

**MMWR Summary: CDC Anthrax Investigation Updates and New Information**  
**November 2, 2001 / Vol. 50 / No. 43**

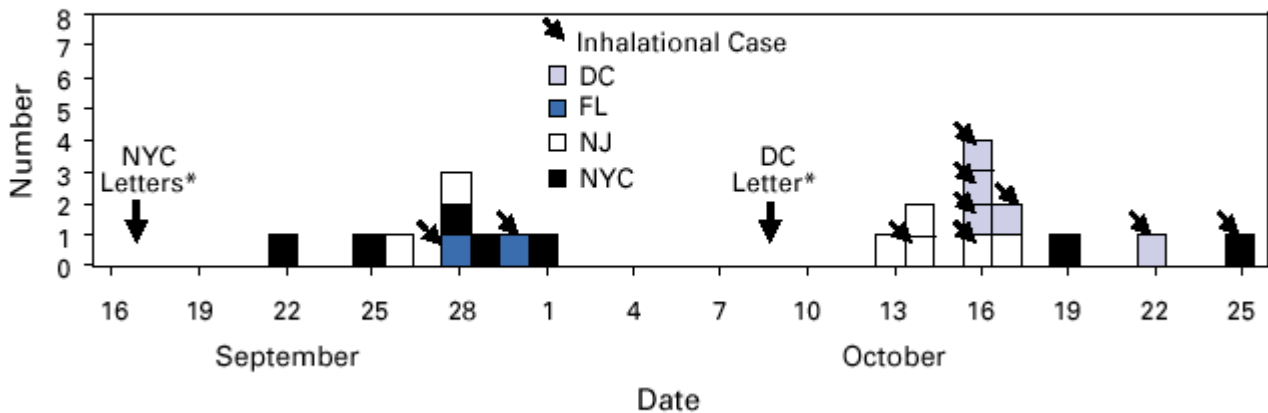
The full version of this week's Morbidity and Mortality Weekly Report, *MMWR*, can be accessed through <http://www.cdc.gov/mmwr/>

**Update: Investigation of Bioterrorism-related Anthrax**

Since October 3, 2001, CDC and state and local public health authorities have been investigating cases of bioterrorism-related anthrax. A total of 21 cases (16 confirmed and five suspected) have been reported among persons in the District of Columbia, Florida, New Jersey, and New York City (Figure 1). Two new cases have no discernible epidemiologic link with anthrax cases previously reported or sites that are associated with known cases. These new cases suggest that anthrax exposure has occurred or is continuing to occur through means that cannot be ascribed to known contaminated letters or the paths these letters took through the mail service.

Until the source of these intentional exposures is eliminated, clinicians and laboratorians should be alert for clinical evidence of *Bacillus anthracis* infection.

**FIGURE 1. Number of bioterrorism-related anthrax cases, by date of onset and work location — District of Columbia (DC), Florida (FL), New Jersey (NJ), and New York City (NYC), September 16–October 25, 2001**



\* Postmarked date of known contaminated letters.

**Statement Regarding Selection of Ciprofloxacin or Doxycycline For Postexposure Prophylaxis for Prevention Of Inhalational Anthrax**

Previous guidelines recommended ciprofloxacin for antimicrobial prophylaxis until antimicrobial susceptibility test data was available. Isolates involved in the current bioterrorism attacks have been susceptible to ciprofloxacin, doxycycline, and several other antimicrobial agents.

Considerations for choosing an antimicrobial agent include effectiveness, resistance, side effects, and cost. No evidence demonstrates that ciprofloxacin is more or less effective than doxycycline for antimicrobial prophylaxis to *B. anthracis*. Widespread use of any antimicrobial will promote resistance. Many common pathogens are already resistant to tetracyclines such as doxycycline. However, fluoroquinolone resistance is not yet common in these same organisms. To preserve the effectiveness of fluoroquinolone against other infections, use of doxycycline for prevention

of *B. anthracis* infection among populations at risk may be preferable. However, the selection of the antimicrobial agent for an individual patient should be based on side-effect profiles, history of reactions, and the clinical setting.

### **Interim Guidelines for Clinical Evaluation of Persons with Possible Anthrax**

Based on findings of the ongoing anthrax investigation, CDC has developed interim guidelines to clinicians for the evaluation of persons with possible anthrax infection (Figures 2 and 3).

### **Updated Recommendations for Antimicrobial Prophylaxis Among Asymptomatic Pregnant Women After Exposure to *Bacillus anthracis***

The prophylactic antimicrobial of choice for initial prophylactic therapy among asymptomatic pregnant women exposed to *Bacillus anthracis* is ciprofloxacin, 500 mg twice a day for 60 days. Amoxicillin, 500 mg three times a day for 60 days, may be considered if the *B. anthracis* strain is known to be susceptible to penicillin. Isolates of *B. anthracis* implicated in the current bioterrorist attack are susceptible to penicillin in laboratory tests, but may contain penicillinase activity (CDC, *MMWR* 2001; 50:909-919). Amoxicillin and other penicillins are not recommended for treatment of anthrax infection. Doxycycline should be used with caution in pregnant women and only when other drugs cannot be used.

