

BASELINE OF HEALTH FOUNDATION
FISH FOOD FOLLIES by Jon Barron
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Okay, let's talk about fish. I'm not talking about the carnivore VS vegetarian thing; but rather, if you eat it, what you need to be aware of.

The trigger for this newsletter is [an article in the *New York Times*](#) that details the results of lab tests they commissioned on sushi in New York restaurants and stores. The tests, conducted by the Environmental and Occupational Health Sciences Institute, in Piscataway NJ, found that there was so much mercury in tuna and swordfish in 20 Manhattan restaurants and stores that eating just six pieces of sushi a week would exceed acceptable levels set by the Environmental Protection Agency.

Needless to say the article brought out the spin doctors in full force.

According to the [National Fisheries Institute](#): "In a poorly-sourced, sensational article in this morning's New York Times, reporter Marian Burros presents a distorted report on sushi and seafood that is at odds with widely accepted science. The story is unreliable and contradicts broadly-held medical advice that tuna and other kinds of fish are an essential part of a healthy diet. The Times story is alarmist, special interest-driven journalism and should be treated with extreme skepticism."

And according to [Japan's Fisheries Agency](#), mercury found in tuna is not at levels that pose a health threat. "The newspaper is exaggerating the risk."

So, is the mercury dangerous or not? Well, [if the FDA is to be believed](#), research shows that most people's fish consumption does not cause a health concern, and that a healthy diet that includes the nutritional benefits of fish and shellfish doesn't change the level of methyl mercury in the body much at all. If you eat a lot of fish one week, you can cut back the next week or two and you'll be fine. That is, if the FDA is to be believed! Then again, to be fair, the FDA does mention that high levels of mercury in the bloodstream of unborn babies and young children may harm the developing nervous system. Although, at the same time, [they recommend](#) that: "**women and young children in particular should include fish or shellfish in their diets due to their many nutritional benefits.**"

So what's the story here?

Is mercury in fish a danger, or isn't it?

What can you do about it?

Is sushi different from cooked fish?

Which is healthier, wild fish or farm raised?

And why is fish getting so darn expensive?

Mercury -- deadly beauty

People have known about the dangers of mercury since the days of the Roman Empire, when slaves who worked in the "quicksilver" mines would die horribly after 2-3 years exposure. And in the 19th century, the workers who used mercury to make hats went bald and suffered from severe muscular tremors, dementia, and fits of wild, uncontrollable laughter. Thus the phrase: "Mad Hatter."

It's no secret that mercury is one of the most toxic metals known. Numerous studies have shown its impact on health. There is strong evidence that mercury lowers T-Cell counts. This, alone, implicates it in cancer, autoimmune diseases, allergies, Candida overgrowth, and multiple sclerosis. It has also been shown that mercury cuts the oxygen carrying capacity of blood by half. This would account for many instances of chronic fatigue.

Mercury also has an affinity for brain tissue and is implicated in brain tumors and dementia. And, finally, mercury has an affinity for fetal tissue, which accounts for its implication in birth defects, which is why most doctors and the [American Pregnancy Association](#) recommend that women should not eat high mercury fish while pregnant. Too much methyl mercury in the bloodstream can damage the developing nervous system in fetuses, infants, and young children. In adults, it can cause vision problems, memory loss, headaches and hair loss.

48 Tons in Our Food and Water

There is nothing complex about the process. Mercury is a naturally occurring toxin which is found in soil, rocks, wood, and fuels like coal and

oil. Simple soil erosion deposits mercury in rivers and lakes, but concentrations remain low, unless, as has been discovered in the recently deforested regions of the Amazon, erosion reaches extraordinary levels. The burning of rainforests also releases mercury that has been taken up from the soil by the trees.

But the major source of mercury in our food chain, responsible for about 1/3 of the levels found in our bodies, is our burning of coal to generate electric power. That is the single greatest contributor to the problem. Mercury that naturally occurs in the coal is released during burning and enters the air; it is then precipitated into the oceans, lakes, and rivers by rain. According to the EPA, coal-fired power plants in the United States emit about 48 tons of mercury into the air every year -- and more than half of this mercury falls within 5 miles of the plant itself. When it reaches the water, microorganisms consume it and convert it into a substance called methyl mercury.

Into the Food Chain

A study at the University of Tennessee recently rated methyl mercury among the most dangerous poisons on Earth (just behind plutonium). It has no known beneficial use in the body, and it accumulates in the muscle tissue of fish, animals, and humans. When minnows eat plankton or algae that is contaminated with methyl mercury, it is deposited in their flesh; larger fish prey upon the minnows, and the toxin concentrates straight up the food chain to the most prized game fish -- the big predators like bass, pike, walleyes, brown trout; and to all the finest food and sport fish of the seas -- tuna, swordfish, shark, roughy, marlin, and halibut. According to the EPA, fish at the top of the aquatic food chain bio-accumulate methyl mercury to a level approximately 1 million to 10 million times greater than dissolved concentrations found in surrounding waters.

Of course, when you climb one more rung up that food chain, you find us, the people who eat fish. Just like the predatory fish that we catch and eat, we store mercury in our tissues. Just like the ancient Romans, we know that high exposure to mercury is fatal. **When the FDA says, "If you eat a lot of fish one week, you can cut back the next week or two and you'll be fine," they are most decidedly wrong. Mercury does not readily clear the body.** It electrically bonds with tissue and remains for years and years and years. When you eat a lot of fish with high mercury levels one week, those levels don't drop next week. They remain...waiting for the next time

you eat fish with mercury to climb higher...and higher...and higher -- unless you make a concerted effort to chelate that mercury out of your body.

