

Absolute Glaucoma

If in spite of all efforts (according to the treatment plan developed between the owner and the ophthalmology service at OVRS) absolute glaucoma results, other treatment options are available.

Absolute glaucoma occurs when there is chronically elevated/unresponsive IOP with buphthalmos (enlargement of the eye), loss of vision and pain. If this occurs an endstage procedure is recommended by the OVRS ophthalmology service to provide pain relief i.e. enucleation [Figure 4] or an intrascleral prosthesis (ISP) [Figure 5]. The procedures are thoroughly discussed so an esthetically pleasing goal is achieved for the owner while providing comfort for the patient.



Figure 4
Millie with **enucleation** of the right eye

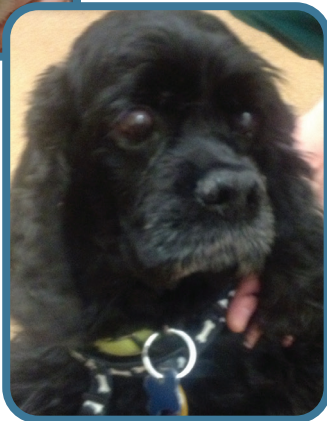


Figure 5
Maggie has an **ISP** on the right



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An OVRS Commitment

The health of our patients is our top priority. We will always work in close partnership with the referring veterinarian to promote the best course of care.



Ophthalmology Glaucoma

Specialty Care for Special Pets

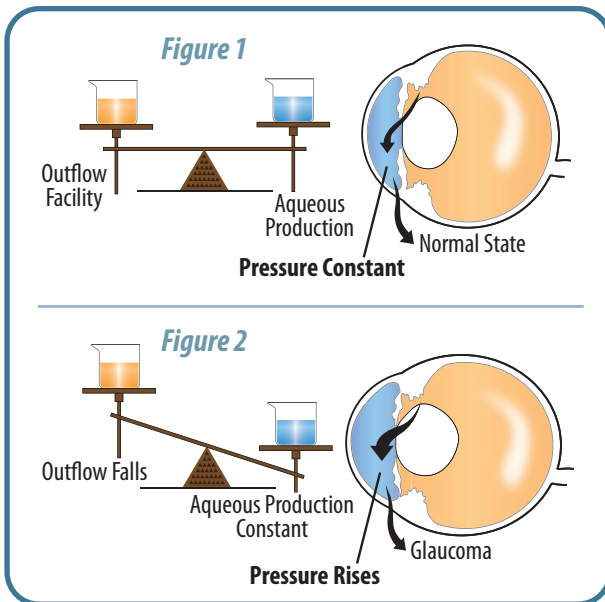
What is Glaucoma?

Glaucoma is a general term given to a variety of diseases which share a common feature – an abnormal elevation in the intraocular pressure.

As such, glaucoma is now considered a clinical sign vs. an individual disease mechanism. This elevation in intraocular pressure (IOP) has been identified as the primary risk factor for retinal and optic nerve damage which can result in loss of vision and pain.

The Intraocular Pressure in the Normal Eye

The intraocular pressure is created from the balance between the production of the fluid in the anterior chamber (aqueous humor) and the rate of outflow of this fluid at the drainage angle (formed between the iris, cornea and sclera). [Figure 1] The rate of production of the aqueous humor is essentially constant, so an increase in intraocular pressure does not occur due to increased fluid production. Therefore intraocular pressure increases due to an abnormality in the drainage of this fluid, as such glaucoma is considered a disease of the drainage system of the eye. [Figure 2]



Classification of Glaucoma

On a general basis with broad definitions glaucoma has been classified as: **PRIMARY** or **SECONDARY**

Primary Glaucoma implies an inherited, familial, bilateral tendency. Primary glaucoma is characterized by an increase in intraocular pressure without concurrent intraocular disease.

Secondary Glaucoma, in comparison, is characterized by an increase in intraocular pressure associated with concurrent intraocular disease. However these classifications are not absolute and there may be overlap between the two.

Diagnosing Glaucoma

Since glaucoma is considered a clinical sign rather than an individual disease, each case requires a thorough ophthalmic examination to determine the underlying cause(s). The clinical signs of glaucoma vary between species, breeds, degree of elevation of the IOP, underlying cause and chronicity.

Clinical Signs of glaucoma include:

- evidence of ocular pain
- pupil and iris changes
- congestion of the vessels of the eye
- changes in the cornea, retina and optic nerve

Over time there can be changes in the size of the eye and positioning of the lens. However elevated IOP is the only specific sign of active glaucoma. Elevated IOP may be suspected in the face of other clinical signs but can only be diagnosed by tonometry.

Early identification of the cause of the glaucoma and rapid reduction in the IOP are important to prevent permanent vision loss and provide comfort.

When diagnosing glaucoma and determining the underlying cause, the ophthalmology service at OVRS utilizes a combination of ophthalmic diagnostics including:

- ophthalmic examination with biomicroscopic ophthalmic examination (slit lamp examination)
- indirect ophthalmoscopy (to examine the retina & optic nerve)
- tonometry (to measure the IOP)
- gonioscopy (to examine the drainage angle)
- ocular ultrasound

Other ophthalmic and systemic diagnostics are also employed to assist in determining the underlying cause of the increase in IOP.

Treatment of Glaucoma

The goal of treatment is to lower the IOP to a level where vision no longer deteriorates and the patient is comfortable. Both emergency and maintenance treatment options include a combination of both topical and systemic medications which may also be combined with surgical procedures. Treatment options are tailored according to the underlying cause of the increase in IOP, the degree of vision present, the response to treatment (both acutely and chronically) combined with the financial considerations of the owner.

A couple of the advanced surgical treatment options available at OVRS ophthalmology for **Primary Glaucoma** include:

- Ahmed valve placement [Figure 3]
- Diode laser cyclophotocoagulation

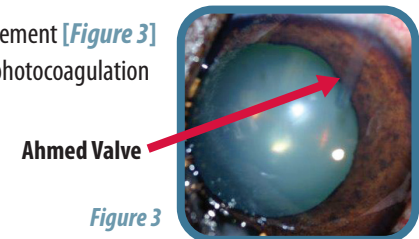


Figure 3