Questions and Answers about this Draft Advice

1. Why we are issuing this advice now?

We (the Food and Drug Administration and the Environmental Protection Agency) are issuing this advice to encourage women to eat recommended amounts and types of fish. Recent reports show many pregnant women in the United States are not consuming fish in amounts recommended by the Dietary Guidelines for Americans 2010. This advice is being issued now to encourage women who are pregnant (or may become pregnant) or breastfeeding and young children to eat more fish and to eat a variety of fish from choices that are lower in mercury. The Dietary Guidelines for Americans 2010, the federal government's evidence-based nutritional guidance to promote healthy eating, now recommends that "women who are pregnant or breastfeeding consume at least 8 and up to 12 ounces of a variety of seafood per week, from choices lower in methyl mercury."

There is longstanding evidence of the nutritional value of fish in the diet. Fish contain high quality protein, many vitamins and minerals, omega-3 fatty acids, are mostly low in saturated fat, and some fish even contain vitamin D. The nutritional value of fish is especially important during growth and development before birth, in early infancy for breastfed infants, and in childhood.

2. Can you provide me with a list of different types of fish and how much mercury and omega-3 fatty acids they contain?

The following table provides a list of common fish that can be bought in stores and restaurants.

Common Varieties	**Milligrams of Omega-3 Fatty Acids (Eicosapentaenoic (EPA) and Docosahexaenoic (DHA) Per 4 Ounces of Cooked Fish**	**Micrograms of Mercury Per 4 Ounces of Cooked Fish**
Salmon: Atlantic, Chinook, Coho	1,200 – 2,400	2
Anchovies, Herring, and Shad	2,300 – 2,400	5 - 10
Mackerel: Atlantic & Pacific (not King)	1,350 – 2,100	8 - 13
Tuna: Bluefin & Albacore	1,700	54-58
Sardines: Atlantic & Pacific	1,100 – 1,600	2
Oysters: Pacific	1,550	2
Trout: Freshwater	1,000 – 1,100	11
Tuna: White (Albacore) canned	1,000	40
Mussels: Blue	900	NA*
Salmon: Pink & Sockeye	700 – 900	2
Squid	750	11
Pollock: Atlantic & Walleye	600	6

Marlin	250 – 1030**	69
Crab: Blue, King, Snow, Queen, & Dungeness	200 – 550	9
Tuna: Skipjack & Yellowfin	150 – 350	31 – 49
Flounder, Plaice, & Sole (Flatfish)	350	7
Clams	200 – 300	<1***
Tuna: Light canned	150 – 300	13
Catfish	100 – 250	7
Cod: Atlantic & Pacific	200	14
Scallops: Bay & Sea	200	8
Haddock & Hake	200	2 – 5
Lobster: American	200	47
Crayfish	200	5
Tilapia	150	2
Shrimp	100	<1***
Orange Roughy	42	80
Varieties That Should Not be Consumed by Women Who Are Pregnant or Breastfeeding or by Young Children		
Shark	1,250	151
Tilefish: Gulf of Mexico	1,000	219
Swordfish	1,000	147
Mackerel: King	450	110

*Not available. It is likely to be comparable to the levels in oysters and clams.
**250 is the value for blue marlin and 1030 is the value for striped marlin.
***Less than one.

This table can be found in Appendix 11 in the Dietary Guidelines for Americans 2010. We have modified it to change "zero" to "less than one" for clams and shrimp since they do contain very small amounts of mercury. We have also added orange roughy and marlin to the table because we are seeking public comment on whether to recommend that pregnant and breastfeeding women and young children avoid these fish.

3. What are mercury and methylmercury?

Mercury occurs naturally in the environment and can also be released to the environment through many types of human activity. Mercury can collect in streams, lakes, and oceans and is turned into methylmercury in the water. It is this type of mercury that is present in fish. Methylmercury is a neurotoxin that can be harmful to the brain and nervous system if a person is exposed to too much of it.