Limited data indicate that ciprofloxacin use during pregnancy is unlikely to be associated with a high risk for fetal malformation or teratogenesis risk. Penicillins are generally considered safe for use during pregnancy. Doxycycline during pregnancy poses risks of dental and bone defects.

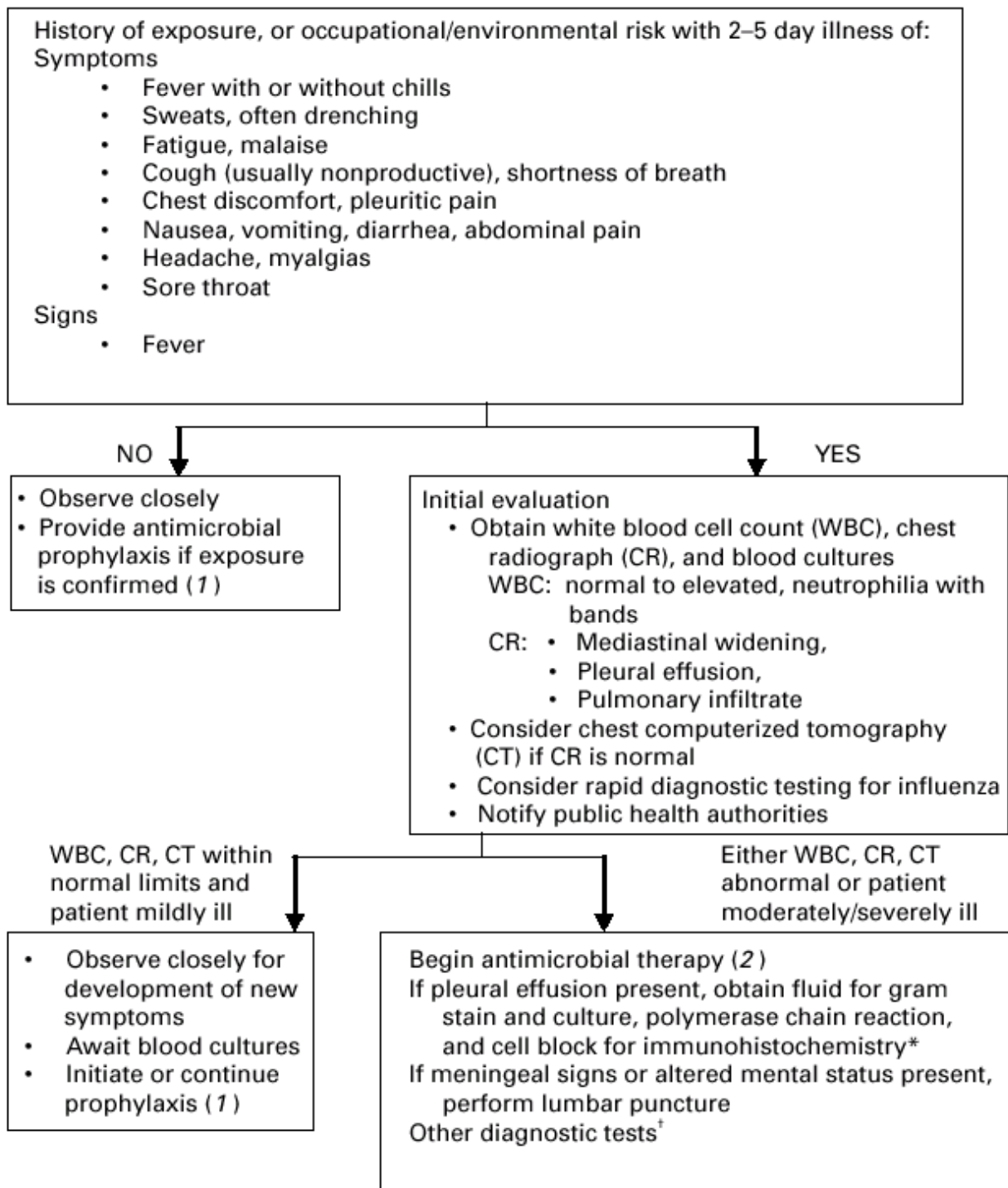
### **Interim Recommendations for Protecting Workers from Exposure to *Bacillus anthracis* in Work Sites in which Mail is Handled or Processed**

CDC has developed interim recommendations to assist personnel responsible for occupational health and safety in developing a program to reduce potential exposures to *Bacillus anthracis* spores among workers in work sites in which mail is handled or processed. The complete recommendations are available at <http://www.bt.cdc.gov>. Recommendations will be updated as new information becomes available.

