

# Analysis of conflicting fish oil studies finds that omega-3 fatty acids still matter

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Literally hundreds of clinical trials, including some that have gained widespread attention, have been done on the possible benefits of omega-3 fatty acids for the prevention of heart disease – producing conflicting results, varied claims, and frustrated consumers unsure what to believe.

A recent analysis done by scientists in the Linus Pauling Institute at Oregon State University, published in the [Journal of Lipid Research](#), has sorted through many of these competing findings, and it helps to explain why so many of the studies seem to arrive at differing conclusions.

The review concludes that both [fish consumption](#) and dietary omega-3 [fatty acid supplements](#) may still help prevent heart disease; that some [fatty acids](#), from certain sources, are more effective than others; that these compounds may have enormous value for serious health problems other than heart disease; and that the very effectiveness of modern [drug therapies](#) for heart disease may be one explanation for the conflicting findings on the benefits of omega-3 fatty acids.

"After decades of studying omega-3 fatty acids, it's clear that they have value in primary prevention of heart disease," said Donald Jump, author of the analysis, a principal investigator in the Linus Pauling Institute, and professor in the OSU College of Public Health and Human Sciences.

"It's less clear how much impact [fish](#) oils have in preventing further [cardiovascular events](#) in people who already have [heart disease](#)," Jump

said. "The studies done several decades ago showed value even for that patient population, but the more recent studies are less conclusive. We believe that one explanation is the effectiveness of current state-of-the-art treatments now being offered."

Some of the earliest work that raised interest in omega-3 fatty acids was done in the 1970s with Greenland Inuits, who ate large amounts of fish and were found to have unusually low levels of [cardiovascular disease](#). But, Jump said, millions of people now at risk for cardiovascular disease take medications such as statin drugs for high cholesterol; fibrates for high triglycerides; anti-thrombotics to thin their blood; and other drugs with anti-inflammatory or anti-arrhythmia effects.

Fish oils can have positive effects on virtually all of these same cardiovascular risk factors, Jump said, but so can the drugs.

"Some of the early studies done on fish oil were prior to so many effective medications being widely available and heavily used," Jump said. "And people often forget that nutrients, like fish oils, are less potent than prescription drugs, and often have their best value when used for extended periods.

"When so many people in these studies are taking a regimen of medications to address the same issues that fish oil might also affect, it's easy to understand why any added benefit from the fish oils is more difficult to detect," he said.

The point, Jump said, is not that omega-3 fatty acids have no value – they do. But for studies of their value in cardiovascular disease, which are often done when patients are taking other medications, that value is less clear.

A wide body of other research, he says, makes it clear that omega-3 fatty

acids also have health benefits that go beyond cardiovascular disease. They have been shown to improve visual acuity; improve cognitive function and reduce dementia; reduce inflammation and perhaps some types of cancer, such as colon cancer; and reduce total mortality.

Among the findings of this review:

- An important type of omega-3 fatty acid for human health is DHA, which is the predominant omega-3 fatty acid that accumulates in tissues.
- Plant-derived sources of these fatty acids, such as flaxseed oil or chia seeds, have less benefit than those from cold-water fish, because of differences in how the human body processes these nutrients.
- For individuals unwilling or unable to consume fish or [fish-oil](#) supplements, some products made from yeast or algae are high quality.
- It's difficult to be certain of the amount of [omega-3 fatty acids](#) in farm-raised fish, since these fish require dietary omega-3 supplementation.

"We still believe the evidence is strong that the EPA and DHA content in heart tissues and blood is important to health and to the prevention of cardiovascular disease," Jump said. "To meet the current recommendations for primary prevention of cardiovascular disease, individuals are advised to consume 200-300 milligrams of combined EPA and DHA per day."

Provided by Oregon State University

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