

European College of Zoological Medicine



POLICIES & PROCEDURES, PART 2:

HERPETOLOGY SPECIALTY

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Registered Address:
European College of Zoological Medicine
Yalelaan 108, NL-3584 CM Utrecht, The Netherlands.

e-mail: admin@eczm.eu
website: www.eczm.eu

The European College of Zoological Medicine (ECZM) recognizes five separate specialties under the ECZM umbrella; Avian, Herpetology, Small Mammal; Wildlife Population Health and Zoo Health Management.

The herpetology Policies & Procedures, Part 2 document follows the structure below:

Chapter 1: Introduction

Chapter 2: Requirements for admission to the European College of Zoological Medicine

Chapter 3: Herpetology Residency Programmes

Chapter 4: Examination Credentialing and Application Procedure

Chapter 5: Herpetology Approved Residency Training Sites

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Chapter 1: Introduction

Reptiles and amphibians pose unique demands on owners and breeders that are clearly different from those of other species kept in captivity. In addition, both groups of animals are facing increasing pressures and die-offs in the wild. High level veterinary expertise is necessary in order to adequately care for these animals in captivity as well as to help face the challenges encountered by wild populations. The herpetology specialty of the ECZM brings together specialists in this specific area and allows in depth, high quality training in an area that is distinctly different from that of companion animal medicine. Herpetological medicine is the state of the art medical treatment and care of reptilian and amphibian species and is a distinct specialized field of veterinary medicine. Diplomates in herpetological medicine and surgery work primarily as clinicians who are concerned with all aspects of diagnosis and management of diseases of reptiles and amphibians. In addition, diplomates also work in research and academia and in diagnostics. The primary objectives of the specialty are to advance herpetological medicine in Europe and internationally and increase the competency of those who practice in this field.

The policies and procedures, part 2 contain information about requirements for admission to the College, a profile of the Herpetology specialty, and application and examination procedures.

The herpetological discipline encompasses the veterinary treatment, healthcare, and preventative medicine of all reptilian and amphibian species (captive or wild) including Crocodilia (crocodiles, gavials, caimans, and alligators), Sphenodontia (tuataras), Squamata (lizards, snakes, and worm lizards), Testudines (turtles, terrapins and tortoises), Anura (frogs and toads), Caudata or Urodela (salamanders, newts), and Gymnophiona or Apoda (caecilians).

Chapter 2: Requirements for admission to the European College of Zoological Medicine

The requirements for admission to the College as a Diplomate and being a Specialist are specified in the Bylaws of the College, in line with the Policies and Procedures determined by the EBVS. The requirements listed below are a condensed version Chapter 4 of the Policies and Procedures, Part 1: General Information and the requirements found in Article 4 in the ECZM Constitution.

Diplomates of the herpetology specialty appointed by the College are veterinarians who:

- Have demonstrated fitness and ability to practise herpetological medicine and surgery by meeting the established training and experience requirements as assessed by the College, including publication requirements.
- Have attained acceptable scores in the herpetology examination.
- Demonstrate moral and ethical standing in the profession and practise scientific, evidence-based veterinary medicine, which complies with animal welfare legislation.
- Practise herpetological medicine and surgery for at least 60% of their time, based on a 40 hour working week (i.e. > 24 hours/week).
- Are re-evaluated every 5 years using a standard re-certification process.

Each individual who satisfies the above requirements shall be authorized to use the designation of Diplomate of the European College of Zoological Medicine (*Herpetology*), abbreviated to DipECZM (*Herpetology*). The individual is also awarded, by the EBVS, the title of European Veterinary Specialist™ in Herpetology, following successful re-evaluation every 5 years.

Each Diplomate is expected to actively participate in the scientific and business affairs of the College.

Further information on specific requirements for prospective candidates is also found in the ECZM Policies and Procedures, Part 1: General Information.

Chapter 3: Herpetology Residency Programmes

A Residency Programme is a training programme allowing a graduate veterinarian ("Resident") to acquire in-depth knowledge of herpetological medicine and surgery, and its supporting disciplines, under the supervision and guidance of one or more herpetology Diplomates ("Diplomate").

