Examine the evidence!

There is no scientific evidence that MMR vaccine causes autism. The question about a possible link between MMR vaccine and autism has been extensively reviewed by independent groups of experts in the United States, including the National Academy of Sciences’ Institute of Medicine (now renamed the National Academy of Medicine). These reviews have concluded that the available epidemiologic evidence does not support a causal link between MMR vaccine and autism.

The suggestion that MMR vaccine might lead to autism had its origins in gastroenterology research by Andrew Wakefield in the United Kingdom. In 1998, Wakefield and colleagues published an article in The Lancet claiming that the measles vaccine virus in MMR caused inflammatory bowel disease, allowing harmful proteins to enter the bloodstream and damage the brain.

The validity of this finding was later called into question when it could not be reproduced by other researchers. In addition, the findings were further discredited when an investigation found that Wakefield did not disclose he was being funded for his research by lawyers seeking evidence to use against vaccine manufacturers. As a result, Wakefield was permanently barred from practicing medicine in the United Kingdom and The Lancet retracted the original article in 2010.


More than 25 articles refute a connection between MMR vaccine and the development of autism

1. Measles, Mumps, Rubella Vaccination and Autism – A Nationwide Cohort Study. Hviid A et al. Ann Intern Med 2019; 170(8):513–520. This nationwide cohort study included all 657,461 children born 1/1999–12/2010 in Denmark. With this many study participants, the researchers were able to look at vaccinated vs not vaccinated children, including 6,517 children with a diagnosis of autism.

CONCLUSION: The findings strongly support that MMR vaccination does not increase the risk for autism, does not trigger autism in susceptible children, and is not associated with clustering of autism cases after vaccination.

LINK: www.ncbi.nlm.nih.gov/pubmed/30831578


CONCLUSION: No convincing evidence was found in this study that MMR vaccination and increasing thimerosal dose were associated with an increased risk of ASD onset.

LINK: www.ncbi.nlm.nih.gov/pubmed/25562790

3. Autism Occurrence by MMR Vaccine Status among US Children with Older Siblings with and without Autism. Jain A et al. JAMA 2015;313(15):1534-40. The objective of this study was to investigate Autism Spectrum Disorder (ASD) occurrence by MMR vaccine status in a large sample of US children who have older siblings with and without ASD.

CONCLUSION: In this large sample of privately insured children with older siblings, receipt of the MMR vaccine was not associated with increased risk of ASD, regardless of whether older siblings had ASD. These findings indicate no harmful association between MMR vaccine receipt and ASD even among children already at higher risk for ASD.

LINK: www.ncbi.nlm.nih.gov/pubmed/25898051


CONCLUSION: Vaccination is not associated with the development of autism or autism spectrum disorder (ASD). Furthermore, the components of the vaccines (thimerosal or mercury) or multiple vaccines (MMR) are not associated with the development of autism or ASD.

LINK: www.ncbi.nlm.nih.gov/pubmed/24814559

The following list of articles published in peer-reviewed journals is provided so that parents and practitioners can themselves compare the balance of evidence about MMR vaccine and autism.

CONTINUED ON THE NEXT PAGE

**CONCLUSION:** Evidence favors rejection of five vaccine-adverse event relationships, including MMR vaccine and autism. Overall, the committee concludes that few health problems are caused by or clearly associated with vaccines.


6. **Lack of Association Between Measles-Mumps-Rubella Vaccination and Autism in Children: A Case-Control Study.** Mrozek-Budzyn D et al. Pediatr Infect Dis J. 2010;29(5):397-400. The 96 cases with childhood or atypical autism, aged 2 to 15, were included in the study group. Controls consisted of 192 children individually matched to cases by year of birth, sex, and general practitioners.

**CONCLUSION:** The study provides evidence against the association of autism with either MMR or a single measles vaccine.


7. **Measles Vaccination and Antibody Response in Autism Spectrum Disorders.** Baird G et al. *Arch Dis Child* 2008; 93(10):832-7. Subjects: 98 vaccinated children aged 10-12 years in the UK with autism spectrum disorder (ASD); two control groups of similar age: 52 children with special educational needs but no ASD and 90 children in the typically developing group.

**CONCLUSION:** No association between measles vaccination and ASD was shown.


**CONCLUSION:** This study provides strong evidence against association of autism with persistent MV RNA in the GI tract or MMR exposure.


