Respiratory and Direct Contact

Leprosy (Hansen's Disease)

Notification Timeline:

From Lab/Practitioner to Public Health: Within 48 hours.
From Public Health to Ministry of Health: Within 2 weeks.

Public Health Follow-up Timeline: Initiate within 72 hours.

Information

Case Definition (Public Health Agency of Canada, May 2008)

Table 1. National Surveillance Case Definition for Leprosy (Hansen's Disease)	
Confirmed Case	Clinical evidence of illness (see symptoms) 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 (see symptoms) in a person who is epidemiologically linked to a confirmed case

Causative Agent
Mycobacterium leprae.

Symptoms (Public Health Agency of Canada, May 2008)
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.

Incubation Period
9 months to 20 years. Tuberculoid is an average of 4 years, and 8 years for the lepromatous form. Rarely seen in children under 3 years.

Reservoir/Source
Humans are the reservoir of proven significance however it has been shown that the armadillo, mangabey monkey and chimpanzee can be infected.

Mode of Transmission
Transmission is person to person with nasal secretions, normally containing the highest bacterial load, often causing infection when spread to the skin or respiratory tract of another. Close contact is necessary for transmission. Untreated multibacillary leprosy (high levels of bacillus) has been proven to be the major source of human transmission.

Risk Groups/Risk Factors
- Leprosy is a disease of poverty.
- Approximately 95% of people are genetically immune to infection with *M. leprae.*
- HIV clients are not at increased risk of becoming infected.

Period of Communicability
Clinical and laboratory evidence suggest that infectiousness is lost in most instances within a day of beginning treatment with multidrug therapy (Heymann, 2008).

Specimen Collection and Transport
For specimen collection instructions, consult with Saskatchewan Disease Control Laboratory (SDCL) Medical Director at (306) 787-8636.

Methods of Control/Role of Investigator

Prevention and Education
Refer to the Respiratory and Direct Contact Introduction and General Considerations section of the manual that highlights topics for client education that should be considered as well as provides information on high-risk groups and activities.

- The best preventive measure is early diagnosis and treatment of cases.
- Health education should stress the importance of effective multi-drug therapy, the non-infectivity of persons under continuous treatment and the importance of completing therapy.

Management

I. Case

History

- No public health interventions are required; communicability is low, particularly after initiation of treatment.
- Persons with leprosy require medical follow-up from an infectious diseases specialist.
- Manage infectious persons with routine infection control precautions. Handwashing is the most effective measure to prevent transmission when caring for patients.
- Hospitalization is reserved only for managing reactions, surgical correction of deformities and the treatment of ulcers resulting from the anesthesia of the extremities.

Treatment/Supportive Therapy

- Consultation with an infectious disease specialist, internist, dermatologist or pediatrician is recommended. See Appendix H - Sources for Clinical Treatment Guidelines.
  - Multi-drug chemotherapy is necessary for all patients. There is widespread prevalence of dapsone resistance, and the emerging resistance to rifampin.

Exclusion:

No restrictions in employment or attendance at school are indicated for persons whose disease is regarded as non-infectious.

II. Contacts/Contact Investigation

Household and other close contacts should be examined initially, and then annually for at least 5 years. Consult specialist.

- Manage infectious persons with routine infection control precautions. Handwashing is the most effective measure to prevent transmission when caring for patients.
- Chemoprophylaxis is not recommended.

III. Environment

Isolation of cases and quarantine of individuals is not necessary and often leads to stigmatization. No restrictions for employment or school are indicated.

Epidemic Measures

Not applicable.

References

Alberta Health and Wellness. (2005). *Public health notifiable disease management guidelines*: *Leprosy.* Retrieved February, 2011 from http://www.health.alberta.ca/professionals/notifiable-diseases-guide.html.

American Academy of Pediatrics. (2009). *Red book: 2009 Report of the Committee on Infectious Diseases* (28th ed.). Elk Grove Village, IL: Author.

Heymann, D. L. (Ed.). (2008). *Control of communicable diseases manual* (19th ed.). Washington, DC: American Public Health Association.

