CLINICALLY TESTED

HYDROEYE®

SOFTGELS

DESCRIPTION

HydroEye® is a unique, patented oral formulation that helps provide relief for dry eyes. Its proprietary blend of key nutrients works to produce a healthy tear film and support ocular surface health.

HYDROEYE HIGHLIGHTS

- Clinically tested and found to improve dry eye symptoms, keep inflammation at bay and maintain corneal smoothness
- Offers relief for dry eyes with a proprietary blend of GLA and other omega fatty acids, plus nutrients involved in fatty acid metabolism, such as vitamins A, C and E*
- Features black currant seed oil and ultra-pure USP®-verified fish oil
- Promotes long-lasting relief with continued use; results typically experienced within 30-60 days
- Manufactured in NSF®-certified facilities from the finest quality, bioavailable ingredients
- Four softgels taken orally per day

** HydroEye can be appropriately combined with any other ScienceBased Health product*

WHAT IS DRY EYE?

In dry eye syndrome, the eye's conjunctiva and cornea are chronically dry due to inadequate tear fluid or excessive tear loss. People with dry eye frequently experience itching, burning or gritty sensations. Some also notice a flood of tears after eye irritation. Reading, working on the computer, driving or watching TV for long periods can aggravate these symptoms.

Factors such as low humidity, air travel, heating or air conditioning, and contact lens wear can also contribute to dry eye. In addition to discomfort, dry eye can reduce visual function during everyday activities such as reading or driving[1], and can even lead to corneal damage if left untreated.

CAUSES OF DRY EYE

The ocular surface, along with the main tear gland and the nerves connecting them, are considered a functional unit. The cornea, conjunctiva, accessory tear (lacrimal) glands, and oil secreting (meibomian) glands are all considered part of the ocular surface system. When any one of these is compromised, ocular surface support can be impaired[2].

Aging and the loss of hormones after menopause, for example, can disrupt ocular surface support and promote dry eye. In Sjögren's syndrome, damage to the lacrimal gland causes diminished tear formation and dry eye. Conditions such as rosacea can affect the oil producing glands, causing tears to evaporate more readily. Dry eye can also follow surgical procedures such as LASIK and PRK[3].

PRO- & ANTI-INFLAMMATORY FATS

Dietary fatty acids are stored in cell membranes. With injury or insult, some of these fatty acids can be mobilized and transformed into prostaglandins, small hormone-like compounds that help regulate a variety of processes in the body, including inflammation.

Although the causes of dry eye are varied, chronic inflammation is a common underlying and critical factor in dry eye disease[3]. Some members of the omega-6 and omega-3 families of fatty acids serve as building blocks for anti-inflammatory prostaglandins. Certain fatty acids can be converted in the body to anti-inflammatory prostaglandins (PGE1 and PGE3). These anti-inflammatory fats include gamma-linolenic acid (GLA) of the omega-6 family, as well as eicosapentaenoic (EPA), docosahexaenoic (DHA) and alpha-linolenic (ALA) acids of the omega-3 family. The balanced blend of omega fatty acids in HydroEye bolster the body's ability to quell inflammation.

CLINICALLY TESTED, SAFE & EFFECTIVE

Researchers conducted a multi-center, randomized, controlled trial, evaluating the effects of HydroEye in postmenopausal women with dry eye (moderate-to-severe KCS) over a 6-month period[4]. Compared to those in the placebo group, participants receiving HydroEye had significant improvements in irritation symptoms, lower levels of inflammation and a smoother corneal surface, which correlates with quality of vision. Compliance was good and no safety issues were noted in this trial. To learn more, visit: **SBH.com/HydroEyeTrial**.

RATIONALE FOR KEY INGREDIENTS

Omega Fatty Acids: GLA (235 mg), EPA (100 mg) and DHA (70 mg) from USP-Verified Fish Oil

HydroEye combines the unique omega-6 fatty acid, GLA from black currant seed oil (also providing ALA), with EPA and DHA from ultra-pure USP®-verified fish oil. Pairing balanced amounts of GLA and these other omega fats has been shown to help block formation of pro-inflammatory prostaglandins[5] while stimulating production of the anti-inflammatory kind. Their complimentary actions enhance the ability of HydroEye to help manage dry eye disease. Clinical findings[4] indicate that HydroEye positively impacts dry eye by providing symptom relief, halting the progression of inflammation and maintaining corneal smoothness. Results from previous studies lend credence to these findings:

Suggested Use: Take a total of four softgels daily, with meals.

Note: Using HydroEye with anticoagulants, such as coumadin, may increase their effect. Prothrombin time (bleeding time) can be assessed by the primary care physician to ensure the safe addition of HydroEye to an anticoagulant regimen. Sufficient scientific evidence for safe use of GLA during pregnancy or breastfeeding is not available. Individuals with medical conditions should consult a physician before using. Keep out of the reach of children.

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

Supplement Facts

Serving Size: 4 softgels
Servings Per Container: 30

	Amount Per Serving	% Daily Value*
Calories	30	
Total Fat	2.5 g	3%
Vitamin A (from retinyl palmitate and cod liver oil)	625 mcg RAE	69%
Vitamin C (as ascorbic acid)	240 mg	267%
Vitamin E (d-alpha tocopherol)	8 mg	53%
Vitamin B6 (from pyridoxal 5-phosphate)	12.6 mg	741%
Magnesium (from magnesium sulfate)	40 mg	10%
Black Currant Seed Oil [15% gamma linolenic acid (GLA); also contains 12-15% alpha linolenic acid (ALA)]	1570 mg	†
Omega-3 Fatty Acids (100 mg EPA, 70 mg DHA from USP®-Verified fish oil)	170 mg	†

*Percent Daily Values are based on a 2,000 calorie diet.
† Daily Value not established.

