

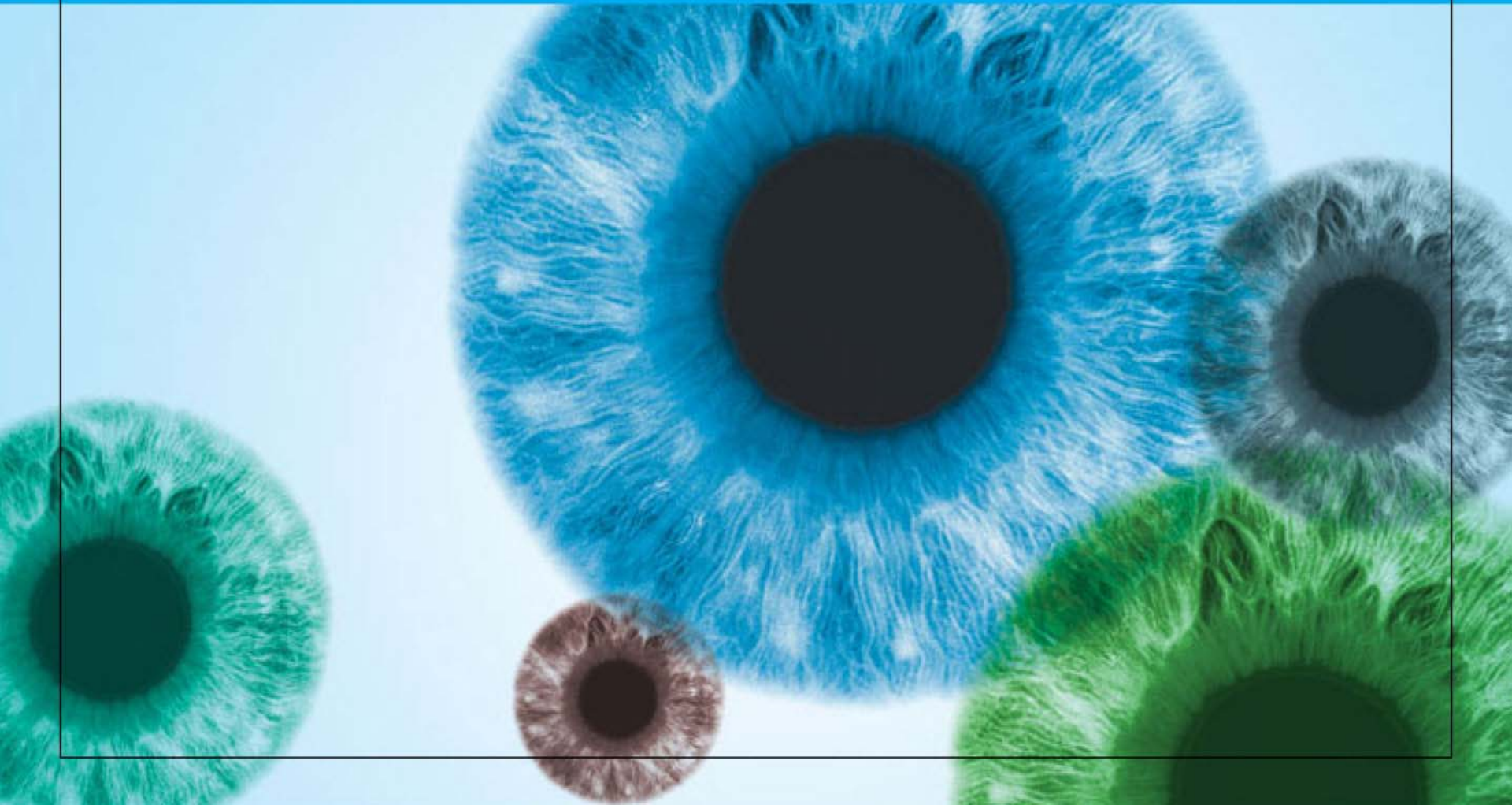
# Dry Eye

• **Information and Treatment**

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# Tears are an important part of the healthy eye

