

Facility Automation Management Engineering (FAME) Systems

33 Hoffman Avenue, Lake Hiawatha, NJ 07034

Wednesday, 21 September 2005

To Whom It May Concern:

The review that follows this introductory letter is a critical assessment of the opinions expressed by Paul A. Offit, MD, which were electronically published at http://www2.sgvtribune.com/opinions/ci_3043584 from the San Gabriel Valley Tribune, San Gabriel, CA, website, <http://www2.sgvtribune.com/>, which I visited as a part of my research in this area on 20 September 2005.

In general, to clearly differentiate between my assessment comments and those of the author, the author's printed statements are quoted in a "Times New Roman" font followed by this reviewer's remarks in an indented "Nimrod" font.

In cases where there is an important spelling or grammatical error, that error is noted by using a parenthesized "sic; *correction*" text "(sic; xxxxx)" insertion inserted immediately after the error.

Quotes from general reference articles and documents will be presented in an "Arial" font and federal laws and statutes will be quoted in a "Lydian" font.

~~For those who have access to a color printer, this reviewer's comments are made in a blue color with text needing correction in red.~~

Should anyone find any factual misrepresentations in this reviewer's remarks, then this reviewer requests that the factual error along with the scientifically sound and appropriate documents that prove your point to this reviewer so that this reviewer can learn from you, incorporate that new knowledge into his understanding, and, where indicated, appropriately correct this document.

Respectfully,

Paul G. King

Paul G. King, PhD, MS, BA
Founder, **F.A.M.E. Systems**

Rebuttal To: “Conventional wisdom must conquer medical sensationalism”

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“Conventional wisdom must conquer medical sensationalism

By Dr. Paul A. Offit

San Gabriel Valley Tribune

ON the morning of Aug. 23, 2005, Marwa Nadama brought her 5-year-old son, Abubakar, to the Advanced Integrative Medicine Center in Portersville, Pa., to meet with Dr. Roy Eugene Kerry, a board-certified physician and surgeon. Abubakar was autistic. Dr. Kerry was certain that he could help. For years Marwa had struggled to help her son. But Abubakar remained distant and uncommunicative, unable to return her affection.

Now, however, there was a ray of hope. Television and newspaper reports claimed that thimerosal, a mercury-containing preservative in some vaccines, had caused autism.”

Thimerosal is not *per se* a preservative.

Thimerosal is a highly poisonous organic mercury compound¹ that has been illegally² used as a preservative in some vaccines since 1968.

This is the case because the scientifically sound and appropriate toxicology studies required to prove “Any preservative used shall be sufficiently nontoxic so that the amount present in the recommended dose of the product will not be toxic to the recipient” have, as the FDA admits and the record demonstrates³, have never been conducted.

Moreover, in a 1948 Journal of the American Medical Association (JAMA) paper, Harry E. Morton et al.⁴ clearly established that Thimerosal was not suitable for use as a vaccine preservative.

However, their definitive findings have been knowingly ignored by both the vaccine makers and the FDA from the day it was published until the present.

¹ See APPENDIX A: “Abbreviated Material Safety Data Sheet” for Thimerosal.

² Thimerosal has been illegally used as a preservative since 1968 when the FDA enacted regulations requiring a compound to be proven safe, (21 CFR 610.15(a):

“TITLE 21 --FOOD AND DRUGS. CHAPTER I--FOOD AND DRUG ADMINISTRATION, DEPARTMENT OF HEALTH AND HUMAN SERVICES PART 610--GENERAL BIOLOGICAL PRODUCTS STANDARDS Subpart B--General Provisions

Sec. 610.15 Constituent materials.

(a) Ingredients, preservatives, diluents, adjuvants. All ingredients used in a licensed product, and any diluent provided as an aid in the administration of the product, shall meet generally accepted standards of purity and quality. **Any preservative used shall be sufficiently nontoxic so that the amount present in the recommended dose of the product will not be toxic to the recipient.** and in the combination used it shall not denature the specific substances in the product to result in a decrease below the minimum acceptable potency within the dating period when stored at the recommended temperature. ...” before use as a preservative.

³ According to the web page <http://cerhr.niehs.nih.gov/CERHRchems/index.html>, Thimerosal, CAS 54-64-8, was not nominated by the FDA to have its toxicity appropriately studied until “11/99.” However, that proposed study’s status was changed to “Nomination Deferred” in “7/00” because there were “Chemicals with higher priorities” for, given the studies that were allowed to proceed, no scientifically sound reason.

⁴ Harry E. Morton, Leon L. North and Frank D. Engley, “THE BACTERIOSTATIC AND BACTERIOCIDAL ACTIONS OF SOME MERCURIAL COMPOUNDS ON HEMOLYTIC STREPTOCOCCI In Vivo and in Vitro Studies,” *JAMA* 136(1), pp 37-41 (1948).

“Although thimerosal had been taken out of most vaccines by 2001, Marwa believed that its toxic effects hadn't been taken out of her son.”

Factually, Dr. Offit's statement is not accurate.

Thimerosal (49.55% mercury by weight) was not removed from most Thimerosal-containing vaccines by 2001.

As of 21 March 2005, “Thimerosal Preserved”⁵ vaccines were still being distributed for nine (9) vaccine products:

- All of the multi-dose vials of Aventis Pasteur, Incorporated's “Meningococcal” vaccine, Menomune®,
- Aventis Pasteur, Limited's and Aventis Pasteur, Incorporated's multi-dose “DT” vaccine,
- Mass Public Health's “Td” vaccine
- Aventis Pasteur, Incorporated's “TT” vaccine,
- Some lots of Merck's “Hepatitis B” vaccine, Recombivax HB, for adults (adolescents), and dialysis patients,
- Most lots of Aventis Pasteur, Incorporated's “Influenza” vaccine, Fluzone,
- Most lots of Chiron/Evans' “Influenza” vaccine, Fluvirin, and
- BIKEN's, “Japanese Encephalitis” vaccine, JE-VAX, which is distributed by Aventis Pasteur, Incorporated,

along with nine (9) “Trace Thimerosal”⁶ vaccine products:

- Aventis Pasteur, Incorporated's “DTaP” vaccine, Tripedia,
- Aventis Pasteur, Incorporated's “DTaP-Hib” vaccine, Trihibit,
- GlaxoSmithKline's “DTaP-HepB-IPV” vaccine, Pediarix,
- Aventis Pasteur, Incorporated's single-dose “DT” vaccine,
- Aventis Pasteur, Incorporated's “Td” vaccine, Decavac,
- GlaxoSmithKline's “Hepatitis B” vaccine, Engerix-B,
- GlaxoSmithKline's “HepA/HepB” vaccine, Twinrix,
- The “Preservative Free” lots of Aventis Pasteur, Incorporated's “Influenza” vaccine, Fluzone, and
- The “Preservative Free” lots of Chiron/Evans' “Influenza” vaccine, Fluvirin.

