

# Getting Clear on Occasional Dry Eye



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## WHAT IS OCCASIONAL DRY EYE?

Occasional dry eye is a common and often recurring problem in which the tears cannot properly lubricate the eye. Tears are necessary for maintaining the health of the front surface of the eye and providing clear vision. People with occasional dry eye either do not produce enough tears or have poor quality tears.

## WHAT ARE SOME COMMON CAUSES FOR OCCASIONAL DRY EYE?

#### Age

Occasional dry eye is a part of the natural aging process, and most people over age 65 experience some form of related symptoms.



#### Gender

Women are more likely to develop occasional dry eye due to hormonal changes caused by pregnancy, the use of oral contraceptives, and menopause. However, men are also susceptible to hormonal changes later in life, which can lead to symptoms as well.

## 

#### Medications

Certain medicines like antihistamines, decongestants, blood pressure medications, and antidepressants can reduce the number of tears produced in the eyes.



#### Medical conditions

Individuals with auto-immune diseases such as rheumatoid arthritis, diabetes, and Sjogren's syndrome are more likely to have issues caused by occasional dry eye. Also, problems with inflammation of the eyelids (blepharitis), inflammation of the eye's surfaces, or the inward or outward turning of eyelids can cause occasional dry eye.



#### , Contact lenses

Contact lens wearers are particularly susceptible to occasional dry eye as soft lens materials require additional lubrication, and a balanced tear film is vital to successful lens wearing. Additionally, medicated eye drops may exacerbate occasional dry eye in contact lens wearers. It is estimated that up to half of contact lens wearers discontinue use due to discomfort often caused by occasional dry eye.

#### MGD Meibomian Gland Dysfunction (MGD)

70% of occasional dry eye is MGD-related – chronic, diffuse abnormality of the Meibomian glands characterized by terminal duct obstruction and/or quality or quantity changes in glandular secretions.

#### **Environmental conditions**

Exposure to smoke, wind, and dry climates can increase tear evaporation resulting in occasional dry eye symptoms. Failure to blink regularly, such as when staring at a digital screen for long periods of time, can also contribute.



#### Seasonal changes

Like exposure, the winter months can cause tears to evaporate more quickly as humidity levels drop and home heating systems are activated, which result in drier air and occasional dry eye.

### Surgeries



Refractive eye surgeries like LASIK can cause decreased tear production and lead to occasional dry eye.

Occasional dry eye is becoming more common in today's digital culture. The National Eye C.A.R.E. (Current Attitudes Related to Eye Health) Survey is a nation-wide survey conducted in 2015 asking over 1,000 optometrists and ophthalmologists and 1,200 adults suffering from occasional dry eye to gauge the effects of technology on occasional dry eye symptoms. The results showed that nearly 9 in 10 eye care professionals (ECPs) believe the multiscreen lifestyle is responsible for the increase. Because of this increase, they believe that a growing rate of young adults are being affected.

## WHAT ARE COMMON SYMPTOMS OF OCCASIONAL DRY EYE?

The participating ECPs in the National Eye C.A.R.E. Survey believe there is no one typical type of occasional dry eye patient. Those who suffer from occasional dry eye know one thing for certain: it is very uncomfortable, but many adults aren't familiar with the common symptoms of occasional dry eye:

- Dryness
- Irritation
- Scratchy eyes
- Gritty eyes
- Burning eyes
- The feeling of a foreign object in the eye
- Redness
- Excessive watering
- Blurred vision



## HOW DOES THE TEAR FILM AFFECT OCCASIONAL DRY EYE?

The tear film is a layer of moisture which covers the eye and provides a smooth refractive surface for clear vision. People who cannot produce a tear film or cannot keep this protective layer intact can experience a variety of issues, including occasional dry eye, which leads to irritation and vision problems.

#### The tear film is composed of three layers:

- *Mucous (mucin) layer* spreads the tears evenly over the surface of the eye
- Water (aqueous) layer contains most of the tear film's moisture (water) as well as electrolytes, beneficial proteins and enzymes, and bacteria-fighting antibodies
- Oil (lipid) layer protects the water layer from evaporating too quickly

However, new studies suggest that the mucin and aqueous layers mix, creating a hydrated gel with complex biology, which is then covered by the lipid layer.

When any or all tear film components are not functioning correctly, the tears may become unstable or evaporate too quickly, resulting in occasional dry eye.



