Hypothesis:
The connection between Thimerosal (mercury preservative) in childhood vaccines and autism/learning disorders

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An estimated 10 percent of school children have some type of learning disability. More than half of all students in public school special education programs have been diagnosed with learning disabilities.

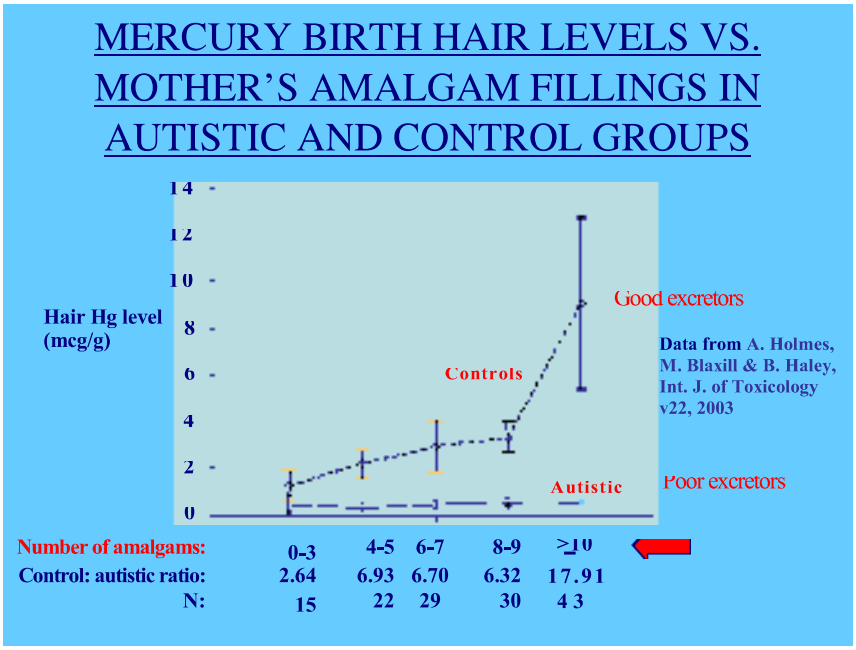
The EPA estimates that 1 in 6 women of childbearing age have mercury blood levels above that amount considered safe for the fetus. Nationally, this means that 15 out of 100 babies could be at risk of developmental problems from exposure to mercury in utero. Mercury is extremely neuro-toxic, especially to the developing brain.

It is mostly thought that the maternal body burden of mercury comes primarily from eating fish. However, it is documented that the primary body burden of mercury in humans is from dental amalgam. On the average, mercury dental fillings contribute 2-3 times as much mercury to the human body burden than do all dietary & environmental sources. (IAOMT Press Release, August 2009)

"Recently, it was found that autistic children had a higher mercury exposure during pregnancy due to maternal dental amalgam and Thimerosal-containing immunoglobulin shots. It was hypothesized that children with autism have a decreased detoxification capacity due to genetic polymorphism." (Neuroendocrinology Letters Vol.26, No. 5, October 2005 Copyright © Neuroendocrinology Letters ISSN 0172–780X)

Mercury has been detected in human umbilical cord blood. It used to be thought that the placenta shielded chemicals from cord blood. In this study, 287 chemicals were found thereby pre-polluting the baby.
Source: Chemical analyses of 10 umbilical cord blood samples were conducted by AXYS Analytical Services (Sydney, BC) and Flett Research Ltd. (Winnipeg, MB).

Note the following graph. The number of amalgam fillings in the mother is recorded. In normal children (good excretors), the more amalgams that the mother had, the more mercury was found in the hair of the children. In the autistic children (poor excretors), no mercury was found in their hair even as the number of amalgams in the mother was greater. This is due to the decreased detoxification mentioned above. This causes an increased burden of mercury in the fetus of the autistic child.



Therefore, it is apparent that the autistic child has a problem excreting mercury. This definitely makes a connection to mercury. Within the scientific community, this provides evidence but not proof. Evidence of Harm by David Kirby is a good book to read about the autism epidemic and mercury in vaccines.

The significance of an inability to excrete mercury is that mercury will then build up in the body. It is like a bathtub being filled with water. If the water does not go out, it will fill up. The body burden of mercury will increase in the child who cannot excrete mercury. The more mercury in the body, there is more potential for brain damage. This damage can take the form of a learning disorder or/and autism.