Other Ingredients: Bovine Gelatin, Glycerin, Beeswax, Water, Mucin Complex, Sunflower Lecithin, Caramel Color, Titanium Dioxide and Lemon Oil.

ScienceBased HEALTH®

1.888.433.4726

www.SBH.com

Omega Fatty Acids: GLA, DHA and EPA (Continued)

- A number of trials report that GLA improves contact lens comfort, and reduces signs and/or symptoms of dry eye in those with ocular inflammation, people undergoing corrective laser procedures, those with Sjögren's syndrome, and in patients with meibomian gland dysfunction[6-10].
- A controlled study in healthy older individuals found that black currant seed oil decreased production of the pro-inflammatory prostaglandin, PGE2, and improved immune function[11].
- Higher dietary intake of EPA and DHA from fish has been reported to reduce the risk of dry eye in women[12].
- A combination of GLA, EPA and DHA has have been reported to reduce levels of inflammation in dry eye patients[13].

Vitamin C (240 mg)

Vitamin C is the most abundant water-soluble antioxidant in tear fluid. It acts to neutralize free radicals and helps recharge the antioxidant vitamin E. Biomarkers of oxidative damage are higher in tear fluid of dry eye patients versus controls[14]. Vitamin C levels are also known to drop significantly in tears of those undergoing laser surgery – procedures known to generate free radical activity[15]. Vitamin C may also help prevent corneal haze that can develop after PRK[16].

Other Essential Nutrients

HydroEye delivers vitamin A, essential for the health of the epithelial cells of the eye's cornea and conjunctiva. Vitamin A is also required for production of mucin, the primary component of the mucous or innermost tear film layer[17]. Secreted by goblet and epithelial cells of the conjunctiva, mucin helps lubricate and ensure even distribution of tear fluid. Loss of goblet cells has been associated with chronic ocular surface inflammation in tear deficient dry eye.

Dietary shortfalls of magnesium and vitamin B6 are relatively common, especially among women and older individuals (groups in which dry eye commonly occurs). HydroEye includes these nutrients, which are important cofactors for the metabolism of fatty acids.

REFERENCES

1. Goto E, et al. Impaired functional visual acuity of dry eye patients. Am J Ophthalmol 133: 181-186, 2002.
2. Gipson IK. The Ocular Surface: The Challenge to Enable and Protect Vision. The Friedenwald Lecture. Invest Ophthalmol Vis Sci 48:4391-98, 2007.
3. Stevenson W, et al. Dry eye disease: an immune-mediated ocular surface disorder. Arch Ophthalmol 130:90-100, 2012.
4. Sheppard JD Jr, et al. Long-term supplementation with n-6 and n-3 PUFAs improves moderate to severe Keratoconjunctivitis sicca: A randomized double-blind clinical trial. Cornea [Epub ahead of print, July 23, 2013].
5. Barham JB, et al. Addition of EPA to GLA-supplemented diets prevents serum arachidonic acid accumulation in humans. J Nutr 130: 1925-31, 2000.
6. Barabino S, et al. Systemic linoleic and gamma-linolenic acid therapy in dry-eye syndrome with inflammatory component. Cornea 22: 97–101, 2003.
7. Macri A, et al. Effect of linoleic acid and gamma-linolenic acid on tear production, tear clearance and on the ocular surface after photorefractive keratectomy. Graefes Arch Clin Exp Ophthalmol 241: 561-6, 2003.
8. Kokke KH, et al. Oral omega-6 essential fatty acid treatment in contact lens associated dry eye. Contact Lens Anterior Eye 31:141-146, 2008.
9. Aragona P, et al. Systemic omega-6 essential fatty acid treatment and PGE1 tear content in Sjogren's syndrome patients. Invest Ophthalmol Vis Sci 46: 4474-4479, 2005.
10. Pinna A et al. Effect of oral linoleic and gamma-linolenic acid on meibomian gland dysfunction. Cornea 26:260-4, 2007.
11. Wu D, et al. Effect of dietary supplementation with black currant seed oil on the immune response of healthy elderly subjects. Am J Clin Nutr 70: 536-543, 1999.
12. Miljanovic B, et al. Relation between dietary n-3 and n-6 fatty acids and clinically diagnosed dry eye syndrome in women. Am J Clin Nutr 82: 887-93, 2005.
13. Brignole-Baudouin F, et al. A multicentre, double-masked, randomized, controlled trial assessing the effect of oral supplement-ation of Ω-3 and Ω -6 fatty acids on a conjunctival inflammatory marker in dry eye patients. Acta Ophthalmol. 89: e591–e597, 2011.
14. Augustin AJ, et al. Oxidative reactions in the tear fluid of patients suffering from dry eye. Graefes Arch Clinc Exp Ophthalmol 233: 694-698, 1995.
15. Bilgihan A, et al. Ascorbic acid levels in human tears after photoreactive keratectomy (PRK), transepithelial photoreactive keratectomy, and laser in situ keratomileusis (LASIK). J Cataract Refract Surg 27: 585-588, 2001.
16. Stojanovic A et al. Ascorbate prophylaxis for corneal haze after photorefractive keratectomy. J Refract Surg 19:338-43, 2003.
17. Tei M, et al. Vitamin A deficiency alters the expression of mucin genes by the rat ocular surface epithelium. Invest Ophthalmol Vis Sci 4: 82-88, 2000.