

Krill Can Reduce Cardiovascular Risk Factors

Analysis by [Dr. Joseph Mercola](#)

✓ Fact Checked

STORY AT-A-GLANCE

- › Researchers found omega-3 fatty acids derived from krill oil could reduce triglyceride levels and help reduce cardiovascular risk, the No. 1 cause of death in men and women in the U.S.
- › The omega-3 fats in krill oil may be more bioavailable as they are bound in a phospholipid. Omega-3 is naturally found in fatty fish, but steer clear of farmed salmon that has only half the omega-3, more omega-6 and 25% of the vitamin D found in wild salmon
- › Omega-3 fat is also beneficial in the treatment of depression, reducing inflammation, improving metabolic syndrome and insulin resistance, and optimizing muscle building and bone strength
- › Your omega-3 index has a greater predictive value than cholesterol levels for heart disease and is a good predictor of overall health and all-cause mortality
- › While omega-3 appears to have a protective effect against COVID death, statins are linked to a higher risk of death from COVID and Type 2 diabetes. They also can double the risk of dementia, cancer, cataracts and musculoskeletal disorders, and triple the risk of coronary artery and aortic artery calcification

Heart disease is the No. 1 cause of death for men and women in the U.S. According to the Centers for Disease Control and Prevention,¹ one person dies every 36 seconds from

cardiovascular disease. One identified risk factor is high triglyceride levels, which are a type of necessary fat. However, in excess, it can increase your risk for heart disease.²

Research published in January 2022³ analyzed data from two randomized clinical trials and found that omega-3 fatty acids derived from krill oil could reduce triglyceride levels effectively and are safe and well-tolerated by the participants.

Having elevated triglycerides is just one factor that increases your risk for heart disease.⁴ However, cholesterol levels in general have long been at the center of an ongoing disagreement as to whether they actually influence heart disease. Mounting evidence shows that high cholesterol levels such as LDLs do not influence cardiovascular disease in most people.⁵

For example, a national study⁶ from the University of California Los Angeles demonstrated that 72.1% of people who had a heart attack did not have low-density cholesterol levels which would have indicated they were at risk for cardiovascular disease.⁷

In fact, their LDL cholesterol was within national guidelines and nearly half were within their optimal levels. More than half the patients hospitalized with a heart attack had high-density lipoproteins (HDL) in the poor range, based on a comparison to national guidelines.

Other commonly identified risk factors for heart disease include high blood pressure, Type 2 diabetes, obesity, tobacco use, excessive alcohol use and not getting enough physical activity,⁸ yet, some scientists and doctors continue to recommend lowering fat consumption and using medications to lower cholesterol levels. As I discuss below, though, omega-3 fatty acids may have greater predictive value than cholesterol.

Krill Oil Lowers Triglyceride Levels

The study published in JAMA⁹ pooled the results of two randomized, double-blind placebo-controlled trials that had enrolled participants at 71 U.S. centers and the second from 93 centers in the U.S., Canada and Mexico. To be eligible in the two

studies, participants had to have a fasting triglyceride level between 500 to 1500 mg per deciliter (mg/dL).¹⁰

The normal range for triglycerides levels is less than 150 mg/dL.¹¹ In total, over 26 weeks, 520 participants took a daily dose of 4 grams of naturally sourced krill oil that contained eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) as phospholipid esters and free fatty acids.¹² The control group were given a placebo-containing cornstarch.¹³

The analysis of the two studies is the largest clinical investigation using an omega-3 formulation in a patient group with high triglycerides. Both studies used a krill oil supplement produced by Aker BioMarine,¹⁴ which is based in Oslo, Norway.

Katina Handeland, from Aker BioMarine, commented in a press release,¹⁵ “This groundbreaking study gives proof that krill oil is part of the solution to alleviate the burden cardiovascular disease has on society. This can potentially have a significant impact on improving the health condition of millions of people and reduce healthcare costs.”

