

**PENNSYLVANIA DEPARTMENT OF HEALTH
HEALTH ALERT #16**

Date: October 23, 2001
Subject: CDC Recommendations on Antibiotic Prophylaxis for Workers and Visitors to the Washington, D.C. Processing and Distribution Center, 900 Brentwood Road and the Mail Handling Center, Cargo Road, Anne Arundel County, Maryland
and
Antimicrobial Susceptibility of Bacillus anthracis Isolates Associated with Intentional Distribution in Florida, New Jersey, New York, Pennsylvania, Virginia & Washington, DC
To: Health Alert Network
From: Robert S. Zimmerman, Jr., MPH, Secretary of Health

**HOSPITALS: PLEASE SHARE THIS WITH ALL MEDICAL, PEDIATRIC, NURSING,
LABORATORY, RADIOLOGY & PHARMACY STAFF IN YOUR HOSPITAL**

PROFESSIONAL ORGANIZATIONS: DISTRIBUTE TO YOUR MEMBERSHIP

The following from the Centers for Disease Control and Prevention (CDC) is being provided for your information and use:

All employees of and visitors to the Washington, D.C. Processing and Distribution Center, 900 Brentwood Road and the Mail Handling Center, Cargo Road, Anne Arundel County, Maryland, near the Baltimore-Washington International Airport since October 10th should begin antibiotic prophylaxis for possible exposure to B. anthracis (anthrax). It is believed that these individuals could have been exposed to the bacterium.

- These individuals should receive antibiotic prophylaxis for 10 days, with continuation determined by the Washington, D.C. Health Department and the Maryland and Virginia State Health Departments.
- These individuals should not be tested for exposure to B. anthracis with nasal swabs. Nasal swabs are used primarily for epidemiologic investigation and not for individual diagnosis, prophylaxis, or treatment.
- Nasal swabs are also not recommended for testing people at potential risk who are currently away from the Washington, D.C. area. Again, such tests are not used to determine the need for prophylaxis among people who are potentially exposed.

The Deputy Postmaster General is currently contacting employees about beginning prophylaxis. People who meet the criteria for potential risk and are currently away from the Washington, D.C. metropolitan area should contact their local or state health department to receive prophylaxis.

If you identify individuals at risk of exposure from these facilities in Washington, DC and Maryland, contact your local Health Department at 1-877- PA HEALTH (1-877-724-3258).

Antimicrobial Susceptibility of *Bacillus anthracis* Isolates Associated with Intentional Distribution in Florida, New Jersey, New York, Pennsylvania, Virginia, and Washington, D.C.

The antimicrobial susceptibility patterns of eleven *Bacillus anthracis* isolates associated with intentional exposures on the east coast have been determined. The susceptibility patterns of all the isolates were similar and are described below. CDC will be issuing updated treatment recommendations for anthrax and will disseminate them as soon as they are completed.

Ciprofloxacin <0.06 µg/ml (susceptible)

Tetracycline = 0.06 µg/ml (susceptible)

Doxycycline <0.03 µg/ml (susceptible)

Penicillin <0.06 µg/ml - 0.12 µg/ml ("susceptible" but see below)

Amoxicillin < 0.03 µg/ml ("susceptible" but see below)

Erythromycin = 1 µg/ml (intermediate)

Azithromycin =2 µg/ml (borderline susceptible)

Clarithromycin =0.25 µg/ml (susceptible)

Rifampin = 0.5 µg/ml (susceptible)

Clindamycin <0.5 µg/ml (susceptible)

Vancomycin = 1-2 µg/ml (susceptible)

Chloramphenicol = 4 µg/ml (susceptible)

Ceftriaxone = 16 -32 µg/ml (intermediate or resistant)

- The penicillin MICs were <0.06 to 0.12 µg/ml, which, using the NCCLS staphylococcal breakpoint for penicillin, would be considered susceptible (resistance is defined as 0.25 µg/ml).
- All of the *B. anthracis* isolates were also susceptible to ciprofloxacin (MIC< 0.06 µg/ml), chloramphenicol (MIC = 4 µg/ml), tetracycline (MIC=0.06 µg/ml), doxycycline (MIC=0.06 µg/ml), rifampin (MIC<0.5 µg/ml), and vancomycin (MIC 1-2 µg/ml).
- Although there are no amoxicillin breakpoints defined for staphylococci by NCCLS, the amoxicillin results (MIC <0.03 µg/ml) were considered susceptible for *B. anthracis*. However, the erythromycin MICs of all eleven strains of *B. anthracis* would be categorized as intermediate (MIC= 1 µg/ml). The MICs to clarithromycin (MIC=0.25 µg/ml) and azithromycin (MIC=2 µg/ml) are susceptible (but azithromycin MICs are at the susceptible breakpoint). Using the NCCLS ceftriaxone breakpoints designated for gram-negative organisms (since there are no breakpoints specifically for ceftriaxone for staphylococci) all isolates would be considered as intermediate (MIC =16 µg/ml) or resistant (MIC=32 µg/ml). These MICs suggest the presence of a cephalosporinase in the isolates. Additional studies are in progress to define the beta-lactamases of *B. anthracis*.

Conclusions:

- The current *B. anthracis* strains associated with the intentional exposures are susceptible to ciprofloxacin and doxycycline, the two drugs approved for post-exposure prophylaxis to *B. anthracis* and recommended as part of initial therapy of inhalational or cutaneous anthrax.
- The current strains also are susceptible to chloramphenicol, clindamycin, rifampin, vancomycin, and clarithromycin, but limited or no data exists regarding the use of these agents in the treatment or prophylaxis of *B. anthracis* infections.
- Cephalosporins should not be used for post-exposure prophylaxis or treatment of *B. anthracis* infections.
- The likelihood of a beta-lactamase induction event that would increase penicillin MICs is significantly higher in infections where high concentrations of organisms are present. Thus, treatment of known *B. anthracis* infections with a penicillin type drug alone (i.e., penicillin G, ampicillin, etc.) in the setting where high concentrations of organisms are present is a concern.
- The likelihood of a beta-lactamase induction event that would increase penicillin MICs is lower when only small numbers of vegetative cells are present, such as during post exposure prophylaxis. Thus, amoxicillin or penicillin VK may be an option for post-exposure prophylaxis where ciprofloxacin or doxycycline are contraindicated.
- Additional studies are in progress to assess the susceptibility of the penicillinase activity observed in these strains to beta-lactamase inhibitors.
- Clinical experience is limited, but combination therapy with two or more antimicrobials may be appropriate in patients with severe infection.