

July 27th, 2011

New research indicates that supplemental fish oil, rich in fatty acids EPA and DHA, may reduce arterial stiffness, a risk factor for cardiovascular disease.

META-ANALYSIS SHOWS THAT OMEGA-3 FATTY ACIDS REDUCE ARTERIAL STIFFNESS

Fish oils, rich in long-chain omega-3 polyunsaturated fatty acids, are known to reduce various risk factors for cardiovascular disease. Conclusive evidence of the benefits of omega-3 on arterial stiffness has not yet been established.

Researchers recently sought to quantify the effects of omega-3 supplementation on arterial stiffness. A meta-analysis published in the *British Journal of Nutrition* suggests that omega-3's may influence heart health by reducing stiffness of the arteries.

A total of 550 participants were included in pooled results of 10 trials investigating the effects of omega-3 supplementation on arterial stiffness. Trials ranged from 6 weeks to 2 years, and supplemental dosages of combined EPA and DHA varied between 640 mg to 3000 mg. The study participants included healthy men and those with various cardiovascular conditions such as diabetes, hypertension and obesity.

Two methods of measurement were used: four studies used pulse wave velocity (PWV) and six used method known as arterial compliance.

The research revealed that supplementation of omega-3's was statistically significant in effectively improving both PWV and arterial compliance. Using pulse wave velocity, arterial stiffness was reduced by an average of 33% while arterial compliance suggested a 48% reduction. Changes in arterial stiffness were reported after factoring in any changes to blood pressure, heart rate, or body mass index.

This study is the first of its kind to assess effects of omega-3 supplementation on arterial stiffness. Although further research is needed to determine the optimal dosages of EPA and DHA, the present research supports the idea that fish oil may reduce arterial stiffness accounting for some of its purported cardiovascular benefits.

Matthew P. Pase, Natalie A. Grima and Jerome Sarris Do long-chain n-3 fatty acids reduce arterial stiffness? A meta-analysis of randomised controlled trials. British Journal of Nutrition.