Hansen's Disease (Leprosy)
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Overview[1, 2, 5]

Hansen's disease, or leprosy, is caused by the organism *Mycobacterium leprae.* It primarily effects the skin, peripheral nerves, eyes, testes and (in lepromatous patients) the upper airway. It causes nerve damage, loss of sensation and loss of or decrease in strength. Hansen's disease is difficult to transmit and has a long incubation period, anywhere from 1 to 20 years, making it difficult to determine where or when the disease was contracted. Children are more susceptible than adults to contracting the disease.

Some symptoms include:

- One or more light colored spots or discolorations that have decreased feeling.
- Spots that do not heal after several weeks to months.
- Numbness or absent sensation in the hands and arms, or feet and legs.
- Muscle weakness or loss of strength.

If detected early, in the initial stages, Hansen's disease is curable, reducing the risk of permanent damage. If not detected early enough, permanent nerve damage, scarring of the skin, damage to the limbs or blindness can occur.

Worldwide, 1-2 million persons are permanently disabled as a result of the disease. Newly recognized cases in the United States are few and are diagnosed mainly in Louisiana, Texas, California, Florida, Hawaii and New York City. Most of these cases are in refugees and immigrants who acquired their disease in their native country. The disease remains endemic, however, in Hawaii, California, Texas, Louisiana and Puerto Rico.

For a more complete description of Hansen's disease, please refer to the following texts:

- *Control of Communicable Diseases Manual*. (CCDM), American Public Health Association. 19th ed. 2008.
- American Academy of Pediatrics. *Red Book: 2009 Report of the Committee on Infectious Diseases.* 28th ed. 2009.
- *Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases*. 7th ed. 2010.

Leprosy (Hansen's Disease) 2025 Case Definition[3]

Information Needed for Investigation

Verify the diagnosis. What laboratory tests were conducted, and what were the results? Was Hansen's disease confirmed?
Describe the clinical illness. Tuberculoid lesions may not typically have identifiable organisms in the initial laboratory examination**.**
Determine the travel history. Even if travel is not recent, exposure outside the US should be noted.

Notification

- Contact the District Communicable Disease Coordinator, or the Senior Epidemiology Specialist, or the Department of Health and Senior Services' Situation Room (DSR) at 800-392-0272 (24/7) immediately if an outbreak* of Hansen's disease is suspected.
- Contact the Bureau of Environmental Health Services at (573) 751-6095 and the Section for Child Care Regulation at (573) 751-2450, if a case is associated with a child care center.
- Contact the Section for Long Term Care Regulation at (573) 526-8524, if a case is associated with a long-term care facility.
- Contact the Bureau of Health Services Regulation at (573) 751-6303, if a case is associated with a hospital, hospital-based long-term care facility, or ambulatory surgical center.

*Outbreak is defined as the occurrence in a community or region, illness(es) similar in nature, clearly in excess of normal expectancy and derived from a common or a propagated source.

Control Measures

General

- Determine the source of infection to prevent other cases.
- Most cases occur in immigrants and refugees. Due to the long incubation period, determining the source may be difficult.
- Verify if the case has been in contact with a known or suspected infectious individual
- Determine if the case is receiving appropriate medical treatments.
- Instruct the patient and all household contacts to use good hand hygiene. [2]
- Disinfection of nasal secretions, handkerchiefs, and other fomites until treatment is established.[2]
- Household contacts, particularly contacts of patients with multibacillary disease, should be examined initially and then annually for 5 years.[1, 2, 5]
- Postnatal transmission can occur during breastfeeding.[2]

Laboratory Procedures

Specimens: The only laboratory tests used routinely for diagnosis of leprosy are skin smears and skin biopsies.[4] The Missouri State Public Health Laboratory (SPHL), Tuberculosis Reference Laboratory, does not culture for M. leprae. All laboratory specimens should be submitted with prior approval from and through the SPHL to CDC.

Reporting Requirements

Hansen's Disease (Leprosy) is a Category 3 disease and shall be reported to the local health authority or to the Missouri Department of Health and Senior Services within three (3) calendar days of first knowledge or suspicion.

1. For confirmed and suspected cases, complete a "Disease Case Report" (CD-1)
2. For a confirmed case, complete a "Hansen's Disease Case Report Form" (DHNDP-8/2010).
3. Entry of the completed CD-1 into the ShowMe WorldCare database negates the need for the paper CD-1 to be forwarded to the District Health Office.
4. Send the completed "Hansen's Disease Case Report Form" to the District Health Office.
5. All outbreaks or "suspected" outbreaks must be reported as soon as possible (by phone, fax or e-mail) to the District Communicable Disease Coordinator. This can be accomplished by completing the "Missouri Outbreak Report Form" (MORF).
6. Within 90 days from the conclusion of an outbreak, submit the final outbreak report to the District Communicable Disease Coordinator.

References

1. *Control of Communicable Diseases Manual*. Leprosy (Hansen's Disease). In: Heymann DL, ed.19th ed. Washington, D.C.: American Public Health Association; 2008: 347-351.
2. American Academy of Pediatrics. Leprosy. In: Pickering LK, ed. *Red Book: 2009 Report of the Committee on Infectious Diseases.* 29th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2009: 423-426.
3. Centers for Disease Control and Prevention. Epidemiology Program Office, Division of Public Health Surveillance and Informatics, *Nationally Notifiable Infectious Diseases United States, 2025* Leprosy (Hansen's Disease), https://ndc.services.cdc.gov/case-definitions/leprosy-hansens-disease/ (9/24)
4. Jacobson, R.R., and Yoder, L.J. eds. Leprosy. In *Bacterial Infections of Humans Epidemiology and Control.* Leprosy 3rd ed. Alfred S. Evans and Philip S. Brachman. New York: Plenum, 1998:380
5. Levis, WR and Ernst, JD. Leprosy, Hansen's disease. In: Mandell GL, Bennett JE, Dolin R, eds. *Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases.* 7th ed. Philadelphia, Pa.: Elsevier Churchill Livingston; 2010: vol.2: 3165-3176.

Other Sources of Information

1. U.S. Department of Health and Human Services, Health Resources and Services Administration https://www.hrsa.gov/hansens-disease (8/24)
2. Centers for Disease Control and Prevention. "About Hansen's Disease (Leprosy)". https://www.cdc.gov/leprosy/about/index.html (4/24)