



Immunization Action Coalition

Publisher of immunization information

- Needle Tips
- Vaccinate Adults
- Vaccinate Women
- IAC Express
- Hep Express
- VISs

Does MMR vaccine cause autism? Examine the evidence.

Studies that suggest a connection between MMR vaccine and autism (3 studies)

Potential Viral Pathogenic Mechanism for a New Variant Inflammatory Bowel Disease

Authors: Uhlmann V, Martin CM, Sheils O, et al.
Source: Molecular Pathology, April 2002, Vol. 55(2):84-90
NUMBER OF SUBJECTS: 91 patients, 70 controls
Click [here](#) for PubMed abstract

CONCLUSION: "The data confirm an association between the presence of measles virus and gut pathology in children with developmental disorder."

Limitations of this study are discussed in a [letter](#) written by Walter Orenstein, MD, Director of CDC's National Immunization Program

Ileal-Lymphoid-Nodular Hyperplasia, Non-Specific Colitis, and Pervasive Developmental Disorder in Children

Authors: Wakefield AJ, Murch SH, Anthony A, et al.
Source: Lancet, February 28, 1998, Vol. 351(9103):637-641
NUMBER OF SUBJECTS: 12 patients with chronic enterocolitis and regressive developmental disorder
Click [here](#) for PubMed abstract

CONCLUSION: "We identified associated gastrointestinal disease and developmental regression in a group of previously normal children, which was generally associated with possible environmental factors."

Limitations of this study are discussed in many places, including an article titled [Vaccines and Autism](#) by Paul Offit, MD and [CDC's vaccine safety concern web page](#).

"A Statement by the Editors of the Lancet," February 23, 2004, regarding this paper and an undisclosed potential conflict of interest.
<http://image.thelancet.com/extras/statement20Feb2004web.pdf>

"Retraction of an Interpretation"

Source: The Lancet, March 6, 2004
Go to <http://www.thelancet.com> You must register (no charge) to access this article.

"The Lessons of MMR"

Source: The Lancet, March 6, 2004
Go to <http://www.thelancet.com> You must register (no charge) to access this article.

Studies that refute a connection between MMR vaccine and the development of autism (16 studies)

Age at First Measles-Mumps-Rubella Vaccination in Children with Autism and School-Matched Control Subjects: A Population-Based Study in Metropolitan Atlanta

Authors: DeStefano F, Bhasin TK, Thompson WW, Yeargin-Allsopp M, Boyle C
Source: Pediatrics, February 2004, Vol. 113(2):259-266
NUMBER OF SUBJECTS: 624 children with autism and 1,824 controls matched on age, gender, and school.
Click [here](#) for abstract

CONCLUSION: Similar proportions of case and control children were vaccinated by the recommended age or shortly after (i.e., before 18 months) and before the age by which atypical development is usually recognized in children with autism (i.e., 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.

Prevalence of Autism and Parentally Reported Triggers in a North East London Population

Authors: Lingam R, Simmons A, Andrews N, et al
Source: Archives of Disease in Childhood, August 2003, Vol. 88(8):666-670
NUMBER OF SUBJECTS: 567 children with autistic spectrum disorder
Click [here](#) for PubMed abstract

CONCLUSION: "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 leveling off, together with the reducing age at diagnosis, suggests that the earlier 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 educationalists 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."

Evidence of Persistent Measles Virus Infection in Crohn's Disease

Authors: Wakefield AJ, Pittilo RM, Sin R, et al.
Source: Journal of Medical Virology, April 1993, Vol. 39(4):345-353
Click [here](#) for PubMed abstract

CONCLUSION: "These observations suggest that measles virus is capable of causing persistent infection of the intestine and that Chron's disease may be caused by a granulomatous vasculitis in response to this virus."

The validity of this finding has been called into question when it could not be reproduced by other researchers (Nielsen et al., Jones et al., Feeney et al., Hermon-Taylor, Liu et al., Haga, Iizuka, Afzal).

Neurologic Disorders after Measles-Mumps-Rubella Vaccination

Authors: Makela A, Nuorti JP, Peltola H
Source: Pediatrics, November 2002, Vol. 110:957-963
NUMBER OF SUBJECTS: 535,544 children who were vaccinated between November 1982 and June 1986 in Finland.
Click [here](#) for abstract

CONCLUSION: "We did not identify any association between MMR vaccination and encephalitis, aseptic meningitis, or autism."

A Population-Based Study of Measles, Mumps, and Rubella Vaccination and Autism

Authors: Madsen KM, Hviid A, Vestergaard M, et al.
Source: New England Journal of Medicine, November 7, 2002, Vol. 347(19):1477-1482
NUMBER OF SUBJECTS: 537,303 (all children born in Denmark from January 1991 through December 1998)
Click [here](#) for abstract

CONCLUSION: "This study provides strong evidence against the hypothesis that MMR vaccination causes autism."

Relation of Childhood Gastrointestinal Disorders to Autism: Nested Case-Control Study Using Data from the UK General Practice Research Database

Authors: Black C, Kaye JA, Jick H
Source: British Medical Journal, August 2002, Vol. 325:419-421
NUMBER OF SUBJECTS: 96 cases (children diagnosed with autism) and 449 controls
Click [here](#) for abstract

CONCLUSION: "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."

