

## Aren't vaccines for children?

Vaccines are for everyone, not just children. In fact, there are some vaccines that are specifically recommended for adults. These "adult" vaccines protect against diseases that are more common in adults than children. Some vaccines protect against diseases that can be more serious when contracted by adults. Other adult vaccines may actually be boosters of vaccines that you received as a child. Boosters "refresh" the immune system's memory of how to make the tools to fight a pathogen, so that it can continue to provide protection against the disease.

Getting vaccinated reduces your risk of getting diseases like shingles, measles, whooping cough, or influenza. To put that risk in perspective, every year in the United States over 40,000 adults die from diseases against which they could have been vaccinated. Even if a vaccine is not 100% effective at protecting you from contracting the disease, it is likely to lessen the severity of the symptoms associated with the disease.

The Centers for Disease Control and Prevention (CDC) maintains an adult immunization schedule with vaccine recommendations, this site (<http://www.cdc.gov/vaccines/recs/schedules/downloads/adult/mmwr-adult-schedule.pdf>) and your doctor are great references to stay up-to-date on what vaccines are available for adults and when they are recommended.



## Learning more about vaccines

This brochure is just an introduction to adult vaccines, there are many more things to learn and stories to tell – you can find the unabridged version of this document at:

↗ <http://bit.ly/VaccinationReport>

The best information on vaccination comes from the experts studying them. If you would like to learn more about vaccines you can turn to any of the sources listed below. They will provide reliable information, checked by scientists and researchers for accuracy.

### Centers for Disease Control and Prevention (CDC)

↗ [www.cdc.gov/vaccines](http://www.cdc.gov/vaccines)

### National Network of Immunization Information (NNii)

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

### The Immunization Action Coalition (IAC)

↗ [www.immunize.org](http://www.immunize.org)

The American Academy of Microbiology is the honorific branch of the American Society for Microbiology, a non-profit scientific society with almost 40,000 members. Fellows of the AAM have been elected by their peers in recognition of their outstanding contributions to the field of microbiology. Through its colloquium program, the AAM draws on the expertise of these fellows to address critical issues in microbiology.

FAQ reports are based on the deliberations of 15-20 expert scientists who gather for a day to develop science-based answers to questions the public might have about topics in microbiology. The reports are reviewed by all participants, and by outside experts, and every effort is made to ensure that the information is accurate and complete. However, the report is not intended to advocate any particular position or action, nor to replace the advice of an individual's health care provider.

The AAM does not offer medical advice and encourages consumers to be educated and informed when making medical decisions.

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# ADULT VACCINES: A GROWN UP THING TO DO



AMERICAN  
SOCIETY FOR  
MICROBIOLOGY

## What are vaccines and how do they protect against disease?

A vaccine is a substance that teaches your immune system to recognize a pathogen, protecting you against a specific disease. Our immune system is a defense network inside our body that reacts to invasion by pathogens, microscopic organisms that can make us sick. Our immune system protects us by recognizing pathogens and creating special tools to attack and eliminate them. In most cases, special memory cells that are able to produce those tools persist in the body for a long time, sometimes even for life. The next time you encounter that same pathogen, your immune system will remember it and fight it off more quickly. You may experience either very mild symptoms or none at all.

In essence, vaccines mimic that initial attack. Included in every vaccine is a component that looks like a specific pathogen to your immune system. The immune system analyzes the pathogen look-alike and learns to develop the tools needed to combat it. If an exposure to the pathogen occurs after vaccination, the immune system already has, or knows how to build, the tools needed to fight it and can do so quickly. With a blueprint for fighting the pathogen in place, many pathogens will be killed or rendered harmless before they have a chance to make us sick.

## The parts list for a vaccine:

### ANTIGEN:

The pathogen "look-alike" the vaccine uses to train your immune system.

### ADJUVANT:

A compound that stimulates your immune system to respond to the antigen.

## Are vaccines safe?

Yes, vaccines are extremely safe. The chance of experiencing a serious side effect after vaccination, like an allergic reaction, is less than one in a million. To put this into perspective, it is nearly as likely for someone to suffer a severe allergic reaction to aspirin as to a vaccine. Vaccines go through rigorous testing, licensure, and approval processes that can last years! Only the safest and most effective vaccines are used by your physician.

Everything in life carries some risk, even ordinary daily activities. For example, in the U.S. each year 350 people die from shower or bathtub related injuries. Vaccines can cause side effects, but most are short-lived and result in only very mild discomfort. Redness and some swelling around the injection site are some of the more common side effects of vaccines. Serious side effects, like severe allergic reactions, are exceedingly rare, far less common than serious slips and falls in the shower.

## Is there anyone who should not receive vaccines?

Anyone who is allergic to any component of a vaccine, has had a serious adverse reaction after vaccination, or anyone that is immune compromised should speak with a physician before being vaccinated. Pregnant women should consult their physicians about vaccination. Some vaccines are recommended and may help protect your child after birth, others are not recommended during pregnancy.

### RESIDUALS AND FLUIDS:

Some trace amounts of other compounds, like egg proteins, are found in vaccines, they are holdovers from the manufacturing process. Fluids like saline are used to dilute the vaccine.

### PRESERVATIVE:

A substance to make sure the vaccine doesn't "spoil"

## Why do we need vaccines?

If you are younger than 50, you never had to worry about polio or smallpox. The world before vaccination was very different. Smallpox killed millions and left millions more with grotesquely disfiguring smallpox scars. Diphtheria and whooping cough were major causes of death. These diseases and others like them were horrific but unavoidable before vaccines were introduced. There are still diseases, like polio or measles, for which we have few treatment options. In these cases the vaccine is the best, and sometimes only, option for dealing with the disease.

The benefits of vaccination are not limited to your own health. Infectious diseases are transmitted from one person to another, so individuals are like links in a chain. Every vaccination breaks another link, helping to protect those who cannot be vaccinated themselves. This indirect protection, known as herd protection, relies on high vaccination rates and is particularly important for the very young and very old. Even though they are the most vulnerable to disease, these people often cannot receive recommended vaccines because they have a weakened or immature immune system. Their protection depends on others.

Choosing not to be vaccinated affects those around you. Even if you have no symptoms you can still act as a carrier of a disease and can infect others. This puts the elderly, people with weakened immune systems, and very young infants at risk and is why medical personnel and care givers are so strongly encouraged to be vaccinated. Those of us with elderly parents or young grandchildren are protecting them when we stay up to date on vaccinations.

