

Progressive retinal atrophy is a term used to encompass several forms or types of inherited degenerative diseases of the retinal cells in many canine and some feline pure and crossbreeds. Sub-classifications of PRA are based on the age at which animals show signs of the disease and the type of retinal cell which is affected. Most of these conditions are inherited as autosomal recessive conditions (exceptions including: X-linked PRA in the Siberian Husky and Samoyed and dominant PRA in the Mastiff). Many breeds are affected by one or sometimes more than one form of PRA. In Abyssinian cats both recessive and dominant forms of PRA occur. Although historically most animals have been diagnosed by board-certified veterinary ophthalmologists late in the disease based on ophthalmic examination findings, it is important to be aware that in many cases PRA may be detected regardless of breed by electroretinogram (ERG) long before the dog or cat has any apparent visual difficulties. Blood tests are also available in certain breeds to ascertain if a dog is affected or a carrier of many types of inherited retinal degeneration.



**Diagnosis** Often the diagnosis of progressive retinal atrophy is based on behavioral signs (especially night blindness) and the presence of typical retinal lesions (i.e. tapetal hyperreflectivity, attenuated retinal vessels, optic nerve atrophy). Generalized PRA can be diagnosed early, however, at least a year before clinical signs are noted by the owner through the use of an advanced electroretinogram. This type of ERG is more extensive and is used to diagnose generalized, often hereditary, retinal disease, or to characterize a retinopathy of unknown origin. It utilizes a more labor-intensive, meticulous procedure which can differentiate rod and cone function. The latter technique makes it possible to calculate various ERG parameters, such as timing, amplitude and wave-form characteristics of the rod and cone ERG, respectively, in order to obtain a more precise evaluation of retinal function and diagnosis. This is most useful in animals that are considered for breeding and in animals prior to cataract surgery and is invaluable information for your clients.

The VEC's Ophthalmology Department uses the handheld, portable HM sERG (RetVetCorp), one of the newest and most powerful electroretinograms (ERGs) on the market today. Although the ERGs used in veterinary medicine in the past have been very limited in their diagnostic abilities, the HM sERG has been developed in conjunction with world renowned Veterinary Ophthalmologists for use in both clinical and research settings. Because of its state-of-the-art technology the HM sERG allows comprehensive ERGs which permit separation of the rod and cone function. It is a portable unit enabling it to be used easily in small and large animals. As a result, this ERG can be utilized in the diagnosis of a huge range of retinal degenerative processes including: early diagnosis of PRA (prior to the onset of clinical signs and retinal changes), SARD, Congenital Stationary Night Blindness, and other types of retinal degenerative diseases in all species. Dr. Gray performs ERGs on nonsedated and sedated animals (depending on the individual animal and the retinal disease suspected). General anesthesia is not required.

Please feel free to contact Dr. Gray to discuss the appropriateness of the use of an ERG in your patients or if you have any questions about ERGs or the other diagnostic tests available for retinal disease. Dr. Gray may be reached at 416-920-2002 or by emailing her at [eyecareforanimals@rogers.com](mailto:eyecareforanimals@rogers.com)

**TO BOOK AN APPOINTMENT WITH Dr. GRAY OR ANOTHER VEC SPECIALIST**

**PLEASE CALL (416) 920-2002**

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