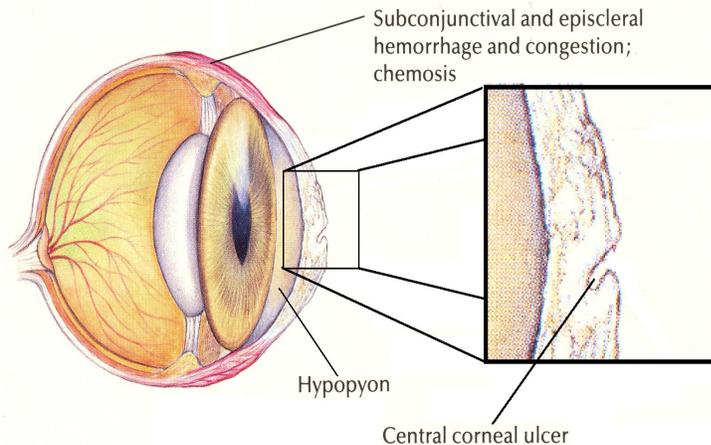
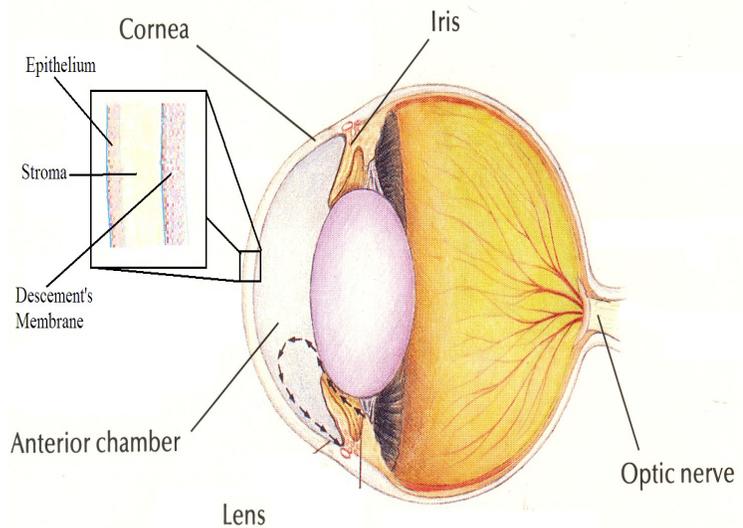


WHAT IS A CORNEAL ULCER?

The cornea is the clear, shiny membrane, which makes up the surface of the eyeball. It is much like a clear window. To understand a corneal ulcer, you must first understand how the cornea is constructed.

The cornea is comprised of three layers. The most superficial layer is the epithelium. Actually, this layer is comprised of many, very thin layers of cells. Below the epithelium is the stroma, and the deepest layer is Descemet's membrane. Because all of these layers are clear, it is not possible to see them without special stains and a microscope.



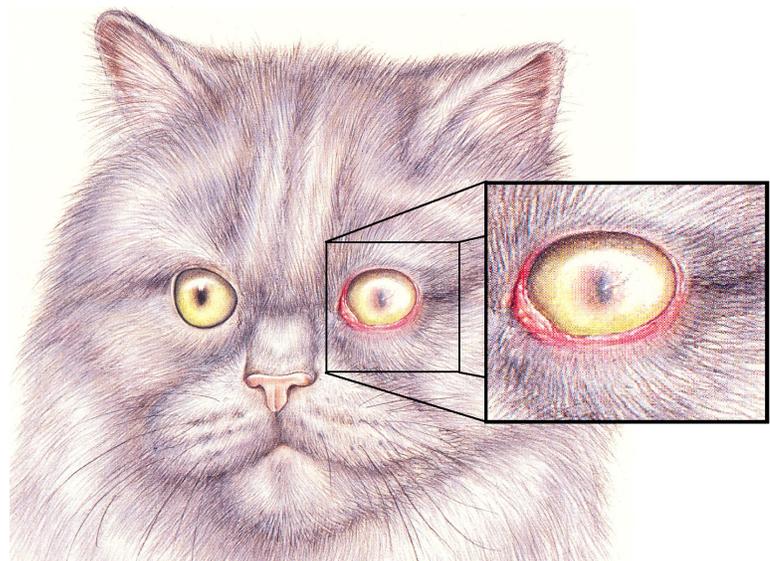
An erosion through a few layers of the epithelium is called a *corneal erosion* or a *corneal abrasion*. A *corneal ulcer* is an erosion through the entire epithelium and into the stroma. If the erosion goes through the epithelium and stroma to the level of Descemet's membrane, a *descemetocele* exists. If Descemet's membrane ruptures, the liquid inside the eyeball leaks out and the eye collapses.

How does a corneal ulcer occur?

There are several causes for corneal ulcers in dogs and cats.

Trauma (ie scratch), chemical burns (ie. shampoo), infections (ie. bacterial, viral) and others.

Examples of other diseases include Epithelial Dystrophy (a softening of the cornea which is inherited in breeds such as the Boxer), Keratoconjunctivitis Sicca (drying of the cornea due to abnormal tear formation), and diseases of the endocrine system (diabetes mellitus, hyperadrenocorticism & hypothyroidism).



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How does a corneal ulcer affect my pet?

A corneal ulcer is very painful. In response to pain, most pets rub the affected eye with a paw or on the carpet. To protect the eye, they keep the lids tightly closed. Occasionally, there will be a discharge that collects in the corner of the eye or runs down the face.

How is a corneal ulcer diagnosed?

Superficial corneal abrasions are usually not visible. They can be visualized with the use of fluorescein stain. A drop of this stain is placed on the cornea. The dye will adhere to an area of ulceration and is easily visualized with a special black light called a Wood's light. This is the most basic test performed and may be the only test needed if the ulcer is acute and very superficial. If the ulcerated area is chronic or very deep, samples are taken for culture and cell study prior to applying the stain or any other medication.

How is a corneal ulcer treated?

Treatment depends on whether there is a corneal abrasion, corneal ulcer, or descemetocoele present. Corneal abrasions generally heal within 3-5 days. Medication is used to prevent bacterial infections (antibiotic ophthalmic drops or ointment) and to relieve pain (atropine ophthalmic drops or ointment). These medication must be used as prescribed or complications can develop.

If a corneal ulcer or descemetocoele is present, measures must be taken to protect the eye and to promote healing. Since dogs do not wear eye patches well, surgical techniques are often used to close the eyelids and cover the ulcer or descemetocoele. These measures protect the eye for several days, then are reversed so the dog can use the eye again.

Ulcers that do not heal well often have a buildup of dead cells at the ulcer edge. These dead cells prevent normal cells from the corneal surface from sliding over the ulcer edge and filling in the defect. If this appears to be part of the healing problem, the dead cells are removed from the edges of the ulcer before the eyelids are surgically closed. In some cases, removing the dead cells may be all that is needed to start the healing process, so surgical closing of the eyelids may not be necessary.

How do I know when to discontinue medication?

The best way to tell that the cornea has healed is to repeat the fluorescein stain test. This should be done after approximately 5-7 days of treatment.