4. Is there methylmercury in all fish?

Nearly all fish contain at least traces of methylmercury. As they feed, fish absorb methylmercury. Methylmercury tends to build up more in some types of fish than others, especially in larger fish with longer life spans.

5. What fish should I avoid?

You should avoid these four types of fish that are highest in mercury*

- Tilefish from the Gulf of Mexico
- Shark
- Swordfish
- King mackerel

As you can see from the above table, those fish are notably higher in mercury on average than the other listed fish.

*Mercury concentration data come from the FDA database located at http://www.fda.gov/Food/FoodborneIllnessContaminants/metals/ucm115644.htm.

6. How many servings of fish should I eat every week in order to eat 8-12 ounces?

If you eat 2-3 servings per week it is likely that you will eat 8-12 ounces. That would be 4-6 ounces per serving.

7. Is it true that pregnant women and young children should avoid raw fish?

Yes. The Dietary Guidelines for Americans 2010 and FDA recommend that pregnant women and young children should only eat foods with fish, meat, poultry, or eggs that have been cooked to safe temperatures to protect against microbes that might be in those foods. Pregnant women and young children often lack strong immune systems and are more at risk for foodborne illnesses.

8. How should I eat 8-12 ounces of fish every week within my calorie needs?

If you have to eat more fish than you usually do in order to eat 8-12 ounces per week, you should be mindful not to exceed what would be a good number of calories for you. The Dietary Guidelines for Americans 2010 recommend increasing the amount and variety of fish you eat by choosing fish in place of other protein sources. This may mean eating less of other things in order to stay within your calorie needs. It may also mean paying attention to how the fish are prepared. Broiled fish, for example, typically contain fewer calories than fried fish and can be healthier in other ways as well. If you are uncertain about what the right number of calories is for you, useful information is available at www.choosemyplate.gov (specific information available at http://www.choosemyplate.gov/weight-management-calories/weight-management/better-choices/amount-calories.html). If you wish further information, we recommend that you consult a nutritionist or your physician.

9. It is hard to imagine a young child eating 8-12 ounces of fish every week. Would it be OK to serve less?

Yes. We recommend serving fish to young children 2-3 times per week but the portion sizes should be smaller than adult portions and right for your child's age and appetite. The USDA Food Patterns, which provide examples of the types and amounts of foods to consume for health, suggest that children ages 2-8 years eat about 3-6 ounces of fish per week, depending on calorie needs. For children under the age of six, the USDA Food Patterns suggest an amount of 3-5 ounces per week. For children ages 6-8, the total for the week should be about 4-6 ounces. Appropriate amounts of fish for older children would increase up to the adult recommendation of at least 8 ounces per week as their calorie needs increase. As an additional matter, parents should feed fish to young children only after 6 months of age. Because fish, and particularly shellfish, are regarded as major allergens, parents feeding fish to their children for the first time should monitor for signs of an allergic reaction before feeding a second time.

The recommendation to limit consumption of albacore tuna to 6 ounces per week should similarly be adjusted for age and portion size. And, of course, the recommendation to avoid the fish highest in mercury (tilefish from the Gulf of Mexico, king mackerel, shark, and swordfish) applies to young children as well as to pregnant women and breastfeeding mothers. The recommendation for fish that you or others catch in rivers, streams, and lakes and for which no advice is available is that children under the age of six should limit their consumption of these fish to 1 – 2 ounces per week and children ages 6 – 12 should limit their consumption to 2 – 3 ounces per week. In neither case should children eat other fish that week.

10. Should I be concerned if I eat one serving of the four fish you recommend against eating?

While it is unlikely that a single serving could have any health impact, these fish should not be part of your regular diet. We recommend that you avoid these fish while pregnant, if you plan to get pregnant, or while breastfeeding, and that you avoid serving these fish to young children.

11. I eat a lot of tuna, especially canned light tuna because it is particularly affordable. Is it alright to eat mostly canned light tuna?

