



Communicable Disease Case Reporting and Investigation Protocol **CRONOBACTER, INVASIVE INFECTION – INFANT**

I. IDENTIFICATION AND DEFINITION OF CASES

- A. **Clinical Description:** An acute illness in an infant (less than 12 months old) characterized by an invasive infection, including but not limited to meningitis, sepsis, brain abscess, or necrotizing enterocolitis. Onset of *Cronobacter* infection in infants usually starts with a fever and poor feeding, excessive crying, or very low energy. Seizures may also occur.
- B. **Laboratory Criteria:**
- Confirmatory laboratory evidence: Culture of a *Cronobacter* spp. isolate from a normally sterile site (e.g., blood, CSF).
 - Supportive laboratory evidence: Culture of a *Cronobacter* spp. isolate from a non-sterile site (e.g., stool or rectum, urine, skin, respiratory secretions, or broncho-alveolar lavage) OR detection of *Cronobacter* spp. by culture-independent diagnostic testing (CIDT) collected from any site.
- C. **Epidemiologic Linkage Criteria:**
An epidemiologic linkage includes one of the following within 10 days prior to illness onset in an infant:
- Consumption of powdered infant formula (PIF) implicated as the source of infection, OR
 - Exposure to a non-PIF product, such as breast milk, implicated as the source of infection, OR
 - Residing or recently residing in a congregate setting (e.g., a neonatal intensive care unit [NICU]) with an active *Cronobacter* spp. outbreak.
- D. **Wisconsin Surveillance Case Definition:**
- **Confirmed:** A clinically compatible case that meets the confirmatory laboratory criteria for diagnosis.
 - **Probable:** A clinically compatible case that meets the epidemiologic linkage criteria AND supportive laboratory criteria for diagnosis.
 - **Suspect:** A clinically compatible case that meets either the epidemiologic linkage criteria OR supportive laboratory criteria for diagnosis.
- E. **Criteria to Distinguish a New Case:**
A new case should be enumerated when:
- An infant was previously reported but not enumerated as a confirmed, probable, or suspect case, but now meets the criteria for a confirmed, probable, or suspect case, OR
 - An infant most recently enumerated as a suspect case with supportive laboratory evidence with specimen collection date for that classification within 90 days prior but now meets the confirmed case classification, OR
 - Whole-genome sequencing results indicate that a new positive specimen and a prior positive specimen are genetically distinct.

II. REPORTING

- A. **Wisconsin Disease Surveillance Category II – Methods for Reporting:** This disease shall be reported to the patient's local health officer or to the local health officer's designee within 72 hours of recognition of a case or suspected case, per [Wis. Admin. Code § DHS 145.04 \(3\) \(b\)](#). Report electronically through the Wisconsin Electronic Disease Surveillance System (WEDSS), or mail or fax a completed Acute and Communicable Disease Case Report (F-44151: <https://www.dhs.wisconsin.gov/forms/f4/f44151.pdf>) to the address on the form.
- 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 daycare center, and any person who knows or suspects that a person has a communicable disease identified in Appendix A. https://docs.legis.wisconsin.gov/code/admin_code/dhs/110/145_a
- C. **Clinical Criteria for Reporting:** None.

- D. **Laboratory Criteria for Reporting:** Laboratory evidence of infection by culture or a direct detection method (i.e., nucleic acid amplification test (NAAT), PCR, or sequencing).

III. CASE INVESTIGATION

1. **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.
2. **Required Documentation:**
 1. Request medical records to complete clinical and laboratory information in the WEDSS disease incident investigation report.
 2. Complete the “Patient,” “*Cronobacter* Lab-Clinical,” “*Cronobacter* Risk,” “*Cronobacter* Intervention,” and “Investigation” tabs in the WEDSS disease incident investigation report.
 3. Upon completion of investigation, set WEDSS disease incident process status to “Sent to State.”
3. **Additional Investigation Responsibilities**
 1. Ensure isolate or CIDT-positive clinical specimen has been forwarded to the Wisconsin State Laboratory of Hygiene for culture and molecular subtyping (whole genome sequencing).
 2. Cluster investigation if more than one case occurs in close geographic or temporal setting or have matching molecular subtyping.
 3. For more detailed information regarding control measures, please see the additional references cited at the end of this document.

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 edition 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. BCD, Communicable Diseases Epidemiology Section: 608-267-9003
- C. Wisconsin State Laboratory of Hygiene: 1-800-862-1013

VI. RELATED REFERENCES

- A. Kimberlin DW, ed. *Serious Neonatal Bacterial Infections Caused by Enterobacteriaceae (Including Septicemia and Meningitis)*. In: *Red Book: 2021-2024 Report of the Committee on Infectious Diseases*. 32nd ed. Itasca, IL: American Academy of Pediatrics, 2021: 311–315.
- B. Kimberlin DW, ed. *Transmission of Infectious Agents via Human Milk*. In: *Red Book: 2021-2024 Report of the Committee on Infectious Diseases*. 32nd ed. Itasca, IL: American Academy of Pediatrics, 2021: 109–115.
- C. Kimberlin DW, ed. *Appendix V: Prevention of Infectious Disease From Contaminated Food Products*. In: *Red Book: 2021-2024 Report of the Committee on Infectious Diseases*. 32nd ed. Itasca, IL: American Academy of Pediatrics, 2021: 1037–1040.
- D. Kimberlin DW, ed. *Appendix VI: Clinical Syndromes Associated With Foodborne Diseases*. In: *Red Book: 2021-2024 Report of the Committee on Infectious Diseases*. 32nd ed. Itasca, IL: American Academy of Pediatrics, 2021: 1041–1047.
- E. Centers for Disease Control and Prevention website: <https://www.cdc.gov/cronobacter/index.html>