

European College
of
Veterinary Emergency and Critical Care

Policies and Procedures

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Changes are highlighted in yellow.

Changes and Amendments

- Change in MoU ACVECC-ECVECC
- Few typo corrections

Chapter 1: Introduction

The European College of Veterinary Emergency and Critical Care (ECVECC) is a veterinary specialty organisation. It is founded as part of the programme for veterinary specialization in Europe. ECVECC operates in close cooperation with the European Society of Veterinary Emergency and Critical Care (EVECCS), from which it was founded.

The primary aim of the ECVECC is to improve and promote the quality of animal health by making specialised knowledge and skills in Veterinary Emergency and Critical Care (VECC) available for the benefit of animals.

The primary objectives of the ECVECC will be to advance Veterinary Emergency and Critical Care medicine in Europe and increase the competence of those who practice in this field by

- establishing guidelines for post-graduate education and training as a prerequisite to become a specialist in the speciality of VECC medicine;
- examining and authenticating veterinarians as specialists in VECC medicine to serve the veterinary patient, its owner and the public in general, by providing expert care for animals requiring emergency or critical care (ECC) management;
- encouraging research and other contributions to knowledge relating to the pathogenesis, diagnosis, therapy, prevention, and the control of diseases directly or indirectly affecting the ECC management of all animals, and promoting communication and dissemination of this knowledge.
- maintaining a register of the certified members of the College so as to inform the EBVS and thereby allowing these members to represent themselves as European Specialists in Veterinary Emergency and Critical Care.

The specialist in VECC will be working in a clinical academic setting, referral practice or private emergency practice. The main part of his/her time will be devoted to VECC; this will include both primary case management and supervisory case management via leadership of a clinical service as well as teaching and research activities.

Chapter 2: Process for becoming a Diplomat

There are a number of routes that can be followed to become an ECVECC Diplomat.

1. Founding Diplomates
 - a. Members of the Interim Executive Committee with proper credentials as evaluated by the College Organising Committee of EVECCS and appointed by EBVS.
 - b. De Facto Specialists (appointed in the first 5 years) with proper credentials as appointed by the Members of the Interim Executive Committee.
2. Standard Residency training Programme with submission and acceptance of credentials and successful completion of the Certifying Examination.
3. Alternate Residency Training Programme with submission and acceptance of credentials and successful completion of the Certifying Examination.
4. Diplomates of non-EBVS accredited Colleges with appropriate credentials (Section 2.3).

2.1. Founding Diplomates

2.1.1 Members of the Interim Executive Committee

The College Organising Committee (COC) invited applications from individuals who felt they fulfilled the criteria to be a Founding Diplomat. This was publicised via EVECCS and in the Journal of VECC. All applications were reviewed by all three members of the EVECCS appointed COC and a list of proposed Members of the Interim Executive Committee was submitted with the application to EBVS and confirmed at the EBVS AGM in April 2014 as Members of the Interim Executive Committee.

Criteria that were fulfilled by Members of the Interim Executive Committee are as follows:

- i. be initiators in their field;
- ii. have achieved distinction in the field, and have qualifications, achieved by training and experience, far exceeding those proposed as necessary for candidates to take the certifying examination of the organisation;
- iii. be internationally recognised as a qualified specialist by peers, and
 - a. have at least ten years' experience practising the speciality, and by teaching, research, and practice have contributed significantly to the development of the speciality or
 - b. have advanced training (at European Qualifications Framework (EQF) level 8) in the speciality; have demonstrated competency through teaching, research or practice in the speciality to which the individual devotes most of his or her professional time, and
 - c. be author of at least ten significant publications in peer-reviewed journals resulting from the research or practise in the speciality;
- iv. be uncontroversial to the majority of the membership;
- v. spend at least 60 per cent of their time practising the speciality, based on a normal working week of 40 hours, for the last, at least 10 years;
- vi. be practising in Europe;
- vii. practise scientific, evidence-based veterinary medicine, which complies with animal welfare legislation;
- viii. display the willingness to contribute to the growth of the College (e.g. by training residents).

2.1.2. De Facto recognised Diplomat

Starting in June 2014 and continuing for 5 years after the founding of the College, the College will solicit applications from individuals who fulfil the criteria to be a De Facto Specialist. Applications will

be solicited via personal letter, letters to major European journals and a letter to the Journal of Veterinary Emergency and Critical Care. The opportunity will also be publicised via the EVECCS Annual General Meeting and newsletter. The Interim Executive Committee will review all applications to become a De Facto Specialist. Each application will be reviewed in detail by three (3) members of the Interim Executive Committee of which one should preferably be from the same country as the applicant, and an experienced Diplomate of another College. A recommendation will be made to the Interim Executive Committee (see Constitution Interim Rules and Regulations). De facto specialists are also considered to be “Founding Diplomates” and are expected to contribute to the running of the College. They must meet the general criteria described above for the Members of the Interim Executive Committee. In addition they must also submit two letters of support from senior colleagues or authorities.

2.2 Standard Residency Training Programme

The Residency Training Programme requires a Programme Director, an approved Residency Training Facility and an approved Residency Training Plan including details of Supervisors. The Programme Director must be a Diplomate of the ECVECC. ECC Supervisors can be Diplomates of either ECVECC or ACVECC. Supervisors of other specialty rotations need to be a Diplomate of the appropriate European or American College. A standard Residency Training Programme is 3 years in length and contains at least 72 weeks of supervised clinical ECC work, 22 supervised weeks of rotations in specialties related to ECC, and at least 35 weeks of independent study or practice of which 22 weeks are working in clinical ECC. Details of requirements for Applicants and for Residency Training Programmes can be found in Chapter 3 of this document. Details of the Credentials and Examination Process can be found in Chapters 4 and 5, respectively, of this document.

2.3 Alternate Residency Training Programme

In exceptional cases it will be possible to follow an alternate residency training programme. Alternate programmes must have a Programme Director who is an ECVECC Diplomate and who is responsible with the Applicant for preparing the programme details. Alternate programmes must be at least as long as a standard programme. The total time of an alternate programme must not exceed six (6) years. A resident on an alternate training programme must spend the equivalent of at least 60% of 3 years working in the practice of his/her speciality, under direct supervision of a Diplomate of the College. Alternate programmes must be approved by the Education Committee in advance for the Applicant (intended Resident) in question only.

2.4 Diplomates of non-EBVS approved Colleges

ECVECC recognises that possession of a Diplomate status of the American College of Veterinary Emergency and Critical Care (ACVECC) provides part evidence of completion of a training programme and examination process sufficient to satisfy the requirements laid out in the ECVECC Constitution & Bylaws.

Holders of the ACVECC Diploma may apply for membership of the ECVECC providing that they fulfil the additional requirements as outlined below.

- Have a satisfactory moral and ethical standing in the profession.

- Is practising in a European country, and intends to remain so for the foreseeable future. Applicants may be relieved of this requirement in exceptional cases.
- Be significantly active in the development of VECC in Europe.
- Have devoted a minimum of four years after graduation from veterinary school to special training and experience in VECC.
- Have successfully passed the qualifying examination of the American College of Veterinary Emergency and Critical Care and be certified by the ACVECC Council of Regents.
- Be the author of two papers in peer-reviewed international journals one of which must be as first author.
- In addition they must also submit two letters of support from senior colleagues or authorities.

The application should be submitted in electronic form to the ECVECC Credentials Committee and include copies of the relevant Diplomas and a Curriculum Vitae (CV) as well as verifiable documents that provide sufficient evidence that the candidate fulfils the requirements. A fee for the credentialing procedure and application will be charged. Members of the ECVECC who are also Diplomates of the ACVECC are still required to undergo re-certification every 5 years. It should be emphasised that the principal reason for this recognition of the ACVECC Diploma by ECVECC is the role that ACVECC Diplomates play in the training of its Residents. Diplomates of ACVECC who are not Diplomates of ECVECC may not be Programme Directors but may, with the agreement of a Programme Director, be a Supervisor for some of the clinical weeks in an approved Residency Training Programme.

Diplomates of other non-EBVS approved Colleges who feel that their Diploma could be considered as showing evidence of completion of a training programme and examination process sufficient to satisfy the requirements laid out in the ECVECC Constitution & Bylaws, should apply to the Chair of the Credentials Committee; in addition to the above, their initial submission should clearly describe why they believe their training and certification part fulfils ECVECC requirements.

A Diploma which is awarded to a non-EBVS recognised Diplomate without sitting the College's examination is not valid when the conditions under which the Diploma was awarded do not exist anymore.

Chapter 3: Residency Programme Criteria

3.1 Objectives of the Programme

The Residency Training Programme is the foundation for the training of future Diplomates in the ECVECC.

A residency should be a strong partnership in learning that can only be accomplished with frequent, regular, and intense interaction and communication between a Residency Programme Director, Mentor, Supervisors and their Resident. In addition to the specific requirements described in this document, Residents under the guidance of their Residency Programme Director and Supervisor(s) are expected to develop the following skills:

- A problem-based approach to patient care;
- Clinical expertise and professional attitude in VECC medicine;
- Critical thought;
- Awareness and critical appreciation of relevant literature;
- Exceptional written and oral communication skills;
- The ability to impart knowledge to others;
- A management style allowing effective leadership;
- High moral and ethical standards.

The specific objective of the Residency Training Programme is to train the Resident to be a Specialist. The following details the features of a Specialist. It is not intended to be exhaustive but rather to give a broad outline (see also Skills and Experience Requirements available at www.ecvecc.org and as Appendix 2).

3.1.1 Knowledge and Skills concerning professional contacts and transfer of knowledge

The VECC Specialist should be able to:

- express thoughts clearly, in oral as well as written form;
- approach problems in an analytic, scientific way to find solutions and be able to assign priorities for them;
- organise work efficiently;
- find required information quickly;
- develop scientific activities in order to contribute to the quality of VECC medicine.

3.1.2 Knowledge and Skills concerning ECC

The VECC specialist shall:

- be acquainted with the main current theories, principles and problems of ECC;
- be able to recognise, work-up and perform the ECC skills as described in the Skills and Experience Requirements;
- maintain up to date knowledge through congresses and literature;
- be acquainted with the structure, objectives, approaches and problems of the veterinary profession and specifically with regard to the specialty of VECC medicine;
- be acquainted with the social role of the Specialist and specifically the responsibilities of the Specialist with regard to animals, clients, colleagues, public health and the environment;
- conform to modern standards of skills and equipment.

3.1.3 Knowledge and Skills concerned with obtaining help for problems that lie outside of the speciality and/or facilities

The VECC specialist shall:

- keep abreast of new developments in the Speciality and become familiar with new methods, before applying these in practice;
- understand the limitations of VECC medicine;
- understand the possibilities that other Specialties may have to offer;
- be familiar with the potential of multidisciplinary cooperation.

3.1.4 Knowledge and Skills concerned with working as a professional Specialist

By his/her expertise, the Specialist should have developed the self-confidence, self-criticism and sense of responsibility that are essential for the practice of the Speciality.

The requirements described in this document are the *minimum standards* established by ECVECC. All ECVECC Diplomates involved in Resident training are representatives of ECVECC and must ensure that these standards are maintained.

There is no guarantee, expressed or implied, that a Resident in completing the minimum requirements listed in this document will be able to pass the Certifying Examination. It is up to the Resident, under the guidance of their Programme Director and Supervisors, to recognize their strengths and weaknesses and to expand on the core curriculum to complete the knowledge, experience, and skills needed for them to qualify as a Diplomate of the ECVECC.

Applicants, Residents, and Candidates may NOT claim any affiliation with the ECVECC, in print or in any other format, until they are board-certified in the College. They may only claim affiliation with their Residency Training Facility.

3.2 Requirements for entry into a Programme

To be accepted as a Resident by ECVECC, the following requirements must be fulfilled. An Applicant for registration as an ECVECC resident must:

- Be a graduate from an EAEVE-approved college of veterinary medicine and be legally able to practise veterinary medicine and surgery in a European country, unless relieved of this obligation by the Executive Committee;
- have completed an initial training period in the form of a one-year rotating internship or its equivalent. For further details see section 3.2.1.
- be accepted into an approved Residency Training Programme (standard or alternate);
- review the Residency Programme criteria and verify their ability to comply with all requirements;
- be registered by their Programme Director with the ECVECC Secretary prior to, or no later than one month after, the official start of their training programme.

