



Communicable Disease Case Reporting and Investigation Protocol **ANTHRAX**

I. IDENTIFICATION AND DEFINITION OF CASES

- A. **Clinical Description:** A bacterial illness caused by *Bacillus anthracis* with acute onset characterized by several distinct clinical forms including:
- **Cutaneous** (skin lesion evolving over two to six days from a papule, through a vesicular stage, to a depressed black eschar).
 - **Inhalation** (a brief prodrome resembling a viral respiratory illness followed by development of hypoxia and dyspnea, often with radiographic evidence of mediastinal widening).
 - **Gastrointestinal** (severe abdominal pain and tenderness, nausea, vomiting, hematemesis, bloody diarrhea, anorexia, fever, abdominal swelling, and septicemia).
 - **Oropharyngeal** (mucosal lesion in the oral cavity or oropharynx, cervical adenopathy and edema, and fever).
 - **Meningeal** (fever, convulsions, coma, or meningeal signs. Signs of another form will likely be evident as this syndrome is usually secondary to the above syndromes).

B. Laboratory Criteria:

Confirmatory:

- Culture and identification of *B. anthracis* from clinical specimens by the Laboratory Response Network (LRN).
- Demonstration of *B. anthracis* antigens in tissues by immunohistochemical staining using both *B. anthracis* cell wall and capsule monoclonal antibodies.
- Evidence of a four-fold rise in antibodies to protective antigen between acute and convalescent sera or a fourfold change in antibodies to protective antigen in paired convalescent sera using Centers for Disease Control and Prevention (CDC) quantitative anti-PA IgG ELISA testing.
- Documented anthrax environmental exposure AND evidence of *B. anthracis* DNA (for example, by LRN-validated polymerase chain reaction) in clinical specimens collected from a normally sterile site (such as blood or CSF) or lesion of other affected tissue (skin, pulmonary, reticuloendothelial, or gastrointestinal).

Supportive:

- Evidence of *B. anthracis* DNA (for example, by LRN-validated polymerase chain reaction) in clinical specimens collected from a normally sterile site (such as blood or CSF) or lesion of other affected tissue (skin, pulmonary, reticuloendothelial, or gastrointestinal). Note that this finding is considered confirmatory if documented anthrax environmental exposure occurred.
- Positive result on testing of clinical serum specimens using the Quick ELISA Anthrax-PA kit.
- Detection of Lethal Factor (LF) in clinical serum specimens by LF mass spectrometry.

C. Wisconsin Surveillance Case Definition:

• **Confirmed Case:**

A clinically compatible illness with at least one confirmatory laboratory finding

OR

A documented anthrax environmental exposure AND detection of *B. anthracis* DNA (for example, by LRN-validated polymerase chain reaction) in clinical specimens collected from a normally sterile site (such as blood or CSF) or from a lesion of other affected tissue (skin, pulmonary, reticuloendothelial, or gastrointestinal).

- **Probable Case:** A clinically compatible illness that does not meet the confirmed case definition, but with at least one of supportive laboratory finding OR clinically compatible illness in a person with an epidemiologic link to a documented environmental exposure to anthrax.

II. REPORTING

- A. **Wisconsin Notifiable Disease Category I – Methods for Reporting:** This disease shall be reported **IMMEDIATELY BY TELEPHONE** to the patient’s local health officer or to the local health officer’s designee upon identification of a case or suspected case, per Wis. Admin. Code § [DHS 145.04 \(3\) \(a\)](#). In addition to the immediate report, complete and fax, mail or electronically report an Acute and Communicable Disease Case Report (DHS [F-44151](#)) to the address on the form, or enter the data into the Wisconsin Electronic Disease Surveillance System, within 24 hours.
- B. **Responsibility for Reporting:** According to Wis. Admin. Code § [DHS 145.04\(1\)](#), persons licensed under Wis. Stat. ch. [441](#) or [448](#), laboratories, health care facilities, teachers, principals, or nurses serving a school or day care center, and any person who knows or suspects that a person has a communicable disease identified in [Appendix A](#).
- C. **Clinical Criteria for Reporting:** Clinical diagnosis or clinical suspicion of anthrax.
- D. **Laboratory Criteria for Reporting:** Any confirmatory or supportive laboratory test.

III. CASE INVESTIGATION

- A. **Responsibility for case investigation:** It is the responsibility of the local health department (LHD) to investigate or arrange for investigation of suspected or confirmed cases as soon as is reasonably possible. A case investigation may include information collected by phone, in person, in writing, or through review of medical records or communicable disease report forms, as necessary and appropriate.

A source investigation by LHD and the Bureau of Communicable Diseases (BCD) is required. Search for history of exposure to infected animals or animal products and trace to place of origin. Prophylaxis of exposed persons and environmental decontamination procedures may be necessary. The LHD should work closely with BCD staff to conduct the investigation.

B. **Required Documentation:**

1. Complete the WEDSS disease incident investigation report, including appropriate, disease-specific tabs.
2. Complete CDC case investigation form (<https://www.cdc.gov/anthrax/pdf/anthrax-case-investigation-form.pdf>)
3. Upon completion of investigation, set WEDSS disease incident process status to “Sent to State.”

C. **Additional Investigation Responsibilities:**

1. Contact and work with BCD staff on the investigation.
2. Coordinate submission of patient specimens to CDC via WSLH and BCD.

IV. PUBLIC HEALTH INTERVENTIONS AND PREVENTION MEASURES

- A. In accordance with Wis. Admin. Code § [DHS 145.05](#), local public health agencies should follow the methods of control recommended in the current editions of *Control of Communicable Diseases Manual*, edited by David L. Heymann, published by the American Public Health Association, and the American Academy of Pediatrics’ *Red Book: Report of the Committee on Infectious Diseases*, unless otherwise specified by the state epidemiologist.

V. CONTACTS FOR CONSULTATION

- A. Local health departments and tribal health agencies:
<https://www.dhs.wisconsin.gov/lh-depts/index.htm>
- B. Bureau of Communicable Diseases, Communicable Diseases Epidemiology Section: 608-267-9003
- C. Wisconsin State Laboratory of Hygiene: 1-800-862-1013

VI. RELATED REFERENCES

- A. Heymann DL, ed. Anthrax. In: *Control of Communicable Diseases Manual*. 20th ed. Washington, DC: American Public Health Association, 2015: 16-26.

- B. Pickering LK, ed. Anthrax. In: *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. Elk Grove Village, IL: American Academy of Pediatrics, 2015: 234-240.
- C. Centers for Disease Control and Prevention website: <https://www.cdc.gov/anthrax/index.html>