**CONCLUSION:** Our literature review found very few studies supporting this theory, with the overwhelming majority showing no causal association between the Measles-Mumps-Rubella vaccine and autism.


10. **MMR Vaccine Does Not Cause Autism**


**CONCLUSION:** There is no evidence of measles virus persistence in the peripheral blood mononuclear cells of children with autism spectrum disorder.


**CONCLUSIONS:** During the period of MMR usage no significant difference was found in the incidence of regression between MMR-vaccinated children and non-vaccinated children. Among the proportion and incidence of regression across the three MMR-program-related periods (before, during and after MMR usage), no significant difference was found between those who had received MMR and those who had not. Moreover, the incidence of regression did not change significantly across the three periods.


**CONCLUSION:** There was no evidence that onset of autistic symptoms or of regression was related to measles-mumps-rubella vaccinations.


**CONCLUSION:** Based upon the current literature, it appears that there is no relationship between MMR vaccination and the development of autism.


**CONCLUSION:** The committee concludes that the body of epidemiological evidence favors rejection of a causal relationship between the MMR vaccine and autism.

**LINK:** [www.nap.edu/openbook.php?isbn=030909237X](http://www.nap.edu/openbook.php?isbn=030909237X)
17. **MMR Vaccination and Pervasive Developmental Disorders:**  
**CONCLUSION:** Our findings suggest that MMR vaccination is not associated with an increased risk of pervasive developmental disorders.  

18. **Age at First Measles-Mumps-Rubella Vaccination in Children with Autism and School-Matched Control Subjects:**  
**CONCLUSIONS:** Similar proportions of case and control children were vaccinated by the recommended age or shortly after (ie, before 18 months) and before the age by which atypical development is usually recognized in children with autism (ie, 24 months). Vaccination before 36 months was more common among case children than control children, especially among children 3 to 5 years of age, likely reflecting immunization requirements for enrollment in early intervention programs.  

**CONCLUSIONS:** The prevalence of autism, which was apparently rising from 1979 to 1992, reached a plateau from 1992 to 1996 at a rate of some 2.6 per 1000 live births. This levelling off, together with the reducing age at diagnosis, suggests that the earlier recorded rise in prevalence was not a real increase but was likely due to factors such as increased recognition, a greater willingness on the part of educationists and families to accept the diagnostic label, and better recording systems. The proportion of parents attributing their child's autism to MMR appears to have increased since August 1997.  

20. **A Population-Based Study of Measles, Mumps, and Rubella Vaccination and Autistic Spectrum Disorder:**  
**CONCLUSIONS:** This study provides strong evidence against the hypothesis that MMR vaccination causes autism.  

21. **Neurologic Disorders after Measles-Mumps-Rubella Vaccination.**  
**CONCLUSIONS:** We did not identify any association between MMR vaccination and encephalitis, aseptic meningitis, or autism.  

22. **Relation of Childhood Gastrointestinal Disorders to Autism:**  
**CONCLUSIONS:** No evidence was found that children with autism were more likely than children without autism to have had defined gastrointestinal disorders at any time before their diagnosis of autism.  

23. **Measles, Mumps, and Rubella Vaccination and Bowel Problems or Developmental Regression in Children with Autism:**  
**CONCLUSIONS:** These findings provide no support for an MMR associated “new variant” form of autism with developmental regression and bowel problems, and further evidence against involvement of MMR vaccine in the initiation of autism.  

**CONCLUSIONS:** No evidence was found to support a distinct syndrome of MMR-induced autism or of “autistic enterocolitis.” These results add to the recent accumulation of large-scale epidemiologic studies that all failed to support an association between MMR and autism at population level. When combined, the current findings do not argue for changes in current immunization programs and recommendations.  

**CONCLUSIONS:** These data do not suggest an association between MMR immunization among young children and an increase in autism occurrence.  

**CONCLUSIONS:** Because the incidence of autism among 2 to 5 year olds increased markedly among boys born in each year separately from 1988 to 1993 while MMR vaccine coverage was over 95% for successive annual birth cohorts, the data provide evidence that no correlation exists between the prevalence of MMR vaccination and the rapid increase in the risk of autism over time. The explanation for the marked increase in risk of the diagnosis of autism in the past decade remains uncertain.  

**CONCLUSION:** Our analyses do not support a causal association between MMR vaccine and autism. If such an association occurs, it is so rare that it could not be identified in this large regional sample.  