



EUROPEAN COLLEGE
OF
VETERINARY
PHARMACOLOGY & TOXICOLOGY
(ECVPT)

INFORMATION BROCHURE FOR RESIDENTS AND THEIR
SUPERVISORS
2026-2030

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Chapter 1 - Introduction

The European College of Veterinary Pharmacology and Toxicology (ECVPT) is a veterinary specialty organisation. It was founded in 1997 as part of the programme for veterinary specialization in Europe, which had been encouraged by the Advisory Committee for Veterinary Training (ACVT). ECVPT operates in close cooperation with the European Association for Veterinary Pharmacology and Toxicology (EAVPT), from which it was founded.

The ECVPT aims to advance the quality of veterinary and related biological sciences and animal health care in Europe by enhancing the skills of veterinarians active in the fields of Veterinary Pharmacology and Toxicology.

The primary objectives are:

- Establishing guidelines for post-graduate education and set requirements for qualification as specialist in veterinary pharmacology and toxicology;
- Examining and authenticating veterinarians as specialists in veterinary pharmacology and toxicology to serve the veterinary patient, its owner and the public in general, by providing expertise in these disciplines;
- Encouraging research and other contributions to knowledge related to veterinary pharmacology and toxicology and promoting communication and the dissemination of this knowledge.

The ECVPT includes the two specialties of veterinary pharmacology and veterinary toxicology - both of which study the action of drugs and xenobiotics in the organism. The following Diplomate title is used: European Veterinary Specialist™ in Pharmacology and Toxicology. The specialist in veterinary pharmacology and toxicology will be functioning in an academic, governmental or industrial setting. The main part of their time will be devoted to veterinary pharmacology and toxicology.

This document serves as both an Information Brochure and as an addendum to the Bylaws of the College. None of the information in this document supersedes the Constitution or Bylaws of the ECVPT.

Chapter 2 - Requirements for admission to the College

General

To become a Diplomate of the European College of Veterinary Pharmacology and Toxicology (ECVPT) an applicant should:

- be licensed to practise veterinary medicine and surgery in the countries of the European Community or the European Free Trade Association, unless relieved of this obligation by the Board;
- have a satisfactory moral and ethical standing in the profession. Evidence of professional or legal misconduct, such as misrepresentation or convicted felony, may be a sufficient reason to reject an application;
- by the time of the certifying examination, have devoted at least forty-eight (48) months, after the date of graduation from a veterinary school, to specific education, training, and practise in veterinary pharmacology and toxicology.

This 4-year period should usually be divided as follows:

- an Internship of at least one (1) year (see below)
- a Residency (standard or alternate) of at least three (3) years.

Internship

Prospective Residents will be required to have a broad training and experience in veterinary pharmacology and/or toxicology and their supporting disciplines, which must be attained by participation in an internship of at least twelve (12) months duration.

The Internship should consist of either:

- at least one (1) year working full-time in graduate degree studies at a university in a field related to veterinary pharmacology and/or toxicology;
- at least one (1) year working full-time in a veterinary specialist referral centre, in an animal health or human pharmaceutical company (e.g. in pharmaceutical R&D, regulatory affairs or pharmacovigilance) or in environmental toxicology or toxicovigilance.

At the end of the internship the applicant to a residency program will need to present a full record of their training programme and activities related to the knowledge and skills acquired in veterinary pharmacology and/or toxicology. This includes the dates on which the period of training commenced and ended, the name of the supervisor and a certificate of internship or a cover letter signed by the supervisor.

The internship will be assessed by the ECVPT Credentials Committee at the time of application for the residency. The internship must be approved for the application to be successful.

Residency

The Residency is a postgraduate training programme of at least three (3) years that has been approved by the ECVPT Education and Residency Committee under the supervision of at least one (1) Diplomate who participates actively in that programme. There is a seven (7) year maximum time limit during which



candidates must complete their training. Before starting the Residency Programme each Resident must sign a Commitment letter, as described in the Resident Application Form.

Further objectives and details of the residency programme are given in chapter 3.

Contribution to the discipline

The candidate is required to have made a significant contribution to the field of veterinary pharmacology and toxicology, as demonstrated by publications and a high standard of proficiency in the specialty.

Examination

The candidate has to successfully pass the examination of the College and become certified by the Executive Committee as a European Veterinary Specialist™.

Chapter 3 - Residency Programme in veterinary pharmacology and toxicology

Definition

A Veterinary Pharmacology and Toxicology Residency Programme ('Programme') shall consist of a period of at least three (3) years of supervised training and postgraduate education in the science and practice of veterinary pharmacology and toxicology and their supporting disciplines, or equivalent (as defined by the ECVPT Credentials Committee), under the supervision of at least one (1) Diplomate who participates actively in that programme.

This period is designed to provide the Resident with an in-depth education in the science and state of the art practice of veterinary pharmacology and toxicology and their supporting disciplines. There shall be additional education in the related disciplines that should include fundamental and comparative pharmacology and toxicology, clinical pharmacology and toxicology, pharmacotherapy and pharmaco- and toxicovigilance, regulatory pharmacology and toxicology and public health (e.g. resistance, environmental pollution and food contaminants).

Aims and objectives

The general aims of the veterinary pharmacology and toxicology training programme are to:

- Teach the Resident in the science and practice of veterinary pharmacology and toxicology and the appropriate components of supporting biomedical science disciplines;
- Provide the Resident with the opportunity to pursue career goals in teaching, research, consultancy, clinical or public services;
- Promote a professional attitude and proficiency in the principles of drug discovery, drug development and rational use of drugs and xenobiotics of veterinary interest;
- Promote a professional attitude and proficiency in the principles of protection of the consumer and of the environment with regard to the discipline; and
- Develop discipline-related as well as management leadership skills.

Participation of Diplomates of the European College of Veterinary Pharmacology and Toxicology in the veterinary pharmacology and toxicology Residency Programmes

- Each Programme must be supervised by at least one (1) Diplomate of the ECVPT.
- One ECVPT Diplomate may supervise up to three (3) Residents concurrently provided that their organization has an approved training programme in pharmacology and toxicology.
- The director of the Residency Programme ("Programme Director") shall be responsible for the content, administration and continuity of the Programme. The Programme Director must be a Diplomate of the ECVPT.
- Each Resident must be assigned to a Resident Advisor by the Programme Director within the first three (3) months of their Programme. The Resident Advisor shall be responsible for the administration and evaluation of the general and specific programme requirements for the

Resident. The Resident Advisor should ideally be a Diplomate of the ECVPT, but a non-EBVS/ABVS recognized specialist can be considered as co-supervisor (together with the Programme Director) of a residency program if their CV is approved by the Education and Residency Committee.