### HOW IS OCCASIONAL DRY EYE DETECTED?

Occasional dry eye can be discovered through a comprehensive eye examination. Testing is focused on evaluating the quantity and quality of tears and may include:

- Evaluating any symptoms the patient is experiencing and the presence of any general health problems, medications taken, or environmental factors that may be contributing factors.
- Examining the external eye, including lid structure and blink dynamics.
- Evaluating the eyelids and cornea using bright light and magnification.
- Measuring the quantity and quality of tears for any abnormalities.
- Special dyes may be used to highlight any changes to the outer surface of the eye caused by insufficient tears and to better observe tear flow

Using the information obtained from testing, ECPs can determine if you have occasional dry eye and advise you on options to help reduce the symptoms.

## WHY DOES MOST OCCASIONAL DRY EYE GO UNDETECTED?

Despite its prevalence, occasional dry eye goes unrecognized primarily because patients tend to self-medicate using over-the-counter treatments, delaying recognition and effective help. The participating adults in The National Eye C.A.R.E. Survey admitted that after noticing symptoms, they waited an average of two years before talking to a healthcare provider. The survey results showed that 57% wish they had spoken to an ECP sooner. The doctors agreed, with 74% wishing their patients had asked about their occasional dry eye symptoms earlier.

#### HOW DO YOU TAKE CARE OF OCCASIONAL DRY EYE?

Many believe they must learn to live with occasional dry eye. Others reach for eye drops to provide immediate relief, though they're usually temporary and only treat the surface issue of feeling dry instead of the cause. Eye vitamins like EyePromise® EZ Tears<sup>™</sup> help manage occasional dry eye by reducing inflammation on the surface of the eye and regulating the glands that produce tears.



#### WHY EYEPROMISE EZ TEARS?

EyePromise EZ Tears relieves occasional dry eye fast by improving tear composition and reducing inflammation. EZ Tears is formulated with 8 anti-inflammatory ingredients to help the eye produce more natural tears with a greater level of lubrication to relieve associated eye discomfort and irritation. EZ Tears offers fast relief with the highestquality dietary ingredients, and benefits include:

- Rapid relief in as little as 1 week
- 50% increase in Omega-3 index in 60 days
- Minimized eye drop use
- 30-day, money-back guarantee

\*These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure, or prevent any disease.



### WHO SHOULD USE EZ TEARS?

EyePromise EZ Tears is formulated for:

- Occasional dry eye sufferers
- Pre- and post-surgery related dryness
- Dryness caused by medications
- Dryness caused by environmental irritants
- Contact lens dryness

## HOW OFTEN SHOULD I TAKE EZ TEARS?

EZ Tears is designed to increase tear production and tear quality with a daily dose of only 2 softgels. EZ Tears should be taken before or during

a meal, or as directed by an ECP to help stimulate tear production, reduce the inflammatory processes that affect the ocular surface, and interrupt the inflammation cascade in tear film.

### WHAT ARE OMEGA-3 FATTY ACIDS?

EyePromise EZ Tears contains fish oil which contains Omega-3s. Omega-3 fatty acids are considered

essential fatty acids, and they are necessary for the body to work properly. Omega-3s have numerous health benefits, including reducing inflammation throughout the body like the blood vessels and joints. There are several types of Omega-3 fatty acids. Because essential fatty acids are not made in the body, we need to get them from our diet. Two crucial ones, Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), are primarily found in cold water fatty fish and lacking in the typical diet.



ONLY

SOFTGELS

PER DAY

## DO OMEGA-3S HELP REDUCE INFLAMMATION IN THE EYE?

Yes, Omega-3 acids may help alleviate the symptoms of occasional dry eye by reducing inflammatory activity in the body and by possibly altering the lipid profiles of the Meibomian glands. Some components of Omega-3s are thought to stimulate aqueous tear secretion as well.

## IS ALL FISH OIL THE SAME?

No. In order to get the most benefit from fish oils, the supplement you take must have a high percentage of Omega-3s like DHA and EPA, the substances responsible for reducing inflammation. Fish oils on the retail shelves often contain 30% or less Omega-3s compared to EyePromise EZ Tears which contains 70% Omega-3s.

## WHY ARE EPA AND DHA IMPORTANT?

EPA and DHA are important components of Omega-3 fatty acids. EyePromise EZ Tears contains more than 1.000 mgs of EPA/DHA (590/440mg)

per daily dose. With DHA being a major component of the brain and retina and the most important building block for anti-inflammatories, it is reasonable to assume DHA is the most critical fatty acid. The level of DHA in EZ Tears is significantly greater than most fish oils in the market.