As of 6 September 2005, CDER Vaccine Thimerosal web page⁷ shows that the vaccine manufacturers are now shipping seven (7) “Thimerosal preserved” vaccine products:

- All of the multi-dose vials of Aventis Pasteur, Incorporated's “Meningococcal” vaccine, Menomune®,
- Aventis Pasteur, Limited's multi-dose “DT” vaccine,
- Mass Public Health's “Td” vaccine
- Aventis Pasteur, Incorporated's “TT” vaccine,
- Most lots of Aventis Pasteur, Incorporated's “Influenza” vaccine, Fluzone,

⁵ A “Thimerosal Preserved” vaccine is any vaccine that nominally contains more than 8 µg/0.5-mL dose but **not** more than 25 µg/0.5 mL dose.

⁶ A “Trace Thimerosal” vaccine is any vaccine that nominally contains **not** more than 1 µg/0.5-mL dose.

⁷ <http://www.fda.gov/cber/vaccine/thimerosal.htm>

- Most lots of Chiron/Evans' "Influenza" vaccine, Fluvirin, and
- BIKEN's, "Japanese Encephalitis" vaccine, JE-VAX, which is distributed by Aventis Pasteur, Incorporated,

and nine (9) "Trace Thimerosal" or "Near-Trace Thimerosal" vaccine products:

- Aventis Pasteur, Incorporated's "DTaP" vaccine, Tripedia,
- Aventis Pasteur, Incorporated's "DTaP-Hib" vaccine, Trihibit,
- GlaxoSmithKline's "DTaP-HepB-IPV" vaccine, Pediarix,
- Aventis Pasteur, Incorporated's single-dose "DT" vaccine,
- Aventis Pasteur, Incorporated's "Td" vaccine, Decavac,
- GlaxoSmithKline's "Hepatitis B" vaccine, Engerix-B,
- GlaxoSmithKline's "HepA/HepB" vaccine, Twinrix,
- GlaxoSmithKline's "Near Trace⁸ Influenza" vaccine, Fluarix, and
- The "Preservative Free" lots of Chiron/Evans' "Influenza" vaccine, Fluvirin.

Thus, including the overlap between the two recent lists, today there are at least 18 in-date vaccine products in commerce that contain some level of Thimerosal with half of these drug products containing a preservative level of Thimerosal.

Of these, currently only JE-VAX, "Td" and "TT" vaccines are not routinely administered to children 18 and under.

Menomune is given to high schoolers entering the military or headed to colleges, and, though not routinely administered, JE-VAX is administered to American children who will be traveling in the Far East where Japanese Encephalitis is endemic.

"At around 10 a.m., Dr. Kerry gently took the boy's arm, cleaned an area of skin with alcohol, inserted a needle attached to a syringe containing EDTA (ethylene diamine tetraacetic acid), and directly injected the medicine into the boy's bloodstream. At 10:50 am, Abubakar Nadama was dead – of a heart attack."

Factually, the use of intravenous EDTA for mercury chelation is not generally recommended medical practice for mercury detoxification.

In general, DMSA ((meso-2,3-dimercaptosuccinic acid) and DMPS (sodium 2,3-dimercaptopropane-1-sulfonate) are the two (2) chemicals that are recommended for use in chelating mercury to facilitate mercury's elimination from the body.

Furthermore, for these two chemical agents, most physicians who treat mercury-poisoned children use lotion formulations and oral dosing, the safer nodes of administration, followed by intramuscular injections.

To the extent possible, they avoid intravenous infusion of these mercury-complexing agents.

EDTA in its calcium disodium form (calcium disodium edentate) is the recommended form for medical use because it protects the patient from EDTA-induced calcium depletion.

⁸ A "Near-Trace Thimerosal" vaccine is any vaccine that nominally contains **not** more than 1.25 µg/0.5-mL dose [reviewer's definition].

Its most appropriate heavy metal target is lead and other heavy metals that prefer to complex with oxygen – not mercury, because mercury has a stronger affinity for sulfur than for oxygen.

Finally, the fact and cause of this child’s death does not call the use of chelation into question.

This child’s death only calls that particular doctor’s decisions and practices into question.

In that regard, Dr. Offit needs to take the proverbial “beam” (the deaths and horrible injuries and surgeries endured by the many children that the rotavirus vaccine, RotaShield, which he repeatedly voted to approve, inflicted before it was withdrawn) out of his own “eye” before attempting to address the “mote” (a tragic isolated death of an innocent child in this case) in the “eye” of another.

“At the time that Kerry injected Abubakar with EDTA, epidemiologic studies performed in three continents by four separate groups had found that vaccines don't cause autism.”

First, no epidemiological study can find “that vaccines don't cause autism” or that any “A” input does, or does not, cause any “B” outcome.

Statistically, all that any epidemiological study can do is assess the probability of the possibility that a given “A” input is a significant causal factor for a given “B” outcome.

Second, none of the epidemiological studies on three continents by four separate groups of which Dr. Offit speaks reached the conclusion that Dr. Offit asserts.

Third, the studies conducted outside the United States (on other than the North American continent) *cannot* validly be used to assert a non-causal probability between some vaccine or vaccine component and some observed set of “causeless” symptoms that are labeled “autism.”

This is the case because:

- a. The studies on the other continents involved children who had:
 - i. significantly different vaccination schedules and**
 - ii. lesser toxic-component exposures than the program in the United States (U. S.), and****
- b. All of the studies lacked a comparable valid “zero exposure” control group.**

In the case of the United States study, the lead author Dr. Thomas Verstraeten has publicly stated in a 2004 letter to *Pediatrics*⁹ speaking of the U.S. study published in 2003¹⁰:

“The article (**Footnote 10**) does not state that we found evidence against an association, as a negative study would. It does state, on the contrary, that additional study is recommended, which is the conclusion to which a neutral study must come. Does a neutral outcome reduce the value of a study? It may make it less attractive to publishers and certainly to the press, but

⁹ Thomas Verstraeten, “Thimerosal, the Centers for Disease Control and Prevention, and GlaxoSmithKline,” *Pediatrics*, 113(4), page 932. (2004).

¹⁰ Thomas Verstraeten, Robert L. Davis, Frank DeStefano, Tracy A. Lieu, Philip H. Rhodes, Steven B. Black, Henry Shinefield and Robert T. Chen; for the Vaccine Safety Datalink Team, “Safety of Thimerosal-Containing Vaccines: A Two-Phased Study of Computerized Health Maintenance Organization Databases,” *Pediatrics*, 112(5), pages 1039-1048 (2003).

it in no way diminishes its scientific and public health merit. A neutral study carries a very distinct message: the investigators could neither confirm nor exclude an association, and therefore more study is required. The CDC has taken its responsibility and is currently undertaking such additional study. The focus of all attention now should be on ensuring that these new studies are conducted under the most optimal conditions. Continuing the debate of the validity of the screening study is a waste of scientific energy and not to the benefit of the safety of US children or of all children worldwide that have the privilege of being vaccinated. All the discussion on how and why the results presented at different stages of the study may have changed slightly is futile for the same reason. The bottom line is and has always been the same: an association between thimerosal and neurological outcomes could neither be confirmed nor refuted, and therefore, more study is required.”

Thus, Dr. Offit has either:

- a. Never read the lead author’s statements or**
- b. Deliberately misstated the findings of the published U.S. epidemiological study and the clear views of the lead author of that study with respect to the meaning of the “Verstraeten” study’s reported findings.**

“The findings were clear, consistent and reproducible. Also, the signs and symptoms of mercury poisoning are different from those of autism.”

