



Questions about anthrax?

Interest in the treatment of biological weapons-induced illness, especially anthrax, has increased dramatically during the past month. We believe the following information published by the *Journal of the American Medical Association* will be helpful to our members who have questions.

What is anthrax?

Anthrax is caused by the spore-forming bacterium *Bacillus anthracis*. Symptoms vary depending on how the disease was contracted:

- Inhalation: Dyspnea, cough, and chest discomfort - progressing to respiratory failure and hemodynamic collapse. Inhalation anthrax is often fatal.
- Cutaneous: Area of local edema that becomes a pruritic macule or papule, enlarging and ulcerating in 1-2 days, followed by the development of a painless, depressed, black eschar. Lymphangitis and painful lymphadenopathy may also occur.
- Intestinal: Characterized by acute inflammation of the intestinal tract (i.e., nausea, loss of appetite, vomiting, and fever followed by abdominal pain, vomiting of blood, and severe diarrhea).

Additional facts about anthrax

- Rapid diagnostic tests (enzyme-linked immunosorbent assay, PCR) are available only at national reference laboratories.
- Vaccine prevents infection but is not currently recommended for the general public.
- Early antibiotic treatment for infected persons is essential to improve survival rates.
- In exposed persons, infection can be prevented with antibiotic treatment. There are three FDA-approved antibiotics: penicillin, doxycycline, and ciprofloxacin.
- Human-to-human transmission has not been documented.

- Decontamination of large urban areas following an exposure to an anthrax aerosol is extremely difficult and is not indicated.
- New knowledge of the anthrax organism, its genetics and pathogenesis, improved rapid diagnostic techniques, improved prophylactic and therapeutic regimens, and an improved second-generation vaccine are needed.

Source: Anthrax as a Biological Weapon. *JAMA*. 1999;281:1735-1745
<http://jama.ama-assn.org/issues/v281n18/ffull/jst80027.html>

The following links will provide additional information.

- **The Santa Rosa Press Democrat published an article about antibiotic treatment, for which HPR Director of Pharmacy Services Peter Kwok, PharmD, was interviewed:**
http://www.pressdemocrat.com/business/news/25cipro_e1.html
- The Centers for Disease Control:
<http://www.bt.cdc.gov/DocumentsApp/faqs.asp>
- The U.S. Department of Health and Human Services:
<http://www.hhs.gov/hottopics/healing/biological.html>
- The U.S. Food and Drug Administration:
<http://www.fda.gov/>