Last, J. M., & Wallace, R. R. (1992). *Public health and preventive medicine* (13th ed.). Norwalk, CT: Appleton and Lange.

Manitoba Health. (2001). *Communicable disease management protocol manual: Leprosy.* Retrieved February, 2011 from http://www.gov.mb.ca/health/publichealth/cdc/protocol/index.html.

Public Health Agency of Canada. (2008). Case definitions for communicable diseases under national surveillance. *Canada Communicable Disease Report (CCDR), 35S2,* November 2009. Retrieved February, 2011 from http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/09vol35/35s2/Lepr-eng.php.

Government of Saskatchewan

Leprosy Data Collection Worksheet

Please complete **all** sections.

PANORAMA

Panorama QA complete: ☐ **Yes** ☐ **No**
Initials:

Panorama Client ID: _____
Panorama Investigation ID: _____

A) CLIENT INFORMATION

LHN -> SUBJECT -> CLIENT DETAILS -> PERSONAL INFORMATION

Last Name:	First Name: and Middle Name:	Alternate Name (Goes by):
DOB: YYYY / MM / DD Age: _____	Health Card Province: _____ Health Card Number (PHN):	Preferred Communication Method: (specify - i.e. home phone, text): Email Address: ☐ Work ☐ Personal
Phone #: ☐ Primary Home: ☐ Mobile contact: ☐ Workplace:		
Place of Employment/School:	Gender: ☐ Male ☐ Female ☐ Other ☐ Unknown	
Alternate Contact: _____ Relationship: _____ Alt. Contact phone: _____	Address Type: ☐ No fixed ☐ Postal Address ☐ Primary Home ☐ Temporary ☐ Legal Land Description Mailing (Postal address): Street Address or FN Community (Primary Home): Address at time of infection if not the same:	

B) IMMIGRATION INFORMATION

SUBJECT -> CLIENT DETAILS -> PERSONAL INFORMATION->IMMIGRATION INFORMATION

Country Born in: _____
Country Emigrated from: _____ Arrival Date: YYYY / MMM / DD OR Arrival Year_____

C) INVESTIGATION INFORMATION

LHN-> SUBJECT SUMMARY-> ZOONOTIC & VECTORBORNE GROUP->CREATE INVESTIGATION

Disease Summary Classification: CASE	**Date**	***Classification: CONTACT***	***Date***	***LAB TEST INFORMATION:***
☐ Confirmed	YYYY / MM / DD	☐ *Contact*	YYYY / MM / DD	*Date specimen collected:*
☐ Does Not Meet Case	YYYY / MM / DD	☐ *Not a Contact*	YYYY / MM / DD	YYYY / MM / DD
☐ Person Under Investigation	YYYY / MM / DD	☐ *Person Under Investigation*	YYYY / MM / DD	
☐ Probable	YYYY / MM / DD			

Disposition:
FOLLOW UP:

☐ In progress	YYYY / MM / DD	☐ Complete	YYYY / MM / DD
☐ Incomplete - Declined	YYYY / MM / DD	☐ Not required	YYYY / MM / DD
☐ Incomplete – Lost contact	YYYY / MM / DD	☐ Referred – Out of province (specify where)	YYYY / MM / DD
☐ Incomplete – Unable to locate	YYYY / MM / DD		

REPORTING NOTIFICATION Name of Attending Physician or Nurse**:**	Location:
Physician/Nurse Phone number:	Date Received (Public Health): YYYY / MM / DD

Type of Reporting Source: ☐ Health Care Facility ☐ Lab Report ☐ Nurse Practitioner ☐ Physician ☐ Other_____

