



# LEPTOSPIROSIS

(Weil's disease, canicola fever, hemorrhagic jaundice, mud fever, swineherd's disease)

1. **Agent:** *Leptospira interrogans*, a spirochete with over 170 known serovars, e.g., icterohemorrhagiae, canicola.

## 2. Identification:

a. **Symptoms:** Variable manifestations with fever, headache, chills, malaise, vomiting, myalgias, skin rash, conjunctivitis, meningeal irritation. Jaundice, renal insufficiency, pulmonary hemorrhage, hemolytic anemia, and cutaneous hemorrhages occur infrequently.

b. **Differential Diagnosis:** Viral hepatitis, mononucleosis, typhoid fever, dengue, malaria, other causes of aseptic meningitis, rickettsial infections, hantavirus, as well as many other conditions.

c. **Diagnosis:** Serologic Agglutination test; culture on special media (Fletcher's) of *leptospira* in blood during the acute illness or in urine after the first week; inoculation of guinea pigs. Immunofluorescence, EIA (enzyme linked immunosorbent assay) and PCR (polymerase chain reaction) tests are also available.

3. **Incubation:** 4-19 days; usually 10 days.

4. **Reservoir:** Cattle, dogs, swine, raccoons, opossums, squirrels, skunks, rats, other rodents and a number of other wild animals.

5. **Source:** Urine or tissues of infected animals.

6. **Transmission:** Contact with water contaminated with urine of infected animals, as in swimming or accidental immersion; direct contact with infected animals. Organism presumably enters the body through broken skin or mucosal surfaces.

7. **Communicability:** Leptospire may be secreted in urine for up to 11 months. Transmission from person to person is rare.

8. **Specific Treatment:** Doxycycline, penicillin G.

9. **Immunity:** Short lived.

## REPORTING PROCEDURES

1. **Reportable.** *California Code of Regulations*, Title 17, Section 2500.

2. **Report Form:**

**LEPTOSPIROSIS CASE REPORT  
(CDPH 8577)**

3. **Epidemiologic Data:**

a. A history of drinking, swimming in, wading in, or accidental immersion in a pond or lake, where there is the possibility of contamination by animal urine.

b. Close contact with domestic or farm animals.

c. Occupational exposure likely in farmers, miners, veterinarians, sewer workers, rice field workers, fish and game wardens, abattoir employees.

## CONTROL OF CASE, CONTACTS & CARRIERS

Investigate within 7 days.

**CASE:** Isolation: None.

**CONTACTS:** No restrictions.

**CARRIERS:** Not applicable.

## PREVENTION-EDUCATION

1. Control rodents.

2. Protect workers in high-risk occupations by providing boots and gloves.

3. Avoid wading or swimming in farm ponds accessible to domestic and farm animals.

4. Do not attract wildlife into yard. Do not leave out food or water. Pick up fallen fruit from fruit trees.



5. Vaccinate healthy pet dogs. Handle any sick dogs with gloves, get sick dogs assessed for leptospirosis and treated by a veterinarian.

#### DIAGNOSTIC PROCEDURES

1. **Serology:** To California State Department of Health.

**Container:** Serum separator tube.

**Laboratory Form:** State Special Serology (Lab 413).

**Examination Requested:** Leptospira agglutination.

**Material:** Whole clotted blood.

**Amount:** 8-10 ml.

**Storage:** Refrigerate.

**Remarks:** Take first specimen as early as possible; mandatory second specimen 2 weeks later.

2. **Culture:** Consult the Public Health laboratory.