What is progressive retinal atrophy?

Progressive retinal atrophy (PRA) is an untreatable but painless disease of the retina that leads to blindness.

Light reaches the retina which lines the back of the eye and forms an image on the retina much as it does on the film in a camera. Cells in the retina called rods and cones change this light into electrical impulses that travel along the optic nerve to the brain where the electrical impulses are translated into the sensation we know as vision.

In PRA, the rods and cones degenerate and die, therefore the light is not changed into an electrical impulses and vision is impaired. Rods, which provide vision in dim light, are often affected first therefore the animal may start to bump into objects when lighting is dim or dark (night blindness). Cones provide color and daytime vision and degenerate more slowly. As the cones degenerate, the animal may adjust and may behave normally early in the course of the disease. It may take months to years for the loss of rods and cones to become severe and the onset of blindness may appear to occur very suddenly even though the visual impairment has been progressing for a long time.

Progressive retinal atrophy is diagnosed by direct observation using an instrument called an ophthalmoscope, or by electroretinography (ERG). An ERG is an electrical test of retinal function. PRA is inherited disease in many breeds of dogs and some cats including Miniature Poodles, Schnauzers, Yorkshire Terriers, English Cocker Spaniels, Irish Setters, and Collies. There is no specific treatment or cure for PRA. Because the disease is inherited, affected animals should not be bred.

Most dogs and cats adapt well to blindness if their environment is not continually changed. The major concern is for the safety of affected animals. Swimming pools are particularly hazardous because blind animals cannot always find their way out if they fall in. You must help your avoid obstacles, pedestrians, bicyclists and automobile drivers who expect animals to move out of the way. You will quickly learn how to be a “seeing-eye” person for your companion.

Numerous internet websites and books are available that contain helpful information in helping both you and your pet adapt vision loss.
Anormal ERG: flat curve indicating an end stage of the retinal atrophy

- Normal aspect of the retina in a dog
- Visual eye
- Nice retinal vessels
- Normal reflectivity of the tapetum (green area)

- A atrophy of the retina (death)
- Makes the eye not visual in a dog
- Fewer and thinner retinal vessels
- Hyper reflectivity of the tapetum, pale optic nerve head

Aspect of a normal ERG

Anormal ERG: flat curve indicating an end stage of the retinal atrophy

Protective apparatus in a dog that is blind

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