The results of the analysis after 12 weeks showed that participants who consumed krill oil had a 26% reduction in their triglyceride levels as compared to their baseline measurement. Those in the placebo group had a 15.1% reduction.¹⁶

This rose even higher at 26 weeks to 33.5% in those taking krill oil versus 20.8% in those taking the placebo. When the data were further analyzed, the researchers discovered that those taking krill oil treatment lowered their triglycerides even further when they were also taking medication for hypertriglyceridemia. Handeland commented:

“When analyzing only those patients receiving medications for their hypertriglyceridemia at study start, the authors observed even stronger reductions in the krill oil group and less reductions in the placebo group. This is interesting as these patients may represent an even more ‘true’ hypertriglyceridemia patient population.”

Also interesting is the high placebo effect using cornstarch. Past animal research using high amylose corn starch has demonstrated it can lower plasma total cholesterol concentrations.¹⁷ Amylose is a polysaccharide commonly found in cornstarch.

The ratio of amylose to amylopectin determines whether the starch is high amylose. Common cornstarch has 25% amylose, while high amylose cornstarch has 55% to 70%.¹⁸ The type of cornstarch used by the researchers as a placebo was not identified in the study.

Benefits of Healthy Omega-3 Choices

Krill oil contains less EPA and DHA per gram of supplement than fish oil does. However, krill oil may be more bioavailable as the EPA and DHA are bound in a phospholipid form. William S. Harris, Ph.D., from the Fatty Acid Research Institute, is a noted omega-3 researcher and believes this study demonstrates the greater bioavailability of krill oil over fish oil.

He spoke to NutraIngredients-USA, saying:¹⁹ "It's certainly not news that omega-3s lower triglycerides, but what may be the news here is that a fairly low dose in this form can have this effect."

Omega-3 fatty acids are naturally found in fatty fish. It's important to note that not all fish contain omega-3 fats; it's only those found in cold water, such as wild-caught Alaskan salmon, anchovies, sardines, mackerel and herring. It is best to steer clear of farmed salmon due to the exaggerated potential for contamination.^{20,21}

They are also fed genetically engineered corn and soy, which is an unnatural diet and loaded with hazardous omega-6 fat. From a nutritional perspective, farmed salmon have the drawbacks of containing only half the omega-3 of wild salmon^{22,23,24} and one-fourth the vitamin D,²⁵ while having more than 5.5 times the amount of omega-6.^{26,27} Farmed salmon are also routinely exposed to antibiotics and pesticides.

DHA found in omega-3 fats is crucial for brain health. When omega-3 intake is inadequate your nervous system is more prone to inflammation, which affects

neurotransmission. Low DHA levels are linked to memory loss and Alzheimer's disease.

Some have suggested degenerative brain diseases may potentially be reversible with sufficient DHA.^{28,29} EPA is also beneficial in the treatment of depression.³⁰ There are other health benefits to consuming healthy omega-3 choices, including:

Reduce inflammation ^{31,32,33}	Protect vision ^{34,35}
Optimize muscle building ³⁶ and bone strength ³⁷	Improve metabolic syndrome and insulin resistance ^{38,39}
Improve mental health and behavior ^{40,41}	Reduce the risk of kidney disease ⁴² and colon cancer ⁴³

Omega-3 Index Predictive of All-Cause Mortality

A deficiency in omega-3 fatty acids leaves you vulnerable to chronic disease and lifelong challenges. Optimizing your levels is a foundational strategy that helps you attain and maintain good health. The best way to determine if you're getting enough food with omega-3 is to get tested.

Research⁴⁴ supported by the National Institutes of Health⁴⁵ suggest that an omega-3 test is a good predictor of overall health and all-cause mortality.^{46,47} Your omega-3 index is a measure of the amount of EPA and DHA in the membranes of your red blood cells (RBC). This index is expressed as a percent of your total RBC fatty acids.⁴⁸

The index has been validated as a stable, long-term marker of your omega-3 status and it reflects your tissue levels of EPA and DHA. An omega-3 index greater than 8% is associated with the lowest risk of death from heart disease while an index below 4% places you at the highest risk of heart disease-related mortality.⁴⁹

I firmly believe the index is one of the most important annual health screens that everyone needs. If your test results are low, consider using a krill oil supplement. Krill

are wild-caught and sustainable, more potent than fish oil and less prone to oxidation.

