

Fish are up to their gills in mercury

March 08, 2007

Children, pregnant women most at risk of high levels of heavy metal, report says

MARTIN MITTELSTAEDT - globenandmail.com

<http://www.theglobeandmail.com/servlet/story/RTGAM.20070308.wxhmercury08/BNStory/specialScienceandHealth/home>

So much mercury has accumulated in fish that there should be a worldwide public warning about eating seafood contaminated by the dangerous heavy metal, says a report summarizing the latest scientific evidence on global mercury pollution.

The report, compiled by many of the leading academic experts on mercury pollution at a conference last year, is being published today in *Ambio*, the journal of the Royal Swedish Academy of Sciences.

It says that those most at risk from exposure to the metal -- mainly children and women of childbearing age -- should be careful about the quantity and types of fish they eat.

The warning follows an advisory issued earlier this year by Health Canada, urging consumers to be cautious about eating too much albacore canned tuna because it contains elevated levels of mercury.

Health officials worry about mercury because it is a potent neurotoxin. By interfering with brain development, it can reduce the intelligence levels of children, particularly through exposures during fetal development.

Mercury in seafood poses a big dilemma because fish also has major dietary benefits. It is an excellent source of proteins and one of the only dietary sources of health-boosting omega-3 fatty acids.

The experts who wrote the new report are advising consumers to balance these risks and benefits by being careful about the fish they select. The experts recommend buying species with high amounts of fatty acids and low mercury levels.

In Canada, that means the best course for consumers is to limit consumption of many types of freshwater sports fish, which are often badly polluted with mercury, along with such ocean species as shark, swordfish and fresh and frozen tuna. Large, long-lived ocean fish are a worry because they have time to build up high amounts of the contaminant.

The better choice would be cold-water species such as salmon, which are generally low in the metal but high in fatty acids. Canned light tuna is a mix of different varieties of the fish that have lower levels of mercury.

One of the researchers who helped compile the report says mercury is such a big problem that international policy makers should do more to reduce emissions to safeguard both public health and the environment, where the metal is causing widespread contamination in wildlife.

"The policy implications of these findings are clear," said James Wiener, a biologist at the University of Wisconsin-La Crosse. "Effective national and international polices are needed to combat this global problem."

As worries due to mercury have grown, public-health authorities have generally become more cautious about exposures.

For instance, in 2002, Health Canada said eating canned tuna wasn't a risk, although at the time it warned about eating too much shark and swordfish, saying that consumers should eat no more than one to four meals of these fish a month, depending on the consumer's age.

But in an advisory issued earlier this year, Health Canada recommended that women who are pregnant or breastfeeding eat no more than four half-cup servings of canned albacore tuna each week. Children from the ages of 1 to 4 should eat no more than one serving a week, the agency said, and older children should eat no more than one serving twice a week.

Mercury is ending up in the food chain because large amounts are being added to the atmosphere as a trace contaminant of burning coal. Humans are also exposed to it through gold-mining byproducts and consumer goods containing it.

When mercury is added to the environment, it can be changed through bacterial action into a form known as methylmercury, which builds up in fish and moves easily up the food chain as animals eat each other.

The new scientific report estimated that, on average, three times more mercury is falling from the sky than before the Industrial Revolution 200 years ago.

Although Canada, the United States and Europe have instituted tough controls on mercury emissions, the concentrations of the metal in the environment have not changed worldwide. The report said this is because releases from the developing world over the past 30 years have offset the new restrictions in developed industrial countries.

Because mercury is still being released, the report said, levels of the pollutant in fish-eating birds and mammals in some parts of the world have reached toxic levels. The report speculates that there could be population declines in these species, which include loons, and possibly in fish populations as well.

The catch with some fish

Earlier this year, Health Canada issued an advisory, warning that certain groups, in particular children and women of child-bearing age, should limit their consumption of canned albacore tuna.

Albacore tuna

Women who are or who may become pregnant, or who are breastfeeding, can eat up to four servings of canned albacore tuna each week. One serving is equal to 75 grams, 2 ½ ounces, 125 millilitres or ½ cup.

Children between one and four years old can eat up to one serving of albacore tuna each week.

Children between five and 11 years old can eat up to two servings of albacore tuna each week.

'Light' tuna

Canned albacore tuna, also known as '*white*' tuna, is not the same as canned '*light*' tuna. Canned light tuna contains other species of tuna such as skipjack, yellowfin, above, and tongol, which are relatively low in mercury.

Canned light tuna also tends to be lower in cost relative to albacore tuna. Based on lower mercury levels, Health Canada does not consider it necessary to offer any consumption advice specific to canned light tuna.

Other fish

For other types of fish that can contain high levels of mercury, the federal agency recommends:

Canadians should limit consumption of swordfish (above), shark and fresh and frozen tuna to one meal per week. Pregnant women, women of child-bearing age and young children should eat no more than one such meal per month.

SOURCE: HEALTH CANADA