

## Eye Abstracts

These articles are just a few of the studies that discuss AMD (age related macular degenerative disease). Note, however, that there are as yet no adult studies specifically studying the eye using our product. The conclusions indicate omega-3 fatty acids level is inversely related to AMD and specifically DHA impact on AMD.

- **AREDS report no. 20 Age related eye disease study research group. SanGiovanni et al. Arch Ophthalmol. 2007.125(5):671-91**

Evaluated the association of lipid intake with baseline severity of age related macular degeneration (AMD). 4500 subjects aged 60-80 enrolled providing semi-quantitative food frequency questionnaire. Stereoscopic color fundus photographs categorized subjects into 4 groups of AMD severity.

**Findings:** In their analysis dietary total omega-3 intake is inversely associated with neovascular AMD, a direction of benefit was seen for DHA with AMD among AREDS subjects in the highest levels (fourth and fifth quintiles). Higher fish consumption was also inversely associated with neovascular AMD prevalence.

- **Coleman et al. Curr Opin Ophthalmol. 2007,18:220-223.**

This review summarizes the current status of the role of nutrition in the prevention of age-related macular degeneration.

**Findings:** Omega-3 fatty acids are associated with a decreased risk of advanced AMD. DHA is found in high concentrations in the photoreceptor outer segments and is constantly shed and turned over during the normal visual cycle. The authors conclude that a deficiency of DHA may impair retinal function and promote AMD. Further investigation into the role of nutritional supplements including DHA is being conducted in AREDS2.

- **Connor et al. Nat Med, 2007. 13(7):868-73**

This paper summarizes findings from preclinical studies.

**Findings:** The studies show that increasing omega-3 fatty acid tissue levels by dietary or genetic means decreased the avascular area of the retina by increasing vessel regrowth after injury, thereby reducing the hypoxic stimulus for neovascularization (new blood vessel formation). The bioactive mediators were identified which protected the eye from neovascularization.

- **Cho et al. Am J Clin Nutr 2001;73:209-18**

A prospective follow-up study of participants in the Nurses' Health Study including 42,743 women and 29,746 men. They investigated the association between fat intake and AMD.

**Findings:** A high fish intake may reduce the risk of AMD, whereas a total fat intake was positively associated with AMD. DHA had a modest inverse relationship to risk of AMD.

- **Milanovic et al. Am J clin Nutr 2005: 82:887-93**

39,876 female health professionals in the Women's health study aged 45-84 provided diet information via food frequency questionnaire. Logic regression modeling was used to estimate the odds ratios to determine the association between the dietary intake and ratio of n-3 and n-6 fatty acids and dry eye syndrome (DES).

**Findings:** A higher intake of omega-3 fatty acids is associated with a decreased incidence of DES in women. Women with highest intakes of DHA had a significantly lower risk of DES than did those with the lowest intake.