
Three Devastating Problems Proving Fish Oil is the Wrong Choice

Fish oil use has many advocates and a ridiculous number of studies that apparently support the use of fish oil prophylactically, as well as to treat a laundry list of ailments.

Are over 15,000 studies showing the miraculous benefits of fish oil enough? It doesn't look like it since countless more fish oil studies are continuously being conducted. Do you get the impression they are "trying a little too hard"? The eminent physician/statistician John Ioannidis, MD, DSc, heading Stanford University's Preventive Research Center, has voiced his concern on more than one occasion.

Simply put, high numbers of "studies" alone can never be substituted for the incontrovertible proof and consistency that is required and exists in the hard sciences. Science is not swayed by the latest fad or poorly conceived study. However, medical scientists are human, and as such suffer from normal human weaknesses. They want to find a solution to the myriad of medical problems facing all of us today, and for the most part, want to help those around them.

Unfortunately, in their zeal to advance science, they all too often inadvertently compromise the scientific standards that have stood for centuries. *Always remember to distinguish the often inflated, well-intentioned latest findings from the unwavering rock-solid science that is at the core of the uncompromising scientist.*

This paper is written for that strong, hardcore scientist that lives among us – the person who is not swayed by hype or marketing. This is the person who asks the hard questions, and doesn't stop digging and prodding until the truth is uncovered. This is the person who asks the simple question, "How could this work be based on the science that we already know?" Are you that rare person that wants the science, and nothing but the science? If so, please read on.

Fish oil manufacturers and their advocates have claimed many things that fish oil accomplishes when included in your daily regimen. Our purpose is not to address each claim made by fish oil advocates since that will be a never-ending exercise in futility. Each time one outlandish claim is exposed, another will appear in its place. Instead, the approach we will employ is to enumerate the obvious problems in fish oil consumption by humans based solely on the biochemistry and physiology of the human being. *Have you ever wondered why a human would suffer from a fish oil deficiency?*

We will look at three of the most egregious claims by fish oil advocates. There are many more, but let's focus on these three claims, and then the true data:

Claim: Fish oil helps give you the long-chain fats in which you are deficient.

Truth: *EFA derivatives (like DHA/EPA) are normally made in extremely small percentages by a human being.*^{1,2,3} Scientists at the USDA used very precise analysis to measure and discovered only 0.05% of ALA was converted to DHA and only 0.2% of ALA was converted to EPA. However, fish oil gives you 20x–500x the amounts of DHA/EPA – its active components – that your body would naturally produce on its own. These are supra-physiologic amounts and reason for great concern. Contrary to popular belief, highly accurate current analysis shows the average person (even babies) is able to convert ALA (parent omega-3) into EFA derivatives without problem.^{4,5,6,7}

Claim: Fish oil helps diabetics and helps prevent diabetes and its complications.

Truth: *Resting blood sugars are consistently higher for fish oil users.*^{8,9,10} Insulin amounts had to be consistently increased in diabetics who were using fish oil. Glucose tolerance decreased significantly, and the insulin response was significantly blunted (a bad outcome).

Claim: Fish oil helps your heart and prevents heart disease.

Truth: Prostacyclin (PGI₂)¹¹ – the body's "natural

blood thinner" – is the body's most potent natural anti-platelet aggregatory agent. It is also a natural anti-adhesive (antithrombosis) agent. But prostacyclin levels are **reduced by an average of 42% in humans with existing atherosclerosis using fish oil.**¹² That means fish oil potentially makes existing heart disease worse, not better. Minimizing platelets from "sticking together" or sticking to an arterial wall should be the #1 concern of a patient with existing cardiovascular disease.

These three enormous problems must first be answered using incontrovertible science, not the *pseudo* science that is tossed around by the well-intentioned but uninformed.

Endnotes:

- 1 Salem N, Lin Y, Brenna JT, Pawlosky RJ. "Alpha-linolenic acid conversion revisited." *PUFA Newsletter*, December 2003.
 - 2 Pawlosky RJ, Hibbeln JR, Novotny JA, Salem N Jr. "Physiological compartmental analysis of alpha-linolenic acid metabolism in adult humans." *J Lipid Res* 2001;42:1257-65.
 - 3 Goyens PL, Spilker ME, Zock PL, Katan MB, Mensink RP. "Conversion of alpha-linolenic acid in humans is influenced by the absolute amounts of alpha-linolenic acid and linoleic acid in the diet and not by their ratio." *Am J Clin Nutr* 2006;84:44-53.
 - 4 Carnielli, V.P., et al., "The very low birth weight premature infant is capable of synthesizing arachidonic and docosahexaenoic acids from linoleic and linolenic acids," *Pediatric Research*, Vol. 40, No. 1, 1996, pages 169-174.
 - 5 "Flaxseed oil and fish-oil capsule consumption alters human red blood cell n-3 fatty acid composition: a multiple-dosing trial comparing 2 sources of n-3 fatty acid," *American Journal of Clinical Nutrition*, Vol. 88, No. 3, 801-809, September 2008.
 - 6 Hussein, Nahed, et al., "Long-chain conversion of linoleic acid and alpha-linolenic acid in response to marked changes in their dietary intake in men," *Journal of Lipid Research*, Volume 46, 2005, pages 269-280.
 - 7 Pawlosky RJ, Hibbeln JR, Novotny JA, Salem N Jr. "Physiological compartmental analysis of alpha-linolenic acid metabolism in adult humans." *J Lipid Res* 2001;42:1257-65.
 - 8 Stacpoole, P, Alig, A., Ammon, L., and Crockett, E., "Dose-Response Effects of Dietary Marine Oil on Carbohydrate and Lipid Metabolism in Normal Subjects and Patients With Hypertriglyceridemia," *Metabolism*, Vol. 38, No 10 (October), 1989, pages 946-986.
 - 9 "Adverse Metabolic Effect of Omega-3 Fatty Acids in Non-Insulin Dependent Diabetes Mellitus," Gluaber, H. et al., *Annals of Internal Medicine*, 1988; 108:663-668.
 - 10 "Fish-oil supplementation reduces stimulation of plasma glucose fluxes during exercise in untrained males," *British Medical Journal of Nutrition*, 2003, 90, 777-786.
 - 11 Bunting, S., Moncada, S, and Vane, J.R., "Prostacyclin – Thromboxane A2 Balance: Pathophysiological and Therapeutic Implications," *British Medical Journal*, 1983, Vol. 39, No. 3, pages 271-276.
 - 12 Knapp, H, et al., "In vivo indexes of platelet and vascular function during fish-oil administration in patients with atherosclerosis," *The New England Journal of Medicine*, Vol. 314, April 10, 1986, No. 15, pages 937-942.
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