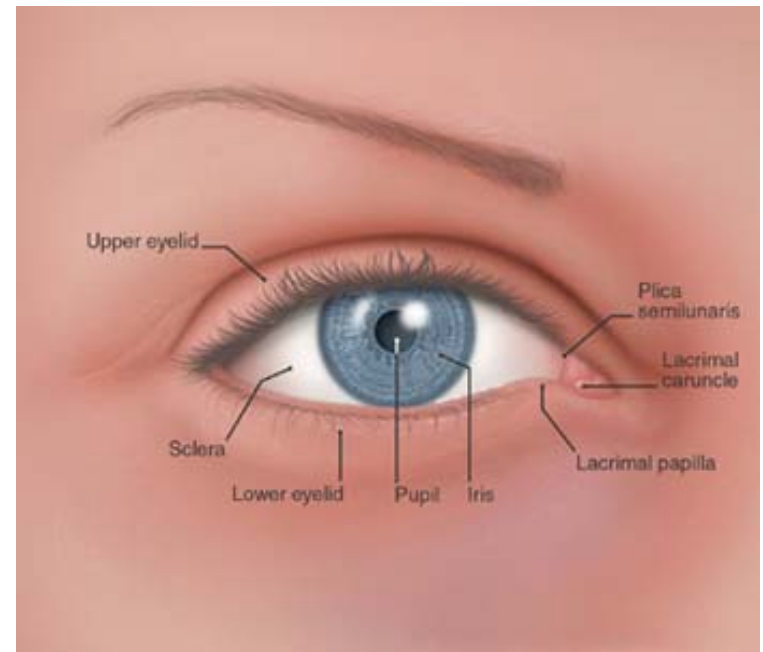
- **A healthy tear film, spread across the eye by a blink, makes the surface of the eye smooth and clear.**
- **Without an adequate tear film, sharp vision is not possible.**



# Tears that lubricate—the tear film—are constantly produced by a healthy eye

The tear film consists of three layers:

- An oily layer (produced by the meibomian glands in the eyelid): forms the outermost surface of the tear film, smoothing the tear surface and reducing evaporation of tears.
- A watery middle layer (produced by the lacrimal gland): cleanses the eye and washes away foreign particles or irritants.
- An inner layer of mucus (produced by the conjunctiva): allows the watery layer to spread evenly over the surface of the eye and helps the eye remain moist.



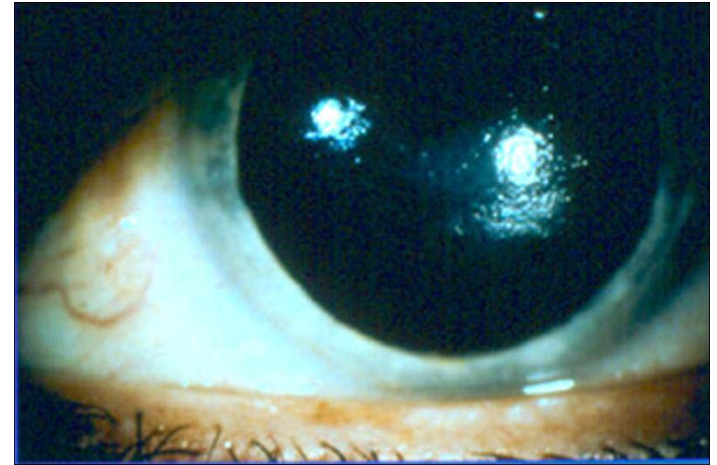
# How are tears produced?

Tears are produced by two different methods:

- **Slow, steady (basal) rate**—responsible for normal eye lubrication.
- **Excessive (reflex) rate**—producing large quantities of tears in response to eye irritation or emotions.
- **When the eye is irritated, the lacrimal gland produces a large volume of tears that can overwhelm the tear drainage system and overflow from your eye.**

# What is dry eye?

- **Dry eye occurs when our eye does not produce enough tears or appropriate quality of tears to keep the eye healthy and comfortable.**
- **Excessive tearing can occur when:**
  - Eye is irritated by a foreign body.
  - Eye is overcompensating for dryness (if there are not enough necessary tears lubricating the eye).
  - A person becomes emotional (cries).



