

What is anthrax?

Anthrax is a disease caused by the bacteria *Bacillus anthracis* that can infect all warm-blooded animals, including humans. Anthrax can be found naturally in soil and affects domestic and wild animals around the world. Anthrax is rare in the United States, but sporadic outbreaks do occur in wild and domestic grazing animals such as cattle or deer.

Who is at risk for anthrax?

Anthrax is primarily a disease that affects people who work certain jobs, such as those exposed to dead animals and contaminated animal products such as meat, hides, carcasses, wool and hair. However, precautions may be used and these infections are rare.

What are the symptoms of anthrax?

The symptoms will vary depending on how a person was exposed to the bacteria. With skin exposure (cutaneous), a boil-like sore appears that eventually forms a black center. Swelling of the lymph glands under the arm also may occur. With respiratory exposure, symptoms may resemble the common cold and may progress to severe breathing problems, and even death. Intestinal exposure may include abdominal cramps, nausea and vomiting and can be followed by fever, bloody diarrhea, sepsis, and death. Exposure by injection may cause localized soft tissue infections and abscesses.

How soon do symptoms appear?

Symptoms usually appear within seven days after cutaneous, intestinal or injection exposure. Respiratory symptoms usually appear within two to 43 days.

How is anthrax spread?

The anthrax bacteria can live in the soil for many years in the form of a spore. A spore is a bacterium that has gone dormant because its environment wasn't good for growth and/or reproduction. People may become infected with anthrax by inhaling contaminated soil particles or by handling wool or hair from diseased animals. Infection of the intestinal tract can occur by eating undercooked meat from diseased animals. Cutaneous infection can occur when anthrax bacteria get into the skin, usually through a cut or scrape.

When and for how long is a person able to spread the disease?

There are no reports of the disease spreading from person to person.

How is a person diagnosed?

Diagnosis will depend on the type of anthrax infection a person has. Laboratory tests - which can be done on blood, spinal fluid, skin biopsies, etc. - are available to help aid a health-care professional with the diagnosis.

What is the treatment?

Anthrax can be treated and cured with antibiotics. Make sure to follow all directions when taking antibiotics to reduce the chance of relapse and developing antibiotic resistant strains.

Does past infection make a person immune?

How immune a person may be is unknown; however, second attacks of this disease are rare.

Should children or others be excluded from child care, school, work or other activities if they have anthrax?

No. Infants, toddlers and school-age children should not be excluded unless the staff determines the child is unwilling or unable to participate in activities. They also should be excluded if the staff determines that they cannot care for the child without compromising their ability to care for the health and safety of the other children in the group.

All others can attend work and other functions as long as they are well enough to do so.

What can be done to prevent the spread of anthrax?

Anthrax vaccine is no longer available to the public. However, it is available to people in high-risk occupations, such as:

- People who work directly with the anthrax bacteria in the laboratory.
- People who work with imported animal hides or furs in areas where work standards are insufficient to prevent exposure to anthrax spores.
- People who handle potentially infected animal products in high-incidence areas; while incidence is low in the United States, 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 anthrax bacteria.

For everyone else, the best way to reduce his or her risk of getting anthrax is to carefully handle dead animals suspected of having anthrax. When processing or working with animal hides, always work in an area that has good ventilation. Vaccinating livestock will further reduce the risk of exposure to infected animals and animal hides; check with a licensed veterinarian regarding animal vaccinations.

Additional Information:

Additional information is available by calling the North Dakota Department of Health at 800.472.2180.

This disease is a reportable condition. As mandated by North Dakota law, any incidence of this disease shall be reported to the North Dakota Department of Health Resources:

Resources:

American Academy of Pediatrics. [Children in Out-Of-Home Child Care]. In: Kimberlin DW, Brady MT, Jackson MA, Long SS, eds. *Red Book: 2018 Report of the Committee on Infectious Diseases*. 31st ed. Itasca, IL: American Academy of Pediatrics; 2018:[122-136].

American Academy of Pediatrics. [Anthrax]. In: Kimberlin DW, Brady MT, Jackson MA, Long SS, eds. *Red Book: 2018 Report of the Committee on Infectious Diseases*. 31st ed. Itasca, IL: American Academy of Pediatrics; 2018:[214-220].

Heymann, D. L. (2015). *Control of Communicable Diseases Manual, 20th Edition*. Anthrax. American Public Health Association. 2015: [16-26].