



## Indolent Corneal Ulcers

A corneal ulcer is a defect in the surface layer of the eye, called the epithelium. In its simplest form, a corneal ulcer can be considered similar to a scrape on your skin. The cornea is densely packed with nerve endings for pain perception thus corneal ulcers can be very painful. As a cornea with an ulcer has lost its normal protective surface layer, the eye becomes at risk for an infection. This is significant as corneal infections are quite serious and can lead to loss of vision and/or the eye.

A normal corneal ulcer should heal within 5-7 days with topical antibiotics and oral antiinflammatories. Characteristics of an indolent ulcer include an ulcer that does not heal within this period of time and may actually increase in size. Oftentimes, indolent ulcers will change shapes over subsequent examinations. This can be misleading as it can mimic early healing. Upon examination of the eye, an indolent ulcer does not have any evidence of infection and no cause can be found which would prevent the ulcer from healing. Indolent ulcers can become chronic and may persist for 6 months or more without specific treatments. Other names for this type of ulcer are 'Boxer Ulcer' (very common in the Boxer breed), refractory ulcer, refractory epithelial erosion, chronic corneal erosion, and spontaneous chronic corneal epithelial defect (SCCED).

An indolent ulcer is felt to be due to an abnormality of one or more of the layers of the cornea, the corneal epithelial basement membrane and/or superficial stroma. For this reason, many affected animals have recurrent indolent ulcers due to the presence of a primary corneal abnormality. These ulcers can form spontaneously without trauma. An injury can certainly be a trigger in some cases.

There are many treatments available for indolent ulcers. Some of these ulcers will respond to corneal debridement and placement of a contact lens on the eye. Although this is the least invasive and least expensive approach, it is only about 50% successful. The procedures associated with the highest success rates for healing are called a keratotomy (grid or punctate) and a keratectomy. The keratotomy has a 95+% success rate for healing of indolent ulcers. It can usually be done with the patient awake and using topical anesthetic. Many patients are given a sedative/analgesic to alleviate both anxiety and pain during the procedure. In some cases, including those that do not respond to the keratotomy, a keratectomy is the ideal option. This surgery is associated with nearly a 100% success rate. The major disadvantages are that it requires general anesthesia and that it is more invasive and expensive than a keratotomy. A diamond burr polishing technique is another highly-effective option for some cases.

Regardless of the procedure chosen in order to get your pet's ulcer to heal, medical therapy will be recommended in order to reduce the risk for development of a secondary infection and to control ocular pain. It is also important that your pet does not rub at the eye, thus you may be provided with a protective Elizabethan collar in order to prevent this problem.

Most dogs will heal well after the keratotomy procedure, but this disease can be frustrating especially in the more stubborn cases. Try to have patience and together we will work to get the ulcer to heal and to get your dog feeling better as soon as possible.



Indolent ulcer before debridement: The ulcer is the small green spot towards the top of the eye as shown with fluorescein staining.



Indolent ulcer after debridement: The ulcer is much larger (as shown with fluorescein staining) due to removal of all non-adherent epithelium.