



AUSTRALIAN AND NEW ZEALAND COLLEGE OF VETERINARY SCIENTISTS

FELLOWSHIP GUIDELINES

Small Animal Dentistry and Oral Surgery

ELIGIBILITY REQUIREMENTS OF CANDIDATE

1. The candidate shall meet the eligibility prerequisites for Fellowship as outlined in the *Fellowship Candidate Handbook*.
2. All candidates must be Members of the College, by examination, in either Veterinary Dentistry or Small Animal Dentistry and Oral Surgery before the Fellowship examination can be attempted.

OBJECTIVES

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

LEARNING OUTCOMES

The field of Small Animal Dentistry and Oral Surgery includes the examination, diagnosis and treatment of diseases of the oral cavity.

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

1. The candidate will be expected to have a **detailed**¹ knowledge of:
 - 1.1. the normal anatomy and physiology and embryology of the oral cavity and the structures contained therein.
 - 1.2. the aetiology, pathogenesis and pathophysiology of oral 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 major literature.

- 1.3. the diagnosis, differential diagnosis, treatment, prognosis and prevention of oral diseases including neoplastic diseases.
 - 1.4. the principles of periodontics, oral surgery, orthodontics, endodontics, prosthodontics, restorative dentistry and oral medicine.
 - 1.5. the practical application of diagnostic imaging as it applies to the diagnosis of diseases of the oral cavity and related structures.
 - 1.6. oral manifestations of systemic illness.
 - 1.7. anaesthesia and analgesia as it applies to the treatment of diseases of the oral cavity.
 - 1.8. the principles of surgery, including but not limited to wound healing, haemostasis, wound infections and biological materials as it pertains to the surgical treatment of conditions of the oral cavity.
 - 1.9. the principles of fracture healing and repair as they relate to conditions of the oral cavity.
 - 1.10. instruments used in the treatment of oral conditions including their correct names, correct usage and their maintenance, including cleaning, disinfection and sterilisation.
 - 1.11. current literature in the field of Small Animal Dentistry and Oral Surgery as well as other relevant oral and dental literature from the human field and the ability to critically evaluate this literature.
2. The candidate will be able to, with a **detailed² level of expertise**:
- 2.1. perform the breadth of dental and oral surgical procedures in small animals (see list in the Activity Log Category table below)
 - 2.2. formulate and apply management plans to small animal dental and oral surgery cases
 - 2.3. analyse dental and oral surgical problems and make clinical judgements
 - 2.4. manage clinical data including interpreting a range of diagnostic imaging modalities such as radiography and CT imaging in small animal dental and oral surgical cases
 - 2.5. communicate effectively with clients, referring veterinarians and peers
 - 2.6. advance the knowledge of Small Animal Dentistry and Oral Surgery through clinical investigation, research and publication.
 - 2.7. evaluate and incorporate new scientific information relevant to the practice of Small Animal Dentistry and Oral Surgery.
 - 2.8. integrate these skills to provide high quality care for small animals with the most efficient use of resources.

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.

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EXAMINATIONS

Refer to the *Fellowship Candidate Handbook (FCH)*, 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 (90 minutes)

The written examination will comprise two separate three-hour written papers taken on two consecutive days. There will be an additional 20 minutes perusal time for each paper, during which no writing in an answer booklet is permitted. In each paper you must answer all four (4) questions, worth 45 marks each, giving a total of 180 marks per paper. There is no choice of questions. Questions may be long essay type, a series of shorter answer sub-questions, or multiple-choice questions. Marks allocated to each question and to each subsection of questions will be clearly indicated on the written paper.

Written Paper 1:

This paper is designed to test the candidate's knowledge of the principles of Small Animal Dentistry and Oral 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.

Written Paper 2:

This paper is designed to (a) test the candidate's ability to apply the principles of Small Animal Dentistry and Oral Surgery to particular cases/problems or tasks, and to (b) test the candidate's familiarity with the current clinical practices and current issues that arise from activities within the discipline of Small Animal Dentistry and Oral Surgery in Australia and New Zealand.

