

A new study has shown that smokers taking 2 grams of fish oil supplements daily show a significant improvement in blood vessel response to clotting and dilation, resulting in increased blood flow and improved vascular health.

Omega-3 fatty acids in fish oil improve vascular function in smokers

Cigarette smokers are known to have an increased risk of heart disease and myocardial infarction (MI). Smoking negatively affects the cells lining the blood vessels (endothelial cells) and reduces the body's output of plasminogen activator (t-PA), a substance involved in the normal breakdown of clots within the vessels. Previous research has linked fish oil to heart health benefits associated with improvements in blood lipid levels, blood pressure, heart rate, reductions in clotting, and overall vascular health.

In a new study published in the journal *Heart*, researchers investigated the effects of omega-3 fatty acid supplementation on cardiovascular health and vascular function in otherwise healthy smokers.

The randomized, double-blind, placebo controlled crossover trial included 20 cigarette smokers that were given either 2 grams of fish oil or placebo for a 6 week period.

The daily fish oil supplements were associated with an increase in t-PA at twice the level of the placebo group. Substances known to dilate blood vessels, thereby increasing blood flow, were also significantly higher in the omega-3 supplemented group compared to placebo.

This study is the first to show that omega-3 fatty acids may enhance endothelial t-PA release and improve endothelial vasomotor function in cigarette smokers. The researchers note that while the omega-3 supplements may have improved vascular function in smokers, they still aren't likely to match the endothelial function of non-smokers, so quitting smoking is still a key factor in reducing heart disease risk.

Din JN et al. Effect of ω -3 fatty acid supplementation on endothelial function, endogenous fibrinolysis and platelet activation in male cigarette smokers. *Heart*. 2013 Feb;99(3):168-74.