

Understanding Aluminum in Vaccines

What is aluminum and why is it in some vaccines?

Aluminum is a common, naturally occurring element found in food, water, the environment and even within the human body. In some vaccines, small amounts of aluminum are used as an adjuvant – an ingredient that helps the body build a stronger immune response. If you think of the vaccine as a teacher, the aluminum adjuvant is like the teacher saying, “1, 2, 3, eyes on me!” It helps get the immune system’s attention so it can learn to recognize and fight the disease. This makes the vaccine more effective and often allows for longer-lasting protection with fewer doses. Aluminum adjuvants have been safely used in vaccines for over 70 years, helping protect millions of children from serious illnesses.



How much aluminum do vaccines contain?

The amount of aluminum in vaccines is very small, much less than the amount people are naturally exposed to every day through food, water or the environment. For example, a baby gets about 10 to 40 milligrams of aluminum from breastmilk or formula in their first six months of life. By comparison, vaccines contain 0.2 to 0.8 milligrams of aluminum per dose. The body naturally removes aluminum in vaccines through the kidneys, just as it does with aluminum from food, water or other sources.

Is aluminum safe?

Aluminum is one of the most carefully studied ingredients in vaccine history. Many large studies have shown that the small amounts used in vaccines are safe and help vaccines work effectively. The tiny amount of aluminum in vaccines is just a fraction of what babies naturally encounter in their daily diet and life – and far below harmful levels.

Which vaccines have aluminum?

Common vaccines that contain aluminum include diphtheria-tetanus-acellular pertussis (DTaP), hepatitis A (HepA), hepatitis B (HepB), human papillomavirus (HPV), tetanus-diphtheria-acellular pertussis (Tdap) and meningococcal B (MenB), as well as certain pneumococcal conjugate (PCV) and Haemophilus influenzae type b (Hib) vaccines. Aluminum is also present in combination vaccines that include one of these vaccines. Whether or not a vaccine contains aluminum, every vaccine is carefully tested and reviewed for safety before approved for use.

What should parents remember regarding aluminum in vaccines?

Aluminum is the most abundant metal found in our environment. The amount found in vaccines is much less than what we are naturally exposed to through the water we drink, the food we eat and the air we breathe. Aluminum helps vaccines work more effectively and provide longer-lasting protection, often meaning children need fewer doses.

If you have any questions or concerns about aluminum in vaccines, please talk to your child’s pediatrician.