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Do Vaccines Cause Autism? The Evidence Against Vaccine Safety

Part II of a Three-part Series

By Helen Buyniski, Richard Gale, and Dr. Gary Null
Global Research, September 05, 2023

Theme: Science and Medicine

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Read Part I:

Do Vaccines Cause Autism? A History of Institutional Corruption

By Helen Buyniski, Richard Gale, and Dr. Gary Null, August 29, 2023

Thimerosal and Mercury Poisoning

While the CDC and others point out that thimerosal is no longer included in most vaccines, a point which is employed to feebly prop up an argument that autism can't have been and never will be caused by vaccines, ***thimerosal was in a great many childhood vaccines for over a decade as autism rates were rising in the 1990s.***

It is immoral and scientifically dishonest to try to sweep under the rug a more-than-plausible connection between thimerosal in vaccines and ***the many neurodevelopmental injuries suffered by children during the years when they regularly received dangerously high doses as a matter of routine****,[65]* ***and in those unborn children who are still exposed today in utero to the thimerosal-containing combination flu and Td vaccines*** *because women have not been informed of the risks.*

Many of the children who survived this atrocious episode of medical malfeasance, to this day not admitted by the government and health agencies, are still with us, now adults.

Some are adults who wear diapers, cannot speak more than a few words, must wear

helmets as they compulsively injure themselves and others, must be kept inside a fence so as not to wander into traffic. Some, whose parents determined to keep them in a loving home, are scorned by others for refusing to institutionalize them.[66] Neurodevelopmental injuries should look as suspicious to us in 2023 as truncated limbs must have to U.S. doctors who had quietly administered an unnamed drug to their pregnant women patients as part of covert trials of thalidomide in the 1960s.[67, 68, 69, 70]

Private medical consultant Barry Rumack, MD, was hired by the FDA to review the mercury levels in children with an eye toward childhood vaccines. According to his findings,

> "There was no point in time from birth to approximately 16-18 months of age that infants were below the EPA guidelines for allowable mercury exposure.... In fact, according to the models, blood and body burden levels of mercury peaked at six months of age at a shocking high level of 120 ng/L. To put this in perspective, the CDC classifies mercury poisoning as blood levels of mercury greater than 10 ng/L."

Dr. Rumack notes that the FDA chose to hide this finding from the public and higher health officials.[71]

Another resource on the detrimental effects of thimerosal can be found i**n Robert F. Kennedy Jr.**'s 2014 book

> *Thimerosal: Let the Science Speak: The Evidence Supporting the Immediate Removal of Mercury—a Known Neurotoxin—from Vaccines*.[72]

Kennedy and his coauthors collected 400 peer-reviewed studies on the toxic mercury-based preservative. If you can't be depraved into reading anything by Robert F. Kennedy, Jr. because he's such a "rabid antivaxxer"[73] and could infect your mind with dangerous ideology against which you have no functioning intellectual immune system, just borrow it from the library.

Don't read a line of it. Just flip to the footnotes. Note down the studies for yourself. You don't need to take the book home with you. Those studies are available through databases of peer-reviewed literature including the U.S. National Institutes of Health own National Library of Medicine.

Even by the time Kennedy's book was published, the number of vaccines that contain the toxic mercury-based preservative had dwindled, reduced to multi-dose flu vaccines, largely due to public protest (the CDC still mandates that dosing children with mercury is safe).

Yet the vaccines that still contain thimerosal are regularly administered to pregnant women – posing an even greater threat to the fetus than they did to the newborn child. The FDA warns pregnant women to limit their consumption of tuna fish because of high mercury levels, but sees no contradiction in pushing flu shots on the same women. Eli Lilly itself – manufacturer of thimerosal – called it a neurotoxin and warned maternal exposure could result in "fetal changes" and mercury poisoning, while exposure in children could cause "mild to severe mental retardation."[74] Yet parents are targeted with a barrage of propaganda every year in an effort to shame them into bringing their children in for the flu shot, a vaccine even the CDC admits doesn't work.[75]

Here are a few of the many studies which provide evidence for the theory that mercury in vaccines has contributed and continues to contribute to autism wherever exposure is a

factor.