- The Programme Director and Resident Advisor may be the same individual.

Alternate programme

An alternate training programme can be followed, provided that the total training duration of this programme is at least similar to the total duration of a conventional Residency Programme and not longer than six (6) years. If the thirty-six (36) month programme is not continuous, it must be arranged in blocks of no less than half a month per block, with a minimum total of four (4) months per year.

The alternate training programme should be under the supervision and advice of an ECVPT Diplomate. The proposed programme must be approved by the ECVPT Education and Residency Committee before training is started. The applicant will be responsible for setting up an alternate programme in close cooperation with an ECVPT Diplomate. All the requirements indicated in the formal Residency Programme, including publications, presentation log, and activity log also apply to an alternate programme. It is emphasized that alternate programmes are only approved for an individual resident and not for an institution.

Evaluation of the Resident

Residents must meet with their Resident Advisor at least two (2) times per year for evaluation of performance and progress. The Resident Advisor should keep short written reports of these meetings, which must have been signed by both the Advisor and the Resident. An update report, signed by the Resident, must be submitted once a year by the Resident Advisor to the Education and Residency committee by June 1st.

Time

Residencies can start at any point during a calendar year. Programme Directors, Supervisors and Residents need to be aware of the timing of the examination. These are scheduled at the end of June or beginning of July and this has consequences for eligibility to sit the examination depending on the start date of the residency (Residents will not be allowed to sit the final examination before the end of the official residency).

Residents must spend fifteen to twenty per cent (15-20%) of their programme in each of the following ways:

- Active research (general practical work, which could include clinical trials)
- Preparation of scientific manuscripts, including clinical trial dossiers or regulatory documents
- Graduate degree studies.

External veterinary pharmacology and toxicology rotations, with the approval of the Resident Advisor, are recommended as they facilitate development of knowledge, skills and proficiency through exposure to a wide variety of scientific, technical and regulatory problems. This can be at an academic institution or pharmaceutical company or equivalent, or in a regulatory environment.

Conferences

- The Resident is required to attend in-house scientific, technical and/or regulatory meetings and keep a log-book of attendance.
- The Resident is required to participate in national and international training courses in veterinary pharmacology and toxicology and keep a log-book of attendance.
- The Resident is encouraged to attend courses organized by the ECVPT such as workshops on pharmacokinetics, pharmacokinetic/pharmacodynamic modelling, antibiotics, natural toxins, etc. Equivalent teaching programmes may also be acceptable if these include practical work or a certification system. A log-book of attendance should be kept.
- The Resident is encouraged to attend EAVPT conferences.

Resident Activity Log

A Resident Activity Log listing teaching, rotations, conferences, workshops, seminars and lectures attended must be maintained by the Resident. A template and an example are provided on the College website.

Resident Presentation Log

The Resident must maintain a Resident Presentation Log listing presentations given at veterinary pharmacology and toxicology conferences and other relevant professional meetings.

During the programme the Resident should undertake the following:

- A minimum of one (1) oral presentation presented at a national or international congress.
- A minimum of six (6) seminars during the Programme. For the purposes of the programme, a seminar is defined as a scientific presentation, which is followed by a discussion period.
- Regular presentations at in-house working meetings.

All presentations should be recorded in the individual Presentation Record. A template and an example are provided on the College website.

Teaching responsibilities

The Resident is required to participate in the education of graduate veterinarians and/or students in veterinary medicine. This may include formal lectures to students, workshops and seminars, which should be recorded in the Presentation Log.

Research

The Resident must complete a project that contributes to the advancement of veterinary pharmacology and toxicology. A detailed project description needs to be presented.

Publications

The minimum requirements for publications are two original papers in veterinary pharmacology and/or toxicology in international, peer-reviewed scientific journals. For one of these papers the applicant must be the principal author. The Credentials Committee is responsible for evaluating the quality and suitability

of the publications. It is acceptable for one of the papers to be in correction (i.e. it passed one round of review with the journal) by the time the credentials for sitting the certifying exam are submitted. Publication requirements must be satisfied within two (2) years after successful completion of the examination.

If any of the papers are published in a journal that does not appear in the Citation Index, a letter must be attached from the editor of the journal indicating that it is a peer-reviewed, internationally distributed journal. If any of the papers are published in a language other than English, an English abstract must be provided with the application.

Graduate degree studies

Graduate degree studies may be included in the Programme. However, at least fifty per cent (50%) of the time in the combined graduate degree-Residency Programme must be allocated to the Residency Programme in veterinary pharmacology and toxicology. There is no reduction in any requirement for certification as a European Veterinary Specialist™ for applicants who combine their residency with a graduate degree programme in a related discipline.

Continuing education programmes

Continuing education programmes as the only method of training will not meet the requirements for certification as a European Veterinary Specialist™.

Roles and responsibilities

The Programme Director, Resident Advisor and Resident each have separate responsibilities for the documentation and verification of the satisfactory training of the Resident.

Programme Director

The Programme Director is responsible for:

- Verification of pre-residency training, and presence of suitable veterinary pharmacology and toxicology facilities, equipment, and supplies within thirty (30) days of programme initiation;
- Distribution of the documentation and verification forms to each Resident annually; and
- Notification of the ECVPT Secretary of any changes in the programme (including changes in personnel) approved originally by the Education and Residency Committee.

Resident Advisor

The Resident Advisor is responsible for:

- Undertaking semi-annual progress and performance appraisals of the Resident;
- Verification of the Resident Activity Log;
- Verification of the Resident Presentation Log; and
- Writing an annual report on the Resident based on the Resident Activity and Resident Presentation Logs, signed by both the Resident and the Resident Advisor. These must be sent to the Education and Residency committee by the first of June of each year.

The Resident Advisor is responsible for the evaluation of the Resident's progress and will inform the Resident of any deficiencies. The Resident Advisor or Resident should advise the Education and Residency Committee of any deficiencies in the training programme.

Resident

The Resident is responsible for:

- Maintaining the Resident Activity Log;
- Maintaining the Resident Presentation Log;
- Documenting external training; and
- Providing an annually-updated curriculum vitae to the Resident Advisor and Programme Director.

The Resident Activity and Presentation logs must be submitted by the Resident annually by June 1st with the update report from the Resident Advisor. The Resident Activity logs will also be aggregated by the Resident to be submitted at the time of application to the Credentials Committee before sitting the College examination.

Facilities, services and equipment required for an ECVPT Residency Programme

Facilities for training must be approved by the College (a list of acknowledged training facilities is presented on the College website). The following facilities need to be available for candidates who are not at one of the recognized training centres:

- A library providing access to current journals relating to pharmacology and toxicology and their supporting disciplines, and containing relevant standard textbooks.
- A personal working space for the Resident, including computer and online facilities.
- Other research facilities and technical equipment at the institution need to be described, together with the training programme, if the training is not followed in one of the recognized institutions.

