

Golden Retriever Pigmentary Uveitis (GRU)

Golden retriever uveitis, commonly known as GRU, is an inherited disease that affects golden retrievers. The first reports of GRU were in the early 1990s. Since that time the prevalence of the disease has increased significantly. Most dogs do not present with clinical signs of the disease until they are older. Currently, it is estimated that up to 17% of golden retrievers 6 years of age or older are affected by the disease.

There is no genetic testing available for this disease at this time. There are studies underway at Purdue University to identify any genetic markers for GRU, but until this genetic markers are found and testing can be completed prior to breeding, the disease will continue to spread.

Uveitis is inflammation inside of the eye. This inflammation can be detrimental to vision and to the health of the eyes. Uveitis can have many different causes, so it is important to have your dog evaluated to determine if they have GRU. Golden retriever uveitis is thought to have an immune component, but its exact cause is unclear. Additionally, GRU will ultimately affect both eyes.

The early changes in the eyes can be subtle and often go unnoticed. Most often, an owner will not notice signs of the disease until inflammation has already occurred. The first signs you may see include redness and increased tearing. Evaluation by an ophthalmologist may reveal darkening of the iris and pigment on the lens.

Treatment of GRU typically involves anti-inflammatory medications. Usually these are in the form of eye drops, but they may also be oral, or even injections into the eye. The inflammation seen with GRU typically is persistent even with regular medical therapy. Inflammation long term can cause cataracts and often eventually leads to glaucoma (high pressure inside the eye), which is painful and blinding. Because of the risk of glaucoma, the patient is examined regularly, and intraocular pressure is closely monitored. When intraocular pressure becomes elevated, anti-glaucoma medication is started. Unfortunately, anti-glaucoma medications do not work forever, and surgery is required to maintain or restore your pet's comfort. Enucleation, intrascleral prosthesis, or chemical ablation are surgical options available to restore your pet's comfort.

Enucleation is the removal of the eye. The eyelids are permanently sewn closed. An orbital implant may be placed to maintain a more cosmetic appearance. This is the most successful surgical option due to a low risk of complications (less than 1%).

Intrascleral prosthesis is the canine equivalent to the human artificial eye. Your pet maintains the cornea (clear front part of the eye), the sclera (white part of the eye), and muscle attachments. Most importantly, the eyelids remain open. The surgery is purely cosmetic and involves creating an incision into the eye, removing the inside contents, and placing a silicone ball inside to maintain its shape. The development of dry eye, which requires lifelong treatment, can be associated with this procedure. Because your pet will still have the cornea and other external structures of their eye, he or she may still develop injury to the eye which could require further treatment.

Chemical ablation is an injection of an antibiotic into your pet's eye. The injection is meant to destroy the fluid producing cells within the eye, in turn, reducing intraocular pressure. This is the only procedure available that does not require general anesthesia, but it does require sedation. The procedure is only approximately 65% successful. After this procedure the eye can have a variable and unpredictable appearance. The patient also must stay on anti-inflammatory medications lifelong.



In this dog you will note the redness in the white part of the eye and the pigment on the front of the lens. The pigment is identified with the red arrow. These are all signs associated with GRU.