A 2006 study by Patterson et.al. actually links the development of neurodevelopmental disorders (including autism) to "maternal immune activation," which would suggest that pregnancy is the worst time to get vaccinated[76] – especially with a flu shot that as often as not causes the flu it's supposed to prevent.[77] Patterson confirmed that conclusion in an article that accompanied the study's publication, warning that "universal vaccination of pregnant women could get us into a whole new set of problems."

A 2012 study confirmed those findings – yet the CDC continues to recommend delivering a double-whammy of embryotoxic mercury and maternal inflammatory activity to helpless fetuses as a matter of policy – "for their own good."[78]

David and Mark Geier and Janet Kern have published a number of studies in this realm. In fact, their work led them to become involved as expert witnesses and consultants in vaccine/biologic litigation for petitioners in the No-Fault National Vaccine Injury Compensation Program (NVICP) and for plaintiffs in civil litigation related to autism.[79] Mark Geier's name as an author alone pulls up 132 search results in PubMed.

With only one exception, he always publishes with this son, David. Though he has been slandered, harassed and punished for his undaunted pursuit of this issue, even having had his medical license rescinded,[80] his scientific work continues to stand on its merits; he is continually published up to the present (his most recent publications appeared in March and June of 2023).

And he didn't suddenly appear out of nowhere to conduct shady "vaccine science." He has led a distinguished career. He has an M.D. and a Ph.D. in genetics from the George Washington University School of Medicine, which in the past has been ranked the most selective medical school in the United States;[81] has been board certified in genetics by the American Board of Medical Genetics and is a Fellow of the American College of Epidemiology. He has been in clinical practice for more than 30 years. He was a researcher at the National Institutes of Health for 10 years and a professor at the Johns Hopkins University and at the Uniformed Services University of the Health Sciences, and has addressed the Institute of Medicine of the US National Academy of Sciences, the US State Department, the Government Reform Committee of the US House of Representatives, and others.

He has co-authored 50 peer-reviewed medical studies on vaccine safety, efficacy and policy, including 25 peer-reviewed medical studies on patients diagnosed with autistic disorders, his research winning him awards and media attention. He has been involved in the treatment of over 600 people diagnosed with autism. He is the president of the nonprofit Institute of Chronic Illnesses in Silver Springs, Maryland.[82] Among those publications retrievable from the National Library of Medicine, he has published on average between 5 and 6 peer-reviewed articles each and every year since 2001. Many of them explore the connection between vaccines and autism. Wikipedia's entry on Dr. Geier makes passing reference to these as "several speculative articles" on autism's link to vaccines. Twenty-five certainly stretches the definition of "several," and perhaps "speculative" as employed here is a new, undocumented use of the word, referring in this case to scientific experiments and the resulting data. Such stimulating inversions of the meaning of words are commonplace over at Wikipedia, which is the carnival funhouse mirror of encyclopedias. Not all of the Geiers' articles are summarized here, but below is a sampling:

In 2003, the Geiers authored “Neurodevelopmental disorders after thimerosal-containing vaccines: a brief communication.”[83] They wrote,

> “We were initially highly skeptical that differences in the concentrations of thimerosal in vaccines would have any effect on the incidence rate of neurodevelopmental disorders after childhood immunization. This study presents the first epidemiologic evidence, based upon tens of millions of doses of vaccine administered in the United States, that associates increasing thimerosal from vaccines with neurodevelopmental disorders.”

They used data from the Vaccine Adverse Events Reporting System (VAERS) database, which revealed statistical increases in the incidence rate of autism, mental retardation, and speech disorders after administration of thimerisol-containing DTaP, in comparison with versions of the vaccines which contained no mercury. They found no biases in the data. They called for the conduction of additional studies, and these they, among others, would go on to perform.