Chapter 4 - Learning Objectives.

The goal of the ECVPT Residency Programme is to train Veterinary Graduates so that they acquire necessary skills, knowledge and aptitudes to become specialists in Veterinary Pharmacology and Toxicology in an academic, governmental or commercial environment, primarily in the EU.

During the residency, it is recommended that each candidate rotates between different training divisions and units (including: statistics, basic epidemiology, clinical departments, laboratory animal units and basic science pharmacology) focusing on their specialty. This training shall be under the guidance of, and in collaboration with, experienced specialists in the respective areas.

Residents are required to do a minimum of a 6-week research project, which may be separated into 2-week blocks. The purpose of the project is to learn principles of experimental design. It is suggested that the research project is conducted after the Resident has covered statistics, basic epidemiology and basic laboratory research.

The Resident shall also be responsible for:

- Acquiring and using skills in general and applied pharmacology and toxicology;
- Acquiring and using skills in methods and techniques applied in pharmacology and toxicology and their supporting specialties;
- Participating in veterinary pharmacology and toxicology teaching (minimum of 5 lectures on different topics and of minimum total duration of 4 hours);
- Preparing original work for publication as first author and contributing author.

The following subject area learning objectives need to be covered as part of the Resident's training.

Basic veterinary pharmacology and toxicology:

The Resident shall, in answers to written or oral examination questions, be able to correctly explain, restate or discuss the principles, as they apply to veterinary medicine, of:

- Mechanisms of action of antimicrobials and antiparasitic drugs including resistance mechanisms and antimicrobial susceptibility testing (MIC, MBC etc);
- Mechanisms of action (pharmacodynamics) of the other main classes of veterinary medicinal agents and general approaches for efficacy testing;
- Dose-response relationships;
- Pharmacokinetics / toxicokinetics (mechanisms in ADME(T))
- Pharmacokinetic/pharmacodynamic modelling and Population (Non-linear mixed effects) modelling
- Toxicodynamics (acute and chronic toxicity, organ toxicity, reproductive toxicity and teratology, mutagenicity, genotoxicity and carcinogenicity (with emphasis on regulatory toxicology methods and requirements).

Regulatory veterinary pharmacology and toxicology:

The Residents shall, in answers to written or oral exam questions, be able to correctly explain, restate or discuss the principles of:

- Applicable EU law on veterinary medicinal products and their approval (Annex II of EU Regulation 2019/6)
- Experimental bases to design and conduct experiments needed to determine MRLs (based on comparative metabolism and tissue distribution) and tissue depletion (marker residue kinetics) to establish withdrawal periods
- Principles of risk assessment: hazard identification, hazard characterization, quantitative exposure assessment and risk assessment for the target animals, the users, the consumers and the environment
- Basic principles in analytical chemistry (liquid chromatography coupled with mass spectrometry, radioimmunoassays, radio-HPLC and radio-TLC) and the related sample preparation (for animal body fluids and tissues)
- Legal and regulatory principles related to veterinary drug field use, including prescriptions, off-label use and controlled substances
- Pharmaco- and toxicovigilance rules for veterinary drugs in the EU
- Basic knowledge in the principles of OECD Good Manufacturing Practice (GMP), Good Clinical Practice (GCP), Good Laboratory Practice (GLP) rules.

Therapeutic Classes:

The Residents shall, in answers to written or oral exam questions, be able to correctly explain, restate or discuss the properties of:

- The different classes of drugs affecting the central and peripheral nervous systems.
- The different classes of drugs and toxic agents used in pain control and anaesthesia, including general and local anaesthetics, sedatives, tranquillisers and drugs acting at the neuromuscular junction.
- The different classes of drugs of anti-inflammatory, antipyretic and analgesic agents.
- The different classes of drugs of antimicrobial, antifungal and anti-parasitic agents, and resistance to antimicrobial and anti-parasitic agents.
- The different classes of drugs of anti-neoplastic agents used in veterinary medicine.
- The different classes of drugs affecting the blood, blood-forming organs and the immune system.
- The different classes of drugs affecting the cardiovascular system, urogenital system and renal function.
- The different classes of drugs affecting endocrine systems, including hormones and hormone-like compounds.
- The different classes of drugs affecting the gastrointestinal system (including the liver and pancreas).
- The different classes of drugs affecting the respiratory system.
- The different classes of drugs affecting the skin (systemic and topical).
- The different classes of drugs affecting the eye (systemic and topical).
- Vitamins and minerals as therapeutic agents.

- Natural toxins: phytotoxins, phycotoxins and mycotoxins.
- Persistent organic environmental pollutants (such as dioxins, polychlorinated biphenyls (PCBs) and related compounds.
- Pesticides, including insecticides, herbicides, fungicides, rodenticides and related compounds.
- Radioactive compounds.

Techniques:

The Residents shall, in answers to written or oral exam questions, be able to correctly interpret and develop suitable plans using the techniques of:

- Evidence-based veterinary medicine;
- Experimental design, including the design and statistics for preclinical and clinical trials as well as toxicological and epidemiological studies;
- Detection and measuring drugs, toxins and their metabolites in animal body fluids and tissues and in the environment;
- Molecular biology, genomics, proteomics, metabolomics and pharmaco- and toxicogenetics;
- Pharmaco- and toxico-epidemiology.

Principles of determination of dose regimens:

The Residents shall, in answers to written or oral exam questions, be able to correctly explain, restate or discuss the principles of:

- Clinical pharmacology including the effects of disease on drug disposition,
- Drug-drug interactions
- Interspecies dosage scaling.

General abilities (soft skills) required for the certifying exam:

- Skills at problem solving in an analytical and scientific way, formulating hypotheses, assigning priorities and gathering additional evidence to make proposals or recommendations,
- Project management skills for planning, organizing, managing, reviewing and controlling projects,
- Interpersonal and communication skills to facilitate interactions with a range of people from diverse backgrounds,
- Skills leading to effective teamwork.

Additional details are given in Appendix B.

Suggested reading list

It is recommended that along with the different training phases and on the basis of the above-mentioned learning objectives, residents create their own files for every subject with personal notes and some recent reviews as published in peer-reviewed journals and professional websites (e.g. EMA website). All supervisors are also encouraged to give residents their list of additional references, provided they fulfill the goals of the present brochure.

In addition the following list contains suggested references for use in preparation for the examination. The source of questions is not necessarily limited to this reference list (in some cases, an updated version may have been published since this list was established).