And the problem will only get worse. The use of coal energy plants is climbing throughout the world particularly in China -- but also here in the US where the Bush administration has simply decided to exempt the coal-fired power industry from any controls on mercury pollution.

Levels of mercury in the food chain will continue to climb.

Removing the mercury from your body

As I said, mercury does not easily leave your body on its own. You have to chelate it out. The best way to do this is with a formula made from extracts of cilantro and chlorella. Why cilantro and chlorella?

Because cilantro changes the electric charge on intracellular deposits of heavy metals such as mercury to a neutral state, which relaxes their tight bond to body tissue, freeing them up to be flushed from the body. Studies have shown that levels of mercury, lead, and aluminum in the urine increase significantly after consuming large amounts of cilantro. Once free, the next step is to actually facilitate the removal of the metals from the body. And here's where chlorella comes in. Chlorella possesses the capacity to absorb heavy metals. This property has been exploited as a means for treating industrial effluent that contains heavy metals before it is discharged, and to recover the bio-available fraction of the metal in the process. In studies undertaken in Germany, high doses of chlorella have been found to be very effective in eliminating heavy metals from the body -- from the brain, intestinal wall, muscles, ligaments, connective tissue, and bone.

Together, these herbs create a powerful oral chelation formula that can remove an average of 91% of the mercury in your body in as little as 42 days.

And talking about tuna

Chelation is not the only way to reduce your mercury levels from tuna. As it turns out, it's possible to buy low mercury tuna. Yes, you read that correctly. It turns out that it's not just a question of how high up the food chain a fish is that determines its mercury level. It's also a question of how long that fish has been in the ocean. The more time it's in the ocean, the more time it has

to accumulate mercury. In addition, younger fish swim and eat closer to the surface of the water where the mercury levels are lower, whereas the older, larger fish, favored by most commercial fishermen and canners swim closer to the ocean floor.

As I said, most restaurants and fishermen like the larger (25-70 lb) older tuna. Much more meat -- larger juicer steaks. More bang for the buck so to speak. Some canners, however, specialize in smaller (12 lb or less) younger, troll caught tuna. Mercury levels in these fish are almost non-existent. Two good sources are:

<http://www.1wildplanet.com/>

<http://www.oregonschoice.com/home.php>

Is sushi different from cooked fish?

When it comes to mercury, there's really no difference between sushi, canned fish, and freshly grilled fish. Mercury is mercury. But that doesn't mean that there's no difference of any kind.

Raw fish may contain a number of bacteria, which causes diarrhea, cramping and vomiting, and also viruses such as Hepatitis A and **noroviruses**. In addition, raw fish frequently contains **parasites**, although freezing the fish for a short time before thawing and using raw will take care of that problem. Japan's National Health Institute recommends freezing fish to -4°F for several hours when preparing raw fish

And beyond that, in some cases bacteria in fish can produce toxins which can lead to illnesses including **scombrotic fish poisoning**, the most common form of fish poisoning in the United States. Symptoms include diarrhea, flushing, sweating, headache, and vomiting and can commence within two minutes to two hours after eating the contaminated fish.

Which is healthier, wild fish or farm raised?

Mercury levels are definitely lower in farm raised fish, but for virtually every other contaminant, wild fish is the safer choice, hands down. Farmed raised fish are fed more antibiotics by weight than any other form of

livestock. In addition, farmed raised fish have significantly higher levels of PCBs, dioxin, and other cancer causing chemicals than do wild fish.

In addition, it's worth noting that farm raised fish do not have the same health benefits as do wild fish. If you're eating salmon for its omega-3 fatty acids, for example, you should know that farm raised salmon do not have the same omega 3:6 profile as wild salmon. Farm-raised fish contain up to 400% more omega-6 fatty acid than do wild salmon. At these levels, **the fatty acids in farm raised fish may actually contribute to inflammation in the body, not help bring it down.**

And finally, if it matters to you (and it should), fish farms are decidedly "ungreen."

www.organicconsumers.org/irrad/salmonfarms.cfm

http://findarticles.com/p/articles/mi_qn4156/is_20061001/ai_n16760726

Conclusion: why is fish getting so darn expensive?

Since we've opened the door by talking about the health aspects of eating fish, it's probably worth talking for a moment about the ethical and ecological aspects of commercial fishing. In the last half century, increased consumer demand for seafood has pushed the catch of commercial fish to over 100 million tons a year from the world's oceans. Fisheries now use sonar and satellite-tracking equipment to locate schools of fish, and **despite an international moratorium**, sweep clean miles of ocean with gigantic **driftnets** that trap every creature in their path. Species that are not economically valuable (such as sea turtles, dolphins, and sea lions) are discarded: over 27 million tons of aquatic animals are thrown, dead or dying, back into the ocean every year. Another common technique used for fishing tuna is "**longline fishing**," in which a fishing line up to 60 miles long is embedded with thousands of hooks and trailed behind a single boat. Due to these and similar practices, over fishing has decimated marine ecosystems. Currently, 25% of all the world's fish stocks are either overexploited or depleted. Another 52% is fully exploited and in imminent danger of collapse. In all, **a total of almost 80% of the world's fisheries are fully exploited, depleted, or in a state of collapse.** A recent study that analyzed data from five ocean basins collected since the 1950s reports that **90% of each of the world's large ocean species (including cod, halibut, tuna,**

swordfish and marlin) has disappeared from the world's oceans in recent decades.

Quite simply, we are fishing many species to the point of extinction. That means that much of the debate on fish as food is moot. As a viable protein source for the human race, it will most likely be pushed beyond its limits within the next one to two decades. After that, it will be a "special treat" for those who can afford it...and who don't mind becoming living thermometers in the process.