



# Mercury Alert!

## Debunking Six Myths about Mercury and Health

Many people think mercury no longer poses a serious health threat when found in medicines, vaccines, food, over the counter medical products and fluorescent light bulbs, but they are mistaken. Mercury is toxic, and found more places than ever before. In the following, SafeMinds presents the truth behind Six Myths on Mercury Exposures in the 21st Century:

MYTH  
**1**  
Mercury

### Mercury Has Been Removed from Vaccines

Thimerosal is still widely used in flu vaccines. It is also still used in vaccines for adults (like tetanus boosters), vaccines given to the US military, many vaccines given to children in developing countries, and even in veterinary vaccines for pets and livestock. Trace amounts of Thimerosal (less than 0.3 mcg ethylmercury) can also be found in some single-dose, preservative-free vaccines given to US children. See Table 3 at: <http://www.fda.gov/BiologicsBloodVaccines/SafetyAvailability/VaccineSafety/UCM096228>

MYTH  
**2**  
Mercury

### You Don't Really Need to Worry About Eating Fish

Consuming some fish can put anyone over the EPA safe limit for methylmercury exposure. The daily limit is 0.1 micrograms (mcg) of methylmercury per kilogram (kg) of body weight. By that measure, the maximum daily safe exposure for a 154lb (70kg) adult would be 7 mcg, and only 2 mcg for a 45 lb (20kg) six-year-old.

According to the FDA, an average 6-ounce serving of swordfish contains 168 mcg of methylmercury, or 24 times the daily limit for a 154-pound adult, and 84 times that for a 45-pound child. The highest level found in swordfish was a staggering 538 mcg per 6-ounce serving, or 77 times over the daily limit for an adult and 263 times that for a six year old. FDA recommends everyone limit Swordfish, Shark, Mackerel and Tilefish.

Tuna, the largest methylmercury source in the American diet, can be a problem if consumed too often. SafeMinds supports the recent report on tuna in school lunches. SafeMinds supports the recent report on tuna in school lunches that looked at mercury in canned tuna served at schools. For what to do about this, see Page 8 for recommendations on reducing risk for kids from mercury in tuna: [http://mercurypolicy.org/wp-content/uploads/2012/09/mpp\\_tuna\\_surprise\\_final\\_final1.pdf](http://mercurypolicy.org/wp-content/uploads/2012/09/mpp_tuna_surprise_final_final1.pdf)

MYTH  
**3**  
Mercury

### The Dose Makes the Poison

Just because the amount of mercury in vaccines and other products seems relatively small does not make it safe. Dosage is just one of many factors for calculating toxicity, especially when it comes to neurotoxins with unusual properties, like mercury. Mercury exposure comes from many sources and through different routes of exposure. Ingestion, inhalation and skin contact from sources like dental amalgam, burning coal, skin bleaching creams, or even a broken fluorescent lamp can add to anyone's total mercury exposure. Individual genetics, nutritional status and age all play a role in the body's ability to rid itself of mercury. In addition, unlike other metals, mercury is known to concentrate in the cord blood relative to maternal blood during pregnancy. So, women of child-bearing age or who are pregnant should be particularly concerned about avoiding mercury exposures.

[http://www.state.nj.us/dep/dsr/mercury\\_task\\_force.htm](http://www.state.nj.us/dep/dsr/mercury_task_force.htm)

MYTH

4

Mercury

## Mercury Acts Alone

Different forms of mercury become even more damaging when exposure is combined with other toxic metals, or with each other. Mercury is extremely “synergistic” with other metals like aluminum, cadmium and lead, meaning both metals become far more toxic when combined. In this way, even miniscule amounts of mercury could become harmful. It is important to understand the concept of synergistic toxicity, as research increasingly shows that different toxins combine to increase potency. This effect is typically overlooked when testing the toxicity of a substance: the “level of harm” is based on single toxin exposures and often calculated only for adults. <http://www.atsdr.cdc.gov/interactionprofiles/IP-ga/ipga.pdf>

MYTH

5

Mercury

## When They Took Mercury Out of Childhood Vaccines - Autism Went Up

This myth is based on a handful of studies that SafeMinds has already extensively rebutted. See page 41 at this link: <http://www.safeminds.org/research/library/SafeMinds%20Epidemiological%20Rebuttal.pdf>. In addition, the (ADDM) Network operated by the Centers for Disease Control and Prevention (CDC) has not yet published data on the 2002 birth cohort.

That cohort will be the first to potentially show the effects of reduced thimerosal – though exposures have been documented as late as 2004 and continue through maternal and infant influenza vaccines. Recent research reports that following a fivefold increase in the annual incidence rates of autism during the 1990s in the UK, the incidence and prevalence rates reached a plateau in the early 2000s following the removal of thimerosal in vaccines.

MYTH

6

Mercury

## There’s No Link between Mercury and Autism

Beyond the issue of thimerosal in vaccines, autism has been linked to mercury in air pollution, mercury from multiple sources including amalgam, and even mercury in teething powders. The studies linking mercury and autism range from studies in epidemiology, epigenetic effects, and symptomology – demonstrating links between symptoms of autism and mercury poisoning and mirrored effects at the cellular level on what is known about autism. The link between mercury and autism is both plausible and supported by a constantly increasing body of scientific evidence.

Lastly, studies of children with autism show clearly that some metabolize metals differently than control children, have different body burdens of metals than controls and have impaired ability to detoxify their bodies. For a summary of some of the science supporting a mercury/autism connection, go here: <http://www.safeminds.org/research/docs/Thimerosal%20Science%20Summary%20Dec%202012.pdf>

### REFERENCES:

*Mercury Levels in Commercial Fish and Shellfish (1990-2010)*, Food Safety, Food and Drug Administration (FDA) website, updated February 27, 2013 <http://www.fda.gov/food/foodborneillnesscontaminants/metals/ucm115644.htm>

Arch Toxicol. 2012 Oct;86(10):1571-81. doi: 10.1007/s00204-012-0869-4. Epub 2012 Jun 8. *Partition of metals in the maternal/fetal unit and lead-associated decreases of fetal iron and manganese: an observational biomonitoring approach*. Kopp RS, Kumbartski M, Harth V, Brüning T, Käfferlein HU. Institute for Prevention and Occupational Medicine of the German Social Accident Insurance (IPA), Ruhr University Bochum, Bürkle-de-la-Camp Platz 1, 44789 Bochum, Germany

Environ Int. 2013 Sep 9;60C:106-111. doi: 10.1016/j.envint.2013.08.007. *Relationships between trace element concentrations in chorionic tissue of placenta and umbilical cord tissue: Potential use as indicators for prenatal exposure*. Sakamoto M, Yasutake A, Domingo JL, Chan HM, Kubota M, Murata K. Department of Environmental Science and Epidemiology, National Institute for Minamata Disease, Minamata, Japan. Electronic address: [sakamoto@nimd.go.jp](mailto:sakamoto@nimd.go.jp).