



THE HEALTH SUPPLEMENTS INFORMATION SERVICE REAFFIRMS THE BENEFITS OF OMEGA 3 SUPPLEMENTATION

January 19, 2010 People with higher blood levels of omega 3 fatty acids (found in fish oils and oily fish) who have coronary heart disease (CHD) have a beneficial change in a biological marker associated with ageing, according to an intriguing new study published in the Journal of the American Medical Association this week¹.

Commenting on this research, Dr Ruxton from the Health Supplements Information Service (HSIS) notes; “Several studies have found increased survival rates among people with CHD and high intakes of marine omega-3 fatty acids. However, the mechanisms for this benefit are not entirely understood and this latest study increases our understanding of how omega 3 fatty acids may work at the level of the body’s cells to reduce ageing and improve survival. This study suggests that marine omega 3 fatty acids may actually protect against ageing.

“The biological marker associated with ageing looked at in this study was the telomere, which is a tiny structure located at the end of the chromosome. The telomere is associated with the replication and stability of the chromosome, which is essential for the health of the body’s cells. Ageing, and indeed genetic and environmental factors, is associated with shortening of telomere length, so if this shortening can be reduced, there exists the potential to delay biological ageing.

¹ *JAMA*. 2010;303[3]:250-257

“This is in fact what happened in this study among people with high blood levels of omega 3 fatty acids and CHD: the shortening of telomere length that occurs with ageing had an associated reduction in these people.

“So, how was the study conducted? Researchers from the University of California, San Francisco, set out to determine whether omega-3 fatty acid blood levels were associated with changes in leukocyte (a type of blood cell) telomere length in a study of 608 outpatients with stable coronary artery disease. The patients were recruited between September 2000 and December 2002 for the Heart and Soul Study, and followed up to January 2009. The researchers measured leukocyte telomere length at the beginning of the study and again after 5 years of follow-up. Statistical models were used to examine the association between baseline levels of omega-3 fatty acids (docosahexaenoic acid [DHA] and eicosapentaenoic acid [EPA]) with subsequent change in telomere length.

“The researchers found that individuals with the lowest blood levels of DHA+EPA experienced the fastest rate of telomere shortening, whereas those with the highest blood levels of EPA+DHA experienced the slowest rate of telomere shortening. Levels of DHA+EPA were associated with less telomere shortening before and, also after, adjusting for established risk factors and potential confounders. Each one-standard deviation increase in DHA+EPA levels was associated with a 32 percent reduction in the odds of telomere shortening.

“If this link between high omega 3 fatty acid levels and reduced ageing is confirmed in other studies, this has important implications for intakes of omega 3 fatty acids. Overall, however, the UK population fail to consume the currently recommended levels of omega 3 fatty acids which is two portions of fish (one of which should be oily) each week recommended by the Food Standards Agency. Omega-3 fatty acids are essential for health and this study enhances our growing understanding of their potential benefit for human health. As a result, people who

are not consuming enough oily fish a week should take an omega 3 supplement daily.”

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