

Vaccine Safety:

10 Facts for Medical Assistants



One of the most important ways that you keep children healthy is by giving them vaccines. Some parents have questions about vaccines. They may worry about what is safe for their child. Doctors should always answer patients' medical questions—including worries about vaccines. But it's a good idea for you to know about the questions that parents may have. Doctors have reviewed this fact sheet. You can use it to better understand the scientific facts about vaccines.

1. Are vaccines safe?

Yes. Vaccines are safe. Millions of children and adults are vaccinated every year. However, any medicine can cause reactions in some people. The most common [side effects](#) are swelling or tenderness at the injection site and fever. Serious reactions are very rare, happening in 1-2 people out of a million shots given.

Many steps are taken to make sure that a vaccine is safe. After years of research, thousands of people volunteer to test it. Then, the [Food and Drug Administration \(FDA\)](#) decides if it's safe. If it is, they will license it. After that, the [Vaccine Adverse Events Reporting System](#) (VAERS) tracks any side effects that happen hours, days, weeks, or even months later. Anyone can report a possible side effect.

Scientists study VAERS reports carefully to help make sure that vaccines are safe.

2. Why do children today get so many immunizations?

To save lives! Today's vaccines protect us against more than 15 dangerous diseases. Who benefits most? Babies! Their tiny bodies may be too weak to fight off a serious disease. Vaccine-preventable diseases (like measles, chickenpox, mumps, whooping cough, and meningitis) can cause seizures, brain damage, blindness, and even death.

3. Are diseases of the "old days" really still something to worry about?

Yes! Diseases are still here, but are not as common, so most young parents haven't seen them. This is the success of immunization. But kids without their shots can still get very sick from diseases like [influenza](#), [whooping cough](#), and [chickenpox](#). Not too many kids get chickenpox these days. But before there was a vaccine, 11,000 Americans went to the hospital for chickenpox every year. Dangerous diseases like [meningitis](#), [measles](#), and [mumps](#) can spread quickly to other people. Some diseases are just a plane ride away. International travelers without all their shots can bring a disease back home and infect other people.

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4. What about holistic medicine or “natural immunity”?

Holistic medicines do not prevent the diseases that vaccines are made for. Before vaccines, [millions of children became ill](#) with whooping cough, measles, mumps and other diseases. Most vaccines prevent these illnesses over 99% of the time.

Some people believe getting a disease is a “natural” way to start the body’s defenses. If you get chickenpox once, you will not get it again, so you are “immune.” Vaccines work the same way. They give you immune protection—but not the disease. Natural immunity from the real disease can be dangerous. That’s because it means getting sick and maybe getting serious complications.

5. Is it safe for a child’s immune system to have multiple shots?

Yes. Children touch or breathe hundreds of viruses or bacteria (called antigens). This happens every day when eating and playing. Antigens make the immune system do its work. Vaccines use antigens very safely even in “live” vaccines, like MMR. That’s because vaccine antigens are weakened or killed, so they cannot hurt the immune system—even for babies. If a child has a weakened immune system (like from cancer or AIDS), ask the doctor before giving live vaccines. Vaccines are less dangerous than the germs children face every day.

What about “combination” vaccines (when a single shot protects against more than one disease)? Or getting several shots in one visit? Multiple shots are

safe. In fact, today’s vaccines use the latest science and need fewer antigens. So, even though kids get more vaccines, they get [fewer antigens](#) all together. It is not possible to overwhelm a healthy immune system with vaccines.

6. What about getting shots later, or more spread out?

Most doctors follow the [recommended immunization schedule](#). This is because skipping or delaying shots means a child could get sick before getting his shots. Getting only one shot per visit is not any safer, it just means more appointments and stress for the child. Young children and babies can get very sick from certain diseases. That’s why it’s important for babies to get shots and why most doctors use the standard schedule. If parents in your clinic ask about waiting longer or skipping shots, suggest that they talk to the doctor to make a safe decision.

7. Do vaccines cause autism?

No. Autism diagnoses are increasing around the world. Studies show that it happens to [the same number of](#) vaccinated and *unvaccinated* children. [No one knows yet](#) all of the causes of autism. But we do know that children get autism at about the same age they get their regular shots. This can make it seem like shots are related.

[Twenty-three studies](#) have tested hundreds of thousands of children and found no link between autism and vaccines. The American Medical Association, American Academy of Pediatrics, Institute on Medicine, and World Health Organization all agree that there is no connection between vaccines and autism.

8. Is a baby safe from vaccine-preventable diseases at home?

Not necessarily. Even the family home cannot guarantee that a new baby is safe from contagious disease. For example, babies can get very sick—even die—from whooping cough spread from the mom, a sibling, or even a babysitter. Parents and older children in the household should get a Tdap booster shot to protect the new baby. Babies can start getting DTaP vaccine at 6 weeks old.



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9. What about thimerosal (or mercury) in vaccines?

Thimerosal was removed from all child vaccines (except some flu shots) in 2001 as a precaution. Thimerosal is a preservative made with [ethylmercury](#), which is very different from the mercury found in some fish. Thimerosal prevents contamination of the vaccine bottle, and scientific studies show no link between thimerosal in vaccines and autism in children. [Recent research](#) shows that autism cases continue to go up even after thimerosal is gone from vaccines.

By [California law](#), children under age 3 and pregnant women cannot have vaccines with thimerosal. Some flu vaccines for adults or older children still use thimerosal. If parents are worried, you can ask the doctor if your clinic has “thimerosal-free” flu vaccine.

10. What about other vaccine ingredients?

[Vaccine ingredients](#) are safe for babies and young children. That’s because the ingredients are used in tiny amounts for very specific purposes.

- ▶ **Aluminum:** Aluminum in vaccines helps the body’s immune response to a disease. There is no reason to worry about aluminum in vaccines. Aluminum is in many foods and drinks like fruit and vegetables — even breast milk and infant formula. It’s also in antacids, antiperspirants, cooking pots, and soda cans. Babies get more aluminum from breast milk than they get from vaccines. Formula-fed babies get even more daily aluminum — especially from soy formulas.

- ▶ **Formaldehyde** prevents contamination of the vaccine bottle. It’s used in tiny amounts in some vaccines. It’s also in the environment and is a natural part of the body’s metabolism.
- ▶ **False claims:** Vaccines **do not** contain anti-freeze, chick embryos, or monkey kidneys. This is false information.

Make your research work for you

Be choosy about what you read.

We recommend these trusted sites:

American Academy of Pediatrics

www.aap.org/immunization

National Network for Immunization

www.immunizationinfo.org

Thimerosal FAQs

www.fda.gov/CBER/vaccine/thimerosal.htm

Do Vaccines Cause That? (Book)

www.i4ph.org

Evaluating Health Information on the Web

www.immunizationinfo.org/parents/evaluatingWeb.cfm

Parents of Kids with Infectious Diseases

www.pkids.org

The California Immunization Coalition (CIC) is a non-profit, public-private partnership dedicated to achieving and maintaining full immunization protection to promote health and prevent serious illness across the life span.

California Immunization Coalition

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