A. Specific knowledge and skills with regard to practising Herpetological Medicine

Residents must have:

- An in depth understanding of the natural history and biology of reptiles and amphibians, particularly with regard to their feeding habits, husbandry and nutritional requirements.
- An in depth knowledge of general anatomy, physiology and immunology. The resident should be aware of variations between the different families.
- The ability to assess diets, understand the formulation of diets for animals and be aware of the current trends in animal nutrition. Have a sound knowledge of the interaction of nutrition and health.
- A good understanding of the various aspects of captive care, husbandry, and management, including natural and artificial propagation, neonate and developmental care. Genetic principles and their application in their specialty must be understood.
- A detailed knowledge of the infectious and non-infectious diseases of reptiles and amphibians (aetiology, epidemiology, pathology, diagnosis, treatment and control). It is not sufficient to know the pathogens responsible for disease, but it is also important to have knowledge of which types of disease occur more commonly in various groups of animals. Residents need to know the gross pathology of each disease, but will realize that a specific diagnosis can only be confirmed by using appropriate laboratory techniques.
- A detailed knowledge of the advanced diagnostic possibilities, in relation to medicine (e.g. haematology, blood chemistry, endocrinological tests, immunological tests, diagnostic imaging, including gastrointestinal contrast studies, diagnostic endoscopy, electrocardiography, aspiration biopsy, microbiology, cytology, gross-pathology) and the ability to interpret results of these techniques.
- A sound knowledge of the principles of individual and group medication. This includes knowledge of the pharmacokinetics and the bioavailability of drugs which are suitable for treatment and also the various methods of administration.
- An acquaintance with the social role and the responsibilities of an ECZM specialist with regard to their patients, clients, colleagues, public health, environmental issues, and issues of free ranging species. They should also be able to express and support views on current issues relevant to this field of knowledge.

It is necessary for residents to have a general knowledge of the legislation affecting herpetology and to have a detailed knowledge of the legislation relating to the role of the veterinary practitioner in the field (e.g. CITES, legislation with regard to import and export of animals, animal welfare, legislation on hunting and capture from the wild, the use of drugs and immunobiologicals).

They should also be competent in the various skills associated with the field including history taking, catching, handling and clinical examination of individuals and groups of both captive and free-living animals for assessment of health, clinical pathology sample collection and medication in addition to anaesthetic and surgical procedures.

B. Training programme description

The Residency programme will focus on all aspects of herpetological medicine and be supervised by a herpetology Diplomate.

Prerequisites for specialty training

Details of the training required prior to undertaking a residency programme can be found in section 5.2 of the Policies and Procedures, Part 1, General Information.

In summary, this first period must be a one year rotating multi-disciplinary internship (in any species) or 2 years in general practice. This does not need to be *pre-approved*, however, *subsequent* formal acceptance by the ECZM Education and Residency Committee of the internship or period in general practice is required prior to starting a residency training programme to ensure compliance with EBVS minimum standards.

Residency programme description

A second period shall comprise a three-year (minimum) postgraduate training programme (standard residency) or an alternate programme under supervision of a herpetology Diplomate of ECZM.

The period is designed to educate the resident primarily in the art and science of herpetological medicine. There shall be additional instruction in the related disciplines of anatomy, physiology, diagnostic imaging, anaesthesiology, clinical pathology, surgery, clinical nutrition, epidemiology, preventive medicine, and gross pathology.

For herpetology alternate programmes:

- The resident does not have to be employed in the same institution as the supervisor but is still bound by the supervision requirements detailed in the Policies and Procedures, Part 1; Section 5.3.2.
- All the same requirements regarding case load, research, teaching, presentations, knowledge and skills set out in this chapter for standard residencies, must be achieved.
- They must take place in a veterinary practice that fulfils the criteria described under “Facilities required for a residency programme” later in this chapter.

The specific requirements for a standard residency programme or an alternate route can be found in chapter 5 of the Policies and Procedures, Part 1.

Other Duties

At least 20% of the residency programme must be off clinical duties. During this time residents must fulfil their requirements for research, publications and speaking engagements. In addition, any or all of the following activities can be undertaken in this time:

1. Research or clinical investigation.
2. Preparation of scientific manuscripts.
3. External Herpetological rotation with the approval of the supervisor.
4. External rotation at alternative sites specialising in orders or disciplines to which they would otherwise be minimally exposed, or to gain additional experience with novel techniques or equipment.

