

**LEPROSY**  
(Hansen Disease)  
Ohio Disease Reporting Class B2

**REPORTING INFORMATION**

- **Class B2:** Report by the end of the business week in which the case or suspected case presents and/or a positive laboratory result to the local public health department where the patient resides. If patient residence is unknown, report to the local public health department in which the reporting health care provider or laboratory is located.
- Reporting Form(s) and/or Mechanism: [Ohio Confidential Reportable Disease form](#) (HEA 3334, rev. 1/09), [Positive Laboratory Findings for Reportable Disease form](#) (HEA 3333, rev. 8/05), the local health department via the Ohio Disease Reporting System (ODRS), or telephone.
- [National Hansen Disease Program's Hansen Disease Surveillance form](#) (rev. 08/10) is available for use to assist in local health department disease investigation and contact tracing activities. This form should be sent to the Ohio Department of Health (ODH), and information collected from the form should be entered into ODRS where fields are available.
- Additional reporting information, with specifics regarding the key fields for ODRS Reporting can be located in [Section 7](#).

**AGENT**

*Mycobacterium leprae* (Hansen's bacillus). *M. leprae* grows and multiplies in humans, footpads of mice, armadillos and immunosuppressed rodents. It is the slowest growing bacterial pathogen and is not cultivated in vitro.

**CASE DEFINITION**

**Clinical Description**

A chronic bacterial disease characterized by the involvement primarily of skin as well as peripheral nerves and the mucosa of the upper airway. Clinical forms of Hansen disease represent a spectrum reflecting the cellular immune response to *M. leprae*. The following characteristics are typical of the major forms of the disease:

- **Lepromatous:** A number of erythematous papules and nodules or an infiltration of the face, hands and feet with lesions in a bilateral and symmetrical distribution that progresses to thickening of the skin.
- **Tuberculoid:** One or a few well-demarcated, hypopigmented and anesthetic skin lesions, frequently with active, spreading edges and a clearing center; peripheral nerve swelling or thickening may also occur.
- **Borderline** (dimorphous): Skin lesions characteristic of both the tuberculoid and lepromatous forms.
- **Indeterminate:** Early lesions, usually hypopigmented macules, without developed tuberculoid or lepromatous features.

**Laboratory Criteria for Diagnosis**

Demonstration of acid-fast bacilli in skin or in dermal nerve, obtained from the full-thickness skin biopsy of a lepromatous lesion.

**Case Classification**

**Suspect\*:** A clinically compatible case that is not laboratory confirmed.

Confirmed: A clinically compatible case that is laboratory confirmed.

Not a Case: This status will not generally be used when reporting a case, but may be used to reclassify a report if investigation revealed it was not a case.

\*This case classification can be used for initial reporting purposes to ODH as the Centers for Disease Control and Prevention (CDC) has not developed a classification.

## **SIGNS AND SYMPTOMS**

See case definition.

## **DIAGNOSIS**

There are no established laboratory tests for leprosy. Diagnosis is based on clinical findings, histopathologic findings (i.e. acid-fast bacilli on a biopsy specimen) or both. For information regarding this disease, contact the National Hansen's Disease (Leprosy) Clinical Center at 800-642-2477.

## **EPIDEMIOLOGY**

### **Source**

Humans are the only reservoir of proven significance. Recent research suggests that armadillos may be a source of leprosy in the southern United States.

### **Occurrence**

World prevalence estimates place the total at about 15 million cases. In some areas, 3% - 4% of the population is affected. High rates are found in Asia (especially Southeast Asia and India), tropical Africa, and some areas in Latin America. Indigenously acquired leprosy is concentrated primarily in Louisiana and Texas. Leprosy is rarely reported in Ohio and is almost always seen among immigrant or refugee populations.

### **Mode of Transmission**

Leprosy is not highly communicable. Only approximately 5% of spouses living with a patient with leprosy develop the disease. Because *M. leprae* remains viable in dried secretions for up to seven days, fomites may play a role. Long-term, personal, skin-to-skin contact is considered the most common mode of transmission. Bacilli enter the body by way of the mucous membranes of the nose or mouth or through abrasions in the skin.

### **Period of Communicability**

Infectiousness is considered possible as long as morphologically normal bacilli are demonstrated. Infectiousness can continue for two weeks to three months after effective treatment is started.

### **Incubation Period**

The estimated period is 9 months to 20 years (approximately 4 years average).

## **PUBLIC HEALTH MANAGEMENT**

### **Case**

#### Investigation

The ODH Outbreak Response and Bioterrorism Investigation Team (ORBIT) may be

contacted at 614-995-5599 for assistance in follow-up.

#### Treatment

In vitro testing of drug sensitivity is not possible. Disease resistance to sulfone is now being reported with increasing frequency. The recommended chemotherapeutic regimens for leprosy are variable and changing. Consultation and free medication may be obtained by contacting the National Hansen's Disease (Leprosy) Clinical Center at 800-642-2477.

#### Isolation

Contact isolation for lepromatous leprosy. No isolation required for tuberculoid leprosy. No restrictions in employment or attendance at school are indicated for patients receiving adequate treatment and regarded as noninfectious. Compulsory segregation of patients with leprosy is no longer required in the United States.

#### **Contacts**

Periodic examination of household and other close contacts should be made at 6-12 month intervals for at least five years after the last contact with an infectious case.

#### **Prevention and Control**

Some studies have shown a possible benefit in some types of leprosy of BCG immunization or chemoprophylaxis with dapsone for at least three years to contacts <25 years of age. Consultation with the National Hansen's Disease (Leprosy) Clinical Center in Baton Rouge, Louisiana, should be sought before instituting either of these measures.

For additional information, see: <http://www.hrsa.gov/hansensdisease/>.

**What is leprosy?**

Leprosy is a chronic bacterial disease of the skin, nerves in the hands and feet and, in some cases, the lining of the nose. Leprosy is a rare disease in the United States.

**Who gets leprosy?**

Anyone can get leprosy, but children seem to be more susceptible than adults.

**How is leprosy spread?**

It is not clear how the leprosy germ is spread, but household and prolonged close contact is important. The germs probably enter the body through the nose and possibly through broken skin. The germs get in the air through the nasal discharge of untreated lepromatous patients.

**What are the symptoms of leprosy?**

Tuberculoid leprosy symptoms are a few well-defined skin lesions that are numb. Lepromatous leprosy symptoms are a chronically stuffy nose and many skin lesions and nodules on both sides of the body.

**How soon after exposure do symptoms appear?**

It usually takes about four years for tuberculoid leprosy symptoms to appear and about eight years for lepromatous leprosy symptoms to appear.

**When and for how long is a person able to spread leprosy?**

In most cases, a person will not infect others after about three months of starting treatment.

**What is the treatment for leprosy?**

Patients with leprosy should be treated by a doctor who has experience with the disease. Treatment is with multiple drugs for six months to two years.

**How can leprosy be prevented?**

The best way to prevent the spread of leprosy is the early diagnosis and treatment of people who are infected. For household contacts, immediate and annual examinations are recommended for at least five years after last contact with a person who is infectious.