Again, Dr. Offit’s statement, “the signs and symptoms of mercury poisoning are different from those of autism,” does not seem to match factual reality (see Appendix B).

“If mercury in vaccines didn’t cause autism, then why did more than 10,000 autistic children this year receive the same chelation therapy that caused Abubakar’s death?”

Here, Dr. Offit begins with an unsubstantiated and, as Appendix B shows, unproven premise, “mercury in vaccines didn’t cause autism,” and then proceeds to pose a misleading question, “why did more than 10,000 autistic children this year receive the same chelation therapy?”

The question is misleading because, while the phrase, “same chelation therapy,” is technically true, most of those giving that “therapy” used a different chelating agent, DMSA, DMPS or, in some cases, some herbal or dietary supplement combination and a different treatment mode (e.g., topical lotion, oral dosing or intramuscular injection), instead of “EDTA” and “intravenous” infusion that led to the death of this child.

Since intravenous EDTA chelation is more appropriate for chelating lead than mercury, it is unclear from the accounts that this reviewer has read that the doctor was chelating this child to reduce that child’s mercury level or, since mercury “poisons” the body’s ability to excrete other heavy metals, to reduce the child’s lead level.

“One answer is the media concentration on scare stories linking thimerosal to autism.”

Unfortunately, the doctor’s statement here seems to be factually inaccurate.

Based on the stories that this reviewer has read in the “media,” the stories that (like Dr. Offit’s current one) attack, distort, or misrepresent the truth about the link that should be evaluated, the link between Thimerosal

(49.55% by weight mercury) and mercury poisoning, outnumber the on-point articles by more than ten to one.

Furthermore by stating that the link is “thimerosal to autism” rather than the true link, “organic mercury (Thimerosal [49.55% mercury]) to mercury poisoning,” he seems to be again misleading the reader toward the artificial label, “autism” (a neurological “disorder” with no known cause), which doctors of his ilk use to conceal the underlying disease, mercury poisoning:

a. Which:

- i. has a known cause, exposure to mercury-containing materials and
- ii. is easily “linked” to the Thimerosal (49.55% mercury) injected into children and adults as a component in their vaccines, and

b. Whose epidemic “10-fold” increase from the late 1980s to the 2000s parallels the “10-fold” increase in the amount of organic mercury from Thimerosal injected into our children.

Recently, the American Association of Pediatrics (AAP), a group dear to Dr. Offit’s heart, has sued the government over the EPA’s rollback of the ongoing reduction of the mercury emissions from coal-fired power plants and supported talked up the “mercury-in-fish” issue even though:

a. There has been little real increase in the level of mercury in fish in the last 100 years and

b. The overall American per capita consumption of fish has declined — in a clear, to this reviewer anyway, effort to deflect the attention of the media and the American public from the obvious source of the mercury exposure whose increase paralleled the increase in the form of mercury poisoning labeled as “autism”:

- The rise in the exposure of fetuses, babies, children, and adults to the bio-accumulative highly toxic mercury-containing compound, Thimerosal, in the vaccines added to the childhood vaccination schedule from the late 1980s to late 1990s and, to a lesser extent,
- Increased usage of other Thimerosal-containing drugs (e.g., the “Rho-” serum products).

Thus, the real answer is: “Thimerosal (49.55% mercury) causes mercury poisoning”¹¹.

“The notion that vaccines might cause autism contains all of the elements of a great story: greedy pharmaceutical companies, government cover-up, uncaring doctors, and parents fighting against all odds for their children.”

Here, the doctor again attempts to rephrase the discussion by using non-specific, “vaccines,” and causeless, “autism” terms instead of the specific, “Thimerosal (49.55% mercury),” and known-cause, “mercury poisoning,” terms that reflect the truth.

Thus, the reader should first replace the non-specific with the specific and the causeless with the know-cause terms, and then consider the resulting sentence:

¹¹ http://www.mercury-freedrugs.org/docs/Thimerosal_Causes_Mercury_Poisoning.pdf

“The notion that ~~vaccines~~**Thimerosal (49.55% mercury)** might cause ~~autism~~**mercury poisoning** contains all of the elements of a great story: greedy pharmaceutical companies, government cover-up, uncaring doctors, and parents fighting against all odds for their children.”

Since the pharmaceutical companies, the government, and the medical establishment are the ones who:

- **Persist in using the non-specific terms,**
 - **Continue to refuse to prove what the safe level of Thimerosal exposure is for fetuses, babies, children, adolescents, adults and the elderly, and**
 - **Have the most to lose when the obvious, “mercury causes mercury poisoning,” is considered,**
- the authenticity of the “revised” sentence is obvious.**

“But it isn't easy to promote this story.”

Here the doctor states an understandable reality.

Whenever an issue is not palatable to the Establishment, it is difficult to promote any “story” that sheds light on that issue.

“On the one hand, you have every major medical organization including the Centers for Disease Control and Prevention (CDC), the American Academy of Pediatrics (AAP) and the Institute of Medicine (IOM) stating that there was no link.”

This reviewer is compelled to point out that the medical establishment, depicted by the doctor, is falsely asserting: “that there was no link.”

This is the case because, as even Dr. Verstraeten stated⁹, there is no proof that there is no link.

“On the other, you had a few marginal scientists and clinicians who, in the absence of any solid, reproducible data said that it did.”

Here, the doctor resorts to the dismissive, “a few marginal scientists and clinicians,” and the provable false,¹² “in the absence of any solid, reproducible data,” in a blatant attempt to marginalize his opposition and misrepresent the facts.

However, as a member of the group of reputable scientists and clinicians who, since the 1930s have repeatedly found and/or published proof that Thimerosal (49.55% mercury) causes mercury poisoning, this reviewer understands the doctor’s attempt to shape the argument in terms favorable to the Establishment to which he so obviously belongs.

“The media solved the problem by quoting one person from column A” (“representing the vast weight of medical and scientific data) and one from column B (representing conjecture in the absence of data).

All that this reviewer finds wrong with the doctor’s statement here is that he has cleverly switched the modifying clauses from the realm of the factual to his unsupported Establishment view of reality.

¹² <http://www.mercury-freedrugs.org/docs/Filed%20FDA%20Citizen%20Petition-a-Adb4.pdf>

Accurately, the persons in the doctor’s “column A” are those “representing conjecture in the absence of data” and the persons, like this reviewer, in “column B” are those “representing the vast weight of” the scientifically sound “medical and scientific data”^{11,12}.

“Television producers refer to the column B guests as ‘the explosion factor.’ And it makes for great television.”

Once more, the doctor attempts to prejudice the discussion by making an unsubstantiated assertion.

In Dr. Offit’s world, the scientist, who blew the whistle on the tobacco industry’s cover up of the data that proved cigarette smoke causes cancer, would, in his words, obviously be a “column B” guest.

“Giving the public bad information, unfortunately, often correlates with higher ratings.”

Since, as this article and other articles clearly demonstrate, the doctor seems to have a long history of: a) giving “the public bad information” and b) appearing on television, this reviewer will defer to his experience in the area of “higher ratings.”

