

# Keratoconjunctivitis Sicca or Dry Eye in Dogs

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Keratoconjunctivitis sicca (KCS) is the technical term for a condition also known as 'dry eye.' Inadequate tear production is the cause. This may be due to injuries to the tear glands, such as infections or trauma. The nerves of these glands may also become damaged. Eye infections and reactions to drugs such as sulfonamides can impair the nerves and/or the glands. Some cases are also the result of the gland of the third eyelid being surgically removed by mistake. KCS may also be caused by an immune reaction within the glands that produce tears. Many cases have no known cause; the glands simply cease to function at their normal levels.

What are the symptoms?

The eyes typically develop a thick, yellowish discharge. Infections are common as the lack of the bactericidal tears allows bacterial organisms to overgrow on the eye. Additionally, inadequate lubrication allows dust, pollen, etc., to accumulate. As a result the eyes lose their ability to flush away foreign particles and protect themselves from bacteria. To confirm a case of dry eye, a measurement of tear production is performed. Veterinarians use a small piece of absorbent material called a Schirmer tear test strip. This small strip is placed in the eye. Over a period of usually one minute, the tears soak and migrate up the strip. The wet area of the strip is then measured and compared to normal values. If inadequate tear production is found, then dry eye is diagnosed.

What are the risks?

Left untreated, the patient will suffer painful and chronic eye infections. Repeated irritation of the cornea results in severe scarring which will become apparent. Corneal ulceration may develop, and may lead to blindness.

What is the management?

If the cause can be identified, treatment should be aimed at eliminating it. An evaluation to determine if infection is present should be performed. A thorough history may reveal past infections that could have damaged the tear glands or their nerves. If the patient is receiving sulfa drugs, they should be stopped at once. From our clinical experience, it is very rare that the cause can be identified, in which case therapy is aimed at replacing tears rather than correcting the cause.

Cyclosporine ophthalmic ointment or drops are most often used to treat this condition. Another eye preparation, tacrolimus, is also used and may be effective when cyclosporine is not. In some cases, artificial tear solutions are also recommended.

In very severe cases, a surgery can be performed which transplants a salivary duct into the upper eyelid area. Saliva then drains into the eye, providing lubrication. This procedure is rarely used, but is an option.