---

For questions or comments, please send an email to [mmwrq@cdc.gov](mailto:mmwrq@cdc.gov)

**FIGURE 2. Clinical evaluation of persons with possible inhalational anthrax**



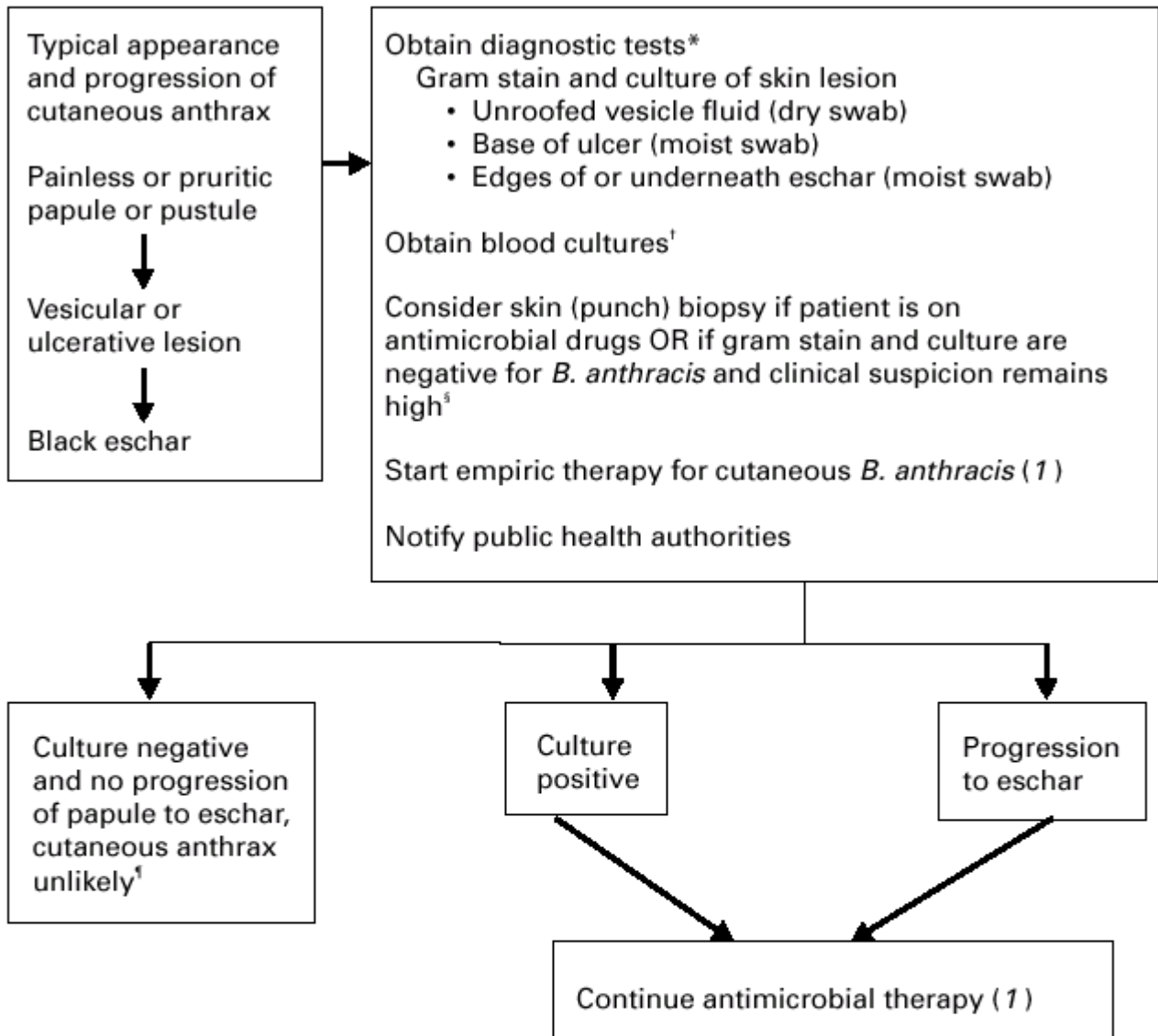
\* Available through CDC or LRN. Cell block obtained by centrifugation of pleural fluid.

† Serologic testing available at CDC may be an additional diagnostic technique.

**References**

1. CDC. Update: investigation of anthrax associated with intentional exposure and interim public health guidelines, October 2001. *MMWR* 2001;50:889–93.
2. CDC. Update: investigation of bioterrorism-related anthrax and interim guidelines for exposure management and antimicrobial therapy, October 2001. *MMWR* 2001;50:909–19.

**FIGURE 3. Clinical evaluation of persons with possible cutaneous anthrax**



\* Serologic testing available at CDC may be an additional diagnostic technique for confirmation of cases of cutaneous anthrax.

† If blood cultures are positive for *B. anthracis*, treat with antimicrobials as for inhalational anthrax (1).

‡ Punch biopsy should be submitted in formalin to CDC. Polymerase chain reaction can also be done on formalin-fixed specimen. Gram stain and culture are frequently negative for *B. anthracis* after initiation of antimicrobials.

§ Continued antimicrobial prophylaxis for inhalational anthrax for 60 days if aerosol exposure to *B. anthracis* is known or suspected (2).

**Reference**

1. CDC. Update: investigation of bioterrorism-related anthrax and interim guidelines for exposure management and antimicrobial therapy, October 2001. MMWR 2001;50:909–19.
2. CDC. Update: investigation of anthrax associated with intentional exposure and interim public health guidelines, October 2001. MMWR 2001;50:889–93.