Applicants may apply directly to a Residency Training Programme that has already been approved or may approach a suitable Programme Director and work with them to create a Residency Training Programme that is achievable by both the Residency Programme Director and Applicant. No Applicant can be accepted as a Resident until their Residency Training Programme is approved.

The Education Committee reviews all registration materials and reserves the right to ask for supporting documentation. The Education Committee may withdraw approval of the Residency if all requirements have not been met.

3.2.1 Guidelines for initial training period (internship or equivalent)

- Prospective Residents will be required to have broad training and experience in clinical medicine and surgery and their supporting disciplines, which shall be attained by participation in a rotating Internship of at least 1 year duration.
- Alternatively, the Internship may be substituted by an equivalent experience in clinical practice of a minimum 2 years duration.
- Internships may be undertaken in private or academic clinical practices.
- It is important that an Internship be truly rotating, involving a wide range of clinical activities, with an emphasis on internal medicine, emergency medicine, anaesthesia and general soft tissue surgery. In addition, clinical activities may include orthopaedic surgery, radiology, clinical pathology, ophthalmology, and dermatology.
- An Internship should be conceived as a training programme for the intern rather than a service benefit for the clinic.
- The Internship should involve clinical experience over a minimum of 12 months duration. Clinical experience is defined as full time (40 hour work week) involvement in managing clinical cases in a veterinary hospital setting. A four week vacation period is included in this 12 month period.
- Preferably, Internships should be under the direct supervision of at least one EBVS or American College approved Diplomate.
- The Internship should document the name and specialisation of the supervisor(s), and the dates on which the period of training commenced and ended. Documentation can be provided in form of a Certificate of Internship or a cover letter signed by the supervisor.
- The ECVECC does not formally approve particular Internship programmes. The responsibility for assessing the suitability of an Internship programme or its equivalent lies principally with the Residency Programme Director. The Residency Programme Director shall assess the suitability of the Internship programme or its equivalent at the time of application of the prospective Resident to a particular Residency Training Programme. The Education Committee must approve each prospective resident and may ask the Residency Programme Director to provide information about the prospective Resident's Internship or its equivalent at the time of registration of the Resident with the ECVECC Secretary.

3.3 Residency Training Programme description

Residency Training Programmes include standard and alternate Residency Training programmes. The term Alternate Residency Training Programmes applies to residency training programmes that differ in significant ways from a Standard Residency Training Programme.

The key components of a Residency Training Programme (both standard and alternate) are:

- Resident (3.3.1)
- Residency Programme Director (3.3.2)
- Mentor (3.3.3)
- Supervisors (3.3.4)
- Residency Training Plan (3.3.5 and 3.4)
- Residency Training Facility (3.3.6 and Appendix 1)

3.3.1 Resident

Residents are Applicants that have been accepted into an approved Residency Training Programme by a Programme Director and have been approved by the ECVECC. The ECVECC reserves the right to withdraw Resident privileges from any Resident who, upon review and request for corrective action, continues to fail to meet the requirements outlined in this document.

A Resident is considered to be active if they are making satisfactory progress toward the completion of the Residency Requirements. To remain active a Resident must:

- complete at least 10 clinical weeks per year (except in their final year when fewer than 10 weeks might be required to fulfil requirements);
- maintain the most current Knowledge Requirements;
- maintain the most current Experience and Skills Requirements;
- complete all assigned Training Benchmarks with their Programme Director;
- Submit Annual Progress Reports detailing the completion of requirements to the Credentials Committee (Annual Progress Reports must be approved by the Credentials Committee for a Resident to be considered active).

A Resident is considered to be inactive when, by choice or by action, they are not making satisfactory progress toward completion of Residency Requirements. A Resident may choose to be placed on inactive status by applying to and receiving approval from the Credentials Committee. Note that the Credentials Committee must also approve the restarting of the Resident's programme.

If it is determined that a Resident is not making satisfactory progress in the completion of their Requirements or if a Resident fails to meet deadlines or other reporting Requirements, the Credentials Committee can place that Resident on inactive status.

The length of time that a Resident can be inactive is limited by the requirement that a Residency must be completed and Credentials submitted for the Certifying Examination **within six (6) years** of beginning their Residency.

To be reinstated to active status, Residents must apply in writing to the Credentials Committee. The Credentials Committee will determine which requirements must be fulfilled for reinstatement. These will depend on the circumstances under which the Resident was placed on inactive status.

All Residents must notify the ECVECC Secretary if their contact information changes both during and after their Training programme is completed until they achieve ECVECC Board certification or leave the process.

3.3.2 Residency Programme Director

A Residency Programme Director must be an ECVECC Diplomate in good standing with the ECVECC for the duration of a Resident's training. The Programme Director is responsible for the administration and continuity of the programme and is responsible for oversight of all aspects of the Residency Training Programme, including:

- designing and implementing the Residency Training Plan;
- coordinating all clinical and educational aspects of the Residency Training Programme;

- ensuring timely completion of administrative tasks and for all communication with the ECVECC;

Residency Programme Directors must be legally authorized and permitted by the Residency Training Facility to practice in the facility where supervision will take place. A Residency Programme Director is ultimately responsible for the quality of the clinical and educational functions of the Residency. This includes the quality of supervision by other Diplomates within the Residency Training Plan. Residency Programme Directors may apply for approval of standard Residency Training Programmes prior to identifying the Resident who will undertake them or may choose to work with an Applicant (i.e. prospective Resident) to develop a plan for an alternate track residency that is unique to that individual. The ECVECC reserves the right to withdraw Residency Programme Director privileges from any Diplomat who, upon review and request for corrective action, continues to fail to meet these requirements.

3.3.3 Mentor

Each Resident must be assigned a Mentor by the Residency Programme Director prior to the start of the Residency Training Programme. The Residency Programme Director and Mentor may be the same individual. The Mentor must be an ECVECC or ACVECC Diplomat and must be a member in good standing with the ECVECC for the duration of a Resident's training. Resident Mentors must be legally authorized and permitted by the Residency Training Facility to practice in the facility where supervision will take place.

The Mentor must be available to the Resident on a continual basis and is responsible for the administration and evaluation of the specific Residency Programme Requirements for the Resident including:

- Regular communication with and feedback for the Resident including discussions of case management to support satisfactory clinical progress
- Meeting formally with the Resident twice yearly to assess progress. Written reports signed by both the Mentor and the Resident should be kept for these meetings and made available to ECVECC if requested
- Ensuring that the Resident is making adequate progress in the programme by: overseeing Emergency and Critical Care Immersion periods; reviewing the Resident's Experience and Skills log; and reviewing and critiquing Training Benchmark assignments with the Resident

A Mentor can have a maximum of three (3) Residents at any time. This does *not* include Candidates who have completed their Residency Training Programme but have not yet achieved Diplomat status and continue to work with their Mentor until they sit the Certifying Examination. Mentors are required to act as the Supervisor for at **least 25%** of their Resident's Emergency and Critical Care Immersion.

Mentorship may be transferred to another ECVECC/ACVECC Diplomat but cannot be shared with another Diplomat. The replacement of a Mentor must be approved in writing by the Education Committee before a new Mentor can accept responsibility for a Resident. The ECVECC reserves the right to withdraw a Mentor's privileges from any Diplomat who, upon review and request for corrective action, continues to fail to meet these requirements.

3.3.4 Supervisor

Supervisors must be active Diplomates in a specialty recognised by the European or American Board of Veterinary Specialisation. Supervisors in specialities other than ECC are termed “External Supervisors”. In addition, Supervisors must be active Diplomates in a Specialty designated by the ECVECC for training ECVECC Residents and may only supervise rotations in their Specialty. Supervisors of rotations in Human ECC medicine must be Medical Doctors. Supervisors must be legally authorized and permitted to practice in the facility where supervision will take place.

Supervisors can supervise a maximum of two Residents at one time (ie within the same week); however there is no limit to the number of residents a supervisor may supervise over a prolonged time frame.

The Supervisor need not personally examine every patient seen by the Resident but must provide frequent consultation and in depth case review of those cases which can contribute to the progress of the Resident’s academic and clinical education. There is no limit to the number of Supervisors that can be involved in a Resident’s training. When a Resident trains with a Supervisor that is board-certified in two or more Specialties, they may log weeks in *only one* of those Specialties and the Supervisor must be practising in that Specialty during the logged week.

3.3.5 Residency Training Plan

The Residency Training Plan should contain the minimum training requirements (core curriculum) established by the ECVECC and specify how those requirements are to be met. This includes detailed description of the supervision that the Resident can expect during their training and information concerning the facility(ies) where the supervised clinical weeks (both ECC and Specialty rotations) will take place. A Residency Training Plan might also include additional requirements that the Residency Programme Director incorporates into a specific Residency Training Plan to ensure they are confident that the minimal requirements of the residency are fulfilled.

3.3.6 Residency Training Facilities

The supervised clinical ECC weeks of an ECVECC Residency Training Programme must take place at an approved Residency Training Facility. Residency Training Facilities need to fulfil minimal standards as described in Appendix 1. A Residency Training Plan may include supervised clinical ECC weeks at more than one Residency Training Facility although the majority of the clinical ECC weeks must be undertaken at the Facility at which the Programme Director works. Experience of more than one clinical environment and more than one Supervisor may be beneficial in a Resident’s development. The Programme Director is responsible for ensuring the Residency Training Plan and the Facilities it utilises are structured for the benefit of the Resident. Residency Training Facilities should be approved by the Education committee at the time of approval of the Programme.

3.4 Residency Training Plan requirements

3.4.1 Requirements for Standard and Alternate Residency Training Facilities

The minimum number of weeks during a standard and alternate residency to be spent on the following activities are

- 72 clinical weeks in VECC under the supervision of an ECVECC or ACVECC Diplomate;

- 35 weeks independent VECC study or practice, of which 22 weeks must be working in clinical ECC;
- 22 weeks working in Specialities related to ECC (with supervision in surgery, internal medicine, anaesthesia, cardiology, neurology, diagnostic imaging, ophthalmology);
- 3 weeks of conference attendance/Continuing Professional Development.

It is expected that these weeks will allow the Resident to be exposed to relevant Knowledge (see 3.4.5) and complete the Skills and Experience list (see 3.4.6). The resident is also expected to complete Training Benchmarks (see 3.4.7).

In addition the following requirements must be met and the Plan should demonstrate how these will be achieved.

- Completion of 50 continuing education (CE) hours or 50 hours graduate course work;
- Completion of 200 seminar hours;
- Completion of teaching requirements (6 hours lab teaching and 6 hours lectures).

In summary:

Residency Requirements	Time
Clinical work (weeks)	
Emergency / Critical Care	72
Surgery ¹	6
Internal Medicine	6
Anaesthesiology	2
Cardiology	2
Diagnostic Imaging	2
Neurology	2
Ophthalmology	2
Independent VECC Study or practice ²	35
Didactic Learning³ (hours)	
Continuing Education (average per year)	17
Course Work	50
Seminars	200
Teaching (hours)	
Laboratory Teaching	6
Didactic Teaching	6

1. Residents may substitute 2 weeks in human hospital emergency and/or critical care for 2 weeks of surgery. Exposure to the human hospital environment is encouraged but not required.
2. Of which 22 weeks must be working in clinical ECC.
3. Residents must provide written documentation that *two of the three* of these requirements (i.e., attendance at appropriate CE meetings, seminars, or course work in a graduate degree programme) have been satisfied.

3.4.2 Clinical work (ECC and ECC-related specialties)

The Residency Programme contains at least 116 weeks of clinical work related to VECC and related specialties (72 weeks VECC, 22 weeks independent or supervised practice and 22 weeks with related Specialities). As VECC clinical work often includes irregular hours, a clinical week is defined as a minimum of forty (40) hours of logged time occurring in no less than three (3) calendar days of one continuous seven (7) day period. Weeks are considered to begin on Monday and end on Sunday. Clinical weeks may not overlap.