Reading list (essentials)

- Veterinary Pharmacology and Therapeutics, 10th Revised Edition. Riviere JE, Papich MG. Ames: Iowa State University Press, 2017.
- Antimicrobial Therapy in Veterinary Medicine. 6th Edition. Giguere S, Prescott JF, Baggot JD, Walker RD, Dowling PM. Wiley Blackwell, 2025.
- Rang and Dale's Pharmacology. 10th Edition. J. M. Ritter, R. J. Flower, G. Henderson, Y. K. Loke, D. MacEwan, E. Robinson, J. Fullerton, Elsevier, 2023.
- Veterinary Toxicology. Gupta RC. 2nd Edition. Elsevier Science Publishing Co Inc Academic Press Inc, 2025.
- Hazard and risk assessment of chemicals – an introduction. KEMI - Swedish Chemical Agency (Guidance - Hazard and risk assessment - an introduction).

Supplementary sources of information

- Goodman & Gilman's The Pharmacological Basis of Therapeutics, 14th Edition. Brunton L, Chabner BA, Knollman B. New York: McGraw-Hill, 2022.
- Rowland and Tozer's Clinical Pharmacokinetics and Pharmacodynamics: Concepts and Applications, 5th Edition. Derendorf H, Schmidt S. Lippincott Williams & Wilkins, 2019.
- Current Veterinary Therapy: Food Animal Practice, 5th edition. Anderson DE, Rings M. (Eds) Philadelphia: WB Saunders, 2008 (and drug therapy sections in previous editions)
- Basic and Clinical Pharmacology, 16th Edition. Katzung, B, Masters S, Trevor A. (Eds) McGraw-Hill: New York, 2023.
- Essentials in Clinical Pharmacokinetics: Concepts, Dose Optimization, and Biologics, Guohua An, Fiona-Ann Publishing, 2024
- Comparative and Veterinary Pharmacology, Handbook of Experimental Pharmacology, Volume 199. Cunningham F, Elliott J, Lees P. Springer, 2010.
- Comparative pharmacokinetics: principles, techniques, and applications, 2nd Edition. Riviere JE. Ames: Iowa State Press, 2003.
- Current Therapy in Equine Medicine, 7th Edition. Sprayberry KA., Robinson NE (Eds) Elsevier - Health Sciences Division Saunders, 2014.
- Handbook of Veterinary Pharmacology, 2nd Edition. Hsu WH. Shinilbooks Company, 2013.
- Pharmacokinetics. Gibaldi M, Perrier D. New York: Marcel Dekker, 1982.
- Katzung & Trevor's Pharmacology Examination and Board Review, 9th Edition. Trevor A, Katzung B, Masters S. Mc-Graw Hill: New York, 2010.
- Kirk's Current Veterinary Therapy XIV. Bonagura JD, Twedt DC. (Eds) Elsevier Saunders, 2008. (and drug therapy sections in previous editions)
- Plumb's Veterinary Drug Handbook, 10th Edition, James A. Budde, Dawn M. McCluskey, 2023.
- Casarett and Doull's Toxicology: The Basic Science of Poisons, 9th Edition. Klaassen CD. (Ed) Europe McGraw-Hill Medical, 2018.
- Papich Handbook of Veterinary Drugs, 5th Edition, Mark G. Papich, 2021.

- Chemical Contaminants and Residues in Food, 2nd edition, Schrenk D and Cartus A. Woodhead Publishing Series in Food Science, Technology and Nutrition, 2017.
- The Toxicologist's Pocket Handbook, 3rd Edition, Michael J. Derelanko, 2018.
- Food Toxicology: Current Advances and Future Challenges. Edited by Ashish Sachan, Suzanne Hendrich, Taylor Francis, 2018.
- Regulatory Toxicology, 3rd edition, Shayne C. Gad, 2018.
- Food Toxicology and Forensics, 1st Edition, Charis M. Galanakis, 2020 (focus on the understanding of analytical techniques).

Recommended Websites

For Guidelines, position papers, summary reports etc.:

- European Medicines Agency: <https://www.ema.europa.eu/en/homepage>
- Union Product Database (UPD): <https://medicines.health.europa.eu/veterinary/en>
- VICH: <https://vichsec.org>
- EFSA : <https://www.efsa.europa.eu/fr>
- FDA : <https://www.fda.gov/>

Recommended Journals

Candidates are also encouraged to read relevant articles published in reputable journals, for example:

- Journal of Veterinary Pharmacology and Therapeutics
- Toxicology and Applied Pharmacology
- BMC Veterinary Research (pharmacology section)
- The Veterinary Journal (pharmacology related articles)
- Veterinary Clinics of North America (reviews)
- Research in Veterinary Science
- British Journal of Pharmacology
- Journal of Pharmacology and Experimental Therapeutics.

The following are selected examples of suitable articles in pharmacokinetics and pharmacodynamics.

In the Journal of Veterinary Pharmacology and Therapeutics (2004 - Issue 27(6)):

- Plasma clearance. Toutain PL, Bousquet-Mélou A. J Vet Pharmacol Ther. 415-425.
- Plasma terminal half-life. Toutain PL, Bousquet-Mélou A., J Vet Pharmacol Ther. 427-439.
- Volumes of distribution. Toutain PL, Bousquet-Mélou A. J Vet Pharmacol Ther. 441-453.
- Bioavailability and its assessment. Toutain PL, Bousquet-Mélou A. J Vet Pharmacol Ther. 455-466.
- Integration and modelling of pharmacokinetic and pharmacodynamic data to optimize dosage regimens in veterinary medicine. Toutain PL, Lees P. J Vet Pharmacol Ther. 467-477.
- Pharmacodynamics and pharmacokinetics of nonsteroidal anti-inflammatory drugs in species of veterinary interest. Lees P, Landoni MF, Giraudel J, Toutain PL. J Vet Pharmacol Ther. 479-490.
- PK-PD integration and PK-PD modelling of nonsteroidal anti-inflammatory drugs: principles and applications in veterinary pharmacology. Lees P, Giraudel J, Landoni MF, Toutain PL. J Vet Pharmacol Ther. 491-502.

- Pharmacokinetics and pharmacokinetic/pharmacodynamic relationships for angiotensin-converting enzyme inhibitors. Toutain PL, Lefèbvre HP. *J Vet Pharmacol Ther.* 515-525.

