

PUBLIC HEALTH FACT SHEET

Smallpox

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What is smallpox?

Smallpox is a disease caused by the virus (germ) *Variola*. The disease has been eradicated (completely stopped) following a successful worldwide vaccination program.

Is there a risk of getting smallpox today?

Smallpox was eliminated as a naturally occurring threat to humans in the late 1970s. The last case of smallpox in the United States was in 1949. The last naturally occurring case in the world was in 1977 in Africa.

Currently, there are only 2 known stockpiles of *Variola* (smallpox virus) in Atlanta and in Russia. There is a concern that the smallpox virus might exist elsewhere and be used in a harmful way. There is no documented evidence of this existence outside the secure laboratories.

How do people get smallpox?

It is very contagious (easily caught) and is spread from person to person by infected saliva droplets. Exposure may come from close personal contact (e.g., kissing), airborne spread (e.g., coughing or sneezing) or through direct contact with the smallpox rash or scabs.

What are the symptoms of smallpox?

Initial symptoms include high fever, fatigue, headache and backache. A rash (spots), mostly found on the face, arms and legs occurs 2 to 3 days after the high fever. The rash starts out flat but then becomes pus-filled and begins to crust (scab) in the second week. The scabs separate and fall off in 3 to 4 weeks. Smallpox can result in death in up to one third of people who become infected. Smallpox is not contagious until just before the beginning of the rash (2 to 3 days after fever starts).

How soon do symptoms of smallpox appear?

It usually takes 7 to 17 days for initial symptoms to appear after exposure.

How is smallpox diagnosed?

Monitoring for a disease that does not currently exist anywhere in the world presents unique challenges. Currently, diagnosing a case would be based on classic symptoms a person would experience when ill with smallpox. These include a sudden onset of fever greater than 101°F, followed by a rash of firm vesicles or pustules in the same stage of development, without other apparent cause. Laboratory testing would be performed to confirm a suspected smallpox diagnosis. For more information on diagnosing smallpox, see emergency.cdc.gov/agent/smallpox/diagnosis/.

How is smallpox treated?

There is no specific treatment for smallpox. Patients would be given fluids, medicine to control fever and pain and antibiotics for other infections that may occur as a result of smallpox.

Is there a vaccine (shot) for smallpox?

There is currently an emergency supply of the smallpox vaccine that could be used to prevent the spread of smallpox should it be released into the environment. In the United States, routine vaccination against smallpox ended in 1972 because the risk of side effects from vaccination was worse than the risk of getting infected. Vaccination of the general public is not recommended at this time.

If I received a smallpox vaccination prior to 1972, am I still immune?

It is unlikely that it would prevent you from getting infected, but it may reduce your chance of dying. The long-term effectiveness of the smallpox vaccine is uncertain and it is generally assumed that most of the United States population is at risk for smallpox.

Where did smallpox occur?

Before a vaccination and eradication campaign finally brought an end to smallpox transmission, the disease was found worldwide.

How can smallpox be prevented?

The best way to prevent smallpox is through vaccination. If given to a person before exposure to smallpox, the vaccine can completely protect them. Vaccination within 3 days after exposure will prevent or greatly lessen the severity of smallpox in most people. Vaccination 4 to 7 days after exposure likely offers some protection from disease and may decrease the severity of disease. Vaccination will not protect smallpox patients who already have a rash.

How is the spread of smallpox stopped after someone comes down with it?

People with suspected or confirmed smallpox need to be isolated because they are capable of spreading the virus. In addition, people who come into close contact with someone who has smallpox should be vaccinated and closely watched for symptoms of smallpox. At the first sign of any fever after exposure to smallpox, a person needs to be isolated until it is clear that they do not have smallpox. The proper use of vaccine and isolation is the best way to stop the spread of smallpox.

Can smallpox be used for bioterrorism?

Smallpox was declared globally eradicated in 1980; however, there are concerns that the smallpox virus could be used for bioterrorism. The risk for smallpox occurring as a result of a deliberate release by terrorists is not known, but is considered very low. Because smallpox was eliminated 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 international emergency. Vaccination campaigns would need to take place to immediately contain the spread of the disease.

Where can I get more information?

- Your doctor, nurse or clinic, or your local board of health (listed in the phone book under local government)
- The Massachusetts Department of Public Health (MDPH), Division of Epidemiology and Immunization at (617) 983-6800 or toll-free at (888) 658-2850 or on the MDPH website at www.mass.gov/dph
- The Centers for Disease Control and Prevention (CDC) website at www.bt.cdc.gov/