



Are Vaccines Safe?

A question that I am more commonly being asked during my office visits is about the safety of vaccines. Many parents are concerned due to the increasing coverage of this topic in the media. The two most common questions I encounter regarding this topic are about the link between thimerosal, a mercury containing preservative used in vaccines, and autism and the measles, mumps, and rubella (MMR) vaccine causing autism.

Let me start by saying that current scientific evidence indicates that autism is not caused by thimerosal or the MMR vaccine. Currently, experts are focusing on genetic and environmental factors as the cause of autism. Until 2001, thimerosal was used widely as a preservative in vaccines. In 2001, a U.S. Food and Drug Administration study revealed that a child receiving the recommended vaccines would be exposed to higher levels of mercury than is considered safe by the EPA. This fact led to the development of thimerosal free vaccines. Today, thimerosal has been removed from all vaccines except the influenza vaccine, which contains a small amount. Despite the removal of thimerosal from vaccines, there has been no effect on autism rates. In fact, the rates of autism have climbed since the introduction of thimerosal free vaccines. This fact leads many in the medical community to think that other factors are at play including heightened awareness by physicians and possible genetic or environmental exposures.

The link between autism and the MMR vaccine was first published in a paper in 1998 by a group of British physicians after eight young patients developed autism like symptoms days after receiving the MMR vaccine. Although the physicians did not say that the autism was caused by this vaccine, they did imply that exposure to this vaccine and the measles virus in particular could be a contributing factor to the children's development of autism. Of the 13 British physicians that authored the paper in 1998, 10 have since admitted that they did not produce solid evidence to support a connection between the measles virus in the MMR vaccine and autism. Despite this retraction, the damage has been done and many parents are uneasy about vaccines in general and the MMR vaccine in particular.

The increased fear with vaccines has begun to lead more parents to refuse or delay some vaccines causing a reemergence of certain illnesses which had been practically eradicated in the US. From January to April of 2008, there were 64 cases of measles in the U.S., compared to 55 cases for the entire year of 2006. Of the 64 cases in the beginning of 2008, only one child had been vaccinated (1). Since many parents today have never witnessed many of the illnesses we are trying to prevent, it is impossible for

them to understand the necessity of vaccines. Without immunizations, 14,000 children would be infected and 33,000 would die yearly from preventable diseases (1). Vaccinations not only protect the child that receives them but also those that can't receive them, such as newborns and cancer patients. The higher the immunization rate in a community the less likely a pathogen will penetrate the group and find these susceptible people. So, vaccinating your children offers protection to them and the community at large.

1. Park, Alive. "How Safe Are Vaccines?" Time; 2008;36-41.
2. Vaccine Education Center at the Children's Hospital of Philadelphia.
www.chop.edu