Practical Examination:

The practical examination is of three hours duration. It will consist of a series of 12 case-based questions worth 15 marks each equating to a total of 180 marks. Each question will contain a series of smaller sub-questions.

The questions will be short answer questions of a practical and clinical nature relating to images, videos and/or examples of diagnostic imaging. Written answers will be required. No perusal time will be given for the practical exam. Marks allocated to each question and to each sub-section will be clearly indicated on the written paper.

Oral Examination:

The oral examination is of 90 minutes duration and may consist of questions of a theoretical and practical nature. The oral examination is designed to test aspects of the Learning Objectives. Candidates may be asked to discuss detailed case material. Eight (8) cases are presented with supporting questions asked verbally in a face-to-face setting. The oral examination has a total of 160 marks with each case allocated 20 marks. Images, CT scans, histology slides, radiographs, laboratory data, results of relevant additional diagnostic tests are likely to be used during this examination.

TRAINING PROGRAMS

Refer to the *Fellowship Candidate Handbook (FCH)*, Section 2.3.

Training programs must adhere to the *Fellowship Candidate Handbook* requirements. The following caveats are approved by the Training and Credentials Committee (TCC) and Chief Examiner:

- (i) Training programs must meet the requirements as laid out in the FCH section 3.3. A minimum of 96 weeks of directly supervised time is required.
- (ii) Indirectly supervised training credits may be awarded for training towards American Veterinary Dental College (AVDC), human dental degree or similar training or experience. Details must be provided in the training program document and approval is at the discretion of the ACE-T in consultation with the chapter CEC.

In addition to the requirements of the *Fellowship Candidate Handbook*, **Training Program Documents** must include the following:

- (i) A commitment by the candidate to be involved in patient-oriented teaching rounds, seminars or discussion groups, journal and text reviews. The candidate should also plan to attend clinically didactic lectures and appropriate continuing education conferences. Attendance at international dental conferences is highly recommended.

TRAINING IN RELATED DISCIPLINES

Refer to the *Fellowship Candidate Handbook*, 2.4.2.

Candidates for Fellowship in Small Animal Dentistry and Oral Surgery must spend time in the related disciplines training as per the following (160 hours, 4 weeks):

- Anaesthesia (40 hours, 1 week)
- Small Animal Surgery (40 hours, 1 week)
- A further 80 hours (2 weeks) may be spent in any of the following disciplines:
 - Diagnostic Imaging (40 hours, 1 week)
 - Pathology (40 hours, 1 week) with a focus on, but not exclusive to, oral pathology
 - Surgical or Medical Oncology (40 hours, 1 week)
 - Related human discipline (Maxillofacial surgery, endodontics, periodontics) approved on a case by case basis (40 hours, 1 week)
 - Further training in anaesthesia (40 hours, 1 week)
 - Further training in small animal surgery (40 hours, 1 week)

The remaining week of required TRD can be completed in a discipline of choice, within the requirements outlined in the *Fellowship Candidate Handbook*, 2.4.2.

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 Section 2.4.2 of the *Fellowship Candidate Handbook*.

EXTERNSHIPS

Refer to the *Fellowship Candidate Handbook*, Section 2.4.1.

An externship of at least four (4) weeks must be completed during the training program. This can be done in one block or in two, 2-week blocks. The supervisor for the externship must meet the requirements of a primary supervisor.

CUMULATIVE ACTIVITY LOG SUMMARY

The Cumulative Activity Log Summary (ALS) must be recorded throughout supervised training in the primary discipline. This is outlined in Section 2.8 of the *Fellowship Candidate Handbook*. The suggested template is in Appendix A.

The templates for the ALS must be submitted for approval with the Training Program document.

ACTIVITY LOG

A minimum of 250 (two hundred and fifty) cases must be included over the training period. The candidate should try to gain as broad a range of experience as possible. A narrow range of experience within each category will not meet the minimum requirements (e.g. 80% complete prophylaxis in section b. periodontics). The following case number threshold is a guide to the minimum number of cases that the candidate is expected to have performed in each discipline (the candidate may be questioned on these and any related issues in any part of the examination process). The same procedure cannot be counted in more than one category, but up to three procedures can be counted for one patient if performed on different teeth, under the one anaesthetic episode. Only cases where the candidate is the primary clinician/surgeon can be counted towards the case minima. The template is included in Appendix B.

