"Tuna, .To Eat or Not to Eat"

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Summary:

Basic concepts are used to explain how mercury pollution affects our life by specifically discussing how mercury get into our food supply and then into us. Tuna will be used to focus our attention on this global problem.

Speaker Background Information

PH.D. in Physiological Chemistry, University of Wisconsin, Madison
B.S. in Chemistry , Drexel University
Postdoctoral positions at the University of Kansas Medical Center and
Rutgers University
Professor of Biochemistry at Philadelphia College of Osteopathic medicine (18 yrs)
Science Teacher at Frankford High School, (10 yrs) , Environmental Science, Biology, and Physical Science
Mercury Pollution Expert at Clean Air Council (9 years, volunteer)
PowerPoint presentations "Tuna to Eat or not to Eat", "Are Pollution Zombies Possible", "Air Pollution, Multiple Chronic Conditions, and Senior Citizens" (preparation in progress)

References to understand the nature of the mercury pollution problem

1. Global Mercury Assessment 2013: Sources, emissions, releases, and environmental transport, United Nations Environment Programme (UNEP) (2013)
http://wedocs.unep.org/handle/20.500.11822/7984
2. Fourth National Report on Human Exposure to Environmental Chemical, Jan 2017
.https://www.cdc.gov/biomonitoring/pdf/FourthReport_UpdatedTables_Volume1_Jan2017.pdf
3. UNITED NATIONS ENVIRONMENT PROGRAMME CHEMICALS,GLOBAL MERCURY ASSESSMENT Issued by UNEP Chemicals Geneva, Switzerland December 2002
https://wedocs.unep.org/bitstream/handle/20.500.11822/11718/final-assessment-report-25nov02.pdf?sequence=1&isAllowed=y
4. Zero Mercury Campaign
http://www.eesc.europa.eu/sites/default/files/resources/docs/lymberidi-elena.pdf
5. Tribune investigation: The Mercury Menace. How safe is Tuna? Federal regulators and the tuna industry fail to warn consumers about the true health hazards of an American Favorite by Sam Roe and Michael Hawthorn (Tribune staff reporter, December 13, 2005 (Chicagotribune.com)
6. About Minamata; Minamata Mercury Satellites Symposium Committee (6th International Conference on Mercury as a Global Pollutant (ICMGP) October 15-20 2001 Minamata,Japan

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"TUNA THE WONDER FISH" campaign- A current effort to sell more tuna

Why is tuna NOT a wonderful fish to eat? Because eating more tuna increases the level of mercury in us. Methyl mercury the most dangerous form of mercury is the type found in tuna. The cumulative effect of mercury are so dangerous that the FDA, EPA, March of Dimes and other health conscious groups have posted warnings for the general population to restrict the amount of mercury in their diet by reducing the amount of tuna in their diet. Since there are fish that contain very low levels of mercury you are better off eating those fish. Whole foodsMarket.com (2) has listed a number of fish that are considered low in mercury so there is no reason to eat tuna at all. Mercury has no beneficial effects on you.

If you plan to consume fish containing high levels of mercury, at the very least, you should follow the advice of the FDA and EPA for adults and eat less than 6 ounces of albacore tuna (if you are not a woman of child bearing age). A child should eat a lot less than an adult because the amount of fish you can eat, depends on your weight and the species of fish. (You should check the seafood calculator at GoMercury.com. You can enter the type of seafood and your weight and see if you are exceeding the FDA mercury levels.)

It should be noted that the EPA (Environmental Protection Agency) believes that these mercury levels (set by the FDA) do not protect the public adequately and have set the upper limits of consumption lower (to half of the FDA level) Furthermore, it should also be noted that there is no such thing as a safe level for mercury consumption because some people are more sensitive to mercury than others; they respond differently to the same amount of mercury exposure. In addition, during development, mercury can wreak havoc with the development of the fetus - this can produce lifelong problems. So when in doubt don't!

The major problem with tuna is that it is one of the most consumed fish in the United States. So the more you eat, the more mercury accumulates in your body. According to the Pennsylvania Department of Environmental Protection, mercury is a persistent toxin (3), so a major problem in eating tuna, is that the mercury stays with you long after the fish has been eaten. Mercury is eliminated from body slowly. Unfortunately, tuna is one of the top sea food consumed in the United States and it contains mercury. (The mercury is part of the protein of the fish; it is not from the metal of the can from canned fish). One of the major problems occurs when a woman with mercury in her body becomes pregnant. The mercury is transmitted to the fetus and can causes serious developmental problems such as a lowering of the IQ as well as hearing and visual problems.

1. http://www.seafoodsource.com/newsarticledetail.aspx?id=8984
2. http://www.wholefoodsmarket.com/products/methylmercury-seafood.php
3. http://www.dep.state.pa.us/dep/deputate/pollprev/p3erie/hs~mercbroch.htm