In the *Journal of Veterinary Pharmacology and Therapeutics* (Series on the use of pharmacokinetic modeling principles in Animal Health):

- Riviere JE, Gabrielsson J, Fink M, Mochel J. Mathematical modeling and simulation in animal health. Part I: Moving beyond pharmacokinetics. *J Vet Pharmacol Ther.* 2016 Jun;39(3):213-223.
- Lin Z, Gehring R, Mochel JP, Lavé T, Riviere JE. Mathematical modeling and simulation in animal health - Part II: principles, methods, applications, and value of physiologically based pharmacokinetic modeling in veterinary medicine and food safety assessment. *J Vet Pharmacol Ther.* 2016 Oct;39(5):421-438.
- Bon C, Toutain PL, Concordet D, Gehring R, Martin-Jimenez T, Smith J, Pelligand L, Martinez M, Whittem T, Riviere JE, Mochel JP. Mathematical modeling and simulation in animal health. Part III: Using nonlinear mixed-effects to characterize and quantify variability in drug pharmacokinetics. *J Vet Pharmacol Ther.* 2018 Apr;41(2):171-183.

In the *British Journal of Pharmacology* (2007 - Issue 152):

- Lew MJ (2007). Good statistical practice in pharmacology: problem 1. *Br J Pharmacol.* 295–298.
- Lew MJ (2007). Good statistical practice in pharmacology: problem 2. *Br J Pharmacol.* 152: 299–304.

Chapter 5 - Application procedure for ECVPT examinations

The different parts and content of the examination as well as the modalities of assessing them might differ between a candidate's date of enrolment in the residency programme and their date of enrolment for sitting the examination. Details of the content of the examination and the modalities of assessment will usually be captured in the most recent version of the information brochure for residents and their supervisors. Minor changes to the examination implemented between two revisions of this brochure can also be communicated directly to candidates planning to sit the exam but they need to be communicated at least four months before the date of the examination. For major changes the exam committee will proactively reach out to residents at least one year in advance to explain the changes and/or offer practice runs.

Intention to sit the general and/or certifying examinations and credentials submission

All applicants intending to sit the general and/or certifying examinations or any part thereof in any given year must complete and return the form 'Intention to Sit Examinations' available on the ECVPT website. Submission of this form will ensure that the potential candidate receives all the necessary information in relation to the credential requirements and the examinations. Applicants must complete the form confirming their intention to sit the examination and submit it by email to the Chair of the Credentials Committee seven (7) months before the date of the anticipated examination – for example, if the examination is anticipated for July 1st in any given year, then the application should be received before December 1st of the previous year. Completion of this form does not commit the potential candidate to taking the examination in that year.

Applicants must submit one (1) copy (in PDF format) of their credentials by email to the ECVPT Credentials Committee chairperson six (6) months before the date of the anticipated examination – for example, if the examination is anticipated for July 1st in any given year, then the application should be received before January 1st of that year. The Credentials Committee will communicate the outcome of the credentials' evaluation to the applicants no later than 6 weeks after credentials submission.

General examination

The following material must be submitted for taking the general examination:

1. Completed credentials form.
2. A scanned copy of an original, signed letter from the Programme Director and Resident advisor(s) of each institution involved in the residency training programme. All letters must be from persons familiar with the candidate's postgraduate training programme. Residents are reminded to submit requests for reference letters from Programme Director and advisors in a timely fashion. A letter may also be emailed directly to the ECVPT Credentials Committee chairperson with any confidential comments at least six (6) months before the date of the anticipated examination. Reference letters must document all of the following:

- The candidate's residency training programme has previously been registered with the College and has been approved by the Education & Residency Committee.
- Verification of the veterinary pharmacology and toxicology training programme and level of supervision.
- The candidate has successfully completed at least twelve (12) months of an approved Residency Programme by the deadline for application for the examination.
- The candidate completed their primary veterinary qualification at least twenty-four (24) months prior to the deadline for application for the examination.
- The Resident's proficiency, judgement and competence as a specialist and academic readiness to sit the examination.
- The commitment of the Resident to the objectives of the ECVPT.
- The moral and ethical standing of the Resident within the veterinary profession.

There are no further credentialing requirements for the general examination.

Certifying examination

The candidate's credentials should verify the successful completion of a ECVPT standard or alternate residency training programme. The responsibility for accuracy and availability of all required credentials rests with the Residents and their Programme Director.

The following materials must be submitted for taking the certifying examination:

1. Cover letter detailing contents of application.
2. Completed credentials form.
3. A Curriculum Vitae.
4. A scanned copy of an original, signed letter from the Programme Director and Resident advisor(s) of each institution involved in the residency training programme must accompany each copy of the application. All letters must be from persons familiar with the candidate's postgraduate training programme. Residents are reminded to submit requests for reference letters from Programme Director and advisors in a timely fashion. A letter may also be emailed directly to the ECVPT Credentials Committee chairperson with any confidential comments at least six (6) months before the date of the anticipated examination.

Reference letters must document all of the following:

- The candidate's residency training programme has previously been registered with the College and has been approved by the Education & Residency Committee.
- Verification of the veterinary pharmacology and toxicology training programme and level of supervision.
- The candidate has successfully completed at least thirty (30) months of an approved Residency Programme by the deadline for application for the examination.
- The Resident's proficiency, judgement and competence as a specialist and academic readiness to sit the examination.
- The commitment of the Resident to the objectives of the ECVPT.
- The moral and ethical standing of the Resident within the veterinary profession.

5. Documentation Forms

The following completed and verified forms must accompany each copy of the application:

- a) Activity Log
- b) Presentation Log

The following must also accompany each copy of the application.

Original papers

At least two (2) original papers on veterinary pharmacology and toxicology published in a peer reviewed scientific journal. The applicant must be the principal (first-named) author of one (1) of these papers. The applicant does not necessarily have to be the principal author of the second and subsequent papers.

The publications must ideally be published or accepted for publication without further amendment. Proof of acceptance and copies of accepted manuscripts are required. If one of the papers is not published or accepted but under correction (i.e. it passed one round of review) by the deadline for application for the examination, the date and journal to which that paper was submitted, as well as all the documentation submitted as part of the submission, must be provided. A delay of two (2) years after successfully passing the examination can be subsequently granted by the Executive Committee if that second paper is not published by the time the candidate has passed all parts of the examination. If approved this delay will result in a delay in being awarded the Diplomate title until the second paper is published.

If any of the papers are published in a journal that does not appear in the Citation Index, a letter must be attached from the editor of the journal indicating that it is a peer-reviewed internationally distributed journal. If any of the papers are published in a language other than English then an English abstract must be provided with the application.

The application materials must be divided and arranged in the sequence listed, then indexed and securely bound to prevent loss and to facilitate review (well-arranged electronic copies (ZIP files) are welcome). The applicant's name should be on the front of each copy of the application.

