



## *Just the Facts...*

## **ANTHRAX**

### ***What is anthrax?***

Anthrax is a highly lethal infection caused by the bacteria, *Bacillus anthracis*. It is most often found in sheep, cattle and horses, but can be transmitted to humans who come into contact with infected animals or their products. In naturally acquired cases, the anthrax bacteria usually enters through skin wounds (causing a localized infection), but may also be inhaled or ingested (eaten). Intentional release by terrorist groups, a form of biological terrorism (bioterrorism), would most likely occur through the air, because the spore form of this bacteria is quite stable and could readily be produced. Rarely would a person in the United States be exposed to anthrax in any other way (through the skin or eaten), because of widespread use of synthetic fibers (rather than animal hides) and regular inspection of the food supply by the US Department of Agriculture. It is difficult both technically and scientifically to manufacture the bacteria in a form stable enough to survive.

### ***How could I come into contact with anthrax and how likely is it?***

The most likely natural means of human contact with anthrax would be through exposure to animals infected with the anthrax bacteria. Human-to-human transmission is extremely rare. While it is possible that anthrax could be part of terrorist act, it is unlikely for several reasons:

- First, the most likely method of release through the air would require that the aerosol particles be a specific size. This is difficult to do without very specialized equipment and skills.
- Second, crop-dusters – one of the common concerns today -- are designed to spray concentrated streams of liquid, not the fine mists that would be needed to disperse germs across a large area.
- Third, the quantity of anthrax spores needed to affect a water supply is very large and hard to hide. Further, the effect of anthrax spores would be diminished by dilution, proper filtration, and treatment with chlorine.

Individuals who, through their occupation, regularly come into contact with livestock or products from livestock (e.g., certain veterinarians, animal handlers, laboratory workers) would be the most likely to come into contact with anthrax. Even their risk is usually slight.

### ***How would I know if I've been exposed?***

If anthrax spores or bacteria were inhaled, initial symptoms would begin to appear anywhere from 1-6 days afterwards. Fever, malaise (e.g., depression), fatigue, cough, and mild chest discomfort would be rapidly followed by severe breathing problems (shortness of breath, difficulty breathing, chest pain) and excessive sweating. With prompt medical treatment, fatalities are rare. However, if severe symptoms would be left untreated, shock and death would occur within 24-36 hours.

If the anthrax bacteria were to enter through a skin wound, a distinctive sore or lesion would appear. These lesions are usually painless, but should be treated as soon as possible.

## ***What treatment is available?***

A licensed vaccine is available for those at higher risk of exposure, such as military personnel, veterinarians and others who work with potentially infected animals. The vaccination series is given at 0, 2, and 4 weeks, and 6, 12, and 18 months, with yearly boosters thereafter. However, there is a limited supply of this vaccine and it is reserved for those with the greatest demonstrated need.

Post-exposure treatment would start with antibiotics. If exposure is suspected, antibiotic treatment should begin before symptoms appear to increase the chance for survival. Antibiotics would continue for 30 to 60 days. For the most complete protection, an individual should also then receive three doses of the anthrax vaccine. This combination would be the most effective treatment, because the antibiotics would provide short-term protection, and the vaccinations would help protect against any anthrax spores that might remain in the lung after stopping the antibiotic treatment. Two antibiotics recommended include ciprofloxacin or doxycycline.

## ***Where can I get more information about anthrax?***

For more information, you can visit these websites:

- Centers for Disease Control and Prevention:

[http://www.cdc.gov/ncidod/dbmd/diseaseinfo/anthrax\\_g.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/anthrax_g.htm)

- Department of Defense Website for the Anthrax Vaccine Immunization Program:

<http://www.anthrax.osd.mil>

- U.S. Army Institute of Infectious Diseases:

<http://www.nbc-med.org>

- Johns Hopkins University School of Medicine and Public Health:

<http://www.hopkins-biodefense.org/>

You can also call:

- Centers for Disease Control and Prevention: 1-800-311-3435
- Department of Defense Anthrax Vaccination and Immunization Program (AVIP):  
1-877-GETVACC
- Your local health department