



## Diseases and Conditions

# Dry eyes

By Mayo Clinic Staff

Dry eyes is a common condition that occurs when your tears aren't able to provide adequate lubrication for your eyes. Tears can be inadequate for many reasons. For example, dry eyes may occur if you don't produce enough tears or if you produce poor-quality tears.

Dry eyes feel uncomfortable. If you have dry eyes, your eyes may sting or burn. You may experience dry eyes in certain situations, such as on an airplane, in an air-conditioned room, while riding a bike or after looking at a computer screen for a few hours.

Treatments for dry eyes may make you more comfortable. These treatments can include lifestyle changes and eyedrops. You'll likely need to take these measures indefinitely to control the symptoms of dry eyes.

Signs and symptoms, which usually affect both eyes, may include:

- A stinging, burning or scratchy sensation in your eyes
- Stringy mucus in or around your eyes
- Sensitivity to light
- Eye redness
- A sensation of having something in your eyes
- Difficulty wearing contact lenses
- Difficulty with nighttime driving
- Watery eyes, which is the body's response to the irritation of dry eyes
- Blurred vision or eye fatigue

## When to see a doctor

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See your doctor if you've had prolonged signs and symptoms of dry eyes, including red, irritated, tired or painful eyes. Your doctor can take steps to determine what's bothering your eyes or refer you to a specialist.

Dry eyes are caused by a lack of adequate tears. Your tears are a complex mixture of water, fatty oils and mucus. This mixture helps make the surface of your eyes smooth and clear, and it helps protect your eyes from infection.

For some people, the cause of dry eyes is decreased tear production. For others it's increased tear evaporation and an imbalance in the makeup of your tears.

## Decreased tear production

Dry eyes can occur when you're unable to produce enough tears. The medical term for this condition is keratoconjunctivitis sicca(ker-uh-toe-kun-junk-tih-VY-tis SIK-uh).

Common causes of decreased tear production include:

- Aging
- Certain medical conditions, including diabetes, rheumatoid arthritis, lupus, scleroderma, Sjogren's syndrome, thyroid disorders and vitamin A deficiency
- Certain medications, including antihistamines, decongestants, hormone replacement therapy, antidepressants, and drugs for high blood pressure, acne, birth control and Parkinson's disease
- Laser eye surgery, though symptoms of dry eyes related to this procedure are usually temporary
- Tear gland damage from inflammation or radiation

## Increased tear evaporation

Common causes of increased tear evaporation include:

- Wind, smoke or dry air
- Blinking less often, which tends to occur when you're concentrating, for example, while reading, driving or working at a computer
- Eyelid problems, such as out-turning of the lids (ectropion) and in-turning of the lids (entropion)

## Imbalance in tear composition

The tear film has three basic layers: oil, water and mucus. Problems with any of these layers can cause dry eyes. For example, the oil film produced by small glands on the edge of your eyelids (meibomian glands) might become clogged. Blocked meibomian

glands are more common in people with inflammation along the edge of their eyelids (blepharitis), rosacea or other skin disorders.

Factors that make it more likely that you'll experience dry eyes include:

- Being older than 50. Tear production tends to diminish as you get older. Dry eyes are common in people over 50.
- Being a woman. A lack of tears is more common in women, especially if they experience hormonal changes due to pregnancy, using birth control pills or menopause.
- Eating a diet that is low in vitamin A, which is found in liver, carrots and broccoli, or low in omega-3 fatty acids, which are found in fish, walnuts and vegetable oils
- Wearing contact lenses

People who have dry eyes may experience these complications:

- **Eye infections.** Your tears protect the surface of your eyes from infection. Without adequate tears, you may have an increased risk of eye infection.
- **Damage to the surface of your eyes.** If left untreated, severe dry eyes may lead to eye inflammation, abrasion of the corneal surface, corneal ulcer and vision problems.
- **Decreased quality of life.** Dry eyes can make it difficult to perform everyday activities, such as reading.

You're likely to start by seeing your family doctor. He or she may then refer you to an eye specialist (ophthalmologist). Because appointments can be brief, it's a good idea to be well-prepared for your appointment.

