

## Omega-3 Reduces Incidence of Type 2 Diabetes

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Diabetes mellitus is a chronic condition in which the body does not produce or does not use insulin effectively. It is not simply hyperglycemia, or too much glucose (sugar) in the blood. Ninety percent of individuals with diabetes have type 2 (NIDDM, non-insulin independent diabetes). Most of these individuals are over 40 years old.

Heart disease is the leading cause of diabetes-related deaths, with adults having two to four times higher heart disease death rates than adults without the disease. Patients with diabetes develop more atherosclerosis (hardening of the arteries) than people without diabetes, and some 60-65 percent of patients with diabetes have high blood pressure.

Omega-3 refers to a group or "family" of unsaturated fatty acids. The first fatty acid in this group is named alpha linolenic acid or just linolenic acid, and sometimes it is just called omega-3. Linolenic acid cannot be made in the body and therefore, it is classified as an essential fatty acid and must be obtained from either the diet or in supplement form.

The other two fatty acids in the omega-3 family are named eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). The body can manufacture EPA and DHA by conversions from linolenic acid. Flaxseed, chia, rapeseed, soybeans, alfalfa, and walnuts contain omega-3 fatty acids. Cold water fish and wild game also are sources of omega-3 fatty acids.

Data from the Cardiovascular Health Study (1992-2007) examined the relationship between blood levels of omega-3 fatty acid (n-3 FA) and incidence of type 2 diabetes. The study involved 3,088 older men and women with an average age of 75 years.

Results were both marine and plant sourced omega-3s were associated with lower risk of diabetes. The association was not by intake of omega-3s but by measuring blood levels of  $\alpha$ -linolenic acid (ALA), EPA and DHA. These findings confirm other recent observations that EPA and DHA were not associated with increased risk of diabetes but instead were found to reduce the risk of diabetes especially in individuals who had the highest concentrations of these fatty acids.<sup>1</sup>

1 Diousse L, Biggs ML, Lemaitre RN, et al. Plasma omega-3 fatty acids and incident diabetes in older adults. *Am J Clin Nutr.* Aug2011;94(2):527-33.