

Anthrax

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What is anthrax?

Anthrax is a disease caused by the bacteria (germ) *Bacillus anthracis*. These bacteria are found naturally in the soil and infections can occur in cattle and other domestic animals (sheep, goats, etc.). It is rare to find infected animals in the United States. The anthrax bacteria are very hardy and can live in the environment for a long time in the spore form of the bacteria. Exposure to the bacteria in nature can infect humans, but anthrax in humans is very rare.

How do people get anthrax?

People can get it in three ways: by anthrax spores entering through a break in the skin, by breathing in the anthrax spores or by eating contaminated food. Anthrax is *not* spread from person to person by casual contact, sharing of office space or by coughing or sneezing.

What are the symptoms of anthrax disease?

There are three main kinds of human anthrax:

- **Skin anthrax** is the least serious form of human anthrax. It is caused when the germ makes direct contact with a cut or a break in the skin. The first symptom is a small, painless sore that develops into a blister with swelling and redness of the surrounding skin. A mild fever and swollen lymph nodes are also common. Without treatment, skin anthrax can kill about 10%-20% of infected people; however, with treatment, death is rare.
- **Gastrointestinal (GI) anthrax** is the least common type of human anthrax. It is caused by eating undercooked, contaminated meat. Initial symptoms are nausea, vomiting, loss of appetite and fever, followed by severe abdominal pain and bloody stools. While gastrointestinal anthrax is very rare, 25% to 60% of people who develop GI anthrax die, even with treatment.
- **Inhalation anthrax** is the most serious form of human anthrax. It is caused by breathing anthrax germs directly into the lungs. The first symptoms are usually fever, fatigue, cough, headaches, chills, weakness, difficulty breathing and chest discomfort. Nausea, vomiting and abdominal pain are also common. Without treatment, inhalation anthrax almost always results in death. With current treatment, the death rate is about 50% (5 deaths among 11 cases occurred in the 2001 anthrax bioterrorism events.)

How soon do symptoms of anthrax appear?

Symptoms usually appear within 1–7 days after exposure to the bacteria, but symptoms for inhalation anthrax can take up to 60 days or longer after exposure to anthrax spores.

How is anthrax diagnosed?

It is diagnosed when a laboratory can find the germ in blood samples, swabs from skin lesions (sores) or respiratory secretions (material from the lung). Anthrax can also be diagnosed by detecting specific antibodies (bacteria fighters) in the blood.



How is anthrax treated?

It is treated by taking antibiotics. The United States government has a stockpile of antibiotics just in case there is a bioterrorism event with anthrax and many people need treatment.

Is there a vaccine (shot) for anthrax?

There is an anthrax vaccine, but it is currently only available to certain individuals considered to be at higher risk for anthrax because of their job or military service.

Where does anthrax occur?

In recent years, it has been reported among animals in many countries and is especially common in parts of Africa, Asia and the Middle East. It occurs much less frequently in the United States.

What is the link between anthrax and animal hide drums?

In the last several years there have been several people who got anthrax from contaminated animal hides. Skins from animals infected with anthrax may still be contaminated with spores even after they are prepared for making drums. Hides from countries where anthrax is common pose a higher risk of exposure to anthrax spores than domestic (US-origin) hides.

What is the risk of getting anthrax from attending drumming events?

The risk of being exposed to anthrax spores through attending drumming events where animal hide drums are played, or handling animal hide drums at such events is considered to be very low. People who get hides from outside the United States and make drums are a little more likely to get anthrax than people just attending an event. However, the risk of anthrax from either of these activities is still very low.

Can anthrax be used for bioterrorism?

Yes, it is possible for it to be used this way. Bioterrorism is the use of any biological organism to intentionally hurt people or create fear. In order to make anthrax into a bioterrorism agent that could harm someone, it would have to be processed in a very special way. Anthrax was used to contaminate letters sent in the mail in 2001.

How can I protect myself from anthrax in the mail?

It is important to remain calm and cautious. Individuals should pay attention to suspicious packages and letters that arrive in the mail. Some typical characteristics that ought to trigger suspicion include letters or parcels that:

- Have any powdery substance on the outside.
- Are unexpected or from someone unfamiliar to you.
- Have excessive postage, a handwritten or poorly typed address, incorrect titles or titles with no



name or misspellings of common words.

- Are addressed to someone no longer with your organization or are otherwise outdated.
- Have no return address or have one that can't be verified as legitimate.
- Are of unusual weight, given their size, or are lopsided or oddly shaped.
- Have an unusual amount of tape.
- Are marked with restrictive words, such as "Personal" or "Confidential."
- Have strange odors or stains.

If you receive any mail that contains a threatening or unusual substance, wash your hands with soap and water and call your local police department for instructions on how to proceed.

What should I do if I think I have been exposed to anthrax?

If you are sick and you think you may have been exposed to anthrax, call your healthcare provider. They will determine if you need to be tested for anthrax and if you need treatment.

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/

