

TOPIC: LEPROSY

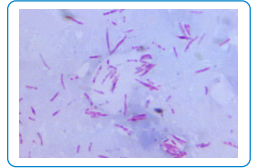


Leprosy (Hansen's Disease)

Bacterial

STAIN: Acid-fast

SHAPE: _____



(CDC, 1966)

CAUSE

Mycobacterium leprae (*M. leprae*).

- ◆ Optimal growth temp ____ °C → periphery of the body.
 - Very slow growing; cannot be _____.
 - Invade _____ sheath cells (Schwann cells) of PNS.
 - Immune response causes nerve damage.
- ◆ 2 main forms:

Tuberculoid

- Host mounts an _____ immune response.
- _____ severe; _____ common.

Lepromatous

- Host _____ to mount effective immune response.
- _____ severe; _____ common.

SPREAD

Person-to-person contact → _____ highly contagious.

Tuberculoid

- _____ contagious.

Lepromatous

- _____ contagious.

- ◆ _____ natural reservoir.

SYMPTOMS

Depend on form: *tuberculoid* vs. *lepromatous*.

Tuberculoid

- Discolored skin patches w/ _____ of sensation.



(CDC)

Lepromatous

- Disfiguring nodules & tissue necrosis.
- Extremities and _____ affected.



(CDC, 1970)

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DIAGNOSIS

Skin & nerve biopsy for acid-fast bacteria; _____ tests becoming more common.

TREATMENT

Multidrug therapy (MDT): sulfone drugs, clofazimine, & rifampin.

◆ Tissue damage is generally _____ reversible.

IMMUNITY

BCG (tuberculosis) vaccine offers _____ protection.

References:

Shepard, C. (1966). [Photomicrograph of *Mycobacterium leprae*] Centers for Disease Control and Prevention. <https://phil.cdc.gov/Details.aspx?pid=21436>

(n.d.). [Photo of a patient's skin with a hypopigmented lesion caused by *M. leprae*] Centers for Disease Control and Prevention. <https://wwwn.cdc.gov/phil/Details.aspx?pid=26962>

Kaye, A. E. (1970). [Hands of a patient with Hansen's disease showing disfiguration] Centers for Disease Control and Prevention. <https://wwwn.cdc.gov/phil/Details.aspx?pid=15355>

EXAMPLE

For each statement below, determine if it is true or false. If it is true, write "T" on the line; if it is false, write "F" on the line. If the statement is false, correct the statement on the line below.

1. Leprosy is a highly contagious nervous system disease. _____

2. Some immunity to *M. leprae* is conferred by the BCG vaccine. _____

3. *M. leprae* prefer the higher temperatures of the CNS to the lower temperatures of the PNS. _____

4. *M. leprae* is a Gram-negative diplococcus. _____

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PRACTICE

Which of the statements below are true for tuberculoid leprosy?

- I. Loss of sensation in areas of skin is common and typically does not return post infection.
- II. The immune system is able to mount an effective response.
- III. Sulfone drugs can be used as part of the treatment.

a) I & II.

b) I & III.

c) II & III.

d) I, II, & III.

PRACTICE

Which cell types are most likely to be damaged by an infection of *M. leprae*?

a) Glial cells of the CNS.

c) Muscle fibers of the PNS.

b) Neurons of the CNS.

d) Schwann cells of the PNS.