

# Vaccine Safety:

## 10 Facts for Parents



As a parent, you want to make the best decisions to protect your child. Being informed helps you talk with your doctor—and keep your family healthy. Your questions are important and you deserve reliable information to support your decisions. This fact sheet has been reviewed by medical experts. If you want to learn more, ask your doctor for a “consultation visit,” or check out the websites at the end.

### 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.

Thousands of people take part in clinical trials to test a vaccine before it is licensed by the [Food and Drug Administration \(FDA\)](#). After it's licensed, the [Vaccine Adverse Events Reporting System \(VAERS\)](#) helps track any health effect that happens hours, days, weeks, or even months later. Anyone can report a possible side-effect so that it can be studied. This [monitoring](#) helps ensure vaccines are safe.

### 2. Why do children today get so many immunizations?

To save lives. Advances in medical science have developed vaccines to protect us against more than 15 dangerous diseases. Only a few years ago vaccines prevented just a small handful of diseases. Who benefits most? Babies. Their bodies may be too weak to fight off a serious disease. Many vaccine-preventable diseases can have dangerous complications. These include seizures, brain damage, blindness, and even death.

### 3. Are diseases of the “old days” really still something to worry about?

Diseases do exist—though many young parents haven't seen them. This is the success of our country's immunization program. But people not vaccinated, especially children, are at risk for common illnesses like [influenza](#), [whooping cough](#), and [chicken pox](#). Did you know that before the chicken pox vaccine, almost 11,000 Americans had to go to the hospital, and over 100 died, each year from chicken pox? Less common diseases like [meningitis](#), [measles](#), and [mumps](#) happen unexpectedly and can spread quickly. Some

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diseases are just a plane ride away. International travelers not up-to-date on their shots can easily bring a disease back home and infect other people.

- ▶ In 2008 one San Diego child got measles on a family trip to Switzerland. Back home he spread it to family members, classmates—even children at the doctor’s office. Only kids without their shots got sick, including a baby who had to spend time in the hospital. However, dozens of children who came near someone with measles had to be kept home for weeks to make sure the disease didn’t spread any further.
- ▶ In a 2006 outbreak in the Midwest, more than 5,000 high school and college students got mumps. Unvaccinated people, or those who had only one shot, were the most likely to get mumps.
- ▶ Whooping cough is on the rise in California. Cases have tripled in recent years. It’s a nasty disease at any age. But babies can die. Families, child care workers, and communities that get all their shots protect our most vulnerable little ones from getting infected.

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

Many holistic medicines have helpful effects. But they do not provide immunity to diseases prevented by vaccines. Before vaccines, millions of children became ill with whooping cough, measles, mumps and other diseases. Most vaccines are over 99% effective in preventing illness.



Some people believe getting a disease is the “natural” way to trigger the body’s immune response. Vaccines work the same way—they trigger an immune response—but not the disease. Vaccine immunity **is** natural immunity. According to Dr. Andrew Weill, a supporter of holistic medicine, “...Immunization facilitates a natural process by stimulating encounters between the body’s immune system and killed or weakened viruses and bacteria (or pieces and products of them).” Waiting for immunity from the real disease can be dangerous because it means getting sick with a risk of serious complications.

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

Yes. Children are exposed to hundreds of viruses or bacteria (called antigens). This happens during normal activities like eating and playing. Antigens make the immune system do its work. Getting vaccines is no extra burden—even for babies. Healthy babies’ immune systems easily handle weakened or killed vaccine antigens. Truly, vaccines are only a small drop in the bucket compared to what children face everyday.

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 are more refined than in the past. So even though kids get more vaccines, they get far fewer antigens all together.

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

Most doctors follow the recommended immunization schedule. This is because skipping or delaying shots leaves a child at risk for a longer time. And, there is no proof that receiving fewer shots in one visit is any safer. Young children and babies are the most likely to get very sick from certain diseases. That’s why shots are given to babies and why most pediatricians use the standard schedule.

