

# Harvard School of Public Health

## The Nutrition Source

### Ask the Expert: Omega-3 Fatty Acids

#### 1. What are omega-3 fatty acids, and why should I make sure to include them in my diet?

Omega-3 fatty acids (also known as n-3 fatty acids) are polyunsaturated fatty acids that are essential nutrients for health. We need omega-3 fatty acids for numerous normal body functions, such as controlling blood clotting and building cell membranes in the brain, and since our bodies cannot make omega-3 fats, we must get them through food. Omega-3 fatty acids are also associated with many health benefits, including protection against heart disease and possibly stroke. In addition to these established benefits for cardiovascular disease, omega-3 fatty acids in high doses (e.g 6 to 10 capsules per day) are used to treat depression. New studies are identifying potential benefits for a wide range of conditions including cancer, inflammatory bowel disease, and other autoimmune diseases such as lupus and rheumatoid arthritis.

#### 2. What foods are good sources of omega-3 fatty acids? How much do I need to eat of these foods to get enough omega-3s?

There are two major types of omega-3 fatty acids in our diets: One type is alpha-linolenic acid (ALA), which is found in some vegetable oils, such as soybean, rapeseed (canola), and flaxseed, and in walnuts. ALA is also found in some green vegetables, such as Brussels sprouts, kale, spinach, and salad greens. The other type, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), is found in fatty fish. The body partially converts ALA to EPA and DHA.

We do not know whether vegetable or fish omega-3 fatty acids are equally beneficial, although both seem to be beneficial. Unfortunately, most Americans do not get enough of either type. For good health, you should aim to get at least one rich source of omega-3 fatty acids in your diet every day. This could be through a serving of fatty fish (such as salmon), a tablespoon of canola or soybean oil in salad dressing or in cooking, or a handful of walnuts or ground flaxseed mixed into your morning oatmeal.

#### 3. What are omega-6 fatty acids? Should I be concerned about the ratio of omega-6 fatty acids to omega-3 fatty acids in my diet?

Omega-6 fatty acids (also known as n-6 fatty acids) are also polyunsaturated fatty acids that are essential nutrients, meaning that our bodies cannot make them and we must obtain them from food. They are abundant in the Western diet; common sources include safflower, corn, cottonseed, and soybean oils.

Omega-6 fatty acids lower LDL cholesterol (the "bad" cholesterol) and reduce inflammation, and they are protective against heart disease. So both omega-6 and omega-3 fatty acids are healthy. While there is a theory that omega-3 fatty acids are better for our health than omega-6 fatty acids, this is not supported by the latest evidence. Thus the omega-3 to omega-6 ratio is basically the "good divided by the good," so it is of no value in evaluating diet quality or predicting disease.

#### 4. Is it better to get omega-3 fatty acids from food or from supplements?

Certainly foods, since the plants and fish that contain omega-3 fats have other good nutrients, such as protein, vitamins and minerals. People who do not eat fish or other foods rich in omega-3 fatty acids should consider taking an omega-3 supplement of 500 mg per day; fish oil is used in supplements, but there are

### The Expert



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also vegetarian supplements that have ALA. Studies suggest that people who have already had a heart attack may benefit from higher doses of omega-3 supplements (basically, double the 500 mg), so if you do have heart disease, consult your healthcare provider about whether taking a higher dose of omega 3s makes sense for you.

**5. I am a vegetarian, so I do not consume any fish. But I get plenty of ALA in my diet, from canola and soybean oil, ground flax seed, and walnuts. How efficiently does the body convert ALA to DHA and EPA? Should I take an algal DHA supplement?**

If you are getting adequate ALA in your diet from oils and nuts, I am not sure you really need to take an algal DHA supplement. As I mentioned above, the body partially converts ALA to EPA and DHA; it is not known if ALA has substantial health benefits as is, or whether it must be converted to EPA and DHA to produce most of the benefits. My current interpretation of the science is that ALA has direct health benefits, through its role in reducing inflammation and protecting the heart against arrhythmias, and it also has indirect health benefits, through its conversion to EPA and DHA.

**6. Can omega-3 fatty acids be destroyed by high-heat cooking?**

Not if the oil is fresh. In fact, even in frying oil that is used for days, you still can find ALA in it.

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