

Dry Eye Overview

“Doctor, my eyes feel dry.” This is the most frequent complaint heard by eye doctors. Approximately 20 percent of the adult population suffers from varying degrees of dry eye problems. It is a common disorder of the tear film that results from decreased tear production and excessive tear evaporation. Dry eye syndrome is commonly associated with a systemic inflammatory process and like most eye disease, it is often related to health condition in the rest of the body.

The typical symptoms of Dry Eye Disease include dryness, grittiness, irritation, difficulty reading for long periods of time, burning and even the apparent contradiction of excessive tearing or watering. In extreme dry eye cases, patients may become unusually sensitive to light, experience severe eye pain and diminished vision. A combination of treatment may be necessary to protect the vision of these patients.

These symptoms have traditionally been treated with artificial tears, which provide temporary relief, or plugs that block the drainage system, or corticosteroids which are not appropriate for long term use. We recommend a nutritional approach to resolve this issue.



E STREET EYES

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**Dry
Eyes**



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Details of the three-layer tear film

The Mucous Layer– the closest layer to the surface of the eye is produced by corneal cells and hold the aqueous (or watery) layer on the eye. These mucins also cushion the tears against the eye surface.

The Aqueous Layer– the largest layer is located between the mucous layer and lipid layer. It is produced by the tear gland and incorporates all water-soluble components of the tear film. The aqueous layer provides moisture and supplies oxygen and important nutrients to the cornea.

The Lipid Layer– this outer layer is produced by the Meibomian glands inside of the eyelids. The secretion is an oily material, which is fluid at body temperature and retards evaporation of the aqueous layer, thereby allowing the tear film to adhere to the eyes' surface.

The Blink Reflex–renews the tear film by delivering aqueous and lipid to the tear film and sweeping away debris. The normal blink rate is about every 5 seconds under normal conditions but is significantly reduced while doing computer-related tasks.

If this layer is deficient, typically due to the lipid layer breaking apart too quickly, people will blink more often to attempt to re-spread their tears over the eye surface. Thus, an early sign of dry eyes is excessive blinking.

Reflex Tearing is a condition where a dry eye has too many tears – the brain's way of trying to over-compensate for a dry eye surface.

Causes of Dry Eye Syndrome

- Normal aging of the tear glands
- Extended use of contact lenses
- Environmental pollutants
- Prescription drugs
- Refractive (LASIK) surgery
- Autoimmune diseases
- Nutrient deficiencies
- Other disorders that cause a disruption in the tear production and retention process.

DRY EYE CHECKLIST

- _____ Redness
- _____ Burning
- _____ Itching
- _____ Fluctuation in Vision
- _____ Feeling of sand or grit in the eye
- _____ Contact lens discomfort
- _____ Light sensitivity
- _____ Watery Eyes
- _____ Tired Eyes

A Nutritional Approach

While many people think that all eye conditions can be address with “eating carrots”, there is much more science that has been discovered as to how to better help eye health through proper nutrition.

Many authorities now believe that Dry Eye Disease can be caused by a systemic Essential Fatty Acid (EFA) deficiency. These are the oils that arise from fish oil and it's cousins. Many doctors will simply suggest “eating more fish” or “take Omega-3” but it's not that simple. The best products will use Black Current Seed Oil as a source of Omega 6 EFAs because it is the most biochemically stable source of linoleic acid (LA), as well as 18% gamma-linolenic acid (GLA), which will convert to a mucous-specific anti-inflammatory.

However, aging, smoking, alcohol, viral infections, cardiovascular disease, hormonal fluctuation, sugar consumption and chemical carcinogens can hinder the conversion to this anti-inflammatory agent unless aided by vitamins A, C, B6 and magnesium. These nutrients also stimulate goblet cell production (in the cornea), lacrimal gland aqueous tear and meibomian gland (oil) function.

Our office uses products from Biosyntrx, Inc. because they contain the ingredients most effective in addressing the Dry Eye Disease causes. These are available in our office for patient convenience but can also be ordered directly from the company on their website.

Feel free to ask for more details from our staff.