ELIGIBILITY
1. The candidate shall meet the eligibility prerequisites for Fellowship outlined in the Fellowship Candidate Handbook.

2. Membership of the College must be achieved prior to the Fellowship examination.

3. Membership must be in Equine Surgery.

OBJECTIVES
To demonstrate that the candidate has sufficient training, experience, knowledge and accomplishment in Equine Surgery to meet the criteria for registration as a specialist in Equine Surgery.

LEARNING OUTCOMES
1. The candidate will have a detailed knowledge\(^1\) of:

   1.1. Equine anatomy

   1.2. The aetiology, pathogenesis, and pathophysiology of equine surgical diseases\(^2\)

   1.3. The diagnosis, differential diagnoses, treatment and prognosis of equine 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.

\(^2\)Equine Surgical Diseases are defined as diseases with a surgical treatment option, or any condition that may result in lameness in the horse.
1.4. Diagnostic tests and procedures as they apply to the diagnosis of equine diseases with surgical treatment options including; clinical pathology, histopathology, endoscopy, radiology, ultrasound, scintigraphy, computed tomography and magnetic resonance imaging

1.5. Anaesthesia and intensive care as they apply to the management of equine surgical diseases

1.6. Chemotherapeutics including anti-inflammatory drugs, antimicrobials, vaccines and biologics used for the management of equine diseases with surgical treatment options

1.7. The underlying principles of surgery including, but not limited to, haemostasis, tissue handling, wound healing and wound infection

2. The candidate will have a **sound knowledge** of:

2.1. Equine physiology and pharmacology

2.2. The principles of biomechanics

2.3. The pathophysiology of various forms of shock and fluid therapy

2.4. Tumour biology, clinical oncology and the effectiveness of different oncologic treatment protocols as they apply to equine diseases with surgical treatment options

3. The candidate will, with a **detailed level of expertise**\(^2\), be able to:

3.1. Perform a breadth of surgical procedures (see list in the Activity Log Category table below)

3.2. Design pre-operative, operative and post-operative management plans in complex equine surgical cases involving all body systems

3.3. Analyse complex surgical problems and make clinical judgements

3.4. Collect, interpret and record clinical data including interpreting a range of diagnostic imaging modalities (radiography, ultrasound, Computed Tomography, MRI and scintigraphy) in complex equine diseases with surgical treatment options

3.5. Communicate effectively with clients, referring veterinarians and peers

3.6. Integrate these skills to provide high quality care for horses with the most efficient use of resources in a manner that is responsive to the owner’s needs and wishes

---

\(^2\) 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.
3.7. Evaluate and incorporate new scientific information relevant to the practice of Equine Surgery

3.8. Advance knowledge in Equine Surgery through clinical innovation, research and publication

EXAMINATIONS
Refer to the Fellowship Candidate Handbook Section 5.

Written Paper I: 3 hours duration
This paper is designed to test the candidate’s knowledge of the principles of Equine Surgery as described in the learning outcomes. Answers may cite specific examples where general principles apply, but should primarily address the theoretical basis underlying each example. A multiple choice component may be included.

Written Paper II: 3 hours duration
This paper is designed to (a) test the candidate’s ability to apply the principles of Equine Surgery to particular cases/problems or tasks, and to (b) test the candidate’s familiarity with the current practices and current issues that arise from activities within the discipline of Equine Surgery. A multiple choice component may be included.

Practical and Oral Examinations:
These examinations further test the candidate’s achievement of the above-mentioned learning outcomes. The practical examination will consist of multiple short questions with written answers of a practical and clinical nature relating to images, videos and/or examples of diagnostic imaging. The oral examination will involve detailed questioning with oral answers on a number of topics. The candidate should be able to discuss the principals of Equine Surgery and their application at the level expected of a specialist in the field. The practical and oral examinations will each be 2 to 3 hours in duration.

TRAINING PROGRAMS
Refer to the Fellowship Candidate Handbook Section 3.3

In addition to the requirements of the Fellowship Candidate Handbook, the Chapter imposes the following:

1. The training program requires three years (144 weeks) of directly supervised training (DST) (at least 35 hours each week) of which at least 94 weeks is to be spent in clinical practice including a four week externship. In addition, 8 weeks is to be spent in TRD, and the remaining period is to be spent on other training requirements including clinical research, conference attendance and participation, and the preparation of presentations and publications.
2. Direct supervision means ‘simultaneous physical presence’ of the supervisor and candidate during surgery. The supervisor is scrubbed in together with the candidate as primary or assistant surgeon and logged in the Activity Log as the primary or assistant surgeon. In the final year of the training program and at the supervisor’s discretion, a surgical procedure may also be considered as directly supervised when the candidate has achieved a standard of competence to act as the primary surgeon without the supervisor scrubbed in and if the supervisor is available in the operating theatre to supervise essential parts of the procedure and all aspects of case management are discussed.

