

Smallpox

What is smallpox?

Smallpox is a serious, contagious, and sometimes fatal infectious disease that causes a fever and skin rash. There are two clinical forms of smallpox. Variola major is the more severe form, causing a more extensive rash and higher fever. Historically, about 30 percent of people with the variola major form of smallpox have died. Variola minor is a less common presentation of smallpox and a much less severe form of the disease. Smallpox outbreaks occurred for thousands of years, but the disease has now been eliminated from the world after a successful worldwide vaccination campaign.

Who gets smallpox?

The last case of smallpox in the United States was in 1949. The last natural case in the world occurred in Somalia in 1977. Routine vaccinations among the American public against smallpox stopped in 1972. Except for laboratory stockpiles, the variola virus that causes smallpox has been eliminated. However, there is heightened concern that the variola virus might be used as an agent of bioterrorism; even one case of confirmed smallpox would constitute an international public health emergency.

How is smallpox spread?

Smallpox is spread person-to-person through direct contact with respiratory droplets, aerosols, secretions, and skin lesions of an infected person. Direct and fairly prolonged face-to-face contact (within 6 feet for more than 3 hours) is generally required to spread smallpox from person to person. Although less common, it can be transmitted through contact with contaminated clothing or bedding. Smallpox is not known to be spread by animals or insects. A person with smallpox is sometimes contagious as soon as the fever starts, but the person becomes most contagious when the rash appears. The infected person is contagious until the last smallpox scab falls off.

What are the symptoms of smallpox?

The first symptoms include fever (101-104 degrees Fahrenheit), malaise (not feeling well), head and body aches, and sometimes vomiting. Once symptoms develop, people are usually too sick to carry on their normal activities. Two to four days after the first symptoms, a rash emerges. As the rash appears, the fever usually drops and the person might feel better. The rash begins in the mouth, spreads to the face, to the arms and legs (including hands and feet), and to the rest of the body within 24 hours. The rash first looks like raised bumps that then fill with a thick fluid and often have a depression in the center. Within five to ten days, the bumps become sharply raised, round, firm, and filled with pus (called pustules). Within two weeks the pustules form a crust and become scabs. During the third week of the rash, the scabs fall off, leaving behind pitted scars.

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How soon after exposure do symptoms appear?

Symptoms may appear anywhere from 7 to 17 days after exposure, but usually appear within 12 to 14 days after exposure.

How is smallpox diagnosed?

Smallpox is suspected based on the patient's clinical signs and symptoms. The disease can be definitively diagnosed by laboratory testing of blood or lesions. The diagnosis of smallpox is made in specialized laboratories, where safety measures are put into place to protect the laboratory workers.

What is the treatment for smallpox?

Treatment consists of supportive care and relief of symptoms. No proven effective treatment exists to date, although some experimental antiviral medications are being investigated.

How can smallpox be prevented?

Vaccination within three or four days after exposure may prevent or significantly lessen the severity of smallpox symptoms in most people. Vaccination four to seven days after exposure likely offers some protection from the disease or may modify the severity of disease. Vaccination will not prevent smallpox in patients who already have a rash. Currently, the smallpox vaccine is not widely available to the general public. However, there is enough smallpox vaccine to vaccinate every person in the United States in the event of a smallpox emergency.

How can I get more information about smallpox?

- 1) If you have concerns about disease, contact your healthcare provider.
- 2) Call your local health department. A directory of local health departments is located at <http://www.vdh.virginia.gov/LHD/index.htm>.
- 3) Visit the Centers for Disease Control and Prevention website at <http://emergency.cdc.gov/agent/smallpox/index.asp>.