

Can Omega-3 Supplements Help You Reel in the Health Benefits of Fish?

Environmental Nutrition, April 2006, Kerry Neville, MS, RD

If you've been fishing for ways to improve your health, no doubt you know that eating a diet rich in omega-3 fatty acids may be beneficial. You might also have heard about a recent study that found omega-3 supplements probably won't help reduce your risk of cancer. But that doesn't mean omega-3 fats are useless. Not only might they still help prevent heart disease and some strokes, but omega-3s have the potential to improve a host of other conditions, from rheumatoid arthritis to depression.

Fatty fish—e.g., herring, salmon, sardines, trout and tuna—are the best sources of the two most potent omega-3 fats, called eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), both of which can confer big health benefits. A third omega-3 fat, alpha-linolenic acid (ALA), is found only in plant foods and its health benefits are less well understood.

How Much Do You Need? There's no official recommended intake of omega-3 fats, but experts encourage healthy people to eat fish at least twice a week and eat foods rich in ALA (flax meal, canola oil, walnuts). For those at risk for heart disease, research suggests getting an average of 0.5 to 1.8 grams a day of EPA and DHA (from fatty fish or supplements) and 1.5 to 3 grams a day of ALA, from plant foods.

The reality is, if you're not a fish eater—or you are, but you don't eat at least two servings a week—it's hard to get enough omega-3s in your diet. Plant foods and omega-3-fortified foods (see *EN*, January 2006) can help boost omega-3 intake, but probably not enough to offer protection against chronic health conditions. That's partly because the body converts only about 10% of the ALA in plant foods to EPA, though researchers suspect ALA may have its own benefits.

Are Supplements the Answer? Research suggests that omega-3 supplements are as effective as food sources of omega-3s. Even the venerable American Heart Association acknowledges how hard it is to get enough omega-3s from foods and recommends supplements for people with certain conditions (see "How Much to Aim For?," below). For these people, supplements are almost essential. You can, of course, always rely on a combination of pills and food.

But another question arises as to whether mercury and other contaminants are a concern in fish oil supplements as they are for certain fish (e.g., king mackerel, shark, swordfish, tilefish).

Are Supplements Safe? A study last year from Harvard Medical School suggested that fish oil supplements may actually be safer than eating fish, because they contain fewer toxins. In their analysis of five brands of fish oil supplements, the Harvard researchers found that toxin levels were below detectable limits for PCBs, dioxin and other cancer-causing organochlorines. Lab analyses from two independent organizations—Consumers Union and ConsumerLab.com (CL)—have also found fish oil supplements to be free of mercury, PCBs and dioxins.

The safety of supplements is not so surprising, since mercury accumulates in muscle, not the fat tissue that is the source of most fish oil. (Exception: Cod liver oil comes from fish livers, where toxins do accumulate, so is riskier.) Moreover, species typically used for fish oil supplements—e.g., anchovies, mackerel, menhaden, sardines—are less likely to accumulate mercury. And the oils are processed to remove toxins.

Which Supplements Are Best? The amount of EPA and DHA in supplements can vary, depending on the type of fish the oil comes from and the method of processing. Semi-synthetic forms of EPA and DHA (which appear as "esters" on labels) are generally thought to be just as effective as the natural forms (listed as "triacylglycerols"), though at least one animal study has raised a bit of doubt.

The CL analysis tested supplements for freshness and reliability. Of 41 products tested, only two (*Garden of Life* and *EHP Products Salmon Oil*) failed, one for containing only half as much omega-3s as labeled and one because the oil was not fresh. Rancid fish oils—detectable by an off-odor—should be avoided; besides being less effective, they may actually be harmful to your health.

What to Look for in a Supplement. Omega-3 supplements vary greatly. Here are some tips when shopping:

- Discuss the pros and cons with your doctor before taking a supplement.
- Choose a supplement with high levels of both EPA and DHA in a size pill you can swallow (or try a pudding-type supplement like *Coromega*).
- Look for a brand that says it's been "distilled" or "deodorized" to remove PCBs and other contaminants.
- Switch to another brand if you can't tolerate one; side effects can vary by brand. Large doses may cause nausea.
- Take two or three smaller doses throughout the day to limit unpleasant side effects like belching or heartburn.
- Take supplements with meals; you'll absorb omega-3s better with food.
- Do not take omega-3 supplements if you take anticoagulant drugs like *Coumadin*, have had a hemorrhagic (bleeding) stroke or are scheduled for surgery; high doses can cause excessive bleeding in some people.

How Much to Aim For?

Health Status	Omega-3 Goal (EPA + DHA)
Generally healthy	Fish at least twice/week
Previous heart attack, existing heart disease	1 gram/day from fish and or supplements
High blood triglycerides	2 to 4 grams/day* from supplements
Rheumatoid arthritis, psoriasis or other auto-immune disorder	3 grams/day* from supplements
Depression	More research needed but 1 gram/day is prudent

* Don't take more than 3 grams/day except with a doctor's advice and monitoring.



Where to Get Omega-3's

Plant Sources	ALA (grams)
Walnuts, 1 ounce or 14 halves	2.6
Flaxseed, ground, 1 tablespoon	1.9
Canola oil, 1 tablespoon	1.6
Soybean oil, 1 tablespoon	0.9
Tofu, ½ cup or 4.5 ounces	0.7
Fish Sources (4-ounce serving)	EPA + DHA (grams)
Anchovies, Herring, Shad	2.3-2.4
Salmon: Atlantic	1.2-2.4
Tuna: Bluefin & Albacore	1.7
Mackerel: Atlantic & Pacific	1.4-2.1
Oysters: Pacific	1.6
Sardines: Atlantic & Pacific	1.1-1.6
Trout: Freshwater	1.0-1.1
Tuna: White (Albacore), canned	1.0
Mussels	0.9
Salmon: Pink & Sockeye	0.7-0.9
Flounder, Sole	0.35
Catfish	0.1-0.25
Cod, Scallops, Haddock, Lobster	0.2
Shrimp	0.1

Source: 2010 Dietary Guidelines for Americans & AJCN

Some Brands That Pass Muster

Based on current omega-3 research, we recommend the following brands:*

Brand	Recommended Daily Dose	EPA per Dose (mg)	DHA per Dose (mg)
Barlean's Organic Oils Fresh Catch Fish Oil	1 teaspoon	850	550
Carlson Super Omega 3 Gems Fish Oil Concentrate	2 soft gels	600	400
Carlson The Very Finest Fish Oil Liquid	1-2 teaspoons	800	500
Nordic Naturals Ultimate Omega	2 soft gels	650	450
Nordic Naturals Omega 3 Liquid	1 teaspoon	825	550
Coromega Omega-3 Fish Oil**	1 packet	350	230
Vegetarian and/or Vegan Supplements			
Nordic Naturals Algae Omega	2 soft gels	180	320
Nordic Naturals Algae Omega Liquid	1.5 mL	200	350

* recommended by SAS HCC Nutritionists/RDs

** available in orange, chocolate orange, and lemon lime