



Vaccines and Autism: What Does the Research Tell Us?

Where did the idea come from?

In the 1990's, Andrew Wakefield and colleagues published a paper linking the MMR (measles, mumps, and rubella) vaccine to autism. However, the study only looked at 12 children. Additionally, after it was published, other researchers discovered that **the paper contained false data**. For example, the study stated that all of the children were developing typically before the vaccine when some already had delays. It also stated that some children showed symptoms days after the vaccine when records show the signs of autism started months later. Additionally, it was discovered that Wakefield had been paid by lawyers attempting to sue the vaccine manufacturer. Due to these findings, Wakefield lost his medical license and the journal retracted the paper. This means the journal no longer supported the study's conclusions.

What does the research tell us?

The possibility of the link between vaccines and autism has been extensively studied. The scientific evidence overwhelming shows **no connection between vaccines and autism** or any other neurodevelopment disorder. In 2014, a study was conducted that combined the results from many studies to get a clear picture of what all the data show. In total, the researchers analyzed data from over 1 million children! They found no relationship between vaccines and autism. A 2019 paper looked at over 600,000 more children. It concluded that MMR vaccination does not "trigger autism" in children already at risk, such as those with a family history. In other words, vaccines do not cause autism and vaccines do not increase the risk of autism.

What does cause autism?

There is **no single cause of autism**. Research does suggest that different genetic and environmental factors can increase the chance that a child will develop autism. Genetic factors include times when a certain gene runs in a family or when a gene changes on its own during development in the womb. Examples of environmental factors include complications that happen during pregnancy and birth, such as a child being born very premature or having a very low birth weight. None of these situations cause autism on their own. Researchers are still trying to understand how different factors interact to cause autism.



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What does this mean for my child and me?

Parents are the best advocates for their children. It is important to decide what is right for your individual child. It is also important to be knowledgeable about the latest scientific research so you can make informed decisions. Research tells us that vaccines are safe and effective ways to protect your child, and your community, from serious diseases.

Where can I learn more?

- The Center For Disease Control
 - Statement on vaccine safety
<https://www.cdc.gov/vaccinesafety/concerns/autism.html>
- The American Academy of Pediatrics
 - Summary of vaccine research
https://www.aap.org/en-us/Documents/immunization_vaccine_studies.pdf
- Scientific journals
 - Taylor, L.E., Swerdfeger, A.L., & Eslick, G.D. (2014). Vaccines are not associated with autism: An evidence-based meta-analysis of case-control and cohort studies, *Vaccine*. doi: 10.1016/j.vaccine.2014.04.085
 - Hviid, A., Hansen, J.V., Frisch, M., & Melbye, M. (2019). Measles, mumps, rubella vaccination and autism: A nationwide cohort study. *Annals of Internal Medicine*. doi: 10.7326/M18-2101
- Reputable websites by medical professionals
 - An MD's challenge of common concerns
<http://www.howardisms.com/evidence-based-medicine/should-i-vaccinate-my-child/>
 - History of vaccines by a physician's organization
<https://www.historyofvaccines.org/content/articles/do-vaccines-cause-autism>