



FACT SHEET

Questions and Answers About Anthrax

What is anthrax?

Anthrax is an acute infectious disease caused by the spore-forming bacterium *Bacillus anthracis*. Anthrax most commonly occurs in wild and domestic animals (cattle, sheep, goats, camels, antelopes, and other herbivores). In humans, it is primarily an occupational disease identified in persons who have been exposed to infected animals or animal products such as wool, hair, and hides.

As little as 100 kg of powdered *Bacillus anthracis* could cause 300,000 to 3 million deaths if released under the proper environmental circumstances into a densely populated region.

Symptoms of anthrax usually develop within 7 days of exposure depending on how the disease was contracted, with most cases occurring within 48 hours of exposure. Incubation periods up to 60 days are possible. Anthrax can be spread three ways:

1. ***Inhalation (breathing in anthrax spores):*** Initial symptoms may resemble a common cold. After several days, the symptoms may progress to severe breathing problems and shock. Inhalation anthrax can be fatal.
2. ***Cutaneous (skin contact):*** Most (about 95%) anthrax infections occur when the bacterium enters a cut or abrasion on the skin, such as when handling contaminated wool, hides, leather or hair products (especially goat hair) of infected animals.
3. ***Intestinal (ingesting contaminated, undercooked meat):*** The intestinal disease form of anthrax may follow the consumption of contaminated meat and is characterized by an acute inflammation of the intestinal tract. Initial signs of nausea, loss of appetite, vomiting, fever are followed by abdominal pain, vomiting of blood, and severe diarrhea. Intestinal anthrax results in death in 25% to 60% of cases.

In the event of a bioterrorist attack with anthrax, a rapid investigation would be conducted to determine the time and place of the release and to identify exposed persons who need antibiotics to prevent illness. The federal government has developed a large stockpile of pharmaceuticals, including antibiotics, which could be rapidly delivered in the event of a bioterrorist attack.

How common is anthrax and who can get it?

Anthrax is most common in agricultural regions where it occurs in animals. These include South and Central America, Southern and Eastern Europe, Asia, Africa, the Caribbean, and the Middle East. When anthrax affects humans, it is usually due to an exposure to infected animals or their products. Workers who are exposed to dead animals and animal products from other countries where anthrax is more common may become infected with *B. anthracis* (industrial anthrax). Anthrax in wild livestock has occurred in the United States.

Is there a vaccine available for anthrax?

There is no vaccine commercially available or recommended. The vaccine is in limited supply and is not available to the general public or medical community. The anthrax vaccine requires 6 shots over an 18-month period with periodic boosters and is only currently available for military personnel thought to be at higher risk for potential exposure to anthrax. The Advisory Committee on Immunization Practices has recommend anthrax vaccination for the following groups:

- Persons who work directly with the organism in the laboratory
- Persons who work with imported animal hides or furs in areas where standards are insufficient to prevent exposure to anthrax spores.
- Persons who handle potentially infected animal products in high-incidence areas. (Incidence is low in the United States, but veterinarians who travel to work in other countries where incidence is higher should consider being vaccinated.)
- Military personnel deployed to areas with high risk for exposure to the organism (as when it is used as a biological warfare weapon).

Where is anthrax usually found?

Anthrax can be found globally. It is more common in developing countries or countries without veterinary public health programs. Certain regions of the world (South and Central America, Southern and Eastern Europe, Asia, Africa, the Caribbean, and the Middle East) report more anthrax in animals than others.

Can anthrax be spread from person-to-person?

Direct person-to-person spread of anthrax is extremely unlikely to occur. Communicability is not a concern in managing or visiting with patients with inhalation anthrax.

How is anthrax diagnosed?

Anthrax is diagnosed by isolating *B. anthracis* from the blood, skin lesions or respiratory secretions or by measuring specific antibodies in the blood of persons with suspected cases.

Is there a treatment for anthrax?

Doctors can prescribe effective antibiotics if you have been exposed. To be effective, treatment should be initiated early. If left untreated, the disease can be fatal. At this time, private stockpiling or taking of antibiotics preventively without evidence of exposure is not recommended. Inappropriate use of antibiotics will lead to increased antibiotic resistance among microorganisms causing common bacterial infections.