Keratoconjunctivitis Sicca

Keratoconjunctivitis sicca (*dry eye*) is dryness of the membranes surrounding the eye. It is caused by inadequate production of natural tears.

The eyes must remain lubricated at all times. This creates a smooth surface of the cornea (*clear covering at the front of the eye*), which allows the eyelids to slide over the eye, without causing soreness and irritation. A small amount of tears are constantly produced by the tear glands (*lacrimal glands*). These glands are located under the outside part of the upper eyelids.

Dry eyes are often caused by decreased tear production. This condition is called aqueous tear-deficient dry eyes. The tear glands do not produce enough tears to keep the tissues surrounding the eye moist. This condition is common in postmenopausal women.

Dry eyes may also be caused by an abnormality of how the tears are made. This can result in faster evaporation of the tears. It is called evaporative dry eyes. Although the tear glands produce enough tears, the rate of evaporation is so fast that the entire eye surface cannot be kept covered with a complete layer of tears. The condition can occur during certain activities or in unusually dry surroundings.

Sometimes dry eyes are symptoms of other diseases that can affect the eyes. Some examples are:

- **Rheumatoid arthritis.**
- **Systemic lupus erythematosus (*lupus*).** Chronic inflammatory disease, causing the body to attack its own tissue.
- **Sjögren's syndrome.** Dryness of the eyes and mouth, sometimes associated with a form of rheumatoid arthritis or lupus.

SYMPTOMS

Symptoms of dry eyes include:

- Irritation.
- Redness.
- Itching.
- Burning and feeling as though there is something gritty in the eye.

If the surface of the eye becomes damaged, sensitivity may increase, along with increased discomfort and sensitivity to bright light. Symptoms are made worse by activities with decreased blinking, such as staring at a television, book, or computer screen.

Symptoms are also worse in dusty or smoky areas and in dry environments. Certain drugs can make symptoms worse, including antihistamines, tranquilizers, diuretics, anti-hypertensives (*blood pressure medicine*), and oral contraceptives. Symptoms tend to improve during cool, rainy, or foggy weather and in humid places, such as in the shower.

DIAGNOSIS

Dry eyes are usually diagnosed by symptoms alone. Sometimes a Schirmer test is done, in which a strip of filter paper is placed at the edge of the eyelid. The amount of moisture bathing the eye is measured. This test is done by measuring how far the tears go up a strip of paper applied to the eye, in a set amount of time. Your caregiver will use a special microscope to examine the surface of the eye and the cornea, to see if there are signs of dryness.

TREATMENT

Artificial tears (*eye drops made with substances that simulate real tears*) applied every few hours can generally control the problem. Lubricating ointments may help more severe cases. Avoiding dry, drafty environments and

using humidifiers may also help. Minor surgery can be done to block the flow of tears into the nose, so that more tears are available to bathe the eyes. Patients with evaporative dry eyes may also benefit from treatment of the inflammation (*redness and soreness*) of the eyelids, which often occurs with the dry eyes. This treatment may include warm compresses, eyelid margin scrubs, or oral medicines.

PROGNOSIS

Even with severe dry eyes, it is uncommon to lose vision. At times, it may become difficult to see. Rarely, scarring and ulcers may occur, and blood vessels can grow across the cornea. Scarring and blood vessel growth can impair vision. In severe cases, the cornea may become damaged or infected. Ulcers or infections of the cornea are serious complications.

PREVENTION

There is no way to prevent getting keratoconjunctivitis sicca. However, complications can be prevented by keeping the eyes as moist as possible with artificial drops, as needed.

SEEK IMMEDIATE MEDICAL CARE IF:

- Your eye pain gets worse.
- You develop a pus-like drainage from the eye.
- The eye drops or medicines prescribed by your caregiver are not helping.
- You have dry eyes and a sudden increase in discomfort or redness.
- You have a sudden decrease in vision.
- You have any other questions or concerns.

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