## What you can do

- **List any symptoms you're experiencing**, including any that may seem unrelated to the reason for which you scheduled the appointment.
- **List key personal information**, including any recent life changes.
- **Make a list of all medications, vitamins and supplements** that you're taking.
- **List questions to ask** your doctor.

For dry eyes, some basic questions to ask your doctor include:

- What's the most likely cause of my dry eyes?
- Do I need any tests?
- Can dry eyes get better on their own?
- What are my treatment options?

- What are the potential side effects of each treatment?
- I have other health conditions. How can I best manage these conditions together?
- Is a generic drug available for the medicine you're prescribing me?
- Do you have any brochures or other printed material that I can take with me?
- What websites do you recommend?
- Do I need to plan for a follow-up visit?

Don't hesitate to ask additional questions that may occur to you during your appointment.

## What to expect from your doctor

Your doctor may ask:

- Can you describe your symptoms?
- Do you recall when you first began experiencing symptoms?
- Have your symptoms been continuous or occasional?
- Do other members of your family have dry eyes?
- Have you tried over-the-counter eyedrops? Did they provide relief?
- Are your symptoms worse in the morning or late in the day?
- What medications do you take?
- Have you had any radiation to the head or neck?

## What you can do in the meantime

To relieve your signs and symptoms while you wait for your appointment, try over-the-counter eyedrops. Look for lubricating eyedrops (artificial tears) and avoid those that advocate reducing redness in the eyes. Eyedrops that reduce eye redness can cause additional eye irritation.

Tests and procedures that may be used to determine the cause of your dry eyes include:

- **A comprehensive eye exam.** An eye exam that includes a complete history of your overall health and your eye health can help your doctor diagnose the cause of your dry eyes.
- **Measuring the volume of your tears.** Your doctor may measure your tear production using the Schirmer test. In this test, blotting strips of paper are placed under your lower eyelids. After five minutes your doctor measures the amount of strip soaked by your tears.

- **Determining the quality of your tears.** Other tests use special dyes in eyedrops to determine the surface condition of your eyes. Your doctor looks for staining patterns on the corneas and measures how long it takes before your tears evaporate.

For most people with occasional or mild dry eye symptoms, it's enough to regularly use over-the-counter eyedrops (artificial tears). If your symptoms are persistent and more serious, you have other options. What you do depends on what's causing your dry eyes.

Some treatments focus on reversing or managing a condition or factor that's causing your dry eyes. Other treatments can improve your tear quality or stop your tears from quickly draining away from your eyes.

## Treating the underlying cause of dry eyes

In some cases, treating an underlying health issue can help clear up the signs and symptoms of dry eyes. For instance, if a medication is causing your dry eyes, your doctor may recommend a different medication that doesn't cause that side effect. If you have an eyelid condition, such as out-turning lids (ectropion), your doctor may refer you to an eye surgeon who specializes in plastic surgery of the eyelids (oculoplastic surgeon). Or if you have rheumatoid arthritis, your doctor may refer you to a rheumatologist.

## Medications

Prescription medications used to treat dry eyes include:

- **Drugs to reduce eyelid inflammation.** Inflammation along the edge of your eyelids can keep oil glands from secreting oil into your tears. Your doctor may recommend antibiotics to reduce inflammation. Antibiotics for dry eyes are usually taken by mouth, though some are used as eyedrops or ointments.
- **Eyedrops to control cornea inflammation.** Inflammation on the surface of your eyes (cornea) may be controlled with prescription eyedrops that contain the immune-suppressing medication cyclosporine (Restasis) or corticosteroids. Corticosteroids are not ideal for long-term use due to possible side effects.
- **Eye inserts that work like artificial tears.** If you have moderate to severe dry eye symptoms and artificial tears don't help, another option may be a tiny eye insert that looks like a clear grain of rice. Once a day, you place the hydroxypropyl cellulose (Lacrisert) insert between your lower eyelid and your eyeball. The insert dissolves slowly, releasing a substance that's used in eyedrops to lubricate your eye.
- **Tear-stimulating drugs.** Drugs called cholinergics (pilocarpine, cevimeline) help increase tear production. These drugs are available as pills, gel or eyedrops. Possible side effects include sweating.

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