



KERATOCONJUNCTIVITIS SICCA

{ KCS OR "DRY-EYE" }

SURGICAL OPTIONS

Surgical options may be considered if there is little or no response to medical therapy. An operation called parotid duct transposition involves redirecting a salivary duct from the mouth to the eye to allow saliva to substitute for tears. Parotid duct transposition is not without complications and is recommended only after an intense effort has been made to treat the condition medically first.

For most KCS patients the disease is treatable but not curable, that is treatment may be required for the life of the patient. However, with dedication of the owner and cooperation with the veterinary ophthalmologist most patients can live a normal life with fully functional vision.

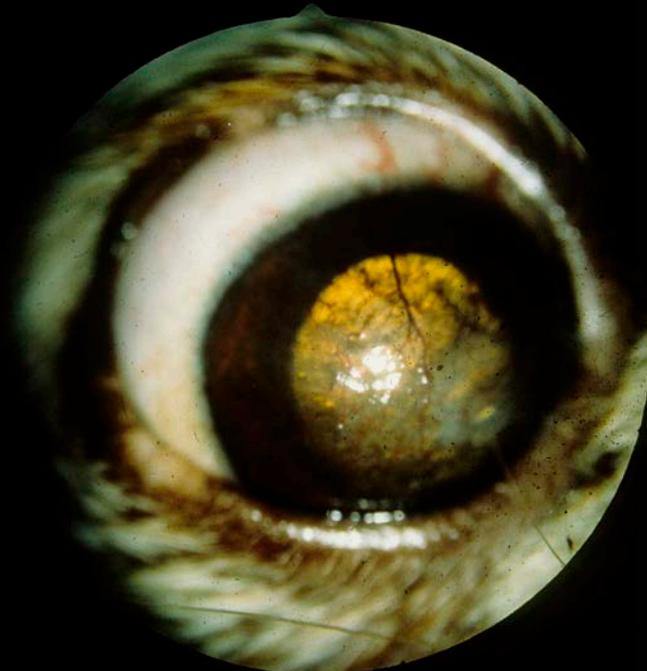
The ACVO® is continually involved in basic and clinical research developing new diagnostic procedures and treatment regimens. The genetics committee of the ACVO® works closely with breeders to better define and help eliminate inherited ocular diseases. The name of a Diplomate closest to you may be obtained from a general practitioner in your area or on-line at:

www.ACVO.org

For information about our free eye exams for Service Animals, visit:

www.ACVOeyeexam.org

**"...that light shall prevail
over darkness..."[®]**



UNDERSTANDING KCS

Keratoconjunctivitis sicca (KCS), commonly known as “dry eye” is a condition where the eye does not produce enough tears. The tear film is critical to preservation of a normal eye and vision. Tears transport nutrients to the cornea and protect the eye from infection.

The normal tear film is composed of three layers. The top layer is an oil layer produced by glands in the eyelids. The oil layer smoothes the tear film and helps prevent evaporation. The layer closest to the eye is a mucus layer produced by glands within the conjunctiva. (The conjunctiva is the pinkish tissue covering the inside of the eyelids and white surface of the eye). The mucus layer holds the tear film to the eye. The middle layer is a saline layer produced by the orbital lacrimal glands and gland of the third eyelid. The saline layer composes more than 90% of the tear film. When the saline layer is deficient, signs of KCS are seen.

In the absence of tears the eye will often appear red, irritated and will have a white to greenish discharge. In early cases the eye may be painful and may develop a corneal ulcer.

Since the cornea obtains most of its nutrition from the tear film, in the absence of tears blood vessels begin to invade the cornea to provide nutrients. Without tears the cornea is irritated. Along with blood vessels invading the cornea, pigment (melanin) will come into the cornea as a protective response. As the absence of tears continues, more blood vessels, pigment and scarring occurs in the cornea causing the

DIAGNOSING KCS

normally clear cornea to become opaque, thus causing vision loss. There are a number of ways to diagnose KCS, but the most common is the Schirmer Tear Test. The test involves using a strip of filter paper placed between the lower eyelid and cornea. The test measures the amount of tear flow during 60 seconds. The test is not painful to the patient. Clinical signs such as redness, irritation, anatomy, breed predisposition, and discharge are also considered in making a KCS diagnosis.

Some breeds have a high incidence of KCS leading one to suspect it may be inherited in these breeds. Although KCS may occur in all breeds, the English Bulldog, Cocker Spaniel,



WHAT CAUSES KCS?

There are many causes of KCS. Metabolic disease (diabetes, hypothyroidism), infectious disease, anatomy (incomplete eyelid closure, entropion), trauma, congenital, and surgical removal of a hyperplastic third eyelid gland (a hyperplastic third eyelid gland is commonly called a ‘cherry eye’.) The most common cause is idiopathic, (i.e. we cannot determine the specific cause). A good ophthalmic and physical examination will generally provide a diagnosis but occasionally blood work or other diagnostic procedures are required.

TREATING KCS

Treatment for dry eye consists of stimulating the tear production, resolving the inflammation and keeping the eye lubricated. Topical ophthalmic Cyclosporine and Tacrolimus are some new ophthalmic drugs used to stimulate the glands to produce more tears. It may take weeks or months to see improvement with these medications. Other medical therapies may be recommended based on the individual patient and the veterinary ophthalmologist. Tear supplementation and topical antibiotics may also be suggested for some patients. In some cases, the treatment is never entirely successful. Even in the cases that normal tear production never returns with medication, you can still provide comfort to your pet and usually preserve some vision. In most cases, treatment must be continued for the rest of the pet’s life.

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