



Thimerosal in Vaccines and Autism Spectrum Disorders

The Centers for Disease Control and Prevention, Kaiser Permanente Division of Research and two other managed care organizations recently conducted a study to help determine whether the preservative that is used in some vaccines, Thimerosal, increases the risk of autism. The study's findings were recently published in the journal, *PEDIATRICS*, the official journal of the American Academy of Pediatrics. The full article, which is entitled "Prenatal and Infant Exposure to Thimerosal from Vaccines and Immunoglobulins and Risk of Autism", is available at: <http://pediatrics.aappublications.org/cgi/content/full/126/4/656> or in *PEDIATRICS*, Vol. 126 No. 4, October 2010, pp. 656-664 (doi:10.1542/peds.2010-0309).

This study is the most thorough to date on this subject and provides the strongest evidence that **immunization with thimerosal-containing vaccines during pregnancy or in the first two years of life does not increase a child's risk of developing autism**. Researchers enrolled 1,008 children – 256 with autism spectrum disorder, 752 without. The results were similar for boys and girls.

During the study, the researchers consulted with external experts and representatives of autism advocacy groups. They used state-of-the-art, in-person assessments and made sure the research staff was trained by leading autism experts. They controlled for factors that could influence the risk of autism. The children's immunization histories were obtained from computerized immunization records and abstracted from medical charts, while the mothers' histories came from medical charts and personal interviews. To ascertain the extent of the exposure, the researchers determined the mercury content of the immunizations, calculated total exposure during pregnancy, and calculated childhood exposure relative to the child's weight.

Thimerosal is an ethylmercury-containing preservative that has been used since the 1930s in multi-dose vials of vaccines to prevent the contamination and growth of potentially harmful bacteria. It was removed from childhood vaccines in 2001 following concerns that infants who were immunized according to the recommended schedule might have received amounts of mercury that exceeded the Environmental Protection Agency limits. The only vaccine currently recommended for children that does contain thimerosal is multi-dose vials of the seasonal influenza vaccine. Single-dose units of the influenza vaccine and the live-attenuated version of the vaccine (given intranasally) do not contain thimerosal.

This study is important because some parents fear that vaccines, or that vaccines containing thimerosal, increase the risk of ASDs and consequently refrain from vaccinating their children. The study should help lessen parents' concerns about vaccinations.

If you have questions about the study, please contact us at autism.research@kp.org or call 1-866-279-0733. To learn more about the Autism Research Program at Kaiser Permanente Division of Research, go to: www.autismresearch.kaiser.org.