Supervision of rotations in Emergency and/or Critical Care medicine

This clinical time is supervised by ECVECC and ACVECC Diplomates only and has the highest training requirements for Resident participation. The Resident and Supervisor participate in clinical work concurrently managing cases for an average of 20 hours per week (minimum). Residents must have primary case responsibility (i.e., responsibility for diagnostic and therapeutic decisions). Residents must not be restricted to the role of an observer or consultant. Supervision in VECC must occur at an approved Residency Training Facility.

Supervision of core rotations by Diplomates of other specialties

Residents and Supervisors must work together in clinical practice in which the Resident is on duty and managing cases and the Supervisor is providing frequent consultation and in-depth case review of cases that can contribute to the progress of the Resident's education. Supervisors are encouraged to ensure the resident has a significant role in case management as either primary clinician or consultant, although it is recognised this will vary on an individual basis.

It is up to the Residency Programme Director, Mentor and the Supervisors to ensure the quality of supervision for each Resident in training. The ECVECC reserves the right to establish and monitor standards for Supervisors and to review and report their performance and success in training, to place them on probation, and to withdraw their privileges if necessary.

Independent Study or Practice

Independent Study or Practice is intended to give flexibility to the Residency Training Programme and allow the Residency Programme Director and Resident to ensure all aspects of ECC medicine have been experienced during the Residency. Residency Programme Directors are responsible for designing this requirement to meet the needs of individual Residents and to complement the training and experience undertaken during the ECC weeks. These weeks may be used for further supervised or independent (i.e. unsupervised) clinical work in ECC medicine, focused study in specialised facets of ECC medicine, development of independent thought, staff supervisory and teaching skills, participation in research, further elective rotations, human medical interactions, or completion of Residency Training Benchmarks. At least 22 of the 35 weeks must be spent doing clinical ECC.

3.4.3 Didactic Learning Requirement

Residents are required to complete two (2) of the following three (3) Didactic Learning Requirements.

Continuing Education Requirement

Residents must attend a minimum of 50 hours of CE related to ECC medicine during their residency training. Eighty percent (80%) of this requirement must be met through participation in national or international specialty or multidisciplinary conferences such as IVECCS and EVECCS. Up to 20% of this requirement can be fulfilled through selected online courses.

The intent of this requirement is to ensure active participation in formal CE provided by experts outside of the Resident's training programme. Topics should cover a wide range of issues related to ECC medicine and cannot be accrued in less than 2 years. All CE must be clearly documented (i.e. title, date, location, speaker, audience, and length). General CE requirements may *not* be logged concurrently with Independent Study Time.

Course Work for Graduate Degree Programme

A portion of the Didactic Learning Requirement can be met by completing a Graduate degree programme (degree not required) involving didactic courses and research experience in a discipline related to ECC medicine (e.g., physiology, pharmacology, cardiovascular studies, toxicology). If a post-graduate degree is not awarded, description and validation of the course work must be submitted to the Credentials Committee and documentation of a minimum of fifty (50) classroom lecture hours of course work must be available.

Seminars

Residents must accrue at least two hundred (200) hours of seminars over no less than 2 years. All seminars and conferences must be clearly documented (i.e. title, date, location, speaker, audience, and length) in Annual Progress Reports. Seminars can include medical seminars, clinical case conferences, morbidity/mortality rounds and Board Review sessions on a wide range of topics related to ECC medicine. The Resident must also receive mentored exposure to critical evaluation of the scientific literature (literature review or journal club). There should be heavy input into the seminar series by individuals other than the Resident.

3.4.4 Teaching Requirements

All Residents must document six (6) hours of laboratory and six (6) hours of lecture teaching on ECC topics to veterinary surgeons, veterinary students, and/or animal health technicians/nurses. The goal of this requirement is to allow the Resident to gain teaching experience in laboratory and formal lecture settings.

Laboratory Teaching Sessions

1. Are expected to be organized, requiring advanced notification and preparation;
2. Must involve at least 3 participants;
3. Are intended to be hands-on, requiring a physical skill component;
4. May be repeated once only for credit;
5. Are expected to challenge the Resident to prepare by researching and practising in advance of the session.

Lectures

1. Are to be formal presentations requiring advance notification and preparation;
2. Typically include development of PowerPoint Presentations and/or handouts;
3. May be given only once for credit;
4. May not be a repeat of a lecture developed and presented by someone else;
5. Do not include moderating a seminar, participating in problem-based learning courses or teaching in informal settings such as student rounds, hospital case rounds or lectures to lay audiences;
6. Challenge the Resident to prepare by researching and referencing the literature.

Documentation that the Resident has fulfilled the Teaching Requirements will include a signed statement from the Mentor. At their discretion, the Credentials Committee may request additional documentation including handouts, calendars and copies of presentations for clarification.

Residents are expected to make regular progress in completing these teaching requirements. The Annual Report should reflect this progress.

3.4.5 Knowledge Requirements

This component of the Residency Training requirements comprises a body of information that the Resident must assimilate. This information is, in part, detailed in the list of Required Reference Materials established annually by the Education Committee. All Residents are responsible for learning the material in the most current list of required material. Residency Training Facilities must provide the majority of the reference materials specified by the Education Committee on site and must maintain this library based on the annual updates. Training Facilities are also required to provide computer access to the common veterinary and human medical databases.

3.4.6 Skills and Experience Requirements

The Education committee will publish annually an updated list of required skills and experiences (see Appendix 2 for initial list). In addition it is expected the resident will achieve the Knowledge, Skills and Competencies at EQF level 8 as laid out by EBVS (Appendix 3).

It is up to the Resident with the support of their Programme Director to ensure that all Skills and Experience Requirements are met within the term of the Residency. A signed Programme Director Statement confirming that the Resident has met the Skills and Experience Requirements is to be included in the Credentials Application. Case logs describing completion of Skills and Experience Requirements are strongly recommended. If a Residency Training Facility does not have the caseload to meet a certain requirement, it is expected that this will be highlighted in the Residency Training Plan with an alternative route to develop that skill (e.g. use of independent practice weeks at supervised time at another Residency Training Facility) clearly described and approved by the Education committee in advance.

Skills

These include clinical procedures or other aspects of patient management that are critical to the practice of ECC medicine.

- These skills are to be taught to the Resident through discussion and demonstration by a Supervisor.
- During the Residency, the Resident must learn each skill and the Programme Director/Supervisor must be confident that the Resident can perform this skill at or above a minimum level of competency.
- The Education Committee may designate that certain skills can be taught with cadavers, models or other methods that do not require the use of hospital patients.

Experience

This requirement includes observation and participation in specific clinical problems, procedures, or cases. Direct hands-on participation (rather than simple observation) is expected whenever possible.

3.4.7 Training Benchmarks

Training Benchmarks are tasks assigned by the Education Committee designed to verify and reinforce the knowledge and/or skills of a Resident. Training Benchmarks ensure regular and continuous progress toward completion of the Training Programme, preparation for examination, and provide Residents and Programme Directors examples of the depth and breadth of information pertinent to our Specialty. Training Benchmark assignments might include (but are not limited to) monographs on current topics, multi-part essay questions, multiple choice questions, short answer questions, and case reports.

Training Benchmark assignments will be sent to Residents and Programme Directors on twice every year. The Resident must complete all assigned Training Benchmarks using the following procedures.

1. Initial completion of the assignment by the Resident.
2. Assessment by the Mentor with appropriate corrections and additions discussed with the Resident.
3. Correction by the Resident.
4. Review and discussion by the Mentor and the Resident.
5. Approval by the Mentor when the assignment is complete.
6. Completed Training Benchmark assignments and Mentor Certification Statements must be electronically submitted to the ECVECC Secretary. Completion is recorded by the Credentials

Committee. All Training Benchmark assignments must be completed to fulfil Residency Training Requirements.

3.4.8 Alternate Residency

In some situations it may not be possible to develop a standard programme and in exceptional cases it will be possible to follow an Alternate Residency Training Programme. The general requirements of the Alternate Residency Programme are the same as for a Standard Residency Training Programme. The requirements must be fulfilled in no less than 3 years and no more than 6 years from the start of the programme. At least sixty per cent (60%) of the Resident's time must be spent in practising the speciality of veterinary emergency and critical care. In order to count towards the requirements of the Alternate Residency each rotation has to be at least 2 weeks in duration. For the Resident to show satisfactory progression towards achieving the requirements of the Alternate Residency Programme a minimum of 10 weeks of rotations has to be completed in each calendar year of the Alternate Residency.

Mentors are required to act as the Supervisor for at **least 50%** of their Alternate Resident's Emergency and Critical Care Immersion.

An application for enrolment in an Alternate Residency Programme may occur for an individual already enrolled on an ECVECC Standard Residency Training Programme. In this situation the prior experience gained by the student within the Standard Residency Programme can be carried over to the Alternate Track Residency Programme.

Applications for enrolment in an Alternate Residency must include the same information required for Standard Residency Training Programmes. Special emphasis should be placed on the detailed description on how all the requirements of the Residency Training Programme will be met. This must include a description of the purpose of time spend in other training centres and the extent of the involvement of the Resident in those training centres. **Alternate programmes must be approved by the Education Committee in advance and are for the Applicant (proposed Resident) in question only.** Applicants applying for an Alternate Residency must register with the ECVECC Executive Secretary in the same manner as other Applicants.

3.5 Application and Evaluation of Residencies

3.5.1 Application for a new Residency Training Programme

Applications for standard and alternative Residency Training Programmes are due by March 1 (for programmes starting in July) or September 1 (for programmes starting in January). One signed paper copy and one complete electronic copy including signatures must be submitted to the ECVECC Secretary by those dates. Incomplete applications will not be evaluated and late applications may not be considered until the next evaluation cycle. The Education Committee will evaluate each Programme Application and respond within 60 days of the submission deadline. The Education Committee will communicate any additional requirements for standard and alternative programme approval to the Programme Director.

All Residency Training Programmes must be approved by the Education Committee before beginning Resident training. ECVECC Residencies must begin during the month of January (1-31) or during the month of July (1-31), unless otherwise approved by the Education Committee in writing. Residents

can be accepted into a Residency Training Programme once the programme has been approved. Residents may also be accepted into existing ECVECC approved standard Residency Training Programmes provided that any changes to the approved plan or facility are minor.

The application must be completed by a Programme Director who will be responsible for the programme. The application must include

- detailed Residency Training Plan clearly documenting how the Residency Training Requirements (see 3.4) will be met;
- a description of the Residency Training Facility(ies) where the Resident will undertake his/her supervised ECC time. These must attain the standards laid out in Appendix 1. Exemptions can be made by the Education Committee and ECVECC Executive Committee.

It is possible for a specific Programme Director to train Residents under different Residency Training Plans; however, these are considered *different* Residency Training Programmes each requiring separate application and approval by the Education Committee.

3.5.2 Registration of a New Resident

Once an Applicant is accepted by an approved Residency Training Programme, the Programme Director must submit a completed 'Registration Form for Residents' along with the associated Resident Registration Fee. Applicants must fulfil the requirements for entering a programme (see 3.2). Resident Registrations are due by February 1 (for programmes starting in January) and August 1 (for programmes beginning in July) for standard programmes. Alternate programmes may not start until both the programme and the registration form have been approved by the Education Committee and if necessary Executive Committee. Registration forms for Residents will be available on line and should be submitted through the ECVECC Secretary.

Within 60 days of an applicant's registration, the Education Committee will acknowledge the start of the new Resident and notify the Executive Committee and the Credentials Committee. The Executive Committee reserves the right to deny approval of the applicant as a new Resident if the requirements for entry into the residency training programme are not met.

3.5.3 Annual Updates and Re-Approval

Approved Residency Training Programmes (standard and alternate) are required to submit an Annual Update to the Education Committee. The Annual Update must list any deficiencies relating to the Residency Training Programme *or* changes from the original Programme Application. The Annual Update must also include changes that required immediate reporting that occurred during the preceding year. Annual updates are not required in the year of re-approval.

