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Anthrax

What is anthrax?

Anthrax is a serious infectious disease caused by the spore-forming bacterium *Bacillus anthracis* and continues to be a critical public health concern in an era where bioterrorism poses a significant threat.

Infection can occur in three forms:

- **Cutaneous:** Caused by the bacterium entering a cut or scrape on the skin.
- **Inhalation:** Caused by breathing in anthrax bacteria or spores. The spores are too small to be seen by the naked eye and have no special color, smell or taste.
- **Gastrointestinal:** Caused by eating or drinking anthrax contaminated food or water.

How do you get it?

Anthrax cannot be spread from person to person. Plant eating animals, both livestock and wildlife, can carry the disease. Humans can become infected with anthrax by handling products from infected animals, by breathing in anthrax spores from contaminated animal products or by eating undercooked meat from infected animals. Humans can also be infected deliberately by terrorists using anthrax as a weapon, as seen in the United States in 2001. Anthrax is classified as a Category A Bioterrorism Agent.

Persons at highest risk of getting the disease are workers who handle animal products, agricultural and wildlife workers, and veterinarians who handle infected animals. Infection usually occurs while processing animal products, either by direct contact with the contaminated raw material or by indirect contact in a contaminated environment. The bacteria are resistant to drying and disinfection, and can remain alive in contaminated soil for years after the death of the animal.

What are the symptoms of anthrax?

Cutaneous anthrax begins as a raised itchy bump that looks like an insect bite but within 1–2 days becomes a painless sore, usually 1–3 cm in diameter, with a typical black area in the center. Lymph glands near the infected area may swell. Deaths from cutaneous anthrax are rare because the illness can be cured with appropriate antibiotics. About 20% of untreated cases could result in death.

At first, inhalation anthrax looks like a common cold. Symptoms can begin within 7 days of infection and may include:

- Fever accompanied by chills or night sweats.
- Flu-like symptoms.
- Sore throat, followed by difficulty swallowing, enlarged lymph glands, headache, nausea, loss of appetite, abdominal pain, vomiting, or diarrhea.
- After several days, the symptoms may worsen to severe breathing problems and shock. Inhalation anthrax is usually fatal if left untreated.

(A runny nose is a rare feature of inhalation anthrax. A person who has a runny nose along with other common flu-like symptoms is more likely to have the common cold than to have anthrax.)

Gastrointestinal anthrax is characterized by an acute inflammation of the intestinal tract. Initial signs of nausea, loss of appetite, vomiting, and fever are followed by abdominal pain, vomiting of blood, and severe diarrhea.

When do symptoms start?

Most individuals experience symptoms within 48 hours following exposure to the bacteria, but the onset can range from 2 to 7 days. In the case of inhalation anthrax, infection has occurred as late as 42 days after exposure.

What is the treatment for anthrax?

In persons exposed to anthrax, infection can be prevented with doctor prescribed antibiotic treatment for 60 days. For symptomatic anthrax infection, a 5-7 day course of antibiotics will be prescribed. For symptomatic gastrointestinal anthrax and inhalation anthrax, immediate intravenous (IV) antibiotics are needed. Early antibiotic treatment of anthrax is essential—any delay lessens chances for survival.

How can you keep from getting it?

- Immunize persons who have jobs that may expose them to the bacteria.
- Use extreme caution when handling dead animals that may be infected with anthrax.
- Have good air circulation when working with animal hides, fur, hair, or wool.
- Vaccinate animals that may be at risk.

For more information, see the CDC's website at <http://www.bt.cdc.gov/agent/anthrax/index.asp>