Their 2004 study[84] evaluated the effects of MMR immunization and mercury from thimerosal-containing childhood vaccines on the prevalence of autism, evaluating the Biological Surveillance Summaries of the Centers for Disease Control and Prevention (CDC), the U.S. Department of Education datasets, and the CDC’s yearly live birth estimates. The authors determined that a close correlation existed between mercury doses from thimerosal-containing vaccines and the prevalence of autism from the late 1980s through the mid-1990s.

A potential correlation existed between the number of primary pediatric measles-containing vaccines administered and the prevalence of autism during the 1980s.

They also found that there were statistically significant odds ratios for the development of autism following increasing doses of mercury from thimerosal-containing vaccines compared to baseline. In other words, the thimerosal-containing vaccines were more likely than the MMR vaccine to contribute to autism.

The authors concluded that their paper joins a number of others in demonstrating that there is “a direct relationship between increasing doses of mercury from thimerosal-containing vaccines and neurodevelopmental disorders, and measles-containing vaccines and serious neurological disorders. It is recommended that thimerosal be removed from all vaccines and additional research be undertaken to produce a MMR vaccine with an improved safety profile.”

In 2005, when autism affected 1 in 150 children in the U.S. (compare to 1 in 36 today), their paper “The potential importance of steroids in the treatment of autistic spectrum disorders and other disorders involving mercury toxicity”[85] was published.

In light of evidence emerging at the time, they hypothesized that autism is a form of mercury-testosterone toxicity, against which estrogen is protective, noting that:

> “examination of autistic children has shown that the severity of autistic disorders correlates with the amount of testosterone present in the amniotic fluid, and an examination of a case-series of autistic children has shown that some have plasma testosterone levels that were significantly elevated in comparison to neurotypical control children.”

They proposed that a series of experiments be conducted to design novel therapies for autistic children based on those already in use (chelation, glutathione, etc.) to work out the exact mechanisms for improving this condition.

They had three articles published in August 2006. In the first, titled "A meta-analysis epidemiological assessment of neurodevelopmental disorders following vaccines administered from 1994 through 2000 in the United States,"[86]

They performed a meta-analysis epidemiological assessment of the Vaccine Adverse Event Reporting System (VAERS) for neurodevelopment disorders (NDs) reported following Diphtheria-Tetanus-whole-cell-Pertussis (DTP) vaccines in comparison to Diphtheria-Tetanus-whole-cell-Pertussis-Haemophilus Influenzae Type b (DTPH) vaccines administered between 1994 and 1997.

They also looked at Thimerosal-containing Diphtheria-Tetanus-acellular-Pertussis (DTaP), vaccines in comparison to Thimerosal-free DTaP vaccines administered between 1997-2000. They found that thimerosal-containing vaccines were associated with significantly increased risks of autism, speech disorders, mental retardation, personality disorders, thinking abnormalities, the loss of full control of bodily movements (ataxia), and neurodevelopmental disorders in general.

In their second 2006 article, titled "An evaluation of the effects of thimerosol on neurodevelopmental disorders reported following DTP and Hib vaccines in comparison to DTPH vaccine in the United States,"[87] they note that toxicokinetic studies showed that U.S. children received doses of mercury from thimerosal-containing vaccines which exceeded safety guidelines.

They also performed a case-controlled study of children vaccinated in the U.S. in the 1990s according to the CDC's schedule. Some of these children were administered diptheria-tetanus-pertusis (DTP) with haemophilus influenzae type b (Hib), and others received diptheria-tetanus-pertussis-Haemophilus influenzae type b (DTPH). The first combination exposed the recipients to double the dose of thymerisol of those receiving DTPH. Accounting for ongoing doses up to 18 months, those children receiving DTP and Hib vaccines may have received up to 100 mug more mercury than children administered DTPH vaccines.

Using the VAERS data from 1994 to 1998, the Geiers found a significantly increased odds ratios for a**utism, speech disorders, mental retardation, infantile spasms**, and thinking abnormalities occured following DTP vaccines in comparison to DTPH vaccines "with minimal bias or systematic error." The authors suggest that additional research into the association between neurodevelopmental disorders and mercury exposure should be undertaken, noting that in 2005, the Institute of Medicine issued a report which questioned the handling of vaccine safety data by the National Immunization Program of the Centers for Disease Control and Prevention.

