Smallpox
Fact Sheet

Maine Center for Disease Control and Prevention
An Office of the Department of Health and Human Services
Paul R. LePage, Governor
Mary C. Mayhew, Commissioner

What is smallpox?
Smallpox is a serious, contagious, and sometimes fatal disease caused by the variola (var-ee-o-la) virus. Except for laboratory stockpiles, the variola virus has been eliminated. However, in the aftermath of the events of September and October, 2001, there is heightened concern that the variola virus might be used as an agent of bioterrorism. For this reason, the U.S. government is taking precautions for dealing with a smallpox outbreak.

There are two forms of smallpox: variola major and variola minor. Variola major is more common and severe. There are four types of variola major smallpox: *ordinary* (the most frequent type, accounting for 90% or more of cases); *modified* (mild and occurring in previously vaccinated persons); *flat*; and *hemorrhagic* (both rare and very severe). Historically, variola major has an overall fatality rate of about 30%; however, flat and hemorrhagic smallpox usually are fatal. Variola minor is a less common presentation of smallpox, and a much less severe disease, with death rates historically of 1% or less.

How is smallpox spread?
Generally, direct and fairly prolonged face-to-face contact is required to spread smallpox from one person to another. Smallpox also can be spread through direct contact with infected body fluids or contaminated objects such as bedding or clothing. Rarely, smallpox has been spread by virus carried in the air in enclosed settings such as buildings, buses, and trains. Humans are the only natural hosts of variola. Smallpox is not known to be transmitted by insects or animals.

After exposure, it takes between 7 and 17 days for symptoms of smallpox to appear (average incubation time is 12 to 14 days). During this time, the infected person feels fine and is not contagious. A person with smallpox is sometimes contagious with onset of fever, but the person becomes most contagious with the onset of rash. At this stage the infected person is usually very sick and not able to move around in the community. The infected person is contagious until the last smallpox scab falls off.

What are the signs and symptoms of smallpox?
The symptoms of smallpox begin with high fever, head and body aches, and sometimes vomiting. A rash follows that spreads and progresses to raised bumps and pus-filled blisters that crust, scab, and fall off after about three weeks, leaving a pitted scar.

How long does the virus survive?
The smallpox virus is fragile. In laboratory experiments, 90% of aerosolized smallpox virus dies within 24 hours. If an aerosol release of smallpox occurs, 90% of virus matter will be inactivated or dissipated in about 24 hours.

How is smallpox treated?
There is no proven treatment for smallpox, but research to evaluate new antiviral agents is ongoing. Patients with smallpox can benefit from supportive therapy (e.g., intravenous fluids, medicine to control fever or pain) and antibiotics for any secondary bacterial infections that may occur.

How can smallpox be prevented?
Smallpox can be prevented through use of the smallpox vaccine. 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 or may decrease the severity of disease. Vaccination will not protect smallpox 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 common is smallpox?
Smallpox outbreaks have occurred from time to time for thousands of years, but the disease is

now eradicated 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 can I get more information?

For more information contact your healthcare provider or local health center. You can also contact the Maine Center for Disease Control and Prevention by calling 1-800-821-5821. The federal Centers for Disease Control and Prevention website - http://www.cdc.gov – is another excellent source of health information.

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Source of Information: Centers for Disease Control and Prevention http://emergency.cdc.gov/agent/smallpox/disease/ (accessed 11/05/2008)