

Proposed Safety Limits For Organic Mercury Exposure And Thoughts On The Mercury Poisoning Of Developing Children

Revised Safety Limits for Organic Mercury Exposure In Developing Children

On 2/23/09 at 14:33 EST, the Geiers wrote:

>New Important Paper About Autism - Dr. Mark Geier & David Geier

>

>Dear Everyone,

>

>Please, find attached to this email a copy of a new case-series study, "Toxic Levels of Mercury in
>Chinese Infants Eating Fish Congee" from the peer-reviewed Medical Journal of Australia saved
>as Toxic Levels of Mercury in Chinese Infants Eating Fish Congee1.pdf in Adobe Acrobat
>Format.

>

>This new study, by authors from the Australian Health Service, evaluates the adverse effects of
>postnatal mercury consumption on neurodevelopmental disorders in children. Overall, it was
>estimated that the children examined received an estimated median mercury dose of 0.40 micro-
>grams mercury / kilogram bodyweight / week (0.06 micrograms mercury / kilogram bodyweight
>/ day). This is a remarkably low dose of mercury considering that children receiving Thimerosal-
>containing childhood vaccines on average received 10 to 20 micrograms mercury / kilogram
>bodyweight / day and the US Environmental Protection Agency (EPA) methylmercury safety limit
>is 0.1 micrograms mercury / kilogram bodyweight / day), and yet these children had very serious
>adverse outcomes. For example, Child 2, was described as, "a boy aged 2 years and 10 months
>presented with delayed speech and some autistic features. Since weaning, he had eaten fish up to
>eight times a week. He had no history of herbal medicine use, and his thyroid function, blood lead
>level, and a DNA screen for Fragile X syndrome were normal." Further testing revealed the child
>had elevated blood and urine mercury levels. He was, "...subsequently diagnosed with classical
>autism."

>

>This case-series of children, coupled with a number of previously published case-reports, helps to
>illustrate that there are physicians to diagnosing at least some children with mercury poisoning as
>having autism spectrum disorders. It further illustrates how large a mercury dose children received
>from Thimerosal-containing childhood vaccines versus other potential exposures to mercury that
>have been associated with significant neurodevelopmental disorders. Finally, it also helps to
>provide additional plausibility to the fact that post-natal brain insults may cause or significant
>contribute to autism spectrum disorders (i.e. versus, only prenatal insults being associated with
>the development of autism spectrum disorders).

>

>Sincerely,

>

>Dr. Mark Geier

>

>David Geier

>

>Attachment Converted:

>"c:\eudora\attach\Toxic Levels of Mercury in Chinese Infants Eating Fish Congee1.pdf"¹

¹ Corbett SJ, Poon CCS. Toxic Levels of Mercury in Chinese Infants Eating Fish Congee. *Medical Journal of Australia* 7 Jan 2008; **188**(1): 59-60.

After reading their message and reviewing that paper, and knowing that all monoalkyl mercury compounds (e.g., methylmercurihydroxide, and ethylmercurithiosalicylate) that are highly soluble in physiological fluids have similar toxicological properties that vary in accordance with their solubility in physiological fluids more than whether their alkyl group is methyl or ethyl, and that the methylmercury compounds in fish are probably methylmercury cysteine moieties incorporated into fish protein, it is even more clear that the current EPA reference dose (RfD) provides no real safety margin for organic alkyl mercury exposure in developing children.

Based on Corbett and Poon’s findings¹, it appears that these children most likely had a median mercury exposure from methylmercury compounds in fish of roughly 0.40 µg/kg bodyweight/week – with a range from 0.13 to 1.25 µg/kg bodyweight/week (or 0.057 µg/kg bodyweight/day with a range from 0.018 to 0.18 µg/kg bodyweight/day). Moreover, these exposures are significantly less than: **a)** the Australian “Provisional tolerable weekly intake (PTWI)” of 1.6 µg/kg bodyweight/week and **b)** the US “Reference Dose (RfD)” of 0.1 µg/kg bodyweight/day.²

Thus, it is clear that: **a)** some developing infants eating fish at levels below the supposedly safe levels established in Australia and the USA are being mercury poisoned and **b)**, based on **a)**, the safety limits for ingested organic mercury from fish need to be reduced appropriately. Because the poisoning is being observed in only a few developing children, the recommended “safe” dose should be at least 10 fold³ below the reported “median” daily intake level to provide a margin of safety for children such as the three in the case studies – or, based on these case reports and the reported exposure data, roughly ≤ 0.006 µg/kg bodyweight/day.

