



# Hot Topics: Thimerosal

## What Parents Should Know About Thimerosal

### What is thimerosal?

Thimerosal is an organic mercury-based preservative used in

- Vaccines
- Medicines such as some throat and nose sprays
- Other products such as contact lens solutions

Thimerosal has been used because it is very effective in preventing contamination, particularly in opened multi-dose containers.

### Does thimerosal cause autism?

There are no valid studies that show a link between thimerosal in vaccines and autistic spectrum disorder. A 2004 report from the Institute of Medicine, *Vaccines and Autism*, concluded that the available evidence is against the existence of a causal relationship between thimerosal-containing vaccines and autism.

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 6 months of life. In other words, a child who received more thimerosal was not more likely to be autistic.

### Have any studies shown thimerosal in vaccines causes health problems in children?

An early CDC study suggested a possible weak connection between the amount of thimerosal given and certain neurodevelopmental disorders, such as ADHD, speech and language delays, and tics (but not autism). Further review by independent experts led many to feel this study was flawed in parts of its design that favored a connection when none may have existed. Later studies did not show any connection. Researchers will continue to look at this question.

### Which vaccines contain thimerosal?

Since 2001, all routinely recommended vaccines manufactured for administration to infants in the U.S. have been either thimerosal-free or have contained only extremely small amounts of thimerosal.

In 2008, the AAP recommended that children 6-23 months of age receive an annual flu vaccination. Some thimerosal-free flu vaccine is available. Thimerosal-preserved flu vaccine contains only small amounts of thimerosal (12.5 micrograms per dose).

Many routinely recommended childhood vaccines never contained thimerosal: measles/mumps/rubella (MMR), polio (IPV), varicella/chicken pox, pneumococcal conjugate (PCV). Some of the *Haemophilus influenzae* type b (Hib) and diphtheria/tetanus/pertussis (DTaP) vaccines never used thimerosal as a preservative.

Some vaccines that are NOT routinely recommended for young children under 6 months of age, such as meningococcal vaccine, are only available with 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 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. But we can control the mercury used in some vaccines. So, by taking thimerosal out of vaccines, we are lessening the amount of mercury a child will be exposed to early in life.

### **Have any adverse reactions to thimerosal ever been reported?**

When vaccines containing thimerosal have been administered in the recommended doses, allergic type reactions (hives, shock) have been noted on rare occasions. No other harmful effects have been reported.

### **Should parents have their children who have received vaccinations with thimerosal be tested for mercury?**

No. Infants and children who have received thimerosal-containing vaccines do not need to have blood, urine or hair tested for mercury. The body eliminates a mercury dose completely within 120 days - it doesn't stay in your child's body.

Screening children for mercury exposure will likely result in more questions than answers. Mercury in the urine is a measure of inorganic mercury exposure, not the organic form found in thimerosal. Mercury found in blood, hair or fingernails can come from any mercury source... it is more likely to come from dietary and environmental mercury sources than from thimerosal. Children who are suspected to have had environmental exposures (from broken thermometers or excessive fish consumption) may be appropriately tested.

### **Immunizations have already been successful at nearly wiping out many diseases, so why should children continue to get vaccinated when these diseases barely exist anymore?**

Although vaccine-preventable diseases are at record low numbers, the organisms that cause these diseases are still present. Unvaccinated children continue to be at risk of serious, even deadly diseases. We are only one airplane ride away from many parts of the world where these diseases are still rampant and where immunization is not available. We cannot afford to let down our guard.

### **For more information:**

Thimerosal Table in this folder of the AIM Kit (8/6/2008)

Scientific Studies on Thimerosal and Autism in this folder of the AIM Kit (1/8/2008)

Vaccine Safety – Thimerosal Information at <http://www.cdc.gov/vaccinesafety/concerns/thimerosal.htm>

Education Center at the Childrens Hospital of Philadelphia at <http://www.chop.edu/consumer/jsp/division/generic.jsp?id=75807> National  
Network for Immunization Information [http://www.immunizationinfo.org/immunization\\_science.cfm?cat=1](http://www.immunizationinfo.org/immunization_science.cfm?cat=1)

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