



Federal Occupational Health

Update: More Facts About Anthrax Testing and Treatment

Volume 4 - October 24, 2001

In earlier communications, FOH stated that because of the need to coordinate with ongoing public health and criminal investigations, it would not be providing nor recommending anthrax testing to federal agencies or their employees outside of these crucial investigations. Recent highly publicized events documenting several new cases of inhalation anthrax as well as many other potential exposures across the country has prompted a flood of requests for FOH to reconsider or clarify its policy regarding anthrax testing in these settings.

In response to these inquiries, the following information about anthrax testing is being provided to further support the rationale behind that decision. More detailed information regarding anthrax testing, including methods of environmental sampling, is also available at <http://www.bt.cdc.gov/DocumentsApp/Anthrax/10162001PM/Update10162001PM.asp>

Tests for Exposure to Anthrax Bacteria (*Bacillus anthracis*)

First, it is important to understand that persons with a known or suspected **direct contact exposure** with an item or environment contaminated with *Bacillus anthracis* — regardless of laboratory tests results — should be considered for preventive antibiotic (prophylaxis) treatment. *Known or suspected history of exposure or contact, not lab test results, is the basis for initiating such treatment by public health authorities.*

1. Nasal Swabs

Cultures of nasal swabs are used to detect anthrax spores that may be present in the nasal passages. FOH's clinical lab cannot perform confirmatory testing for the presence of anthrax from such cultures — this can **only** be done at state or large metropolitan public health laboratories. Nasal swabs can sometimes document early exposure, but **cannot** rule-out exposure to anthrax, especially if the sample is taken more than 24 hours after exposure. In other words, *a negative nasal swab test does not mean that exposure has not occurred.*

Nasal swabs are used primarily during investigations of known or suspected anthrax exposures because they may provide clues to help public health investigators assess and better understand the spectrum of exposure circumstances. But because of their low sensitivity, they are **not** basing individual treatment recommendations on these results.

2. Antibody tests

Tests can be performed to measure proteins (antibodies) against anthrax in the blood of infected persons and although useful in estimating the numbers of exposures in a population, these antibody tests are not widely available.

Tests for Anthrax Disease

For people with suspected anthrax **disease**, laboratory testing is *essential* to confirm the diagnosis. Tests may include:

1. Cultures of blood, tissue, spinal or other fluids from affected areas
2. Microscopic examination of tissue
3. PCR (polymerase chain reaction) test that amplifies trace amounts of DNA to document that the anthrax bacteria is present.

Summary of Anthrax Testing

- Nasal swab cultures are currently being used primarily for epidemiological investigations
- Because of significant incidence of false-negatives, nasal swab cultures are not recommended to assess exposure to anthrax or make decisions regarding preventive antibiotic treatment
- FOH labs do not have capabilities to perform confirmatory identification of anthrax bacteria
- Antibody (blood) testing is currently not widely available

General Recommendations for Treatment for Anthrax Exposure

Again, decisions regarding treatment for a known or suspected anthrax exposure is based on the history of contact, **not** on results of lab testing. Recommendations regarding the appropriateness and duration of treatment are usually issued by state and local public health authorities closest to and familiar with the facts and results of the exposure investigation, in collaboration with representatives from the CDC. Announcements regarding the latest treatment recommendations for specific groups are made through employer/agency personnel, newspaper and broadcast media and/or posted on the CDC Website.

Specific Recommendations for Exposures near Washington, DC and New Jersey Postal Facilities

As of the posting of this notice, public health authorities have recommended antibiotic treatment of all employees **who worked or were present in** selected postal facilities in Washington DC and New Jersey. **NO RECOMMENDATIONS HAVE BEEN ISSUED REGARDING ANTIBIOTIC TREATMENT OF THOSE WHO WERE NOT PRESENT IN THOSE FACILITIES, BUT WHO MAY HAVE BEEN IN CONTACT WITH MAIL FROM THOSE FACILITIES.** FOH cannot offer prescriptions or recommendations for treatment under these or similar circumstances where it does not have direct knowledge of the results of environmental testing or other exposure assessments. **We urge individuals who have no symptoms, but still may be concerned to continue to listen for further developments as new information becomes available. Alternatively, you may consult your private physician or health care provider for additional guidance. Any persons with potential exposure and flu-like symptoms should seek medical attention immediately.**

Risk of Indiscriminate Antibiotic Treatment

Results of testing performed to date indicate all eleven isolates of anthrax recently found in the United States are susceptible to currently available antibiotics. However, studies have shown a direct correlation between increased usage of an antibiotic and the development of resistance to that drug in many bacteria. Thus the indiscriminate use of antibiotics by those for whom it is not clearly indicated, carries the real risk of reducing its effectiveness and even rendering it useless in the future, when it may perhaps be needed the most.

Remember that we are in the midst of an unprecedented outbreak of an otherwise very rare disease – on a scope that has never been seen by public health officials. Recommendations on optimal testing and treatment will undoubtedly change as our understanding of the course of anthrax infection grows with time and data. We will continue to update you as new information becomes available.