

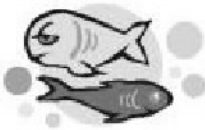


Focus on Consumption of Fish and Seafood During Pregnancy

Sushi

Certain types of cooked sushi such as eel and California rolls are safe to eat when pregnant. The FDA reports the greatest risk of seafood-borne illnesses is from raw or undercooked shellfish, particularly clams, oysters and mussels from contaminated waters. Bacteria such as Salmonella, Staphylococcus aureus, and viral infections (including hepatitis A) have all been found in raw seafood.

However, raw fish should also be avoided during pregnancy because it may contain parasites such as flukes or worms. Cooking and freezing are the most effective methods for killing the parasite larvae found in fish. The USFDA recommends cooking the fish to 140°F. The fish should appear opaque and flaky when done. Freezing the fish at - 10°F for at least 168 hours (7 days) will also kill most larvae(6). For more information on biological contaminants found in seafood see Seafood Safety, University of California, Davis on the web at www-seafood.ucdavis.edu/Pubs/safety1.htm



Mercury in Fish and Seafood

Fish and seafood can be an important part of a balanced diet for pregnant women and those of childbearing age who may become pregnant. However, some large long-lived fish contain high levels of a form of mercury called methyl mercury that may harm an unborn baby's developing nervous system.

Small fish absorb methylmercury from water as they feed on aquatic organisms. The longer the fish lives the more methylmercury the fish accumulates in its body. Large, long-lived, larger fish that feed on other fish (high in the food chain) accumulate the highest levels of methylmercury. In the United States the limit for methyl mercury in commercial marine and freshwater fish is 1.0 parts per million (ppm).

In Canada the limit for total mercury content is 0.5 (ppm) [1,2]. Although the mercury levels found in most commonly consumed fish and seafood are well below these limits, the mercury levels found in several predator species frequently exceed 1.0 ppm

Food and Drug Administration (FDA) Recommendations

The FDA advises that pregnant women, women who may become pregnant, nursing mothers, and young children **should avoid eating shark, swordfish, king mackerel and tilefish** due to high levels of mercury in these fish [1]

The FDA also recommends that pregnant women can safely eat an average of 12 ounces of other types of **COOKED** fish each week. Emphasis is placed on choosing a variety of other fish such as shellfish, canned fish, smaller ocean fish or farm-raised fish [1].

Further State Recommendations

Washington State Department of Health [4]

Advises women of childbearing age and children under six to:

- Avoid fresh caught or frozen tuna steaks. (Fresh or frozen tuna normally contains about .32 parts per million of mercury, but that number can go as high as 1.3 parts per million.)
- Women of childbearing age should limit the amount of canned tuna they eat to about one can per week (six ounces.) A woman who weighs less than 135 pounds should eat less than one can of tuna per week.

Wisconsin Department of Natural Resources [5]

Advises women of childbearing age to:

- Limit tuna steaks, halibut, orange roughly to one meal per month
- Limit cod, pollock, haddock, tuna (6ounce can) to one meal per week

Limit salmon and shellfish to 2 to 3 meals per week.

The Environmental Working Group lists other types of fish that may be contaminated by mercury, as well as by PCBs, including bluefish, striped bass, and freshwater fish (such as salmon, pike, trout, walleye) from contaminated lakes and rivers. Their expanded list is available online: Brain Food: What Women Should Know About Mercury Contamination in Fish at <http://www.pirg.org/toxics/reports/brainfood/brainfoodreport.pdf>

Mercury Levels in Seafood Species[3]

The following tables provide the mean and range of mercury levels in a variety of fish and shellfish

Table 1. Large Fish That Can Contain High Levels of Methylmercury[1,3]

SPECIES	MEAN (PPM)	RANGE (PPM)
Tilefish	1.45	0.65-3.73
Swordfish	1.00	0.10-3.22
King mackerel	0.73	0.30-1.67
Shark	0.96	0.05-4.54

PPM=parts per million

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Table 2. Fish or Shellfish That May at Times Contain High Levels of Mercury [3]

SPECIES	MEAN (PPM)	RANGE (PPM)
Grouper (Mycteroperca)	0.43	0.05-1.35
Tuna (fresh or frozen)	0.32	ND-1.30
Lobster Northern (American)	0.31	0.05-1.31
*Red Snapper	0.60	0.07-1.46
*Trout Freshwater	0.42	1.22 (max)
*Trout Seawater	0.27	ND-1.19

PPM=parts per million

ND=Not detectable

*Based on limited sample sizes and therefore have a much greater degree of uncertainty

Table 3. Fish and Shellfish With Much Lower Levels of Mercury[3]

SPECIES	MEAN (PPM)	RANGE (PPM)
Halibut	0.23	0.02-0.63
Sablefish	0.22	ND-0.70
Pollock	0.20	ND-0.78
Tuna (canned)	0.17	ND-0.75
Crab Blue	0.17	0.02-0.50
Crab	0.18	0.02-0.48
Dungeness Crab	0.15	ND-0.38
Tanner Crab, King	0.09	0.02-0.24
Scallop	0.05	ND-0.22
Catfish	0.07	ND-0.31
Salmon (fresh, frozen or canned)	ND	ND-0.18
Oysters	ND	ND-0.25
Shrimps	ND	ND

PPM=parts per million

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2. Food Safety Facts on Mercury and Fish Consumption. Canadian Food Inspection Agency <http://www.inspection.gc.ca/english/corpaffr/foodfacts/mercurye.shtml> Accessed:10/4/02

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3. Mercury Levels in Seafood Species FDA database FY 85-99, EPA Mercury Study Report to Congress, 1997, A Survey of the Occurrence of Mercury in the Fishery Resources of the Gulf of Mexico Report (2000), NMFS 1976, 1978 Report <http://www.cfsan.fda.gov/~frf/sea-mehg.html> Accessed:10/4/02

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5. Choose Wisely- a healthy guide for eating fish in Wisconsin, 2002 Wisconsin Department of Natural Resources <http://www.dnr.state.wi.us/org/water/fhp/fish/advories/Tables.pdf> Accessed:10/4/02

6. USFDA. 8/21/1987. Food preparation - raw, marinated or partially cooked fishery products. In: "Retail Food Protection Program Information Manual", part 6, chapter 1, number 2-403. Center for Food Safety and Applied Nutrition, Retail Food Protection Branch