



Smallpox (Variola)

What is Smallpox?

Smallpox is a serious contagious disease that can be fatal. It is caused by the variola virus, a member of the Poxviridae family. The World Health Organization declared smallpox eliminated from the world in 1980.

Who is at risk for Smallpox?

Because smallpox has been eliminated, no one will be exposed to a naturally occurring case of smallpox. Smallpox is considered one of the viruses that maybe used in an attack by bioterrorists. Anyone who has not received smallpox vaccine is at risk if exposed to the virus. Also, people who received the vaccine may be at risk if exposed to smallpox because the protection declines five to ten years after one dose and possibly longer after two or more doses. The United States stopped routine childhood vaccination against smallpox in 1972. The last case of smallpox in the United States was in 1949 and the last naturally occurring case occurred in 1977 in Somalia.

What are the symptoms of Smallpox?

The first stage of the illness lasts two to five days with symptoms that include a high fever of 102°F – 104°F, a general feeling of discomfort, severe headache, backache, abdominal pain, and weakness. Most people will be severely ill and bedridden during this stage. By the third or fourth day of this stage, the fever usually drops. Following this stage, soars appear in the mouth and throat, but they may not be noticed by the infected person.

The rash begins less than 24 hours after the sores in the mouth and throat appear. The rash usually begins on the face and quickly moves to the rest of the body. The rash is worst on the face and lower parts of the arms and legs. The rash then develops into raised bumps, filled with pus, which scab over eight to 10 days after the rash appears. The scabs will fall off three to four weeks after the rash appears.

How soon do symptoms appear?

Symptoms of smallpox appear seven to 17 days, usually 12 days, after exposure to the disease.

How is Smallpox spread?

Smallpox is most commonly spread by direct face-to-face contact with an infected person over a long period of time. It can also be spread by direct contact with the rash, clothing, or bedding of a person with the disease.

When and for how long is a person able to spread the disease?

Smallpox can be spread from the time the sores appear in the mouth, which is usually the first sign of the rash, until all the scabs have fallen off.

How is a person diagnosed?

Laboratory testing is needed to diagnose smallpox.

What is the treatment?

There is no known treatment for smallpox. However, vaccine given within three to four days after exposure provides some protection against developing the disease and can protect against severe disease.

Should children or others be excluded from child care, school, work or other activities if they have Smallpox?

Yes, people with smallpox should be excluded from child care, school, work or other activities until the rash has scabbed over and fallen off.

What can be done to prevent the spread of Smallpox disease?

Vaccination is not recommended for the general public and is not available. If smallpox is intentionally released, a vaccine can be given within three to four days after exposure to the disease to people who have been exposed, people in contact with smallpox patients, and others who are at risk for exposure. The vaccine can provide some protection against developing the disease and can protect against severe disease.

Smallpox vaccine is not a shot like most vaccines. It is given with a forked needle that is dipped in to the vaccine. The needle is then used to prick the skin several times. If the vaccination worked, a red bump should develop where the skin was pricked three to five days after the vaccination. The bump then scabs and heals after 14 to 21 days, leaving a scar.

Additional Information:

Is available at www.ndhealth.gov/disease or by calling the North Dakota Department of Health at 800.472.2180.

This disease is a reportable condition. As mandated by North Dakota law, any incidence of this disease shall be reported immediately to the North Dakota Department of Health.

Resource:

American Academy of Pediatrics. [Smallpox (Variola)]. In: Kimberlin DW, Brady MT, Jackson MA, Long SS, eds. *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2015: 709-712.