Based on the findings reported in this article and this reviewer's understanding that only about 25% of the mercury in fish is absorbed into the body with most of the rest being excreted in the feces without being absorbed, this reviewer proposes the following as the upper limits on daily exposure for water-soluble alkyl-mercury compounds in ingested fish and injected drugs BASED ON a “25%” absorption percentage for ingested tissue-bound mercury in fish and “100%” absorption when injected:

1. RfD (fish) = *not more than (NMT)* 0.006 µg/kg bodyweight/day or *NMT* 6 ng/kg bodyweight/day [*NMT* 0.042 µg/kg bodyweight/week or *NMT* 42 ng/kg bodyweight/week], and
2. RfD (injectable drug) *NMT* 0.0015 µg/kg bodyweight/day or *NMT* 1.5 ng/kg bodyweight/day [*NMT* 0.0105 µg/kg bodyweight/week or *NMT* 10.5 ng/kg bodyweight/ week].

The preceding suggested limits are tabulated in the following table:

Proposed Reference-Dose (RfD) Limits for: Mercury Exposure In Developing Children

Organic Mercury Intake Limits For Exposure By (route):	Proposed RfD for daily mercury intake* (µg/kg bodyweight/day)	Proposed RfD for weekly mercury intake* (µg/kg bodyweight/week)
Ingestion	<i>NMT</i> 0.0060 (6% of the EPA RfD)	<i>NMT</i> 0.0420 (2.6 % of Australian PTWI)
Injection (either subcutaneous or intramuscular)	<i>NMT</i> 0.0015	<i>NMT</i> 0.0105

* *NMT* is the acronym for “not more than”.

² <http://www.epa.gov/iris/subst/0073.htm>.

³ In the “ingestion” instance, the choice of “10” for the safety factor includes factors for: a) children with a bodyweight that is lower than 10 kg at 12 months, b) individual children who may be more mercury sensitive than the children in the reported cases, and c) the consumption of fish with a higher average mercury level. For “injection”, the choice of “40” for the safety factor includes: a) a factor of “4” for the higher absorption percentage, b) accounting for vaccine doses that have higher mercury levels than the nominal label level (actual level of mercury may exceed the nominal level by up to 25%), and c) allowances for children with lower bodyweights.

The Mercury Poisoning Of Developing Children

Based on:

- ❖ The case reports on the mercury poisoning of children eating a diet high in fish congee and
- ❖ The reported mercury poisoning in almost all of the case studies of non-chelated children with a diagnosis in the autism spectrum,

hopefully all will realize that mercury poisoning is an underlying “all systems” causal factor that manifests in the observed damage to the human immune system, human mitochondrial dysfunction, and the recent case where the measles virus was implicated in non-reversible nerve demyelination.

While "autism" is the label used to make it easy to deny causation, mercury poisoning is the subject that the pro-vaccination medical/pharmaceutical/public-health apologists attempt to misportray by labeling ethylmercury compounds as "ethylmercury – a special form of mercury" *not* like other mercury compounds (e.g., "methylmercury") just as the medical/pharmaceutical/public-health apologists portrayed "Calomel" (mercurous chloride; Hg₂Cl₂) as a special, safe form of mercury in teething powders and other drugs *without proof of safety* in the late-19th and 20th centuries when they used it in these drugs and the common label pinned on those babies and children who were mercury poisoned was "Pink disease"—a disease that coincidentally only appeared in countries (e.g., Australia, the United Kingdom, and the USA) where these drugs were heavily marketed and a disease that virtually disappeared after Calomel-containing drugs were removed from the market in the 1940s and 1950s. [Note: Coincidentally, the “epidemic” of “stomach cancer” in adults also disappeared about a generation after Calomel was withdrawn from the market in the USA.]

Factually, though the distribution rates and the equilibrium concentrations of Thimerosal and its mercury metabolites at vaccine and lower concentrations differ from those values for methylmercury hydroxide, the nearest methylmercury compound in terms of solubility to Thimerosal, the mercury in both compounds appears to bioaccumulate in tissues where, in its "inorganic mercury" form, it appears to have a half-life that is on the order of 25% of the lifetime of the mammalian species into which it is introduced (e.g., 18 – 20 years in humans). Moreover, in both in vitro studies in cells and tissues and in vivo studies in developing animals, the general toxicities of the ethylmercury and methylmercury compounds studied seem to be the “similar” (within an order of magnitude) and significantly more toxic than inorganic mercuric chloride.

