

My horse has a sore eye – now what?

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Horses are very prone to damaging their eyes. The eye position of horses; located on the side of the head and protruding, along with their inquisitive and often flighty nature make them quite susceptible to eye injuries. Sore eyes are true emergencies and it is important to assess and appropriately treat eye conditions quickly.

Corneal ulcers are the most common cause of a painful eye in horses. The cornea is the outer-most layer of the eye and is only 8-10 cells thick. This layer is an important protective barrier for preventing infection of the inner eye and is crucial for vision. It is not only the damage to the cornea which is the issue; but the infection and consequent overzealous immune response in horses which can make the ulcers much worse and also threaten vision long term. Infections are mainly caused by either bacteria and/or fungi. In warm and often humid climates of Australia fungal infections are common.

Corneal ulcers can range from small and superficial to large, deep or melting. The term melting ulcer is when the cornea is very soft and appears to be melting off the surface of the eye. See picture below. Melting ulcers are caused by severe bacterial or fungal infection and uncontrolled inflammation. They can lead to rapid rupture of the eye and need attention ASAP. It is also not uncommon to have foreign objects lacerating or penetrating the cornea. These must be identified and carefully removed.

The term stromal abscess, refers to a localised infection in the deeper layer of the cornea. In the same mechanism as an abscess anywhere else in the body it is when a bacterial or fungal infection is walled off. A stromal abscess is often caused by an initial break in the surface of the cornea, then microorganisms gain entry, and the small ulcer on the surface of the cornea heals over. This traps the bacteria or fungi under the surface, they then proliferate and cause inflammation. Stromal abscesses have a characteristic cream cotton-bud-like appearance and are often associated with intense pain. See picture below.

A unique feature to corneal damage in horses is the consequent uveitis. Uveitis is a term to describe inflammation of the middle layer of tissue within the eye. It has characteristic signs in horses and if left uncontrolled will not only cause intense pain but can lead to blindness. Uveitis develops in horses because the layers of the cornea have many sensitive nerve endings. When these nerve endings are activated or damaged it results in reflex inflammation. Often this reflex inflammation is overzealous. Signs we see in horses with uveitis include a constricted pupil (see picture below), corneal oedema (blue haze to the cornea), squinting, tearing and swelling of the conjunctiva and around the eye. If severe, white cells and other inflammatory products such as fibrin, can accumulate in the front chamber of the eye (anterior chamber). Uveitis is very painful and if left untreated can lead to adhesions (scarring between the cornea, pupil, iris or lens) which can lead to blindness.

Veterinary assessment is imperative in any horse with a sore eye. Horses have very strong eyelids and are great at avoiding having their eyelids pried open. In addition, what may seem like a small defect in the cornea can deteriorate very quickly. A veterinarian will be able to sedate the horse, do nerve blocks and stain the eye to assess the size, severity and depth of the corneal damage. Further tests, such as sampling of the cornea for viewing under the microscope or growing on a culture plate may identify the type of infection (bacteria or fungi) involved and tailor treatment. Sometimes a gentle debridement of the ulcer will also be performed to remove unhealthy tissue and help drugs to penetrate.

The treatment regime prescribed by your veterinarian will depend on the severity of the corneal ulcer, type of suspected infection and patient compliance. All corneal ulcers require topical broad-spectrum antibiotics which come either in ointment or drop form. Ointments (eg/ Triclin) are easier to apply directly to the eye and last longer than drops. In some horses it is next to impossible to get medication in the eye because they often learn quickly what we are trying to do and often they are very painful. In these cases a nifty device called a subpalpebral lavage system, or SPL, is used. The devices are placed by a veterinarian and are essentially an extension set that deposits liquid medication onto the surface of the cornea without having to pry the eye open. See picture below.

