

# Leptospirosis (*Leptospira interrogans*)

## 2013 CDC Case Definition

### Clinical Criteria

An illness characterized by fever, headache, and myalgia, and less frequently by conjunctival suffusion, meningitis, rash, jaundice, or renal insufficiency. Symptoms may be biphasic.

Clinical presentation includes history of fever within the past two weeks and at least two of the following clinical findings: myalgia, headache, jaundice, conjunctival suffusion without purulent discharge, or rash (i.e. maculopapular or petechial); OR at least one of the following clinical findings:

- Aseptic meningitis
- GI symptoms (e.g., abdominal pain, nausea, vomiting, diarrhea)
- Pulmonary complications (e.g., cough, breathlessness, hemoptysis)
- Cardiac arrhythmias, ECG abnormalities
- Renal insufficiency (e.g., anuria, oliguria)
- Hemorrhage (e.g., intestinal, pulmonary, hematuria, hematemesis)
- Jaundice with acute renal failure

### Laboratory Criteria for Diagnosis

Diagnostic testing should be requested for patients in whom there is a high index of suspicion for leptospirosis, based either on signs and symptoms, or on occupational, recreational or vocational exposure to animals or environments contaminated with animal urine.

#### Supportive:

- *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.

#### Confirmed:

- 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 tissue by direct immunofluorescence, *or*
- *Leptospira* agglutination titer of  $\geq 800$  by Microscopic Agglutination Test (MAT) in one or more serum specimens, *or*
- Detection of pathogenic *Leptospira* DNA (e.g., by PCR) from a clinical specimen.

**Epidemiologic Linkage**

Involvement in an exposure event (e.g., adventure race, triathlon, flooding) with associated laboratory-confirmed cases.

**Case Classification****Probable**

A clinically compatible case with at least one of the following:

- Involvement in an exposure event (e.g., adventure race, triathlon, flooding) with known associated cases, *or*
- Presumptive laboratory findings, but without confirmatory laboratory evidence of *Leptospira* infection.

**Confirmed**

A case with confirmatory laboratory results, as listed above.