



Corneal Ulcer in Dog and Cats (Ulcerative Keratitis)

A **corneal ulcer**, or, is an inflammatory condition of the cornea involving loss of its outer layer. It is very common in dogs and is sometimes seen in cats.

The clear outer capsule of your pet's eye is called the cornea. Corneal cells are the only cells in the body that are transparent.

Instead of being nourished by blood vesicles, the clear cornea is bathed in a nourishing protective liquid, the tears. Because of its delicate nature, and its position on the outermost edge of the eye, your pet's cornea is subject to scratches, scrapes and ulceration.

When the scrape or scratch is shallow, the cornea heal very rapidly. These shallow scrapes and scratches are most common in young active animals.

But older dogs and Persian cats are more subject to slower-healing erosions of the cornea called ulcers. The most common cause of these ulcers is a lack of protective tears - but they can also be due to bacterial and fungal infection. Adult cats also develop these ulcers due to infection with feline herpesvirus-1. Left untreated, corneal ulcers can develop serious complications that can destroy vision.

Ulcers of the cornea may be shallow or deep. They result from everything from pawing to bee stings, the scratch of a thorn or an infectious bacteria. Once the outermost layer of the cornea has been torn, the area becomes irritated and painful. This causes the pet to squint and the eye to tear. We call this reflex blepharospasm.

Corneal ulcers are quite painful and they itch. In response, your pet will rub the affected eye causing the problem to become worse. A discharge may accumulate in the corner of the eye nearest the nose and the blood vesicles of the white of the eye (sclera) enlarge with blood. If the damaging object is no longer in the eye and the ulcer is not deep it will heal.

However if an infection is present, the ulcer may progress to affect the deeper layers of the cornea. Once much of the cornea has been eroded away a bulge may form similar to a sidewall blowout on a

tire. Such a bulge is called a **descemetocele**. If a descemetocele bursts, the anterior portion of the eye will collapse and the contents will spill out destroying the eye. This is why all corneal ulcers need to be observed closely and frequently by your veterinarian.

Large, corneal abrasion, and ulcers causes the entire cornea to swell with fluid (edema) and the cornea to turn white in color. If the eye is normal, within a few days tiny blood vessels will form in the cornea to aid in the healing process.

Corneal ulcers are graded according to their depth. If only the outer layer is lost the lesion is called a superficial corneal ulcer. When more than one half the thickness of the cornea is lost it is called a deep corneal ulcer. Superficial ulcers in health eyes heal in a matter of days. Deep ulcers may take several weeks to heal. Deep ulcers require new blood vesicles to grow into the area. They may also leave a corneal scar. When there are underlying causes for the ulcer, some refuse to heal or heal only to re-ulcerate again.

Symptoms:

- Squinting
- Redness
- Increased tearing
- Cloudiness of the cornea
- Yellow or green color discharge (mucus or pus) from the eye
- Inflamed, red conjunctiva, which is the pink colored tissue around the cornea and the lining of the pet's eye lids.
- Rubbing excessively at the eye
- Occasional lethargy
- Pawing at the infected eye
- Change in normal behavior

How Do We Diagnose Corneal Ulcers?

- Fluorescein Dye: Fluorescein dye strips are used to detect and demonstrate that there is a tear or abrasion on the surface of the cornea.
- Shirmer Tear Test: A second test used to evaluate the eye is the Shirmer tear test (STT). This test measures the amount of tears present in the eye. One cause of corneal ulcers is a lack of adequate tear flow.
- Intra-ocular Pressure: If I suspect that the pressure in the eye is too high (**glaucoma**) and that this increased pressure and distortion of the shape of the eye is the underlying cause of the ulceration I perform another test. For this test I use a Tono-Vet, **Tonometer**, an instrument that measures pressure within the eye. Ulcers due to increased intraocular pressure require a different course of treatment.

Corneal Ulcers Due To Accidents:

Scraping and puncture wounds of the eye are the most common cause of corneal ulcers in dogs. Cats are less likely to poke their eyes with blunt or sharp objects or to damage the cornea with their claws while scratching. These ulcers are often linear or oblong in shape. If they are not deep they tend to heal quite rapidly.

Corneal Ulcers Due To Eye Conformation:

Dogs and cats with bulging eyes are more susceptible to corneal ulcers. This is because bulging eyes are more likely to be scraped and scratched. Misplaced eyelashes (dystrichiasis) and eyelids that curl inwardly (**entropion**) or outwardly (**ectropion**) can also cause corneal ulcers. Shar pei and Chow Chows commonly suffer from entropion. Hound breeds are prone to ectropion.

Corneal Ulcers Due To Dry Eyes:

The film of tears over protruding eyes often does not reach the center. Dryness of the eye is sufficient to cause ulceration. Other pets are born with deficient tear production. Tear flow over the eye can be increased using cyclosporin ophthalmic drops or corrective surgery. The use of antibiotics of the sulfa class has also been associated with dry eye syndrome. The medical term for dry eye is **keratoconjunctivitis sicca (KCS)**.

Treatment of Corneal Ulcers

- The treatment of corneal ulcer to ensure pet health can only be determined by the vet upon proper diagnosis. The treatment usually consists of an eye drop for alleviation of pain, and an antibiotic eye cream/ointment that must be applied 4-6 times each day.
- An e-collar or a lamp shade shaped collar is a good pet health care precaution and prevents the pet from pawing his infected eye.

Corneal ulcers in cats

Corneal ulcers in cats can be caused by trauma, detergent burns, infections, and other eye diseases. One common cause not seen in dogs is infection with feline herpesvirus 1 (FHV-1). The rhinotracheitis or herpes-1 virus can form a carrier state in the eyes of cats causing periodic corneal ulcers. These ulcers come and go with stress. FHV-1 causes ulceration by direct infection of the epithelial cells. Lesions appear as round or dendritic (branching) ulcers. FHV-1 also suppresses healing of the cornea. Symptoms include conjunctivitis, squinting, eye discharge, and blood vessels on the cornea. It can cause severe scarring. Treatment is with topical antiviral drugs and antibiotics, and oral L-lysine, which competes with arginine and inhibits viral replication

If you have any questions please feel free to contact us using the information below.

Thank You,



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