**Dry eye**

# What are the symptoms of dry eye?

- **Stinging or burning eyes.**
- **Scratchiness.**
- **Stringy mucus in or around the eyes.**
- **Excessive eye irritation from smoke or wind.**
- **Excess tearing.**
- **Difficulty wearing contact lenses.**
- **Momentary or persistent blurring of vision that may fluctuate with each blink.**

# What causes dry eye?

**Tear production normally decreases as we age.**

- **Although dry eye can occur in both men and women at any age, women are most often affected, especially after menopause.**



**Generally, women are more affected by dry eye than men**

# What causes dry eye?

## Sjögren's syndrome

- **Autoimmune disease in which the body's immune system mistakenly attacks its own moisture-producing glands.**
- **Most common symptoms are dry eyes and dry mouth.**
- **Nine out of ten Sjögren's patients are women.**

# What causes dry eye?

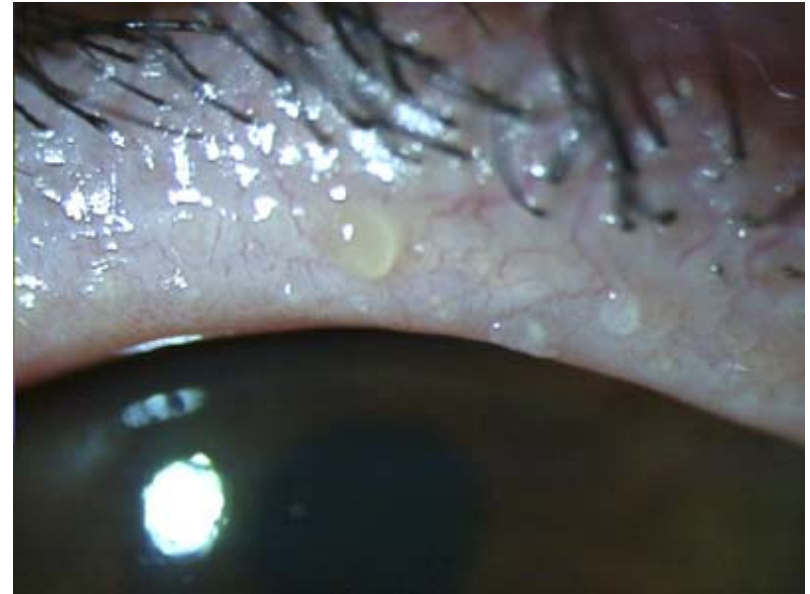
## Prescription and over-the-counter medications.

- **Diuretics**
- **Beta-blockers**
- **Antihistamines**
- **Sleeping pills**
- **Anxiety medications**
- **Pain relievers**
- **Since these medications are often necessary, the dry eye condition may have to be tolerated or treated with artificial tears.**

# What causes dry eye?

**Eyelid problems such as blepharitis, meibomitis and rosacea.**

- **Affect the outer oily layer of the tear film, causing excessive evaporation of the natural tears from the eye.**



**Meibomitis**

## What causes dry eye?

**Rare diseases such as Vitamin A deficiency, Stevens Johnson syndrome and ocular cicatricial pemphigoid (OCP).**

- **Affects the inner mucous layer of the tear film and prevents the natural tear film from adhering to the eye.**

# How is dry eye diagnosed?

- An ophthalmologist (Eye M.D.) diagnoses dry eye by examining your eyes.
- Two tests that measure tear production:
  - **Schirmer tear test:** filter-paper strips placed under the lower eyelids to measure the rate of tear production under various conditions.
  - **Diagnostic drop test:** looks for certain patterns of surface eye dryness.

# How is dry eye treated?

## Eyedrops (artificial tears)

- **Artificial tears, similar to your own tears, lubricate the eyes and help replace the natural moisture layer of the tear film.**
- **Available without a prescription; can be used as often as necessary.**
- **If you are sensitive to the preservatives in artificial tears, preservative-free eyedrops are available.**



**Artificial tears can be used to lubricate the eyes**

# How is dry eye treated?

## Conserving the tears

- Tears drain out of the eye through a small channel into the nose.
- Your ophthalmologist may close these channels either temporarily or permanently; conserves your own tears and makes artificial tears last longer.

# How is dry eye treated?

## Prevent tear evaporation

- When indoor heat is on, keep a humidifier or pan of water in the room to add moisture to dry air.
- Wearing wrap-around glasses to reduce direct exposure to the elements (wind and sunlight) may reduce dry eye.



**Protect eyes from sun and wind to prevent dry eye**

# Dry eye shouldn't interfere with your lifestyle

- **Talk with your ophthalmologist about treatment options.**