C. Specific Herpetology Residency Programme Content

Residents may spend time at multiple centres in order to achieve the required standard during the programme.

Interdisciplinary Training

A. Pathology

All residents are expected to obtain training under the supervision of a Diplomate of the European or American College of Veterinary Pathology (or their equivalent). The residents should perform 30 post mortem examinations of reptile and amphibian patients during the course of the residency (the pathologist does not need to be present, but where possible, direct supervision and guidance should be undertaken). Those 30 post mortem case reports need to be reviewed by a Diplomate of the European or American College of Veterinary Pathology, or their equivalent or a pathologist approved by the Education Committee. The pathology reports must be entered under the appropriate tab in the case logs.

D. Facilities required for a residency programme

The approved programme must be based at a centre with the following facilities:

- The examination rooms must be sufficient in number and size to accommodate the case load.
- Treatment areas must be available for intensive care, special procedures and isolation. Intensive care units must be available in addition to standard housing. A separate area for hospitalising reptiles and amphibians must be available. Consideration to biosecurity and control of pathogen spread between patients is advisory.
- Separate room(s) for diagnostic imaging with radiography and ultrasound available is a minimum.
- A clinical pathology laboratory for haematology, clinical chemistry, and cytological diagnosis must be available. Clinical pathology reports must be retained and retrievable.
- Anaesthetic and critical care equipment must be available. An Isoflurane or sevoflurane vaporizer with an adequate scavenging system is mandatory. Routine monitoring of surgical patients is required.
- A clean, dedicated operating theatre must be present and sized adequately for the patient, staff, and associated equipment.
- Hygiene: equipment for adequate sterilization, disinfection and hygiene including hygiene plans must be available and commensurate with the patient caseload.
- A full complement of general and special instrumentation for diagnostic and surgical procedures must be available including endoscopic, ophthalmologic, and orthopaedic instrumentation (although assistance from other referral clinicians in these respects is also acceptable).
- Post mortem facilities must be available. Gross pathology and histopathology reports must be retained and retrievable.
- Photographic equipment for the documentation of disease must be available.
- Access to all journals and textbooks in the reading list is required. In addition, the Programme must provide access to the most current and relevant textbooks and journals relating to herpetological medicine and surgery and its supporting disciplines (working collection).
- Medical records: a complete medical record must be maintained for each individual case and rapid retrieval of information about any patient or group should be possible.

E. Case numbers and case logs

There is a minimum requirement for case numbers for the programme. The case load of the institution must be large enough to afford the candidate adequate exposure to all required phases of practice of the specialty. The minimum acceptable number of accessions will depend upon the difficulty of the problem and the extent of treatment provided, but should consist of at least 300 cases during the course of the residency. The Resident in addition shall retain (or be able to retrospectively create from clinical records) a single page record of each case examined. The resident may be requested to submit random examples of these sheets, after submission of the case log.

While a minimum case load is necessary to develop clinical experience, the candidate must also be provided with sufficient time to evaluate patients properly, to study, and to participate in rounds, workshops, work with other Board Certified Specialists and to lecture.

The case distribution provides guidance on the type of cases that should be seen by the resident. Areas to be covered include internal medicine (40-60% of cases), surgery (20-30% of cases), nutrition (10-15% of cases), husbandry/preventive medicine (5-10% of cases) and post mortem examinations (5-10% of cases).

F. Documentation

The resident is responsible for maintaining and timely submission of the reporting package to the Education and Residency Committee as described in Policies and Procedures; Part 1, sections 5.6.

The herpetology specialty is a clinical residency program and therefore follows the report submission frequency of 3-3-6-6-6-6 months (Policies and Procedures: Part 1, section 5.6.1). The reports must be maintained and submitted in the officially approved specialty report templates as described below:

1. Medical and Surgical Case Log

A medical and surgical case log must be maintained by the Resident listing the case number (running total), date of initial presentation, clinical number, species, clinical signs, organ system involved, medical or surgical procedures performed (including findings of diagnostic tests), tentative/differential and/or final diagnosis, treatment initiated and outcome of the case.

