

Facts:

from the Colorado Department of Public Health and Environment



Smallpox: the disease, vaccination, and preparedness

How serious is the smallpox threat?

There is absolutely NO risk from naturally occurring disease today, because there are no cases of smallpox disease anywhere in the world. However, the United States now regards the use of smallpox as a bioterrorist weapon as a remote possibility. Colorado is taking precautions to deal with this possibility.

How many people would have to get smallpox before it is considered an emergency?

Because smallpox has been eradicated throughout the world, just one confirmed case anywhere in the world would be considered an emergency and almost certainly a bioterror attack.

What are the symptoms of smallpox?

The first symptoms include fever, achy flu-like symptoms, and sometimes vomiting. The fever is usually high, from 101° to 104°. At this time, people are usually too sick to carry on their normal activities. This phase may last for two to four days. A rash begins first as small red spots on the tongue and in the mouth. These spots develop into sores that break open, spreading the virus throughout the mouth and throat. When the sores in the mouth break open, a rash appears on the face and spreads all over the body in 24 hours. By the third day of the rash, it becomes raised bumps. By the fourth day, the bumps

become blisters filled with thick, pus-like fluid. The blisters often have a depression in the center. Fever may rise again and remain high until scabs form over the bumps.

If you are exposed, how long does it take to show symptoms?

Between seven and 17 days. People generally are not contagious until they start to show symptoms.

Is smallpox fatal?

With the advances in medicine since smallpox was eliminated, scientists speculate that fewer people would die than in the past. In some areas of the world that did not have adequate medical care, about 30 percent of smallpox patients died. However, since there are increasing numbers of persons with illnesses that suppress the body's immune system, including AIDS and cancer, it is difficult to know what the impact could be.

Is there any treatment for smallpox?

Vaccination within three days of exposure to a smallpox patient will prevent disease in nearly all cases. A delay in vaccination from three to seven days after exposure lessens the severity of the symptoms and decreases the risk of death. Antibiotics do not work on viruses, including smallpox. There are some new anti-viral medications such as Cidofovir and antibody-rich blood products (immune

globulin) that also may prove beneficial, but their effectiveness against smallpox has not been tested.

What is the vaccine made from? Is it actually smallpox?

The smallpox virus is called variola, but the vaccine is made from a related virus called vaccinia. Vaccinia cannot cause smallpox. The smallpox vaccine is a live-virus vaccine, which makes it more effective, but it can cause side effects in some people.

How safe is the smallpox vaccine?

There have been some serious reactions, and even a few deaths, that may have been caused by the vaccine. While these numbers are small, they are significant enough that the vaccine is not being offered to the public at this time.

What is ring vaccination?

Ring vaccination is the most effective approach to vaccination and control of a smallpox outbreak. Public health investigators identify all of the people who may have come into close contact with the first case(s). This is the first "ring." Then, the first-ring persons are interviewed to identify all their close contacts. This group forms the second "ring." Both "rings" are immunized and isolated to prevent further spread. This management technique is recommended by most public health experts worldwide.

I was vaccinated years ago. How long does a smallpox vaccination last?

The first dose of the vaccine offers near total protection from smallpox for three to five years, with decreasing immunity thereafter. If a person is vaccinated again later, immunity lasts longer. There is some evidence that people vaccinated decades ago may have some protection against serious disease. However, with the high stakes involved, anyone who could be exposed to smallpox would be advised to get a new vaccination.

Is there a way to treat serious reactions to the vaccine?

Two treatments may help some people who have serious reactions to the smallpox vaccine. These are Vaccinia Immune Globulin (VIG) and Cidofovir. Both may cause significant side effects, and their effectiveness is uncertain.

Are there people who should not get the vaccine?

Due to the risks associated with the vaccine, Colorado is not vaccinating any additional volunteers.

If there is an outbreak of smallpox, the benefits of the vaccine for those who may have been exposed to smallpox would far outweigh the risks in almost all cases.

Those at increased risk for serious reactions are young children under one year of age, the elderly, people with a history of heart or circulatory disease, people with skin conditions such as eczema and atopic dermatitis, women who are pregnant or breastfeeding, and people who have altered immune systems from cancer, chemotherapy, autoimmune diseases, or HIV/AIDS. However, if there is exposure to smallpox, the risk of vaccination for persons in these categories who are actually exposed to the disease likely would be far less than the risk of the disease, and vaccination would be recommended.

How does Colorado's smallpox vaccination plan work?

President George W. Bush ordered states to begin smallpox vaccinations in January 2003 for public health smallpox response teams and small numbers of hospital workers who could see the first cases of smallpox. Public health nurses in Mesa, El Paso, Weld, and Denver counties administered the smallpox vaccinations.

Colorado now has a number of public health and healthcare workers who have been immunized with the smallpox vaccine. This will ensure that in the event of an attack, the people who will be responsible for caring for the ill are immunized themselves.

The Colorado plan for vaccination now details the response to an outbreak once the first cases of smallpox have been identified. Again, there is a window of time after exposure in which vaccination can be effective.

If there is an attack, there is enough smallpox vaccine to vaccinate every man, woman, and child in the nation.

Reliable sources of information

Centers for Disease Control and Prevention

www.cdc.gov

1-888-246-2675 (English)

1-888-246-2857 (Español)

1-866-874-2646 (TTY)

M-F 8 a.m. – 11 p.m.; S-S 10 a.m. – 8 p.m.

Colorado HELP hotline

www.cohelp.us

1-877-462-2911 (toll-free)

M-F 7 a.m. – 11 p.m.; S-S 9:30 a.m. – 8 p.m.



**Colorado Department
of Public Health
and Environment**

August 2004