

Canine Glaucoma

Ophthalmology Service



Michigan Veterinary
Specialistssm

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We Can Help

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What is Glaucoma?

Canine glaucoma is manifested as an increased pressure within the eye. This elevated intraocular pressure causes damage to the retina and optic nerve. Significantly elevated pressures (>60mmHg) can cause permanent vision loss in less than 12 hours.

Causes

An obstruction to the normal drainage of aqueous humor (fluid within the eye) causes the high pressure to develop. The obstruction may be **primary**, meaning that there is a genetic predisposition to an abnormally narrowed drainage angle. Many breeds of dogs are prone to primary glaucoma including the Cocker spaniel, Basset hound, Siberian husky, Shar Pei and Standard Poodle. The obstruction may also be secondary, meaning that the obstruction to drainage is caused by another underlying condition including abnormal lens position, intraocular inflammation (uveitis) or a tumor. Terrier breeds are prone to secondary glaucoma often related to lens luxation.

Diagnosis

Clinical signs alone are usually not enough to diagnosis glaucoma. Measurement of the intraocular pressure is essential and performed with a tonometer. In some cases the drainage angle may be examined with a special lens (termed **gonioscopy**). Examination of the intraocular structures may help to determine the cause of the glaucoma as well as provide a prognosis for vision.

Treatment

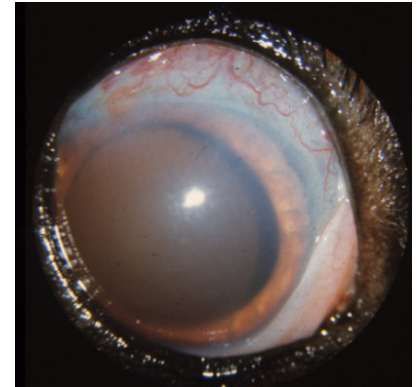
Treatment will depend on the cause, how long the pet has had glaucoma, and if there is a possibility for vision. Pressures higher than 30-40mmHg are **painful** and likely cause a level of pain comparable to a migraine headache. **Medical treatment** (typically in the form of eye drops) is aimed at decreasing fluid production and increasing fluid outflow. In most cases of primary glaucoma the eye stops responding to medical therapy and other treatment options must be considered. Surgical options for visual eyes may include **laser energy** applied to the ciliary body (portion of the eye that produces fluid) to decrease production of fluid. Non-visual eyes may require surgery to make the pet comfortable and pain free. The types of surgery that permanently cure painful, glaucomatous eyes include **enucleation** (removing the eye) and an **intrascleral prosthesis** which keeps a semi-cosmetic eye in the orbit.

Prevention

In many animals with primary glaucoma the opposite eye will be started on a **prophylactic anti-glaucoma medication** with the goal of preventing or delaying the onset of glaucoma. Periodic monitoring of the intraocular pressure is important so that medical therapy can be adjusted to preserve vision.

Symptoms

- Red eye
- hazy or bluish cornea
- Large pupil, non-responsive to light
- Acute blindness may be present
- Subtle signs of pain including:
 - reduced activity
 - loss of appetite
 - guarding the eye



Intrascleral Prosthesis

Enucleation