

What Parents Should Know About Thimerosal

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What is thimerosal?

- Thimerosal is an organic mercury-based preservative that has been used for many decades as an additive to vaccines because it is very effective at preventing bacterial and fungal contamination, particularly in opened multi-dose containers. It is also found in other medications and products, including some throat and nose sprays, and contact lens solution.

Does thimerosal cause autism?

- Despite years of study, there has been no valid evidence showing a link between thimerosal in vaccines and autism (or autistic spectrum disorder). A 2004 report from the Institute of Medicine concluded that the available evidence is against the existence of such a link ever being found.
- The CDC examined the incidence of autism in relation to the amount of thimerosal a child receives in vaccines. They found no change in autism rates relative to the amount of thimerosal a child received from vaccines in the first six months....in other words, a child who received more thimerosal was not more likely to be autistic.

Which vaccines contain thimerosal?

- Since January 2003, all routinely recommended vaccines manufactured for administration to infants in the U.S. have been thimerosal-free. Despite this, the numbers of cases of children with autistic spectrum disorders continues to rise. No better proof of the lack of a link between thimerosal and autism could indeed exist.
- Many routinely recommended childhood vaccines have *never* contained thimerosal: measles/mumps/rubella (MMR), polio (IPV), varicella/chickenpox, and the pneumococcal vaccine (Prevnar). Some Haemophilus influenzae type b (Hib) and diphtheria/tetanus/pertussis (DTaP) vaccines also have never contained thimerosal as a preservative.
- The influenza vaccine still contains thimerosal if in multi-dose containers. However, most influenza vaccine given to infants in the U.S. today are in single-use containers, and thus do not contain thimerosal.

Why was thimerosal removed from vaccines if there is no danger?

- Even though there's no evidence that thimerosal in vaccines is dangerous, the U.S. Public Health Service and the American Academy of Pediatrics believe the effort to remove mercury-based preservatives from vaccines was a good decision. Mercury exists in a different form in our environment (such as in some fish), so children will be exposed to it in other ways. We can't always remove mercury from the environment. So, by taking thimerosal out of vaccines, we are lessening the amount of mercury a child will be exposed to early in life.

What risks does mercury pose to an infant's brain?

- Studies of mercury ingested from fish and other sources have shown that in high doses, mercury can cause brain damage. Mercury can also affect the kidneys and immune system. The mercury that was in vaccines (ethyl mercury) is in a different form than mercury in food products (methyl mercury). Methyl mercury is known to be more potentially toxic.

Where can I go for more information?

- July 2006 issue of the journal *Pediatrics*: A study from Canada found no relationship between MMR vaccine exposure, thimerosal exposure, and autism in 28,000 children in Quebec. Interestingly, despite that vaccines given to young children became thimerosal-free in 1996, the rates of autism have continued to climb: <http://pediatrics.aappublications.org/cgi/content/abstract/118/1/e139>

- The 2004 Institute of Medicine (of the National Academy of Sciences) Report, Immunization Safety Review: Vaccines & Autism, which can be found at: <http://www.iom.edu/?id=20155&redirect=0>.
- The Centers For Disease Control & Prevention has an autism website. For more information, check out: <http://www.cdc.gov/ncbddd/autism/>
- A report in the journal Pediatrics on the lack of evidence for a link between the MMR vaccine and autism can be found at: <http://www.pediatrics.org/cgi/content/full/107/5/e84>
- Leading researchers in the United Kingdom discuss the lack of evidence for a link between vaccines (specifically the MMR vaccine) and autism: <http://osiris.sunderland.ac.uk/autism/vaccine.htm>
- A good review article: <http://www.sciencedaily.com/releases/2005/06/050630055730.htm>
- Another good review of the various preservatives found in vaccines, including thimerosal: <http://pediatrics.aappublications.org/cgi/content/abstract/112/6/1394>
- A great article explaining the vast differences between true mercury poisoning, and autism, can be found at: http://pediatrics.aappublications.org/cgi/content/full/111/3/674?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&titleabstract=autism&searchid=1063976773900_2057&stored_search=&FIRSTINDEX=0&journalcode=pediatrics

So what is causing the rise in autism?

- No one is certain of this answer. It is likely that most, if not all, of the increase is simply due to a broadening of what is considered autism and related disorders, an increased awareness of these disorders, and a greater emphasis of early diagnosis over the past fifteen years. Researchers are not even sure whether there is an actual increase in the incidence of autism, but many are working to find that out.
- Autism is not a single thing, and, in fact, there are lots of medical conditions that can lead to a child having autistic features. There is growing evidence that true autism, unable to be explained by some other medical condition, is genetic, and therefore congenital (present from birth). "Autism" that develops suddenly in an older child is nearly always, if not entirely always, due to some medical condition, such as seizure disorders or other nervous system disorders, nervous system infection, or to other genetic or metabolic conditions. Some children with autism have been found to have abnormalities in several regions of the brain, suggesting that their autism resulted from a disruption of early brain development while still in the womb.