“Scientists, doctors, and public-health agencies also must share some of the blame. Although scientific studies have answered the question of whether vaccines cause autism, scientists have done little to explain these studies to the public.”

As this reviewer has established, the doctor’s statement here is at odds with reality when it comes to what scientific studies have clearly shown.

“On July 19, 2005, Dr. Julie Gerberding, the director of the CDC, called a press conference to explain the science that refutes the notion that vaccines cause autism. Gerberding is an excellent communicator. And her message was clear and compelling. But that was it. One conference, on one day – a tiny bell ringing against the constant, deafening drumbeat of alarmist weekly stories in the media that suggested otherwise.”

Since:

- a. There is, as Dr. Verstraeten⁹ has clearly stated, no relevant sound science that “refutes the notion that vaccines cause autism,”**
- b. The proposition “vaccines cause autism” has been shown to be a scientifically unsound premise,**
- c. There is a ever-growing body of scientifically sound evidence that has established and supports the fact that Thimerosal (49.55% mercury) causes mercury poisoning, and**
- d. As far as this reviewer can ascertain, there has been no such “constant, deafening drumbeat of alarmist weekly stories in the media,” about vaccines or autism,**

this reviewer must dismiss the doctor’s unsupported statements here.

All that this reviewer sees is a steady stream of articles, like Dr. Offit’s, containing unsupported statements attacking those who understand that Thimerosal mercury causes mercury poisoning and that “autism” is one of a number of convenient labels used to obscure the underlying clinical

mercury poisoning (from the Thimerosal in vaccines injected into babies), which has been, and is, a major cause of the epidemic increase in the number of babies displaying some level of clinical mercury poisoning, including an increase in infant mortality.

The medical establishment's current behavior parallels its previous behavior in the first systematic American "mercury poisoning of babies by medicine" incident, the use of Calomel (84.98% mercury) in teething powders for babies, which mercury poisoned Americans from the late 1800s to 1940.

In that incident, the medical establishment generally labeled the mercury poisoning by Calomel in teething powders as the causeless "Pink Disease" (after the bright grayish pink coloring of the palms of the hands and the soles of the feet in those children who were severely mercury poisoned) – the Establishment simply refused to recognize that Calomel, mercury(I) chloride, in "baby" teething powders caused mercury poisoning.

Similarly, the Establishment has again turned a blind eye to the mercury poisoning caused by the unnecessary and, since 1968, illegal use of Thimerosal, ethylmercurithiosalicylate, as a "preservative" in some vaccines.

Articles that factually address Thimerosal and mercury poisoning are few and far between.

"Desperate parents also are a tragic component in this campaign of misinformation. Parents of autistic children desperately want to find something, anything that works. So they're susceptible to fad therapies."

As a concerned parent, grandparent and scientist who works with other dedicated scientists and clinicians and with the concerned parents of some of the millions of babies harmed every year by being mercury poisoned, including the thousands of babies badly poisoned and diagnosed/labeled with "autism," this reviewer understands that the doctor's characterization of the parents as "desperate parents" is itself a calculated attempt to discredit both the parents and their justified concerns.

As any concerned parent would, the parents of autistic children are, as a group, relentless in pursuing therapies that can help recover the happy baby they watched descend into the darkness of the clinically mercury poisoned, including the mercury poisoning which that medicine has chosen to label as "autism."

However, having been burned by the medical establishment that has so obviously harmed their children, most parents with whom this reviewer interacts are skeptics and wary of pursuing "fad therapies."

Those who choose to pursue a mercury-chelation therapy do so only after determining that their children have been mercury poisoned.

Since the methods for determining that a person has been mercury poisoned are both: a) well defined and b) the recommended therapy for mercury poisoning have been recognized by medicine for more than half a century, the medically recognized and government approved mercury-chelation therapies for established mercury poisoning are obviously not "fad therapies."

Because this is the case, this reviewer is at a loss to understand the basis for doctor's remarks here.

"Several years ago it was the measles-mumps-rubella (MMR) vaccine that caused autism.

Since the doctor seems to be talking about "parents" and "fad therapies," this reviewer is at a loss to see the relevance of this statement to this issue.

"Before that, secretin, a small protein secreted by the intestine, was proposed as a cure; many parents traveled hundreds of miles and spent thousands of dollars for secretin injections."

Here, at least the doctor's statement does address the issue raised, "parents" and "fad therapies."

However, the doctor has neglected to state that: a) the secretin injections did significantly improve the health of a few of those children treated with it and b) caused no harm to the recipients.

Moreover, *when secretin therapy failed to help a significant number of children*, the doctor failed to note that the "parents," and most of the clinicians, simply went on to try other therapies.

Since many approved cancer drugs for children not only have similar costs and lack-of-improvement outcomes but also have lethal outcomes for some of those treated with them, this reviewer is at a loss to see the doctor's point here.

This is especially the case because he supports the use of even more costly drugs (tens of thousands of dollars for a short treatment regimen) that promise the chance of a cure, but only rarely provide it, for some pediatric cancers while labeling less costly secretin injections which similarly improve the lives of only a few of those treated with it as an example of a "fad" therapy.

"Today, it's the mercury in vaccines."

The doctor again loses this reviewer – what has "mercury in vaccines" have to do with "fad therapies"?

Does the doctor know of some physician or scientist who "treats" vaccines in his or her office or laboratory as a "therapy" for the vaccine?

"Doctors who play to such fears are not uncommon. The phenomenon of Dr. Kerry isn't new."

Without introducing any "such fears," Dr. Offit switches from attacking concerned parents, who seek to recover the health of their harmed kids, to vilifying doctors, who are trying, however imperfectly, to help improve the health of the damaged children.

At least this is an area where, as a doctor and proponent of the rotavirus vaccine, RotaShield:

- a. In which he had a clear conflict of interest,**
- b. For which, in spite of five cases of a severe, but very rare, medical side effect in the clinical trials, he voted to approve, and**
- c. Which was withdrawn less than a year after approval because of the severe harm the vaccine caused,**

the doctor certainly understands the reality that some doctors' actions may be driven more by their greed or quest for fame than by their desire to help their patients and, *above all else*, their oath to first do no harm.

“During the polio epidemic in New York City in 1916, Dr. George Retan ignored warnings from his colleagues and drained spinal fluid from the backs of polio victims at the same time that he infused a salt solution into their veins.

The procedure killed more people than it saved.”

This reviewer agrees with the doctor that this doctor's actions were suspect and, *because they did more harm than good*, should not be repeated.

However, this reviewer would remind the doctor that the “Lyme disease vaccine” (which did much more harm than good in those unfortunates who were injected with it) is a more contemporary and pertinent example.

“But like autism today, in 1916 no one knew what caused polio or how to treat it. And George Retan offered hope. He cared.”

Again, this reviewer does not see the point of these remarks.

The doctor in the present incident was not treating “autism”; he was treating a child for heavy metal poisoning using an FDA-approved drug.

That doctor was using a medically recognized treatment for heavy metal poisoning

And we do know what caused that child's heavy metal poisoning, environmental exposure to heavy metals from the air, water, food, and mercury-containing vaccines to which that child had been exposed.

Since this reviewer was not present when this incident occurred, all that he can say for certain is that apparently one or more mistakes were made and, tragically, the child died.

