

## GASTROINTESTINAL ANTHRAX

### Background:

Causative organism is *Bacillus anthracis*, an encapsulated, aerobic, gram-positive spore-forming rod-shaped bacterium. Humans become infected by ingestion of spores from infected animals (e.g., sheep, goats or cattle), animal products, such as hides or hair, or intentional malicious acts of bioterrorism. All suspected or confirmed cases of anthrax must be reported to the local department of public health and the Illinois Department of Public Health (IDPH).

### Incubation Period:

Usually about 7 days after exposure to spores, with a range of 1 to 12 days.

### Signs/Symptoms:

- 1) Nausea, anorexia, vomiting and fever progressing to severe abdominal pain, bloody emesis and diarrhea (usually bloody)
- 2) Acute abdominal pain with peritoneal signs may develop
- 3) About 2 to 4 days after onset of symptoms, ascites may develop as abdominal pain decreases
- 4) Shock and death 2 to 5 days after onset of symptoms



- 5) *The case-fatality rate for pediatrics is estimated to be between 25 percent and 60 percent.*

### Laboratory and Diagnostic Testing:

Call the local department of public health and IDPH to inform the state of a possible anthrax case and to obtain additional instructions as necessary.

- 1) Blood: gram-positive bacilli on unspun blood smear
- 2) Blood culture: aerobic growth of gram-positive bacilli
- 3) Ascitic fluid: gram-positive bacilli on gram stain of unspun fluid
- 4) Pharyngeal swab: if symptoms/ulcers present (dacron or rayon swabs)
- 5) CT Scan: mesenteric adenopathy may be present
- 6) CXR: widened mediastinum may be present

### Treatment:

Standard isolation from contact with skin lesions.

*(see tables, next page)*

Table 1:

Category	Initial Therapy (Oral)	Duration
Adults (including pregnant women and pregnant adolescents)	Ciprofloxacin 400 mg IV every 12 hrs <i>or</i> Doxycycline 100 mg IV every 12 hrs <i>and</i> One or two additional antimicrobials*	IV treatment initially, switch to PO when clinically appropriate (see Table 1 for PO dosing). Treat for a total of 60 days** (IV & PO combined).
Children	Ciprofloxacin 10-15 mg/kg every 12 hrs (not to exceed 1 g/day) <i>or</i> Doxycycline: >8 yrs and >45 kg: 100 mg every 12 hrs <i>and</i> One or two additional antimicrobials* All other children: 2.2 mg/kg every 12 hrs <i>and</i> One or two additional antimicrobials*	IV treatment initially, switch to PO when clinically appropriate (see Table 1 for PO dosing). Treat for a total of 60 days** (IV & PO combined).
Immunocompromised individuals	Same for non-immunocompromised adults and children	Same for non-immunocompromised adults and children

\*Additional antimicrobials include rifampin, vancomycin, penicillin, ampicillin, chloramphenicol, imipenem, clindamycin and clarithromycin.

\*\*Previous treatment guidelines for gastrointestinal anthrax suggested 7 to 10 days of therapy; however with the potential for bioterrorism, 60 days is recommended because of possible inhalational exposure.

Do **NOT** use extended-spectrum cephalosporins or trimethoprim/sulfamethoxazole because anthrax may be resistant to these drugs.

Adapted from CDC's Morbidity and Mortality Weekly Report October 2001

**If you suspect a poisoning exposure from any bioterrorism agent, immediately contact your local county health department, and the Illinois Poison Center at 1-800-222-1222.**