In addition, Re-Approval of all standard Programmes is required every 5 years. Annual Updates and Re-Approvals are due by July 1 (for programmes starting in July) and Jan 1 (for programmes starting in January). Forms will be available on line and should be submitted through the ECVECC Secretary.

3.5.4 Changes to the Residency Training Programme

The Residency Programme Director is responsible for immediately reporting any major changes in the Residency Training Programme. These include:

- loss or change of a Programme Director;
- significant changes to the Residency Training Plan;
- change to the location of the Training Facility(ies);
- changes to the standards of the pre-approved Training Facility(ies);
- any major interruption to the progress of a Resident.

The Education Committee must be notified as soon as any potential changes to the Residency Training Plan or Facility are identified. All changes to the Residency Training Plan must also be documented in the Annual Updates (see below). A Residency Training Programme may be placed on probationary status until the changes (and any proposed remedies) can be reviewed by the Education Committee. The Education Committee reserves the right to request reapplication for any Residency Training Programme if changes are identified that might result in failure of the programme to meet the minimum standards. Questions regarding the significance and implication of programme changes should be directed to the Chair of the Education Committee.

Chapter 4 Credentials

4.1 Annual Progress Reports

All Residents must submit an Annual Progress Report (note that these are distinct from the Annual Updates required for Residency Training Programmes (3.5.3)). Reporting periods for Annual Progress Reports are usually 52 weeks long but are occasionally 53 weeks to adjust for the calendar. The reporting period begins with the first Monday on or after January 1 (for programmes beginning in January) and the first Monday on or after July 1 (for programmes beginning in July).

All Annual Progress Reports must be submitted to the ECVECC Secretary. The deadlines for Annual Progress Report submission are March 1 (for programmes beginning in January) and September 1 (for programmes beginning in July). By these dates: all activities must be logged and the Programme Director must have reviewed and sealed the Progress Report. Late submissions may not be evaluated until the next submission date and the Resident may be deemed inactive during that period (i.e., credit may not be granted for completed requirements).

Annual Progress Reports are evaluated by the Credentials Committee. Approval of each report and any recommendations and requirements are subsequently forwarded to the Resident and Programme Director. Approval to submit a Final Credentials Application will be given when the Annual Progress Reports demonstrate the Resident is expected to have completed all components of their Residency Training Plan by the following July 1st.

4.2 Final Credentials Application

4.2.1 Application process

A Resident must complete all Residency Training Requirements and submit final Credentials for the Certifying Examination within two (2) years after completion of an approved Residency. Failure to satisfy this requirement necessitates that the candidate goes through the credentials process again and additional periods of training and/or experience may be requested by the Credentials Committee. It is expected that the Resident will be continuing to work in VECC during the time period of completion of the approved residency and the submission of Credentials.

All Residents must apply to the Credentials Committee for acceptance of their final Credentials and receive approval to sit the Certifying Examination. The credentials process consists of three main steps as outlined below:

To be eligible to submit a Credentials Application, a Resident must

1. have completed or be in the final stages of completing an ECVECC approved Residency Training Programme and be up to date on all training requirements;
2. have received approval by the Credentials Committee to submit their Credentials Application in their most recent Annual Progress Report acknowledgement letter;
3. have two manuscripts (one of which must be as first author) submitted and accepted for publication in peer reviewed international journals.

The Credential Application Package must be submitted to the ECVECC Secretary on the form provided on the ECVECC College website; the Credentials Application Packet will include all instructions. The most current forms and instructions must be used for all submissions. One electronic copy of the completed application (*including signatures*) must be emailed to the ECVECC Secretary by February 15 of the year that the Resident intends to sit the Examination. The application fee and completed ECVECC Fee Remittance Form are due with the completed application.

Late, incomplete, or incorrectly formatted Credentials Applications will not be reviewed, and the Resident or Candidate will have to reapply the following year. Credential Application fees will not be refunded if the Resident or Candidate is determined ineligible to sit the Examination.

The Credentials Committee will review all Credentials Applications and respond with a status summary to Candidates by April 1. Each Credentials Application will either be denied with an explanation given, accepted as complete or accepted pending a list of requirements that must be completed and documented in the Final Progress Report submitted by July 1.

4.2.2 Final Progress Report

Following acceptance of their Credential Application Package, Residents who have not already done so must provide documentation that they have completed all outstanding Training Requirements by July 1 of the year in which they plan to sit the examination. One complete copy (*including signatures*) of the Final Progress Report must be received by the ECVECC Secretary by July 1. The documentation must include:

1. a copy of the Residency Completion Certificate;
2. Final Progress Report documenting completion of all Residency Training and Credentialing Requirements;
3. Proof that the required publications are accepted for publication (if not already provided with the Credentials Application)

Final eligibility rulings are made by the ECVECC Executive Committee upon recommendation by the Credentials Committee. Residents will be notified whether they are eligible to sit the examination no less than four (4) weeks before the scheduled examination dates.

4.2.3 Requirements for Manuscripts

ECVECC Residents must have had at least two (2) manuscripts accepted for publication in a peer-reviewed international journal before they can attain approval to sit the Certifying Examination. The topic of the articles should be relevant to ECC medicine. The first publication should be an original hypothesis-driven research or a prospective/retrospective study of which the Resident has to be the principal (first) author. The second publication can be a hypothesis-driven research, a prospective or retrospective study, a review article, or a case report. If a Resident is in any doubt about the suitability of an article or journal, they should contact the Chair of the Credentials Committee.

In order to be considered a journal must be international, double peer reviewed and have a well-defined review process in place. If the journal language is not English, the resident may be required to submit a certified translation of the article (at their own cost) to allow adequate review by the Credentials Committee. Manuscripts must be accepted for publication by July 1 of the year that the

Candidate intends to sit the Certifying Examination. Residents and Candidates are strongly encouraged to submit manuscripts to journals for publication before November 1 of the year before expected examination. Delays in the review process are common and journals are under no obligation to fast-track submissions intended for credentialing purposes. Proof of manuscript submission must be included with the Credentials Application due January 15.

4.2.4 Re-Submission of Credentials

Individuals that have been denied permission to sit the Certifying Examination must reapply to the Credentials Committee to sit the examination the following year. The Credentials fee will need to be paid with re-submission of the Credentials Application Package.

For individuals reapplying, a complete Credentials Application Package must be submitted including: all correspondence from the Credentials Committee; documentation showing completion of all current Skills, Experience, and Training Benchmark Requirements; and a current signed Programme Director Statement. Credentials Application Packages must be received by the ECVECC Secretary by January 15 of the year of intended examination.

The Credentials Committee will review all Credentials Reapplications and respond with a status summary to Candidates by April 1. Each Credentials Reapplication will either be denied with an explanation given, or accepted or accepted pending a list of requirements that must be completed and documented in the Final Progress Report.

Final eligibility rulings are made by the ECVECC Executive Committee upon recommendation by the Credentials Committee. Residents and Candidates will be notified whether they are eligible to sit the Examination no less than four (4) weeks before the scheduled examination dates.

Chapter 5 Examination

The Certifying Examination is prepared and administered by the ACVECC Examination Committee with the direct involvement of the ECVECC Examination Committee (see paragraph 5.4). The Certifying Examination is given once annually on dates which are announced by the Executive Secretary or Examination Committee Chair of ACVECC. The ACVECC Executive Secretary will communicate these dates to the ECVECC Secretary as soon as they are confirmed, allowing ECVECC to inform ECVECC candidates in a timely manner.

5.1 Application

Residents and Candidates that have received approval or provisional approval from the Credentials Committee and the ECVECC Executive Committee to sit the Certifying Examination must submit an ECVECC Fee Remittance Form accompanied by the appropriate payment. These must be received by the ECVECC Secretary by May 1 of the year of intended examination. The Examination Administration Fees will not be refunded if the Resident or Candidate is determined ineligible to take the Examination (e.g. failing to complete all credentialing requirements). The Fee Remittance Form will be available on line. Individuals approved to sit the Certifying Examination and who have submitted the Examination Administration Fee but who wish to defer examination must submit a deferment request in writing to the ECVECC Secretary at least 30 days prior to the examination. The request will be considered by the ECVECC Executive Committee. The examination must be completed within 8 years of the start of the residency training programme.

5.2 Examination

Candidates will be advised of any changes to the examination format no less than three months prior to examination. The Certifying Examination is divided into three (3) sections. Candidates may sit all three sections of the examination at one time or may choose to sit only one or two sections. The full Examination Administration Fees will have to be paid even if the Candidate only takes one or two sections of the examination. If all three sections are attempted, candidates that fail a single section of the Examination need only re-sit that section. Candidates that fail two or more sections must re-sit the entire Examination. If only two sections are attempted, candidates must re-sit both sections if they fail one of the two sections.

The Examination is intended to identify and certify individuals who have the skills and knowledge to be excellent VECC clinicians. Various question formats are used to test the depth and breadth of the candidate's knowledge as well as the ability to apply that knowledge in clinical scenarios and the ability to evaluate and analyse clinical information.

Candidates with disabilities may receive more time to complete the examinations provided the disability justifies the time extension. A request for additional time to take the examination must be submitted in writing to the Chair of the ECVECC Examination Committee and must be submitted along with the exam registration. Requests received at a later point will be considered only if the disability arises after registration. The request must include a medical certificate from a physician.

Clinical Examination

This section of the examination tests is based on clinical scenarios. The clinical scenarios cover a variety of topics and are not all focused on one subject. The examination tests case-based clinical problem solving and clinical case management. Short clinical vignettes are presented with additional clinical information that may include imaging studies (including radiographs, ultrasonography images and advanced imaging), video clips, and laboratory results. Questions can be multiple choice, short answer, or short paragraph/essay in format. Calculations may be required for some answers. The total number of points per examination lies typically between 500-600 points, but is not fixed. The number of clinical scenarios is eight (8), but may also vary between examinations. The total number of questions and the number of points per question depend on the question format and the complete setup of the clinical examination.

This portion of the Examination is typically conducted on the first day of the Examination and is comprised of two (2) four (4) hour sessions (i.e. morning and afternoon). The clinical examination is species-specific and there are separate examinations for Small and Large Animal Candidates.

General Multiple Choice Examination

This section of the examination includes questions covering (but not restricted to) the disciplines of anatomy, physiology, pathophysiology, pharmacology, microbiology, oncology, immunology, nutrition, and clinical aspects of the specialty. Knowledge and interpretation of relevant seminal human papers may be tested.

The general multiple choice examination consists of 150 multiple choice questions that are based on the reading lists contained within the Knowledge Requirements.

This portion of the examination is typically conducted on the morning of the second day of examination and is comprised of one (1) four (4) hour session. Both Small and Large Animal Candidates sit the same examination.

Species Specific Multiple Choice Examination

This section of the examination covers topics from the current (last 5 years) literature and relevant textbooks. Some questions are purely knowledge based whereas others are designed to test problem solving and analysis of clinical information.

The species specific multiple choice examination consists of 150 multiple choice questions that are based on the reading lists contained within the Knowledge Requirements.

This section of the examination is typically held on the afternoon of the second day of examination and is comprised of one (1) four (4) hour session. There are separate examinations for Small and Large Animal Candidates.

Passing scores for each section are proposed by the ACVECC Examination Committee on the basis of a prior agreed standard setting method. The methodology and passing scores are approved by the ECVECC Executive Board following the Quality Assurance outlined below (see chapter 5.4). To pass the Certifying Examination, the minimum passing score must be achieved for each section. The ACVECC Secretary will notify the ECVECC Secretary of the results of ECVECC candidates as soon as they are unblinded. All Candidates sitting the Certifying Examination will be notified of their results within 45 days of the date of the Examination and on the same date.

Candidates who fail all or part of the Certifying Examination have 30 days after receiving e-mail notification of their results to request written clarification from the ECVECC Secretary. Clarification of Candidate's deficiencies will be provided within 60 days of receipt of the request.