However, Dr. Offit, please tell us how many children died from being given the rotavirus vaccine? Or from the DTP vaccine after the safer DTaP was licensed?

Yet, this reviewer has not seen any evidence that the doctor has expressed similar concerns about these deaths.

“Because we are all responsible for the death of Abubakar Nadama, none of us will be held accountable.

We're off the hook.”

Since this reviewer is not a physician, this reviewer must reject Dr. Offit's rhetoric here.

Furthermore, *because the inquiry into this child's death is still open as far as this reviewer knows*, neither this reviewer nor Dr. Offit can know that no one is, or will be held to be, accountable for this death.

Finally, from what this reviewer knows of the Dr. Offit's history, it seems clear that his words speak more to the past harm his advocacies and decisions have caused than to the tragic death of this child.

“But, if we are to effectively prevent the next tragedy, then we must equal the passion of those who firmly believe that mercury in vaccines caused autism.”

Since the incident, about which Dr. Offit is speaking, is an accident that occurred in the use of intravenous EDTA chelation to treat heavy metal poisoning (intoxication) and not “autism,” this reviewer finds that his comment here is, at best, misplaced.

As to the issue of what mercury in vaccines causes, this reviewer, *having thoroughly reviewed much of the apparently scientifically sound evidence published in peer-reviewed journals from the 1930s onward*, understands that, *at a minimum*,

- a. The highly toxic organic mercury compound, Thimerosal, a known systemic poison and autoimmune-triggering agent, in some vaccines, serums, and other drugs sub-clinically mercury poisons ALL of those administered such mercury-containing vaccines to some degree and
- b. It has clinically mercury poisoned hundreds of thousands of children given such drugs —

just as the prior use of mercury in medicines for babies, Calomel (84.98% mercury) in teething powders, caused the mercury poisoning of thousands of American babies from the late 1800s to 1940 in America (and into the early 1950s in Australia) when those teething powders were finally withdrawn from the market.

Why, Dr. Offit, did the medical establishment use the labels “Pink Disease” and “Acrodynia” to hide the obvious mercury poisoning caused by mercury-laced teething powders?

“Coincidentally,” Eli Lilly developed a “DT” vaccine in the 1930s that contained a preservative level (0.01%) of Thimerosal, a highly toxic bio-accumulative organic mercury compound, and continued to market Thimerosal-preserved vaccines until the mid-1970s when it abruptly exited the vaccines market and licensed its poisonous vaccine formulation technology to those who continue, to this day, to produce Thimerosal-containing vaccines without having proved, *as required by law*, that the level of Thimerosal is safe with an appropriate safety margin (100-fold for the preservative level and 10,000-fold or more when the Thimerosal is present as other than a preservative).

Recently, it has been reported that, in the early 1970s, Eli Lilly scientists discovered that the Thimerosal in their vaccines at the 0.01% (100 parts per million [ppm]) level was toxic at one-hundredth the preservative level or 0.0001% (1 ppm).

Dr. Offit, is that why Lilly suddenly exited the vaccine business in 1975?

Also, what possible excuse does the medical establishment have for not finding the cause of “autism” after having had more than half a century to find it?

Since only clinical studies, and not epidemiological studies, can truly prove causality, why, Dr. Offit, have the vaccine manufacturers, the government, and the medical and healthcare industries not conducted and published conclusive studies that establish what the bio-accumulative, highly toxic, organic-mercury poison, Thimerosal, in some vaccines does, or

does not, cause at 100 ppm, 10 ppm, 1 ppm, 100 parts per billion (ppb), 10 ppb, 1 ppb, 100 parts per trillion, etc., when repeatedly administered to humans from their birth onwards?

“We must show that we are not just uncaring physicians standing at a distance behind the one-way mirror of science, but that we are also parents who don't want to see another child sacrificed at the alter (sic; *altar*) of bad science.”

This reviewer agrees that physicians need to show that they are not uncaring.

However, having:

- **Seen no mirror of science in this article (or any of Dr. Offit's similar articles that this reviewer has read) behind which the doctor is standing and**
- **Recognized that the “bad science” of which the doctor speaks is the science that Dr. Offit and the medical establishment he represents are standing behind – unsound science that rests on non-applicable and flawed epidemiological studies, that (as Dr. Verstraeten⁹ acknowledges) can prove, and have proven, nothing about causality,**
this reviewer would suggest that, *if the doctor is truly the caring physician that his words imply*, he will:
 - a. **Abandon his *ad hominem* attacks on those who are trying to establish what the truly safe level of Thimerosal is in vaccines injected into 1-kilogram babies and**
 - b. **Join in the effort to determine this critical information.**

“Otherwise, the death of Abubakar Nadama won't be the end of this.”

This reviewer agrees with the doctor here that, if we don't stop creating the severely damaged children, like “Abubakar Nadama,” who have been mercury poisoned by the mercury in their medicines, “the death of Abubakar Nadama won't be the end,” and has not been the end, of the unnecessary mercury poisoning of American children and adults by the unnecessary (because there are other preservatives and sterilants that can be used), highly toxic, organic mercury compound, Thimerosal, which has been proven to be an autoimmune-triggering agent and the precursor for the long-lived bio-accumulative systemic poison, biologically complexed inorganic mercury, which has a half-life in the brain, and other tissues, of 20 years of more.

“Dr. Paul A. Offit is chief of the Division of Infectious Diseases at The Children's Hospital of Philadelphia, and a professor of Pediatrics at The University of Pennsylvania School of Medicine.

This reviewer finds that the doctor has been too modest in his description of himself and offers the following alternate statement for the readers' information and consideration (key info has been **bolded):**

“Paul A. Offit, M.D. is Chief of Infectious Diseases, the Henle Professor of Immunologic and Infectious Diseases, and Director of the Vaccine Education Center at the Children's Hospital of Philadelphia. He is also Professor of Pediatrics at the University of Pennsylvania School of Medicine. **Dr. Offit is an internationally recognized expert in the fields of immunology**

and virology. He is a member of the Advisory Committee on Immunization Practices (ACIP) to the Center for Disease Control and Prevention, CDC. He has received numerous awards, including the J. Edmund Bradley Prize for Excellence in Pediatrics and the Young Investigator Award in vaccine development. Dr. Offit is the co-holder of a patent on a bovine human reassortant rotavirus vaccine and serves as a consultant to Merck on the vaccine's development.

Dr. Offit has written two books, *Vaccines: What Every Parent Should Know*, with Louis Bell, M.D., and *Breaking the Antibiotic Habit: A Parent's Guide to Coughs, Colds, Ear Infections, and Sore Throats*, with Louis Bell, M.D., and Bonnie Fass-Offit. He received his medical doctorate from U. of Maryland.”

Finally, this reviewer notes that a year-2000 majority staff report¹³ by the United States House Committee on Government Reform reported on the doctor's conflicts of interest in the problematic “Rotavirus vaccine” incident.

“E-mail him at offite.mail.chop.edu” [Note: His actual email address is offit@email.chop.edu.]

