

SELECTING THE RIGHT FISH

Introduction

Fish are the best source of omega-3 fatty acids—polyunsaturated fatty acids that are essential to human health. But not all fish are created equal. Some contain higher doses of these fatty acids than others.

Some fish are high in mercury, a potent toxic element released from power plants, mining and other industrial activities that is of particular risk to young children and pregnant women.

Here's how to maximize the benefits and minimize the risks of fish in your diet.

Benefits of omega-3's

Omega-3's cannot be made by the body. That is why it is important to get sufficient amounts of them through diet or supplements. Research has found that they:

- Lower blood pressure
- Decrease triglyceride levels
- Slow the growth of plaque that can block the arteries
- Reduce the risk of developing an irregular heartbeat, which occasionally leads to sudden cardiac death
- Likely reduce a person's risk of dementia
- May reduce a person's risk of prostate cancer, multiple sclerosis and a number of other health conditions

Omega-3s are found primarily in:

- Fish and fish oils, including fish oil supplements
- Some plant-based oils, such as canola oil or flaxseed oil
- Leafy green vegetables, including spinach, kale, broccoli and seaweed
- Tofu and other forms of soybeans
- Some nuts, including walnuts

How much do you need?

The American Heart Association recommends that people without heart disease get their omega-3's from food sources, eating a variety of fish at least twice a week. Salmon, sardines, mackerel (though not king mackerel), herring and trout are good options. People with heart disease or high levels of triglycerides might consider taking a dietary fish oil supplement under a physician's guidance. If you are a vegetarian or don't eat much fish, ask your doctor whether you should take a dietary fish oil supplement of about 1,000 or 1,200 mg.

Side effects of fish oil supplements

Although small doses of fish oil supplements may be good, that doesn't mean large doses are necessarily better. When consumed in abundance, the supplements can cause nausea, diarrhea and belching and leave a bad taste in the mouth. They may also cause excessive bleeding in some people, and upper respiratory tract infections in others. Always check with your physician before taking any supplements, as they may interact with other medications, have side effects, or not be appropriate for you because of certain medical considerations.

Toxins in fish

When people ingest mercury, it affects the nervous system and the developing brain. Young children are most vulnerable to it. Mercury is also an issue for pregnant women. Mercury accumulates in fish so that, in general, small fish that eat insects have the lowest mercury levels, while large predator fish that eat small fish have the highest mercury levels. Mercury is present in all parts of fish and cannot be removed by cooking or cleaning them.

PCBs are another pollutant found in fish, despite the fact that production of PCBs was banned decades ago. These chemicals, classified as persistent organic pollutants, are also linked to learning and memory problems in children, and to heart problems and possibly cancer in adults. PCBs mainly accumulate in the fatty parts of fish, so you can minimize your exposure by trimming off the skin and fatty parts of the fish before cooking.

Bottom line: Check the chart

For more than three dozen different types of seafood, we have compared Omega-3 and mercury levels – to help you decide which is healthiest for you.

	Mercury mean in ppm	Omega-3 in gm/3oz serving	Ratio of Omega-3 to mercury
Best Choices	Salmon, fresh, frozen ¹	0.01	150.00
	Sardine	0.02	102.08
	Oysters	0.01 ³	75.50
	Mackerel, Atlantic	0.05	60.67
	Herring	0.04	48.75
	Trout, freshwater ²	0.07	42.13
	Whitefish	0.07	30.43
	Mackerel, chub (Pacific)	0.09	29.17
	Shrimp	0.01 ³	29.00
	Clams	0.01 ³	25.00
	Perch, ocean	0.01 ³	23.33
	Tilapia	0.01	16.45
	Mullet	0.05	15.22
	Smelt	0.11	10.80
	Flounder	0.05	9.60
	Sole	0.05	9.60
	Pollock	0.06	7.50
	Crab	0.06	5.58
	Catfish	0.05	5.20
Scallops	0.05	5.20	
Croaker (Atlantic)	0.07	3.24	
Good Choices	Sablefish	0.22	7.95
	Carp	0.14	5.00
	Striped bass	0.22	4.26
	Monkfish	0.18	2.59
	Cod	0.11	1.77
	Tuna, canned, light	0.12	1.71
	Mahi mahi	0.19	0.68
Caution	Halibut	0.26	3.31
	Lobster	0.31	0.85
	Bluefish	0.34	4.15
	Tuna, canned, albacore	0.35	3.64
	Tuna, fresh or frozen	0.38	1.72
Avoid	Orange roughy	0.54	0.05
	Grouper	0.55	0.42
	Red snapper	0.60	0.48
	King mackerel ²	0.73	0.49
	Swordfish	0.97	1.00
	Shark	0.99	0.84
	Golden bass / golden snapper	1.45	0.62

How to use this chart

Eat a variety of fish and seafood from the green section- up to 2 meals per week (1 adult meal=6 ounces).

If you eat fish or seafood from the yellow section, eat only 1 meal of fish that week. Eat even more sparingly from the orange and red sections. If you can't resist these higher-mercury fish, try to choose the fish with the highest omega-3 to mercury ratio, and consider looking for additional sources of omega-3s in your diet that week, such as walnuts, soybeans, or fish oil supplements.

These general guidelines are for pregnant and breastfeeding women, women who may become pregnant, and children under 15:

Men and women beyond childbearing age can safely eat more fish than women of childbearing age and children can, although the same general principles apply (choose fish from the green section rather than the yellow, orange, or red section).

Children's meals should be smaller than adult meals based on their age and weight.

Non-fish sources of Omega-3		
Walnut		12.13
Soybean		3.73
Egg yolk		1.50

¹to minimize PCB exposure, choose wild Pacific salmon over farmed Atlantic salmon
²omega levels may vary widely for any fish based on geographic region and the fish's own diet. For this particular fish, widely varying omega-3 levels have been reported.
³mercury level below detection limit of 0.01

omega-3 levels:
 US FDA <http://www.cfsan.fda.gov/~frf/sea-mehg.html>
 AHA <http://www.americanheart.org/presenter.jhtml?identifier=3013797>
 mercury levels:
 Purdue <http://fn.cfs.purdue.edu/fish4health/NutritionalContentofFish/omega3.pdf>