

Corneal Ulceration

- The cornea is the clear covering of cells on the front of the eye; it can become damaged if scratched or irritated.
- Corneal ulcers can be very painful and can cause eye redness, tearing, and squinting.
- Corneal ulceration is a common eye condition of dogs and cats.
- If corneal ulceration is not treated quickly and appropriately, the pet could become blind.

What Is a Corneal Ulcer?

The cornea is the thin, transparent covering of cells on the front of the eye. The cells that make up the cornea are very fragile, so anything that rubs, scrapes, or irritates the eye can damage this thin layer of cells or rub some of them off. This is called a *corneal ulcer*. Corneal ulceration can occur if the eye is irritated by chemicals, dust, or inadequate tear production. Trauma, such as scratching, can also cause a corneal ulcer.

Entropion is a medical condition in which the pet's eyelids roll inward and the eyelashes or other hairs (which are normally on the outside of the eyelid) are pulled underneath, where they can scrape against the cornea. This can lead to corneal ulceration.

Tears are a natural lubricant for the eye. When the eye doesn't produce enough tears, the cornea can become irritated and, eventually, a corneal ulcer can form. This condition is commonly called *dry eye*, but the medical term is *keratoconjunctivitis sicca* (KCS). In addition, some viral infections, such as feline herpesvirus infection, can cause corneal irritation and ulceration.

There are two types of ulcerations: *superficial*, which affects only a small amount of the top layer of the cornea, and *deep*, which extends through the layers of the cornea and can result in severe scarring and even eye rupture.

Most cases of corneal ulceration heal without complication when treated promptly. If treatment is delayed, bacteria and other pathogens, such as viruses

and fungi, get an opportunity to cause infection, which can further complicate the condition. Without proper treatment, or with severe injury, corneal damage can lead to blindness. If the eye is severely damaged, surgical removal of the eye may be recommended to prevent the pet from suffering with constant pain and infection.

What Are the Signs of Corneal Ulceration?

Corneal ulcers are extremely painful. Animals with this condition may squint, rub their eyes, or tear excessively. Sometimes, a thick mucous discharge can develop. Clinical signs of corneal ulceration also include the following:

- Closed eyelids
- Tearing, swelling, redness of the eyes
- Conjunctivitis (inflammation of the membranes lining the eye)
- Sensitivity to light

Diagnosis

Diagnosis of corneal ulceration includes a physical examination to look for evidence of illness or trauma that may contribute to corneal damage. Your veterinarian will also examine your pet's eye to determine the extent of the eye problem. For pets that are in a

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lot of pain, your veterinarian may first apply a few drops of a sterile topical anesthetic to your pet's eye. This solution will make the surface of the eye numb, so a full examination can be completed without causing pain.

Many veterinarians use a sterile dye called *fluorescein* to diagnose a corneal ulcer. Although

Common Conditions

it sounds painful, staining the eye is painless and quick. Fluorescein is a greenish-yellow dye that does not stick to the surface of an intact cornea but does stick to the underlying layers of the cornea if they are exposed (as with a corneal ulcer). Fluorescein may be applied as an eyedrop solution. It is also available as a dry coating on a tiny strip of sterile paper. Your veterinarian can gently touch the eye surface with the sterile strip to apply the fluorescein stain.

Once the eye has been stained, the veterinarian generally examines the eye in a darkened room using a handheld ultraviolet light. If the cornea is damaged, the dye will stick to the damaged area. Under the ultraviolet light, the corneal injury will appear as a bright green–yellow area.

If corneal ulceration is suspected to be caused by another problem, such as KCS, additional diagnostic testing may be recommended to learn more about the pet's underlying problem.

Treatment

Most corneal ulcers respond well to specially formulated antibiotic eye drops or ointment applied directly to the patient's eye. If the underlying problem is dry eye (KCS), additional therapy can be initiated to help improve the condition. If the underlying cause is entropion, surgical correction may be recommended.

If the corneal ulcer is very deep or very large, other measures may be recommended, including an eye patch or surgery to temporarily cover (and protect) the surface of the cornea.