This reviewer has sent Dr. Offit a copy of this comprehensive review of Dr. Offit's statements with the hope that he will carefully, thoughtfully, and thoroughly review the factual information provided and, hopefully, lend his voice to addressing the Thimerosal safety issues including the lack of proof of safety that Thimerosal in a vaccine at the preservative level (as required by 21 CFR 610.15(a)) as well as for lower levels Thimerosal in vaccines as required by 21 U.S.C. 351(a)(2)(B).

This Reviewer

In addition to the information available on his web page¹⁴, this reviewer is the New Jersey Representative of the Coalition for Mercury-Free Drugs (CoMeD) [<http://www.mercury-freedrugs.org/>], the current District 33 Democratic Committeeman for Township of Parsippany-Troy Hills, Morris County, NJ, Taoist philosopher and servant of Elohim.

As a scientist and student of the federal regulations and statutes governing drugs, Dr. King led CoMeD in the drafting and submission of a Citizen Petition, posted in the FDA Public Docket 2004P-0349 and wrote and filed CoMeD's response to the FDA's 180-day response letter.

In addition, Dr. King has drafted the “Mercury-free Drugs Act of 2005,” the “Federal Drug Safety Act of 2005,” and a comprehensive substitute for Congressman Burton's H.R. 1297, titled, “The `National Vaccine Injury Compensation Program Improvement Act of 2005,” which, because it proposed a comprehensive overhaul of the National Vaccine Program, was re-titled, “The National Vaccine Program Improvement Act of 2005.”

Finally, Dr. King has provided various groups with his analysis of various other Congressional bills, resolutions, and treaty documents.

¹³ **Conflicts of Interest in Vaccine Policy Making**, Majority Staff Report, Committee on Government Reform, U.S. House of Representatives, pp. 29 & 30 (August 21, 2000).

¹⁴ <http://www.dr-king.com>.

APPENDIX A

“Abbreviated Material Safety Data Sheet”

SECTION 1. CHEMICAL IDENTIFICATION

NAME: THIMEROSAL

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #: 54-64-8 Molecular Formula: C9H9HGNAO2S EC NO: 200-210-4

SYNONYMS:

((O-CARBOXYPHENYL)THIO)ETHYLMERCURY SODIUM SALT, ETHYLMERCURITHIOSALICYLIC ACID SODIUM SALT, MERTHIOLATE SODIUM, MERTORGAN, MERZONIN, MERZONIN SODIUM, SODIUM ETHYLMERCURIC THIOSALICYLATE, SODIUM O-(ETHYLMERCURITHIO) BENZOATE, SODIUM ETHYLMERCURITHIOSALICYLATE, SODIUM MERTHIOLATE, THIMEROSAL, THIMEROSALATE, THIOMERSAL, THIOMERSALATE *

SECTION 3. HAZARDS IDENTIFICATION

LABEL PRECAUTIONARY STATEMENTS

HIGHLY TOXIC (USA); VERY TOXIC (EU); VERY TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED; DANGER OF CUMULATIVE EFFECTS; MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT, IRRITATING TO EYES; RESPIRATORY SYSTEM AND SKIN; CALIF. PROP. 65 REPRODUCTIVE HAZARD.

TARGET ORGAN(S): NERVES, KIDNEYS, *GUT, SKIN, LIVER, PANCREAS, SPLEEN, GLANDS, ETC.*

SENSITIZER; CAUSES IRRITATION.

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS.

AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER.

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

WEAR SUITABLE PROTECTIVE CLOTHING.

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

SECTION 4. FIRST-AID MEASURES - - - - -

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.

CALL A PHYSICIAN IMMEDIATELY.

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION; IF BREATHING IS DIFFICULT, GIVE OXYGEN.

IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN.

IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

SECTION 5. FIRE FIGHTING MEASURES

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SECTION 6. ACCIDENTAL RELEASE MEASURES

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES. SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE. EVACUATE AREA.

SECTION 7. HANDLING AND STORAGE

REFER TO SECTION 8.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

SAFETY SHOWER AND EYE BATH. USE ONLY IN A CHEMICAL FUME HOOD. WASH CONTAMINATED CLOTHING BEFORE REUSE. WASH THOROUGHLY AFTER HANDLING. DO NOT BREATHE DUST. DO NOT GET IN EYES, ON SKIN, ON CLOTHING. AVOID PROLONGED OR REPEATED EXPOSURE. NIOSH/MSHA-APPROVED RESPIRATOR. COMPATIBLE CHEMICAL-RESISTANT GLOVES. CHEMICAL SAFETY GOGGLES. KEEP TIGHTLY CLOSED. STORE IN A COOL DRY PLACE.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: SOLID.

PHYSICAL PROPERTIES: MELTING POINT: 234 C, FLASHPOINT >482F (>250C)

SOLUBILITY: 1g in mL of water; 8 mL of ethanol; **SPECIFIC GRAVITY:** 0.5 G

APPENDIX A

“Abbreviated Material Safety Data Sheet”

SECTION 10. STABILITY AND REACTIVITY

STABILITY: STABLE.

CONDITIONS TO AVOID: MAY DISCOLOR ON EXPOSURE TO LIGHT.

INCOMPATIBILITIES: STRONG OXIDIZING AGENTS, STRONG ACIDS, STRONG BASES.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, MERCURY, MERCURY OXIDES, AND SULFUR OXIDES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION 11. TOXICOLOGICAL INFORMATION

ACUTE EFFECTS:

CAUSES SKIN IRRITATION.

MAY BE FATAL IF ABSORBED THROUGH SKIN.

CAUSES EYE IRRITATION.

MAY BE FATAL IF INHALED.

MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.

MAY BE FATAL IF SWALLOWED.

POSSIBLE ALLERGIC REACTION TO DUST IF INHALED, INGESTED OR IN CONTACT WITH THE SKIN. HYPERSENSITIVITY REACTIONS MANIFESTED BY ERYTHEMA, PAPULAR OR VESICULAR ERUPTIONS OCCUR OCCASIONALLY. ALLERGIC CONJUNCTIVITIS HAS BEEN REPORTED.

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

CHRONIC EFFECTS:

TARGET ORGAN(S): NERVES, KIDNEYS, ETC.

RTECS #: OV8400000 MERCURY, ((O-CARBOXYPHENYL)THIO)ETHYL-, SODIUM SALT

IRRITATION DATA: EYE-RABBIT: 8 µg mild AJOPAA 78,98,1974

TOXICITY DATA:

IAL-CHD LDLO:	60 mg/kg/4W-I	JOPDAB	104,311,1984
ORL-RAT LD50:	75 mg/kg	PCOC**	-,1130,1966
SCU-RAT LD50:	98 mg/kg	CTOXAO	4,185,1971
UNR-RAT LD50:	40 mg/kg	30ZDA9	-,290,1971
ORL-MUS LD50:	91 mg/kg	NYKZAU	58,235,1962
IPR-MUS LD50:	54 mg/kg	NYKZAU	58,235,1962
SCU-MUS LD50:	66 mg/kg	QJPPAL	12,212,1939
IVN-MUS LD50:	45 mg/kg	QJPPAL	12,212,1939

TARGET ORGAN DATA:

BRAIN AND COVERINGS (OTHER DEGENERATIVE CHANGES); BEHAVIORAL (ANOREXIA, HUMAN); BEHAVIORAL (CHANGE IN MOTOR ACTIVITY); BEHAVIORAL (ATAXIA); BEHAVIORAL (COMA); LUNGS, THORAX OR RESPIRATION (OTHER CHANGES); GASTROINTESTINAL (NAUSEA OR VOMITING); KIDNEY, URETER, BLADDER (CHANGES IN TUBULES); EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY); EFFECTS ON FERTILITY (ABORTION); EFFECTS ON EMBRYO OR FETUS (FETAL DEATH); TUMORIGENIC EFFECTS (UTERINE TUMORS); NUTRITIONAL AND GROSS METABOLIC (CHANGES IN: METABOLIC ACIDOSIS); TUMORIGENIC (NEOPLASTIC BY RTECS CRITERIA); TUMORIGENIC (TUMORS AT SITE OF APPLICATION).