In addition, the Resident will designate whether the case was supervised by a Diplomate or not, and what the Resident's responsibility was with regard to the case (i.e., assistant or primary clinician). The Resident may be considered to be the primary clinician when that individual can document a significant role in all of the following aspects of management: determination or confirmation of the diagnosis, provision of preoperative care, selection and performance of appropriate operative procedure, direction of the postoperative care, and accomplishments of sufficient follow-up to be acquainted with the course of the disease and the outcome of its treatment.

Where a case is seen several times, all follow up visits should appear with the initial examination, although dated as the date of each examination.

2. Resident Procedures Log

A Resident procedures log must be maintained alongside the case log. This must list a running total of diagnostic procedures performed, case number, signalment, procedure performed, and results. Special procedures are those diagnostic or treatment procedures required beyond routine physical examination, such as: blood chemistry and haematology, radiology, electrocardiology, ultrasonography, endoscopy, etc.

3. Resident Pathology Log

A morbidity/mortality and post-mortem log must be maintained and must contain case number, signalment, date, diagnosis, complications/reason for mortality, and post-mortem diagnosis if applicable. This log contains cases from the case logs in which unexpected complications (morbidity/mortality) have occurred.

4. Resident Continuing Education Log

A continuing education log should list conferences, seminars and lectures attended by the Resident.

5. Resident Presentation Log

A log listing presentations given at zoological medicine conferences and other professional meetings must be maintained by the Resident, including the required seminars (see below).

6. Resident Log and Programme Summary Form

The resident is responsible for maintaining a **Resident Log and Programme Summary form**. This form is a summary of the resident's activity over a 12-month period and includes Clinical Service Rotations, time spent in various disciplines, presentations given, total number of cases by system, summary of resident's role in all cases, degree of supervision, and progress on case reports and manuscript.

7. Resident Progress Report

This Progress Report contains a summary of the resident's activity throughout the residency period and includes an up-to-date overview of the residency, including the % of supervision, total number of cases seen so far, days of specialist training that have been completed in the various disciplines, hours of completed CPD, number of international conferences attended and progress with regard to the research project, number of publications in peer-reviewed journals and presentations/lectures.

8. Supervisor Progress Report

Similar to the Resident, the Resident Supervisor will also submit a Supervisor Progress Report to the Education and Residency Committee, in which the Supervisor states that he/she has seen and verified the Case Log submitted by the Resident, as well as his/her expectations with regard to completion of the residency and additional concerns and/or actions to be taken.

In addition, the resident is required to complete an annual **Residency Evaluation Form**. This is submitted to the Chair of the Education and Residency Committee, and gives the resident an opportunity to evaluate the residency programme they are taking part in. The information is strictly confidential and if problems are raised, the Chair will contact the resident privately to discuss things further.

Late submission of reports may result in sanctions as detailed in section 5.6.3 of the Policies and Procedures; Part 1; General Information

G. Research, publications and speaking requirements

The research, publications and speaking requirements should be performed in the allocated time for other duties detailed above and they can fill all of the 20%, or part thereof.

Publications that contribute to the advancement of medicine and surgery of reptiles and amphibians:

- (i) The resident must complete either 2 first author publications or 1 first author and 2 co-authored publications.
- (ii) All of the manuscripts must be published in a peer reviewed well-established internationally refereed scientific journal (i.e. mentioned in the Science Citation Index or in the reading list of the herpetology specialty). Of these, all but one must be accepted or published, with one submitted manuscript allowed at the time of credentialing. However, it must be published within 2 years of the first exam attempt in order to be granted diplomate status. If the manuscript is not accepted for publication within the 2 year's time frame, the exam needs to be retaken (if still within criteria that allow exam to be taken) in addition to having the manuscript accepted for publication before being eligible for diplomate status.
- (iii) At least 1 of the first author publications must be an investigative project that contributes to the advancement of medicine and surgery of reptiles and amphibians. The resident must be first/principal (See appendix 2) author. The remaining first author or 2 co-authored publication(s) should be original scientific research, case series or a single case report.
- (iv) At least one of the publications must originate from work performed during the residency period.
- (v) None of the manuscripts can have been published more than 5 years prior to credentialing for the exam.

