

Progressive Retinal Atrophy in Dogs

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Progressive retinal atrophy, also called PRA, is an inherited disease of the retina that leads to blindness in affected dogs; it includes several different genetic diseases that lead to the degeneration of the retina.

In case you aren't familiar with eye anatomy, the retina is the thin layer of tissue lining the inside of the eye that acts like the film in a camera (or a sensor in a digital camera for millennial readers). It converts the light signal it receives into an electrical signal it transmits to the brain for processing via the optic nerve. When an animal has progressive retinal atrophy, either the retina fails to develop properly or the photoreceptors (light receptor cells of the retina) degenerate. The end result of PRA is progressive vision loss ultimately leading to blindness.

Causes of progressive retinal atrophy

Progressive retinal atrophy is a hereditary retinal degeneration, meaning the disease is inherited. PRA is more common in certain breeds of dogs, such as:

- [Australian Cattle Dog](#)
- [Australian Shepherd](#)
- [Cardigan Welsh Corgi](#)
- [Collie](#)
- [Mastiffs](#)
- [Poodles](#)
- [Retrievers](#)
- [Schnauzers](#)
- [Setters](#)
- [Spaniels](#)
- [Siberian Huskies](#)

PRA is usually inherited in an autosomal recessive manner, meaning that affected animals inherited two copies of the mutated gene — one from each parent. Dogs with a single copy of the mutated gene do not show signs of the disease and are called carriers. Other

modes of inheritance are autosomal dominant (only a single copy of the mutated gene is needed to cause the disease) and X-linked (the mutated gene is on the X chromosome).

Symptoms of progressive retinal atrophy

Dogs affected by progressive retinal atrophy present with night blindness. You may notice that your pet has trouble seeing at night or whenever it's dark. In addition, your dog's pupils may always seem to be dilated. As the disease progresses, pets also lose the ability to see when it is light and eventually go completely blind. At that point, you may notice your pet bumping into things, especially in new environments.

Diagnosis of progressive retinal atrophy

If your dog has trouble seeing, be sure to take him to your veterinarian. The diagnosis of progressive retinal atrophy is usually made after examining the retina. Electroretinography (measuring the electrical response of retinal cells) and genetic testing can be ordered to confirm the diagnosis.

Treatment of progressive retinal atrophy

Unfortunately, there is currently no treatment for progressive retinal atrophy. However, researchers have identified many of the genes that cause PRA — enabling the development of genetic tests to identify affected dogs and carriers. Breeders of predisposed breeds can test their breeding animals with these genetic tests to be sure their animals are not affected and are not carriers.

Managing progressive retinal atrophy

It's important for people to understand that pets can adjust remarkably well to living with progressive retinal atrophy. Unlike people, dogs don't need to drive or read and they spend most of their time in one place. As a result, pets become familiar with the layout of their house and can get around easily by memory. However, there are a few things you need to know if you are living with a blind animal:

- Try not to rearrange the furniture
- Always keep your blind dog on a short leash so you can guide them and keep them safe
- Keep blind pets away from pools and balconies without barriers

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If you have any questions or concerns, you should always visit or call your veterinarian -- they are your best resource to ensure the health and well-being of your pets.

