**Reference:**

Pilot, Prospective, Randomized, Double-masked, Placebo-controlled Clinical Trial of an Omega-3 Supplement for Dry Eye

Wojtowicz, J. et al., Cornea, 30: in press, 2011

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**Summary:**

Dry eye syndrome (DES) is an eye disease caused in part by decreased tear production with typical symptoms including assorted eye irritations including dryness, burning, itchy feeling, fatigue, pain, redness, and excessive sensitivity to bright light. If the condition becomes severe or is not successfully treated, it can produce complications leading to eye damage. The prevalence of DES increases with age in the population such that up to 30% of people over age 50 in some regions suffer from this condition.

In the present study, patients with dry eye were treated with daily omega-3 supplementation consisting of 300 mg DHA plus 450 mg EPA plus 1000 mg flaxseed oil for a duration of 90 days. A total of 36 patients were clinically evaluated at baseline (entry) and at the end of the study. Tear secretion and tear volume was also assessed (by Schirmer testing and fluorophotometry). When the supplementation trial ended, 70% of the patients in the treatment group became symptom-free as compared to only 7% of those on the placebo (control) group. Further, the average tear production and tear volume was increased in the omega-3 group.

**Dr. Holub’s Comments:**
Omega-3 Supplementation Found to Alleviate Dry Eye Syndrome
Monday, 17 January 2011 00:00

It is noted that the omega-3 supplementation regimen included DHA plus EPA from fish oil sources plus 1000 mg of flaxseed oil which would have been expected to provide approx. 500 mg of LNA (alpha-linolenic acid). Since DHA and EPA, and not LNA, are the precursors for the formation of the anti-inflammatory bioactive products known as resolvins and protectins, it remains to be determined to what extent, if any, the presence of the plant-based omega-3 (i.e., LNA from flax) may have contributed to the overall favourable effects. It is known that the human body has a very limited capacity to metabolically convert LNA to EPA/DHA. Very recently, research using a dry eye mouse model (after exposing the mice to dessicating conditions) has revealed that the direct topical application of resolvin E1 (as derived from EPA omega-3) was found to significantly improve tear production and to decrease inflammation (Li et al., J. Ocular Pharm. and Therapeutics, 26: 431-439 (2010). These findings suggest that such omega-3 products, resolvins and protectins, may have therapeutic potential in treating DES.