In the third article they had published in 2006, they evaluated **urinary porphyrins as a biomarker of autism**.[88] They examined patients diagnosed with autism for the presence of urinary porphyrins indicative of mercury toxicity, and compared the results to age-, sex-, and race-matched siblings without autism. They found that autism severity increased alongside increased urinary porphyrins. leading them to conclde that "porphyrins should be routinely clinically measured in autism spectrum disorders."

Authored with Heather Young and published in 2008, the Geiers' "Thimerosal exposure in infants and neurodevelopmental disorders: an assessment of computerized medical records in the Vaccine Safety Datalink"[89] reports their evaluation of data from the automated Vaccine Safety Datalink (VSD). They identified a total of 278,624 subjects born between 1990-1996 that had received their first oral polio vaccination by 3 months of age. They found consistent significantly increased rate ratios for autism, autism spectrum disorders, tics, attention deficit disorder, and emotional disturbances with Hg exposure from thimerosal-containing vaccines.

With coauthor Tapan Audhya the Geiers and Kern authored an article published in 2010[90] which looked at the role of mercury in the development of autism by examining the blood of autistic subjects and comparing these samples to that of non-autistic controls. They found blood levels of mercury were 1.9 times higher in the blood samples from autistic children, and these results were statistically significant. They also found a statistically significant threshold level of mercury in the blood, exceeding which one is much more likely to be diagnosed with autism, at 15 microg/L. They wrote "The weight of scientific evidence supports mercury as a causal factor in subjects diagnosed with an autism spectrum disorder."

In a second article they had published in 2010,[91] "The biological basis of autism spectrum disorders: Understanding causation and treatment by clinical geneticists," they note that elevated concentrations of mercury, a neurodevelopmental poison, may remain in the brain from several years to decades following exposure, causing problems in cell migration and division, as well as cellular degeneration and death.

They examine case reports of autism symptom onset following fetal and/or early childhood mercury exposure; epidemiological studies linking mercury exposure to elevated autism risk; and reports of symptoms defining or associated with autism following mercury intoxication. They also hypothesize that autism's appearance disproportionately in males may be due to synergistic neurotoxic effects resulting from interactions between testosterone and mercury, whereas estrogen protects against mercury toxicity.

Published in *Biometals*, also in 2010, Kern, the Geiers and James Adams authored work on porphyrins and autism.[92] They conducted a blinded analysis of urinary samples from children diagnosed with autism. The results of the study indicated that the participants' overall autism scores were linearly related to urinary porphyrins associated with mercury toxicity.

Again joined by the Geiers, Kern et al. authored "Toxicity biomarkers in autism spectrum disorder: a blinded study of urinary porphyrins,"[93] published in 2011, in which the report their examination of urinary porphyrins associated with mercury exposure, which have been found to be elevated in children with autism. in children with autism and in age- and gender-matched healthy controls. They found that participants diagnosed with an autism spectrum disorder had significantly increased levels of porphyrins associated with mercury-toxicity in comparison to controls.

Coauthored with Brian Hooker and others, the Geiers and Kern conducted

> "A two-phase study evaluating the relationship between Thimerosal-containing vaccine administration and the risk for an autism spectrum disorder diagnosis in the United

States" which was published in *Translational Neurodegenration* in 2013.[94]

This was a hypothesis generating and testing study, using VAERS data, which reported that there was a significantly increased risk ratio for the incidence of autism spectrum disorders reported following the Thimerosal-containing DTaP vaccine in comparison to the Thimerosal-free DTaP vaccine. In the second phase of the study, they observed that cases diagnosed with autism were significantly more likely than controls to have received increased levels of mercury from Thimerosal-containing hepatitis B vaccine administered within the first, second, and sixth month of life.