ONLY 2

SOFTGELS PER DAY =

70% EPA/DHA

to total fish oil



# of capsules per dose	Total # per bottle	Total # Ant-inflammatories	Omega-3s EPA/DHA
2	60	8	590 mg/440 mg
3	90	3	450 mg/300 mg
4	120	3	100 mg/70 mg
4	120	6	600 mg/400 mg
4	120	7	21 mg/24 mg
	per dose 2 3 4 4 4	per dose         per bottle           2         60           3         90           4         120           4         120	per doseper bottleAnt-inflammatories260839034120341206

## WHAT IS THE SOURCE OF OMEGA-3S IN EYEPROMISE EZ TEARS? IS IT HIGH QUALITY AND SAFE?

There are many considerations when evaluating Omega-3s, including the following 6 key issues to consider related to fish oil (Omega-3s) in an occasional dry eye supplement:

#### 1. Bio-availability

There is some controversy over whether certain forms of Omega-3s are absorbed better by the body than others. This isn't surprising given the many variables that affect bio-availability or bio-absorption of fish oil. Though the TG (triglyceride) form of EPA/DHA has been shown to be slightly more bio-available in the first 2 weeks than the EE (Ethyl Ester) form, it was a very slight difference and must be weighed against multiple considerations.

The Omega-3s in EyePromise EZ Tears are in TG form and are recognized for their pure, high-quality EPA/DHA concentrates. EZ Tears has been clinically proven to be highly bio-available, increasing the Omega-3 index by 50% in 60 days.

#### 2. Concentration, Dose, Size, and Number of Capsules

Being instructed to "take fish oil" without clarification or instruction around total Omega-3 or EPA/DHA content may lead to confusion, especially when staring at retail shelves full of vitamins. Fish oil products typically found on the retail shelf contain low levels of EPA/ DHA. These products are usually 30% Omega-3s, meaning the patient must take 4 to 6 large softgels a day to receive the same EPA/DHA dose in 2 EZ Tears softgels.

#### 3. Purity

The fish oil in EZ Tears is ultra-refined, GMO-free Golden Omega<sup>®</sup> fish oil from Chilean anchovy. The state-of-the-art facilities are close to the raw material, allowing for guaranteed freshness and high-quality oils. A patented purification process and in-depth analysis assures that any heavy metals and toxins are removed to meet or exceed all international quality and safety standards. EZ Tears fish oil conforms to Global Organization for EPA and DHA Omega-3s (GOED) and International Fish Oil Standards (IFOS) and purity requirements of the Council for Responsible Nutrition.

#### 4. Stability

Stability usually refers to the resistance to oxidation and rancidity. Because of the highly polyunsaturated nature of Omega-3s, the compounds must be handled carefully, keeping them from encountering oxygen. Once oxidation begins, quality is adversely affected. Therefore, fish oil must be handled with precision from the moment of harvest.

In addition to fishy odor and upset stomach, rancid fish oil is a harmful, pro-inflammatory. The fish oil in EZ Tears is from a very high-quality, carefully-handled source, and an important antioxidant system is utilized to create a highly stable formula. Many fish oils use only vitamin E as an antioxidant, but EZ Tears contains multiple antioxidants to yield a more stable form of Omega-3s.

#### 5. Tolerability

It is very difficult to tolerate unstable fish oil. Poor raw material, oxidation, and foul odor can cause upset stomach, intestinal distress, and burps. The high purity and stability of EyePromise EZ Tears helps to ensure optimal tolerability with no fish odor or flavor. Dosage also affects tolerance; more concentrated fish oil forms, like that in EZ Tears, may be better tolerated.

## HOW IS EYEPROMISE EZ TEARS DIFFERENT THAN OTHER OMEGA-3 PRODUCTS?

EyePromise EZ Tears is much more than an Omega-3 supplement. It was designed from the ground-up as a natural tear production and contact lens comfort formula, addressing occasional dry eye from the inside. In addition to Omega-3s, EZ Tears has 7 anti-inflammatory ingredients to help reduce inflammation:

- 1. Vitamin A, as retinyl palmitate (1,000 IU per daily dose) a fatsoluble vitamin essential in eye surface health and helping tear production.
- 2. Vitamin D3 (2,000 IU per daily dose) a fat-soluble vitamin generally deficient in the American diet that promotes eye health and has positive effects on immunity and inflammation.
- 3. Vitamin E (60 IU) a fat-soluble vitamin essential for reduction of systemic and ocular inflammation, as well as slowing cellular aging and strengthening blood vessels.
- 4. Evening Primrose Oil (100 mg per daily dose) oil that assists in the beneficial effects of Omega-3s and favorably affects occasional dry eye symptoms.

- 5. **Turmeric Extract** (50 mg) has several systemic and ocular antiinflammatory mechanisms.
- 6. Green Tea Extract has both antioxidant and anti-inflammatory benefits for the body and eyes.
- 7. Mixed Tocopherols/Tocotrienols (20 mg) play a significant role in reducing systemic inflammation and compounds that can contribute to occasional dry eye.



