



Press Release
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Study Shows Benefits of a High Omega-3 Diet in Older Adults

High Omega-3 Fat Intake Improves Insulin Sensitivity And Reduces Inflammatory Markers, But Does Not Alter Endocrine Responsiveness

Phoenix, Arizona. (May 2008) – A study conducted by Phoenix-based Kronos Longevity Research Institute (KLRI) found that a high omega-3 fat diet improves insulin sensitivity and reduces inflammatory markers, but does not alter endocrine responsiveness. This study was recently published in *Hormones and Metabolic Research*.

“As we age, hormone secretion and cell responsiveness decrease, possibly due to loss of cell membrane fluidity or alteration of the membrane,” said Dr. S. Mitchell Harman, MD, PhD, Director and President of Kronos Longevity Research Institute. “Animal studies have shown that omega-3 fatty acids may help hormone signals get into cells whose cell membrane has been stiffened by age.”

Omega-3 fatty acids are polyunsaturated fatty acids found in certain natural foods, such as fish, especially salmon and tuna. They are known to help protect against heart disease. KLRI examined the effects of a diet high in omega-3 fatty acids on the loss of normal hormone balance that occurs during normal aging. KLRI recruited men and women over the age of 60 to investigate whether a high omega-3 fatty acid diet would improve their endocrine function.

“It is possible to achieve significant changes in the fat molecules in cell membranes after relatively short periods of changes in one’s diet,” said Panayiotis D. Tsitouras, MD, Clinical Director at KLRI. “We wanted to see if we could improve mental function, hormone levels at rest and/or under stress, and immune function, toward a pattern more like that of younger individuals.”

In this study, all participants were given a conventional Western diet with defined fat and daily intake of olive/corn oil mix for six weeks. For the next eight weeks, participants were placed on a high omega-3 content fish diet with additional supplementation of fish oil, high in omega-3 polyunsaturated fat. This study had administered the highest known level of omega-3 than previous studies.

During the last week, membrane fatty acids were measured on each diet. Insulin sensitivity was also assessed. The results showed that in a diet with a high intake of omega-3, triglycerides were

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reduced in women and free fatty acids were reduced in men. Serum C-reactive protein was also reduced with a high omega-3 diet. No changes were found in metabolic parameters or hormone responses

"We concluded that a diet high in omega-3 increases insulin sensitivity and reduces inflammatory markers," said Harman. "However, it did not alter endocrine responsiveness after eight weeks."

These findings are consistent with other studies that have found that diets high in omega-3 and/or omega-3 supplements have anti-inflammatory benefits. Omega-3 fats are abundant in Japanese and Mediterranean diets, and are believed to contribute to low heart disease rates in those regions.

"Clearly, a diet rich in omega-3 fats is beneficial to one's heart health," said Tsitouras. "This study along with similar studies in the future will shed new light and pave the way for preventative measures for heart disease."

About Kronos Longevity Research Institute

Kronos Longevity Research Institute (KLRI) is a not-for-profit, 501(c)(3) organization that conducts state-of-the-art clinical translational research on the prevention of age-related diseases and the extension of healthier human life. KLRI tests new strategies to detect and prevent chronic diseases associated with aging and investigates the effects of innovative interventions to slow the aging process and improve health outcomes for older persons. In addition, KLRI helps the medical and lay communities understand important aging issues. KLRI research findings support a healthier quality of life and a robust lifestyle in our senior years. For more information, visit www.kronosinstitute.org.

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