3. The candidate must be actively involved in the provision of an emergency surgical service with the same supervision requirements as outlined above. Evidence of this must be provided in the credentials document.

4. In addition to directly supervised training, the candidate should be able to demonstrate active participation in formal teaching conferences such as diagnostic imaging case discussions, clinicopathological and pathological case conferences and resident seminars. A minimum of five seminar presentations should 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 peers and more senior surgeons and followed by informed discussion.

5. The candidate is expected to attend relevant scientific meetings and conferences and attendance at an international veterinary conference is recommended. 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 prior to examination.

6. The Chapter requires the candidate to document a minimum of 400 directly supervised surgical procedures (as defined in point 2) over the training period. At least 160 (40%) of the 400 cases must be performed under direct supervision (as defined in point 2) whilst the candidate is primary surgeon. Cases must be of the type seen in surgical referral institutions which are considered to be specialist procedures. Minor and routine procedures such as castration, periosteal elevation, removal of small cutaneous masses, simple skin wound repair, and joint flushing without arthroscopy should be omitted. The minimum numbers of specific surgical procedures per body system must be accomplished. The candidate should attempt to gain as broad a range of experience as possible. The procedures listed in each category are examples. Candidates need not necessarily accomplish these examples nor restrict themselves to these examples. Any single case can be allocated to a single organ system that most appropriately describes the major clinical problem. Exceeding the minimum threshold of cases does not guarantee the required level of competency to pass the Fellowship exam.
7. 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 Primary or Assistant Surgeon. The candidate is the Primary Surgeon when he or she plans and performs the essential parts of the surgical procedure. As outlined above, the candidate should be 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.

8. The Chapter requires the candidate to document a minimum of 1000 out-patients patients in a separate log (Appendix 3) over the training period. 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. Evaluations and managements include, but are not limited to orthopaedic examination, ultrasonography, endoscopic examination, lameness investigation and colic evaluation and management. Major surgical cases which require significant preoperative investigation can be included in both the surgical case log and the out-patient case log.

9. Candidates applying for retrospective approval of training or fast tracking based on eminence must be resident in Australia or New Zealand.

10. All Equine Surgery Fellows must comply with any Australian College requirements for quality assurance and recertification.

Below are examples of the types of cases that are suitable for inclusion in the Activity Log. The numbers given are minimums for each category and the candidate should aim to exceed these in as many categories as possible.

<table>
<thead>
<tr>
<th>Activity Log Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory surgery</td>
<td></td>
</tr>
<tr>
<td>Includes sinusotomy, guttural pouch procedures, laryngoplasty, arytenoidectomy, soft palate procedures</td>
<td>20</td>
</tr>
<tr>
<td>Alimentary surgery</td>
<td></td>
</tr>
<tr>
<td>Includes approaches to teeth for various procedures, correction of intestinal displacements, intestinal resections and anastomoses, intestinal stapling, laparoscopy and laparoscopic surgical procedures; abdominal surgery not associated with gastrointestinal or urogenital tracts, eg. hernia repair</td>
<td>40</td>
</tr>
<tr>
<td>Urogenital surgery</td>
<td></td>
</tr>
<tr>
<td>Includes ectopic ureters, umbilical remnant removal, cystotomy, ruptured bladder repair, ovariectiony and cryptorchidectomy performed by open approach and using laparoscopy</td>
<td>20</td>
</tr>
<tr>
<td>Reproductive surgery</td>
<td></td>
</tr>
<tr>
<td>Includes rectovaginal reconstructive surgery, penile surgery</td>
<td>15</td>
</tr>
</tbody>
</table>
## Skin/Reconstructive surgery
Includes skin grafts, degloving injuries, skin and subcutaneous tumors, laser surgery, major reconstructive or plastic surgical techniques

