

# Talking to Parents About Autism

The debate surrounding the link between vaccines and autism consistently has gained national media attention. Because of this publicity, you may have more parents questioning the need to vaccinate their child. To help prepare you for this discussion, the following information can help dispel parents' fears.

## Autism on the Rise

Autism is not one specific disease. Rather, it is a collection of brain-development disorders, called autism spectrum disorders (ASDs). Studies do indicate autism is on the rise. Several reasons can be attributed:

1. Improved awareness of ASD by physicians results in earlier and more diagnoses.
2. More behaviors and disorders are included under the ASD umbrella, such as Asperger syndrome and autistic disorder.
3. Genetics plays a role in at least a small percentage of cases. In one study, researchers discovered that when one identical twin had autism, the other had a 90 percent chance of having autism. For fraternal twins, the chance was less than 10 percent.
4. Environmental factors also seem to play a role.

A study released in April 2008 by The University of Texas Health Science Center at San Antonio and Our Lady of the Lake University demonstrated a possible link between autism rates and the proximity to industrial sources of mercury, such as coal-fired power plants and municipal and medical waste incinerators.

TMA in May 2008 adopted a consensus statement on methylmercury and public health. This statement calls for regulations to reduce industrial mercury emissions, comprehensive consumption guidelines for mercury in fish and seafood, and international cooperation to address mercury sources.

Additional research is underway to identify what causes ASD and improve efforts for prevention, diagnosis, and treatment. The Centers for Disease Control and Prevention (CDC) recognizes autism is an urgent health concern and supports research to understand the growth of ASDs, improve early detection and diagnosis, and advance research to discover causes and effective treatments.

## Mitochondrial Disease

In 2008, the federal Vaccine Injury Compensation Program awarded compensation for a child with a mitochondrial disorder or mitochondrial disease, saying the underlying disorder was aggravated by the vaccines she received as a toddler and resulted in brain dysfunction and "features of autism spectrum disorder." This case raises questions about environmental triggers that bring on or worsen autism-like symptoms in children with such disorders.

*"The scientific evidence is overwhelming to show that vaccines do not cause autism."*

— Ari Brown, MD, Austin, pediatrician and adviser for TMA's *Be Wise — Immunize*

The CDC calls this a unique case that should not be the basis for changing vaccination recommendations for children.

Even the United Mitochondrial Disease Foundation (UMDF) stated: "There are no scientific studies documenting that childhood vaccinations cause mitochondrial disease or worsen mitochondrial disease symptoms. In the absence of scientific evidence, the UMDF cannot confirm any association between mitochondrial diseases and vaccines."

## No Direct Link of Autism to Vaccines

Because signs of autism may appear around the same time a child receives the measles, mumps, rubella (MMR) vaccine, some parents believe the MMR vaccine causes autism. No scientific evidence supports a direct link. Several studies, mentioned below, have dispelled and fueled the myth.

A study of autistic children published in February 1998 issue of *The Lancet* raised the question of a connection between MMR vaccine and autism. The study, however, was flawed and later retracted.

The researchers used a study group of only 12 children, which is too small to be statistically or scientifically significant. Intense media coverage followed and parents, particularly in the United Kingdom, began to refuse the MMR vaccination for their children. In 2004, the study was retracted by 10 of the 13 authors, who themselves stated the data did not show a causal link between MMR vaccine and autism.

Another study in the United Kingdom, which included nearly 500 children, found no connection between the MMR vaccine and autism in children. The researchers found the percentage of children with autism who received the vaccine was the same as the percentage of unaffected children who received it. This study of children with autism, born between 1979 and 1998, also found no difference in the age of diagnosis of autism in vaccinated and unvaccinated children.

A 2004 study by the National Academy of Science's Institute of Medicine concluded no association between autism and MMR vaccine, or vaccines that contain thimerosal as a preservative.



## Thimerosal No Longer Used

Thimerosal is an inorganic mercury compound that has been used as a preservative (to help prevent contamination) in vaccines and other products since the 1930s. During the 1990s, much concern arose about the neurotoxicity of even small amounts of organomercurials and their inclusion in the growing number of childhood vaccines.

In 1999, as a precautionary measure, vaccine manufacturers, the American Academy of Pediatrics, and the U.S. Public Health Service agencies agreed thimerosal should be removed from vaccines because of the risk of adverse effects from mercury exposure. However, scientific evidence could only support minor reactions, such as redness and swelling at the injection site.

Since 2001, with the exception of some influenza vaccines, thimerosal has not been used routinely as a preservative in children's vaccines.

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