Thus, the mercury-poisoning harm done by a single bolus-dose exposure in utero to nominally 50 micrograms of Thimerosal from a flu shot, where, based on the relative concentration mercury in cord blood to that of the mother in normal children, up to 20 micrograms of mercury are absorbed by the rapidly growing fetus, is significant, and the incorporated part of this dose continues to harm the developing child to some extent for at least the next 18 years.

Moreover, the CDC's 2002-and-onwards recommendation to vaccinate pregnant women was, and is, obviously wrong because:

- ❑ No inactivated influenza vaccine has been legally approved for administration to pregnant women, as the FDA has admitted, and
- ❑ The published studies by Heinonen et al. in the 1977 book, **Birth Defects and Drugs in Pregnancy**, clearly established that vaccinating pregnant women with a Thimerosal-preserved flu shot increased their risk of severe birth defects (cleft palate had a "hospital standardized" relative risk (RR) of 7.1 for women vaccinated in the first 4 lunar months (112 days) of pregnancy [see Appendix 4, page 474]; and [see Appendix 5, page 488] microcephaly had a "hospital

standardized" RR of 2.6, while pyloric stenosis had an adjusted RR of 2.0 for the Thimerosal-preserved flu shot at anytime during pregnancy).

In addition, **Birth Defects and Drugs in Pregnancy** (pages 304, Table 21-10, and page 313) reported that topical Thimerosal (Thiomersal) had a crude relative risk of 2.39, a "hospital standardized" RR of 2.50 and a "survival and race standardized" RR of 2.69 [Note: In spite of this published data, the Secretary of Health and Human Services and the Centers for Disease Control and Prevention (CDC) persist in ignoring the Thimerosal findings published in **Birth Defects and Drugs in Pregnancy**, which specifically addresses birth defects from drugs administered in pregnancy but does cite: Heinonen OP, Shapiro S, Monson RR, Hartz SC, Rosenberg L, Slone D. Immunization during pregnancy against poliomyelitis and influenza in relation to childhood malignancy. *Inter J Epidemiol* 1973; 2: 229-235, which is NOT a paper on teratogeny and birth defects but rather a study on "childhood malignancy" (carcinogenicity).]

Thus, in spite of strong evidence of birth defects and, *from animal studies*, increased risk of premature birth, the CDC has **knowingly** recommended and continues to recommend that pregnant women get flu shots **without limitation** to those without Thimerosal!

In addition, starting in 2002, CDC has recommended giving flu shots to children 6 months to 23 months of age even though the studies show **no** protection to those under 2 years of age and has repeatedly INCREASED the upper age limit until it is **now**, in 2009, 18 years of age – even though there is **no** proof that flu vaccines are effective in preventing those vaccinated from getting the flu and most of the scientifically sound evidence finds the annual influenza vaccination program to be ineffective and, considering those who have severe adverse reactions, that program may, *on net*, be harmful to the health of the public and certainly to the fiscal health of the public – a public who, through the CDC, currently underwrites much of the cost of the flu vaccination program.

Thus, based on the preceding realities, the CDC is apparently **knowingly** engaged in:

- ❑ Recommending the mercury poisoning of the developing child from conception onwards and,
- ❑ By recommending that pregnant women be injected with inactivated influenza vaccines that are not approved for administration to pregnant women without conducting the reproductive toxicity studies required to prove safety to the developing fetus and the mother when published human data show an increased risk of birth defects in their children and animal studies have shown reproductive toxicity and, in one case, multiple-generation adverse effects on the mothers' conceiving, gestational prematurity, and adversely affected second-generation offspring, apparently illegally promoting the use of a vaccine without the required proofs of safety for those pregnant women and their offspring to whom said influenza vaccine doses were administered and, *in the case of the Thimerosal-preserved doses*, with proven evidence of increased risk of harm to some of their offspring, which, *based on the recent settlements by several drug manufacturers*, where the manufacturers concealed clear evidence of the risk of harm (e.g., http://www.nj.com/news/index.ssf/2008/07/merck_to_begin_paying_485b_in.html ["Merck to begin paying \$4.85B in Vioxx settlements" by The Associated Press Thursday July 17, 2008]), would seem to be illegal, *if not criminal*, conduct.

Hopefully, *after reading this article*, all will contact their elected officials and the Justice Department and demand that these activities be stopped and that all those involved in or responsible for the illegal promotion for flu shots for pregnant women without the requisite proofs of safety for the pregnant mother, the pregnancy and the mother's offspring, *from 2002 onwards*, be prosecuted to the

full extent of the law.