



What about autism?

Many large studies have found vaccines do not cause autism



How do we know?

A number of high-quality studies have compared the health of large numbers of vaccinated and unvaccinated children over many years. One of the largest studies, which included 657,461 children born in Denmark, found that unvaccinated children were just as likely to develop autism as vaccinated children.

When the results of several studies were combined to include medical information from nearly 1.5 million children living all around the world, researchers were able to confirm that vaccination could not be causing autism.



Then, what causes autism?

It is not known exactly why some children develop autism.

The idea that vaccination caused autism was attractive to some people who wanted to find a clear cause. However, this idea arose from a few studies that were badly conducted and have since been proven wrong.

Current research suggests that autism cannot be explained by a single cause, but is probably due to a combination of developmental, genetic and environmental factors.



So, where did the misunderstanding come from?

Some people think there is a connection because a British research group, led by

discredited researcher Andrew Wakefield, suggested that some children who had received measles-mumps-rubella (MMR) vaccine went on to develop bowel disease and developmental disorders such as autism. The results of the research were published in a respected medical journal (*The Lancet*) in 1998.

However, concerns about the paper were soon raised and the research discredited because the results were based on a very small group of only 12 children and the data were found to be falsified and misleading. Wakefield had also failed to disclose 2 serious conflicts of interest.

In 2004, 10 of the original 12 co-authors retracted their claim that there was any association between vaccination and autism. *The Lancet* journal also published a retraction and apology after the General Medical Council found results reported in the paper had 'proven to be false'.



What about thiomersal and aluminium?

After it became clear that the MMR vaccine did not cause autism, some people suggested a preservative sometimes used in vaccines packaged in multi-dose containers might be linked to autism. This preservative, called thiomersal, is a salt that contains a tiny amount of mercury. The mercury salt in thiomersal (ethylmercury) is not like the mercury compound (methylmercury) that can build up in the human body.

None of the vaccines normally given to children in Australia are packaged in multi-dose containers, so none of them contain thiomersal or any other form of mercury.



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Thiomersal is still used in some other parts of the world where single-dose packages are too expensive or costly to transport. However, thiomersal is still safe and effective as a preservative.

Several large studies have also compared the risk of autism in children who received vaccines containing thiomersal to those who received vaccines without thiomersal. The results of these studies demonstrate there is no causal relationship between vaccines that contain thiomersal and autism.

Some people suggested that the aluminium used in certain vaccines could cause autism. This idea is not supported by scientific evidence.

Aluminium salts are added to some vaccines to help the body build a stronger immune response. This means fewer needles are needed for a child to be fully protected against a disease. The amount of aluminium in vaccines is very small – much less than the amount people are naturally exposed to through food and water.

A long-term study that monitored over 1.2 million children over 24 years found no evidence to support a link between receiving an aluminium-containing vaccine and autism.

ABOUT US

This information sheet was developed by a group of researchers called the SKAI foundation team. It was written by Nina Chad PhD and Julie Leask PhD from the University of Sydney, Margie Danchin PhD from the University of Melbourne, Tom Snelling PhD from the Telethon Kids Institute, and Kristine Macartney MD and Melina Georgousakis PhD from NCIRS. SKAI is an NCIRS-led collaboration funded by the Australian Government Department of Health, Disability and Ageing.

FURTHER READING

skai.org.au

References used in the development of this resource can be seen at <https://skai.org.au/childhood/questions/what-about-autism>.

