

# Canine Glaucoma FAQs

## UTCVM OPHTHALMOLOGY

### What is glaucoma?

Glaucoma is defined as a degenerative change in the optic nerve and retina (back of the eye), associated with an increased intraocular pressure, leading to pain and blindness. Glaucoma develops when the normal flow of fluid from the eye is impaired. Primary glaucoma is when the cause is due to a hereditary defect in the filtering mechanism (drain) and is seen in many dog breeds. Secondary glaucoma refers to the increased pressure due to other ocular diseases.

### What are clinical signs of glaucoma?

The signs associated with glaucoma may include all or some of the following: red eye, bluish/cloudy cornea, pain, dilated pupil, discharge from the eye, blindness, and enlargement of the eye. Signs of pain from glaucoma can include change in interactive behavior with their family, sleeping more, playing less, hiding, and sometimes becoming head shy.

### How is glaucoma diagnosed?

Normal intraocular pressure can be measured with a tonometer and in dogs can range between 10 - 25 mmHg depending on the machine used; both eyes should be similar in pressure. Falsely elevated pressures can be obtained by pressure applied on the eye, eyelid or neck. Accurately obtained pressures in excess of 25mmHg are defined as glaucoma. If pressures remain elevated they are seen concurrently with optic nerve and retina degeneration.

Sometimes, gonioscopy (use of a specialized lens) and ultrasound can be used to examine the "drain" of the eye. Pets that are predisposed to glaucoma will have an abnormal drain in both eyes.

### How does glaucoma progress?

Primary glaucoma often occurs in one eye initially, but develops in the other eye within weeks to months. Dogs with early glaucoma may only have a mild redness to the eye. Moderate forms of glaucoma cause a bluish-white



*Using a Tonovet rebound tonometer to measure intraocular pressure in a dog*

discoloration of the cornea, and may cause blindness in the affected eye. It is important to understand that high elevation in the pressure causes irreversible damage to the retina and optic nerve in a very short period of time (24-48 hours). As a result, acute glaucoma is considered an emergency, and requires immediate treatment if vision is to be maintained. Prolonged glaucoma will cause blindness and enlargement of the globe.

### What treatment options are available?

The goals of glaucoma treatment are to save vision for as long as possible and to keep the patient comfortable. Several eye drops can be prescribed to decrease intraocular pressures. If your pet is determined to have secondary glaucoma, treatment of the primary disease process is necessary.

### What is the prognosis for glaucoma?

Unfortunately, the only thing predictable about glaucoma is that it gets worse (either quickly or gradually) and that each patient requires careful and frequent follow up so the treatment program can keep pace with the disease. Most cases eventually result in blindness, but often the patient can remain comfortable with medication and / or surgery.

### Would surgery be a good option for my dog's glaucoma?

There are 2 different categories of glaucoma surgery: 1) surgeries for a visual eye with glaucoma, 2) surgeries for a non-visual eye with glaucoma. The recommendation for surgical intervention depends on several factors that your veterinary professional can further discuss with you. See glaucoma surgery handout for more details.



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