

# MEDfacts

An Educational Health Series From National Jewish Health®



## Fish Oil and Omega-3 Fatty Acids

### What are Omega-3 Fatty Acids and Why are They Helpful?

Omega-3 fatty acids have become quite popular because of the many positive effects on human health. Omega-3 fatty acids benefit both healthy people as well as those with cardiovascular disease. Omega-3 fatty acids are thought to improve heart health by lowering triglycerides, raising good cholesterol (HDL, or high density lipoprotein), thinning the blood preventing blood clots from forming and protecting the heart from dangerous heart rhythms. Omega-3 fatty acids may also slow the progression of plaque build-up and lower blood pressure. In Italy, they are given routinely to heart attack patients. In other fields of medicine, omega-3 fish oils are thought to have anti-inflammatory effects.

### Where do Omega-3 Fatty Acids Come From?

Omega-3 fatty acids are essential to health but cannot be produced by the body. Three different forms of omega-3 fatty acids exist. They are eicosapentaenoic acid (EPA), docosahexaenoic acid (DHA) and  $\alpha$ -linolenic acid (ALA). ALA is found in plant sources (flaxseed oil) and food (flaxseeds, walnuts, tofu). EPA and DHA come from seafood, especially fatty fish such as salmon (see below).

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Fish	EPA Content (G/100 G)	DHA Content (G/100 G)	EPA + DHA (G/100 G)
Salmon (Atlantic)	0.690	1.457	2.147
Mackerel	0.504	0.699	1.203
Tuna (fresh)	0.283	0.890	1.173
Trout (Rainbow)	0.334	0.820	1.154
Tuna (canned)	0.233	0.629	0.862
Swordfish	0.138	0.681	0.819
Sea Bass	0.206	0.556	0.762
Flounder	0.243	0.258	0.501
Halibut	0.091	0.374	0.465
Crab (Alaskan King)	0.295	0.118	0.413
Shrimp	0.171	0.144	0.315
Catfish (farmed)	0.049	0.128	0.177
Cod	0.004	0.154	0.154

\*Source: United States Department of Agriculture. Nutrient Data Laboratory.

**Important Note:** Many health food stores carry literally 30 different types of fish oil. While no specific brand is recommended, often the mid-priced, less-hyped brands are just as good as the expensive brands. Expect to pay \$15-\$30 for a month's supply. The key is to ensure that the product is mercury free, as pure as possible and contains the right amount of EPA and DHA (see below).

### Treatment with Omega-3 Fatty Acids

The American Heart Association (AHA) recommends people without coronary heart disease eat a variety of fish, preferably fatty, at least twice a week. Increasing Omega-3 fatty acid intake through dietary sources is preferable. People with coronary heart disease are recommended to get 1 gram/day of EPA and DHA (or more). This amount of Omega-3 fatty acids would require considerable fish consumption. This is impractical for most. As such, fish oil supplements, either over the counter or prescription, are typically used to achieve recommended levels. This is often the case for people with high triglycerides which may require high levels of Omega-3 fatty acid intake. See the table below for AHA recommendations on increasing Omega-3 fatty acids.

Population	Recommendation
Patients without documented coronary heart disease (CHD)	Eat a variety of (preferably fatty) fish at least twice a week. Include oils and foods rich in ALA (flaxseed, canola, and soybean oils; flaxseed and walnuts)
Patients with documented CHD	Consume about 1g of EPA+DHA per day, preferably from fatty fish. EPA+DHA in capsule form could be considered in consultation with

	a physician.
Patients who need to lower triglycerides	2 to 4 grams of EPA+DHA per day provided as capsules under a physician's care.

\*From the American Heart Association

### Side Effects of Omega-3 Fatty Acids

Omega-3 fatty acids are essentially free of side effects at generally recommended doses (1 to 4 g/day). Although rare, side effects may consist of a fishy aftertaste and/or gastrointestinal upset. These side effects can be decreased by freezing the capsules or taking the supplements at night. Predatory fish such as shark, swordfish, tilefish, and mackerel contain higher levels of mercury and should be avoided by nursing or pregnant women. However, fish oil contains only inconsequential levels of mercury and is felt to be free of mercury-related toxicities. Theoretical concerns of increased bleeding have been largely dismissed due to a number of clinical studies which have failed to demonstrate any change in bleeding. High doses of omega-3 fatty acids (>3 g/day) have been associated with slight rise in bad cholesterol (low density lipoprotein, or LDL) and blood sugar.

### Goals

In the highest risk people, improving cholesterol levels with a goal LDL < 70 and HDL > 40-45 with triglycerides under 150 mg/dL along with an extensive lifestyle modification is critical to achieve clinical success. Talk to your doctor today about incorporating fish oil and other beneficial changes in your life to prevent heart disease.

### What do we do at National Jewish Health?

We provide comprehensive cardiology evaluation and consultation and non-invasive cardiac testing. We evaluate and treat heart problems such as coronary artery disease, high blood pressure, high cholesterol, heart valve problems and heart failure. In addition to traditional heart problems, we offer expertise in many other focus areas, including evaluation of patients with shortness of breath with exercise, sarcoid of the heart, diastolic dysfunction and secondary pulmonary hypertension.

### Why National Jewish Health?

At National Jewish Health, we treat the whole person, not just the disease. Our cardiology team works with healthcare providers from all areas of the medical center, including rehabilitation therapists, dietitians and clinical researchers.

Note: This information is provided to you as an educational service of LUNG LINE® (1-800-222-LUNG). It is not meant to be a substitute for consulting with your own physician.

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