Essentials of Health

A new study shows that supplementation with omega-3 fatty acids from fish oil may improve exercise performance in trained athletes by increasing blood flow, nitric oxide release, and maximum oxygen uptake.

Omega-3 fatty acid supplementation improves performance in trained cyclists

There is a small but growing body of scientific evidence supporting the sports nutrition benefit of omega-3 fatty acids. In a new study published in the *European Journal of Sport Science* researchers evaluated the effects of omega-3 fatty acid supplementation on exercise performance of a small group of trained cyclists.

The study included 13 elite cyclists that were randomly selected to take either 1.3 grams of omega-3 supplements or a placebo daily for 3 weeks. Researcher's analyzed flow-mediated dilation (FMD, a measure of blood flow and vascular health), pulse wave velocity, serum markers (nitric oxide (NO) and asymmetric dimethylarginine (ADMA), and ultrasound measurements of endothelial function and maximum oxygen uptake both before and after the supplementation period.

Researchers observed a significant difference between the pre- and post-intervention baseline NO levels after the omega-3 supplementation, but not in the placebo group. There was also a positive correlation between the increased concentration of NO and maximum oxygen uptake in the supplemented athletes. The supplemented group also experienced a 5.25% increase in flow-mediated dilation (blood flow) that was not seen in the placebo group.

These findings suggest that an increase in nitric oxide levels resulting from omega-3 fatty acid supplementation may play an important role in cardiovascular mechanisms of adaptation that may enhance exercise performance in trained athletes.

Aleksandra Żebrowskaa*, Katarzyna Mizia-Stecb, Magda Miziab, Zbigniew Gąsiorb & Stanisław Poprzęcki Omega-3 fatty acids supplementation improves endothelial function and maximal oxygen uptake in endurance-trained athletes. European Journal of Sport Science Volume 15, Issue 4, 2015.