

Smallpox Vaccine Questions & Answers

What is the smallpox vaccine and how safe is it?

The smallpox vaccine is the best protection you can get if you are exposed to the smallpox virus. Smallpox vaccine does not contain any smallpox virus. Instead, it is made from a virus called vaccinia, which is another “pox”-type virus related to smallpox. Most people who are vaccinated experience only mild reactions that can include a sore arm, fever, and body aches. However, people with eczema, immune system disorders, pregnant women and children under one year of age have a higher risk of complications from the vaccine.

What are smallpox vaccine side effects and complications?

Typical side effects of smallpox vaccination include:

- Soreness and redness at the site of the injection
- Enlarged glands in the armpits
- Low fever

One in three people may feel sick enough to stay home from work or school.

Less common side effects include:

- Vaccinia rash – an appearance of sores on other parts of the body caused by touching the vaccination site and spreading it to other sites; This may require medical treatment.
- Allergic rash – generalized body rash

Severe reactions that occur much less frequently:

- A serious skin rash caused by widespread infection of the skin in people with certain skin conditions (eczema vaccinatum)
- Skin and tissue destruction and possible death (progressive vaccinia)
- Swelling of the brain (postvaccinial encephalitis)

It is estimated that one to two people in one million who receive the vaccine may die as a result of severe reactions.

Who should NOT get the vaccine?

People who should not get the vaccine in the absence of an exposure to smallpox are: anyone who is allergic to the vaccine or its components; people who now have, or have had, skin conditions (especially eczema and atopic dermatitis); people with weakened immune systems, such as those who have received a transplant, are HIV positive, are receiving treatment for cancer, or are currently taking medications like steroids that suppress the immune system; and women who are pregnant or breastfeeding. Anyone who falls within these categories or lives with anyone who falls into one of these categories should not get the smallpox vaccine unless he or she is exposed to a person infected with smallpox. Individuals 18 years of age and younger will only receive vaccine if they are exposed to someone with smallpox.

Is there any way to treat serious reactions to the vaccine?

Two treatments may help people who have certain serious reactions to the smallpox vaccine. These are vaccinia immune globulin (VIG) and cidofovir (an antiviral agent), which would be prescribed by a doctor.

If someone is exposed to smallpox, is it too late to get a vaccination?

Vaccination within three days of exposure will completely prevent or significantly minimize smallpox in the vast majority of people. Vaccination four to seven days after exposure likely also will offer some protection from disease, or decrease the severity of disease.

Is it possible for people to get smallpox from the vaccination?

No. Since the smallpox vaccine does not contain the smallpox virus, it is not possible to get smallpox from the vaccine.

How is the vaccine given?

The smallpox vaccine is not given with a hypodermic needle like most vaccines. Smallpox vaccine is usually given in the upper arm and is administered using a bifurcated (two-pronged) needle that is dipped into, and that holds a droplet of, the vaccine. The prongs are used to prick the skin 15 times in a few seconds. The scratching is not deep, but it will cause a sore spot and one or two droplets of blood to form. If the vaccination is successful, a red and itchy bump will develop at the vaccine site in three or four days. In a week, the bump becomes a large blister and fills with pus and begins to drain. During the second week, the blister begins to dry up and a scab forms. The scab falls off in the third week, leaving a small scar. People who are being vaccinated for the first time have a stronger reaction than those who are being revaccinated.

What precautions should be taken after an individual receives the smallpox vaccine?

Until a scab has formed over the vaccination site, the person receiving the vaccine should:

- Keep the vaccination site covered, preferably with loosely taped, sterile gauze
- Not touch, scratch or rub the vaccination site
- Avoid person-to-person contact with susceptible persons
- Avoid touching, rubbing or performing any maneuvers that might transfer the vaccinia virus to the eyes or to surrounding skin
- Discard the vaccination-site covering in a plastic bag that can be sealed before placing it in the trash
- Thoroughly wash his/her hands with soap and water after handling the vaccination-site covering.

How long does a smallpox vaccination last?

Past experience indicates that the first dose of the vaccine offers protection from smallpox for three to five years, with decreasing immunity thereafter. If a person is vaccinated again later, immunity lasts even longer. Most people who were vaccinated in the past received their vaccinations long enough ago that likely they are not protected today.

Can I go to my doctor and request the smallpox vaccine?

At the moment, the smallpox vaccine is not available to members of the general public. However, there is enough smallpox vaccine available in national stockpiles to vaccinate everyone who would need it in the event of an emergency. A detailed nationwide smallpox response plan to vaccinate people quickly and to contain a smallpox outbreak is under development.

For additional information, call the Westchester County Department of Health at (914) 813-5000 or visit the following websites:

www.westchestergov.com/health

www.health.state.ny.us

www.cdc.gov