

Protecting Our Children

Protecting Our Community

Ten Myths About Vaccines

The truth behind common misconceptions about vaccinating your child

Myth 1: Getting so many vaccines will overwhelm my child's immune system.

Yes, the immunization schedule recommended by the Centers for Disease Control and Prevention and the American Academy of Pediatrics (AAP) can *seem* overwhelming. Your child can receive up to 23 shots by the time she's 2 years old and as many as six shots at a single doctor visit. Many parents have concerns about how vaccines might affect a child's developing immunity. But, Dr. Paul Offit of the Vaccine Education Center says, "Children have an enormous capacity to respond safely to challenges to the immune system from vaccines. A baby's body is bombarded with immunologic challenges—from bacteria in food to the dust they breathe. Compared to what they typically encounter and manage during the day, vaccines are literally a drop in the ocean." The bottom line: *It's safe to give your child simultaneous vaccines or vaccine combinations. Equally important, vaccines are as effective given in combination as they are given individually.*

Myth 2: As long as other children are getting vaccinated, mine don't need to be.

Skipping vaccinations puts babies at greater risk for potentially life-threatening diseases. "The ability of immunizations to prevent the spread of infection depends on having a certain number of children immunized," says Thomas Saari, M.D., professor of pediatrics at the University of Wisconsin Medical School. Scientists call this "community immunity." We know that the immunization level required to prevent infectious diseases from spreading is high...up to 95%. Nevada County has a high percentage of parents who claim a personal belief exemption from getting their children immunized. *The percentage of children locally who enter Kindergarten fully immunized has fallen to 77%, not high enough to provide community immunity.*

Myth 3: Now that major illnesses have largely disappeared, we don't need vaccines.

Despite our relatively high vaccination rates in the U.S., *many American communities still have outbreaks of diseases like measles and pertussis (whooping cough).* In 2003, 13 children died of pertussis. Unvaccinated children can also spread infection to vulnerable family members. "Those children are more likely to give a disease to those who can't fight it off, such as a six-month-old or a grandparent living at home," says Dr. Saari. What's more, diseases are spread by people from foreign countries who travel here. "Air travel has extended the range of diseases from countries where people aren't immunized," says Dr. Saari.

Myth 4: Vaccines cause autism and other disorders.

Concerns about a link between a combination vaccine for measles, mumps and rubella (MMR) and the developmental disorder autism got kicked up by a case report from England several years ago. But it has been roundly discredited. The idea has persisted because autism tends to emerge around the time that the vaccine is given—when the child is a year old. This does not mean the vaccine caused the problem. "Not only is there no evidence that it causes autism, there's evidence that it doesn't cause autism," Dr. Offit says. "In fact, *there have been 14 studies that show your risk of getting autism isn't any different if you got the MMR vaccine or if you didn't.*"



Myth 5: My baby might get the disease it's supposed to prevent.

"Most vaccines we give today, such as meningitis and DTaP, contain killed vaccines—not live agents that could replicate," says Dr. Edwards. A few vaccines that are on the schedule do, however, contain live *weakened* virus to provoke an immune response. These include the MMR and chicken pox immunizations. "These vaccines have the potential to cause some mild illness—a little fever and rash," explains Dr. Edwards, "but the illness is much less severe than if the child naturally contracted measles or chicken pox."

Myth 6: Vaccines can contain preservatives that are dangerous.

Until recently, there were concerns about the use of thimerosal, a compound that prevents vaccines from being contaminated by bacteria and contains a form of mercury called ethylmercury. Mercury in large quantities is known to be harmful to a child's developing brain. *Worries about thimerosal's effect prompted its removal from nearly all childhood vaccines in 1999.* Yet it's become clearer since then that ethylmercury does not pose the same health hazard as its cousin, methylmercury, a metal found in the environment that accumulates in the body and is harmful to children. Children are exposed to mercury in many ways. "The largest source of organic mercury is the environment: the air we breathe, the water we drink, and the fish we eat. That's due to the burning of coal," says Margaret Rennels, M.D., the chair of the committee on infectious diseases of the AAP. But the kind of mercury used as a preservative in some vaccines, ethylmercury, is eliminated from the body much more quickly than the kind found in the environment. *University of Rochester researchers confirmed that when they tested the mercury levels in children who got vaccines containing thimerosal with those of kids who received only thimerosal-free vaccines, all the children had mercury levels well below the EPA's most strict public safety limits.*

Myth 7: You shouldn't give a vaccine to a child who has a cold.

It's reasonable to think that a sick child would be more likely to have a bad reaction to a vaccine, or that it might present an added burden to her immune system if she's fighting off a cold. *Yet studies show that having a mild illness does not affect a child's ability to react appropriately to the vaccine.* Of course, vaccines can themselves trigger side effects, including fever and rash, as well as soreness at the site of the injection, but these are rarely cause for alarm. Call your doctor right away if your child has hives (which can indicate an allergic reaction), a fever of 105 degrees or higher, or convulsions.

Myth 8: I had chicken pox when I was a kid and it wasn't a big deal.

Like several common childhood diseases, chicken pox isn't a big deal for most kids. "But on rare occasions children can die from it," Dr. Rennels observes. Before the vaccine was introduced, many children were hospitalized each year with serious complications, including pneumonia and dangerous skin infections. "Chicken pox lesions can become infected with staph, including necrotizing fasciitis—the 'flesh-eating' bacteria," says Dr. Rennels. *Getting the vaccine is especially important now that less of the chicken pox virus is in circulation. "Children who don't get chicken pox or the vaccine are at risk of getting it as an adult, which is a much more serious illness."*

Myth 9: Vaccines can provide 100 percent disease protection.

Not quite. The best vaccines are those made with live weakened virus, such as MMR and chicken pox, which are about 95% effective. The effectiveness of vaccines made with killed, or inactivated, virus is between 75-80%. That means there's a chance you could be vaccinated against a disease and still get it. *But, says Dr. Edwards, if all children are vaccinated against an organism, it's less likely to hang around. That's why vaccinating an entire population is so important.*

Myth 10: It's best to wait until children are older before starting to give them vaccines.

Immunization schedules are designed to protect the most vulnerable patients from disease. If you wait to give the vaccine, you may miss the window when a child is most vulnerable. Last year in Wisconsin, 300 children under age 1 came down with whooping cough; 177 of them were less than 6 months old. Of these, half were hospitalized and three died.