



## Battle of the Experts

### Student Handout #5: **Measles, Mumps and Rubella (MMR) Vaccine and Autism Fact Sheet**

by the Centers for Disease Control and Prevention (CDC)

#### **Basic Information**

- The MMR vaccine protects children against dangerous, even deadly, diseases.
- Because signs of autism may appear at around the same time children receive the MMR vaccine, some parents may worry that the vaccine causes autism.
- Carefully performed scientific studies have found no relationship between MMR vaccine and autism.
- CDC continues to recommend two doses of MMR vaccine for all children.

#### **Additional Facts**

- MMR is a combination vaccine that protects children from measles, mumps, and rubella (also known as German measles). The first dose of the vaccine is usually given to children 12 to 15 months old. The second dose is usually given between 4 and 6 years of age.
- In 1998, a study of autistic children raised the question of a connection between MMR vaccine and autism.
- The 1998 study has a number of limitations. For example, the study was very small, involving only 12 children. This is too few cases to make any generalizations about the causes of autism. In addition, the researchers suggested that MMR vaccination caused bowel problems in the children, which then led to autism. However, in some of the children studied, symptoms of autism appeared before symptoms of bowel disease.
- In 2004, 10 of the 13 authors of the 1998 study retracted the study's interpretation. The authors stated that the data were not able to establish a causal link between MMR vaccine and autism.

- Other larger studies have found no relationship between MMR vaccine and autism. For example, researchers in the UK studied the records of 498 children with autism born between 1979 and 1998. They found:
  - The percentage of children with autism who received MMR vaccine was the same as the percentage of unaffected children in the region who received MMR vaccine.
  - There was no difference in the age of diagnosis of autism in vaccinated and unvaccinated children.
  - The onset of "regressive" symptoms of autism did not occur within 2, 4, or 6 months of receiving the MMR vaccine.
- Groups of experts, including the American Academy of Pediatrics, agree that MMR vaccine is not responsible for recent increases in the number of children with autism. In 2004, a report by the Institute of Medicine (IOM) concluded that there is no association between autism and MMR vaccine, or vaccines that contain thimerosal as a preservative.
- There is no published scientific evidence showing that there is any benefit to separating the combination MMR vaccine into three individual shots.

Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention

[http://www.cdc.gov/od/science/iso/concerns/mmr\\_autism\\_factsheet.htm](http://www.cdc.gov/od/science/iso/concerns/mmr_autism_factsheet.htm)

**About the author:**

The Centers for Disease Control and Prevention (CDC) is recognized as the lead federal agency for protecting the health and safety of people – at home and abroad, providing credible information to enhance health decisions. CDC's mission is to promote health and quality of life by preventing and controlling disease, injury and disability.

One of CDC's strengths that allows for the accomplishment of this mission is the development of prevention strategies that are based on sound scientific knowledge. Excellence in science is a strategic imperative at CDC. This imperative mandates that we practice evidence-based science grounded in sound peer-reviewed research and that we assure a strong science base for public health action.