- a. Oral Medicine (20 cases minimum)
Cases that involve diagnostic tests that would not be included under any other category. This would include work-ups including radiographs but no surgical procedure, incisional biopsy, sialography, masticatory EMG or other tests beyond a CBC, biochemistry and urinalysis.
- b. Periodontics (60 cases minimum)
 - i. Complete dental cleaning not requiring periodontal treatment (20 cases minimum)
 - ii. Dental cleaning involving periodontal scaling and closed root planing and curettage (20 cases minimum)

- iii. Complete professional cleaning that includes simple periodontal surgery such as gingivectomy/gingivoplasty, gingival wedge resection, open root planning and curettage or flap procedure. (15 cases minimum)
 - iv. Major periodontal treatment such as osseous surgery, modifying attachment height, bone augmentation, gingival grafting, guided tissue regeneration, (5 cases minimum)
- c. Endodontics (45 cases minimum)
 - i. Mature canal (closed apex) debridement and obturation, non-surgical (33 cases minimum with a minimum 6 cases on multi-rooted teeth)
 - ii. Partial vital pulpectomy (10 cases minimum)
 - iii. Endodontic procedure other than the above including surgical endodontic treatment (apicoectomy), apexification, replacement and endodontic treatment of avulsed tooth, splinting of tooth with horizontally fractured root with follow up endodontic evaluation. (2 cases minimum)
- d. Restorative dentistry with all cases requiring preparation of the defect, placement of the permanent restorative material and completion of the restoration. Up to five (5) endodontic cases may be included as long as they are also not included as endodontic cases and a full restorative procedure was performed. (15 cases minimum)
- e. Oral surgery (95 cases minimum)
 - i. Closed tooth extractions and crown amputations (35 cases minimum)
 - ii. Tooth extractions that involve tooth sectioning, elevation of a gingival flap, bone removal. and full-mouth extractions (35 cases minimum)
 - iii. Mandibular or maxillary fracture fixation (10 cases minimum)
 - iv. Involved oral surgical procedures such as TMJ condylectomy, open TMJ surgery, repair of palatine defects, repair of oronasal fistula, partial or full maxillectomy or mandibulectomy (5 cases minimum)
 - v. Miscellaneous soft tissue oral surgery, salivary gland surgery, resection of granuloma/hyperplasia, closed reduction of a temporomandibular dislocation, preparing and fitting a palatal obturator. (5 cases minimum)
 - vi. Oral surgery involving soft and/or hard tissues such as tumour removal involving more than an incisional biopsy and. (5 cases minimum)
- f. Prosthodontics including crown or bridge preparation and cementation (5 cases minimum)
- g. Orthodontics (10 cases minimum)
 - i. Malocclusion treatment plan, including detailed consultation and charting, clinical macro-photography, or bite registration, impressions, study models, with or without occlusal adjustment, (2 cases minimum)
 - ii. Extraction of deciduous teeth causing malocclusion (2 cases minimum)
 - iii. Management of clinical malocclusion not requiring an active force device (crown amputation, application of an inclined plane) (4 cases minimum)
 - iv. Management of clinical malocclusion using an active force orthodontic device (expansion device, buttons/chain) (2 cases minimum)

PUBLICATIONS AND PRESENTATIONS

Refer to the Fellowship Candidate Handbook, Section 2.10

Two (2) first author publications accepted in peer reviewed journals are required. Second author papers are not acceptable.

Papers must be relevant to Small Animal Dentistry and Oral Surgery.

Papers must each cover a different topic and not largely similar material. Conference abstracts are not acceptable as publications for credentials purposes.

In addition:

Evidence that the candidate has given at least one oral presentation at an approved scientific meeting focused on small animal dentistry prior to the credential date.