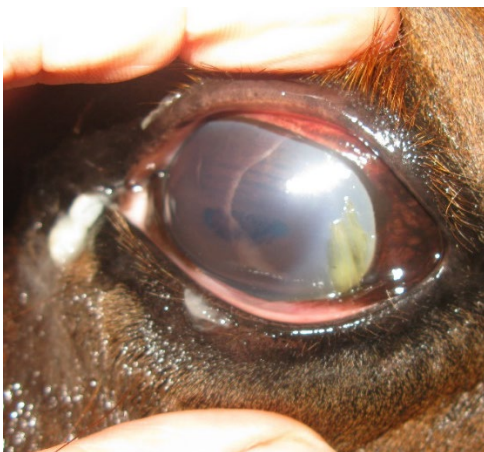
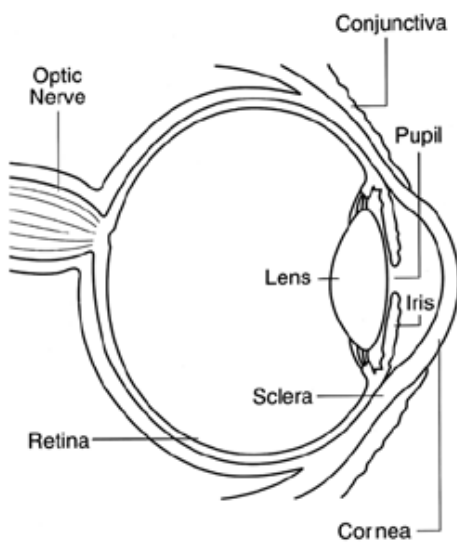
In some cases, particularly if the eye is at risk of rupture, surgery is recommended to provide immediate structural support. This is called a conjunctival graft and will also bring blood vessels to the damaged area. If the deficit is large a conjunctival graft will also hasten healing.

In all cases of corneal damage, a veterinarian will also prescribe medication to manage the uveitis. This will involve topical atropine drops, which will dilate the pupil and non-steroidal anti-inflammatories such as phenylbutazone (Bute), flunixin or firocoxib.

As owners treating eye conditions in horses it is crucial to administer medication as directed by your veterinarian and closely monitor the eye for any changes. If you are unable to get the medication into the eye then an SPL may be required. Also, medications must be kept at room temperature or refrigerated (as directed) and should never be left in a barn or car. They should be kept very clean. Never use medications previously prescribed for humans, cattle or small animals as these sometimes contain corticosteroids and this will likely lead to a fungal infection in horses. As treatment is succeeding the horse should become more comfortable, be able to open their eye more, squint less and have less tearing or discharge. It is also important to monitor the corneal surface and pupil. The blue haze of the cornea should improve, and the pupil become dilated. If the treatments are not resulting in rapid improvement than the horse will remain painful or get worse, the corneal surface may change, and the pupil will remain constricted.

A simple, small, superficial corneal ulcer should heal with topical antibiotics within 5-7days. A deeper or larger ulcer may take much longer and your veterinarian may recommend surgery. In some cases, treatment may be months, especially with stromal abscesses.

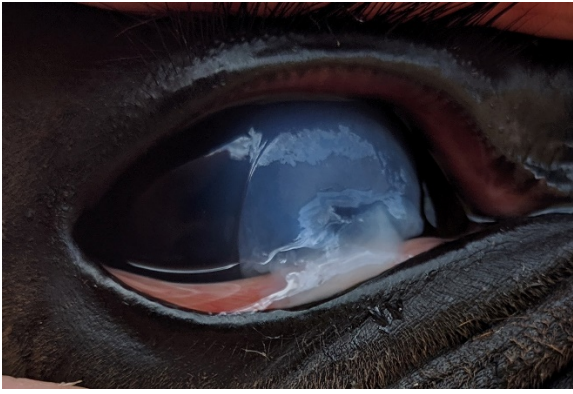
There is no exact recipe to treat corneal disease in horses; it depends on the type, severity and individual horse. If your horse has a sore eye, it is very likely it has corneal damage and your veterinarian should be contacted immediately. If left untreated it can lead to severe pain and even blindness.



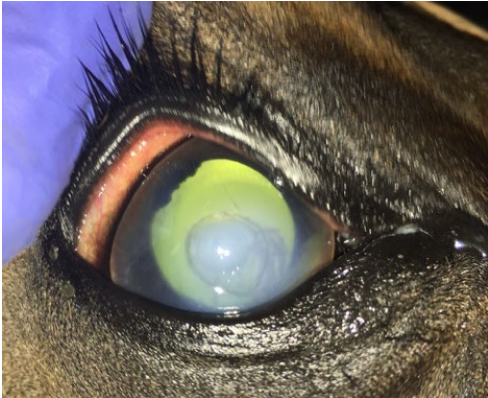
A piece of chaff rubbing the corner of the eye resulting in a corneal ulcer and secondary uveitis (note the constricted pupil)



Piece of chaff after removal



A severe melting corneal ulcer is an absolute emergency



A severe ulcer with controlled uveitis as the pupil is well dilated due to medication.



A stromal abscess – see the cream cotton-bud looking area in the top left. Also note the constricted pupil.



A subpalpebral system – the end of the tubing sits just under the eyelids to directly medicate the cornea. The other end is at the mane and is the area which medications enter.