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It's your job to protect your child. It's the doctor's job to listen and advise you. And it's quite normal to feel nervous when your child is due for shots. So talk about your concerns. If you have wondered about delaying any shots, the doctor can help you weigh the risks and benefits of any choice.

### 7. Do vaccines cause autism?

No. Autism has been increasing around the world for many years. In fact, autism rates are [the same](#) in vaccinated and *unvaccinated* children. [No one knows yet](#) what causes autism. But we do know that autism symptoms often start at about the same age young children get their routine shots. This can make shots seem related. The group Autism Speaks, which helps fund international research, has a [statement](#) supporting children's immunization. Another group, the [Organization for Autism Research](#) has a helpful [parents' guide](#).

[Twenty-three studies](#) have tested hundreds of thousands of children and found no link between autism and vaccines. One 1998 study suggested a connection between MMR vaccine and autism. But that study was [retracted](#) by 10 of its authors in 2004 and is now discredited. The American Medical Association, American Academy of Pediatrics, Institute on Medicine, and World Health Organization have [statements](#) saying that there is no connection between vaccines and autism.

### 8. What about kids with rare disorders like mitochondrial disease?

Mitochondrial disease (MD), a rare disorder, has been in the news recently. A [federal claims court](#) has been examining if symptoms of brain injury and autism in a girl with MD *may* have been related to her vaccinations. The child's family has discussed her case with the press. But, as of September 2008, the [court has not yet made a ruling](#) on her case.

The important question is: should a child with MD get routine shots? According to [mitochondrial disease specialists](#), the answer is **yes**. That's because vaccines prevent diseases like measles, mumps, and chickenpox that are especially dangerous to kids with MD.

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

**Thimerosal was removed from all child vaccines in 2001** (except some flu shots) as a way to reduce mercury exposure to children from all sources. Thimerosal is a preservative made with [ethylmercury](#). It prevents contamination. Some people worry that mercury is dangerous. However, no reliable study has found any link between thimerosal in vaccines and developmental diseases. [Recent research](#) shows that autism rates continue to go up even after thimerosal was taken out of vaccines.

By [California law](#), children under age 3 and pregnant women cannot have vaccines with more than "trace" thimerosal. [Trace](#) means that thimerosal added during manufacturing is removed. This leaves a tiny amount (1 microgram, instead of 25 or 50). Some flu vaccines for adults or older children still use thimerosal. If you're concerned, ask your doctor about a thimerosal-free flu vaccine.

### 10. What about other vaccine ingredients?

There is no evidence that [vaccine ingredients](#) are harmful. The ingredients are used in tiny amounts for very specific purposes. Read more below.

- **Aluminum:** Aluminum in vaccines is used as an "adjuvant" to trigger the body's immune response to a disease. There is little reason to worry about aluminum in vaccines. Aluminum is common in food and drinks including fruit and vegetables



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—even breast milk and infant formula. It's also in antacids, antiperspirants, cooking pots, and soda cans. [The Children's Hospital of Philadelphia](#) says that at 6 months old, babies have had less aluminum from vaccines than they get from breast milk. Bottle-fed babies get more daily aluminum —especially from soy formulas.

- ▶ **Formaldehyde** prevents microbial contamination. It's used in tiny amounts in some vaccines. It's also in the environment and is a natural byproduct 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 and the information you rely on.

*We recommend these trusted sites:*

#### American Academy of Pediatrics

[www.aap.org/immunization](http://www.aap.org/immunization)

#### National Network for Immunization

[www.immunizationinfo.org](http://www.immunizationinfo.org)

#### Thimerosal FAQs

[www.fda.gov/CBER/vaccine/thimerosal.htm](http://www.fda.gov/CBER/vaccine/thimerosal.htm)

#### Evaluating Health Information on the Web

[www.immunizationinfo.org/parents/evaluatingWeb.cfm](http://www.immunizationinfo.org/parents/evaluatingWeb.cfm)

#### Parents of Kids with Infectious Diseases

[www.pkids.org](http://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.*

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