

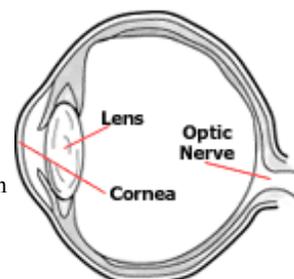
# Cataracts in Dogs

Drs. Foster & Smith Educational Staff

Cataracts are one of the most common problems affecting the eyes of the dog. There are many different forms and causes of cataract formation. They affect all breeds and ages of dogs, but certain types show up more commonly in certain breeds. Despite the fact that they are very common, there is still a lot that we do not know about canine cataracts. The only current treatment option is surgery, but with correct patient selection the outcome is very good. This article will explain some of the different forms of cataracts including their age of onset and their treatment options.

What are cataracts?

The word cataract literally means 'to break down.' This breakdown refers to the disruption of the normal arrangement of the lens fibers or its capsule. This disruption results in the loss of transparency and the resultant reduction in vision. Cataracts often appear to have a white or crushed ice appearance and are found in the lens of the eye.



Nuclear sclerosis

We often get people that bring an older dog into the clinic complaining of cataract formation in their dogs' eyes. The vast majority of the time the dog does not have cataracts, but has the much more common condition known as nuclear sclerosis. Nuclear sclerosis is a normal change that occurs in the lenses of older dogs. Nuclear sclerosis appears as a slight graying of the lens. It usually occurs in both eyes at the same time and occurs in most dogs over six years of age. The loss of transparency occurs because of compression of the linear fibers in the lens. The condition does not significantly affect the vision of the dog and treatment is not recommended.

How do cataracts form?

Despite the fact that there are several different forms and causes of cataracts, they all develop in a similar fashion. The normal lens is maintained in a dehydrated state. It consists of 66% water and 33% protein. There is a complicated sodium water pump system in the lens that keeps this water/protein balance in check. When the biomechanical system in the lens is damaged, this pump system begins to fail and extra water moves into the lens. In addition, the percentage of insoluble protein increases. These changes result in the loss of transparency and cataract formation.

Age of onset

The age at which a dog develops cataracts is very important in classifying the type of cataract. The age of onset is particularly important for determining if the cataracts are the result of a hereditary trait in certain breeds of dogs.

**Congenital Cataracts:** These are cataracts that are present at birth. These cataracts usually occur in both eyes. Despite the fact that the animal is born with them, they are not necessarily inherited. Infections or toxins may cause the formation of these cataracts in unborn puppies. Primary congenital cataracts such as those found in Miniature Schnauzers are, however, inherited.

**Developmental (Early Onset) Cataracts:** Developmental cataracts are those that develop early on in life. As with congenital cataracts, they may be inherited or caused by outside sources such as trauma, diabetes mellitus, infection, or toxicity. Inherited cataracts at this age are more common in several breeds including Afghan Hounds and Standard Poodles.

**Senile (Late Onset) Cataracts:** The cataracts that occur in dogs over six years of age are called senile cataracts. They occur much less frequently in dogs than in humans. Nuclear sclerosis, which is not considered to be a medical problem, is often confused with cataracts at this age.

Inherited cataracts

Inherited cataracts in the dog may occur independently or in association with other ocular disease. Some of the breeds that appear to develop inherited cataracts along with their age of onset are listed below. If a dog is diagnosed with inherited cataracts, the dog should obviously not be used for breeding because of the likelihood of perpetuating the disease in the offspring.

Breed	Age of Onset
Afghan Hound	6-12 months
American Cocker Spaniel	6 + months
Boston Terrier	Congenital

Chesapeake Bay Retriever	1 + years
German Shepherd	8 + weeks
Golden Retriever	6 + months
Labrador Retriever	6 + months
Miniature Schnauzer	Congenital or 6 + months
Old English Sheepdog	Congenital
Siberian Husky	6 + months
Staffordshire Bull Terrier	6 + months
Standard Poodle	1 + years
Welsh Springer Spaniel	Congenital
West Highland White Terrier	Congenital

The most common metabolic disorder resulting in cataract formation in the dog is diabetes mellitus. In diabetic dogs, the glucose concentrations in the lens increases. The extra glucose is converted into sorbitol, which causes an increase in the influx of water to the lens. The increase in water causes a breakdown of the lens fibers and a resulting cataract. Cataracts in diabetic dogs can develop extremely rapidly, if the dog is not regulated. They generally affect both eyes. Surgical removal of the lens can be successfully performed in the diabetic dog, if the animal has been regulated successfully for at least three months.

#### Trauma

Trauma from an automobile accident, or penetration of a thorn, shotgun pellet, or other object may damage the lens and a cataract may develop. These types of cataracts usually only occur in one eye and can be treated successfully with surgical removal.

#### Treatment

Treatment for canine cataracts consists of surgical removal of the lens. Currently, there is not a good non-surgical treatment for this condition. With the increase in veterinary surgical skill and equipment, the surgical procedure to remove the problem lens is becoming increasingly more common. There are several different techniques used to remove the affected lens including: the removal of the entire lens and surrounding capsule, the removal of the lens leaving the surrounding capsule, phacoemulsification of the lens, and aspiration and desiccation of the lens. All of these techniques can offer excellent results. For a successful outcome, the affected animal must undergo a thorough examination to determine if he is a good surgical candidate. Diabetic animals that are not regulated, aggressive animals that are difficult to treat daily, or animals in poor or failing health, are not good surgical candidates. If you suspect your dog is developing cataracts, then you should work closely with a veterinary ophthalmologist to take the best and most effective course of treatment for the dog.