[NOTE: Note: ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.]

SECTION 12. ECOLOGICAL INFORMATION: DATA NOT YET AVAILABLE.

SECTION 13. DISPOSAL CONSIDERATIONS

CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL.

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

APPENDIX A

“Abbreviated Material Safety Data Sheet”

SECTION 14. TRANSPORT INFORMATION

...

SECTION 15. REGULATORY INFORMATION

EUROPEAN INFORMATION

EC INDEX NO: 080-004-00-7

VERY TOXIC

R 26/27/28 VERY TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.

R 33 DANGER OF CUMULATIVE EFFECTS.

R 50/53 VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.

S 13 KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS.

S 28 AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF SOAP SUDS.

S 36 WEAR SUITABLE PROTECTIVE CLOTHING.

S 45 IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

S 60 THIS MATERIAL AND ITS CONTAINER MUST BE DISPOSED OF AS HAZARDOUS WASTE.

S 61 AVOID RELEASE TO THE ENVIRONMENT. REFER TO SPECIAL INSTRUCTIONS/SAFETY DATA SHEETS.

REVIEWS, STANDARDS, AND REGULATIONS

ACGIH TLV-TWA 0.1 MG(HG)/M3 (SKIN)

MSHA STANDARD-AIR:TWA 0.05 MG(HG)/M3

OSHA PEL (GEN INDU):8H TWA 0.01 MG(HG)/M3

OSHA PEL (CONSTRUC):8H TWA 0.01 MG(HG)/M3 (SKIN)

OSHA PEL (SHIPYARD):8H TWA 0.01 MG(HG)/M3 (SKIN)

OSHA PEL (FED CONT):8H TWA 0.01 MG(HG)/M3 (SKIN)

OEL-AUSTRALIA: TWA 0.05 MG(HG)/M3, SKIN, JAN1993

OEL-BELGIUM: TWA 0.05 MG(HG)/M3, SKIN, JAN1993

OEL-DENMARK: TWA 0.05 MG(HG)/M3, SKIN, JAN1999

OEL-FINLAND: TWA 1 MG(HG)/M3, JAN1999

OEL-FRANCE: VME 0.1 MG(HG)/M3, JAN1999

OEL-GERMANY: MAK 0.01 PPM (0.1 MG(HG)/M3), JAN1999

OEL-HUNGARY: TWA 0.02 MG(HG)/M3, STEL 0.04 MG(HG)/M3, JAN1993

OEL-JAPAN: OEL 0.05 MG(HG)/M3, JAN1999

OEL-THE NETHERLANDS: MAC-TGG 0.05 MG(HG)/M3, MAC-K 0.15 MG(HG)/M3, SKIN, JAN1999

OEL-NORWAY: TWA 0.05 MG(HG)/M3, JAN1999

OEL-THE PHILIPPINES: TWA 0.05 MG(HG)/M3, JAN1993

OEL-POLAND: MAC(TWA) 0.05 MG(HG)/M3, MAC(STEL) 0.15 MG(HG)/M3, JAN1999

OEL-RUSSIA: TWA 0.05 MG(HG)/M3, STEL 0.01 MG(HG)/M3, JAN1993

OEL-SWEDEN: NGV 0.05 MG(HG)/M3, SKIN, JAN1999

OEL-THAILAND: STEL 0.05 MG(HG)/M3, JAN1993

OEL-UNITED KINGDOM: LTEL 0.05 MG(HG)/M3, STEL 0.15 MG(HG)/M3, JAN1993

OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV;

OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV

NIOSH REL TO MERCURY, ARYL AND INORGANIC-AIR:CL 0.1 MG/M3 (SK)

NIOSH* DHHS #92-100,1992

NOHS 1974: HZD 84569; NIS 83; TNF 5617; NOS 30; TNE 242717

NOES 1983: HZD 84569; NIS 32; TNF 3695; NOS 41; TNE 152997; TFE 114190

EPA GENETOX PROGRAM 1988, POSITIVE: S CEREVISIAE GENE CONVERSION

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001

U.S. INFORMATION

THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS - MERCURY COMPOUNDS.

THIS PRODUCT IS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE DEVELOPMENTAL TOXICITY.

SECTION 16. OTHER INFORMATION

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APPENDIX B

“Comparison Of: The Characteristics of “Autism” To Those For Mercury Poisoning”

Information derived from postings on: <http://www.extremehealthusa.com/autism.html>

“Table I: Summary Comparison of ‘Traits’ of Autism & Mercury Poisoning”
“(ASD references in bold; Mercury Poisoning references in italics)” Part A

Psychiatric Disturbances
Social deficits, shyness, social withdrawal (1,2,130,131 ; 21,31,45,53,132)
Repetitive, preservative, stereotypic behaviors; obsessive-compulsive tendencies (1,2,43,48,133 ; 20,33-35,132)
Depression/depressive traits, mood swings, flat affect; impaired face recognition (14,15,17,103,134,135 ; 19,21,24,26,31)
Anxiety; schizoid tendencies; irrational fears (2,15,16 ; 21,27,29,31)
Irritability, aggression, temper tantrums (12,13,43 ; 18,21,22,25)
Lacks eye contact; impaired visual fixation (HgP)/ problems in joint attention (ASD) (3,36,136,137 ; 18,19,34)
Speech and Language Deficits
Loss of speech, delayed language, failure to develop speech (1-3,138,139 ; 11,23,24,27,30,37)
Dysarthria; articulation problems (3 ; 21,25,27,39)
Speech comprehension deficits (3,4,140 ; 9,25,34,38)
Verbalizing and word retrieval problems (HgP); echolalia, word use and pragmatic errors (ASD) (1,3,36 ; 21,27,70)
Sensory Abnormalities
Abnormal sensation in mouth and extremities (2,49 ; 25,28,34,39)
Sound sensitivity; mild to profound hearing loss (2,47,48 ; 19,23-25,39,40)
Abnormal touch sensations; touch aversion (2,49 ; 23,24,45,53)
Over-sensitivity to light; blurred vision (2,50,51 ; 18,23,31,34,45)
Motor Disorders
Flapping, myoclonal jerks, choreiform movements, circling, rocking, toe walking, unusual postures (2,3,43,44 ; 11,19,27,30,31,34,39)
Deficits in eye-hand coordination; limb apraxia; intention tremors (HgP)/problems with intentional movement or imitation (ASD) (2,3,36,181 ; 25,29,32,38,70,87)
Abnormal gait and posture, clumsiness and incoordination; difficulties sitting, lying, crawling, and walking; problem on one side of body (4,41,42,123 ; 18,25,31,34,39,45)

