

Omega-3 Essential Fatty Acids Associated in Protection Against Macular Degeneration



The June, 2009 issue of the AMA journal *Archives of Ophthalmology* reported the results of a review which concluded that men and women with a high intake of Omega-3 Essential Fatty Acids (eicosapentaenoic acid - EPA, docosahexaenoic acid- DHA, and alpha-linolenic acid- ALA) or fish have a lower risk of developing **age-related macular degeneration (AMD)**.

"Docosahexaenoic acid (DHA) is present in high concentrations in the retinal outer segments, and its deficiency may initiate the onset of AMD," the authors write in their introduction. *"Long-chain Omega-3 fatty acids may also protect against oxygenic, inflammatory, and age-related retinal damage, 16 which are key pathogenic processes in AMD development."*

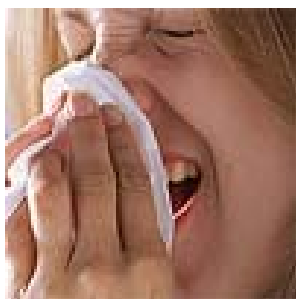
Elaine W-T. Chong, MBBS, of the University of Melbourne, Australia, and her associates selected 3 prospective cohorts, 3 case-control, and 3 cross-sectional studies, published prior to May, 2007 for the current review. The studies involved a total of 88,974 men and women, including 3,203 with age-related macular degeneration.

Analysis of the nine studies found a 38 percent reduction in the risk of late (advanced) AMD associated with a high intake of Omega-3 fatty acids compared to those whose intake was lowest. The relationship of Omega-3 fatty acid intake to early AMD was not analyzed due to limited data.

Eating fish was also associated with a reduced risk of late AMD. Participants whose fish consumption was highest at twice or more per week experienced a risk of late AMD that was a third lower than those whose intake was lowest. Additionally, subjects whose fish intake was highest had a 24 percent lower risk of early macular degeneration compared with the lowest group.

"These results suggest that high dietary intakes of Omega-3 fatty acids and fish are associated with a reduced risk of both early and late AMD," the authors conclude. ~ D. Dye

Probiotic improves immune response in seasonal allergy patients



An article published online on May 28, 2008 in the journal *Clinical & Experimental Allergy* described the discovery of UK researchers that the intake of a probiotic, *Lactobacillus casei*, modifies immune response in individuals with hay fever. The trial reported in the journal is the first human study of its kind to date.

Probiotics contain beneficial bacteria found in the human intestines. Intestinal microflora alterations have been implicated in the development of allergies, which suggests reactions between the intestine's immune system and specific bacteria.

In a double-blind trial, Professor Claudio Nicoletti and his associates at England's Institute of Food Research provided 20 hay fever sufferers with a milk drink containing live probiotic bacteria, or a drink containing no bacteria, to be consumed for a five month period encompassing grass pollen season. Blood samples collected before the study, at the peak of grass pollen season in June, and four weeks and after treatment were analyzed for immune system proteins known as cytokines, and plasma antibodies IgE and IgG. While IgG is believed to play a protective role against allergic reactions, IgE produces the symptoms

of hay fever by stimulating histamine release in response to pollen or fungal spores. Among those who received the probiotic-containing drink there was an increase in IgG, and a reduction IgE, antigen-induced interleukin-5, interleukin-6 and interferon-gamma production compared with those who received the placebo.

"This was a pilot study based on small numbers of patients, but we were fascinated to discover a response", Dr Nicoletti stated. "The probiotic significantly reduced the production of molecules associated with allergy."

Kamal Ivory, who is the report's first author, concluded, *"The probiotic strain we tested changed the way the body's immune cells respond to grass pollen, restoring a more balanced immune response."* ~ D. Dye

More evidence for Vitamin D's protective role against childhood diabetes



An article published online on June 5, 2008 in the journal [Diabetologia](#) reports the finding of researchers at the University of San Diego's Moores Cancer Center of a correlation between increased sun exposure and a lower incidence of type-1 [diabetes](#) in children. Ultraviolet B (UVB) radiation from the sun stimulates the synthesis of vitamin D3 in the skin.

Cedric F. Garland, DrPH, who is a professor of Family and Preventive Medicine in the UC San Diego School of Medicine, and his colleagues examined diabetes type-1 rates in 51 regions, and, after adjusting for cloud cover and per capital health care expenditure, found a lower risk of the disease in areas near the equator where sun exposure is greater, and an increased risk at higher latitudes. In regions with high UVB radiance, the incidence of type-1 diabetes approached zero.

"This is the first study, to our knowledge, to show that higher serum levels of vitamin D are associated with reduced incidence rates of type-1 diabetes worldwide," Dr Garland stated. "This research suggests that childhood type-1 diabetes may be preventable with a modest intake of vitamin D3 (1000 IU/day) for children, ideally with 5 to 10 minutes of sunlight around noontime, when good weather allows. Infants less than a year old should not be given more than 400 IU per day without consulting a doctor. Hats and dark glasses are a good idea to wear when in the sun at any age, and can be used if the child will tolerate them."

"This study presents strong epidemiological evidence to suggest that we may be able to prevent new cases of type-1 diabetes," Dr Garland concluded. "By preventing this disease, we would prevent its many devastating consequences." ~ D. Dye

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