



LEPROSY (Hansen Disease)

1. **Agent:** *Mycobacterium leprae*, an acid-fast, gram-positive bacillus.

2. **Identification:**

a. **Symptoms:** Lesions of skin, often enlargement of peripheral nerves, with consequent anesthesia, muscle weakness and contractures. Major types:

Lepromatous (LL): Many bacilli present, decreased cell-mediated immunity (CMI), diffuse skin lesions, invasions of upper respiratory tract, lymphoid system and some viscera. Erythema nodosum leprosum (ENL) and Lucio reaction may occur.

Borderline (BL, BB, BT): Bacilli present and CMI unstable; includes features of both major types.

Tuberculoid (TT): Few bacilli present, increased CMI, usually localized with discretely demarcated lesions, early in nerve involvement; may heal spontaneously in 1-3 years.

Indeterminate: A benign form, relatively unstable, seldom bacteriologically positive. These cases may evolve toward lepromatous form or the tuberculoid form, or may remain unchanged indefinitely.

Arrested leprosy: Under control with adequate medication.

Complications: Residual paralysis and anesthesia leading to trophic ulcers; amyloid renal disease; chronic glomerulonephritis. Reversal reactions may destroy tissue abruptly.

b. **Differential Diagnosis:** Other peripheral neuropathies, chronic dermatological lesions, tuberculosis, syphilis, yaws, lymphoma, vitiligo, psoriasis, cutaneous leishmaniasis, etc.

c. **Diagnosis:** Characteristic tissue changes, nerve enlargement, history of immigration from endemic area, identification of acid-fast bacilli in tissue.

3. **Incubation:** Average 3-6 years; range, 7 months to 20 years.

4. **Reservoir:** Human. Wild armadillos have been found infected; transmission to humans is uncertain.

5. **Source:** Not established. Presumed to be nasal discharges, skin lesions.

6. **Transmission:** Not established. Presumed to be via nasal discharges to the skin and respiratory tract of close contacts. Close household contact, genetic factors and immune response thought to be important.

7. **Communicability:** Mildly communicable as long as solid viable bacilli are demonstrable. A single dose of rifampin makes the case non-communicable.

8. **Specific Treatment:** Multidrug therapy with dapsone (DDS); rifampin or rifampicin; clofazimine (B663). Dapsone resistance develops with mono-therapy, so multidrug chemotherapy is always used. The NHDP does not recommend chemoprophylaxis with Dapsone or any other drug for contacts of patients.

9. **Immunity:** None.

REPORTING PROCEDURES

1. **Reportable.** Sections 2500 and 2582, *California Code of Regulations*.

2. **Report Forms:**

Hansen's Disease Surveillance (DHNDP) required for all new cases.

LEPROSY CASE/CONTACT SURVEILLANCE (H-1442)

a. **CASE:**

Submit **LEPROSY SURVEILLANCE (CDC 52.18)** immediately on all types (LL, BL, BB, TT, indeterminate and arrested leprosy) to ACDC.



Refer Hansen case/suspect to federally-sponsored Hansen's Disease Clinic for initial evaluation.

Los Angeles Hansen's Disease Clinic
LAC+USC Medical Center
1200 N. State St.
Clinic Tower A5B123
Los Angeles, CA. 90033
PH: (323)409-5240
Fax: (323) 441-8152
Physician - Thomas Rea, MD
email: rea@hsc.usc.edu
Public Health Nurse - Helen Mora RN
email: hmora@dhs.lacounty.gov

b. **CONTACTS:**

Household Contacts as defined in Contact section in this chapter should be referred to Los Angeles Hansen's Disease Clinic (see above). The need for further follow-up will be determined by the Clinic.

3. **Epidemiologic Data:**

- a. Establishment of rapport with patient takes precedence over obtaining routine epidemiologic data.
- b. Aliases, occupation, current symptoms.
- c. Contact with persons with leprosy.
- d. Place of birth, travel/residence in endemic areas from birth to present. Dates of entry into United States and California.
- e. Type of leprosy, active/inactive.
- f. Pertinent Medical Records to include biopsy date, results, history of treatment.
- g. Disability or deformity.
- h. Current medical supervision.
- i. List of family members and other close household contacts and refer to Los Angeles Hansen's Disease Clinic (see above).

CONTROL OF CASE, CONTACTS & CARRIERS

1. Investigate within 14 days. Review record of LL, BL, and BB cases semi-annually in June and December for need to visit or telephone for initial two years of treatment. Send forms only for patient that are not compliant. Send initial contact registry only to ACDC.

2. All cases should be closed to public health two years after treatment initiation

CASE:

1. All LL, BL, and BB to remain under medical supervision by Los Angeles Hansen's Disease Clinic or private practitioner until treatment is completed.
2. All TT, BT, indeterminate and arrested leprosy to remain under medical supervision by Los Angeles Hansen's Disease Clinic or private practitioner until released by their physician.

CONTACTS:

Contacts are defined as persons who have been in close, continuous household contact with a new patient up to 3 years, prior to diagnosis or during any period of inadequate treatment. Persons residing with cases in areas of endemicity are particularly vulnerable. Secondary cases acquired in California are rare.

1. Contacts to all types of leprosy should be referred to the Los Angeles Hansen's Disease Clinic for evaluation.

CARRIER: Not applicable.

PREVENTION/EDUCATION

CASE & CONTACTS:

1. Clarify misconceptions regarding leprosy.
2. Encourage patient to remain under medical care.

CASE:

1. Emphasize importance of taking prescribed medications and following treatment plan.
2. Emphasize importance of watching for drug reactions and reporting to Los Angeles



Hansen's Disease Clinic or treating physician.

3. Dispose of nasal and lesion discharges in a sanitary manner.
4. Explain the relationship of anesthetic areas to possible injury.
5. Teach daily examination of stocking-glove (foot-hand) anesthetic area.
6. Teach safety measures to prevent burns, ulcers, injuries, etc.
7. Inform patient of availability and importance of rehabilitation and reconstructive surgery when indicated.
8. Encourage hospitalization when recommended.

DIAGNOSTIC PROCEDURES

Specimen: Biopsy or smear taken from active lesion for examination of acid-fast bacilli.