

## **Glaucoma**

Glaucoma is a disease associated with elevated pressure inside the eye. This pressure increase damages the cells responsible for vision and results in vision loss. In the normal eye, there is a balance between fluid production and fluid drainage. The fluid supplies nutrition to the eye and helps maintain normal eye shape and size. Glaucoma occurs when the fluid drainage is impaired, resulting in fluid accumulation. High pressure inside the eye damages the nerve tissue in the back of the eye. If the high pressure is not controlled, vision will be irreversibly damaged and/or lost.

There are two main types of glaucoma: primary and secondary. Primary glaucoma is a hereditary disease that is very common in dogs. Usually one eye is initially affected, but the second eye will develop glaucoma eventually. Breeds that have primary glaucoma include the American Cocker Spaniel, Chow-Chow, and Bassett Hound. Secondary glaucoma occurs as a complication of other ocular disease. Some causes of secondary glaucoma include: inflammation or blood in the eye, cataracts, trauma, and cancer.

Signs of early glaucoma include tearing, squinting, intermittent blinking, and redness. Other signs of glaucoma include enlargement of the eye, blindness, decreased activity and appetite.

Glaucoma is diagnosed with a complete ophthalmic examination and intraocular pressure measurement. The normal intraocular pressure in the dog is 15 – 25 mmHg.

Glaucoma is a chronic disease which usually ultimately results in blindness. However, teamwork between the pet owner and veterinary ophthalmologist can help preserve vision for as long as possible and keep your pet comfortable.

## **Treatment of Glaucoma**

The goals of glaucoma treatment are to preserve vision as long as possible, and to prevent/eliminate discomfort. In acute glaucoma, medical treatment is used to reduce the intraocular pressure as quickly as possible to try to restore vision. Chronic medical therapy is then used to try to maintain the pressure in a normal range. The “good” eye is also started on medication, as research has shown that prophylactic treatment may help delay the onset of primary glaucoma. However, there is no treatment to prevent glaucoma, and glaucoma can not be cured. Once diagnosed, dogs with glaucoma are usually treated with medication the rest of their lives.

Often, medical therapy is unsuccessful at controlling the pressure. The choice of surgical treatment depends on whether or not the eye has vision.

For eyes with vision or a chance for vision, laser surgery is the best option. This is a short procedure which requires anesthesia. The laser selectively destroys the cells that produce the fluid in the eye. Essentially, this procedure turns down the faucet to reach a new balance with the clogged drain. Some eyes may need more than one laser treatment to control pressure. The laser temporarily increases the irritation in the eye, so the eye will be worse before it gets better. Following the laser surgery, some eyes will have an increased risk of ulcers (scratches), so the eyelids are stitched halfway shut temporarily.

For blind, painful eyes, surgical options include laser surgery, placement of an intraocular prosthesis, intraocular antibiotic injection, and removal of the eye. Each procedure has its own risks and benefits. If these are options for your pet, they can be discussed further with one of the ophthalmologists or nurses.