

EYELID ABNORMALITIES

UPPER AND LOWER EYELID

The upper and lower eyelids have many functions. They protect the clear outer portion of the eye (*cornea*) and the eye itself from trauma and/or drying out. They spread the tears (*tear film*) across the cornea. They produce portions of the tear film from glands along the eyelid margin and from cells in the folds of the eyelids. They determine the shape and size of the eyelid openings. They keep out excessive light. Finally, they pump the tears out through the tear drainage system (*nasolacrimal system*). Additionally, the third eyelid helps to spread the tear film in addition to producing from 30 to 60% of the watery portion of the tears.

The eyelids of dogs and cats open between 10 and 14 days of age. If the eyelids open too early, tear production is not present and signs of dry eye (*Keratoconjunctivitis sicca*) may occur unless ointments are applied 3 to 4 times daily until tear production begins.

A condition known as **conjunctivitis neonatorum** occurs when bacteria or viruses enter the eye through the eyelids that are closed following the birth of dogs and cats. Corneal rupture and chronic scarring of the eye will occur unless the eyelids are opened and the eyes are treated with appropriate medications. In kittens, conjunctivitis neonatorum is due to herpesvirus infection. These kittens will benefit from appropriate antiviral medication. *Medications containing cortisone should not be used.*

A lack of portions of the eyelid occurs in cats and is known as **eyelid agenesis** or **coloboma**. This condition is seen in the lateral portion of the upper eyelid. This condition will lead to scarring and vascularization of the cornea because tears are not dispersed normally and because hairs on the remainder of the eyelid or the “eyebrow” will rub the cornea. Surgery is necessary to correct this condition.

An abnormality known as **dermoid** may occur along the conjunctiva or sclera (white of the eye), on the upper eyelid, or along the lateral eyelid opening. Dermoids are normal skin tissue at an abnormal position. Depending on the size and location, these growths may be left alone [if they are causing no problems] or removed with surgery.

Eyelash disease is actually a group of conditions that cause eye injury from hairs that irritate the eye. **Trichiasis** is a condition of normal hairs directed abnormally and irritating the globe. Examples of this would be very long facial hairs or nasal folds in brachycephalic (short-nosed) dogs. Also tiny hairs at the nose side of the eye can act as a wick and cause tear spilling in Miniature Poodles, dogs, and cats with short noses. **Distichiasis** is the condition of a single eyelash coming out of an abnormal position from the glands that are located along the eyelid edge. **Ectopic cilia** are abnormal hairs that exit a hair follicle on the inside of the eyelid. Ectopic cilia are very painful. The successful elimination of the offending hairs will require surgical removal and freezing of the affected hair follicles.

Excessive facial folds are seen in the newborn Shar Pei and Mastiff puppies at the time of eyelid opening. When irritation occurs, the puppies retract their eyes to try to resolve the irritation. This worsens the condition because more hairs begin to rub the eye and corneal ulcers or scar tissue can develop. The most common treatment is the use of “**temporary tacking sutures**” or “staples” to hold the eyelids away from the cornea to prevent damage. Within a few days, the irritation resolves and the puppy stops retracting the eye. In some cases this will resolve the problem entirely. Other cases result in entropion and further surgery is needed.

Lagophthalmos means ‘rabbit eye’ and is commonly seen in the Pekingese, Pug, Boston Terrier, Lhasa Apso, Japanese Chin, Dandy Dinmont, and Shih Tzu dog breeds, as well as in Persian, Abyssinian, Exotic Shorthair, and Himalayan cat breeds. Even though these animals may not exhibit

any signs of eye problems for years, pigmentation will start to grow on the cornea at the nose side of the eye and will increase over time. **Early use of lubricating eye ointments may help lessen damage to the eye.** A very common complication of this condition occurs when the patient develops a corneal ulcer in the center of the eye. Lagophthalmos usually requires surgery to prevent further damage that can cause the eye to rupture.

Entropion (rolling in of the eyelids) and **ectropion** (rolling out of the eyelids) are conditions caused by abnormal eyelid position in relation to the globe itself. If the patient has heavy facial features, they will probably have ectropion. The ectropion will usually only require surgical correction if it causes exposure problems. If the eye size is relatively small for the size of the orbit, entropion will result. Entropion will often cause abrasions of the cornea and/or irritation of the conjunctiva. This is very painful and almost always requires correctional surgery. Entropion or ectropion may occur due to scarring from previous injury or surgery.

Acquired conditions include:

1) Eyelid neoplasm (cancer). Research has shown that in dogs, approximately 75% are benign (do not spread). That does mean that 25% are malignant (do spread) and therefore, all removed masses should be submitted for pathologic examination. In cats, the ratio of benign to malignant tumors is exactly reversed so that 75% are malignant.

2) Chalazia are firm, swollen masses that are well localized. They are removed surgically and histopathology should rule-out the possibility of neoplasm (cancer).

3) Eyelid lacerations are injuries that should be sutured as soon as the patient's stability permits.

4) Facial nerve palsy (paralysis of eyelids) is commonly seen in patients with chronic ear infections [American Cocker Spaniels]. Because of the paralysis of the muscle that circles the eye, the eyelids cannot blink and the cornea will dry out due to an uneven spreading of the tears. This drying can lead to ulcers, excessive pigmentation, infection and even globe rupture. Medication alone may help relieve this condition; however, surgery may be necessary in order to save the eye! In some cases, acupuncture may help the patient begin to blink again.

5) Blepharitis is eyelid inflammation. This condition is often seen as enlargements of the glands of the eyelids that will appear as small abscesses on the globe surface of the eyelid. Gland contents may be expressed by the veterinarian, and the contents may be cultured. Treatment may involve broad-spectrum antibiotics and cortisone given by mouth, topically applied antibiotics, and warm, moist compresses.

THIRD EYELID OF 'HAW'

The gland of the third eyelid may become prolapsed. The exposure to the air will cause the gland to become red; this condition is often referred to as "**cherry eye**". Because the gland produces 30 to 60% of the tears, it should not be removed. Surgery should be performed to replace the gland and thus preserve its function.

Occasionally in young patients, the third eyelid will become folded causing a "funny" look to the eye (averted third eyelid). This folding often leads to excessive tearing. This aversion is irritating to the patient and should be corrected surgically.

As with the eyelids, lacerations and neoplasms may occur to the third eyelid. They should be treated the same as similar conditions of the upper and lower eyelids.

Eyelid conditions are often irritating to our pets. With proper treatment, surgery, and medication, progression of the condition can be prevented. If you have any questions, do not hesitate to ask any of us at Veterinary Ophthalmology Services for advice.