5.3 Reapplication to Sit the Certifying Examination

Failing Candidates must resubmit an ECVECC Fee Remittance Form along with the Examination Fee as outlined above by April 15 of the year they intend to retake the examination. Candidates that fail all or a portion of the Certifying Examination are encouraged to remain current in their training requirements (i.e., continue working with a Programme Director, maintain current Knowledge Requirements, complete any new Skills or Experience Requirements, and complete ongoing Training Benchmarks).

Candidates must pass all sections of the examination within eight (8) years of the completion of their Residency Programme. Failure to satisfy this requirement necessitates that the Candidate goes through the credentials process again and additional periods of training and/or experience may be requested by the ECVECC Education and Credentials Committee.

5.4. Quality Assurance of the Examination by ACVECC

5.4.1. Quality Assurance during the Examination

1. At the start of the Examination, an introduction is given on administrative aspects related to the examination, e.g. how to access the examination on the computer, timelines, examination conduct.
2. All candidates sign a confidentiality agreement before the examination not to disclose any information about the examination.
3. Supervisors are present at all times during the examination. They help with the initial check-in process, and ensure proper examination conduct, a quiet environment, make sure that examination guidelines are adhered to, and confidentiality is maintained. In addition, they assist the candidates with troubleshooting computer or software-related problems.
4. Special arrangements are made available for candidates with a disability.

5.4.2. Quality Assurance of the Examination Questions

1. The Examination Committee is made up of Diplomates who work in Academia as well as in Private Practice. Most of the members of the Examination Committee train Residents.
2. The Clinical Examination Questions are written by members of the Examination Committee and reviewed initially by another member of the Examination Committee. After the edition of the questions, they are reviewed by at least seven (7) members of the Examination Committee during a mid-year meeting.
3. The answer key to each of the questions needs to be supported by at least two (2) references from publications (published within the timeframe indicated in the instructions for examination candidates), or from textbooks listed on the reading list.
4. Once the questions are finalized they are sent to a number of reviewers, who are Diplomates of the College but not members of the Examination Committee, to assess among other things ambiguities in the formulation of the questions, and possible modifications that should be made to the answer keys. Their suggestions are sent to the members of the Examination Committee who have written the questions and the questions are modified, if appropriate.
5. The Multiple Choice Questions undergo a similar review process as do the Clinical Examination Questions.

6. All the questions (Clinical Examination Questions and Multiple Choice Questions) are then Angoff¹ scored by at least twenty (20) Diplomates of the College who assess for each question what percentage of minimally qualified candidates would be expected to answer the question correctly.
7. Based on the results of the Angoff scoring modifications to the Examination Key may be made, and controversial questions may be removed at that time.
8. After the Examination has been taken statistical analysis will demonstrate performance of the different questions. Questions that performed poorly may at that time be re-reviewed by the members of the Examination Committee and possibly removed in the process.

5.4.3. Additional Quality Aspects

1. The examination questions are related to certain ECC knowledge areas/topics. Information about the breakdown of questions on a specific knowledge area/topic are usually provided for the multiple choice examinations eight (8) weeks before the examination to the candidates.
2. As feedback, candidates who failed (part of) the examination receive information how they performed on the different knowledge areas/topics.

5.5. Oversight of the Examination and Examination Process by ECVECC

5.5.1. Levels of Participation and Involvement of ECVECC Diplomates in the Creation, Administration and Evaluation of the Examination

- The Chair of the ECVECC Examination Committee will function as a liaison between the ACVECC and ECVECC Examination Committee. The Chair of the ECVECC Examination Committee will be the “go to” person to assist in the resolution of all problems arising from ECVECC using the ACVECC Examination.
- At least one (1) ECVECC Diplomate will be a member of both the ACVECC Examination Committee and the ECVECC Examination Committee.
- A member of the ECVECC Examination Committee will be present at the examination in an observational function.
- At least three (3) ECVECC Diplomates will participate in the Angoff Scoring and share informal feedback with the Chair of ECVECC Examination Committee.
- The President of ECVECC will participate in the conference call with the ACVECC Council of Regents when the Chair of ACVECC Examination Committee shares examination conduct, Angoff process and confidence intervals and gives ACVECC Examination Committee recommendations.

5.5.2. Evaluation of the Examination Process

The complete ACVECC examination process will be scrutinized by the ECVECC Examination Committee based on, but not limited to, the following sources of information.

- Written current guidelines of the examination and examination process (ACVECC) available on the ECVECC website.
- Feedback from ECVECC Diplomates who participated in the Angoff Scoring of the ACVECC examination.

¹ Angoff W. Scales, norms, and equivalent scores. In: Thorndike R, editor. Educational measurement. 2nd ed. Washington, DC: American council on education; 1971. p. 508–600.

- Input from the President of ECVECC regarding the results of the conference call with ACVECC Council of Regents when Chair of the ACVECC Examination Committee shares examination conduct, Angoff process and confidence intervals, and gives ACVECC Examination Committee's recommendations.
- Feedback from observer(s) (ECVECC Diplomate) on behalf of ECVECC Examination Committee (physical presence and direct observation to evaluate the practical aspects of examination and the examination process during the actual taking of the examination).
- Written report from Chair of ACVECC Examination Committee summarizing the entire examination process.

5.5.3. Decision on Continuation of the Use of the ACVECC Examination

Based on the information and feedback obtained from the Evaluation of the Examination Process, the Chair of the ECVECC Examination Committee in collaboration with the members of the ECVECC Examination Committee will produce a written report in December of the year of the examination, including the ECVECC Examination Committee's recommendations concerning the use of the ACVECC examination by ECVECC.

In January following the year of the examination that has been evaluated, the decision to continue the use of the ACVECC examination by ECVECC is made by the ECVECC Executive Committee based on, but not necessarily limited to, the information, conclusions, and final recommendations in the report of the Chair of the ECVECC Examination Committee.

Chapter 6 Recertification process

Recertification of Diplomates will be required every 5 years. The first recertification is due at the end of the 5th year following registration as a College member, e.g. “active” Diplomate.

“Active” Diplomate status, and the resulting Specialist status, will only be granted to Diplomates who fulfil the Recertification requirements.

Recertification requirements in order to be registered as an active Diplomate of the ECVECC.

1. More than **60% of a “mean” working week (i.e. >24 hours a week)** should be spent in activities directly related to ECC; this may include clinical practice, practice management, College duties, teaching or research.
2. All Diplomates must attend the Annual General Meeting of the College, **at least once in three (3) years**, unless previous dispensation from the College has been granted.
3. **At least 100 Credit Points (CP)** have to be documented in the 5-year period. Credit Points may be gained by participation in continuing education, services to the College, publications, presentations, and by supervision of Residents, interns, and nurses (see credit point system below).
4. Two (2) letters of support from senior colleagues or authorities (see appendix 4).

The ECVECC Recertification Committee provides the standardised form(s) and format for submission of the Diplomate’s Recertification Application. The forms and guidelines will be published on the ECVECC website and will be e-mailed by the ECVECC to active Diplomates due for recertification each year. This form and all associated materials will be due to the Recertification Committee by **June 1st** of the year of recertification.

Credit points that will be gained in the 5th year after **June 1st** can be included if documents of evidence are presented to the Recertification Committee before **November 1st**. Documents or other evidence submitted after this date will not be considered by the Recertification Committee. The Committee holds the right to make reasoned exceptions to the deadline.

If a Diplomate does not meet the required number of CP, they can be granted one (1) additional year to achieve recertification. If they succeed, they will be re-evaluated four (4) years from the end of the additional year. If they do not succeed, or if Diplomate does not submit all the required information necessary for completion of the Recertification Process, or if their application for Recertification is rated as insufficient, their status will be changed by the ECVECC Executive Committee to “non-certified” Diplomate, allowing the Diplomate to only use the title “Diplomate (non-certified)”. A non-certified Diplomate who had its active status removed and is seeking to become an active Diplomate will need to satisfy the requirements set by the Credentials Committee of the College.

If during a 5 year recertification period, a Diplomate wishes to be registered as non-certified for a period of time (for example due to parental leave or illness), they may so by informing the Recertification Committee. Periods of up to two (2) years within any 5-year period will be allowable. Diplomates who voluntarily register themselves as non-certified for a total period of less than two (2) years in a 5-year period, do not require approval by the Credentials Committee prior to

reinstatement. Any period of voluntary removal will be automatically added to the 5 years allowable to complete Recertification, provided that the period has been communicated in advance; there is no retrospective registration as non-certified Diplomate.

Publications or other activities that were part of the credentials submitted with the membership application or the credential application prior to the college examination cannot be used for recertification CP. Surplus CP cannot be transferred from one 5-year period to the next period.

Appeals relating to the recertification process should be submitted and dealt with using the standard ECVECC Appeal Processes as laid out in the Bylaws, section 10.

6.1 Credit Point system

One hundred (100) CP are needed for each 5-year Recertification Period. Evidence on how the CP are obtained needs to be documented.

Area	Sub-area		Example	Credit points
Continuing Education (attendance of congress/meeting)	International meeting / college meeting	ECC	IVECCS, EVECCS	5/half day
		not primarily related to ECC	ACVIM, ECVIM-CA, BSAVA	4/half day
	National meeting	ECC		2/half day
		Non ECC		1/half day
	Other	ECC / non-ECC		1/half day
Online CPD courses	ECC related		1/course	
Presentations	International meeting	ECC	Invited speaker	Lecture >45': 10
				Lecture <45': 5
	Abstract: 5			
	Poster: 2			
	National meeting	ECC	Invited speaker	Lecture >45': 8
				Abstract: 2
				Poster: 1
	Others	ECC	Continuing Education	Lecture: 2
Publications (must be ECC related)	Peer reviewed, national or international journal	Original study	First or senior (last named) author	10
			Co-author	7
		Case report, case series, review, CE article	First or senior author	6
			Co-author	3
		Clinical communication,	First author	3

		case of the month		
	Non-Peer reviewed journal	Original study, case report, case series, review, CE article	First or senior (last named) author	1
	Book chapters	ECC related	First author / Editor	10
			Co-author	5
College services	Executive Committee and Committee service	Executive Committee member or Committee chair	Available on an annual basis	8 / year
		Committee member	Available on an annual basis	5 / year
	Resident work	Programme Director	Per Programme	1 / year
		Mentor	Per Resident	8 / year
		Listed Supervisor	Per <i>additional</i> Resident	4 / year
	JVECC	Editor / assistant editor	Available on an annual basis	8 / year
		Manuscript review	Per review	1
	Exam Angoff Scoring	ACVECC, ECVECC	Per year	1
	Exam questions	ACVECC / ECVECC	Per approved question	2
Other	Journal other than JVECC	Reviewer		1 / year
	Mentoring interns, nurses, technicians	Vet / Nurse / Technician for specific qualification, e.g. VTS, CertECC	Per individual	2 / year

Chapter 7 Submissions, Deadlines and Glossary

7.1 Submissions

All mailed submissions should be made to the ECVECC Secretary.

7.2 Deadlines

The deadlines listed in this document are critical dates that ensure that the ECVECC can conduct its business in an efficient manner that is fair to all. All Diplomates, Residents, Candidates, Supervisors, Programme Directors and any other persons interacting with the College in matters related to Residency Training should be familiar with the listed dates. All mailed submissions must be *postmarked on or before the deadline*.

January	January cycle residencies begin
January 1	November Training Benchmark assignments are due
January 15	ECVECC Credentials Applications due for those hoping to become Candidates intending to sit the Certifying Examination that year
February 1	New Resident registration is due for Residency programmes starting in January
March 1	Annual Progress Reports due for Residents on the January cycle
March 1	Applications due for Residency Training Programmes (Residency Training Plans and Facilities) on the July cycle
April 15	Examination Fee due
June 1	Submission of all documentation for the recertification process
July 1	Annual Updates for Residency Training Programmes (Residency Training Plans and Facilities) due for programs on the July cycle
July 1	Last day to have manuscript accepted for publication (on the year that the Candidate intends to sit the Certifying Examination)
July	July cycle residencies begin
July 1	May Training Benchmark assignments are due
July 15	Final Progress Reports due for Candidates taking the Certifying Examination in September
August 1	New Resident registration is due for Residency programmes starting in July
September 1	Annual Progress Reports due for Residents on the July cycle
September 1	Applications due for Residency Training Programmes (Residency Training Plans and Facilities) on the January cycle
November 1	Final date for submission of additional documentation for the recertification process

7.3 Glossary

7.3.1 Applicant

An applicant is an individual who wishes to be accepted onto a standard or alternative track Residency Training programme. An applicant must fulfil the requirements as laid out in Section 3.2 of

this Guide if they are to be successful in becoming a Resident. They remain an Applicant until both they as an individual and their Programme has been approved by the Education Committee.