## HAVE ANY STUDIES BEEN CONDUCTED ON THE EFFECTIVENESS OF EYEPROMISE EZ TEARS?

Yes, EyePromise has conducted several studies and surveys using EZ Tears to determine product effectiveness, including the Ocular Nutrition Impact on Tear Film (ONIT) Study. The multicentered, clinicbased study determined that individuals supplementing with EyePromise EZ Tears achieved:



### DOES EZ TEARS COME WITH ANY PRODUCT **GUARANTEES?**

Yes, based on the positive results of the patient studies, EyePromise EZ Tears comes with an unconditional 30-day, money-back guarantee. Simply take two EZ Tears softgels per day, and we guarantee occasional dry eye relief in 30 days, or your money back!



### SCIENTIFIC SUPPORT

<b>1980 Medical Hypothesis.</b> <b>6:225-232</b> Horrobin D.R. and Campbell, A.	<ul> <li>A. Sommer and others demonstrate effects of Vitamin A deficiency on Corneal Surface Health.</li> <li>Study shows Evening Primrose Oil (1500 mg), Vitamin B6 (50 mg) and Vitamin C (1000 mg) (T.I.D.) reduces dry eye symptoms in 10 of 17 Sjogren's Syndrome patients in 2-6 weeks.</li> </ul>
<b>2003 Cornea</b> <b>2003 Mar. 22(2) 97-101</b> Barabino, S. et al.	<ul> <li>An Italian study in 26 patients with DES were given capsules containing Linoleic (LA 29 mg) and GLA (gamma-linoleic, 15 mg) B.I.D. for 45 days.</li> <li>Symptoms and several measures showed improvement. FTBUT and Schirmer showed no difference.</li> </ul>
<b>2005 Am. J. Clin. Nutr Oct:</b> <b>82(4): 887-93</b> MilJanovic, B. et al.	<ul> <li>A Harvard analysis of the Women's Health Study (WHS, 33K women) found that 4.7% (1546) had DES.</li> <li>High Omega-6 to Omega-3 ratio in the diet increased risk of DES.</li> <li>One serving of tuna/week reduced risk by 20% while 5-6 servings per week reduced risk 93%. (1 serving equals 400-800 mg of Omega-3)</li> </ul>
2006 J. Fr. Ophthamol. Oct. 29(8) 868-73	<ul> <li>A French study of 71 patients with moderate to severe DES were assigned to an Omega oil supplement (Nutrilam) or placebo for 6 months.</li> <li>The results showed marginal objective improvement with clinical tests but were subjectively helpful.</li> </ul>
Crevzot, C. et al <b>ASCRS 2006 mtg</b> Colin et al.	• A Lasik study in 152 eyes showed 3000 mg of flaxseed oil/day before and after Lasik was as effective as doxycycline for DES.

## SCIENTIFIC SUPPORT

Ocular Surface Special Report	• The DEWS Report recommends dietary intake of Omega-3 fatty acids for Level 2-4 Dry Eye.	
<b>2010, J. of Nutrition Aug 140(8) 1462-8</b> Larmo, P.S. et al.	<ul> <li>A Finnish Study of 86 DES patients used a unusual source of Omega 3 and 6 oils (See Buckhorn) or placebo oil (2000 mg/day for 3 months).</li> <li>Conducted in the cold season, the treatment showed subjective improvement and attenuated increases in tear osmolarity.</li> </ul>	
2010 Cont. Lens Anterior Eye April 33(2) 49-54 Ronocone, M. et al. 2010 Ocular Surface Jan (8)(1) 18-28 Rosenberg, E.S. and Asbell, P.A.	<ul> <li>Two literature reviews were published reviewing essential fatty acids and dry eye</li> <li>Both concluded that studies were generall favorable on the relationship.</li> <li>The American Review called for larger double-masked clinical trials.</li> </ul>	
<b>2011, Cornea E-p-b</b> Wojtowicz, JC, et al.	<ul> <li>A Texas pilot randomized placebo- controlled clinical trial in 36 patients with DES.</li> <li>There were two patient visits over 90 days</li> <li>The patients received a commercial product (450 mg EPA, 300 DHA, 1000 mg flaxseed oil/day) and were followed by numerous objective technologies.</li> <li>70% of patients became asymptomatic, while 1% of placebo group became asymptomatic.</li> </ul>	
International Workshop on Meibomian Gland Dysfunction Report 2011	• Recommended initiation of Omega-3s at Level 2 Dry Eye.	



EyePromise was founded in 2001 with a mission to fight vision loss and protect healthy vision through nutrition and technology.

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