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## What is smallpox?

Smallpox is a serious, contagious, and sometimes deadly disease caused by the variola virus. Smallpox outbreaks occurred for thousands of years, but the disease was eliminated from the world after a successful vaccination campaign. People with smallpox had a fever and a distinctive skin rash. Although most people with smallpox recovered, about three out of every ten people with the disease died.

## 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. Because of 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?

The variola virus spreads from person to person through direct contact with respiratory droplets from a cough or sneeze, secretions, or skin lesions of an infected person. It can also be transmitted through contact with contaminated clothing or bedding. The variola virus is not known to spread by animals or insects. A person with smallpox is contagious as soon as the earliest signs of rash (small red spots on the tongue and in the mouth) appears. The infected person is contagious until the last smallpox scab falls off.

## What are the symptoms of smallpox?

The first symptoms include high fever, 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 on the tongue and 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 dent 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.

## How soon after exposure do symptoms appear?

Symptoms can appear anywhere from 7-19 days after exposure, but usually appear within 10-14 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 antiviral medicine and supportive care to relieve symptoms. There is no proven effective treatment, but some antiviral medications might help treat or prevent the disease from getting worse.

## How can smallpox be prevented?

Vaccination within three days after exposure might prevent or significantly lessen the severity of smallpox symptoms in most people. Vaccination within four to seven days of exposure might give some protection from the disease and lessen 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 public. If there was a smallpox emergency, however, there is enough smallpox vaccine to vaccinate every person in the United States.

## Could smallpox be used for bioterrorism?

Although it is unlikely, it is possible that the variola virus that causes smallpox could be used as a bioterrorist weapon. In 1980, scientists declared that smallpox was eradicated. The variola virus, however, still exists. Two laboratories in the world, one in the United States and one in Russia, are approved to have the virus for research purposes. There has been evidence that suggests that the variola virus was used in the past to make weapons.

## How can I get more information about smallpox?

- If you have concerns about smallpox, 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 smallpox](#).

## Information for Health Professionals

### [Smallpox: Overview for Health Care Providers \(Updated August 2023\)](#)

Two page summary of: Organism, Reporting, Infectious Dose, Occurrence, Natural Reservoir, Route of Infection, Communicability, Case-fatality Rate, Risk Factors, Incubation Period, Clinical Manifestations, Differential Diagnosis, Laboratory Tests/Sample Collection, Treatment, Vaccine

**[Vaccinia: Overview for Health Care Providers](#) (Updated June 2023)**

Two page summary of: Organism, Transmission, Communicability, Risk Factors, Pregnancy

**Information for Smallpox Vaccine**

[Smallpox Vaccine Fact Sheet](#)

[CDC Smallpox Vaccine Basics](#)

[Presentation: Overview of Smallpox Vaccination](#)

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