If the credentials are accepted by the Credentials Committee and approved by the Executive Committee, the applicant will be notified by the Credentials Committee chairperson. The Examination Committee will notify successful applicants of the dates and procedure of examination. Unsuccessful applications will be notified at the same time by a letter explaining the deficiencies in the credentials. All submitted application materials become the sole property of the ECVPT and will not returned to the applicant; they may be retained or destroyed after the examination.

Short written reports

Short written reports (SWR) of three (3) problems handled during the residency programme and written by the candidate need to be submitted to give an impression of the analytical approach of the candidate. The reports should be written using a problem-oriented approach. Each written report should be around 1500 ($\pm 15\%$) words. The number of words (excluding addenda) should appear on the first page.

For the 2026 College examinations, the reports are due when the credentials are due. For the 2026 College examinations, ONLY written reports are required.

For residents that start their residency in 2027, the first report is due between 12 and 24 months after the start of the residency. The second report is usually due 12 months after the submission of the first report and the third report is usually submitted 12 months after the second report.

The written reports are submitted to the chair of the credentials committee before June 1st. For the first and the second SWR the candidate presents their written report during a 20 minute oral presentation and the evaluation is performed by the Credentials Committee. Feedback on the written report and on the oral presentation are provided to the candidate no later than 1 month after submission of the written report and 2 weeks after the oral presentation. The final written report and the oral presentation are part of the certifying examination and will be dealt with differently by the Examination Committee.

All other residents are required to submit their written report (as described above) and partake in the oral presentation of the report from 2027 onwards.

Year the resident intends to take the certifying exam	SWR requirements
2027	2 written SWRs are submitted (written only) 1 SWR is part of the certifying exam (written and oral)
2028	1 SWR submitted (written only) 1 SWR in 2027 (written and oral) 1 SWR is part of the certifying exam (written and oral)
2029	1 SWR in 2027 (written and oral) 1 SWR in 2028 (written and oral) 1 SWR is part of the certifying exam (written and oral)

Oral presentations of the short written reports are scheduled around the College examinations at the end of June/start of July each year.

Guidelines for writing these short reports are presented in Appendix A.

Evaluation of the short written report and the oral presentation

The first two (2) short written reports will be assessed by three (3) reviewers using a rubric. The rubric is available on the College website. The final combined score of the reviewers for each written report is either unsatisfactory or satisfactory. Unsatisfactory reports must be remediated. The remediation of a written report consists of a detailed address of the feedback provided by the reviewers and needs to be submitted within 6 weeks after the date of the feedback report. The reviewers grade the response and provide feedback on the response within 4 weeks of receipt of the response. Both reports need to be completed with a satisfactory grade and submitted to the credentials committee as part of the credential package.

The first two (2) oral presentation of the report will be assessed by three (3) reviewers using a rubric. The rubric is available on the College website. The final combined score of the reviewers for each oral presentation is either unsatisfactory or satisfactory. Unsatisfactory presentations have to be remediated. The remediation of a presentation consists of a new presentation that includes the feedback provided by the reviewers and needs to be scheduled within 6 weeks after the date of the feedback report. The reviewers grade the revised presentation and provide immediate feedback at the end of the presentation.

The final short written report is an integral part of the certifying examination and both the written and the oral portion will be evaluated by the examination committee using a rubric. The rubric is available on the College website. The score for this SWR is part of the certifying examination.

Reapplication

Candidates whose application to take the Examination is rejected by the Credentials Committee may reapply by the deadline of seven (7) months before the examination date in a subsequent year in which the examination is to be taken. The application materials must be presented in the same manner as previously described and submitted to the ECVPT Credentials Committee chairperson in PDF format.

The following materials must be submitted by all applicants:

1. Cover letter detailing contents of application.
2. Completed credentials form.
3. An updated curriculum vitae: an addendum should report training and experiences directed toward correcting the deficiencies as noted by the report from the Credentials Committee.
4. Resubmission of the items that were found to be deficient in the previous application suitably revised.
5. An updated reference letter from the Resident's supervisors attesting to the following:
 - i. The applicant's readiness to sit the examination;
 - ii. The commitment of the applicant to the constitutional objectives of the ECVPT;
 - iii. The moral and ethical standing of the applicant within the veterinary profession;
 - iv. The candidate's completion of any training and experiences directed toward correcting the deficiencies as noted by the report from the Credentials Committee.

Postponing examinations

Candidates accepted by the Credentials Committee to take the examination must take this examination within three (3) years of first acceptance. The candidate must pass all parts of the examination within eight (8) years of completion of the residency programme. In the event that a candidate does not take the examination within three (3) years of first acceptance of their credentials, the candidate will have to resubmit a full application to the Credentials Committee in order to take the examination.

Chapter 6 - ECVPT examinations

The examination process of the ECVPT is intended to identify and certify advanced knowledge and experience in general and applied veterinary pharmacology and toxicology. While it is not intended that English language skills should provide an unfair advantage, successful candidates are likely to be sufficiently proficient in English to be able to read, write and understand veterinary publications and the examination questions written in plain English, given that such language skills are essential to follow the international scientific literature and development in the field.

The Examination Committee is responsible for preparing the examination and liaising with the Executive Committee regarding that topic.

Veterinary pharmacology and toxicology general (qualifying) examination

The examination will test a basic working knowledge of all aspects of veterinary pharmacology and toxicology. It is composed of a maximum of one hundred (100) multiple-choice questions with one (1) best answer to each question. The normal time allocated is 2½ hours. The pass point will be calculated using a modified Angoff method.

Veterinary pharmacology and toxicology certifying examination

This portion of the examination is designed to test problem solving capabilities and skills. The questions will be problem-oriented. Candidates should be prepared to interpret a number pharmacological and toxicological problems (related for example - but not exclusively - to therapeutic drug monitoring, drug interactions, adverse drug reactions, intervention strategies for intoxicated animals, regulatory pharmacology and drug licensing, food safety).

The certifying exam is composed of three (3) parts:

1. A first part that comprises different types of questions, including multiple choice (MCQ), extended matching questions (EMQ), short answer questions, fill in the blank questions, etc. and that is composed of a maximum of one hundred (100) problem-orientated questions covering both pharmacology and toxicology. There is one (1) best answer to each question. The total number of questions is at the discretion of the examination committee. The time allocated is 3 hours. The pass point will be calculated using a modified Angoff method.
2. An essay part that contains four (4) questions of which three (3) need to be answered. Sample questions will be provided to the Resident after the credentials have been approved. The time allocated is 3 hours. Candidates will have to bring their own computer and the Examsoft software will be used by students to answer the questions. The essays are marked by two Examination Committee members, including the person who set the question. The overall pass point for the essay questions will be set between 60% and 70% and the minimum score per question needs to be higher than 45%.
3. An objective problem-based oral examination consisting of two case management examinations. The candidate will be given thirty (30) minutes of preparation time per problem (or case) (sixty (60) minutes in total), during which they can review material relating to the problems (or cases). This period will be followed immediately by two forty-five (45)-minute examinations, during which a series of predetermined objective problem-based questions are asked, with each having a predetermined score.

