

Ophthalmology for Animals

Primary glaucoma

Glaucoma is one of the leading causes of vision loss in dogs and people. Glaucoma is a painful disease in which the pressure inside the eye increases and causes damage to the structures responsible for vision. Elevated intraocular pressure results in the clinical signs that you may have noted at home (cloudy eye, redness, squinting). The longer the pressure in the eye is elevated, the more damage occurs to the structures in the eye responsible for vision (especially the retina and optic nerve), eventually resulting in permanent blindness.

In a normal eye, fluid is constantly produced by the ciliary body and drained out the iridocorneal angle (also called the drainage angle). The iridocorneal angle has a net-like meshwork with large spaces through which the fluid flows.

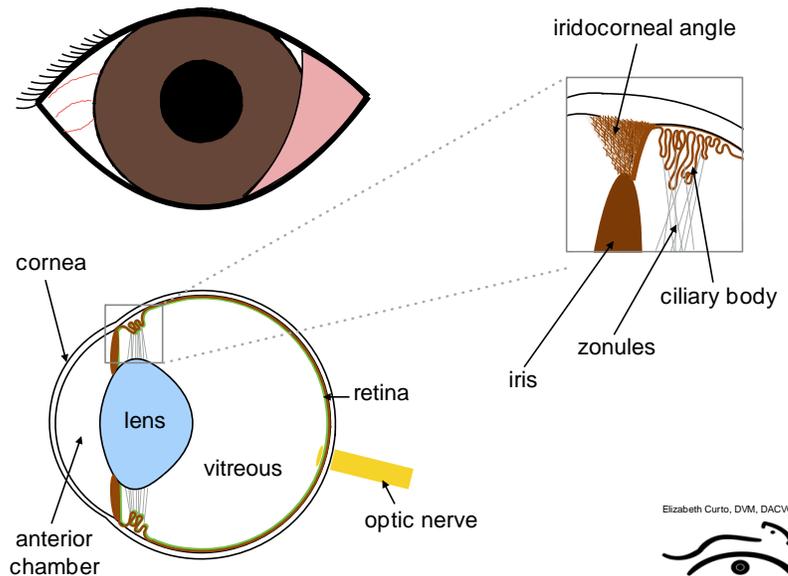
Primary glaucoma is caused by an inherited abnormality of the drainage angle which slows drainage of fluid, causing it to build up within the eye, similar to a clogged sink drain.

Certain breeds are known to be predisposed including the Cocker Spaniel, Basset Hound, Beagle, Shar Pei, Chow Chow and Jack Russell Terrier.

Because the duration of pressure elevation is a critical factor for prognosis, acute glaucoma is an emergency and should be treated as quickly as possible to decrease the pressure. Signs of glaucoma include redness, cloudy eye, tearing, loss of vision, an enlarged or "bulging" eye, lethargy, increased sleeping, or loss of appetite. The disease causes pain and headaches when the pressure is elevated.

Glaucoma is unfortunately difficult to treat and there is no cure. Primary glaucoma is always bilateral, though not necessarily symmetric. Treatment is aimed at maintaining the pressure in a comfortable range and limiting damage to the retina and optic nerve. Topical drops are initiated and periodic rechecks are performed to ensure the pressure is within an acceptable range. Drops typically are effective for a period of time, but eventually the glaucoma overcomes our ability to control pressures medically. Surgery is recommended before complete loss of control with medications, which involves placing a gonioshunt or Ahmed valve. This procedure allows fluid to exit the eye through a one-way valve so if the pressure starts to increase the extra fluid can drain through the shunt. The average duration of control after this surgery is 1 year, but can range from several months to several years. Another surgical option is called ciliary body endolaser photoablation, which decreases the amount of fluid produced inside the eye. This procedure is not currently performed at Ophthalmology for Animals, but we are happy to refer you to an ophthalmologist that can offer this surgery.

Prognosis depends on early detection and the patient's response to therapy. Unfortunately, due to the nature of the disease many animals lose vision despite treatment. For blind, painful eyes permanent resolution of glaucoma is recommended via enucleation (removal of the eye), intrascleral prosthesis (replacing the contents of the eye with silicone), or chemical ciliary body ablation (destruction of the ciliary body with an intraocular injection). There are pros and cons to each of these treatments, which we are happy to discuss.



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