Measles, Mumps, and Rubella Vaccination and Bowel Problems or Developmental Regression in Children with Autism: Population Study

Authors: Taylor B, Miller E, Lingam R, Andrews N, Simmons A, Stowe J
Source: British Medical Journal, February 16, 2002, Vol. 324(7334):393-6
NUMBER OF SUBJECTS: 278 children with core autism and 195 with atypical autism
Click [here](#) for abstract

CONCLUSION: "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."

No Evidence for a New Variant of Measles-Mumps-Rubella-Induced Autism

Authors: Fombonne E, Chakrabarti S
Source: Pediatrics, October 2001, Vol. 108(4):E58
NUMBER OF SUBJECTS: 262 autistic patients (pre- and post-MMR samples)
Click [here](#) for abstract.

CONCLUSION: "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."

Measles-Mumps-Rubella and Other Measles-Containing Vaccines Do Not Increase the Risk for Inflammatory Bowel Disease: A Case-Control Study from the Vaccine Safety Datalink Project

Authors: Davis RL, Kramarz P, Bohlke K, et al
Source: Archives of Pediatric and Adolescent Medicine, March 2001, Vol. 155(3):354-9
NUMBER OF SUBJECTS: 155 persons with IBD with up to 5 controls each
Click [here](#) for PubMed abstract.

CONCLUSION: "Vaccination with MMR or other MCV, or the timing of vaccination early in life, did not increase the risk for IBD."

Time Trends in Autism and in MMR Immunization Coverage in California

Authors: Dales L, Hammer SJ, Smith NJ
Source: JAMA, March 7, 2001, Vol. 285(9):1183-5
NUMBER OF SUBJECTS: Survey samples of 600-1900 children each year from 1980-1994
Click [here](#) for abstract

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

Mumps, Measles, and Rubella Vaccine and the Incidence of Autism Recorded by General Practitioners: A Time Trend Analysis

Authors: Kaye JA, Melero-Montes M, Jick H
Source: British Medical Journal, February 24, 2001, Vol. 322:460-463
NUMBER OF SUBJECTS: 305 children with autism
Click [here](#) for abstract

CONCLUSION: "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 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."

Further Evidence of the Absence of Measles Virus Genome Sequence in Full Thickness Intestinal Specimens from Patients with Crohn's Disease

Authors: Afzal MA, Armitage E, Ghosh S, Williams LC, Minor PD

Source: Journal of Medical Virology, November 2000, Vol. 62(3):377-82

Click [here](#) for PubMed abstract

CONCLUSION: "None of the samples examined gave any evidence of the persistence of measles virus in the intestine of Chron's disease patients."

Autism and Measles, Mumps, and Rubella Vaccine: No Epidemiological Evidence for a Causal Association

Authors: Taylor B, Miller E, Farrington CP, Petropoulos MC, Favot-Mayaud I, Li J, Waight PA

Source: Lancet, June 12, 1999, Vol. 353(9169):2026-9

NUMBER OF SUBJECTS: 498 cases of autism (261 with core autism, 166 with atypical autism, and 71 with Asperger's syndrome)

Click [here](#) for PubMed abstract

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."

Absence of Detectable Measles Virus Genome Sequence in Inflammatory Bowel Disease Tissues and Peripheral Blood Lymphocytes

Authors: Afzal MA, Armitage E, Begley J, Bentley ML, Minor PD, Ghosh S, Ferguson A

Source: Journal of Medical Virology, July 1998, Vol. 55(3):243-9

NUMBER OF SUBJECTS: 93 colonoscopic biopsies and 31 peripheral blood lymphocyte preparations

Click [here](#) for PubMed abstract

CONCLUSION: "The level of measles RNA present, if any, in the biopsies is therefore at least 50,000-fold less than in SSPE."

No Evidence for Measles, Mumps, and Rubella Vaccine-Associated Inflammatory Bowel Disease or Autism in a 14-year Prospective Study

Authors: Peltola H, Patja A, Leinikki, Valle M, Davidkin I, Paunio M

Source: The Lancet, May 2, 1998, Vol. 351:1327-8

NUMBER OF SUBJECTS: 3,000,000 doses of MMR vaccine

Click [here](#) for abstract

CONCLUSION: "Over a decade's effort to detect all severe events associated with MMR vaccine could find no data supporting the hypothesis that it would cause pervasive developmental disorder or inflammatory bowel disease."

**Exposure to Measles in Utero and Crohn's Disease:
Danish Register Study**

Authors: Nielsen LLW, Nielsen NM, Melbye M, Sodermann M, Jacobsen M, Aaby P

Source: British Medical Journal, January 17, 1998, Vol. 316(7126):196-7

NUMBER OF SUBJECTS: 472 women with measles

Click [here](#) for abstract

CONCLUSION: "In conclusion, exposure to measles in utero does not seem to be strongly associated with the development of Chron's disease later in life."

**Immunocytochemical Evidence of Listeria,
Escherichia coli, and Streptococcus Antigens in
Crohn's Disease**

Authors: Liu Y, van Kruiningen HJ, West AB, Cartun RW, Cortot A, Colombel JF

Source: Gastroenterology, May 1995, Vol. 108(5):1396-1404

NUMBER OF SUBJECTS: 21

Click [here](#) for PubMed abstract

CONCLUSION: "The results suggest that Listeria spp., E. coli, and streptococci, but not measles virus, play a role in the pathogenesis of Crohn's disease."