7.3.2 Resident

See section 3.3.1

7.3.3 Candidate

A Candidate is a resident who has had their Credentials (including Final Progress Report) accepted by the Credentials Committee and is thus permitted to sit the next Examination. Individuals are then termed a Candidate until they have

- passed the Certifying Examination and;
- been granted Diplomate status by the ECVECC Executive Committee.

7.3.4 Residency Programme Director

See section 3.3.2

7.3.5 Supervisor

See section 3.3.4

7.3.6 Supervision

See section 3.4.2

7.3.7 Sponsor

The sponsor is the institution that supplies the finances, staff, facilities and organization that is necessary for the organization of a Residency Training Programme.

Appendix 1: Requirements for Residency Training Facilities

Staffing

During the specified hours of operation a licensed veterinarian should be on the premises at all times and sufficient staff must be available to provide expedient patient care. Staffing should be sufficient to allow:

- processing multiple patients;
- performance of a wide range of life-saving procedures to include but not be limited to cardiopulmonary resuscitation and emergency surgery. This requires at least three people, including one veterinarian and one veterinary technician/nurse.

There must be a mechanism to allow appropriate and timely consultation with other veterinary specialists as necessary. The Residency Training Facility must have a minimum of one ECVECC Diplomate employed and working to allow appropriate supervision of the Resident according to the Residency Training Programme requirements. For example when there is only one ECVECC Diplomate this will be a minimum clinical commitment of an average of 20 hours/week over the year to allow required supervision.

Communications

Good communications must be maintained to allow efficient transfer of patient information between the Residency Training Facility and primary care veterinarians. It is highly recommended that the Residency Training Facility have all the clinic and ideally personal telephone numbers of primary care veterinarians. A report should be sent to the primary care veterinarian in a timely manner to ensure immediate continuity of care and for inclusion in the patient's permanent record.

Medical Records

A complete and thorough medical record on file for each patient should be kept at the Residency Training Facility either electronically or on paper

The Medical record must include the following.

1. Client identification
2. Patient signalment
3. Presenting complaint(s)
4. History
5. Physical examination
6. Clinical pathology tests performed and results
7. Diagnostic imaging procedures and interpretation
8. Tentative diagnosis or rule/outs
9. All treatments including anaesthesia records and surgical procedures
10. Progress notes
11. Medications administered

12. Client instructions and other client communications including discharge forms
13. Client and referring veterinarian communications
14. All entries in the medical record should clearly identify the individual(s) responsible for administering care and entering data.

Continuing Education

Continuing education must be provided for all clinical staff and must allow both veterinary surgeons and nurses/technicians to comply with their national requirements for professional registration.

A system of ongoing, in-service training should be provided for veterinary surgeons and technical staff to assure teamwork and familiarity with current procedures and guidelines.

Library facilities

All facilities should maintain a library containing current textbooks and periodicals. Internet access is required.

Equipment and Operating Processes

Standard operating processes should be available for key procedures in the laboratory, pharmacy, operating room(s) and diagnostic imaging area. They should also be available for anaesthesia, medical procedures, infection control, and general clinic maintenance/cleanliness. These processes should all be consistent with currently accepted practice and procedures for a veterinary emergency and critical care facility and must also comply with any national or regional legislation.

Instrumentation, pharmaceuticals, and supplies should be sufficient for the practice of medicine and surgery at a level of care consistent with that expected in the practice of veterinary medicine as directed by the individual country. Residency Training Facilities should have procedures in-place to quickly obtain specialist consults and to refer cases as appropriate.

All Residency Training Facilities should have the capacity to perform the following.

1. Diagnosis and management of life-threatening emergencies including cardiovascular, respiratory, and neurological problems to include: a) cardiopulmonary resuscitation. An electrical defibrillator is recommended but not required. b) placement and maintenance of thoracostomy tubes, c) emergency tracheostomy and tracheostomy tube care, d) oxygen supplementation, e) assisted ventilation.
2. Monitoring capabilities should include: a) electrocardiogram, b) indirect arterial blood pressure (direct arterial blood pressure is highly recommended), c) central venous pressure, d) pulse oximetry, e) oesophageal stethoscope, f) capnography.
3. Emergency surgery including: a) surgical haemostasis, wound debridement and application of wound dressings, b) stabilization of musculo-skeletal injuries, c) aseptic thoracic, abdominal, and neurosurgery, or d) be able to refer to a facility that can perform these procedures in a timely manner.
4. Treatment of circulatory shock using crystalloids, colloids and blood products and equipment such as calibrated burettes or infusion pumps to allow accurate delivery of fluids. Facilities should have access to natural and/or artificial blood products and the capacity to type and cross match donor and patient blood.

5. Anaesthetic and analgesic therapy to include opiates, non-steroidal medication, and inhalational anaesthesia. Intra-operative monitoring should include an electrocardiogram, oesophageal stethoscope, blood pressure monitor and pulse oximetry when appropriate.
6. Laboratory functions: Be able to serially monitor a complete blood count, full serum biochemical profile, coagulation screen and blood gases on site.
7. Perform in a timely manner a) PCV and refractometric total solids, b) blood glucose, c) urinalysis, d) FIV/FelV serology, e) cytology, f) faecal examination (flotation, cytology and parvovirus antigen test). Additionally, a Residency Training Facility must have laboratory supplies to collect, prepare, and preserve samples for a complete serum biochemical profile, blood gas analysis, full coagulation profiles, microbiological culture, and histopathology.
8. Imaging: a) Produce good quality radiographs while ensuring the safety of patient and staff. A radiographic machine of at least 300 mA and an automatic film processor are highly recommended. b) On-site ultrasonography capability.
9. Have or have ready access to endoscopy.
10. Have the ability to provide enteral and parenteral nutrition.

In the application for approval of a Residency Training Facility the number of staff (Diplomates of ECVECC and other Colleges, technicians) as well as number and type of case load must be described. There is no set caseload but the Programme Director must be able to justify that the caseload is sufficient for the Resident to meet the Knowledge and Skills requirements and, if there are any deficiencies in type of case identified, must provide detail on how the Resident will be trained in this as part of the Residency Training Plan.

Appendix 2: Skills and Experience Requirements

Each Programme Director will be responsible for finding the means to help the Resident gain proficiency in each task, including allowing the Resident time away from their primary Residency Training Facility to achieve the experience and training elsewhere if necessary.

For the requirements listed below, the terms “perform”, “demonstrate the technique”, and “understand” are often used. “Perform” indicates that the skill has been performed by the Resident on a clinical case. “Demonstrate” indicates that the skill has been performed or simulated in a laboratory setting at least. “Understand” indicates that the skill has been discussed adequately, including indications, complications, and techniques. For any technique/skill that “perform” or “demonstrate” is required, “understand” would obviously be indicated as well. The method used to simulate a “demonstrate” skill is at the discretion of the Programme Director.

This list does not include numerical requirements (i.e. perform 3 GDV surgeries). As such, there is no list for the Resident to maintain and submit for evaluation. However, the Resident and Programme Director should submit a signed statement with each annual update indicating that progress towards completion of the Skills and Experience List is occurring. Upon submission of credentials, the Resident and Programme Director will sign a statement indicating that completion of the Skills and Experience List has occurred.

This list should be evaluated by the Education Committee every 3 years to determine if new Skills should be added, or others removed.

History and Physical Examination

1. It will be assumed that each Resident will receive advanced experience and skill in performing triage, accurate history taking, physical examination, the development of problem lists and rule outs, financial estimate preparation, and client communication.

Cardiovascular/Fluid Therapy

1. *Diagnostics and Monitoring*

Be able to determine indications for diagnostic tests. Understand the benefits and limitations of diagnostic tests and be able to interpret results. Understand the categories and stages of shock.

- i. Perform serial physical examination and interpret trends.
- ii. Perform and interpret laboratory tests (to include serum [lactate], measured osmolality, colloid osmometry).
- iii. Assess fluid balance (including urine specific gravity and urine [sodium]).
- iv. Perform and interpret ECG.
- v. Perform direct blood pressure measurement and interpretation.
 - a. Perform arterial catheterization.
 - b. Analyse arterial pressure waveforms.
- vi. Perform indirect blood pressure measurement and interpretation.
 - a. Doppler.
 - b. Oscillometric.
- vii. Perform central venous pressure measurement and interpretation.
 - a. Perform central venous catheterization.
 - b. Analyse central venous pressure waveforms.
- viii. Perform echocardiography (diagnose pericardial effusion, calculate fractional shortening, and note gross cardiac abnormalities).

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- ix. Demonstrate the technique for cardiac catheterization and measurement of cardiac output—understand methods and interpret results.
 - x. Demonstrate the technique to measure pulmonary capillary wedge pressure.
 - a. Understand methods of pulmonary artery catheter placement.
 - b. Understand methods of performing measurements.
 - c. Interpret results.
 - xi. Understand non-invasive cardiac output monitoring.
- 2. Medical Procedures**
- i. Demonstrate the techniques to control massive bleeding from a major arterial injury.
 - ii. Perform placement of an intraosseous catheter.
 - iii. Perform placement of a catheter using Seldinger technique.
 - iv. Perform cutdown and catheterization of central vein, peripheral vein, and artery.
 - v. Perform pericardiocentesis.
 - vi. Demonstrate the technique for cardiac pacing (external, temporary).
- 3. Therapy**
- i. Fluid therapy.
 - a. Perform administration of crystalloids for
 - (a) hypovolaemia;
 - (b) deficit replacement;
 - (c) maintenance;
 - (d) diuresis;
 - (e) electrolyte and acid/base disorders.
 - b. Perform administration of colloids for
 - (a) hypovolaemia;
 - (b) maintenance.
 - ii. Perform and demonstrate understanding of the appropriate use of antidysrhythmics.
 - iii. Perform therapy for life-threatening congestive heart failure using diuretics, vasodilators, inotropes as indicated.
 - iv. Perform therapy of severe hypertension.
 - v. Perform therapy of aortic thromboembolism.
 - vi. Calculate and perform administration of constant rate infusions (vasopressors, diuretics, etc.).

Cardiopulmonary-Cerebral Resuscitation

1. Medical Procedures

- i. Perform endotracheal intubation.
- ii. Perform manual positive pressure ventilation.
- iii. Perform closed chest compression CPR.
- iv. Assess compression efficacy (via digital pulse pressure, Doppler, ETCO₂ measurement).
- v. Perform interposed abdominal compression—understand indications and contraindications, possible complications, and technique.
- vi. Perform administration of drugs for resuscitation—intravenous, intraosseous, intratracheal.
- vii. Perform external defibrillation.
- viii. Perform simultaneous ventilation-compression—understand indications and contraindications, possible complications, and technique.
- ix. Demonstrate the technique of open chest cardiac massage.
 - a. Demonstrate the technique of emergency thoracotomy.
 - b. Demonstrate the technique of wound closure after emergency thoracotomy.
- x. Demonstrate the technique of internal defibrillation.

- xi. Demonstrate the technique to cross-clamp or Rumel tourniquet the descending aorta-- understand indications and contraindications, complications, instruments and methods, and technique.
- xii. Perform management of the post-resuscitative patient.

Metabolic/Acid-Base/Electrolyte

1. **Diagnosics**

Be able to determine indications for diagnostic tests. Understand the benefits and limitations of diagnostic tests and be able to interpret results.

- i. Interpret blood gases (arterial and venous), including traditional methods, anion gap, quantitative method, and Stewart method.
- ii. Interpret osmolality compared with calculated value.

2. **Therapy**

- i. Perform therapy to correct acid-base derangements.
- ii. Perform therapy to correct electrolyte derangements (Na, K, Ca, Mg).

