

Global Health Trade-off for Mercury and Omega-3 in Seafood

		Milligrams of Omega-3 Fatty Acids/4 Ounces of Cooked Fish →			
Meal Frequency Recommendations (based on 4 oz or 113 g fish portion)		<500 mg 	500-1,000 mg 	1,000-2,000 mg 	> 2,000 mg 
Total Mercury in Muscle Tissue µg/g (www) ↓	Best Choices 3 Servings per week (≤ 0.15 µg/g) 	Atlantic Cod, Butterfish, Catfish (temperate waters), Clams, Crab* (most species), Haddock, Lionfish, Lobster, Parrotfish, Scad, Scallops, Shrimp, Tilapia*	Atlantic Pollock, Ballyhoo, Blue Mussels, Pink Salmon, Sockeye Salmon, Squid,* Wahoo	Atlantic and Pacific Mackerel, Coho Salmon, Oysters	Healthier Choices Anchovies,* Herring, Sardines
	Good Choices 2 Servings per week (0.15 - 0.23 µg/g) 	Pacific Cod, Cocker, Croaker, Grenadier, Flounders, Hake, Scad, Snapper, Sole	Jacks, Mahi Mahi,* Mullet, Octopus, Skipjack Tuna (light canned tuna)	Atlantic Horse Mackerel, Bonito, Chinook Salmon*, European Sea Bass, Rays, Skates, Trout	Atlantic Salmon
	Good Choices 1 Servings per week (0.23 - 0.46 µg/g) 	Catfish* (tropical waters), Red Fish, Seabreams	Bluefish, Croaker, Halibut, Tilefish, Trevally, White Marlin, Yellowfin Tuna	Albacore Tuna (white canned tuna ¹), Chilean Sea Bass, Spanish Mackerel	Mercury concentrations vary widely across shark species.  www.briwildlife.org
	Choices to Avoid (US EPA) (> 0.46 µg/g) 	Bonefish, Groupers, Orange Roughy	Amberjack, Barracuda, Bigeye Tuna, Black Marlin, Sailfish	Atlantic, Pacific, and Southern Bluefin Tuna, Blackfin Tuna,* Cero, King Mackerel, Swordfish	
	Choices to Avoid (WHO) (> 1.0 µg/g) 	Riskier Choices Warsaw Grouper	Blue Marlin*	Dogfish, Ground, and Mackerel Sharks	

*Species Pictured

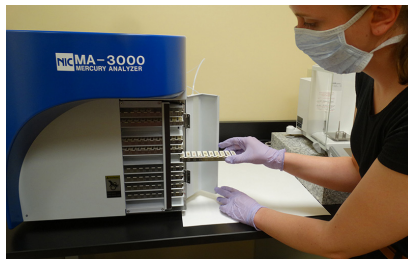
Seafood methylmercury concentrations and associated consumption guidelines

Mercury in Seafood (ppm, ww)	Consumption Guidance (based on 4 oz or 113 g fish portion)
$\leq 0.15 \mu\text{g/g}$	3 servings per week
0.15 - 0.23 $\mu\text{g/g}$	2 servings per week
0.23 - 0.46 $\mu\text{g/g}$	1 serving per week
$> 0.46 \mu\text{g/g}$	avoid consumption
$> 1.0 \mu\text{g/g}$	avoid consumption

Meal frequency guidelines are based on the U.S. EPA reference dose of 1×10^{-4} mg of Hg/kg of body weight/day, a body weight of 132 pounds (60 kg) for an adult female, and a fish meal size of about 6 ounces (170 grams). These guidelines could also be used for muscle tissues in marine mammals because > 95% of mercury is in the methyl form. However, shellfish mercury concentrations vary greatly in percent methyl and therefore the consumption guidance provided here cannot be directly used with shellfish mercury data provided herein.

BRI's Toxicology Lab

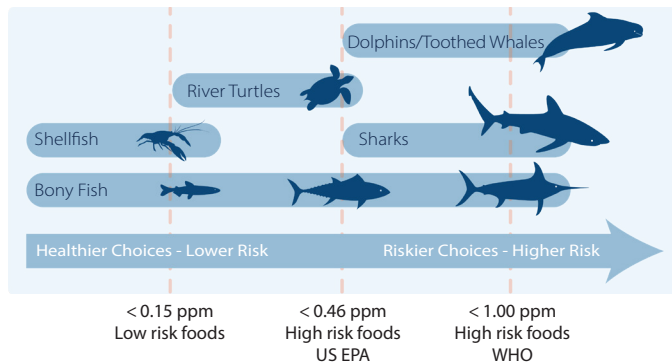
Our technicians analyze tissue samples for total mercury using a Nippon MA-3000 and for lead using our LeadCare® II analyzer. Tissue samples include feathers, fur, blood, muscle, and egg.



You Are What You Eat!



Some people are more sensitive to consuming foods high in mercury. Sensitivity depends on a number of factors such as age.



The risks related to consuming fish and other types of aquatic life depend on the level of mercury found in those species.

Data Sources

Mercury Data: BRI's Global Biotic Mercury Synthesis Database; Frequency Recommendations: U.S. Environmental Protection Agency (US EPA); U.S. Food and Drug Administration (www.epa.gov/fish-tech/epa-fda-fish-advice-technical-information); World Health Organization (WHO)

¹ White canned tuna can be albacore or yellowfin.