



## SMALLPOX OVERVIEW

### The Disease

Smallpox is a serious, highly contagious, and sometimes fatal infectious disease. There is no specific treatment for smallpox disease, and the only prevention is vaccination. The name is derived from the Latin word for "spotted" and refers to the raised bumps that appear on the face and body of an infected person. Two clinical forms of smallpox have been described. Variola major is the severe form of smallpox, with a more extensive rash and higher fever. It is also the most common form of smallpox. There are four types of variola major smallpox: ordinary (the most frequent); modified (mild and occurring in previously vaccinated persons); flat; and hemorrhagic. Historically, variola major has a case-fatality rate of about 30%. However, flat and hemorrhagic smallpox, which are uncommon types of smallpox, are usually fatal. Hemorrhagic smallpox has a much shorter incubation period and is likely not to be initially recognized as smallpox when presenting to medical care. Smallpox vaccination also does not provide much protection, if any, against hemorrhagic smallpox. Variola minor is a less common clinical presentation, and much less severe disease (for example, historically, death rates from variola minor are 1% or less).

Smallpox outbreaks have occurred from time to time for thousands of years, but the disease is now extinct after a successful worldwide vaccination program. The last case of smallpox in the United States was in 1949. The last naturally occurring case in the world was in Somalia in 1977. After the disease was eliminated from the world, routine vaccination against smallpox among the general public was stopped because it was no longer necessary for prevention.


### Where Smallpox Comes From

Smallpox is caused by the variola virus that emerged in human populations thousands of years ago. Humans are the only natural hosts of variola. Animals and insects do not carry or spread the variola virus. Except for laboratory stockpiles, the variola virus has been eliminated as a disease. However, in the aftermath of the events of September and October 2001, there is concern that the variola virus might be used as an agent of bioterrorism. For this reason, the U.S. Government is taking careful precautions to be ready to deal with a smallpox outbreak.

### Transmission

Smallpox can be caught through direct contact with someone infected with smallpox. Smallpox cannot be caught from animals or insects. Generally, direct and fairly prolonged face-to-face contact is required to spread smallpox from one person to another. In a terrorist attack, exposure to smallpox could occur by breathing airborne virus. A person who has been exposed to smallpox becomes infectious, or contagious, after a rash appears. After the appearance of a rash, the infected person is contagious until the last smallpox scab falls off.

## Smallpox Disease

<b>Incubation Period</b>	<p><b>Exposure to the virus</b> is followed by an incubation period during which people do not have any symptoms and may feel fine. This incubation period averages about 12 to 14 days, but can range from seven to 17 days. During this time, people are not contagious.</p>
<b>Initial Symptoms (Prodrome)</b>	<p>The <b>first symptoms</b> of smallpox include fever, malaise, head and body aches and sometimes vomiting. The fever is usually high, in the range of 101 to 104 degrees. At this time, people are usually too sick to carry on their normal activities. This is called the prodrome phase and may last for two to four days.</p>
<p><b>Days 1-4</b></p> <p><b>Rash distribution:</b></p> 	<p>A <b>rash emerges</b> first as small red spots on the tongue and in the mouth. These spots develop into sores that break open and spread large amounts of the virus into the mouth and throat. At this time, the person is the <b>most contagious</b>.</p> <p>Within 24 hours, a rash appears on the skin, starting on the face and then spreading to the arms and legs and then to the hands and feet. Usually the rash spreads to all parts of the body within 24 hours. As the rash appears, the fever usually falls and the person may start to feel better.</p> <p>By Day 3, the rash becomes raised bumps.</p> <p>By Day 4, the bumps fill with a thick, opaque fluid and often have a depression in the center that looks like a belly-button. (This is a major distinguishing characteristic of smallpox.).</p> <p>Fever often will rise again at this time and remain high until scabs form over the bumps.</p>
<b>Days 5-10</b>	<p>Over the next five to 10 days, the bumps become "<b>pustules</b>" -- sharply raised, usually round and firm to the touch. They feel like there's a small round object under the skin. People often say it feels like there is a beebe pellet embedded under the skin.</p>
<b>Days 11-14</b>	<p>The pustules begin to form a crust and then <b>scab</b>. By Day 14, most of the sores have scabbed over.</p>
<b>Days 15-21</b>	<p>The scabs begin to fall off, leaving marks on the skin that eventually become pitted <b>scars</b>. The person is contagious to others until all of the scabs have fallen off. Most scabs will fall off after three weeks.</p>
<b>After Day 21</b>	<p>Scabs have fallen off. Person is no longer contagious.</p>

For more information, visit [www.cdc.gov/smallpox](http://www.cdc.gov/smallpox), or call the CDC public response hotline at (888) 246-2675 (English), (888) 246-2857 (Español), or (866) 874-2646 (TTY).

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