

Dry Eye

Frequently Asked Questions

Keratoconjunctivitis sicca (KCS) or dry eye describes the changes in the cornea and conjunctiva which result from the lack of normal tear production. The cornea is the clear portion in the front of the eye. Like all living tissue, the cornea requires a supply of oxygen and nutrients for energy. As the cornea has no blood vessels, oxygen and nutrients are supplied through the three-layered tear film. The outermost layer of the tear film is an oily layer supplied by glands in the eyelids and it helps to prevent evaporation. The middle layer is the watery layer produced by the lacrimal gland and the gland of the third eyelid. The innermost layer is in direct contact with the cornea and is a layer of mucous produced by glands located in the conjunctiva. The mucous layer helps the water layer remain attached to the cornea.

KCS is a lack of production of the watery layer (measured by the Schirmer tear test strip) or a lack of the oily and mucous layers (seen on examination post fluorescein application). This loss results in dryness of the corneal surface, which is uncomfortable. When the cornea is deprived of oxygen and nutrients, it rapidly undergoes scarring and vascularization that may lead to partial vision loss.



How is dry eye diagnosed?

Diagnosis of KCS is made by performing a Schirmer tear test to assess the water layer of the tears and by applying an orange dye called fluorescein to indirectly evaluate the oily and mucous layers. The dye is also used to identify any corneal ulcers.

What causes dry eye?

There are several causes of dry eye including immune mediated inflammation of the lacrimal gland, hypothyroidism, and infections of the lacrimal glands. Loss of nerve impulses to the lacrimal gland may also cause dry eye. Another cause of dry eye is a toxic effect produced by some sulfa-containing medications. Some of these medications may have been given for the treatment of other diseases.

How is dry eye treated?

The most important medications in the treatment of dry eye are tacrolimus or cyclosporine. Tacrolimus and cyclosporine medications are tear-stimulating medications and can take up to 6 weeks to cause a positive change. These medications increase natural tear production, decrease inflammation, and lessen irritation to the eye. We may also prescribe other medications to alleviate discomfort while we await the effects of the tear-stimulating medications.

In addition to increasing tear production, other medications such as antibiotics, anti-inflammatories, and artificial tears may be used to provide extra support and lubrication to the eye. The excess mucus buildup around the eye is secondary to the dry eye condition and it is recommended to gently clean this off your pet as needed.

Occasionally patients with loss of nerve impulses are treated with pilocarpine given by mouth. This medication stimulates the lacrimal gland. Unfortunately, pilocarpine may also stimulate glands all over the body causing salivation, vomiting, diarrhea, or decreased appetite.

Unfortunately, some patients do not respond to therapy making other treatments, such as surgery, necessary.

Indolent Ulcers

Frequently Asked Questions

What are the keys to effectively managing dry eye?

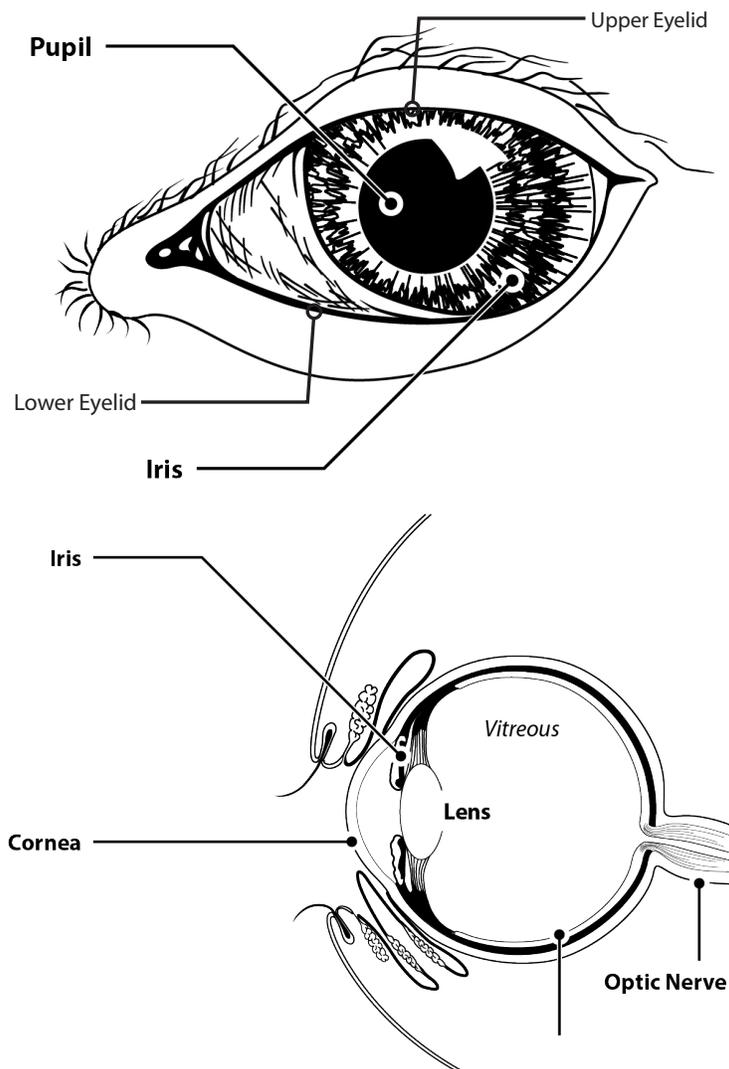
1. Most patients with dry eye will do well if medications are administered on a regular basis. Lifelong medication is often necessary.

In cases where medicines do not work, surgical techniques may be considered.

Cyclosporine implants can be placed around the eye using sedation or general anesthesia.

A **parotid duct transposition** or **PDT** (surgical movement of a duct from a saliva-producing gland) is available. The **PDT** is needed in patients who have had no response to medication. This involves redirecting a salivary duct from the mouth to the eye so that saliva substitutes for tears. The operation is not without problems or future complications and is recommended only after an intense effort has been made to treat the condition with medication alone.

2. Your patience and determination are critical to your pet's comfort because medical attempts to correct the condition may take weeks to months, or may never be entirely successful. Even if normal tear production never returns, you can provide increased comfort to your pet and usually preserve vision.
3. Providing eye lubrication during the treatment period is very important because keeping the eyes moist decreases corneal scarring.
4. After controlled with an antibiotic - Please clean your pet's eyes and face daily with a clean washcloth to prevent buildup.



About VEI

Veterinary Eye Institute (VEI) is the leading veterinarian owned and led network of stand-alone ophthalmology practices dedicated to making the world a visually clear and comfortable place for pets. VEI offers complete medical and surgical eye care for dogs, cats, horses, small mammals, and exotic pets.

To learn more about VEI's services and team or to find a location near you, visit veterinaryeyeinstitute.com.