Each candidate will be examined by at least two (2) members of the Examination Committee (a Questioner and an Observer / Scorer). The total time allocated for the oral examination is one hundred and fifty (150) minutes. The pass point will be set between 60% and 70%. The pass point has to be reached for each question in order for a pass mark to be achieved for the certifying objective case management examination. The pass point cannot be reached by using a high score in one question, or more, to compensate for a score below the pass mark in other questions.

All parts of the examination must be completed successfully to become certified as a European Veterinary Specialist™ in Pharmacology and Toxicology and Diplomate of the European College of Veterinary Pharmacology and Toxicology.

Examination fees

The fees may be changed at the discretion of the Executive Committee. The fees for 2026 and 2027 are as follows and are due before 1st June:

- General examination 500 Euros
- Certifying examination 1000 Euros
- General and certifying 1500 Euros
- Re-examination (certifying or general plus certifying examinations) 500 Euros
- Re-examination (general examination) 250 Euros.

The fee payment form should be sent to the ECVPT Treasurer. There is no requirement to include this form with the credentials. No examination entry will be permitted if the fee has not been paid to the College. It should be noted that:

- a. The examination fees are refundable before 14th June if the candidate wishes to postpone the examination for whatever reason.
- b. The examination fees are only refundable after 14th June if the candidate is unable to attend the examination on grounds of serious ill-health or personal circumstances. This is at the discretion of the Executive Committee and is not automatic.

Repeat Examinations

A candidate must pass each section of the examination in order to become a Diplomate. Candidates that have failed one (1) or more section(s) must retake the failed sections. Failure to pass all parts of the examination within eight (8) years of completion of the residency programme will prevent the candidate from becoming a Diplomate. The number of attempts at the examination is limited to four (4).

Candidates who wish to repeat the examination should submit the following by April 1st of the year in which the examination is to be taken:

1. A completed application form (in PDF format).
2. An up-to-date curriculum vitae (in PDF format).
3. All pertinent correspondence (in PDF format) should be provided. This should include a list of all dates of previous applications and appropriate correspondence.
4. An original signed letter from the Resident's supervisors attesting to the following:
 - a) The Resident's readiness to sit the examination;

- b) The commitment of the Resident to the constitutional objectives of the ECVPT;
- c) The moral and ethical standing of the Resident within the veterinary profession.

The integrity of the Diplomate status examination will be maintained by the European College of Veterinary Pharmacology and Toxicology to ensure the validity of scores awarded to the candidates.

The examination fee has to be paid in full by the specified deadline for the year in which the examination is to be retaken. The fee is around fifty percent (50%) of the fees for the examination. The fees may be changed at the discretion of the Executive Committee.

Applicant of International Repute

In exceptional circumstances, individuals who are internationally recognised in the field of veterinary pharmacology and/or toxicology may be permitted, at the discretion of the Executive Committee and in consultation with the Credentials Committee, to sit the general and certifying examinations without having followed the above-mentioned prescribed training programme. These individuals should be able to demonstrate that they are internationally recognised within the field (e.g. curriculum vitae, credentials, letters of support). The rules for internationally recognized specialists to qualify to sit the College examination are described on the College website.

Examination results

Credentials of candidates who pass the examination will be forwarded to the President by the Chairperson of the Examination Committee. The President will communicate the results to the candidates no later than 2 months after the exam.

Appendix A - Guidelines for short written reports

As part of the requirements to qualify to take the ECVPT certifying examinations candidates are asked to prepare and submit three (3) short written reports. These reports are designed to demonstrate the candidate's ability to handle and report on veterinary pharmacology and toxicology problems at a specialist level using a problem oriented approach. The objective of these short written reports is to demonstrate how a candidate thinks about a problem.

Candidates are encouraged to consult their Resident Advisor on the selection of suitable subjects for the written reports. Reading examples of written reports provided on the ECVPT website is also beneficial. It is appropriate for an Advisor to comment on a separate practice case report that is not submitted, however candidates should not obtain any direct assistance or comments from anyone on the veterinary pharmacology and toxicology content of the text of the short written reports for submission. Limited assistance with language is acceptable. It is also acceptable to use an assistive (but not generative) AI tool to improve these reports. If used the resident needs to provide a statement clarifying that such a tool was used and for what purpose, eg "ChatGPT-5 (OpenAI, 2025) was used to improve the grammar of this manuscript. Its use was limited to enhancing readability, without altering the scientific content or interpretations. After using this tool, the author reviewed and edited the content as needed and takes full responsibility for the content of the publication."

The application should be sent (in PDF format) by email to the Credentials Committee chairman before June 1st, i.e. approximately one month before the examinations. Candidates are advised to keep one copy of the text and of the illustrations. Please note that the college will not return applications. The hard copies of the written reports will be destroyed.

Plagiarism

The College takes any evidence or allegation of plagiarism very seriously. Copying other case reports or excerpts from textbooks or articles is cheating. Confirmed incidences of plagiarism will have serious repercussions (including permanent exclusion from College examinations or suspension from the College).

Presentation

The short-written reports should be typewritten, double-spaced on A4 paper, and should be illustrated using, for example, tables, figures and schematic diagrams. The reports must be written in English following the structure given below. A list of abbreviations used throughout the three written reports should be presented on a separate page at the start of the written reports. Each written report should be given a number. Each page and all illustrations must be clearly numbered and included within the bound document.

While it is not intended that English language skills should provide an unfair advantage, successful candidates are likely to be sufficiently proficient in English to be able to write in that language. Software for checking spelling and grammar should be used to avoid frequent errors. The reports should be written in full prose, rather than in telegram or bullet point style.

Subject matter selection

Subject matter for the written reports should be selected to include as wide a variety of material as possible, with a view to providing the examiners with an impression of the experience of the candidate. The subject matter does not have to be rare or unusual. At least one out of the three written reports should relate to veterinary pharmacology if your main experience is with veterinary toxicology, and vice versa. As far as possible the working up of the subject shall be the responsibility of the candidate, and where assistance has been given this should be noted in a statement made on a separate page at the end of the case.

The following cases usually represent poor subject matter for written reports:

- Subjects that are not followed up adequately, either because of administrative, financial or technical constraints;
- Subjects that are too easy (too little to assess, monitor or discuss) or too complex (remember the word count!);
- Subjects where the candidate was not the main contact.