RECOMMENDED READING LIST

The candidate is expected to read widely within the discipline. This list of books and journals is intended to guide the candidate to some core references, including comparative texts, and other source material. Candidates also should be guided by their supervisor. The list is not comprehensive and is not intended as an indicator of the content of the examination. Candidates at fellowship level are expected to have library search skills and be aware of recent publications and advances in veterinary dentistry.

Core Texts³:

Wiggs RB and Lobprise HB. *Veterinary Dentistry Principles & Practice*. Philadelphia: LippincottRaven, 1997.

DuPont GA and DeBowes LJ. *Atlas of Dental Radiography in dogs and cats*. St Louis: Saunders Elsevier, 2009

Verstraete FJM and Lommer MJ. *Oral and maxillofacial surgery in dogs and cats*. Philadelphia: Saunders, 2012.

Holmstrom SE, Frost P, Eisner ER. *Veterinary Dental Techniques*. 3rd ed. Philadelphia: WB Saunders, 2004.

Hargreaves KM and Cohen MA. *Cohen's Pathways of the Pulp*. 10th ed. St. Louis: Mosby, 2010.

Anusavice KJ. Phillip's *Science of Dental Materials*. 12th ed. Philadelphia: WB Saunders, 2013.

Newman MG, Takei H, Klokkevold PR, Carranza FA. *Carranza's Clinical Periodontology*. 12th ed. Philadelphia: Saunders, 2014.

³ **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

Additional Reading Materials - These are conference proceedings, other non-refereed publications and other journals that would offer some information in the subject area including differing points of view, but are not required reading.

Additional References:

Anatomy:

Evans HE. Miller's *Anatomy of the Dog*. 4th ed. Philadelphia: WB Saunders, 2012
Schroeder HE. *Oral Structural Biology*. New York: Thieme Medical Publishers, 1991.

Anaesthesia:

Tranquilli WJ et al eds. *Lumb and Jones Veterinary Anesthesia and Analgesia*. 4th ed. Baltimore: Williams and Wilkins, 2007.

Dental Materials:

Powers JM. Craig's *Restorative Dental Materials*. 12th ed. St Louis: Mosby Elsevier, 2006.

Embryology:

Nanci A. *Ten Cate's Oral Histology: Development, Structure, and Function*. 8th ed. St. Louis: Mosby, 2012.

Avery, James K. *Essentials of Oral Histology and Embryology: A Clinical Approach*. 3rd ed. Mosby Elsevier. 2002.

Orthodontics:

Proffit WR and Fields HW. *Contemporary Orthodontics*. 5th ed. St. Louis: Mosby-Year Book, 2013.

Pathology:

Regezi JA, Sciubba JJ, Jordan RCK. *Oral Pathology: Clinical Pathologic Correlations*. 5th ed. Philadelphia: Saunders, 2007.

Periodontology:

Wolf HF, Rateitschak KH, Rateitschak EM, Hassell TM. *Color Atlas of Dental Medicine – Periodontology*. 3rd ed. New York: Thieme Medical Publishers, 2005.

Radiology:

White SC and Pharoah MJ. *Oral Radiology: Principles and Interpretation*. 6th ed. St. Louis: Mosby, 2008.

Restorative Dentistry / Prosthodontics:

Roberson TM, Heyman HO, and Swift EJ. *Sturdevant's Art and Science of Operative Dentistry*. 6th ed. St. Louis: Mosby, 2013.

Surgery:

Fossum TW. *Small Animal Surgery*. 3rd ed. St. Louis: Mosby, 2007.

Hupp JR, Ellis III E, Tucker MR. *Contemporary Oral and Maxillofacial Surgery*. 6th ed. St. Louis: Mosby, 2013.

Slatter D. *Textbook of Small Animal Surgery*. 3rd ed. Philadelphia: WB Saunders, 2003.

Small Animal Dentistry:

Holmstrom SE. *Veterinary Dentistry. Veterinary Clinics of North America: Small Animal Practice*. 35(4), p. 763-1072. Philadelphia: Saunders-Elsevier, 2005.

