

## What is the smallpox vaccine?

The smallpox vaccine is a live virus vaccine made from a virus called *vaccinia*, which is a “pox” type virus related to smallpox. The vaccine helps the body develop immunity to smallpox. It does not contain the smallpox virus and cannot give you smallpox.

## What is the length of protection?

Smallpox vaccination provides high level immunity for 3-5 years and decreasing immunity thereafter. If a person is vaccinated again later, immunity lasts even longer. Historically, the vaccine has been effective in preventing smallpox infection in 95% of those vaccinated.

## Can vaccination after exposure prevent the disease?

Vaccination within three days after exposure will prevent or significantly lessen the severity of smallpox symptoms in most people. Vaccination 4-7 days after exposure likely offers some protection from disease or may lessen the severity of disease.

## Who should NOT get the smallpox vaccine?

People with any of the following conditions, or people who live with someone with the following conditions, should not get the smallpox vaccine unless exposed to the smallpox virus:

- Weakened immune systems (e.g., HIV, AIDS, leukemia, lymphoma, other cancers, cancer chemotherapy, radiation therapy, high-dose corticosteroid therapy, other immune disorders, some severe autoimmune disorders, and medications to treat autoimmune disorders).
- Any history of eczema, atopic dermatitis (skin disease characterized by itchy, inflamed skin) or Darier’s disease.
- Active skin conditions (e.g., burns, other wounds, impetigo, chickenpox, shingles, contact dermatitis, severe acne, herpes, psoriasis). Wait until these conditions have resolved before receiving the vaccine.
- Women who are pregnant or planning to become pregnant within one month of vaccination.

In addition, people in the following categories should not receive the vaccine unless exposed to the smallpox virus:

- People with heart disease or certain risk factors for heart disease.
- Women who are breastfeeding.
- Those using steroid medications in eyes (wait until no longer using the medication).
- Anyone allergic to the vaccine or any of its ingredients or have had a serious reaction to the vaccine in the past.
- Anyone with moderate or severe illness (wait until recovered).
- Persons less than 18 years of age.

*People who have been directly exposed to the smallpox virus should get the vaccine, regardless of their health status.*

## **What are the possible side effects from the smallpox vaccine?**

The live *vaccinia* virus that is contained in the vaccine may cause mild reactions, such as rash, fever and head and body aches. Complications can occur if the vaccine site comes in contact with other parts of your body or even other people. The risk is minimized by covering the vaccine site and carefully washing hands after contact with the site until healed (up to three weeks).

## **What are the chances of serious complications from the smallpox vaccine?**

In the past, between 14 and 52 people per one million vaccinated experienced potentially life-threatening reactions. Based on past experience, one or two persons per one million vaccinated may die as a result of life-threatening reactions to the vaccine. People not recommended for vaccination may be at greater risk of severe complications.

## **How is the vaccine given?**

The smallpox vaccine is not given with a normal hypodermic needle and is not a typical shot. The vaccine is given using a bifurcated (two-pronged) needle that is dipped into and holds a droplet of the vaccine. The needle is used to poke the skin several times. The poking is not deep, but will cause a sore spot that will form a blister and eventually leave a small scar.

## **Is the smallpox vaccine recommended?**

The smallpox vaccine is currently not recommended for the general public. The vaccine is now being offered to those who may be called upon to respond in the event of a smallpox case or outbreak.

Routine smallpox vaccinations in the U.S. stopped in 1972. The last natural case of smallpox occurred in Somalia in 1977. The variola virus that causes smallpox officially exists in two laboratories, in the United States and Russia, but there is concern that it may be possessed by others and could be used as a bioterrorism agent, which is why federal, state and local governments are taking precautions to prepare.

## **How can I learn more about the smallpox vaccine?**

- If you have concerns about the smallpox vaccine, contact your healthcare provider.
- Call your local health department. A directory of local health departments is located at the [VDH Local Health Districts page](#).
- Visit the Centers for Disease Control and Prevention website at [the CDC page on the smallpox vaccine](#).

## Information for Health Professionals

### [Vaccinia Disease and Vaccinia Adverse Events: Overview for Healthcare Providers](#)

Two page summary of: Organism, Reporting, Infectious Dose, Route of Infection, Communicability, Risk Factors, Case-fatality Rate, Incubation Period, Clinical Description, Differential Diagnosis, Specimen Collection and Laboratory Testing, Treatment, Postexposure Prophylaxis, Vaccine, and Infection Control.