



## Communicable Disease Case Reporting and Investigation Protocol **Leptospirosis**

### **I. Identification and Definition of Cases**

**A. Clinical description:** An illness characterized by fever, retrobulbar headache, chills, myalgia, conjunctival suffusion, and less frequently by meningitis, uveitis, rash, jaundice, or renal insufficiency.

#### **B. Laboratory criteria:**

##### **1. Laboratory confirmatory**

- Isolation of *Leptospira* from a clinical specimen, **or**
- Fourfold or greater increase in *Leptospira* agglutination titer between acute- and convalescent-phase serum specimens studied at the same laboratory, **or**
- Demonstration of *Leptospira* in a clinical specimen by direct immunofluorescence, **or**
- *Leptospira* agglutination titer of  $> 800$  by Microscopic Agglutination Test (MAT) in one or more serum specimens, **or**
- Detection of pathogenic *Leptospira* DNA (for example, by PCR) from a clinical specimen

##### **2. Laboratory presumptive**

- *Leptospira* agglutination titer of  $\geq 200$  but  $< 800$  by Microscopic Agglutination Test (MAT) in one or more serum specimens, **or**
- Demonstration of anti-*Leptospira* antibodies in a clinical specimen by indirect immunofluorescence, **or**
- Demonstration of *Leptospira* in a clinical specimen by darkfield microscopy, **or**
- Detection of IgM antibodies against *Leptospira* in an acute phase serum specimen.

#### **C. Clinical criteria:** A history of fever within the past two weeks AND

- At least two of the following: myalgia, headache, jaundice, conjunctival suffusion without purulent discharge, or rash (that is, maculopapular or petechial) **OR**
- At least one of the following:
  - Aseptic meningitis
  - GI symptoms (for example, abdominal pain, nausea, vomiting, diarrhea)
  - Pulmonary complications (for example, cough, breathlessness, hemoptysis)
  - Cardiac arrhythmias, ECG abnormalities
  - Renal insufficiency (for example, anuria, oliguria)
  - Hemorrhage (for example, intestinal, pulmonary, hematuria, hematemesis)
  - Jaundice with acute renal failure

#### **D. Wisconsin surveillance case definition:**

1. **Confirmed:** A clinically compatible illness with confirmatory laboratory evidence of *Leptospira* infection
2. **Probable:** A clinically compatible illness with at least one of the following:

- Epidemiologically linked to an exposure event (for example, adventure race, flooding) with known associated cases
- Presumptive laboratory evidence, but without confirmatory laboratory evidence, of *Leptospira* infection

### **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](#)) 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 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 with confirmatory or presumptive laboratory results.
- D. **Laboratory criteria for reporting:** Laboratory evidence of infection by culture or non-culture-based methods. All positive results should be reported.

### **III. Case Investigation**

- A. **Responsibility for case investigation:** It is the responsibility of the local or Tribal health department (LTHD) 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 is required. This may be facilitated by completing the leptospirosis case report form ([https://www.cdc.gov/leptospirosis/pdf/LeptospirosisCRF\\_EN-P.pdf](https://www.cdc.gov/leptospirosis/pdf/LeptospirosisCRF_EN-P.pdf)). Obtain travel history. Inquire about exposure to infected animals (including rodents, livestock, and dogs), exposure to surface water (especially during events like triathlons and adventure races), exposure to flooded areas, and exposure to rodent-infected areas.

- B. **Required documentation:**

1. Complete the WEDSS disease incident investigation report. Complete the CDC leptospirosis case report form ([https://www.cdc.gov/leptospirosis/pdf/LeptospirosisCRF\\_EN-P.pdf](https://www.cdc.gov/leptospirosis/pdf/LeptospirosisCRF_EN-P.pdf)) and save it into the WEDSS file cabinet.
2. Upon completion of investigation, set WEDSS disease incident process status to “Sent to State.”

- C. **Additional investigation responsibilities:** Inquire about illness in people who had a high-risk exposure in common with the case patient.

### **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.
- B. When the opportunity exists, educate the public about the potential risks involved with drinking untreated surface water and rodent-infested areas. Control rodent populations around dwellings.

### **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. Leptospirosis. In: *Control of Communicable Diseases Manual*. 20th ed. Washington, DC: American Public Health Association, 2015: 348-353.
- B. Pickering LK, ed. Leptospirosis. In: *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. Elk Grove Village, IL: American Academy of Pediatrics, 2015:510-513.
- C. Centers for Disease Control and Prevention website: <https://www.cdc.gov/leptospirosis/>