Holmstrom SE. *Clinical Veterinary Dentistry. Veterinary Clinics of North America: Small Animal Practice*. 43(3) p. 447-689. Philadelphia: Saunders-Elsevier, 2013.

Tutt C, Deeptose J, Crossley DA, eds. *BSAVA Manual of Small Animal Dentistry*. 3rd ed. Quedgeley: British Small Animal Veterinary Association, 2007.

Verstraete FJM. *Self-Assessment Color Review of Veterinary Dentistry*. London: Manson Publishing and Ames: Iowa State University Press, 1999. **Oral Traumatology:**

Andreasen F.M, Andersson L. *Textbook and Color Atlas of Traumatic Injuries to the Teeth*. 4th ed. Wiley-Blackwell, 2007

Journals:

Candidates should look for relevant articles in the following journals. For the non-veterinary journals, this can be limited to articles that are referenced in the Journal of Veterinary Dentistry Abstracts section.

Core Journal⁴:

Journal of Veterinary Dentistry

Additional Journals:

American Journal of Veterinary Research

Australian Veterinary Journal

Australian Veterinary Practitioner

Journal of Small Animal Practice

Journal of the American Veterinary Medical Association

Journal of the American Animal Hospital Association

Journal of Feline Medicine and Surgery

Journal of Veterinary Internal Medicine

New Zealand Veterinary Journal

Seminars in Veterinary Medicine

Veterinary Comparative Orthopaedics and Traumatology

Veterinary and Comparative Oncology

Veterinary Surgery

Veterinary Radiology and Ultrasound

Veterinary Pathology

American Journal of Dentistry

Australian Dental Journal

Australian Endodontic Journal

Journal of the American Dental Association

Journal of Endodontics

Journal of Periodontology

Journal of Clinical Periodontology

⁴ **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.

APPENDIX A:

Cumulative Case Log Summary

Candidate's Name:

Subject:

Year:

Species	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Current total	Previous total	Cumulative total
Canine															
Feline															
Other															

Candidate's Name:

Species:

Date:

Subject:

Number of cases.

Category	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Current total	Previous total	Cumulative total
Oral Medicine															
Periodontics															
Endodontics															
Restorative Dentistry															
Oral Surgery															
Prosthodontics															
Orthodontics															
Other															

APPENDIX B:

Case Log

Candidate's Name:

Date:

Subject: Small Animal Dentistry and Oral Surgery

Category	Subcategory	Case #	Case ID, Patient Name	Species	Procedure	Supervisor
Oral Medicine (20 cases min.)						

Category	Subcategory	Case #	Case ID, Patient Name	Species	Procedure	Supervisor
Periodontics (60 cases min.)	i. (20 cases min.)					
	ii. (20 cases min.)					
	iii. (15 cases min.)					
	iv. (5 cases min.)					

Category	Subcategory	Case #	Case ID, Patient Name	Species	Procedure	Supervisor

Endodontics (45 cases min.)	i. (33 cases min.)					
	ii. (10 cases min.)					
	iii. (2 cases min.)					

Category	Subcategory	Case #	Case ID, Patient Name	Species	Procedure	Supervisor
Restorative Dentistry (15 cases min.)						

Category	Subcategory	Case #	Case ID, Patient Name	Species	Procedure	Supervisor
Oral Surgery (95 cases min.)	i. (35 cases min.)					
	ii. (35 cases min.)					
	iii. (10 cases min.)					
	iv. (5 cases min.)					
	v. (5 cases min.)					
	vi. (5 cases min.)					

Category	Subcategory	Case #	Case ID, Patient Name	Species	Procedure	Supervisor
Prosthodontics (5 cases min.)						

Category	Subcategory	Case #	Case ID, Patient Name	Species	Procedure	Supervisor
Orthodontics (10 cases min.)	i. (2 cases min.)					
	ii. (2 cases min.)					
	iii. (4 cases min.)					
	iv. (2 cases min.)					

FURTHER INFORMATION

For further information contact the College Office

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