

INSTITUTE OF MEDICINE

Shaping the Future of Health

FREQUENTLY ASKED QUESTIONS: THIMEROSAL IN VACCINES

At the request of the Centers for Disease Control and Prevention and the National Institutes of Health, a committee was convened by the Institute of Medicine (IOM) of the National Academy of Sciences to examine whether or not the use of vaccines containing the preservative thimerosal can cause neurodevelopmental disorders. In *Immunization Safety Review: Thimerosal-Containing Vaccines and Neurodevelopmental Disorders*, the IOM committee carefully examines this issue.



What did the committee find?

The committee found no proof that vaccines (which some people call “shots”) with thimerosal do or do not cause the disorders of autism, attention deficit-hyperactivity disorder, and speech or language-delay. The committee’s exact wording of the recommendations and conclusions is in the box below.

What is thimerosal, and why is it in vaccines?

Thimerosal was used as a preservative in many vaccines, to prevent the growth of bacteria. Bacteria can make you very sick if injected. Thimerosal contains ethylmercury. It is required in bottles with many doses of a vaccine. Preservatives are not used in some vaccines (like measles-mumps-rubella (MMR), chicken pox, or the polio vaccines). Vaccines given to children 6 years of age and younger no longer contain thimerosal. A very few number of other vaccines, such as influenza, do. Thimerosal is also used as a preservative in other drug products, such as some nasal sprays and eye drops. This report focused mostly on thimerosal in vaccines.

Was the thimerosal in vaccines dangerous?

The committee found no proof that vaccines with thimerosal are dangerous. The amount of thimerosal in vaccines was low. The effects of such small amounts have not been well studied by scientists.

If thimerosal is not dangerous, why does the committee say that it shouldn’t be in vaccines or drugs used by children?

Large amounts of mercury can cause problems. It is a good idea to reduce mercury as much as possible. Taking it out of vaccines is one way to do this.

Should children or infants get shots or drugs that contain thimerosal?

Most vaccines no longer contain thimerosal. If vaccines with thimerosal are the only option, it is better to get vaccinated than not. Vaccines prevent against serious diseases, such as whooping cough. Also, the CDC recommends that kids with serious health problems get the flu shot even though it still has thimerosal. If you have additional questions, please ask your doctor.

Should a pregnant woman get a flu shot that contains thimerosal?

The Centers for Disease Control and Prevention (CDC) recommends that women beyond their first trimester of pregnancy get a flu shot during flu season to protect themselves from influenza. The CDC believes that the proven benefits of the flu shot outweigh the potential risks from thimerosal. If you have additional questions, please ask your doctor.

Where can I get more information on this issue?

For more information about:

- Your child's vaccinations:

Ask your child's doctor

- The Immunization Safety Review Committee and its report *Immunization Safety Review: Thimerosal-Containing Vaccines and Neurodevelopmental Disorders*:

visit the project's website www.iom.edu/imsafety.

call project staff 202/334-1342, or, email staff at imsafety@nas.edu

Committee Conclusions and Recommendations

The committee concludes that the evidence is inadequate to accept or reject a causal relationship between thimerosal exposures from childhood vaccines and the neurodevelopmental disorders of autism, attention deficit-hyperactivity disorder, and speech or language delay.

The committee finds that the hypothesized association between thimerosal-containing vaccines and neurodevelopmental disorders rests on indirect and incomplete information, primarily from analogies with methylmercury and levels of maximum mercury exposure from vaccines given in children. However, data on mercury toxicity more generally suggests that the hypothesis is biologically plausible.

Any adverse effects experienced by your child after a vaccination should be reported to your doctor. Additional reporting information can be found through:

Vaccine Adverse Event Reporting System
1-800-922-7967 or <http://www.vaers.org/vaers.htm>

National Vaccine Injury Compensation Program
1-800-338-2382 or <http://bhpr.hrsa.gov/vicp/qanda.htm>

Last revised on October 3, 2001

The Institute of Medicine is a private, nonprofit organization that provides health policy advice under a congressional charter granted to the National Academy of Sciences. For more information about the Institute of Medicine, visit the IOM home page at www.iom.edu.

© 2001 by the National Academy of Sciences. All rights reserved.

Permission is granted to reproduce this document in its entirety, with no additions or alterations.