In addition to the benefits listed above, one study⁵⁰ published in January 2021 evaluated 100 individuals' omega-3 index and compared that against their COVID-19 outcomes. The primary outcome measurement in the study was death; risk was analyzed as a measure of quartiles.

As expected, the researchers found that older individuals and those admitted with a “do not resuscitate” order had a higher likelihood of dying. After separating samples from the highest to the lowest quartile they found only one death in the group whose omega-3 index measured 5.7% or greater. This was a 66-year-old man with a do not resuscitate order. In the other three quartiles, a total of 13 out of 75 of the patients died.

When compared against older age, the researchers found the risk of death from COVID-19 in individuals who had lower levels of omega-3 fatty acids was at least as predictive as being 10 years older.

The researchers also confirm past data that demonstrated the average person in the U.S. has an omega-3 index near 4%, as their data showed the average index was 5.09% and the median – half the number of people had a higher index, and half the number of people had a lower index – was 4.75%.

Statins Do More Harm Than Good

While krill oil and omega-3 fatty acids appear to have a protective effect against COVID-19, statins are linked to a higher risk of COVID death⁵¹ and double the risk of dementia.⁵² Statins are cholesterol-lowering medications that are among the most widely used drugs in the world. Roughly 50% of us adults over 75 years⁵³ take a statin medication in the misguided hope of preventing heart disease, heart attacks and stroke.

Among patients with Type 2 diabetes who are admitted to the hospital for COVID-19, researchers found that those taking statins had a significantly higher mortality rate within seven days and 28 days compared to those who did not take the drugs.⁵⁴

Additionally, a connection is already known between statins and diabetes.⁵⁵ People who take the drugs are more than twice as likely to be diagnosed with diabetes than those who do not, and those who take the drugs for longer than two years had the highest risk.

Statins also influence cognitive performance since lowering the levels of LDL cholesterol are linked to a higher risk of dementia. One study⁵⁶ engaged people with mild cognitive impairment and looked at the effects of two types of statins: hydrophilic and lipophilic.

Hydrophilic statins, which include pravastatin (Pravachol) and rosuvastatin (Crestor), dissolve more readily in water, while lipophilic statins, such as atorvastatin (Lipitor), simvastatin (Zocor), Fluvastatin (Lescol), and lovastatin (Altoprev), dissolve more readily in fats.⁵⁷ Lipophilic statins can easily enter cells⁵⁸ and be distributed throughout your body, whereas hydrophilic statins focus on the liver.⁵⁹

The data showed those individuals with early mild cognitive impairment and low to moderate cholesterol levels and who used lipophilic statins had more than double the risk of dementia compared to those who did not use statins.⁶⁰

Even as saturated fats and cholesterol have been vilified, and statin drugs have become among the most widely prescribed medications worldwide, heart disease remains a top killer.⁶¹

Despite statins being prescribed for sizable groups, and “target” cholesterol levels being achieved, a systematic review of 35 randomized, controlled trials found that no additional benefits were gained.⁶²

Statins are effective at lowering cholesterol, but whether this is the panacea for helping you avoid heart disease and extend your lifespan is a topic of heated debate. And, as mentioned earlier, one 2018 scientific review presented substantial evidence that high LDL and total cholesterol are not an indication of heart disease risk, and that statin treatment is of doubtful benefit as a form of primary prevention for this reason.⁶³

In short, these drugs have done nothing to derail the rising trend of heart disease, while putting users at increased risk of health conditions like diabetes, dementia and others, such as:

- **Cancer**⁶⁴
- **Cataracts**⁶⁵
- **Triple the risk of coronary artery and aortic artery calcification**⁶⁶
- **Musculoskeletal disorders, including myalgia, muscle weakness, muscle cramps, rhabdomyolysis and autoimmune muscle disease**⁶⁷
- **Depression**⁶⁸

In the event you're taking statins, be aware that they deplete your body of coenzyme Q10 (CoQ10) and inhibit the synthesis of vitamin K2. The risks of CoQ10 depletion can be somewhat offset by taking a Coenzyme Q10 supplement, or if you're over 40, its reduced form ubiquinol. But ultimately, if you're looking to protect both your brain and heart health, avoiding statin drugs and instead optimizing your diet and omega-3 index may be the answer.

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