Canned light tuna is fine to eat because it is not high in methylmercury, but we recommend that you eat a variety of fish, including at least some fish that are even lower in mercury. You may wish to try other affordable fish lower in mercury such as other types of canned fish, frozen fish, or fresh fish that are on sale.

12. I eat a lot of tuna, but prefer to eat albacore tuna. Should I continue to eat mostly albacore tuna?

White tuna (albacore) contains much less mercury on average than the fish we recommend avoiding, but it does typically contain three times as much methylmercury on average as canned light tuna. As recommended in the Dietary Guidelines for Americans 2010, you should limit white tuna (albacore) to six ounces per week. When serving albacore to children, we suggest reducing by roughly one-half the amounts recommended by the Dietary Guidelines for Americans 2010 described above in the answer to Question 9 (e.g., 1-4 ounces).

13. What happens if I eat less than eight or more than 12 ounces of fish (including shellfish) in a week?

Our advice is provided as a general guideline for how much fish to eat weekly. If you eat more or less than the recommended amount one week, simply try to eat the recommended amount in the following weeks.

14. Why should I follow the recommendations for eating fish?

Fish are a good source of many nutrients, including protein and minerals such as iron, and most of them are low in saturated fats. Fish also contain varying amounts of omega-3 fatty acids and some fish contain vitamin D. Fish consumption, as part of a healthy eating pattern and when consumed within caloric needs, is associated with overall health. The nutritional value of fish lower in mercury is especially important during growth and development before birth, in early infancy (for breastfed infants), and in childhood.

15. Should I avoid all fish during pregnancy in order to avoid mercury?

You do not need to avoid fish during pregnancy. In fact, primary research studies with pregnant women have consistently found that the nutritional value of fish is important during growth and development before birth, even though nearly all fish contain at least traces of mercury. This has been especially the case when the fish has been lower in mercury. The Dietary Guidelines for Americans 2010 include fish as a food to increase, both generally and during pregnancy, because most people eat below the recommended amounts. Avoiding fish during pregnancy in favor of omega-3 supplements means that you would be missing out on many other important nutrients contained in fish that are required for overall health.

16. Why does this advice include a recommendation for recreationally caught fish from local waters?

There are local waters where there may have been little or no monitoring and, therefore, the extent of potential methylmercury contamination is unknown. Local fresh water fish may also differ in their nutritional composition. That's why it is important for those who fish to pay attention to local advisories. If there is no local fish advisory, you should eat no more than 6 ounces per week and do not eat any other fish that week. Children under the age of six should limit their consumption of these fish to 1 – 2 ounces per week and children ages 6 – 12 should limit their consumption to 2 – 3 ounces per week. In neither case should children eat other fish that week.

17. Where do I get information about the safety of fish caught by family or friends?

Check the applicable fishing regulations booklet or website for information about recreationally caught fish. Local health departments also have information about advisories in their jurisdiction.

18. Can I clean or prepare (e.g., cook) my fish to reduce the amount of methylmercury that might be present?

Methylmercury is found throughout the tissue in fish, so cleaning or cooking will not reduce the amount of methylmercury in a fish meal. However, it's always a good idea to remove skin, belly fat, and internal organs (where other harmful pollutants may accumulate) before you cook fish. This is particularly true for locally caught fish.

Interested persons may submit either electronic comments regarding this document to http://www.regulations.gov or written comments regarding this document to the Division of Dockets Management (HFA-305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852. It is only necessary to send one set of comments. All comments on this document should be identified with the docket number listed in the Federal Register notice announcing the availability of this document.

REFERENCES:

Dietary Guidelines for Americans 2010, Chapter 4: Foods and Nutrients to Increase, Chapter 5: Building Healthy Eating Patterns, Appendix 6, Appendix 7, and Appendix 11, available at http://health.gov/dietaryguidelines/2010.asp.

Report of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans, 2010 to the Secretary of Agriculture and the Secretary of Health and Human Services, pages 239-241, available at http://www.cnpp.usda.gov/DGAs2010-DGACReport.htm.