

Dry eye

Dry eye is a condition in which a person doesn't have enough quality tears to lubricate and nourish the eye. Tears are necessary for maintaining the health of the front surface of the eye and for providing clear vision.



Causes & risk factors

Dry eyes can occur when tear production and drainage are not in balance. People with dry eyes either do not produce enough tears or their tears are of a poor quality:

- **Inadequate amount of tears.** Tears are produced by several glands in and around the eyelids. Tear production tends to diminish with age, with various medical conditions or as a side effect of certain medicines. Environmental conditions, such as wind and dry climates, can also decrease tear volume due to increased tear evaporation. When the normal amount of tear production decreases or tears evaporate too quickly from the eyes, symptoms of dry eye can develop.
- **Poor quality of tears.** Tears are made up of three layers: oil, water, and mucus. Each component protects and nourishes the front surface of the eye. A smooth oil layer helps prevent evaporation of the water layer, while the mucin layer spreads the tears evenly over the surface of the eye. If the tears evaporate too quickly or do not spread evenly over

the cornea due to deficiencies with any of the three tear layers, dry eye symptoms can develop.

Dry eyes can develop for many reasons, including:

- **Age.** Dry eyes are a part of the natural aging process. The majority of people over age 65 experience some symptoms of dry eyes.
- **Gender.** Women are more likely to develop dry eyes due to hormonal changes caused by pregnancy, the use of oral contraceptives and menopause.
- **Medications.** Certain medicines, including antihistamines, decongestants, blood pressure medications, and antidepressants, can reduce tear production.
- **Medical conditions.** People with rheumatoid arthritis, diabetes, and thyroid problems are more likely to have symptoms of dry eyes. Also, problems with inflammation of the eyelids (**blepharitis**), inflammation of the surfaces of the eye, or the inward or outward turning of eyelids can cause dry eyes to develop.
- **Environmental conditions.** Exposure to smoke, wind and dry climates can increase tear evaporation resulting in dry eye symptoms. Failure to blink regularly, such as when staring at a computer screen for long periods of time, can also contribute to drying of the eyes.
- **Other factors.** Long-term use of contact lenses can be a factor in the development of dry eyes. **Refractive eye surgeries**, such as LASIK, can decrease tear production and contribute to dry eyes.

Advanced dry eyes may damage the front surface of the eye and impair vision.

Symptoms

People with dry eyes may experience irritated, gritty, scratchy or burning eyes; a feeling of something in their eyes; excess watering; and blurred vision. Symptoms include:

- Redness.
- stinging, scratching, or burning sensations.
- Light Sensitivity.

- Watery eyes.
- Stringy mucus near the eye.
- Blurry Vision.

Diagnosis

Dry eyes can be diagnosed through a [comprehensive eye examination](#). Testing with emphasis on the evaluation of the quantity and quality of tears produced by the eyes may include:

- Patient history to determine the patient's symptoms and to note any general health problems, medications or environmental factors that may be contributing to the dry eye problem.
- External examination of the eye, including lid structure and blink dynamics.
- Evaluation of the eyelids and cornea using bright light and magnification.
- Measurement of the quantity and quality of tears for any abnormalities. Special dyes may be put in the eyes to better observe tear flow and to highlight any changes to the outer surface of the eye caused by insufficient tears.

With the information obtained from testing, a doctor of optometry can determine if you have dry eyes and advise you on treatment options.

Treatment

Treatments for dry eyes aim to restore or maintain the normal amount of tears in the eye to minimize dryness and related discomfort and to maintain eye health. Dry eyes can be a chronic condition, but a doctor of optometry can prescribe treatment to keep your eyes healthy and comfortable and to prevent your vision from being affected. The primary approaches used to manage and treat dry eyes include adding tears using over-the-counter artificial tear solutions, conserving tears, increasing tear production, and treating the inflammation of the eyelids or eye surface that contributes to the dry eyes.

- **Adding tears.** Mild cases of dry eyes can often be managed using over-the-counter artificial tear solutions. These can be used as often as needed to supplement natural tear

production. Preservative-free artificial tear solutions are recommended because they contain fewer additives, which can further irritate the eyes. People with dry eyes that don't respond to artificial tears alone will need to take additional steps to treat their dry eyes.

- **Conserving tears.** Keeping natural tears in the eyes longer can reduce the symptoms of dry eyes. This can be done by blocking the tear ducts through which the tears normally drain. The tear ducts can be blocked with tiny silicone or gel-like plugs that can be removed if needed. Or a surgical procedure can permanently close the tear ducts. In either case, the goal is to keep the available tears in the eye longer to reduce problems related to dry eyes.
- **Increasing tear production.** A doctor of optometry can prescribe eye drops that increase tear production. Taking an omega-3 fatty acid nutritional supplement may also help.
- **Treating the contributing eyelid or ocular surface inflammation.** A doctor of optometry might recommend prescription eye drops or ointments, warm compresses and lid massage, or eyelid cleaners to help decrease inflammation around the surface of the eyes.

Prevention

You can take the following steps to reduce symptoms of dry eyes:

- Remember to blink regularly when reading or staring at a computer screen for long periods of time.
- Increase the humidity in the air at work and at home.
- Wear [sunglasses outdoors](#), particularly those with wraparound frames, to reduce exposure to drying winds and the sun.
- Nutritional supplements containing essential fatty acids may help decrease dry eye symptoms in some people. Ask your doctor if taking dietary supplements could help your dry eye problems.
- Avoiding becoming dehydrated by drinking plenty of water (8 to 10 glasses) each day.
- Avoid air getting blown in your eyes by directing car heaters away from your face.
- Avoid environments that are drier than normal, such as deserts, airplanes, and places at high altitudes.

Source: <https://www.aoa.org/healthy-eyes/eye-and-vision-conditions/dry-eye?sso=y>