<table>
<thead>
<tr>
<th>Musculoskeletal surgery: experience with a broad range of procedures in foals and adult horses to include yet not be limited to:</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthroscopic/tenoscopic surgery of a range of synovial structures</td>
<td>40</td>
</tr>
<tr>
<td>Fracture management including fragment excision, use of a range of internal fixation devices and external coaptation techniques, and arthrodesis techniques</td>
<td>30</td>
</tr>
<tr>
<td>Surgical treatment of angular limb deformities using internal fixation</td>
<td>5</td>
</tr>
<tr>
<td>Surgical treatment of various flexural deformities</td>
<td>5</td>
</tr>
<tr>
<td>Surgery of tendons and ligaments including various desmotomy and tenotomy procedures, and management of tendon lacerations</td>
<td>10</td>
</tr>
</tbody>
</table>

## Eye
Includes enucleation, corneal repair, keratectomy, conjunctival flaps, eyelid reconstruction

## TRAINING IN RELATED DISCIPLINES
Refer to the Fellowship Candidate Handbook Section 2.4.2

Candidates for Fellowship in Equine Surgery must spend 8 of the 144 weeks in the following related disciplines: equine internal medicine (80 hours, 2 weeks), diagnostic imaging (80 hours, 2 weeks), anaesthesia and critical care (80 hours, 2 weeks) and clinical and gross pathology (80 hours, 2 weeks). Guidelines for TRD are to be found in Appendix 4.

## EXTERNSHIPS
Refer to the Fellowship Candidate Handbook Section 2.4.1

## ACTIVITY LOG AND ACTIVITY LOG SUMMARY
The Activity Log (AL) should be recorded using the Activity Log for Clinical Discipline template available on the College website under Fellowship – Fellowship Forms. An example of an Activity Log Entry is included in Appendix 1.

The Activity Log Summary (ALS) should be divided by body system using the Activity Log Summary by body systems template available on the College website under Fellowship – Fellowship Forms. An example of an Activity Log Entry is included in Appendix 2.

## PUBLICATIONS
Refer to the Fellowship Candidate Handbook Section 2.10

The three (3) publications must cover at least two (2) body systems. Conference abstracts/papers are not acceptable as publications for credentials purposes, even if peer reviewed.
RECOMMENDED READING LIST

The candidate is expected to be familiar with the depth and breadth of the knowledge of the discipline. The following reading lists are intended to guide the candidate. The lists are not comprehensive and are not intended to include all of the content of the examination. The study of core textbooks and journals should be supplemented by study of relevant conference proceedings, additional textbooks and journals, and other learning aides such as CD-Roms or DVDs in building the required depth of knowledge of Equine Surgery and surgical principles, and adequate knowledge of relevant subjects and basic sciences (e.g. physiology, anatomy, pharmacology, internal medicine, anaesthesia, neurology, equine reproduction, biomechanics, pathology, clinical pathology and diagnostic imaging). The candidate is expected to be familiar with all the key articles on Equine Surgery published in the previous five years. These may appear in both the core journals or in those listed for additional reading. Some wider reading of related articles and material that does not directly refer to horses will be of benefit. If unsure of the breadth of reading required, the candidate should consult with their supervisors or contact the Chief Examiner.

**Core textbooks**


**Core journals**

(Last 5 years up to and including the issue 2 months before the written examination)

1. American Journal of Veterinary Research
2. Australian Veterinary Journal
3. Veterinary Surgery
4. Equine Veterinary Journal
5. Veterinary Clinics of North America (Equine Practice)
6. Journal of the American Veterinary Medical Association

**Suggested additional reading**

Relevant, key/pivotal journal articles published earlier than five years before the examination


Suggested additional journals (veterinary)
Australian Equine Veterinarian
Delete-Compendium of Continuing Education
Equine Veterinary Education
Journal of Veterinary Internal Medicine - ACVIM
N.Z. Veterinary Journal
Veterinary Comparative Orthopaedics and Traumatology
Veterinary Pathology
Veterinary Radiology and Ultrasound
Veterinary Record

**Suggested additional journals (non-veterinary)**
- American Journal of Surgery
- Annals Surgery
- Archives of Surgery
- Bone
- British Journal of Surgery
- Journal of Anatomy
- Journal of Biomechanics
- Journal of Bone and Joint Surgery (A & B)
- Journal of Orthopaedic Research
- Journal of Surgical Research
- Journal of the American College of Surgeons
- Surgery
- Surgical Clinics of North America

**Conference proceedings**
- Proceedings of the American College of Veterinary Surgeons Veterinary Symposium
  (comprising the ACVSc. Surgical Forum and Scientific Meeting)
- Proceedings of the Annual Convention of American Association of Equine Practitioners
- Proceedings of the Bain-Fallon Memorial Lectures
FURTHER INFORMATION

