

Stromal Corneal Ulcer FAQs

UTCVM OPHTHALMOLOGY

What is a corneal ulcer?

A corneal ulcer, sometimes called a corneal scratch, is caused by the loss of a portion of the cornea. This may be just the top layer (epithelium) which is referred to as a superficial corneal ulcer or deeper into the second layer (stroma) which is referred to as a deep or stromal corneal ulcer.

How is a corneal ulcer diagnosed?

A special dye called fluorescein stain highlights the loss of epithelium. Positive dye uptake on the cornea indicates a corneal ulcer is present. Pets with a corneal ulcer are often uncomfortable and show signs of tearing, squinting, rubbing, and redness to the eye.

How long should it take for the corneal ulcer to heal?

In the case of a simple, superficial corneal ulcer, the ulcer should heal within 5-7 days, and sometimes will heal sooner. If the ulcer is not healed in 7 days it is considered complicated, indicating there is an underlying condition preventing it from healing (dry eye, abnormal hairs touching the cornea, etc.), infection has occurred, or the ulcer is indolent (special type of superficial ulcer).

What is an infected corneal ulcer?

The majority of deep or stromal ulcers are infected. Bacteria produce degrading enzymes that break down and “eat” the corneal structure. This results in the loss of the cornea, which can occur quickly in many cases (over several hours or days). If a majority of the corneal thickness is lost there is a high risk of rupture of the eye. When the cornea is severely infected, the inside of the eye responds by becoming very inflamed, called uveitis. The inflammation is directly correlated to the severity of the corneal disease.

How are infected corneal ulcers treated differently?

The treatment of infected or stromal ulcers depends on the depth. Intensive antibiotic and serum treatment is prescribed following diagnosis of an infected corneal ulcer (often every 1-2 hours at first). The frequency of treatment (instillation of eye drops) is only reduced after the infection is stabilized. Other frequently prescribed medications can include pain medications and anti-inflammatories. If prescribed, please leave the E-collar (Elizabethan collar or hard plastic cone) in place at all times to prevent self-trauma; especially because infected ulcers are at risk of rupture if self-traumatized. Medical treatment can take anywhere from 3-8 weeks to heal completely.



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When is surgery indicated?

Surgery is often recommended for stromal ulcers greater than 80% depth, descemetocoeles, ulcers that are rapidly progressing despite treatment, or ulcers that are “melting”. The goal of surgery is to stabilize the ulcer, prevent rupture of the eye, and save vision. Some pets that have already ruptured their eye are also candidates for surgery. Surgery can shorten the time frame of treatment and give a more predictable outcome in some cases.

How do I know if my pet’s eye ruptures and what do I do?

To try and prevent rupture of an eye with a deep or infected ulcer it is important to keep your pet quiet and not put pressure on the eye or the neck. To accomplish this we recommend use of an E-collar to prevent self-trauma, leash walks only, no playing with animals or toys, use of a harness instead of a collar, and using great care when applying eye medications and cleaning around the eye. Only put pressure on the bones around the eye and never on the eye/globe itself when opening the eye. Tilt the nose up to the ceiling and pull the upper lid back slightly for easier application of medications.

Monitor for signs of rupture including blood or excess fluid running from the eye, a yelp or scream from your pet, and/or sudden unwillingness to open the eye. Additional concerns include increased cloudiness, yellow/green discharge, redness or changes in vision. Please call your veterinary professional if you are concerned for a corneal rupture as this may warrant an emergency visit or change in medications.