In 2016, their "Two-Phase Case-Control Study of Autism Risk Among Children Born From the Late 1990s Through the Early 2000s in the United States" was published.[95] They hypothesized that the 1999 recommendation by the American Academy of Pediatrics and US Public Health Service to reduce exposure to mercury from Thimerosal in US vaccines would be associated with a reduction in the long-term risk of being diagnosed with autism. They found that their hypothesis was correct: the odds of being listed as an autism case in the VAERS database significantly decreased with a more recent year of vaccination in comparison to controls. They said, "Thimerosal should be removed from all vaccines."

Though Thimerosal was removed from childhood vaccines in 2001, at time of this publication,[96] and even today,[97, 98] several of the the multi-dose flu shots, and the Td (TDVAX), a booster for tetanus and diptheria, which may be administered to pregnant women, still contain thimerosal.[99] In fact CDC recommends pregnant women take a flu and a Tdap vaccine during *each* pregnancy.[100] (Tdap contains no thimerosal, but does contain aluminum phosphate and formaldehyde).[101] The page on which CDC makes this recommendation makes no mention of thimerosal, though other pages on CDC's website which explicitly address people's concerns about thimerosal do mention that one can elect to receive versions of these vaccines containing no thimerosal. The FDA's website unequivocally states "No Link between Thimerosal in Vaccines and Autism… Thimerosal has a long record of safe and effective use in preventing bacterial and fungal contamination of vaccines, with no ill effects established other than hypersensitivity and minor local reactions at the site of injection… The scientific evidence collected over the past 15 years does not show any evidence of harm, including serious neurodevelopmental disorders, from use of thimerosal in vaccines."[102] CDC echoes along "Question: Does thimerosal cause autism? Answer: No. Research does not show any link between thimerosal and autism."[103] There are three options here: the officials of the CDC and the FDA live in an alternate universe; they haven't actually read all the science but think they have, and managed only to read those studies which do not support a connection between autism and thimerosal; or they are lying.

In 2017, another study by the Geiers, Kern and Homme was published, a hypothesis testing case-control study which evaluated the Vaccine Safety Datalink for the potential dose-dependent odds ratios for diagnoses of autism spectrum disorder, tic disorder, and attention deficit disorder/attention deficit hyperactivity disorder (ADD/ADHD), compared to controls, following exposure to Hg from thimerosal-containing Haemophilus influenzae type b vaccines administrated within the first 15 months of the child's life.[104] Collectively these disorders have been defined as as abnormal connectivity spectrum disorders (ACSDs) because they are characterized by a similar pattern of abnormal brain connectivity. The authors found that cases diagnosed with ACSDs were significantly more likely than controls to have received increased mercury exposure.

If you're getting tired of reading about the findings of one prolific group of researchers let's move on. Other people have studied the connection between thimerosal and mercury, too.

In 2011, Matthew Garrecht and David Austin authored "The plausibility of a role for mercury in the etiology of autism: a cellular perspective"[105] published in *Toxicology and Environmental Chemistry*. They note that mercury, "as a ubiquitous environmental neurotoxin," has been linked by accumulating evidence to neurodevelopmental disorders, including autism. "Of course, the evidence is not derived from experimental trials with humans but rather from methods focusing on biomarkers of mercury damage, measurements of mercury exposure, epidemiological data, and animal studies. For ethical reasons, controlled mercury exposure in humans will never be conducted." As a result of the impossibility of establishing on an ethical basis experimentation qualitatively resembling that which was ongoing in the vaccination of American children throughout the 1990s, their review focuses instead on setting forth the theoretical plausibility of a causal connection for mercury exposure as a primary factor underlying the development of autism. They give attention to the roles of oxidative stress and mitochondrial dysfunction, neuroexcitory and excitotoxic factors related to mercury, and immune dysregulation, among other areas of research.

