



# COMMON SMALL ANIMAL CORNEAL DISEASES

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**C**orneal disease represents potentially the most common ophthalmic presentation in general practice.

**Corneal dystrophy** describes a group of disorders, likely hereditary in etiology, resulting from an accumulation of cholesterol, phospholipids & free fatty acids. Lesions appear as grey/white, crystalline, relucencies within the stroma. This disorder is typically bilateral in presentation and inflammatory changes are not usually present. Multiple patterns of corneal dystrophy have been described. Treatment is not typically necessary. Commonly affected breeds include the King Charles Cavalier Spaniel, Siberian Husky & Beagle.

**Corneal degeneration** represents corneal pathology secondary to ocular inflammation. Degenerative changes appear as irregular, asymmetric grey/white deposits within the cornea. Lesions may be unilateral or bilateral and are typically associated with neovascularization. Mineralized tissue may spontaneously slough, particularly in geriatric patients. Deposits may be removed where indicated via keratectomy. Exposed mineral may also be partially chelated using topical EDTA solution until re-epithelialization is complete.

**Corneal endothelial decompensation** represents a progressive loss of corneal endothelial cell function & density and results in slowly progressive corneal edema, marked by blue/grey discoloration & thickening. The disease is bilateral though not always symmetrical. Commonly affected breeds include the Boston Terrier & the Dachshund. When indicated, definitive surgical treatment includes limited thermo or CO<sub>2</sub> laser keratoplasty, the placement of a “Gundersen” conjunctival pedicle graft or penetrating keratoplasty.

**Chronic superficial keratitis** (“pannus”) describes a bilateral inflammatory condition, which predominantly affects the corneal tissues. Changes encompass vascular proliferation, inflammatory cell infiltration & secondary pigment deposition. Adjacent eyelid margin, conjunctival and third eyelid inflammation are frequently associated with this process. Commonly affected breeds include the German Shepherd & Belgian Malinois. Inflammatory changes typically respond to topical anti-inflammatory therapy using corticosteroids (+/- topical immune-suppressive agents including cyclosporine &/or tacrolimus). CSK is easily controlled in most cases, however ongoing topical therapy is typically required in order to prevent a recurrence of symptoms. In unusually severe & chronic cases, surgical superficial keratectomy +/- the use of adjunctive B-radiation may be indicated.



Feline corneal sequestrum



Chronic superficial keratitis (pannus)