

## Mercury and Environmental Toxins in Fish

The health benefits of fish are complicated by controversy and confusion about mercury in seafood. Although warnings are mainly targeted at pregnant and nursing women, many people are left to wonder:

- How much fish should I eat?"
- "Is fish safe?"
- "Should I choose farmed or wild fish?"
- "Which fish are the best to eat?"

### Contamination

Oceans are becoming increasingly contaminated with metals, industrial chemicals, and pesticides; the most researched offenders include:

- Dichloro-diphenyl-trichloro-ethane (DDT)
- Dieldrin
- Lead
- Mercury
- Polychlorinated biphenyls (PCBs)

### Individuals at high risk

- **Pregnant women:** The strongest concern lies in consumption of tainted fish by pregnant women, because unknown levels of ingestion may cause birth defects or cancer. It can take 12-18 months to reduce levels of mercury in the body and up to 5 years to rid the body of mercury entirely. For this reason, it is important that women who expect to become pregnant decrease their intake to avoid consumption of tainted fish.
- **Small children:** Small children are also a high-risk group.

### Methylmercury

Methylmercury binds to protein and is found throughout the fish muscle; so, both fish steaks and filets may contain mercury.

### PCBs

PCBs accumulate in fatty tissues of fish. High concentrations pose health risks to those who consume large amounts.

### Omega-3s

Always weigh the risk-to-benefit ratio of consuming fish for their omega-3 benefits against the potential harm from consuming fish that is possibly contaminated.

Fish that are high in omega-3s, low in environmental contaminants, and eco-friendly include:

- Albacore tuna from the United States and Canada
- Anchovies
- Arctic char
- Atlantic mackerel
- Farmed oysters
- Farmed rainbow trout
- Sablefish
- Sardines
- Wild salmon from Alaska (fresh, frozen, and canned)

### Fish oil

Fish oil is an alternative to consuming fish, but chemicals and metals can build up in the oil as well. Purified fish oil capsules are the best alternative.

### Fish with low levels of mercury

Enjoy these fish:

- Anchovies
- Butterfish

- Catfish
- Clams
- Crab (domestic)
- Crawfish/crayfish
- Croaker (Atlantic)
- Flounder
- Haddock (Atlantic)
- Hake
- Herring
- Mackerel (North Atlantic, chub)
- Mullet
- Oysters
- Perch (ocean)
- Plaice
- Pollack
- Salmon (canned)
- Salmon (wild-caught from Alaska, farmed Coho)
- Sardines (Pacific, wild-caught)
- Scallops
- Shad (American)
- Shrimp
- Sole (Pacific)
- Squid (calamari)
- Tilapia
- Trout (freshwater)
- Whitefish
- Whiting

**Fish with moderate levels of mercury**

Eat six servings or less/month of the following fish:

- Bass (striped, black)
- Carp
- Cod (Alaskan)
- Croaker (white Pacific)
- Halibut (Atlantic)
- Halibut (Pacific)
- Jacksmelt (silverside)
- Lobster
- Mahi mahi
- Monkfish
- Perch (freshwater)
- Sablefish
- Skate
- Snapper
- Tuna (canned albacore, chunk light)
- Tuna (skipjack)
- Weakfish (sea trout)

**Fish with high levels of mercury**

Eat three servings or less/month of the following fish:

- Bluefish
- Grouper
- Mackerel (Spanish, gulf)
- Sea bass (Chilean)
- Tuna (canned albacore)
- Tuna (yellowfin)

**Fish with the highest levels of mercury**

Avoid eating the following fish:

- Mackerel (king)
- Marlin
- Orange roughy
- Shark
- Swordfish
- Tilefish
- Tuna (bigeye, ahi, imported albacore)

**Author:**

Stacia Helfand, MEd, RD, CDN

Recommended reading:

EWG's consumer guide to seafood: Executive summary. Environmental Working Group website. <http://www.ewg.org/research/ewgs-good-seafood-guide/executive-summary>. Published September 18, 2014.

Menon S. Mercury in seafood. Natural Resources Defense Council website. <https://www.nrdc.org/stories/mercury-guide>