

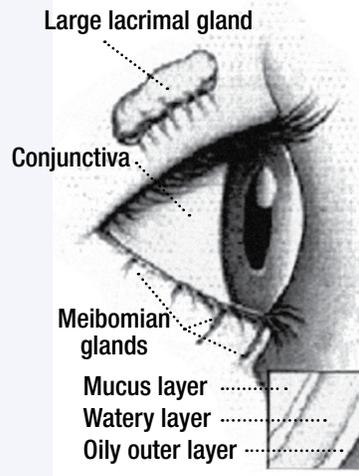
Dry eye is a chronic medical condition that develops when the eye's tear film no longer lubricates and protects the eye's outer surface. The condition can be the result of diminished tear production or increased tear evaporation.

According to researchers, increased salt concentration in the tears leads to problems with the eye surface and produces most dry eye symptoms. Patients may be able to find relief through the use of eye drops designed to restore proper tear film salt concentration or eye moisturizing drops and sprays. In more severe cases, when tear production is impaired, an inflammatory reaction may set in, further damaging cells on the surface of the eye and further suppressing tear production. Some of these patients may be able to improve tear gland function by using anti-inflammatory medicine.

Dry eye can be caused by a variety of circumstances: contact lens use; smoking; exposure to hot, dry or windy climates; autoimmune diseases such as rheumatoid arthritis; thyroid conditions; menopause; increasing age; decreased blinking; the use of certain medications; and a dietary deficiency of omega-3 essential fatty acids. One of the biggest risk factors is Sjögren's syndrome, an autoimmune disease in which the white blood cells attack the body's own moisture-producing glands.

Dry eye symptoms include: sandy-gritty irritation or burning eyes; blurred vision that clears with blinking; and discomfort from reading, TV watching or computer use.

Treatments range from altering the physical environment, to artificial tears, to dietary changes, to a procedure called punctal occlusion that retains tears on the surface of the eye, to drug therapy.



The tear film is complex. The first layer, produced by the conjunctiva, makes the corneal surface more adherent for the next layer. The middle layer is watery, and is produced by the lacrimal (tear) gland, which lies within the orbit on the outer portion of the upper eye. The third layer, secreted by the meibomian glands in the eyelid, prevents evaporation.

Important Vision Saving News

Scientists funded by Research to Prevent Blindness (RPB) are studying the relationship between the tear film, hormones, inflammation and much more.

- Eye drops containing steroids can supplement other therapy in the short term, but long-term use can lead to cataracts, glaucoma and infection.
- If artificial tears are used more than four times a day, a formula with a disappearing preservative or no preservative is preferred.
- For some people, taking omega-3 fatty acid supplements can decrease inflammation and improve comfort.

Recent Strides by Researchers

- Advanced the understanding of the role of hormones (called androgens) in dry eye, which reveals the reasons women are disproportionately affected
- Found that an autoimmune response is behind many cases of dry eye
- Found new evidence to explain the relationship between dry eye and inflammation