

Appendix A: Disease-Specific Chapters

Chapter: Leprosy

Leprosy

- Communicable
- Virulent

Health Protection and Promotion Act, Section 1 (1)

Health Protection and Promotion Act: Ontario Regulation 558/91 – Specification of Communicable Diseases

Health Protection and Promotion Act: Ontario Regulation 559/91 – Specification of Reportable Diseases

| | |
|------------------------------|--|
| 1) Aetiologic Agent: | <i>Mycobacterium leprae</i> (<i>M. leprae</i>) is the bacterium which causes leprosy. It is an obligate intracellular, acid-fast bacillus that can be Gram-stain variable (2). |
| 2) Case Definition: | |
| Surveillance Case Definition | See Appendix B |
| Outbreak Case definition | Not applicable |
| 3) Identification: | |
| Clinical Presentation | <p>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 the disease represent a spectrum reflecting the cellular immune response to <i>Mycobacterium leprae</i>. The following characteristics are typical of the major forms of the disease: (1, 2)</p> <ul style="list-style-type: none">• Tuberculoid: 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 also may occur• 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 progress to thickening of the skin• Borderline (dimorphous): skin lesions characteristic of both the tuberculoid and lepromatous forms and• Indeterminate: early lesions, usually hypopigmented macules, without developed tuberculoid or lepromatous features |
| Diagnosis | See Appendix B |

| 4) Epidemiology: | |
|-------------------------------|---|
| Occurrence | More common in tropical and subtropical areas (1). Leprosy is rare in Ontario with few cases having been reported over the past decade. |
| Reservoir | Humans (1) |
| Modes of Transmission | The mode of transmission remains unclear but it is not highly communicable. Likely transmitted from nasal mucosa of an infected person to the skin and respiratory tract of another person via droplets, from the nose and mouth, during close and frequent contact with untreated cases (2). |
| Incubation Period | 9 months to 20 years with the average incubation period probably 4 years for tuberculoid leprosy and 8 years for lepromatous leprosy (1). |
| Period of Communicability | Clinical and laboratory evidence suggest that infectiousness is lost in most instances within a day of treatment with multidrug therapy (1). |
| Susceptibility and Resistance | Infection among close contacts of cases is frequent, however clinical disease occurs only in a small proportion of those infected; the form of leprosy depends on the ability to develop cell-mediated immunity (1). |

| 5) Reporting Requirements: | |
|-----------------------------------|---|
| To local Board of Health | Suspect and confirmed cases shall be reported to the medical officer of health by persons required to do so under the <i>Health Protection and Promotion Act</i> , R.S.O. 1990. |
| To Public Health Division (PHD) | Report only case classifications specified in the case definition to PHD. Cases shall be reported using the integrated Public Health Information System (iPHIS), or any other method specified by the Ministry within five (5) business days of receipt of initial notification as per <i>iPHIS Bulletin</i> Number 17: Timely Entry of Cases (4). The minimum data elements to be reported for each case is specified in the following: <ul style="list-style-type: none"> • <i>Ontario Regulation 569</i> (Reports) under the Health Protection and Promotion Act (HPPA) • The disease-specific User Guides published by the Ministry, and • Bulletins and directives issued by the Ministry. |

6) Prevention and Control Measures:

| | |
|---|--|
| Personal Prevention Measures | The best preventative measure is early diagnosis and treatment of cases (1). Health education should stress the availability of effective multidrug therapy, the non-infectivity of persons under continuous treatment and the importance of completing treatment. The MOHLTC provides medications at no cost for the treatment of leprosy. |
| Infection Prevention and Control Strategies | If hospitalized, routine practices are indicated. Hand hygiene is recommended for all people in contact with a case, as well as disinfection of nasal secretions, handkerchiefs and other fomites, until treatment is established (2). |
| Management of Cases | <p>Investigate the case to determine source of infection. Refer to Regulation 569 under the HPPA for relevant data to collect and ensure to inquire about the following:</p> <ul style="list-style-type: none">• History of immigration from an endemic area• Past history of leprosy• Travel to an area of the world where leprosy is endemic and• Prolonged exposure to a family member or other contact with leprosy <p>Public health intervention is minimal especially after initiation of treatment when communicability is low; no restrictions in employment or attendance at school are indicated for persons whose disease is regarded as non-infectious.</p> <p>Treatment recommended by World Health Organization (WHO) for lepromatous leprosy is triple therapy with rifampin, dapsone and clofazimine for twelve months and should be under the direction of an infectious disease specialist. As above, medications are provided at no cost in Ontario.</p> |
| Management of Contacts | <p>Contacts are defined as persons who have been in close, continuous household contact for a month or more within 5 years prior to diagnosis or during any period of inadequate treatment. Persons residing with cases in areas of endemicity are particularly vulnerable (3).</p> <p>Initial examination of contacts should take place, and then 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 (1).</p> |
| Management of Outbreaks | Not applicable |
| 7) References | <p>(1) Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.</p> <p>(2) Pickering LK, Baker CJ, Long SS, McMillan JA, editors. Red book: 2006 report of the Committee on Infectious Diseases. 27th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006.</p> |

| | |
|---------------------------------------|--|
| | <p>Section 3, Summaries of infectious diseases; p. 421-4.</p> <p>(3) Kansas Department of Health and Environment, Office of Surveillance and Epidemiology. Hansen's Disease (Leprosy) investigation guideline. Topeka: Kansas Department of Health and Environment; 2006. Available from http://www.kdheks.gov/epi/download/Disease_Protocols/Disease_Protocols_With_Forms/Hansen_Disease_Investigation_Guideline.pdf.</p> <p>(4) Ministry of Health and Long-Term Care. Timely entry of cases. iPHIS Bulletin. 2007 May 11;17.</p> |
| <p>8) Additional Resources</p> | <p>World Health Organization. Leprosy Today [Internet]. Geneva: World Health Organization; 2009. Leprosy: the disease; 2008 [cited 2008 July 28]. Available from: http://www.who.int/lep/leprosy/en/index.html.</p> <p>Boggild AK, Keystone JS, Kain KC. Leprosy: a primer for Canadian physicians. CMAJ. 2004;170(1):71-8. Available from http://www.cmaj.ca/cgi/reprint/170/1/71.pdf.</p> <p><i>Health Protection and Promotion Act</i>, R.S.O. 1990, c. H.7. Available from http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90h07_e.htm.</p> |

