



Immunizations: What You Need to Know

Vaccines (immunizations) keep children healthy. Vaccines are safe. Vaccines are effective. Vaccines save lives.

However, parents may still have questions about why vaccines are needed, and some parents may be concerned about vaccine safety because they have been misinformed.

Read on for answers from the American Academy of Pediatrics (AAP) to some common questions parents have about vaccines. The AAP is a source you can trust for reliable medical information.

Q: What vaccines does my child need?

A: Children need all the following vaccines to stay healthy:

- **Hepatitis A and hepatitis B vaccines** to help protect against serious liver diseases.
- **Rotavirus vaccine** to help protect against the most common cause of diarrhea and vomiting in infants and young children. Rotavirus is the most common cause of hospitalizations in young infants due to vomiting, diarrhea, and dehydration.
- **DTaP and Tdap vaccines** to help protect against diphtheria, tetanus (lockjaw), and pertussis (whooping cough).
- **Hib vaccine** to help protect against *Haemophilus influenzae* type b (a cause of spinal meningitis and other serious infections).
- **Pneumococcal vaccine** to help protect against bacterial meningitis, pneumonia, and infections of the blood.
- **Polio vaccine** to help protect against a crippling viral disease that can cause paralysis.
- **Influenza vaccine** to help protect against influenza (flu), a potentially fatal disease. This vaccine is recommended for all people beginning at 6 months and older.
- **MMR vaccine** to help protect against measles, mumps, and rubella (German measles), all highly contagious and potentially very serious diseases.
- **Varicella vaccine** to help protect against chickenpox and its many complications, including flesh-eating strep, staph toxic shock, and encephalitis (an inflammation of the brain).
- **Meningococcal vaccine** to help protect against very serious bacterial diseases that affect the blood, brain, and spinal cord.
- **HPV (human papillomavirus) vaccine** to prevent cancers of the mouth and throat, cervix, and genitals.

Remember, vaccines prevent diseases and save lives. It's important to follow the schedule recommended by the AAP. Contact your child's doctor if you have any questions.

Q: Why are some of these vaccines still needed if the diseases are not as common anymore?

A: Many of these diseases are not as common as they once were because of vaccines. However, the bacteria and viruses that cause them still exist and can still make children very sick.

For example, before the Hib vaccine was developed in the 1980s, there were about 20,000 cases of Hib disease in the United States a year. Today there are fewer than 100 cases a year. However, the bacteria that causes Hib disease still exists. That is why children still need the vaccine to be protected.

In the United States, vaccines protect children from many diseases. However, in many parts of the world vaccine-preventable diseases are still common. Because diseases may be brought into the United States by Americans who travel abroad or by people visiting areas with current disease outbreaks, it's important that your child is vaccinated.

Q: Chickenpox is not a fatal disease, so why is the vaccine needed?

A: Chickenpox is usually mild. However, there can be serious complications. In fact, before the vaccine was licensed in 1995, there were about 4 million cases, 11,000 hospitalizations, and 100 deaths each year from chickenpox. Chickenpox is also very contagious. Most children feel miserable and miss 1 week or more of school when infected. It is because of the vaccine that the number of cases of chickenpox and its complications, including deaths, have gone down so dramatically.

Q: Does my baby need immunizations if I am breastfeeding?

A: Yes. While breastfeeding gives some protection against many diseases (and is the best nutrition for your baby), it is not a substitute for vaccines. In fact, breastfeeding and vaccines work well together. Studies show that breastfed babies respond better to vaccines and get better protection from them than babies who are not breastfed. And breastfeeding during or right after immunizations may help calm babies upset by the shots.

Q: Do vaccines even work? It seems like most of the people who get these diseases have been vaccinated.

A: Yes. Vaccines work very well. Millions of children have been protected against serious illnesses because they were immunized. Most childhood vaccines are 90% to 99% effective in preventing disease. Children who aren't vaccinated are much more likely to get a disease if they are exposed to it. And if a vaccinated child does get the disease, the symptoms are usually milder with fewer complications than in a child who hasn't been vaccinated.

Q: When should my child get immunized?