Seminar and teaching responsibilities

The Resident is required to:

- (i) Present a minimum of **two (2)** one-hour seminars per year in a formal setting with an attendance of other veterinarians. A seminar is defined as a scientific presentation which is followed by a discussion period.
- (ii) Regularly present cases at scientific conferences. At least **once** during the residency, the Resident must speak at an international conference on material relevant to the herpetological discipline.
- (iii) Participate in the clinical education of graduate veterinarians and/or veterinary medical students within the field of herpetological medicine.

Activities in this area must be recorded in the presentation log and reported according to the schedule above.

Continuing professional development

A minimum of fifty hours of formal external continuing education and fifty hours of formal internal continuing education is required during the residency. The external continuing education may be within the local, regional, national or international meetings in the specialty. This should include participation in wet labs. Additional attendance at meetings out with the field of zoological medicine is encouraged. All activities in this area must be recorded in the ***Resident Continuing Education Log*** and reported as indicated in the above schedule. Internal continuing education at the institution includes participation in journal clubs, case presentation seminars and wet labs which are organised as part of the residency. Attendance at one recognized international herpetological conference is required during the residency.

Chapter 4: Examination Credentialing and Application Procedure

Examination Credentialing

The process, documentation, and deadlines required to credential to sit an ECZM examination are detailed in chapter 6 of the Policies and Procedures, Part 1: General Information.

Listed below is a **summarized** version of that section with reference to specific herpetology specialty requirements. Applicants are advised to refer to **BOTH** this list and section 6.4. of the Policies and Procedures, Part 1: General Information, in order to submit a complete application for examination credentialing.

- **Cover Letter**
- **Curriculum Vitae**
- **Reference letter(s)** from the programme supervisor(s) of each institution involved in the training programme.
- **Documentation logs.** For herpetology these include *Medical and Surgical Case Log, Resident Procedures Log, Resident Pathology Log, Resident Continuing Education Log, Resident Presentation Log* and *Resident Log and Programme summary form*. If the training programme is not yet finished, then the logs must be complete up to the time of application.
- **Publications.** The resident must complete either 2 first author publications or 1 first author and 2 co-authored publications. Further requirements are explained in section G.
- Any relevant previous correspondence relating to the training programme and application.
- Evidence of payment of the ***Credentialing for Examination fee***.

The application materials must be arranged as detailed above and submitted as per the procedure outlined in Chapter 6 of the Policies and Procedures Part 1 before the deadline. Any subsequent correspondence should be through the Secretary unless advised otherwise. All submitted application materials become the sole property of the ECZM and will not be returned to the applicant.

Applying for and sitting the examination

The herpetology specialty examination and application process, follows the general format of all College examinations as detailed in **Chapter 7** of the Policies and Procedures, Part 1: General Information. Candidates are advised to read that chapter alongside this section, so they are fully informed about all aspects of the application and examination.

The herpetology specialty examination will aim to test all aspects of herpetological medicine and surgery. It will be composed of two sections:

1. Written section containing multiple choice questions

This section consists of 175 multiple choice questions and has a 4-hour duration (with no additional perusal time. Each question is worth one point and the pass mark is 65%.

Each multiple-choice question consists of two parts: the stem and the responses. The stem is the introductory statement or question. The responses are suggested answers that complete the statement or answer the question asked in the stem. For each question, there is one correct response, and 4 distractors.

2. Practical/written section designed to test interpretive skills

The second part is the practical/written part of the exam and contains 27 questions that relate to appropriate herpetological clinical or management situations. Each question is worth 10 points (total available this section; 270 points). The pass mark is 65%. The total duration of the exam is 4 hours. To help the candidates ensure a good perusal of their time, the 27 questions are divided into 9 sets of 3 questions. Invigilators will call out every 20 minutes for the candidate to move on to the next set of questions, so that the candidate has gone through the entire exam after 180 minutes. The last hour can subsequently be used by the candidates to go back and review any question they would like, before the exam papers are handed in to the examiner.

The integrity of the Diplomate status examination will be maintained by the European College of Zoological Medicine to insure the validity of scores awarded to candidates.

Obligations for the successful examination candidate and requirements for re-application for an examination, along with all other policies and deadlines regarding the exam are found in Chapter 7 of the Policies and Procedures, Part 1: General Information.

