

Anthrax and Bioterrorism

What is anthrax?

Anthrax is a serious disease caused by a bacterium called *Bacillus anthracis*, which can be found naturally in certain types of soil. Spores of the anthrax bacterium may remain in nature for many years. Anthrax most commonly occurs in warm-blooded animals but also can occur in people.

How do you get it?

B. anthracis is not known to spread from one person to another. People usually get naturally occurring skin or cutaneous anthrax by handling infected animals or their products, especially hides, hair, wool, bones or bone products. People also may be infected with inhalation anthrax by breathing in anthrax spores, or get gastrointestinal anthrax by eating undercooked meat from infected animals.

Can anthrax be used as a bioterrorism threat?

Several terrorist groups and some nations are believed to have or are experimenting with biological weapons programs. Anthrax is considered a potential threat as a biological weapon because *B. anthracis* forms spores easily and can be produced in a dry form that can be spread through the air or as a powder. Since the spores last for years, they can remain in soil and other materials long after the initial release. Spores are odorless, colorless and tasteless.

In the United States in 2001 and 2002, anthrax spores were mailed through the U.S. Postal Service system, causing 18 confirmed cases of both inhalation and cutaneous anthrax. Five people with inhalation anthrax died, none of the cutaneous cases resulted in death. In other instances, threats of anthrax have been hoaxes.

Contact local law enforcement officials immediately if you think that you may have been exposed to anthrax organisms, including any suspicious package or envelope that contains powder.

What are the symptoms?

Symptoms of anthrax vary depending on how the person became infected but usually occur within seven days of exposure.

- **Skin or cutaneous.** First symptom is a small sore that forms a blister. The blister then turns into a skin ulcer with a black area in the center. The sore, blister and ulcer do not hurt. Infection may spread to the bloodstream.
- **Inhalation.** Cold- and flu-like symptoms such as sore throat, mild fever and muscle aches are first. Later symptoms include cough, chest discomfort, shortness of breath, tiredness and muscle aches. Symptoms may appear within a week or can take up to 60 days to appear. Inhalation anthrax may cause a severe form of meningitis, chest infection, shock and death.
- **Gastrointestinal.** First symptoms are nausea, loss of appetite, bloody diarrhea and fever followed by bad stomach pain.



How is anthrax treated?

All three types of anthrax can be prevented with the use of antibiotics such as ciprofloxacin, doxycycline or penicillin. Early treatment is necessary, as a delay in treatment lowers a person's chances for survival. These antibiotics must be taken according to directions for as many days as directed, generally up to 60 days. All the medication must be taken.

Would enough medication be available in the event of a bioterrorism attack?

Public health officials have large supplies of drugs, including any antibiotics needed in the event of a bioterrorism attack. These supplies can be sent anywhere in the United States within 12 hours.

Can anthrax be prevented?

Vaccination to prevent anthrax is not available or recommended for the general public. Antibiotics combined with the anthrax vaccine are used for a person exposed to *B. anthracis* but not yet sick.

What should I do if I think I have anthrax?

If you are showing symptoms of anthrax infection, call your health-care provider right away. If you think you have been exposed to anthrax, a suspicious package or envelope that contains powder, contact local law enforcement immediately. Everyone who had any contact with a suspicious letter, package or powder must wash their hands with soap and water.

What is the public health system doing about the possibility of an outbreak?

Local, state and federal public health agencies are actively working with local health care providers, hospitals, emergency response teams, laboratories, veterinarians and others to prepare for large outbreaks and biological disasters of all types, including anthrax. If bioterrorism is suspected, the Department of State Health Services notifies the CDC, FBI and other appropriate authorities.

Where can I get more information?

Contact your local health department. Additional information on anthrax and bioterrorism can be found on the Department of State Health Services Web site and the CDC web site.