



## Pannus

### What is pannus?

Pannus is a slow progressive degenerative disease of the cornea. It is characterized by brown or pink tissue on the surface of the eye which leads to a slow loss of vision. The condition is most commonly seen in German Shepherds but is occasionally seen in other breeds of dog as well.

### What causes pannus?

The actual cause of pannus is unknown, although several factors are thought to be involved:

- Hereditary predisposition (i.e. German Shepherds)
- Ultraviolet radiation may play a role as an inciting agent and cause worsening of the condition. Dogs living at high altitudes are often more severely affected.
- Immune factors are thought to contribute to the severity of the disease (i.e. it could be an allergic response to materials outside the body or the body may be reacting to the corneal tissue itself)

### What are the symptoms of pannus?

Initially, redness and brown pigment may be seen in the sclera (the white of the eye). White infiltrates made up of inflammatory cells then invade the clear cornea, followed by blood vessels. Finally, pink connective tissue grows into the cornea and later becomes brown. If left untreated, this condition can severely impair vision and even cause blindness.

### What is the treatment for pannus?

Despite intensive research efforts, a permanent cure for pannus has not yet been found. Yet with treatment, the vast majority of cases pannus may be reversed and in time, the corneas will clear. For this to be achieved, therapy must begin in the early stages of the disease process. The inflammatory cell infiltrate and blood vessel invasion are generally reversible with therapy. However, the connective tissue infiltration and pigment deposits are often irreversible once they have occurred.

### **Medical Treatment**

Cyclosporin is the drug of choice in the war against pannus. At the onset of treatment, cyclosporin drops must be placed in the eyes numerous times a day. Gradually, the frequency in which the drops are given is decreased to lowest dose possible for control of symptoms.

Cyclosporin only works well when used in conjunction with topical steroids. Although steroids alone may be used to treat pannus, combining these two drug therapies often achieves the best results.

It is important to note that while this treatment may be effective, ***it is a treatment, not a cure, and as such will need to be used forever. Even short periods of interrupted treatment (i.e. 2-4 weeks) may result in a severe relapse and deterioration of your dog's vision.*** Once the condition is under control, most dogs require drops only once or twice a day, even as little as every other day in some cases.



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• 150 Norseman Street, Toronto Ontario, M8Z 2R4 • Tel: (416) 232-0211 • Fax: (416) 232-0080 •  
• [www.torontoanimaleyeclinic.ca](http://www.torontoanimaleyeclinic.ca) •

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It is incredibly important that you follow the ophthalmologist's instructions concerning follow-up appointments. We are unable to fill repeat prescription requests if the doctor has not examined your dog to ensure the medication is adequately controlling the pannus. At the onset of treatment, frequent follow-up appointments are necessary, but once disease control has been achieved, follow-up appointments are reduced to annual visits.

### **Surgical Treatment**

Should medical treatment fail to clear the cornea of pannus, surgical intervention may be necessary. Surgical intervention involves a 'peeling' of the cornea to restore vision in eyes which are severely scarred and pigmented. Following surgery, medical treatment is still necessary to prevent the disease from recurring as the cornea heals. Surgical intervention is only used should medical treatment alone prove insufficient.