

# **ACVO Standards for Ophthalmic Examinations In Pharmaceutical and Toxicological Studies**

## **Purpose**

The American College of Veterinary Ophthalmologists (ACVO) recognizes that certain of its members may act as consultants to a sponsoring pharmaceutical company or Contract Research Organization (CRO) in performing ophthalmic examination of animals. These studies are designed to evaluate the potential for ocular toxicity or other adverse effects arising from the systemic, topical, or other administration of drugs or compounds, the application of medical devices, or certain surgical procedures. While in some cases the studies are designed to provide proof of concept as regards therapeutic efficacy, in the majority of cases the studies are being conducted specifically to enable an adequate assessment of safety of test materials and devices in consideration of meeting FDA (or other similar regulating agencies) approval for initiation of human clinical trials (supporting an investigational new drug (IND) and/or investigational device (IDE) application). Further, the ACVO recognizes that insuring public safety is the goal of such studies and that Diplomates of the ACVO have unique training and experience in ophthalmology in a variety of animal species that make them exceptionally and uniquely qualified for conducting ophthalmic examinations in such studies. Therefore, the ACVO hereby undertakes to define the responsibilities of said Diplomates and the companies for which they consult to best insure the highest quality of such studies and the safety of the public.

## **Qualifications**

A Diplomate of the American College of Veterinary Ophthalmologists (Diplomate, ACVO), in addition to being a licensed veterinarian, has completed a minimum of 3-5 years of post-graduate specialty training in veterinary ophthalmology. This training encompasses the diagnosis and treatment of eye conditions in a variety of animal species, including those commonly used in toxicology studies and studies of drug metabolism and pharmacokinetics (DMPK). The ACVO is the only credentialing body in North America that supervises the training and certification of those qualified to perform ophthalmic diagnosis in animals. The ACVO Committee on Laboratory Animal Ophthalmology has established the standards contained in this document.

## **Components of an Ophthalmic Examination**

The components of an ophthalmic examination may vary depending on the species involved and the specific objective of the study. However, if the purpose of such a study is to screen for adverse effects on any ocular tissue to include, at a minimum, the adnexal structures (eyelids and conjunctiva) anterior segment (cornea, anterior chamber, iris & lens) and posterior segment (vitreous and fundus), the following must be included:

- 1) pharmacologic pupillary dilation
- 2) darkened ambient light conditions
- 3) indirect and/or direct ophthalmoscopy
- 4) slit lamp biomicroscopy
- 5) Additional procedures may be included depending on the objective of the examination. These may include, but are not limited to: corneal staining, corneal aesthesiometry, pachymetry, tonometry, fundus photography, fluorescein angiography, optical coherence tomography (OCT), and electrophysiological assessment of the visual system (e.g. electroretinography, multifocal electroretinography, visual evoked potentials).

Sedation or general anesthesia may or may not be required depending on the species, the procedure being performed and individual animal.

## **General Policies**

Evaluation of toxicological effects of pharmaceutical agents involves assessment by a number of personnel, many of which are board certified specialists, including pathologists, cardiologists, and others in addition to ophthalmologists. Sponsors engaging the services of a Contract Research Organization (CRO) must be advised of the participation of veterinary ophthalmologists and the potential limitations that may arise if such studies do not involve veterinary ophthalmologists.

A board certified veterinary ophthalmologist is uniquely qualified to consult in the development of the experimental design (including the species selected, appropriate diagnostic tests, and frequency of exams) and the assessment of ocular effects of test materials being evaluated. Coordination between the testing agency and the ophthalmologist is essential throughout the process, to include protocol development, establishing Standard Operating Procedures (SOPs), and the identification and assessment of ocular findings. If ocular abnormalities are identified, communication between the ophthalmologist and the pathologist will allow correlation of clinical and histopathologic findings.

## **Conclusions**

It is the position of the ACVO that to ensure public safety ACVO Diplomate status is the minimum qualification for those performing ocular evaluations and assessment of findings in laboratory animal studies that are intended to support applications to the FDA (or other similar regulating agencies) for entry into human clinical trials.