Chapter 5: Herpetology Approved Residency Training Sites

University of Ghent, Salisburylaan 133, Merelbeke, **Belgium**

Supervisor: Tom Hellebuyck

Tom.Hellebuyck@UGent.be

University of Veterinary Sciences Brno, **Czech Republic**

Supervisor: Zdenek Knotek

KnotekZ@VFU.cz

Clinique Veterinaire du Village d'Auteui, 35 Rue Leconte de Lisle, Paris, **France**

Supervisor: Clément Paillusseau

paillusseauclement@gmail.com

Royal Veterinary College, Royal College Street, London, **United Kingdom**

Supervisor: Joanna Hedley

jhedley@rvc.ac.uk

Louisiana State University, School of Veterinary Medicine, Dept VCS, Baton Rouge, **United States**

Supervisor: Javier Nevarez

jnevare@lsu.edu

Chapter 6: Herpetology Reading List

This document is intended to assist residents in compiling a list of text books and journals that should be read prior to sitting the ECZM Herpetological examination. The program resident/supervisor should ensure these are available at the main institution where the resident works, either as part of the university or practice library, or owned personally by the resident or supervisor. It is important that the resident has access to the entire reading list as this forms the basis of the examination. The resident should ensure they have the latest (current years) edition for examination preparation as additional texts and journals may have been added by the examination team.

It is impossible for such a list to be comprehensive and cover all current information on the discipline. It is the resident's responsibility (with the assistance of their supervisor) to ensure they are current on all relevant information in the field. Key papers from additional journals (peer-reviewed) will be collected by diplomates and made available to residents. Additions to this database can be suggested by individual diplomates and confirmed by another diplomate from the specialty. The database will be archived by the specialty members of the Examination Committee. The Examination committee must provide this list to the residents a year before the exam.

The reading list will be circulated by the chairperson at least 3 months prior to the AGM for the members of the herpetology specialty to put forward any up-to-date alterations. Those will then be integrated into the reading list aiming to keep to a page limit of 10,000 pages.

All Diplomates are required to refer to Nomina Anatomica as listed below for anatomical nomenclature, to AmphibiaWeb (amphibiaweb.org) (for amphibians) and to TIGR (former EMBL) database (<http://www.reptile-database.org>) (for reptiles) for taxonomical nomenclature.

Refereed Journals (published in the last 5 years)

Journal of Wildlife Diseases
Journal of Zoo and Wildlife Medicine
Journal of Exotic Pet Medicine
American Journal of Veterinary Research
Journal of American Veterinary Medical Association
Journal of Herpetological Medicine and Surgery
Zoo Biology
Veterinary Clinical Pathology
Journal of Comparative Pathology
Journal of Veterinary Diagnostic Investigation
Veterinary Pathology
Veterinary Microbiology
Veterinary Parasitology

Monographs

Only chapters relevant to the herpetological discipline are required reading.

Veterinary Clinics of North America, Exotic Animal Practice

Divers SJ, Stahl SJ. Mader's Reptile and Amphibian Medicine and Surgery, 3rd Edition. St. Louis, MO, Elsevier, 2019.

Jacobson E, Garner MM. Infectious Diseases and Pathology of Reptiles: Color Atlas and Text. Volume 1, Boca Raton, CRC Press, 2020.

Jacobson E, Garner MM. Non-Infectious Diseases and Pathology of Reptiles: Color Atlas and Text. Volume 2, Boca Raton, CRC Press, 2020.

Reading list last updated 2024

Recognised International Meetings for residents in Herpetological discipline:

The reptilian and amphibian medicine elements of the following conferences are approved and recognized international meetings for residency programmes in the herpetological discipline:

ARAV, EAZWV, BVZS, AAZV, EAZV, ICARE, WDA, EWDA, AVEPA, GARD, Joint Meeting of Ichthyologists and Herpetologists, International Sea Turtle Symposium

Additional meetings are considered on their individual merits by the education and residency committee.