Format of Written Report

Written reports should be set out under the following headings (where relevant):

a) Word count

All candidates are required to work within the word count. Each case report should be no greater than around 1500 words ($\pm 15\%$), excluding tables of results, figure legends and references, with the word count written at the beginning of each written report. Candidates run the risk of losing marks or having their case summaries returned if this is not complied with.

b) Title of the written report

c) Identification of subject matter

The presenting complaint and pertinent history is essential. What is considered to be pertinent will depend on the subject matter. If certain information was not available to the candidate then this should be stated.

d) Problem list

The problem list must summarise all the veterinary pharmacology and toxicology issues identified. Problems that the candidate considers to be insignificant should be clearly identified as such. Problem lists may be updated when it is relevant to do so.

e) Investigations

Any investigations should be related to the problem list. The candidate would be expected to fully justify undertaking any test that does not help to reduce this list. Potentially important items on the problem list should not be ignored in the report. The results of all tests carried out should be provided. Any non-standard test should be fully justified and backed up with references where appropriate. If a test was omitted due to financial or logistical constraints then this must be stated. However if important tests are omitted such that the candidate's ability to work up the problem has been seriously limited, then this does not represent good subject matter selection.

f) Discussion

This should be pertinent and relevant to the particular problem, rather than an extensive review of the literature. Any specific features of the problem that are of particular note should be discussed with reference to current literature. Do not provide a literature review – but rather comment when the problem differs from what is reported elsewhere.

g) Conclusion

This should take the form of a concise conclusion on the outcome of the problem and any advice given.

h) References

High quality references from peer-reviewed journals should be cited in the text and at the end when these have been used in the management of the case. The style of the Journal of Veterinary Pharmacology and Therapeutics should be used. It is rarely necessary to reference standard textbooks. A maximum of ten (10) references is suggested.

i) Illustrations

Ensure that illustrations are included and within the A4 format of the written reports. Ensure that all tables and figures are labelled correctly and appropriate legends included. Where the results of tests are included in the written reports, ensure that appropriate reference points (such as limit of quantification, limit of detection) are included for each parameter.

Appendix B - Desirable knowledge and skills of the future specialist in veterinary pharmacology and toxicology

The specialist should develop the appropriate knowledge to exhibit self-confidence, self-criticism and a sense of responsibility essential for practising the speciality. This includes a high moral and ethical standard in the treatment and experimental usage of all animal species, and reliability and honesty in the provision of information to other parties.

The specialist should:

- be acquainted with the main current theories, principles and issues (scientific, technical and regulatory) in veterinary pharmacology and toxicology;
- be acquainted with the structure, objectives, approaches and issues of the veterinary profession and specifically with regard to the speciality;
- be acquainted with the societal role of a specialist and specifically the responsibilities of a specialist towards colleagues, co-workers, regulatory authorities and the public;
- develop scientific activities in order to contribute to the advancement of the discipline.

Knowledge and skills concerned with the general practice of the speciality

The specialist should be able to:

- recognize and work up pharmacological and/or toxicological problems as they occur in the different settings of veterinary practice (e.g. for the individual patient, at herd level) as related to the speciality;
- recognize and work up pharmacological and/or toxicological problems as they occur during pre-marketing safety assessment, pre-clinical and clinical drug development and after marketing authorization (pharmaco- and toxicovigilance);
- cooperate with specialists and colleagues in clinical disciplines to the benefit of the veterinary patient, their owners and public health;
- contribute to the dissemination of knowledge regarding veterinary medicinal products and functional feed additives between colleagues, clients and the public;
- contribute to the development of new drugs and methods in veterinary pharmacology and therapeutics;
- contribute to food safety by promoting prudent use of veterinary drugs and related substances (in particular antimicrobials, fungicides and other pesticides) and implement One Health objectives;
- contribute to national and international records and data collections providing knowledge of drug side effects and drug-drug and drug-feed interactions;
- contribute to methods in veterinary toxicology, food safety, regulatory toxicology, the management of zoonoses and antimicrobial resistance and the related avoidance programmes under the One Health concept;
- assess the well-being of animals under clinical and experimental conditions as well as under different situation of physiological stress;
- perform and evaluate animal experiments under GLP/GCP conditions;
- whenever possible be a member of ethics committees, institutional review boards, etc.

Knowledge and skills with regard to new scientific, technical and regulatory developments in veterinary pharmacology and toxicology

The specialist should be able to:

- recognize and work up emerging issues in clinical pharmacology, pharmacotherapy and clinical toxicology (hazard identification);
- recognize (and follow up) new scientific and technical developments in the discipline;
- contribute to the development of new concepts and opinions for therapeutic intervention (including prophylaxis, metaphylaxis and preventive measures) for diseased or intoxicated animals;
- contribute to teams working in the regulatory framework of European and International (e.g. VICH) harmonization towards drug development, licensing and pharmacovigilance;
- contribute to teams working on surveillance and monitoring programs related to toxic and undesirable substances (hazard identification, hazard characterization, exposure assessment, risk characterization) in the food chain and the environment.

Knowledge and skills concerning professional contacts and transfer of knowledge

As a future teacher, project leader/manager, professional consultant, regulatory agency reviewer or other, the specialist in veterinary pharmacology and toxicology should be able to:

- express thoughts and concepts clearly, in oral as well as written form;
- approach problem solving in an analytical and scientific way and be able to assign priorities to different solutions;
- develop an appropriate management style for planning, organizing, managing, reviewing and controlling projects;
- develop interpersonal and communication skills which facilitate interaction with a range of different people from widely different backgrounds;
- develop effective team leadership skills of project teams as evidenced by the ability to motivate others.

Knowledge and skills indirectly related to the speciality and/or facilities

The specialist should:

- keep abreast of new developments within the veterinary profession both within and outside the speciality;
- understand the limitations of their own speciality in the perspective of the veterinary profession;
- understand the possibilities for ECVPT specialists to interact with specialists in other areas and vice versa;
- be familiar with the potential for multidisciplinary cooperation;
- understand and practise evidence-based medicine.



In order to achieve these goals and to establish training programmes, the ECVPT Executive Committee and Programme Directors are guided by the following criteria:

- A registered specialist shall spend most of their working time working at specialist level in academia, public service or industry;
- The training programme is established in consideration of those of parent disciplines (veterinary science, pharmacology (International Union of Pharmacology, IUPHAR) and toxicology (International Union of Toxicology, IUTOX));
- The training programme should be of a similar breadth and quality to those developed elsewhere (e.g. USA, Australia), which allow inclusion of other training or experience, thus enabling mutual recognition of specialist registration in the future;
- A registered specialist should practise/work in an academic environment or a private company, in a laboratory, a hospital or a national or international institution with adequate facilities for the specialty.