A: Children should get most of their shots during their first 2 years of life. This is because many of these diseases are the most severe in the very young. Most newborns receive their first shot (hepatitis B) at birth before leaving the hospital, and more are given at well-child checkups in the first 6 months of life. Other shots are given before children go to school. Older children and teens need vaccines to continue to protect them throughout adolescence and early adulthood. (Parents and caregivers also need vaccines so that they can prevent bringing infections home to their children and to keep themselves healthy so that they can care for their children!)

Children who are not immunized or who are behind on their shots are at risk of getting many of these diseases. They can also spread these diseases to others who have not yet been immunized. Ask your child's doctor if your child is up-to-date. Keep track of the vaccines each child receives and bring this information to each doctor visit.

Q: What side effects will my child have after getting a vaccine? Are they serious?

A: There may be mild side effects, such as swelling, redness, and tenderness where the shot was given, but they do not last long. Your child may also have a slight fever and be fussy for a short time afterward. Your doctor may suggest giving your child pain medicine to help relieve discomfort. It is very rare for side effects to be serious. However, you should call your child's doctor if you have any concerns after vaccines are given.

Q: Should some children not be immunized?

A: Children with certain health problems may need to avoid some vaccines or get them later. In most cases, children with cancer, those taking oral or injected steroids for lung or kidney conditions, or those who have problems with their immune systems should not get vaccines that are made with live viruses. To protect these children, it is very important for others to be vaccinated. On the other hand, a child with a minor illness, such as low-grade fever, an ear infection, cough, a runny nose, or mild diarrhea, can safely be immunized.

Q: Does the MMR vaccine cause autism?

A: No! The MMR vaccine does not cause autism spectrum disorder (ASD). Many research studies have been done to address this issue. There may be confusion because children with ASD are often diagnosed between 18 and 30 months of age—around the same time the MMR vaccine is given. This has led some people to assume that the vaccine is the cause. Increasing evidence shows that even though the symptoms of ASD may not be visible until the second year of life or later, ASD starts before a baby is born.

Q: Do vaccines cause SIDS?

A: No! Babies get many of their first vaccines between 2 and 4 months of age. This is also the peak age for sudden infant death syndrome (SIDS), which is why some people feel they might be related. However, careful scientific studies have confirmed that vaccinations not only do not cause SIDS but may help prevent it.

Q: How do we know vaccines are safe?

A: The safety and effectiveness of vaccines are under constant study. Because vaccines are designed to be given routinely during well-child care visits, they must be safe. Safety testing begins as soon as a new vaccine is considered, continues until it is approved by the US Food and Drug Administration (FDA), and is monitored indefinitely after licensure. The AAP works closely with the Centers for Disease Control and Prevention (CDC) to make recommendations for vaccine use.

Q: What is thimerosal and does it cause neurologic problems?

A: In the 1930s a preservative called thimerosal was added to vaccines to prevent contamination of vaccines. Thimerosal contains very small amounts of mercury, but it is in a different form than the potentially harmful mercury we are all exposed to in the environment. Even after many studies, the type of mercury in thimerosal has never been shown to cause health problems other than rare allergic reactions in some people. Thimerosal does not cause neurologic problems. Since 2001 all vaccines for infants either are thimerosal-free or contain only trace amounts of the preservative. Many are available in single-dose, preservative-free forms.

Q: Is it safe to give more than one vaccine at a time?

A: Yes! Your child's immune system is capable of handling multiple vaccines. Many years of experience and careful research have shown that routine childhood vaccines can be given together safely and effectively. Side effects are not increased when vaccines are given together.

Q: Where can I find more information?

A: Be sure your information comes from reliable and accurate sources. You cannot trust everything you find on the Internet. Credible sources include

American Academy of Pediatrics

www.HealthyChildren.org

CDC-INFO Contact Center (English and Spanish)

800/232-4636 (800/CDC-INFO)

CDC Vaccines & Immunizations

www.cdc.gov/vaccines

Children's Hospital of Philadelphia Vaccine Education Center

www.chop.edu/centers-programs/vaccine-education-center

Immunization Action Coalition

www.immunize.org

Infectious Diseases Society of America

www.idsociety.org

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