Leprosy Data Collection Worksheet

Please complete **all** sections

Panorama Client ID: _____
Panorama Investigation ID: _____

D) DISEASE EVENT HISTORY

INVESTIGATION->DISEASE SUMMARY (UPDATE)->DISEASE EVENT HISTORY

Site / Presentation: ☐ Lepromatous ☐ Tuberculoid ☐ Borderline ☐ Other ☐ Unknown

E) SIGNS & SYMPTOMS

LHN-> INVESTIGATION->SIGNS & SYMPTOMS

Description	No	Yes – Date of onset	Description	No	Yes - Date of onset
Alopecia (loss of normal hair distribution)		YYYY / MMM / DD	Rash - papules - erythematous		YYYY / MMM / DD
Bleeding - nose (epistaxis)		YYYY / MMM / DD	Skin - infiltrative disorders		YYYY / MMM / DD
Iritis (inflammation of the iris)		YYYY / MMM / DD	Skin - lesions - hypopigmented and anaesthetic (painless)		YYYY / MMM / DD
Keratitis (inflammation of the cornea)		YYYY / MMM / DD	Skin nodules		YYYY / MMM / DD
Neurologic - peripheral nerve - swelling or thickening (neuritis)			Skin - thickening		
Neuropathy		YYYY / MMM / DD	Skin - nodules - erythematous		YYYY / MMM / DD
Rash - macules - hypopigmented		YYYY / MMM / DD			YYYY / MMM / DD
Other Signs & Symptoms if applicable					

A) RISK FACTORS (during risk period)

LHN-> SUBJECT->RISK FACTORS

DESCRIPTION	YES	N – No NA – not asked U - Unknown	DESCRIPTION	YES	N – No NA – not asked U - Unknown
Contact - Visitor from an endemic country	YYYY / MM / DD		**Travel** - Outside of Canada (Add'l Info)	YYYY / MM / DD AE	
Contact to a known case (Add'l Info)	YYYY / MM / DD		**Travel** - Outside of Saskatchewan, but within Canada (Add'l Info)	YYYY / MM / DD AE	
Special Population - From or residence in an endemic country (Add'l Info)	YYYY / MM / DD				

B) MEDICATIONS

INVESTIGATION-> MEDICATIONS->MEDICATIONS SUMMARY

Medication *(Panorama = Other Meds)* : _____

Prescribed by:_____ Started on: YYYY / MMM / DD

C) INTERVENTIONS

LHN-> INVESTIGATION->TREATMENT & INTERVENTIONS->INTERVENTION SUMMARY

Intervention Type and Sub Type:

Assessment:
☐ Assessed for contacts YYYY / MM / DD
Investigator name

Education/counseling: Investigator name
☐ Prevention/Control measures YYYY / MM / DD
☐ Disease information provided YYYY / MM / DD

Communication:
☐ Other communication (See Investigator Notes) YYYY / MM / DD
Investigator name
☐ Letter (See Document Management) YYYY / MM / DD
Investigator name

Immunization: Investigator name
☐ Eligible Immunization recommended YYYY / MM / DD

General: Investigator name
☐ Disease-Info/Prev-Control YYYY/ MM / DD
☐ Disease-Info/Prev-Cont/Assess'd for Contacts YYYY/ MM / DD

Other Investigation Findings:
☐ Investigator notes ☐ Document Management

Date	Intervention subtype	Comments	Next follow-up Date	Initials
YYYY / MM / DD				
YYYY / MM / DD				
YYYY / MM / DD				

Leprosy Data Collection Worksheet

Please complete **all** sections

Panorama Client ID: _____
Panorama Investigation ID: _____

YYYY / MM / DD				
YYYY / MM / DD				
YYYY / MM / DD				
YYYY / MM / DD				
YYYY / MM / DD				
YYYY / MM / DD				
YYYY / MM / DD				
YYYY / MM / DD				
YYYY / MM / DD				
YYYY / MM / DD				

D) OUTCOMES LHN-> INVESTIGATION-> OUTCOMES

☐ Not yet recovered/recovering YYYY / MM / DD ☐ ICU/intensive medical care YYYY / MM / DD ☐ Hospitalization YYYY / MM / DD
☐ Recovered YYYY / MM / DD ☐ Intubation /ventilation YYYY / MM / DD ☐ Unknown YYYY / MM / DD
☐ Fatal YYYY / MM / DD ☐ Other _____ YYYY / MM / DD

Cause of Death: (if Fatal was selected) _____

Initial Report completed by:		**Date initial report completed:** YYYY / MM / DD