

# CAUSES OF WHITE CORNEAS IN DOGS

## ***Dystrophies***

- Inherited but not necessarily congenital.
- Usually bilateral, symmetrical and non-painful. Often oval or circular, central cornea.
- They have minimal effect on vision and no treatment is required.

### **Puppy dystrophy:**

hazy, greyish-white mosaic areas of subtle corneal opacity of neonatal puppies. Resolves in first few months of life.

### **Corneal dystrophy:**

cloudy spot in the centre of the cornea just beneath the corneal epithelium, often unilateral initially but progresses to bilateral. Rarely causes significant vision loss. Commonly affected breeds include the Cavalier King Charles Spaniel, Siberian Husky, Shetland Sheepdog, Labrador, Golden Retriever, Boxer, Collie (Rough & Smooth) and Beagle. Generally non-painful though occasionally, particularly in Shelties, can cause episodes of pain that require medical therapy or even surgery.



### ***Focal degeneration***

- Two forms: lipid or calcareous (mineral), can be concurrent
- Can be secondary to systemic disease or chronic eye disease.
- Usually unilateral and more diffuse. Can be painful and causes corneal inflammation and vascularisation. Refer severe, diffuse cases.

### **Lipid degeneration/calcific keratopathy:**

common in geriatric dogs, usually associated with a higher mineral component. More prevalent in animals with kidney disease, due to calcium/phosphorus imbalances. In geriatric pets ongoing medical therapy is usually required. Can develop clefts which become infected, leading to a deep piece of degenerated cornea dislodging and deep corneal ulceration. Intensive medical therapy and/or or required to surgery to save the eye. Early referral recommended for corneal burring and medical therapy.

*Pictured below: various forms of lipid degeneration with varying degrees of calcification*



### ***Diffuse degeneration***

#### **Corneal endothelial degeneration:**

can be inherited or secondary to trauma. Loss of endothelial cells responsible for actively pumping fluid out of the corneal stroma results in “water-logging” of the cornea (corneal oedema). Treatment with topical sodium chloride drops or ointment may be effective. In severe cases, surgery may be required. Differentials for corneal oedema also include uveitis, glaucoma and corneal ulceration.



#### ***Scarring/corneal fibrosis***

- Often secondary to chronic corneal irritation or ulceration
- Non-painful, fluorescein negative
- Treatment not always required, however, some medications that can be used to reduce corneal scarring include Tacrolimus, Maxidex or Voltaren eye drops. Topical steroids and non-steroidals should be used with caution and are contraindicated if corneal ulceration is present.

Our referral sheet can be downloaded from:

<http://www.melbourneeyevet.com.au/veterinary-referral.html>