Appendix 1: ECZM - Herpetology self-assessment checklist for approval of residency training site

YES / NO

<p>Case load: Statistics of case load over past 5 years (please put down approx. mean number of cases/year); - taxon groups Lizards:..... Snakes:..... Chelonians:..... Crocodilians:..... Anurans:..... Urodelans:..... Caecilians:..... - medical:..... vs. prophylactic treatments:..... - pathology follow up:..... Does your case load consist of at least 10 relevant cases per week (at least 300 cases during the whole course of the residency)?</p>		
<p>Medical records: a complete medical record must be maintained for each individual case and rapid retrieval of information about any patient should be possible (e.g., case report or case series assimilation). ✓ Which computer programme or equivalent is used: ✓ How is data of hospitalised patients recorded (SOAPs)?:..... ✓ Can a complete medical record be maintained for each individual case? ✓ Can a rapid retrieval of information about any patient or group be possible?</p>		
<p>Facilities: the examination rooms and surgical suite must be designed, constructed, used, and maintained consistent with the current concepts of practice. They must be sufficient in number and size to accommodate the case load. ✓ Appropriate clinical examination room(s)? ✓ Appropriate and separate surgical suite available? ✓ Separate room (s) for diagnostic imaging with radiography and ultrasound available? ✓ Appropriate incubators (caging) for ectotherms? Please add photographs ✓ How many incubators (caging) available on site?:..... ✓ Separate area for hospitalising reptiles and amphibians? ✓ Intensive care units available in addition to standard housing? ✓ Separate room(s) for gross pathological examination?</p>		
<p>Isolation facilities/Quarantine areas ✓ Appropriate consideration to biosecurity and control of pathogen spread between units?</p>		

✓ Appropriate isolation facilities? ✓ Appropriate incubators (caging) for ectotherms? ✓ What kind of disinfectant do you use?:.....		
Diagnostic imaging equipment ✓ Radiography equipment available? ✓ Ultrasonography equipment available? ✓ Endoscopy equipment available? ✓ ECG available? ✓ MRI, CT available (not mandatory)? If not, how far is the nearby referral clinic for CT and MRI? ✓ Is safety monitoring put into place?		
Clinical pathology: ✓ Is a clinical pathology laboratory for haematological, clinical chemistry, microbiological, and cytological diagnosis available? (Onsite?) ✓ Light microscope with range of magnification (40-1000x)? ✓ Equipment for staining? ✓ Blood chemistry bench top analyser/ blood gas analyser? Please specify commercial name and model.		
Pathology services: Facilities for histopathological examination of necropsy tissues must be available. ✓ Access to histology service? ✓ Microscope available to resident to review slides? ✓ Can anatomic pathology reports be retained and easily retrievable?		
Anaesthetic and critical care equipment: ✓ Is appropriate anaesthetic and critical care equipment available? ✓ Range of induction masks, agents, and suitable circuits? ✓ Gaseous vaporiser together with and adequate scavenging system? ✓ Anaesthetic monitoring equipment? ✓ Ready to use emergency resuscitation equipment? ✓ Suitable volatile and parenteral agents available? ✓ Do you use inhalant anesthesia (iso-, sevoflurane)? ✓ Methods for recording anaesthetic events and difficulties?		
Surgical instrumentation: a full complement of general and special instrumentation for diagnostic and surgical procedures must be available. ✓ Appropriate surgical equipment for reptile and amphibian patients? ✓ Heating pad available? ✓ Micro-surgery equipment? ✓ Magnification and good illumination equipment? ✓ Ophthalmological equipment? ✓ Suitable suture material available? ✓ Radio-surgery including bipolar available?		
Photography: ✓ Photographic equipment for documentation of disease available? ✓ Digital camera and options for image storage?		

Sterilisation: ✓ Steam or heat sterilisation of surgical instrumentation and supplies available? ✓ Sterilisation equipment? ✓ Verification of sterilisation? ✓ Labelling and dating of all sterilised instruments?		
Staff: ✓ How many veterinarians on staff?..... ✓ How many veterinary technicians?:.....		

For cases of self-assessment:

I, the responsible program director attest that the above is an accurate indication of facilities available, and will provide additional information or documentation as requested by the Education Committee.

.....

.....

..... / /

Signed

Dated

For self-inspections, please provide a series of photographs documenting the facilities and above confirmed equipment.

For cases of external inspection:

We the undersigned inspectors recommend:

The following mandatory conditions are made:

The following non-mandatory recommendations are made:

Signed

Dated

Appendix 2: Definitions

Principal author: a principal author is defined as either being the first author or having a significant contribution equal to or greater than the first author. Recognition as a principal author may include being the corresponding author or a footnote stating equal contribution within the manuscript.