The body burden of mercury in utero sets the stage for sensitization which is the basis for my hypothesis.

In the relatively recent development and use of the Porphyrin profile for mercury, a whole new avenue of research has been opened. Urine mercury has classically been used to diagnose mercury toxicity. I have previously pointed out the limitations of urine mercury levels as it could very likely be misleading. In the Porphyrin profile for mercury, instead of looking for mercury, it looks for its effect on Porphyrin pathways.

The following is documentation linking mercury and autism using Porphyrin profiling:

"French researchers have also shown that a high percentage of autistic children have the same aberrant porphyrin profile as the dentists exposed to amalgam mercury vapors, and that this aberrancy can be reversed by chelation of the mercury from their bodies."

FDA PRESENTATION: AN EVALUATION OF DENTAL AMALGAM MERCURY RELEASE AND CORRESPONDING TOXICOLOGY CONCERNS

By Boyd E. Haley, Ph.D., Professor, Department of Chemistry, University of Kentucky 7 September 2006

Excerpts were taken from the following document. I have included the citations with references.

Urinary Porphyrin Profiling

The following text and figures are extracted from

Laboratory Evaluations in Functional and Integrative Medicine

Richard S. Lord and James A. Bralley, editors

Chapter 8, Toxicants and Detoxification

"Mounting evidence implicates mercury as a specific risk factor for regressive autism.[37]"

37. Mutter J, Naumann J, Schneider R, Walach H, Haley B. Mercury and autism: accelerating evidence? Neuro Endocrinol Lett. Oct 2005;26(5):439-446.

"Examination of patterns for urinary excretion of pentacarboxyporphyrin, precoproporphyrin and coproporphyrin has revealed significantly higher occurrences in autistic children compared with controls.[24]"

"These results have been confirmed in a second study using data from a separate laboratory.[25] Such studies give evidence implicating mercury as a contributing factor in regressive autism and related childhood developmental disorders. The finding of porphyrinuria indicative of the mercury effect in an autistic child, especially when verified by direct measurement of mercury, is evidence justifying further clinical action to reduce body burden of mercury."

24. Nataf R, Skorupka C, Amet L, Lam A, Springbett A, Lathe R. Porphyrinuria in childhood autistic disorder: implications for environmental toxicity. Toxicol Appl Pharmacol. Jul 15 2006;214(2):99-108.

25. Geier D, Geier M. A prospective assessment ofporphyrins in autistic disorders: a potential marker for heavy metal exposure. Neurotoxicity Research. 2006;10(1):6.

Coal burning electrical utility plants are another source of mercury. In the following study, an association was made between the distance from these coal burning plants and autism. This is an additional association of autism and mercury:

"A newly published study of Texas school district data and industrial mercury-release data, conducted by researchers at The University of Texas Health Science Center at San Antonio, indeed shows a statistically significant link between pounds of industrial release of mercury and increased autism rates. It also shows—for the first time in scientific literature—a statistically significant association between autism risk and distance from the mercury source."

Palmer, R.F., et al., Proximity to point sources of environmental mercury release as a predictor of autism prevalence. Health & Place (2008), doi:10.1016/j.healthplace.2008.02.001.

In a report from the US Centers for disease control, it was found most autistic cases were boys.

Yeargin-Allsopp, M, C Rice, T Karapurkar, N Doernberg, C Boyle and C Murphy. 2003. ***Prevalence of autism in a US metropolitan area****. Journal of the American Medical Association 289:49-55.*

The prevalence of autism in boys over girls gives a hint that testosterone in boys increases the susceptibility of boys to mercury toxicity.

The following is a quote from B.E. Haley/Medical Veritas 2 (2005) 535–542, **Mercury toxicity: Genetic susceptibility and synergistic effects**, Boyd E. Haley, PhD, Professor and Chair, Department of Chemistry, University of Kentucky:

"These testosterone results, while not conclusive because of the in vitro neuron culture type of testing, clearly demonstrated that male versus female hormones may play a major role in autism risk and may explain the high ratio of boys to girls in autism (4 to 1) and autism related disorders."

Dr. Haley also points out the synergistic toxicity that mercury has with other heavy metals such as cadmium and lead. Aluminum in vaccines and neomycin can enhance the toxicity of mercury. This is stated in the above citation.

My hypothesis contained herein helps explain how such a small amount of mercury could indeed be part of the etiology in the development of autism. Therefore, using documentation, I have built on my hypothesis which I hope you find compelling. I hope that my hypothesis will lead to research in this area.

