

## Omega-3-rich fish linked to better hearts in Japan

7/30/2008- **Large intakes of omega-3 fatty acids from fish may explain the low levels of heart disease in the land of the rising sun, says a new study.**

A comparison of blood omega-3 levels and atherosclerosis among Japanese, white American and Japanese American men found that Japanese men had the lowest levels of atherosclerosis and two times higher levels of omega-3 fatty acids than white Americans or Japanese Americans.

The study, published in the *Journal of the American College of Cardiology*, adds to an established body of science supporting the cardiovascular benefits of omega-3 fatty acids, first reported by Danish scientists in the early 1970s.

In addition to a lower risk of cardiovascular disease (CVD) risk, research has also linked omega-3 fatty acids to improved heart rhythms, and a reduced risk of a second heart attack.

*"Our study suggests that very high levels of omega-3 fatty acids have strong properties that may help prevent the buildup of cholesterol in the arteries,"* said lead author Akira Sekikawa, from the University of Pittsburgh Graduate School of Public Health.

*"Increasing fish intake to two times a week for healthy people is currently recommended in the U.S. Our study shows much higher intake of fish observed in the Japanese may have strong anti-atherogenic effect."*

### Study details

The population-based cross-sectional study examined data from 868 men aged between 40 and 49. Of these, 281 were born and living in Japan (Japanese), 306 were white men born and living in the US (white American), and 281 were Japanese men born and living in the US (Japanese-American).

Results showed that the Japanese men had the lowest atherosclerosis level - hardening of the arteries and a major risk factor for CVD - compared to their Japanese-American and white American counterparts, after accounting for potential confounding factors such as cholesterol levels, blood pressure, cigarette smoking, body mass index and diabetes.

Moreover, blood omega-3 levels were two-fold higher in Japanese men than the other two groups, report the researchers.

*"Given the similar levels of atherosclerosis in Japanese Americans and white Americans, it also tells us that lower levels of heart disease among Japanese men are much more likely lifestyle related than a result of genetic differences,"* said Sekikawa.

To assess the risk of atherosclerosis, the researchers looked at the intima-media thickness (IMT) of the carotid artery - a lower score indicating a reduced risk. As expected, Sekikawa and co-workers also report that increased omega-3 levels were associated with lower IMT scores.

Fish consumption among the Japanese is reportedly one of the highest in the world, with men consuming an average of 100 grams every day from early in life. On the other hand, Americans eat fish less than two times a week.

*"The Japanese eat a very high level of fish compared to other developed countries,"* said Sekikawa. *"While we don't recommend Americans change their diets to eat fish at these quantities because of concerns about mercury levels in some fish, increasing intake of omega-3 fatty acids in the US could have a very substantial impact on heart disease."*

The study was funded by grants from the National Institutes of Health and the Japanese Ministry of Education, Culture, Sports, Science and Technology.

### Pollution concerns

The risk of pollutants from oily fish, such as methyl mercury, dioxins, and polychlorinated biphenols (PCBs) have led to some to advocate a reduction in fresh fish intake, despite others advising that the benefits of fish consumption outweigh the risks.

Such conflicting views on fish intake have seen the number of omega-3 enriched or fortified products on the market increase as consumers seek omega-3s from 'safer' sources. Most extracted fish oil are molecularly distilled and steam deodorised to remove contaminants.

But fears about dwindling fish stocks have pushed some industries to start extracting omega-3s from algae. Indeed, companies such as Martek Biosciences and Lonza are already offering algae-derived omega-3 DHA as a dietary supplement.