

How Vaccines Work



Public Health
Prevent. Promote. Protect.

VACCINATION EDUCATION

Giving vaccines is a way of preventing a person from getting a disease. This is done by placing a dead or weakened part of the virus or bacteria into the body, so that the body learns how to fight it. The body can then fight off a disease when it comes in contact with it.

The body's ability to fight infection comes from the immune system. When the human immune system is exposed to an infection once, it can learn how to cope quickly if it is exposed to it again. Through vaccination, the body will be able to protect itself from that infection later on in life without the sickness and illness that come with getting the disease naturally.

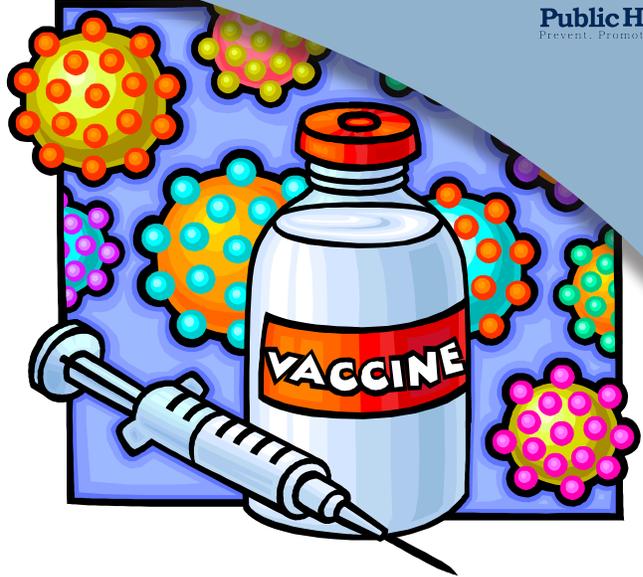
How long does a vaccination last?

In many cases vaccination provides lifelong protection against a disease, but it varies. How long a vaccination lasts will depend on the disease that the vaccine protects against, the vaccine, and the immune system of the person who is vaccinated. Immunity wanes over time with some diseases. This can be because of a vaccine's effectiveness or it happens as we age.

Some vaccines provide very high levels of protection but may require a booster. For example MMR provides 95% protection against measles and rubella after one dose. The second dose provides 98% protection. Boosters serve as a "reminder" to your immune system.

Why do babies need so many vaccines?

There are 14 potentially serious diseases that vaccines protect against. At least one shot is needed for each of these diseases, and for some of them several doses are required for immunity. This adds up to a lot of shots, and several are usually given at the same time. Several combination vaccines already exist (such as MMR and DTaP) in which multiple



vaccines are given in a single shot, and this reduces the number of shots needed. More combinations are being developed, so in the future, even fewer shots will be needed for the same number of vaccines.

Ask your provider for a copy of the recommended vaccination schedule.

Online Resources:

Center for Disease Control

www.cdc.gov/vaccines/parents/index.html

Every Child By Two

www.vaccinateyourbaby.org

Children's Hospital of Philadelphia

www.chop.edu/service/vaccine-education-center/home.html

Disease protection also varies – for example, the whooping cough vaccine fades over time and requires boosters for children and adults.