Hypothesis: Mercury sensitization causes a critical response to the small amount of mercury in childhood vaccinations

Discussion:
With the above background, I want to give you my reasoning on a contributing cause of learning disabilities and autism. My attempt is to put the pieces of the puzzle together with my experience with my dear son and my present knowledge.

At age 3 months old, my younger son was given his DPT vaccinations. That same night, he cried hysterically. Until this time, he was calm through the night and slept well. His nights for the next 6 months or more were disturbed, and he cried a great deal. Under both eyes, he developed a black thick line. This black line was about a $^{1}/_{4}$ inch thick. At pre-kindergarten school, he was rejected. They told us that our son had a neurological disorder. Through elementary school, he was placed in special education classes due to a learning language disorder. He was good in math until it came to reading problems. He was well liked by his teachers. He is now in his 20's and is overcoming his problem through a great deal of effort. This problem has caused him much grief and it has affected his life. At this time, my son is a very handsome personable bright young man. For other parents with a similar problem with their child, I want to offer my insight into this issue.

In Dr. Haley's paper, "Mercury and autism: Accelerating Evidence?", there is mention of the contribution of mercury to the fetus from maternal dental amalgam. In the sheep study at the University of Calgary Medical School, it was documented that mercury from the mother's amalgams caused a body burden of mercury in the fetus. A mercury occupationally disabled female dentist told me that all her children had neurological disorders. This indicates a maternal contribution of mercury to her children. This demonstrates that maternal blood mercury is absorbed into the developing fetus.

The next point is something that I have not seen covered in the literature regarding autism. Dr. Louis Chang, one of the most prominent world mercury toxicologists, related the following to me. At the University of Arkansas Medical School, he had a medical student perform an experiment. The student injected rats with a sub-lethal dose of mercuric chloride on a daily basis. The student had to go on vacation for several weeks. Upon returning and injected the rats with the same sub-lethal daily dose, the rats started to die in a short period of time. The rats had become sensitized to the mercury and then had a severe reaction on re-exposure.

The human fetus is exposed on a continual basis to mercury from maternal blood just as in the above experiment. The gestation period in a human is about 9 months, which is a sufficient time to build sensitivity. Whether this extreme sensitivity develops may be related to the mercury body burden from the mother and genetic makeup. After birth, there is less exposure. With the vaccination containing the mercury compound thimerosal in the DPT vaccination, there is re-exposure, then an exacerbated reaction. The developing brain is damaged.

In 1978, I had a spill of 300 grams of mercury in shag carpeting just underneath my main operating chair. The whole office had this shag carpeting and a vacuum dispersed the mercury throughout the office. The air conditioner was off on weekends. The temperature in the office on weekends was quite high with the air conditioner off. This probably increased the mercury levels in the office. Florida gets pretty hot in the summer. This exposure caused me to become mercury toxic.

I took a month off and completely recovered from mercury toxicity. I felt great. (Contaminated carpet had been removed). Three days back in the office, I was extremely ill. Within 6 months, I was completely disabled and not able to practice dentistry. My reaction to the low amounts of mercury in practice became severe. I was sensitized. It was not the amount of mercury; it was my extreme reaction to it already with a body burden. This is a personal experience of becoming sensitized and then sustaining severe mercury toxicity upon re-exposure to mercury even though the concentration was lower.

Dr. Alfred Stock (head German chemist 1926) makes mention of this: “It seems that existing mercury intoxication preconditions a special sensitivity upon renewed exposure to mercury vapor. Some of us who, at our work, and also during occasional mistakes with ventilation, had come in contact again with more mercury, noticed this soon because of the stronger symptomatology after the relapses.”

Therefore, regarding the maternal contribution of mercury to the fetus, it is not just the contribution of mercury that can lead to neurological damage to a child:

Sensitization: On exposure to mercury, the body becomes immune challenged. In my case, after my 4 weeks of vacation and re-exposure, my reaction was devastating. For the fetus, the combination of mercury body burden, genetic susceptibility, and sensitization plays a role. I have not read about the factor of sensitization. I do not believe the literature covers this factor as playing a role. It is what I have observed in my experience and research on the subject. I believe it to be a factor.

Therefore, although the amount of mercury in the form of Thimerosal may be small in a childhood vaccination, the effect can be devastating due to the sensitization response.