

Activity: Mercury in Fish

Purpose:

Using several tinned cans of fish including sardines, anchovies, herring, different varieties of tuna (yellow fin, albacore, light chunk, white, flaked), mackerel, and salmon, start a discussion with participants about fish consumption (amounts and frequency) and fish choices for a typical family. Participants will be provided with examples of “fish advisories” to help explore, compare and learn about the power of reading labels, the value of omega-3 fatty acids in fetal brain development and child/adult health. The importance of fish as a good source of protein, essential fatty acids and minerals should be emphasized. Serving sizes and recommended daily amounts of fish will be reviewed from the Canada Food Guide in the context of pregnancy and younger children. Concepts such as sustainability in the marine ecosystem (farmed versus wild) and other considerations can be discussed. This exercise will also point out a role for the precautionary principle with pregnant women and young children.

Props

1. Canned fish (wild/farmed) from various species particularly tuna and salmon.
2. Fish advisories from local public health unit(s), Toronto Public Health Unit, Health Canada and US EPA.
3. Copy of Canada’s Food Guide.
4. Copy of Guide to Eating Ontario Sport Fish (available at MOE offices and other Service Ontario centres).

Some discussion-starter questions for the groups to discuss:

- What are the potential benefits and risks of fish consumption? (Make a list).
- Can you place the cans in the order of less to most mercury contents?
- What do you need to know to make choices about the types of fish to buy?
- What does the Guide to Eating Ontario Sport Fish suggest about the amount and type of fish in your local rivers and lakes? What do labels on tinned fish tell the consumer?
- How do you handle confusing messages about fish choice and consumption?
- What does the Canada Food Guide recommend in terms of fish choice and consumption? Is fish safe for everyone?
- How do you respond to questions about fish consumption by pregnant women, women who may become pregnant and young children about the risks of exposure to mercury? Are there other populations at risk?
- Discuss sustainability in the context of wild versus farmed aquaculture (salmon). Introduce Seafood Watch handout.
- How can the Precautionary Principle help address these issues?
- How do you advise a woman who might eat fish every day?

Key take-away messages:

1. Fish is a good and mostly safe source of protein and omega-3 fatty acids – both are important for a brain development in babies and young children. Fish is also a good source of vitamin D and minerals across a human’s lifespan. Most fish have trace levels of mercury – a substance that can be toxic to the developing brain of babies and young children.
2. Mercury contamination is higher in large, predatory fish such as fresh/frozen tuna, shark, swordfish, marlin, orange roughy, tilefish, walleye (freshwater), muskellunge (freshwater) and escolar. Avoid eating these fish to reduce exposure of mercury. Fish with less mercury include anchovy, capelin, herring, Atlantic mackerel, white hake, pollock (Boston bluefish), salmon, smelt, rainbow trout, shrimp, clam, mussel and oyster.
3. There are many good sources of information about mercury in fish including Health Canada, the Canadian Food Inspection Agency, the Ministry of Environment, and several Public Health Units.

Advice can be confusing because it can vary within different age groups, between different fish species and even within the same species of fish. Canada's Food Guide recommends that Canadians eat at least two servings of (75 grams/half a cup) of fish each week. Pregnant, breastfeeding, and women who may become pregnant and young children should be aware that fish is a good source of vitamin D, minerals and essential fatty acids. Similarly, they need to be aware of what types of fish are good choices for consumption. Health Canada recommends that pregnant, breastfeeding and women who may become pregnant limit their consumption of shark, swordfish and fresh or frozen tuna to a single meal per month while the US FDA and US EPA recommend that they completely avoid shark, swordfish, king mackerel and tilefish. The US EPA and US FDA recommend that fish with lower mercury levels including canned light tuna, shrimp, salmon, pollock and catfish be eaten no more than two fish meals per week (only one of which could be white (albacore) tuna). Health Canada's recommendations on albacore tuna are not as precautionary.

4. READ THE LABEL: Choose tuna that is flaked, chunk light or solid light. Canned albacore tuna (sometimes called "white" tuna) contains higher levels of mercury. Canned tuna (especially light tuna) is generally a younger and smaller form of tuna made up of different species like skipjack, yellowfin, and tongol. These species have less mercury than fresh or frozen tuna.
5. Farmed fish often contain higher levels of contaminants than wild fish.
6. The Precautionary Principle (a "better safe than sorry" approach) suggests that pregnant women, young children and women who may become pregnant avoid eating large fish species.

For more information about mercury and fish advisories see:

- CPCHE. *Child Health and Environment – A Primer*, pp. 60-61 among others.
- CPCHE web site special collection on mercury
http://www.healthyenvironmentforkids.ca/english/special_collections/fulltext.shtml?x=718
- Health Canada at http://www.hc-sc.gc.ca/fn-an/securit/chem-chim/mercur/cons-adv-etud_e.html
- US FDA and US EPA at www.cfsan.fda.gov/~dms/admehg3.html
- *Guide to Eating Ontario Sport Fish* at www.ene.gov.on.ca/envision/guide
- Pollution Probe's *Mercury in the Environment: A Primer* at www.pollutionprobe.org/Publications/Primers.htm
- OPHA position paper on methylmercury in fish at www.opha.on.ca/ppres/2004-04_pp.pdf
- SeaFoodWatch, for information about choosing fish that are caught or farmed sustainably, at www.mbayaq.org/cr/seafoodwatch.asp
- Physicians for Social Responsibility www.psrla.org/documents/mercury/finalEnglish.pdf.

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