

# Equine Immune-Mediated Keratitis (IMMK) FAQs

## UTCVM OPHTHALMOLOGY

### What is immune-mediated keratitis (IMMK)?

Keratitis means inflammation of the cornea. The cornea is the clear windshield structure to the eye. The most common causes of keratitis in the horse are infection (viral, bacterial, or fungal) and immune-mediated disease. Immune-mediated keratitis is diagnosed when infectious causes have been ruled out through examination or diagnostics. Some signs of keratitis include cloudiness, swelling, tearing, squinting, and redness.

### What are long term complications of IMMK?

The severity of IMMK is different for each horse. Some have very mild disease leading to mild discharge or cloudiness and the disease never worsens past this stage. However, some can have severe IMMK causing discomfort and visual impairment from corneal scarring. Another possible complication from IMMK is corneal ulcerations secondary to an unhealthy, inflamed cornea. Furthermore, long-term topical steroids can have complications such as corneal infections or corneal mineral deposits that need to be dealt with on a specific individual basis but can lead to loss of vision or the eye.

### How is IMMK treated?

Treatment is focused on reducing inflammation and relieving any discomfort. Topical anti-inflammatories and immune-modulators (such as cyclosporine or tacrolimus) are the most common treatments. But sometimes oral medications to decrease inflammation or immune-mediated reactions (such as antihistamines) can also be tried. Each horse's treatment regimen is very personalized to their clinical signs and a lot of treatment for IMMK is "trial" based.

Some horses have flare-ups of IMMK following stressors such as transportation, deworming, or vaccination and may benefit from "pre-treatment" with a systemic and/or topical anti-inflammatory during these times. A UV protective fly mask is also recommended as UV light may exacerbate immune-mediated ocular disease.

### What is the expected prognosis?

Early intervention is associated with the best prognosis. IMMK is an ocular condition that can be managed but is unlikely to be cured. Thus, lifelong treatment, either persistent or intermittent, may be required to keep clinical signs controlled.



*Immune mediated keratitis is best detected and categorized with the use of a magnified examination of the cornea, such as is happening here with the slit lamp biomicroscope.*

### What are the surgical options for IMMK?

There is minimal research on surgery for IMMK. The few surgeries described include focal keratectomy (removal of a portion of the cornea), stem cell injections, and cyclosporine implants. The goal of surgery is to decrease the number and frequency of medications needed to control the disease, as well as decrease the number of flare-ups. Surgery is not a first line treatment and is reserved for difficult cases. Please speak to your veterinarian about which approach may be best for your horse.

### How do I know if my horse's eye worsens and what do I do?

Signs of a flare-up may be different for every horse but usually include squinting, **increased** cloudiness, or tearing. Please call your veterinary professional if you are concerned your horse is having a flare-up of IMMK.