For further information contact The College Office

Telephone:         International +61 (07) 3423 2016
Fax:               International +61 (07) 3423 2977
Email:             admin@acvsc.org.au
Web:               www.acvs.org.au
Postal Address:    Building 3, Garden City Office Park, 2404 Logan Road
                   EIGHT MILE PLAINS QLD 4113 Australia

© 2011 The Australian and New Zealand College of Veterinary Scientists ABN 00 50 000894 208

This publication is copyright. Other than for the purposes of and subject to the conditions prescribed under the Copyright Act, no part of it may in any form or by any means (electronic, mechanical, microcopying, photocopying, recording or otherwise) be reproduced, stored in a retrieval system or transmitted without prior written permission. Enquiries should be addressed to the Australian and New Zealand College of Veterinary Scientists
<table>
<thead>
<tr>
<th>DATE</th>
<th>DETAILS</th>
<th>CATEGORY</th>
<th>PRESENTATION</th>
<th>DIAGNOSTIC TESTS</th>
<th>DIAGNOSIS</th>
<th>TREATMENT</th>
<th>OUTCOME</th>
<th>INITIALS</th>
<th>Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/01/2009</td>
<td>XXXX 2 yo gelded donkey 246414</td>
<td>Musculoskeletal</td>
<td>laminitis</td>
<td>examine tachycardia, laminitic stance, radiography rotation all P3s</td>
<td>laminitis, cushings</td>
<td>GA, DDF tenotomy following poor response to foot trimming and analgesia (lg/ket/morphine/gabapentin/PEZ) + pergolide</td>
<td>painful 5 days then gradual improvement. Glasgow + Obel pain score 13-14 until 5 days post op, willing to walk at 1 week, getting up alone at 8 days</td>
<td>XX* YY</td>
<td>primary</td>
</tr>
<tr>
<td>5/02/2009</td>
<td>XXXX 7 yo WB gelding 245660</td>
<td>Alimentary</td>
<td>colic-referred</td>
<td>Examine</td>
<td>180 large colon volvulus</td>
<td>general anaesthesia, ex lap, decompress, replace correct position, 48 hours abx only</td>
<td>discharged at 3 days, NAD</td>
<td>XX* YY</td>
<td>primary</td>
</tr>
<tr>
<td>5/04/2009</td>
<td>XXXX 1 yo Clydesdale filly 254672</td>
<td>Skin/subcutis</td>
<td>laceration LH-referred</td>
<td>Examine, knuckling fetlock, laceration moderate contamination lateral and dorsolateral MTIII, cannon exposed, p/o largely intact, long and Lat DE lacerated</td>
<td>Extensor tendon laceration</td>
<td>general anaesthesia, debride and close wound, Robert Jones and plantar splint</td>
<td>owner report going well at suture removal</td>
<td>XX* YY</td>
<td>primary</td>
</tr>
</tbody>
</table>

*ACTIVITY LOG CATEGORY: Refer to Subject Guidelines.

**INITIALS:** of Clinicians/Investigators – please asterisk the Primary Clinician/Investigator/Surgeon
## APPENDIX 2: EXAMPLE ACTIVITY LOG SUMMARY

<table>
<thead>
<tr>
<th>NAME:</th>
<th>DATE:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of Cases</strong></td>
<td></td>
</tr>
<tr>
<td><strong>CATEGORY</strong></td>
<td>JAN</td>
</tr>
<tr>
<td>Respiratory</td>
<td></td>
</tr>
<tr>
<td>Alimentary</td>
<td></td>
</tr>
<tr>
<td>Urogenital</td>
<td></td>
</tr>
<tr>
<td>Reproductive</td>
<td></td>
</tr>
<tr>
<td>Skin/reconstructive</td>
<td></td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td></td>
</tr>
<tr>
<td>Eye</td>
<td></td>
</tr>
<tr>
<td>Current TOTAL</td>
<td></td>
</tr>
<tr>
<td>Previous TOTAL</td>
<td></td>
</tr>
<tr>
<td>Cumulative TOTAL</td>
<td></td>
</tr>
</tbody>
</table>
**APPENDIX 3: EXAMPLE OUTPATIENT ACTIVITY LOG**

