

Dry Eye Syndrome FAQs

UTCVM OPHTHALMOLOGY

What is dry eye?

Dry eye is either 1) inadequate tear production or 2) poor quality of tears leading to rapid evaporation or insufficient distribution of tears over the cornea. Keratoconjunctivitis sicca (KCS) is the medical term for inadequate tear production, also known as quantitative dry eye.

What are clinical signs of dry eye?

Signs include a red eye, squinting, crusty and/ or mucoid discharge, or a dull appearance. There is a higher tendency for dry eye to occur in small breed, middle to older age dogs, and more often in females than males.

Why are tears important?

Tears provide oxygen and other nutrients to the cornea, rinse the surface of the eye clean, lubricate the eyelid movements, and help prevent infection. Lack of tears can result in severe, sometimes permanent damage to the cornea and even result in blindness.

What causes dry eye in dogs?

The most common cause in dogs (>80%) is immune mediated inflammation of the tear glands. Other possible causes include 1) endocrine disorders (diabetes mellitus, hypothyroidism, Cushing's disease), 2) problem with the nerve pathway for the tear glands, 3) lack of tear glands (born with defect), 4) medication induced (atropine, sulfa antibiotics, sedatives, or anesthetics), and 5) other rare conditions or procedures.

What treatment options are there for dry eye?

Treatment most often includes replacing missing tears and stimulating more of your pet's own tears to be produced. If the underlying cause can be identified, it must also be addressed. The medications used to stimulate tear production are T cell inhibitors (cyclosporine or tacrolimus) which reduce the autoimmune attack on the tear gland and secondary inflammation. These drugs are successful in increasing



Obtaining a Schirmer Tear Test (STT) in a dog to measure tear production

tear production in the majority of patients with immune mediated dry eye. Even if they do not successfully stimulate tear production, they do help decrease inflammation locally and improve clinical signs. Artificial tear supplements are imperative to replace the missing tears until tear production is back to normal. There are various types of artificial tear supplements, but gels and ointments will last longer than water based solutions.

What can I expect after treatment?

Once tear function is restored the health of the eye and corneal transparency will often improve. Some patients have permanent corneal scarring, and the goal is to prevent it from worsening. It can take several weeks to months for the cyclosporine or tacrolimus to reach peak efficacy. Fortunately, most pets can be maintained on 2-3 times daily treatments with cyclosporine or tacrolimus; while treatment with artificial tear supplements are often prescribed more frequently depending on severity. Most commonly dry eye is a chronic disease and requires treatment lifelong.

What if medications are not working; is there a surgical option?

If a pet has failed diligent medical treatment as described above, they continue to have low tear production, and are painful or losing vision then surgical treatment may be an option. Parotid duct transposition (PDT) is a surgical procedure to move the outflow from a salivary gland to the surface of the eye. While dogs that are painful from dry eye do see immediate relief, side effects are very common. Most importantly, surgery does not replace the need for topical medications.



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