



Glaucoma

What is Glaucoma?

Simply put, glaucoma is increased pressure within the eye. Much like your car tire or a basketball, the eye should have a certain pressure to it. Both too little or too much pressure are signs of disease.

What causes glaucoma?

Many things can contribute to elevation of the pressure within the eye (glaucoma). Trauma, cataracts, inflammation within the eye and neoplasia (cancer) all can lead to glaucoma. The number one cause of glaucoma in dogs, however, is from a physical flaw in the way the eye is formed. A fluid, termed aqueous humor, is secreted into the eye as a means of maintaining normal function and pressure. Normal pressure depends on fluid flowing out of the eye at the same rate it flows into the eye. Most dogs develop glaucoma because the outflow becomes obstructed.

A helpful way to understand glaucoma is to think of your kitchen sink. As long as the drain is open and draining correctly, the water faucet can be turned on all you want and the sink won't overflow. This is how the healthy eye works with regard to fluid secretion and drainage. If the drain of the sink is partially closed or slowed, the water will eventually fill the sink and overflow. This is how glaucoma develops in the dog.

Is human glaucoma the same?

No. The most common cause of glaucoma in man is due to increased flow of fluid into the eye (the sink faucet is turned on too much). Remember in the dog, the problem is usually one of a slowed drain.

What are the signs of glaucoma?

Often times, the first sign may simply be a red eye. Realize that there are many things that can cause a red eye (allergies, for instance). Other clinical signs may include pain, a blue-looking eye or a dilated pupil.

How is glaucoma diagnosed?

Because so many other diseases can present with similar clinical signs, it is very important to be able to tell them apart. Your veterinarian performing a thorough physical examination, and carefully looking at your pet's eyes, is one of the most important things that can be done. Coupling this exam with a thorough history-taking will tell the doctor a lot. Measuring the pressure of the eye is the only way to know whether or not glaucoma is present.

Indian Hills Animal Clinic has the means to measure your pet's eye pressure in a very safe, comfortable, quick and accurate way. After placing a drop or two of a topical anesthetic on the eye, an instrument called a *Tonometer* is lightly touched to the eye surface. The feather-touching of the Tonopen tip to the eye gives a digital reading of the intra-ocular pressure. It is a very simple procedure

Once diagnosed, what can be done about glaucoma?

Glaucoma should be treated very aggressively from the time it is diagnosed. High pressures within the eye can sometimes lead to blindness, even years after the pressure has been returned back to normal. The key to success is early intervention.

Glaucoma might be treated either medically or surgically. Medical treatment is aimed at decreasing the flow of fluid into the eye, treating any underlying inflammation within the eye and trying to increase the flow of fluid out of the eye. Unlike glaucoma in man, medical treatment in the dog oftentimes won't effectively treat glaucoma. For cases not controlled with medication, surgical referral is necessary.

Surgical treatment involves referral to a board-certified veterinary ophthalmologist. Treatment is aimed at destroying the tissue responsible for the production of the fluid secreted into the eye. This is usually done through the use of a laser. This treatment is very effective.

Identification and early intervention of glaucoma is very important. Periodic measurements may be recommended for your dog. Ask your veterinarian if your dog is at risk.

Your dog's intraocular pressure:

OD (right eye) _____ mm Hg
(normal 15-25mm Hg)

OS (left eye) _____ mm Hg
(normal 15-25mm Hg)

Date _____

Breeds at greater risk for developing

glaucoma include:

**Basset Hound — Beagle — Bovier des Flandres Cocker Spaniel — Chow Chow — Husky — Malamute —
Miniature Poodle — Norwegian Elkhound — Samoyed — Shar Pei — All Terriers**

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