APPENDIX B

“Comparison Of: The Characteristics of “Autism” To Those For Mercury Poisoning”

“Table I: Summary Comparison of Traits of Autism & Mercury Poisoning”
(ASD references in bold; Mercury Poisoning references in italics)” **Part B**

<i>Cognitive Impairments</i>
Borderline intelligence, mental retardation - some cases reversible (2,3,151,152; <i>19,25,31,39,70</i>)
Poor concentration, attention, response inhibition (HgP)/shifting attention (ASD) (4,36,153; <i>21,25,31,38,141</i>)
Uneven performance on IQ subtests; verbal IQ higher than performance IQ (3,4,36; <i>31,38</i>)
Poor short term, verbal, and auditory memory (36,140; <i>21,29,31,35,38,87,141</i>)
Poor visual and perceptual motor skills; impairment in simple reaction time (HgP)/ lower performance on timed tests (ASD) (4,140,181; <i>21,29,142</i>)
Deficits in understanding abstract ideas & symbolism; degeneration of higher mental powers (HgP)/sequencing, planning & organizing (ASD); difficulty carrying out complex commands (3,4,36,153; <i>9,18,37,57,142</i>)
<i>Unusual Behaviors</i>
Self injurious behavior, e.g. head banging (3,154; <i>11,18,53</i>)
ADHD traits (2,36,155; <i>35,70</i>)
Agitation, unprovoked crying, grimacing, staring spells 3,154; <i>11,23,37,88</i>)
Sleep difficulties (2,156,157; <i>11,22,31</i>)
<i>Physical Disturbances</i>
Hyper- or hypotonia; abnormal reflexes; decreased muscle strength, especially upper body; incontinence; problems chewing, swallowing (3,42,145,181; <i>19,27,31,32,39</i>)
Rashes, dermatitis, eczema, itching (107,146; <i>22,26,143</i>)
Diarrhea; abdominal pain/discomfort, constipation, "colitis" (107,147-149; <i>18,23,26,27,31,32</i>)
Anorexia; nausea (HgP)/vomiting (ASD); poor appetite (HgP)/restricted diet (ASD) (2,123; <i>18,22</i>)
Lesions of ileum and colon; increased gut permeability (147,150; <i>57,144</i>)

APPENDIX B
“Comparison Of:
The Characteristics of “Autism” To Those For Mercury Poisoning”

**“Table II: Summary Comparison of Biological Abnormalities
in Autism & Mercury Exposure” Part A**

Mercury Exposure	Autism
Biochemistry	
Binds -SH groups; blocks sulfate transporter in intestines, kidneys (40,93)	Low sulfate levels (91,92)
Reduces glutathione availability; inhibits enzymes of glutathione metabolism; glutathione needed in neurons, cells, and liver to detoxify heavy metals; reduces glutathione peroxidase and reductase (97,100,161,162)	Low levels of glutathione; decreased ability of liver to detoxify xenobiotics; abnormal glutathione peroxidase activity in erythrocytes (91,94,95)
Disrupts purine and pyrimidine metabolism (10,97,158,159)	Purine and pyrimidine metabolism errors lead to autistic features (2,101,102)
Disrupts mitochondrial activities, especially in brain (160,163,164)	Mitochondrial dysfunction, especially in brain (76,172)
Immune System	
Sensitive individuals more likely to have allergies, asthma, autoimmune-like symptoms, especially rheumatoid-like ones (8,11,18,24,28,31,111,113)	More likely to have allergies and asthma; familial presence of autoimmune diseases, especially rheumatoid arthritis; IgA deficiencies (103,106-109,115)
Can produce an immune response in CNS; causes brain/MBP autoantibodies (18,111,165)	On-going immune response in CNS; brain/MBP autoantibodies present (104,105,109,110)
Causes overproduction of Th2 subset; kills/inhibits lymphocytes, T-cells, and monocytes; decreases NK T-cell activity; induces or suppresses IFNg & IL-2 (100,112,117-120,166)	Skewed immune-cell subset in the Th2 direction; decreased responses to T-cell mitogens; reduced NK T-cell function; increased IFNg & IL-12 (103,108,114-116,173,174)
CNS Structure	
Selectively targets brain areas unable to detoxify or reduce Hg-induced oxidative stress (40,56,161)	Specific areas of brain pathology; many functions spared (36)
Accumulates in amygdala, hippocampus, basal ganglia, cerebral cortex; damages Purkinje and granule cells in cerebellum; brain stem defects in some cases (10,34,40,70-73)	Pathology in amygdala, hippocampus, basal ganglia, cerebral cortex; damage to Purkinje and granule cells in cerebellum; brain stem defects in some cases (36,60-69)
Causes abnormal neuronal cytoarchitecture; disrupts neuronal migration, microtubules, and cell division; reduces NCAMs (10,28,57-59,161)	Neuronal disorganization; increased neuronal cell replication, increased glial cells; depressed expression of NCAMs (4,54,55)
Progressive microcephaly (24)	Progressive microcephaly and macrocephaly (175)

APPENDIX B
“Comparison Of:
The Characteristics of “Autism” To Those For Mercury Poisoning”

**“Table II: Summary Comparison of Biological Abnormalities
in Autism & Mercury Exposure” Part B**

Neuro-chemistry	
Prevents presynaptic serotonin release and inhibits serotonin transport; causes calcium disruptions (78,79,163,167,168)	Decreased serotonin synthesis in children; abnormal calcium metabolism (76,77,103,179)
Alters dopamine systems; peroxidine deficiency in rats resembles mercurialism in humans (8,80)	Either high or low dopamine levels; positive response to peroxidine, which lowers dopamine levels (2,177,178)
Elevates epinephrine and norepinephrine levels by blocking enzyme that degrades epinephrine (81,160)	Elevated norepinephrine and epinephrine (2)
Elevates glutamate (21,171)	Elevated glutamate and aspartate (82,176)
Leads to cortical acetylcholine deficiency; increases muscarinic receptor density in hippocampus and cerebellum (57,170)	Cortical acetylcholine deficiency; reduced muscarinic receptor binding in hippocampus (83)
Causes demyelinating neuropathy (22,169)	Demyelination in brain (105)
Neurophysiology	
Causes abnormal EEGs, epileptiform activity, variable patterns, e.g., subtle, low amplitude seizure activities (27,31,34,86-89)	Abnormal EEGs, epileptiform activity, variable patterns, including subtle, low amplitude seizure activities (2,4,84,85)
Causes abnormal vestibular nystagmus responses; loss of sense of position in space (9,19,34,70)	Abnormal vestibular nystagmus responses; loss of sense of position in space (27,180)
Results in autonomic disturbance: excessive sweating, poor circulation, elevated heart rate (11,18,31,45)	Autonomic disturbance: unusual sweating, poor circulation, elevated heart rate (17,180)

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APPENDIX B

“Comparison Of:

The Characteristics of “Autism” To Those For Mercury Poisoning”

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