Donald Drum's 2009 paper

"Are toxic biometals destroying your children's future?" was published in the journal *Biometals*.[106]

His abstract reads:

> **"Cadmium, arsenic, lead, and mercury have been linked to autism, attention deficit disorder, mental retardation and death of children.**
>
> **Mercury in thimerosal found in many vaccines and flu shots contributes significantly to these problems.** Decomposition of thimerosal can produce more toxic compounds, either methylethylmercury or diethylmercury, in the body. These compounds have a toxicity level similar to dimethylmercury.
>
> Within the human body, a mitochondrial disorder may release the more toxic form of mercury internally. Young children and pregnant women must minimize internal exposure to the vaccines and flu shots containing mercury."

Gehan Mostafa and colleagues authored the paper

"The levels of blood mercury and inflammatory-related neuropeptides in the serum are correlated in children with autism spectrum disorder," published in 2016 in *Metabolic Brain Disease*.[107]

The authors identified pro-inflammatory neuropeptides, a group of compounds which act as neurotransmitters, thought to play a role in autoimmune neuroinflammatory diseases including autism. This type of neuropeptide is released when there is inflammation of the brain and nervous tissue from poisoning with mercury.

The authors found that these neuropeptides were indeed elevated in a positive linear relationship with blood mercury levels, and with the severity of autism diagnosis, in children with autism. The autistic children were found to have higher levels of these neuropeptides,

indicating brain and nervous system inflammation, than healthy controls. 78.3 % of the austitic subjects with increased levels of the neuropeptides related to neuroinflammation had high levels of mercury in the blood. This research concluded that autism can have features of brain and central nervous system inflammation, and that it may be caused by mercury toxicity. They recommended that mercury chelating agents, which remove mercury from the body, should be studied as a treatment for autism.

Zhang and Wong authored "Environmental mercury contamination in China: sources and impacts," published in 2006.[108]

Their paper was a review of the current status of mercury contamination in different ecological compartments in China, and their possible environmental and health impacts. They noted that, due in large part smelting, coal combustion and other industrial activities including battery and fluorescent lamp production and cement production, there is widespread mercury contamination in the atmosphere, soil and water, which accumulates in fish. Consumption of fish is a major source of mercury exposure to people in China, though inhalation from mercury-contaminated air pollution is also an important source. The authors noted that autism in Hong Kong children is related to high mercury levels as measured in hair, blood and urine, as well as other illnesses. They recommended that sources of mercury exposure be identified and mitigated to prevent these illnesses.

Adams et al. authored a paper published in 2013 in the journal *Biological Trace Element Research*.[109] They found that among children with autism, compared to healthy controls, the autistic children had higher levels of heavy metals, and these levels were associated with autism severity. The metals that were higher in autistic children were lead, thallium, tin, and tungsten. They found that mercury was one of the most consistently significant variables.

Thimerosal is an ethyl mercury-containing compound that was, up until recently, widely used in vaccines as a preservative.

More than 165 studies have found Thimerosal to be harmful to human health.[110] Mercury exposure has been associated with nerve cell degeneration, adverse behavioral effects, and impaired brain development.[111] It also has been linked to degenerative chronic conditions such as Alzheimer's disease. The developing fetal nervous system is the most sensitive to its toxic effects, and prenatal exposure to high doses of mercury has been shown to cause mental retardation and cerebral palsy.[112, 113]

Despite a preponderance of evidence showing Thimerosal's toxicity, the CDC maintains its position that Thimerosal is generally safe in small doses, citing a handful of CDC-sponsored epidemiological studies. One study found evidence of significant "methodological issues and "malfeasance" in their reporting.[114] Even though vaccine manufacturers have phased out the use of Thimerosal in most vaccines, some vaccines on the market today, including influenza, DTaP and DTaP-Hib, still contain Thimerosal.[115, 116]

In a 2010 study published in the journal Acta Neurobiologiae Experimentalis, researchers at the University of Northern Iowa evaluated dozens of studies that claimed to refute the relationship between autism and exposure to toxic metals such as mercury, found in vaccines. The analysis uncovered that several of these studies used erroneous statistics and faulty methodologies to derive their conclusions and that in fact, evidence suggests that the vaccine-autism link should not be dismissed by the scientific community.[117]