Gastrointestinal/Hepatic/Abdominal

1. **Diagnosics**

Be able to determine indications for diagnostic tests. Understand the benefits and limitations of diagnostic tests and be able to interpret results.

- i. Laboratory tests.
 - a. Interpret blood ammonia concentration.
 - b. Interpret bile acid serum concentrations.
 - c. Interpret faecal Examination (direct, flotation, cytology, culture, and immunologic assays).
- ii. Interpret abdominal radiographs.
- iii. Interpret upper gastrointestinal contrast radiography.
- iv. Perform and interpret abdominal ultrasound.
- v. Perform FAST and T-FAST.
- vi. Perform ultrasound guided fluid/organ aspiration.
- vii. Demonstrate endoscopy and endoscopic foreign body extraction.

2. **Medical Procedures**

- i. Perform abdominocentesis.
- ii. Understand diagnostic peritoneal lavage.
- iii. Perform intraabdominal pressure measurement.
- iv. Demonstrate technique to control massive abdominal bleeding via emergency laparotomy.
- v. Demonstrate the technique to control abdominal bleeding via external. Counter pressure—understand indications and contraindications, techniques.

3. **Therapy**

- i. Perform the appropriate use of antiemetics and gastric protectants.
- ii. Perform the appropriate use of emetics.
- iii. Demonstrate the technique to manage traumatic and non-traumatic hemoabdomen.
- iv. Perform a complete exploratory celiotomy.
- v. Perform the incision and closure of a hollow abdominal organ (gastrotomy, enterotomy, colonotomy, cystotomy, etc.).
- vi. Perform an intestinal resection and anastomosis.
- vii. Perform the management of gastric dilation-volvulus.
 - a. Perform gastric decompression.
 - b. Perform gastric lavage.
 - c. Demonstrate the technique for surgical derotation and gastropexy.

- viii. Demonstrate the technique to repair a diaphragmatic hernia.
- ix. Demonstrate the technique to repair a body wall hernia.
- x. Demonstrate the technique to perform a liver lobectomy.
- xi. Demonstrate the technique to perform a total or partial splenectomy.
- xii. Perform placement and management of an active drainage/suction device.
- xiii. Understand open abdomen versus closed abdomen management of septic abdomen.
- xiv. Understand the technique to remove an oesophageal foreign body surgically.

Respiratory

1. *Diagnosics and Monitoring*

Be able to determine indications for diagnostic tests. Understand the benefits and limitations of diagnostic tests and be able to interpret results.

- i. Perform physical examination and assessment (initial and serial) of the respiratory distress patient.
- ii. Interpret pulse oximetry.
- iii. Interpret co-oximetry.
- iv. Analyse arterial and venous blood gases.
 - a. Perform arterial puncture and catheter placement.
 - b. Calculate A – a (alveolar – arterial) gradient, PaO₂:FiO₂, Shunt fraction, and use these techniques in serial patient monitoring.
- v. Interpret thoracic radiographs and understand the basics of advanced imaging.
- vi. Interpret capnography.
- vii. Understand indications for mechanical ventilation.

2. *Medical Procedures*

- i. Understand bronchoscopy.
- ii. Understand broncho-alveolar lavage.
- iii. Demonstrate removal of tracheal/bronchial foreign body removal.
- iv. Perform transtracheal and endotracheal wash.
- v. Perform thoracocentesis.

3. *Therapy*

- i. Perform techniques of oxygen support via:
 - a. bag, mask, or hood;
 - b. nasal catheter;
 - c. oxygen cage;
 - d. mechanical ventilator.
- ii. Perform the setup, management, and monitoring of a patient on a ventilator. Understand and be able to use appropriately:
 - a. PEEP;
 - b. CPAP;
 - c. CMV/Asst. CMV;
 - d. SIMV.
- iii. Perform the proper technique and protocols for oral care.
- iv. Demonstrate the technique to wean a patient off the ventilator.
- v. Perform management of severe asthma.
- vi. Perform management of severe pneumonia.
- vii. Perform management of pleural effusion (hemothorax, chylothorax, pyothorax).
- viii. Perform placement and management of a thoracostomy tube using continuous and intermittent pleural drainage.
- ix. Demonstrate the technique to perform a tracheotomy with temporary tracheostomy tube placement.
- x. Demonstrate the technique to repair a tracheal laceration.

- xi. Demonstrate the technique to stabilize a flail chest.
- xii. Understand the technique to control massive thoracic bleeding – understand indications and techniques for emergency thoracotomy.
- xiii. Demonstrate lung lobectomy.

Urinary

1. **Diagnosics and Monitoring**

Be able to determine indications for diagnostic tests. Understand the benefits and limitations of diagnostic tests and be able to interpret results.

- i. Urine output measurement, and calculation of fluid balance.
- ii. Complete urinalysis.
- iii. Urine protein:creatinine.
- iv. Urine electrolyte and osmolality measurement and interpretation.
- v. Intravenous urography.
- vi. Cystourethrogram.
- vii. Microbiologic culture.

2. **Therapy/Medical Procedures**

- i. Perform cystocentesis.
- ii. Demonstrate placement and verify function of a peritoneal dialysis catheter.
- iii. Understand concepts and techniques for haemodialysis, continuous renal replacement therapy.
- iv. Perform therapeutic management of acute renal failure, including oliguria/anuria.
- v. Perform relief of urethral obstruction via catheterization (cat, dog).
- vi. Perform placement and maintenance of an indwelling urethral catheter (cat, dog).
- vii. Demonstrate the technique to perform a cystotomy.
- viii. Demonstrate the technique to place a cystostomy tube.
- ix. Understand ureteral/urethral stenting.

Reproduction and neonatology

1. **Diagnosics and Monitoring**

Be able to diagnose and properly manage the following emergencies.

- i. Pyometra.
- ii. Dystocia.
- iii. Eclampsia.
- iv. Paraphimosis.
- v. Vaginal/Uterine prolapse.
- vi. Neonatal resuscitation.

2. **Therapy**

- i. Perform an ovariohysterectomy.
- ii. Demonstrate the technique to perform a caesarian section.

Ophthalmology

1. **Diagnosics**

Be able to determine indications for diagnostic tests. Understand the benefits and limitations of diagnostic tests and be able to interpret results.

- i. Perform intraocular pressure measurement.
- ii. Perform fluorescein staining.
- iii. Perform Schirmer tear test.
- iv. Perform ophthalmoscopy, direct and indirect.

2. **Therapy**

- i. Understand management of acute glaucoma.

- ii. Demonstrate management of proptosed globe.
- iii. Understand management of acute anterior uveitis.
- iv. Understand management of corneal ulcer/laceration.
- v. Demonstrate an enucleation.
- vi. Demonstrate a temporary tarsorrhaphy.

Endocrine

1. *Diagnosics and Management*

- i. Perform management of diabetic ketoacidosis.
- ii. Perform management of hypoadrenal crisis.
- iii. Perform management of hypoglycaemic crisis.
- iv. Understand management of myxoedema coma.

Musculoskeletal

1. *Therapy*

- i. Demonstrate the technique to perform the stabilization and management of fractures (spinal, pelvic, limb).
- ii. Understand wound care for contaminated and infected wounds.
- iii. Demonstrate the technique to reduce and stabilize luxations of
 - a. elbow;
 - b. hip;
 - c. shoulder;
 - d. tarsus.
- iv. Demonstrate the application of the following:
 - a. half-cast or bi-valve cast;
 - b. metasplint;
 - c. spica bandage or splint;
 - d. metal rod (lateral) splint;
 - e. modified Robert Jones bandage;
 - f. Ehmer sling.
- v. Perform the application of these wound dressings:
 - a. non-adherent;
 - b. wet-to-dry .
- vi. Perform wound cleaning and lavage.
- vii. Perform wound debridement.
- viii. Perform wound closure.
- ix. Perform wound closure with tension relieving procedures.
- x. Perform a wound closure with a suction drain.
- xi. Perform arthrocentesis.

Oncology

1. *Therapy*

- i. Understand the indications for and adverse effects associated with chemotherapeutics and radiation therapy.

Environmental

1. *Diagnosics and Management*

Be able to diagnose and properly manage the following types of cases.

- i. Perform management of heatstroke
- ii. Perform management of hypothermia

- iii. Demonstrate the proper technique for management of envenomation
- iv. Demonstrate the proper technique for management of smoke inhalation
- v. Demonstrate the proper technique for management of burns
- vi. Demonstrate the proper technique for management of drowning and near-drowning

Toxicology

1. **Diagnosics**

Be able to determine indications for diagnostic tests. Understand the benefits and limitations of diagnostic tests and be able to interpret results.

- i. Toxicologic tests (ethylene glycol, lead, illicit drug screens, etc.).
- ii. Other appropriate diagnostic tests (coagulation assays for anticoagulant rodenticides, comparison of measured and calculated osmolality for ethylene glycol, etc.).

2. **Therapy**

- i. Perform the management of acute intoxications (ingested, topical, other).
- ii. Perform administration of activated charcoal, cathartics.
- iii. Perform selection and use of appropriate antidotes or specific therapies.
- iv. Perform gastric lavage.

Haematology/Coagulation

1. **Diagnosics**

Be able to determine indications for diagnostic tests. Understand the benefits and limitations of diagnostic tests and be able to interpret results.

- i. CBC.
- ii. Slide agglutination test.
- iii. Coombs test.
- iv. Coagulation profiles (ACT, PT and PTT, fibrinogen, FDP, d-dimers, platelet estimate, etc.).
- v. Platelet function tests and thromboelastography.
- vi. Blood typing.
- vii. Crossmatch.

2. **Medical Procedures**

- i. Perform bone marrow aspirate and core biopsy.
- ii. Perform buccal mucosal bleeding time.
- iii. Perform transfusion therapy.
 - a. Select and administer appropriate transfusion products (FWB, FFP, pRBCs, FP, cryoprecipitate, HBOC, etc.).
 - b. Understand autotransfusion.
 - c. Understand transfusion monitoring rationale and techniques.
 - d. Manage transfusion reactions.
- iv. Perform management of IMHA.
- v. Perform management of ITP.
- vi. Perform management of DIC.
- vii. Perform management of severe coagulopathy.
- viii. Perform management of hypercoagulability.
- ix. Perform management of severe neutropenia.

Nutrition

1. **Therapy**

- i. Perform calculation of nutritional requirements.
- ii. Perform placement of:
 - a. naso-oesophageal or nasogastric tube;
 - b. oesophagostomy tube;

- c. demonstrate placement of gastrostomy tube;
- d. demonstrate placement of jejunostomy tube.
- iii. Perform formulation and administration of parenteral nutrition.

Anaesthesia/Analgesia

1. *Diagnostics*

- i. Perform pain assessment – localization and intensity.

2. *Medical procedures*

- i. Perform designing and implementation of an anaesthetic protocol for both critical and non-critical patients.
- ii. Understand mechanism of action, indications/contraindications, and adverse effects.
- iii. Perform the administration and management of, as indicated:
 - a. sedatives;
 - b. analgesics;
 - c. injectable anaesthetics;
 - d. inhalant anaesthetics.
- iv. Perform administration of epidural anaesthesia and analgesia
- v. Perform intercostal nerve blocks
- vi. Perform intracavitary analgesia as indicated
- vii. Understand neuromuscular blockade and the technique of repetitive nerve stimulation (train of four) for patients under neuromuscular blockade

Infectious/Inflammatory

1. *Diagnostics*

Be able to determine indications for diagnostic tests. Understand the benefits and limitations of diagnostic tests and be able to interpret results.

- i. Microbiological culture (bacterial, fungal), interpretation of MICs / sensitivities.
- ii. Understand spectrum, indications, contraindications, method of action, and adverse effects of antimicrobials.
- iii. Interpret serologic testing (FeLV/FIV, heartworm, Parvo, rickettsial, etc.).
- iv. Perform blood culture collection.
- v. Perform cytologic interpretation of infectious exudate.

