

LEPROSY

Disease Overview

Leprosy also known as Hansen's Disease is caused by *Mycobacterium leprae*, an acid-fast bacillus. It is a chronic disease predominantly involving the skin, peripheral nerves and/or the mucosa of the upper airway. The organism multiplies slowly. *M. leprae* can remain potent even when dried out. Leprosy is curable and treatment provided in the early stages averts disability.

Symptoms

The bacterium tends to invade cooler areas of the body such as the chin, cheekbones, earlobes, knees, and distal extremities. *M. leprae* is the only bacterium that invades the peripheral nerves. Almost all of the complications are a result of that invasion.

Manifestations depend on the infected person's immune response to the bacterium. The clinical syndromes of the disease represent a spectrum that reflects the cellular immune response to the bacteria.

Tuberculoid or paucibacillary disease

- One or a few well-demarcated, hypopigmented and anesthetic skin lesions, frequently with active, spreading edges and a clearing centre; peripheral nerve swelling or thickening may also occur.

Lepromatous or multibacillary disease

- Erythematous papules and nodules or an infiltration of the face, hands and feet with lesions in a bilateral and symmetrical distribution that progress to thickening of the skin and loss of normal hair distribution, particularly on the face (madarosis).

Borderline (dimorphous)

- Skin lesions characteristic of both the tuberculoid and lepromatous forms.

Indeterminate

- Early lesions, usually hypopigmented macules, without developed tuberculoid or lepromatous features.

Serious consequences of leprosy may occur from immune reactions i.e., acute adverse episodes which are termed erythema nodosum leprosum (ELM) in lepromatous patients and reversal reactions in borderline leprosy. Other serious consequences may occur as a result of nerve impairment with resulting anesthesia that may lead to trauma, fractures, and bone resorption.

Reservoir

Humans are the only significant reservoir.

Mode of Transmission

The exact mode of transmission is not clearly understood. The bacterium may be transmitted from nasal mucosa, possibly through prolonged direct contact with respiratory or skin secretions.

Incubation Period

Incubation period has been reported from as short as a few weeks to 30 years; however, the average period is between 3 and 10 years.

Period of Communicability

Bacillus can survive up to 7 days in dry nasal secretions. Clinical and laboratory evidence suggest that infectiousness is lost in most instances within a day of beginning treatment with multidrug therapy.

Risk Factors

- Persons living in endemic areas and in close contact with multibacillary cases.

Surveillance Case Definition

Confirmed case

Clinical evidence of illness with laboratory confirmation:

- Positive acid-fast stain with typical morphology for *Mycobacterium leprae*.
- OR
- Histopathological report from skin or nerve biopsy compatible with leprosy.

Probable case

Clinical illness in a person who is epidemiologically linked to a confirmed case.

Diagnosis and Laboratory Guidelines

Positive detection for *M. leprae* DNA is considered presumptive.

Reporting

Per Policy 2.2 Disease and Event Notification to OCMOH and Disease and Event Reporting section.

- Routine Surveillance (RDSS) for all confirmed cases.

Case Management

Education

The case or relevant caregiver should be informed about:

- Nature of the infection length of communicable period and mode of transmission.
- Persons with leprosy require medical follow up by an infectious diseases' specialist.
- Handwashing.

Investigation

History of immigration from endemic area.

Past history of Leprosy.

No public health interventions are required as communicability is low especially after initiation of treatment.

Exclusion/Social Distancing

Isolation is unnecessary. No restrictions in employment or attendance at school are indicated.

Treatment

Treatment should be under the direction of an infectious disease specialist, refer to World Health Organization (WHO) treatment recommendations. Individuals should be informed of the availability of effective multidrug therapy, that persons under continuous treatment are not infectious and the importance of completing therapy.

Immunization

No vaccine available.

Contact Management

Education

Routine practices.

Handwashing is the most effective measure to prevent transmission.

Investigation

The initial examination of contacts and periodic examination of household and other close contacts for skin lesions is recommended annually for up to five years after the last contact with an infectious case.

Social Distancing

Not applicable.

Prophylaxis

Not applicable.

Outbreak Management

Activate the local outbreak plan when an outbreak is declared.