A 2004 study conducted by Northwestern University Pharmacy professor Richard Deth and researchers from the University of Nebraska, Tufts and Johns Hopkins University found that Thimerosal and other toxins contained in vaccines disrupt the biochemical process of methylation in the human body. Methylation plays a significant role in normal DNA function and neurological growth in infants and children. The group's findings suggest that toxicants introduced through vaccinations contribute to conditions such as autism and attention deficit hyperactivity disorder.[118]

The Thimerosal-autism connection is bolstered by the research of **Dr. Boyd Haley,** who served as the chairman of the University of Kentucky's Department of Chemistry and spent three years as a NIH post-doctoral scholar at Yale University Medical School's Department of Physiology. Haley's research has identified mercury, even in minute amounts, to be a dangerous immunosuppressant that damages neurological function and is a major contributor to autism spectrum disorder. Dr. Haley's scientific inquiries have provided strong evidence documenting how ethylmercury inhibits the process of phagocytosis (a critically important biological process of the human immune system), impairs the function of dendritic neurons in the brain and hinders the production of methyl B12. Each of these processes are significant factors in the onset of neurological illness.[119]

In a study published in the Journal of Toxicology and Environmental Health in July 2011, Australian authors David Austin and Kerrie Shandley surveyed a group of adults who were survivors of Pink Disease or Infantile Acrodynia, an ailment historically caused by exposure to mercury found in teething powder, diaper rinses and other materials. Since the survivors of Pink Disease were proven to be sensitive to mercury, the study set out to determine whether or not higher rates of autism were present among the survivors' grandchildren.

Austin and Shandley demonstrated that 1 in 25 of the survivors' grandchildren had some form of autism spectrum disorder. The frequency of autism among children in the general population of Australia in the same age group as those surveyed is 1 in 160. The results unequivocally suggest that children with a family history of susceptibility to mercury poisoning are far more likely to develop autism.[120]

The discontinuation of thimerosal and its failure to halt the rise in autism diagnoses have been used against vaccine awareness advocates to claim that there was never any link – that not only was the mercury preservative actually safe, but that no other ingredient could be responsible for triggering the condition either.

Yet a quick rundown of the ingredients in many vaccines – aluminum hydroxide, formaldehyde, and chicken embryos – is enough to set off alarm bells, and their sheer number seems excessive even to the most trusting among us.

The CDC's chart of childhood vaccination "recommendations" is not so easy to read, and it does not advertise the number of shots your child will receive if you diligently follow the schedule, instead communicating the total number of doses by spreading them out dose by dose across a table of annual recommendations.

But if you actually count them up, if you comply with all recommendations except the flu shot, your child will have receivedbetween 26 to 30 doses of vaccine before 15 months, and 13 to 14 more by age 18, for a total of 29 to 44 shots. But if you also follow the recommendations for annual flu vaccination, a recommended 19 to 24 doses, the total number jumps even higher, to between 48 to 68 doses.[121]

If these vaccines contained only weakened or killed bacteria and viruses, that would be one thing. But each of these doses contains a number of other ingredients, among them those already mentioned. A partial list of these other ingredients, including preservatives, adjuvants, stabilizers, and "trace amounts" of manufacturing products such as antibiotics, cell culture material, and inactivating ingredients, can be viewed in the CDC's Vaccine Excipient Summary table. Little bits of such dainty materials as the dangerous excitotoxin monosodium glutamate (MSG), polysorbate 80, "other process chemical residuals," cetyltrimethlyammonium bromide, and hydrolyzed porcine gelatin (porcine means from pigs) may be floating in that pristine vial. (Note: this table, though updated in November 2021, makes no mention of the contents of the Covid-19 vaccines.) This table may not actually account for all that ends up in that vial of vaccine, unless the manufacturers are both honest and careful to a fault. This document notes that to learn of all the substances used in manufacturing the vaccine, you will have to read the package insert for each vaccine, available on the FDA's website.

These are just a sampling of the link between thimerosal and autism. But contrary to the opinions of the CDC and health agencies, **thimerosal was and is not the only ingredient in vaccines which increases risk of developing neurodevelopmental disorders and autism.**

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