

# Your Pet's Eye Discomfort Could Become Critical Overnight – Know the Signs

Ranges from mild to severe, to true medical emergency. And this rubbing is just one of the symptoms. Sadly, it can deteriorate shockingly fast, sometimes even within 24 hours. Learn the telltale signals so you can address it quickly. And grab these dos and don'ts of treatment.

Reviewed by [Dr. Becker](#)

## STORY AT-A-GLANCE

- Corneal ulcers are wounds to the cornea of your pet's eye that are typically caused by an abrasion, scratch, puncture or other trauma; they are common in dogs and cats, and can cause a great deal of irritation and discomfort for your pet
- Symptoms include excessive tearing, squinting, pawing at the eye, light sensitivity and an abnormal appearance
- Treatment of corneal ulcers often depends on the cause and severity of the injury, and in most cases, it should NOT involve oral antibiotics, topical corticosteroids or topical anesthetic eye drops
- Ulcers that take a long time to heal can often be effectively treated with eye drops made from the patient's own serum
- Natural eye drops and other natural remedies plus an antioxidant-rich diet can also be very beneficial in both healing corneal ulcers and preventing their recurrence

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The cornea is the outermost covering or layer of the eye. All the other parts of the eye, including the iris and pupil, lie behind the cornea. The cornea is transparent (clear) and lets light into the eye. It also serves as a barrier to protect the inside of the eye from bacteria, chemicals and foreign objects — basically anything that could cause damage and interfere with vision.

The cornea is actually comprised of four layers: the epithelium, which is the outermost layer; the basement membrane, which is the layer just below the epithelium; the stroma, which is below the epithelium and comprises the thickest layer of the cornea; and the Descemet membrane, which is the innermost layer. Corneal ulcers are more common in dogs, but kitties can develop them as well. Certain pets, like those with flat faces (brachycephalic breeds), are more prone to corneal ulcers.

## Causes of Corneal Ulcers

Corneal ulcers are wounds to the cornea that are typically caused by an abrasion, scratch, puncture or other trauma to the eye. Other causes can include:

- Foreign body in the eye
- Inability to completely close the eyelids
- Chemical burn
- Entropion (the eyelid rolls inward)
- Infection
- Disease
- Lack of adequate tears (Keratoconjunctivitis sicca or KCS)
- Facial nerve paralysis, which can cause abnormal blinking

Corneal ulcers, sometimes called ulcerative keratitis, are a common eye injury in dogs and cats, and they can cause a great deal of irritation and discomfort for your pet. An ulcer can involve one layer or up to all four layers of the cornea. A mild or superficial ulcer involves just the outer layer, the epithelium. Ulcers are considered severe or deep when they also impact the middle and innermost layers of the cornea.

Superficial ulcers result in loss of part of the epithelium. Deeper ulcers involve the stroma and can cause significant scarring and perforation of the cornea. When an ulcer extends through the stroma all the way to the Descemet membrane, which is a condition known as Descemetocoeles, it can result in a perforation. This is a medical emergency and you should get your pet to a veterinarian right away.

The location of a corneal ulcer depends, to some extent, on what's causing it. An ulcer caused by trauma to the eye, dry eyes, bulging eyes or a paralyzed facial nerve are most often located in the center of the cornea. If there is foreign matter trapped beneath the third eyelid, the corneal ulcer is usually seen toward the inside of the eye near the nose.

If there is entropion or an unruly eyelash rubbing against the eye, the ulcer will often be seen in the peripheral cornea. An immune-mediated disease of the eye can cause ulcers at the borders of the cornea.

## Symptoms to Watch For

When the cornea is injured, sensitive nerves in the eye are exposed, which is very painful for your pet. You may notice she has more tearing than normal or even a constantly runny eye. She may squint or paw at the eye, or run her face along the couch or floor in an effort to alleviate the irritation. There can also be sensitivity to light, a noticeable film over the eye, discharge or a red, inflamed, painful appearance. Your pet may also try to keep the painful eye closed.

## Diagnosing Corneal Ulcers

Diagnosing a pet's corneal ulcer involves a thorough examination of the eye and cornea, and direct observation of the ulcer using a diagnostic stain. The stain or dye will allow your veterinarian or a veterinary ophthalmologist to see erosions, ulcers or other injuries to the cornea. It will also indicate how deep the ulcer is into the layers of the cornea. Staining the eye also helps rule out other eye conditions with similar symptoms to those seen with corneal ulcers.

Other tests can include a dry eye test, analysis of facial nerve function and cultures to look for bacteria or fungi. In rare instances, your veterinarian may want to do a blood test to check for the presence of a viral infection or a systemic metabolic disorder that could be affecting the eyes. Most veterinarians have extensive experience treating mild corneal

ulcers. But if the damage to the eye is significant, many veterinarians will refer the patient to a veterinary ophthalmologist for specialized care.

## Treatment Options

Treatment of a corneal ulcer will depend to some extent on what caused the injury. Underlying conditions like dry eye and infection or disease need to be treated along with the corneal injury to prevent a recurrence of the ulcer.

Conventional treatment can include topical antimicrobial therapy, topical eye lubricants, eye medications and drugs to control pain and eye muscle spasms.

Ineffective, counterproductive treatments in the vast majority of cases include oral antibiotics, because they can't be absorbed at a high enough concentration in the cornea to effectively treat or prevent infection. Topical corticosteroids (prednisone or a derivative) and topical anesthetic eye drops should also be avoided with an open ulcer, because they can prevent healing and often make the ulcer worse.

Superficial ulcers can usually be healed in a week or less. During treatment, your pet may need to wear an E-collar to keep his paws away from his eyes. Deeper, more serious ulcers may require sutures, a conjunctival graft or flap or a keratotomy, which promotes new cell growth in the eye. In very rare instances, a corneal transplant is performed.

There's a type of corneal ulcer called a melting ulcer in which the stroma layer progressively dissolves. It is most often seen in pets with a bacterial or fungal infection that produces enzymes that break down the corneal stroma very rapidly. In fact, complete loss of the stroma can occur in as little as 24 hours. Treatment needs to be aggressive, and includes powerful antimicrobials and drugs to inhibit the action of the destructive enzymes, and in some cases, surgery to slow or stop the progression of the ulcer.

There are also corneal ulcers known as indolent ulcers or Boxer ulcers. These are superficial, shallow ulcers that don't heal well and tend to recur. They may be caused by an abnormality in the basement membrane of the cornea. They weaken the epithelium surrounding them, which can be easily peeled back.

Refractory corneal ulcers are usually seen in middle-aged and older dogs and tend to develop in both eyes, but at different times. They are seen in a wide variety of breeds. These ulcers can take months to heal, which can be difficult and frustrating for the dog, the pet parent and the vet treating the condition.

Topical and pain medications are given as needed. Another topical treatment that can be beneficial in treating long-standing ulcers are eye drops made from the patient's own serum. Many integrative veterinarians find the drops work better than the drugs often prescribed for these types of ulcers.

There are also some natural eye drops that can be very beneficial at rapidly stimulating epithelial cell growth, including drops containing glycosaminoglycans such as chondroitin sulfate, N-acetylcysteine and aminocaproic acid solutions formulated specifically for the eye.

Feeding pets with chronic ulcers an antioxidant-rich diet is also recommended, including foods naturally high in vitamin E, beta-carotene, selenium and omega-3 fatty acids. Integrative veterinarians can also suggest helpful Chinese herbs and a wide variety of nutraceuticals that are beneficial for eye health. These natural remedies can help ulcers heal, and also discourage recurrence.