

**SUPERFICIAL CHRONIC CORNEAL EPITHELIAL DEFECT (SCCED)  
(EPITHELIAL BASEMENT MEMBRANE DYSTROPHY(EBMD) / RECURRING  
EPITHELIAL EROSION / INDOLENT ULCER / BOXER ULCER)**

The cornea is the clear transparent area at the front of the eye. It is approximately half a millimeter thick, and is made up of three main complex layers. There is an outer epithelium, a middle stromal layer and a deep endothelium. In order to remain transparent, the normal cornea contains no blood vessels, but it is richly supplied with nerves.

With SCCED, the ulcer mainly involves the outermost layer, the epithelium. There is a break in the epithelium. Around the edges of this break, the epithelium is poorly adherent to the underlying middle layer (the stroma), and fails to make adequate contact to allow for healing. This is called underrunning of the epithelium. This may be visible with the naked eye, but is seen easily after a green dye called fluorescein is out into your animal's eye.



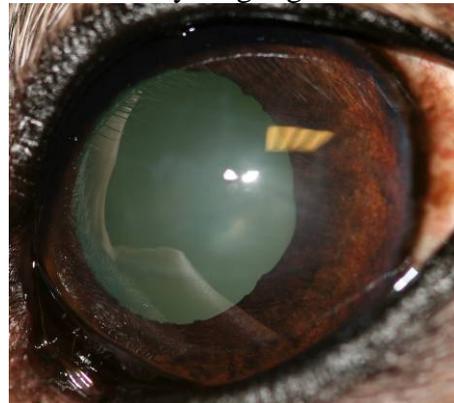
Superficial corneal ulcer



Fluorescein dye highlights the ulcer



Post debridement and grid keratotomy



Healed 2 weeks later



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Ulcers are very painful, therefore your animal may hold the eye shut or squint a lot. There may be a watery or mucous discharge from the eye. Ulcers due to SCCED can remain for many months, therefore early and aggressive treatment is usually undertaken in order to minimise the discomfort your pet experiences.

The epithelium at the edges of the ulcer which is not sticking down is a physical barrier preventing further healthy epithelium from spreading inwards and healing the ulcer. Therefore in order to facilitate healing, this underrun epithelium is removed in a procedure called 'debridement'. This is usually carried out under local anaesthetic, although occasionally an animal must be sedated in order to stay still enough to allow us to do the procedure properly. A cotton bud is used to push the loose flaps of skin away from the ulcer and they are removed. Only non-healthy tissue comes off, leaving a fresh ulcer bed which has a much better chance of healing.

Sometimes debridement is not sufficient to encourage healing and another procedure is required at the same time. A fine needle may be used to make small puncture holes (punctuate keratotomy) or score grid lines (grid keratotomy) into the healthy cornea below. This provided scaffolding for the healing cells, encouraging the new epithelium to stick down rather than develop loose flaps again. A strong-smelling chemical called 'Phenol' is sometimes used to cauterise the edges of the ulcer and again discourage the loose flaps re-occurring.

On the day of debridement, the eye will appear comfortable due to the local anaesthetic applied. Do not be worried if the animal starts squinting again a couple of hours after your visit to the vet. Healing usually stimulates blood vessels to grow across the cornea. This may make the eye appear red and somewhat cloudy. Sometimes the eye looks like there is pink tissue on the front of it. This is exuberant healing, and while it temporarily clouds vision a little, it is a very good sign. Therefore sometime the eye looks worse for a short period after treatment than it did before.

Medication will normally be dispensed, depending on each individual case. Antibiotics may be used to prevent infection, as infection entering an ulcerated eye would be detrimental. Artificial tears may be given to lubricate the eye and provide comfort. A bandage contact lens is sometimes applied.

Ulcers due to SCCED may take time to heal, the worst cases taking several months. Therefore do not be disappointed if your pet needs to undergo debridement a second or third time as this is not unusual. In cases which are not responding, a surgical procedure may be required. This is called a superficial keratectomy, and it is carried out under a general anaesthetic. This procedure involves removing the entire outer epithelium and the most superficial layer of the stroma. Healing is normally rapid.

Early presentation and using the appropriate procedures allow for the quickest possible healing times. Please call if you are worried about the degree of discomfort or the appearance of the eye, as we will be happy to give advice or to arrange to see your pet.