2. *Therapy*

- i. Perform appropriate choice and administration of antimicrobials.
- ii. Perform diagnosis and management of septic shock, SIRS, MODS, and MOF.

Neurology

1. *Diagnostics and Monitoring.*

Be able to determine indications for diagnostic tests. Understand the benefits and limitations of diagnostic tests and be able to interpret results.

- i. Perform serial neurologic examinations.
- ii. Demonstrate CSF tap, lumbar and cervical.
- iii. Understand principles of intracranial pressure monitoring.
- iv. Understand principles of electroencephalography (BIS).
- v. Interpret skull radiographs and understand the basics of CT and MRI.

2. *Therapy*

- i. Understand MOA, indications and contraindications, and adverse effects of anticonvulsants.
- ii. Perform the management of status epilepticus and refractory seizures.
- iii. Perform the management of head trauma.
- iv. Perform diagnosis and management of hepatic encephalopathy.

Appendix 3: Knowledge, Skills and Competences of Diplomates of ECVECC

Training of Veterinary specialists: EQF level 8 (doctoral degree)

The minimum 4-year Training Programme allows graduate veterinarians, who have completed a minimum of one year internship programme or its equivalent, as defined by the ECVECC Credentials Committee, and a minimum of a 3-year College-approved Residency Training Programme to acquire in-depth knowledge of the scientific field of veterinary emergency and critical care and its supporting disciplines under the supervision and guidance of a Diplomate of the College.

This distinguishes the Specialist level from the first clinical degree (Masters) level, which is EQF level 7, and the “middle tier” or the “Advanced Practitioner”.

Overall specialists will have the intellectual qualities, professional (including transferable) and technical skills necessary for successful employment in professional environments requiring the exercise of personal responsibility and largely autonomous initiative in professional or equivalent environments.

By his/her expertise, the specialist should have developed the self-confidence, self-criticism and sense of responsibility that are essential for the practice of the speciality.

A. In particular in relation to knowledge, specialists will be veterinarians who have demonstrated:

1. a systematic acquisition and understanding of a substantial body of facts, principles, theories and practices, which is at the forefront of their area of professional practice;
2. a high moral and ethical standard with regard to his/her contribution to the protection of animal health and welfare, human health and the environment;
3. willingness to maintain up to date knowledge through congresses and literature;
4. the ability to be acquainted with the structure, objectives, approaches and problems of the veterinary profession and specifically with regard to emergency and critical care medicine;
5. the ability to keep abreast of new developments in the speciality and become familiar with new methods, before applying these in practice;
6. understanding of the limitations of the speciality of emergency and critical care medicine;
7. understanding of the possibilities that other specialties may have to offer;
8. familiarity with the potential of multidisciplinary cooperation;
9. awareness of current E.U. and national regulations with regard to all aspects of emergency and critical care medicine;
10. the ability to conceptualise, design and implement research projects relevant to their own professional practice for the generation of new knowledge, applications or understanding at the forefront of emergency and critical care medicine;
11. a detailed understanding of applicable techniques for research and advanced professional enquiry to support all the above.

B. In particular in relation to skills, specialists will be veterinarians who have demonstrated ability to:

1. perform at a high level of professional expertise in the speciality area of emergency and critical care medicine including the ability to make informed judgements on non-routine and complex issues in specialist fields, often in the absence of complete data;
2. use a full range of investigative procedures and techniques to define and refine problems in a way that renders them amenable to the application of evidence-based approaches to their solution;
3. use patient safety knowledge to reduce harm and complications;
4. communicate their ideas and conclusions clearly and effectively to specialist and non-specialist clients and audiences;
5. act professionally in the provision of customised and optimal solutions to problems with regard to animals, clients, colleagues, public health and the environment;
6. apply high level knowledge and skills at the forefront of the specialist area of emergency and critical care medicine to their own professional work;
7. approach problems in an analytic, scientific way and attempt to find solutions;
8. assign priorities to identified problems;
9. use modern standards of skills and equipment;
10. find required information quickly;
11. organise all aspects of his/her work efficiently and effectively.

C. In particular in relation to competences, specialists will be veterinarians who have demonstrated ability to:

1. perform at a high level of competency through teaching, research and practice in the speciality of emergency and critical care medicine;
2. carry out their responsibilities safely and ethically;
3. create, evaluate, interpret and apply, through clinical studies or original research, new knowledge at the forefront of their professional area, of a quality to satisfy peer review, and merit publication and presentation to professional audiences;
4. promote, within academic and professional contexts, technological, social or cultural advancement in a knowledge based society;
5. promote aptitude and proficiency in the field of emergency and critical care medicine.
6. continue to undertake research and/or clinical studies in the field of emergency and critical care medicine at an advanced level, contributing substantially to the development of new techniques, ideas or approaches in the speciality;
7. develop their professional practice and produce a contribution to professional knowledge;
8. maintain both professional expertise and research through advanced scholarship;
9. develop applied research relevant to their professional area and other scientific activities in order to contribute to the quality of the speciality of emergency and critical care medicine.

Appendix 4: Reference Letter

Introduction

Evaluation of those becoming Diplomates of a College, as well as re-certification of all Diplomates, is an undoubtedly important part of maintaining the College's high standards. For quality assurance purposes, reference letters are a necessary part of the evaluation/re-certification process in order to have third parties attest to a Diplomate's good standing within the profession, and his or her continued activity in the speciality.

The following Reference Letter form is to be used by two Referees in support of:

- de facto Diplomates;
- re-certification of Diplomates;
- Diplomates of non-EBVS recognised Colleges ("Diplomates by equivalent exam");
- veterinarians internationally recognised in the field of a College, when applying to sit the College's examination without prior completion of a Residency Programme.

This form below should be completed and returned by email to the College (for other categories; email College Secretary).

EBVS Reference letter

Evaluation of those becoming Diplomates of a College, as well as re-certification of all Diplomates, is an undoubtedly important part of maintaining the EBVS Colleges' high standards. For quality assurance purposes, reference letters are a necessary part of the evaluation/re-certification process in order to have third parties attest to a Diplomate's good standing within the profession, and his or her continued activity in the speciality.

The following Reference letter form is to be used by two Referees in support of:

- Founding Diplomates
- De facto Diplomates
- Re-certification of Diplomates
- Diplomates of non-EBVS recognised Colleges ("Diplomates by equivalent exam").
- Veterinarians internationally recognised in the field of a College, when applying to sit the College's examination without prior completion of a Residency programme.

This form below should be completed and returned by email to the EBVS Secretariat (for Founding diplomates; info@ebvs.eu) or to the College (for other categories; email College Secretary).

Name of applicant:

Title of speciality:

Position for which applying:

Founding De Facto Re-evaluation By equivalent exam Internationally recognised

1. In what capacity do you know the applicant?

It is not allowed that the referee is a relative or partner (business or social) of the applicant. One referee should be an EBVS - recognised Diplomate from the same country and of the same speciality. If there are no professionally qualified persons in the applicant's country or speciality, specialists in other disciplines or a senior colleague (e.g. Head of Department, Dean) may act as a referee. Only one academic colleague at the same institute may provide a reference.

2. How long have you known the applicant's work?

A referee must normally have known the applicant for the five-year period prior to application/re-application that the applicant is offering as experience in their speciality. A professional and not a personal reference is required.

I know the applicant

personally

by reputation

3. List the criteria by which, in your opinion, the applicant is maintaining their EBVS Specialist status.

The EBVS expects that all Specialists have:

- been practising (through practice, teaching and research) their speciality for at least 60% of their time (24 hours per week), for the last 5 years;
- demonstrated satisfactory moral and ethical standing in the profession;
- practised scientific, evidence-based veterinary medicine, which complies with animal welfare legislation.
- promoted continuous improvement in the quality and standard of specialist practice
- communicated effectively with the public and with professional colleagues.
- I confirm that I have read the applicant's application form.
- I signify below my whole-hearted support for this application for.

Any other comment:

Signature:

Name (in capital letters):

Date:

Appendix 5: MoU ECVECC – ACVECC

Memorandum of Understanding between the American (ACVECC) and the European College of Veterinary Emergency and Critical Care (ECVECC®)

The purpose of this document is to record agreement between the ACVECC and the ECVECC® relating to use of the ACVECC examination for candidates whose credentials have been accepted by the ECVECC® following an ECVECC® standard or alternate track residency programme

Part one: Examination

- ACVECC will allow candidates whose credentials have been accepted by the ECVECC® under their Interim Credential and Examination process to undertake either the whole examination or only the Small Animal/Large Animal Clinical Examination of the ACVECC examination.
- ACVECC will allow candidates whose credentials have been accepted by the ECVECC® following an ECVECC® standard or alternate track residency programme to undertake the ACVECC examination.
- The ACVECC Secretary will notify the ECVECC Secretary of the dates of the Certifying Examination as soon as they are available.
- The ECVECC® Secretary will notify the ACVECC Secretary of any candidates for the examination by the same date that ACVECC candidates must notify the ACVECC Secretary.
- The examination will take place at a site chosen by ACVECC; it is understood that in future this may include multiple testing centres and possibly remote testing. The ACVECC Secretary will notify the ECVECC® Secretary of this site at least 6 months in advance.
- ECVECC® candidates may choose to take one, two or all parts of the Certifying Examination; however, in any case they will have to pay the full Examination Fee.
This is a directive of the European Board of Veterinary Specialisation (EBVS®), that has to be followed by ECVECC®. This policy will be stopped as soon as EBVS® will drop this requirement.
- ACVECC will ensure there is at least one member of the ACVECC Examination Committee who is a member of ECVECC®. This person will likely be the Chair of the ECVECC® Examination Committee or a member of the ECVECC® Examination Committee.
- ACVECC will supply the ECVECC® Examination Committee of with the examination for review at the time it is finalised. ECVECC® will not have the ability to change the examination at this point.
- ECVECC® will supply at least three (3) members, **who did an ACVECC or ECVECC® Residency and passed the ACVECC Examination are also ACVECC Diplomates**, for the Angoff Scoring Committee, one of which will be an officer of the ECVECC® Examination Committee.
- Candidates presented through ECVECC® will be treated in an identical way to candidates presenting through ACVECC including using the same pass mark.
- The ACVECC Secretary will inform the ECVECC® Secretary on the outcome of all the ECVECC® examination candidates as soon as the results are unblinded. Only the ECVECC® will communicate the results to their candidates.
- In the event of ECVECC® receiving an appeal, ACVECC will supply ECVECC® with whatever information is available as necessary for them to respond to the appeal.
- ACVECC will allow a member of ECVECC® to observe the administration of the examination. It is expected that this individual will be the ECVECC® member of the ACVECC Examination Committee, however in the event that this individual cannot participate ECVECC® may nominate another

member of the ECVECC® to take their place. This individual will participate under supervision of the ACVECC Exam Committee Chair.

- ECVECC® reserves the right not to use the ACVECC examination.

Part two: Any Other Business

- The ACVECC Secretary shares the Benchmark and answer keys with the Chair of the ECVECC® Education Committee at education@ecvecc.org. The ECVECC® Education Committee has responsibility for sharing the Benchmark with the ECVECC® Residents and Mentors, and the answer key with the Mentors. Mentors will review the Benchmark and answer key with the Resident and ensure that they are returned by the submission date to the ECVECC® Education Committee that will maintain records of this.

Part three: Fees

- ECVECC® will pay ACVECC fees equivalent to the fees paid by ACVECC candidates. ACVECC will inform ECVECC® of these fees 6 months in advance.
- ECVECC® will cover the costs of the ECVECC® member of the ACVECC Examination Committee attending any meetings as necessary.
- ECVECC® will cover the cost of an ECVECC® Diplomate attending the examination as an observer.

Part four: Administration

- ACVECC will undertake to inform ECVECC® of any significant changes planned to the examination process at the earliest possible opportunity.
- ACVECC will allow ECVECC® to post the current ACVECC guidelines of the examination and examination process on the ECVECC® website to make them available to ECVECC® residents and candidates.
- This Memorandum of Understanding can be made public by either ACVECC or ECVECC®, after mutual notification on how the College intends to do so.
- This Memorandum shall be reviewed periodically and not less than once every five years.