

Smallpox and Bioterrorism

What is smallpox?

Smallpox is a serious, contagious, sometimes fatal viral disease. The name “smallpox” refers to raised bumps that appear on the face and body of an infected person. Smallpox is caused by the variola virus that has been in the human population for thousands of years. The last naturally occurring case of smallpox in the United States was in 1949, and the naturally occurring virus was eliminated from the world in 1980. Smallpox vaccinations for the general public were discontinued in the United States in 1972 because smallpox no longer occurred and because of risks associated with the vaccine.

Can smallpox be used as a bioterrorism threat?

Because smallpox was wiped out many years ago, a case of smallpox today would be the result of an intentional act. A single confirmed case of smallpox would be considered an emergency. There is no treatment for smallpox disease, and the only prevention is vaccination.

How is it spread?

People can get smallpox by being in direct, close contact (usually within 6 feet) with an infectious person. The virus is found in droplets of saliva released when the infectious person talks, coughs or sneezes. Direct contact with materials such as bedding and clothing contaminated with the virus is another way people can be infected. Rarely, smallpox is spread when the virus is in the air in enclosed places such as buses and trains. Humans are the only natural hosts of variola virus. Smallpox virus is not known to be transmitted by insects or animals. People with smallpox are sometimes contagious when fever begins but are most contagious when the rash appears. At this stage, people usually are very sick and not able

to move much. The infected person is contagious until the last smallpox scab falls off.

What are the symptoms?

A person does not have symptoms until 7 to 17 days after exposure. During this time, the person is not contagious.

The first symptoms include high fever, fatigue, head and body aches and sometimes vomiting. During this phase, which may last from 2 to 4 days, the person feels too sick for normal activities.

One to four days after the first symptoms appear, the person develops a rash as small red spots on the tongue and in the mouth. These spots develop into sores that break open and spread the virus. Then a skin rash appears starting on the face and spreading to the legs and arms. Usually the rash spreads over the body within 24 hours. By the third day, the rash becomes raised bumps which then fill with fluid and often have a depression in the center. The bumps become pustules, which are usually round, raised and firm. These form first a crust and then a scab. These scabs fall off after about three to four weeks. Most people with smallpox recover, but death occurs in up to 30 percent of cases.

How is smallpox treated?

No medicines are available to treat smallpox once sores to develop. When people have been exposed to the smallpox virus, vaccines given within four days of exposure can lessen the severity of illness or possibly prevent the illness altogether. Smallpox vaccine contains a live virus called vaccinia; it does not contain the smallpox virus. Smallpox patients can benefit from therapies such as intravenous fluids and medicine to control fever or pain. Antibiotics may be given for secondary bacterial infection. Public health officials have

large supplies of drugs needed in the event of a bioterrorism attack. These supplies can be sent anywhere in the United States within 12 hours.

Can I be vaccinated for smallpox?

Smallpox vaccine is controlled by CDC and not available to the general public. Smallpox vaccine will be made available to any community to protect people and stop the spread of the virus should a smallpox outbreak occur.

If I was vaccinated against smallpox before 1980, am I still protected?

Probably not. The vaccination has been shown to wear off in most people after 10 years but may last longer if the person has been successfully vaccinated multiple times. Therefore, all people in the United States are considered susceptible to smallpox.

How will public health officials respond to a smallpox outbreak?

The Department of State Health Services and the U.S. Centers for Disease Control and Prevention have detailed plans to protect people against the use of smallpox as a biological weapon. Plans include creation and use of special teams of public health and health care workers who have been vaccinated.

- If a smallpox case is found, these teams will take steps immediately to control the spread of the disease including the request of vaccine from CDC to protect people at risk of exposure. The health department also will notify the FBI and other appropriate authorities.
- Smallpox patients will be kept away from other susceptible people and will receive the best medical care possible. Isolation prevents the virus from spreading to others.
- Anyone who has had contact with a smallpox patient will be offered smallpox vaccination as soon as possible. Then the people who have had contact with those individuals also will be vaccinated. Following vaccination, these people will need to watch for any signs of

smallpox. People who have been exposed to smallpox virus may be asked to take their temperatures regularly and report the results to their health department.

- The smallpox vaccine also may be offered to those who have not been exposed but would like to be vaccinated. At local clinics, the risks and benefits of the vaccine will be explained and professionals will be available to answer questions.
- No one will be forced to be vaccinated, even if they have been exposed to smallpox. To prevent smallpox from spreading, anyone who has been in contact with a person with smallpox but who decides not to get the vaccine may need to be isolated for at least 18 days. During this time, they will be checked for symptoms of smallpox.
- People in isolation will not be able to go to work.

How can I protect myself and my family during an outbreak?

- Stay informed. Listen to the news to learn how the outbreak is affecting your community. Public health officials will share important information including areas where smallpox cases have been found and who to call and where to go if you think you have been exposed.
- Follow the instructions of public health authorities.
- Stay away from and keep your children away from anyone who might have smallpox.
- If you think you have been exposed to smallpox virus, stay away from others and call your health department or health care provider immediately. They will tell you where to go.

Where can I get more information?

Contact your local health department. Additional smallpox information can be found on the Department of State Health Services Web site at www.dshs.state.tx.us/idcu/disease/smallpox/ and the CDC Web site at www.bt.cdc.gov/agent/smallpox/.