

Thimerosal

Questions & Answers

What is thimerosal?

Thimerosal is a preservative that contains mercury. It has been used in some vaccines and other products like cosmetics, eye drops and contact lens solutions since the 1930s to prevent bacterial contamination.

Mercury is a metal, a chemical element that is found everywhere. There are two major forms of mercury—inorganic mercury like that used in thermometers, and an organic form like that found in thimerosal. People may be exposed to organic mercury by eating certain fish that have accumulated it in muscle tissue.

Thimerosal was used in vaccines for many years - is this cause for concern?

Because certain forms of organic mercury are known to be harmful, the Food and Drug Administration (FDA) Modernization Act of 1997 required the FDA to review and assess the possible health risks associated with exposure to *all* mercury-containing food and drugs, including vaccines.

What was the result of the FDA review with respect to thimerosal in vaccines?

The FDA review concluded that use of thimerosal as a preservative in vaccines might result in the intake of mercury during the first 6 months of life in amounts that exceed the Environmental Protection Agency, but not the FDA, the Agency for Toxic Substances and Disease Registry, or the World Health Organization guidelines for *methyl*mercury. It is important to note that thimerosal contains ethyl mercury, which is structurally different from methyl mercury. Research indicates that ethyl mercury is removed from the blood and body more rapidly than methyl mercury and, therefore, does not have the same cumulative effect as methyl mercury exposure. The federal safety standards are based on information about methylmercury, which is believed to be the more toxic form of mercury.

FDA's review found no evidence of harm caused by doses of thimerosal-containing vaccines, except for minor local reactions. Nevertheless, in July 1999, the Public Health Service agencies (PHS), the American Academy of Pediatrics (AAP) and vaccine manufacturers agreed that thimerosal levels in vaccines should be reduced or eliminated as a precautionary measure, and the FDA committed to expediting the review of new vaccines that do not contain thimerosal.

What progress has been made since July 1999 in removing thimerosal from vaccines routinely recommended for infants?

At this time, all routinely recommended, with the exception of some influenza vaccines, licensed pediatric vaccines that are currently being manufactured for the U.S. market, contain no thimerosal or contain only trace amounts of thimerosal.

Is it true that children may be getting toxic levels of mercury from vaccines?

No children are receiving toxic levels of mercury from vaccines. There is no evidence of harm caused by the minute doses of thimerosal in vaccines; some vaccine recipients may experience swelling and redness at the injection site due to sensitivity to thimerosal. Most importantly, since 1999, newly formulated thimerosal preservative-free vaccines have been licensed.

Does thimerosal cause autism?

There is no scientific evidence that any vaccine or vaccine additive increases the risk of developing autism or any other behavior disorder. For more information on autism and vaccines go to www.cdc.gov

Does the measles, mumps and rubella (MMR) vaccine contain thimerosal?

No, MMR vaccine does not and never did contain thimerosal. Varicella (chickenpox), inactivated polio (IPV), and pneumococcal conjugate vaccines have also never contained thimerosal.

How can I find out what chemical additives are in specific vaccines?

Ask your healthcare provider or pharmacist. You may want to ask for a copy of the vaccine package insert which lists ingredients in the vaccine and discusses any known adverse reactions.