



House Paws Home Veterinary Care

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## “Dry Eye” – Keratoconjunctivitis sicca (KCS)

Our veterinarian has diagnosed your dog with keratoconjunctivitis sicca (KCS), more simply known as “dry eye.” This instructional handout is designed to answer your questions about chronic conjunctivitis and treating your dog with Optimune Eye Ointment. If you have questions, please contact House Paws Home Veterinary Care.

### What is KCS?

In most cases, KCS is caused by the dog’s own immune system, which usually is protective against disease. In the case of KCS, the dog’s immune system mistakenly identifies the dog’s tear glands as foreign, and it attempts to destroy them. As a result, tear production is reduced and the dog’s eyes become chronically dry. If untreated, the tear glands will become progressively more damaged and tear production may stop entirely. Without tears, the eye may become permanently scarred and your dog could go blind.

There are many types of KCS that develop over time. Some signs may occur together, and all will vary in severity. The eye may become infected, with accompanying redness, pain, and a white or yellow discharge. Sometimes the eyes will become cloudy or discolored, and ulcers may develop. Dogs will usually show sign of discomfort by squinting and rubbing their eyes.

### Why are tears important?

In a healthy dog, the eyes will look bright, clear and moist. Normally, tears are produced by several glands around the eye and form a protective layer over the eye surface when the dog blinks. This tear film keeps the eye surface and eyelid lining in healthy condition.



A normal, healthy eye



Early stages of KCS

Tears perform the vital functions of lubricating the movement of the eyelids and washing out foreign substances that could damage the eyes. They also provide nutrition and oxygen to the cornea, which is the clear, outermost part of the eye. In addition, tears contain substances that help prevent bacterial infection. Eye health is severely jeopardized when tear production is reduced.

Our veterinarian will probably carry out a special procedure called the Schirmer Tear Test to diagnose KCS in your dog. A small strip of absorbent paper is placed under the dog's eyelid to determine if tear fluid is present. If our vet measures insufficient levels of tears, and other clinical signs exist, a KCS diagnosis may be confirmed.

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## How is KCS treated?

### **OPTIMMUNE EYE OINTMENT**

Most veterinarians will prescribe Optimimmune Eye Ointment, which treats the underlying causes of KCS and maintains eye health. Optimimmune will prevent your dog's immune system from attacking the tear glands, stimulating the tear glands to resume production of natural tears. Your dog will once again be able to produce natural tears, which will bring nutrients and oxygen to the eye surface and prevent infection.

Optimmune Eye Ointment contains cyclosporine, an immunomodulator that subdues the immune process that causes KCS. Optimimmune reverses the damaging immune response and restores natural tear secretion, stimulates genuine tear production, and is anti-inflammatory to control pain and discomfort.

### **ARTIFICIAL TEARS & LUBRICANTS**

Artificial tears may also be prescribed to keep the surface of the eye moist. These will quickly drain away and need to be applied frequently. They are not as effective as natural tears because they do not contain nutritional or antibiotic ingredients. Lubricants may be applied less frequently than artificial tears, but they also do not contain the natural ingredients found in tears.

### **ANTIBIOTICS & MUCOLYTIC AGENTS**

These treatments are important to treat short bouts of infection and inflammation. These can be used with artificial tears and lubricants, as well as with Optimimmune Eye Ointment. They do not treat the underlying cause of KCS.

## SURGERY

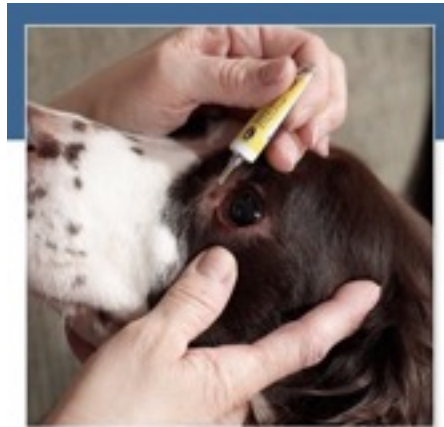
A surgical procedure may be performed that diverts some of the flow from salivary glands into the eye. This has been successful in some cases, but in others it has been found that the amount of fluid reaching the eye is not delivered in regular amounts.

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## How should I use Optimimmune?

Optimmune Eye Ointment is an ointment rather than a drop because of the increased contact time with eye surface that an ointment provides. As a result, drug penetration is enhanced and treatment application is only required twice a day. To ensure regular treatment, it is recommended to set a routine, with the same person applying the ointment at the same times each day. Rewards and compliments may encourage good pet behavior.

Apply a small amount of Optimimmune (the size of a grain of rice) into each affected eye every twelve hours or so, as recommended by your veterinarian. Gently pull down the lower eyelid and carefully squeeze a strip of ointment into the inside of the eyelid.



Optimmune has a special base that will help to spread the ointment over the eye as the dog blinks. If you are treating both eyes, always treat the “better” eye first. If you have any problems applying the ointment, contact your veterinarian.

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## How long should treatment continue?

The underlying cause of KCS is usually an immune deficiency. Treatment will likely need to be continued for life. Do not discontinue treatment unless told to do so by your veterinarian. If treatment is stopped for any reason, the immune mechanism will once again continue to attack

the tear glands and further damage could occur, even before symptoms appear. This could cause ulceration, discoloration and even blindness in your dog.

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### Are other treatments needed?

During the early stages of Optimune Eye Ointment treatment, the tear glands are still recovering their function. There may be a need for other supportive medication to bring the condition under control. For example, our veterinarian may prescribe artificial tears and antibiotics to help combat any infection and reduce inflammation.

Once the beginning phase has passed, Optimune will be fully effective on its own. Other treatments may occasionally be necessary for short periods of time. It is important to consult with our veterinarian on a regular basis to ensure your dog's eyes remain healthy. Notify us immediately if you notice any changes in the condition of your dog's eyes.

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### How will I know if my dog is getting better?

The speed of recovery depends on how far the disease has progressed. In most cases, the dog will appear more comfortable, the eye will be more moist and the discharge will begin to disappear within a week or two. After several weeks, the improvement will be much more apparent.

Discoloration may take longer to resolve.

Our veterinarian will check your dog's progress regularly and may carry out further Schirmer Tear Tests to confirm and record the production of tears.

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### Points to Remember

Do not stop treatment unless asked to do so by our veterinarian. It is sometimes tempting when the eye begins to look better to think that treatment is no longer needed. If treatment is discontinued, further irreparable damage will occur to the tear glands before symptoms reappear.

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### Don't run out!

To maintain treatment success, always make sure you have sufficient Optimune Eye Ointment and let us know well before you run out. Do not assume that when the tube is finished, the course of treatment is completed. If for any reason you miss a dose, begin again as soon as possible.

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## Storage of Optimune

Optimmune Eye Ointment should be stored below 86 degrees F, so it may be kept at normal room temperature. If the ointment seems too soft, it may be stored in the refrigerator, but do not freeze.

Be careful when opening the tube; an air bubble may be present at the top of the tube. This is normal. Optimune is strictly quality controlled to ensure each tube contains the correct amount of ointment.

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### Images

1. <http://media.mercola.com/assets/images/eye-support-for-pets/eye-health-clues.jpg>
2. [http://cavalierhealth.org/images/dry-eye\\_jacoby-susan\\_copyright.png](http://cavalierhealth.org/images/dry-eye_jacoby-susan_copyright.png)
3. [http://www.drsfostersmith.com/images/articles/a\\_25132\\_dog.jpg](http://www.drsfostersmith.com/images/articles/a_25132_dog.jpg)