemostasis, multi-organ failure
3. Critical care
 - 3.1. Fluid and electrolyte disorders and their therapy
 - 3.2. Electrolyte disorders and their therapy
 - 3.3. Acid base disorders and their therapy
 - 3.4. Blood component therapy
 - 3.5. Nutrition and metabolism in critically ill surgical patients
 - 3.6. Vascular access
 - 3.7. Haemodynamic monitoring
 - 3.8. Disorders of circulatory flow; haemorrhage and hypovolaemia, colloid and crystalloid resuscitation, cardiac failure
 - 3.9. Monitoring the critically ill patient

4. Pain management
 - 4.1. Basic physiology of acute and chronic pain
 - 4.2. Pathophysiological effects of pain in small animals
 - 4.3. Recognition and monitoring of pain in small animals
 - 4.4. Prevention and control of pain: pre-emptive analgesia, post-operative analgesic techniques, management of acute (including post-operative) and chronic pain
 - 4.5. Alternatives for pain management in small animals: drugs administered systemically (including as continuous rate infusion), epidural analgesia. Drug actions and interactions, indications and contraindications, and potential adverse effects.
5. Anaesthesia
 - 5.1. Pre-operative assessment and patient preparation: pre-anaesthetic evaluation and premedication
 - 5.2. Equipment used in general anaesthesia delivery and monitoring
 - 5.3. Pharmacology of drugs used for sedation/ tranquilization, analgesia, muscle relaxation and anaesthesia. Drug action and interaction. The effect of drugs on gastrointestinal motility, the cardiovascular and respiratory systems.
 - 5.4. Application of analgesic techniques before, during and after a surgical procedure and knowledge of their influence on the course of anaesthesia
 - 5.5. Anaesthesia induction, maintenance and recovery techniques in small animals
 - 5.6. Tranquilization and anaesthesia in small animals
 - 5.7. Airway maintenance, oxygenation and ventilation, acute respiratory failure
 - 5.8. Special anaesthetic considerations: anaesthesia of the neonate, geriatric patient, patient with systemic disease (eg. SIRS), neurological, renal, liver or respiratory disease and the trauma patient. Anaesthesia of small animals with acute abdomen and other acute abdominal surgeries
 - 5.9. Monitoring during anaesthesia, effects on the respiratory and CV systems and support of these systems during anaesthesia
 - 5.10. Prevention and management of anaesthetic accidents and crises
 - 5.11. Post anaesthetic complications including the prevention, diagnosis and management of post-anaesthetic lameness in small animals
 - 5.12. Current techniques used during recovery from general anaesthesia

5.13. Local and regional anaesthesia techniques used in small animals including dental nerve blocks, epidural and spinal anaesthesia.

Training in the related discipline of veterinary pathology

The two weeks full time training must be **directly supervised** by a Fellow of the ANZCVS (Veterinary Pathology), a Diplomate of the ECVP or ACVP, or exceptionally -and with prior approval from the credentials committee- another recognised expert.

The role of the supervisor is to provide guidance and training in pathology including the study and practice of current techniques used in tissue pathology and relevant aspects of microbiology, haematology, immunology and clinical chemistry as it applies to the small animal surgical patient.

Topics to be reviewed throughout the training program and techniques to gain practical experience will include but are not limited to the following as they apply to the small animal surgical patient:

1. A basic review of quality assurance and quality control to provide the Fellowship candidate with an awareness of quality issues and procedures that reflect best practices for in-hospital testing and for commercial reference laboratories. Aspects that are unique to veterinary medicine, and small animal in particular, which may require adaptation from techniques developed for human testing or which may require special veterinary knowledge for interpretation should be included.
2. Basic knowledge of the time required to perform commonly requested tests and examinations.
3. An introduction to clinical pathology laboratory techniques including haematology, chemistry, and cytology of blood, peritoneal fluid and synovial fluid, and aerobic and anaerobic culture techniques.
4. Review of common stains used for cytologic and histopathologic examination of samples.
5. Current techniques for the collection, transport, storage and preparation of a variety of surgical tissue biopsies.
6. Current techniques for the collection, transport, and storage of a variety of body fluids (including blood, synovial fluid, peritoneal fluid and CSF) and aspirates for laboratory evaluation including cytology and culture.
7. Post mortem examination; systematic gross evaluation of the small animal and collection of samples for additional testing.
8. Interpretation of laboratory results, understanding of pathologic and cytologic terminology and communication with the pathologist.