<table>
<thead>
<tr>
<th>Code</th>
<th>Details</th>
<th>Presentation</th>
<th>Diagnostic Tests</th>
<th>Treatment</th>
<th>Prognosis</th>
<th>Outcome</th>
<th>Initials</th>
<th>Surgery/No surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>XA2004</td>
<td>XX 2yo TB</td>
<td>Rilly</td>
<td>Colic - referred</td>
<td>PE: normal vital signs, mild abdominal pain</td>
<td>Infliximab 5-FU + pamimycin</td>
<td>Good</td>
<td>06/02/08 Discharged</td>
<td>Surgery: FLS</td>
</tr>
<tr>
<td>XA2004</td>
<td>XX 2yo TB</td>
<td>Gelding, Case no. X/XX</td>
<td>Present</td>
<td>PE: normal vital signs, mild intermittent LH Sx</td>
<td>Infliximab 5-FU + pamimycin</td>
<td>Good</td>
<td>06/02/08 Discharged</td>
<td>Surgery: FLS</td>
</tr>
<tr>
<td>XA2004</td>
<td>XX 2yo TB</td>
<td>Filly</td>
<td>Present</td>
<td>PE: normal vital signs, mild intermittent LH Sx</td>
<td>Infliximab 5-FU + pamimycin</td>
<td>Good</td>
<td>06/02/08 Discharged</td>
<td>Surgery: FLS</td>
</tr>
</tbody>
</table>

**Notes:**
- Infliximab 5-FU + pamimycin is administered to the patient.
- The patient is discharged on 06/02/08.
- Surgery is scheduled for 13/03/08.

**Addendum:**
- Additional notes on the patient's condition are provided in the addendum section.
- The patient's status is updated regularly as new information becomes available.
APPENDIX 4: LIST OF LEARNING OUTCOMES FOR TRAINING IN RELATED DISCIPLINES

Throughout the three year training program, the Fellowship candidate in Equine Surgery must be exposed to and actively involved in training in several related 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 80 hours (i.e. 2 weeks full time) must be devoted exclusively to the study and practice of each of the 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.

Directly supervised training in the related discipline of equine medicine
The 80 hours must be directly supervised by a Fellow of the ACVSc (Equine Medicine), Diplomate of the ECVIM or ACVIM. The role of the supervisor is to provide guidance and training in internal medicine as it applies to the equine 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.

Directly supervised training in the related discipline of diagnostic imaging
The 80 hours of training must be directly supervised by a Fellow of the ACVSc (Diagnostic imaging), Diplomate of the ECVDI or ACVR. The role of the supervisor is to provide
guidance and training in diagnostic imaging as it applies to the equine surgical patient and patient evaluated for lameness.

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 equine surgical patient:

1. Principles, indications, limitations, application and interpretation of the following imaging modalities:
2. Radiography including digital radiography, contrast radiography and fluoroscopy
3. Ultrasonography including ultrasonography of the musculoskeletal system, abdomen, thorax, head and neck
4. Nuclear scintigraphy
5. Computed tomography (CT)
6. Magnetic resonance imaging (MRI)
7. Storing images and construction of reports

Directly supervised training in anaesthesia, pain management and critical care

The 80 hours of training must be directly supervised by a Fellow of the ACVSc (Anaesthesia), Diplomate of the ECVA or ACVA. 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 equine surgical patient.

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 equine 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 hemostasis, multiorgan 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 equine 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 equine patient

4. Pain management
   4.1. Basic physiology of acute and chronic pain
   4.2. Pathophysiological effects of pain in horses
   4.3. Recognition and monitoring of pain in the horse
   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 horses: 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 for foals and adult horses
5.6. Tranquilization and anaesthesia in a variety of equids- horses of various breeds, ponies, donkeys and mules

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, the trauma patient and the pregnant mare. Anaesthesia of horses and foals with acute abdominal pain, foals with ruptured urinary bladder, patients for fracture repair, laryngeal surgery, ovariectomy and ocular disorders

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 postanaesthetic lameness in horses

5.12. Current techniques used during recovery from general anaesthesia

5.13. Local and regional anaesthesia techniques used in lameness diagnosis and for standing surgery-dental nerve blocks, epidural and spinal anaesthesia, and techniques used for laparoscopy

Directly supervised training in the related discipline of veterinary pathology
The 80 hours of training must be **directly supervised** by a Fellow of the ACVSc (Veterinary Pathology), Diplomate of the ECVP or ACVP. 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 equine 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 equine 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 the horse 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 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 horse and collection of samples for additional testing.

8. Interpretation of laboratory results, understanding of pathologic and cytologic terminology and communication with the pathologist.