

# Appendix B: Provincial Case Definitions for Diseases of Public Health Significance

**Disease: Legionellosis**

Effective: February 2019

# Legionellosis

## 1.0 Provincial Reporting

Confirmed and probable cases of disease

## 2.0 Type of Surveillance

Case-by-case

## 3.0 Case Classification

### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Isolation of *Legionella* spp. or detection of the antigen from appropriate clinical specimens (e.g., lung tissue, pleural fluid, sputum);

**OR**

- A significant (i.e., fourfold or greater) rise in *Legionella* spp. total antibody titre between acute and convalescent sera;

**OR**

- Single specimen or standing total antibody titre  $\geq 1:256$  against *Legionella* spp.;

**OR**

- Demonstration of *L. pneumophila* serogroup 1 antigen in urine.

### 3.2 Probable Case

Clinically compatible signs and symptoms with:

- Demonstration of *Legionella* spp. DNA by nucleic acid amplification test (NAAT), such as PCR;
- Detection of specific *Legionella* antigen or staining of the organism in respiratory secretions, lung tissue, or pleural fluid by direct fluorescent antibody (DFA) staining, Immunohistochemistry (IHC), or other similar method.

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Legionellosis:

- Positive *Legionella* spp. Culture;

- A significant (i.e., fourfold or greater) rise in *Legionella* spp. total antibody titre between acute and convalescent sera;
- A positive *Legionella* urinary antigen test.

## 4.2 Approved/Validated Tests

- Standard culture for all *Legionella* species with confirmation to species level.
- Serogrouping of *L. pneumophila* and other Legionellae with 2 or more serogroups.
- *L. pneumophila* serum antibody tests.
- *L. pneumophila* serogroup 1 urine antigen test.
- NAAT for *L.pneumophila* and *Legionella* spp.

## 4.3 Indications and Limitations

- Standard culture for *L. pneumophila*.
- All *Legionella* spp. [as well as former members of the genus *Legionella* which taxonomically belong to other genera (*Tatlockia micdadei*, *Tatlockia maceachernii*, *Fluoribacter bozemanai*, *Fluoribacter dumoffii*, and *Fluoribacter gormanii*)], are considered to be pathogenic although they are implicated much less frequently than *L. pneumophila*.

## 5.0 Clinical Evidence

Legionellosis is comprised of two distinct illnesses:

- Legionnaires' Disease – characterized by anorexia, malaise, myalgia, headache, productive cough, temperature > 39 degrees Celsius, pneumonia, confusion, chills, nausea, diarrhea; and
- Pontiac Fever – A milder form of the illness without pneumonia. It is characterized by anorexia, malaise, myalgia, headache, productive cough, temperature > 37.5 degrees Celsius.

## 6.0 ICD 10 Code(s)

A48.1 Legionnaire's Disease

A48.2 Pontiac Fever

## 7.0 Sources

Heymann DL, editor. Control of Communicable Diseases Manual. 20 ed. Washington, D.C: American Public Health Association; 2015.

Public Health Agency of Canada. Legionellosis. In: Case Definitions for Communicable Diseases under National Surveillance. Canada Communicable Disease Report. 2009;35S2.

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Labstract – April 2012: Legionella – Change in testing methodology to Real-Time PCR Testing [Internet]. Toronto, ON: Ontario Agency for Health Protection and Promotion; 2012 [updated April 1, 2012; cited December 11, 2012]. Available from: <https://www.publichealthontario.ca/en/BrowseByTopic/InfectiousDiseases/Pages/IDLandingPages/Legionellosis.aspx>

## 8.0 Document History

**Table 1: History of Revisions**

Revision Date	Document Section	Description of Revisions
January 2013	General	New template. Section 9.0 Document History added.
January 2013	4.1 Laboratory Confirmation	Addition of the third bullet point: “A positive <i>Legionella</i> urinary antigen test.”
January 2013	4.2 Approved/ Validated Tests	First bullet point changed from “Standard culture for <i>Legionella</i> spp. with confirmation” to “Standard culture for all <i>Legionella</i> species with confirmation to species level.”  Addition of second bullet point: “Serogrouping of <i>L. pneumophila</i> and other Legionellae with 2 or more serogroups.”  Final bullet point changed from “NAT for <i>Legionella</i> spp.” To “NAT for <i>L.pneumophila</i> and <i>Legionella</i> spp.”  Deletion of: “Direct fluorescent antibody staining”
January 2013	4.3 Indications and Limitations	Deletion of the third bullet point: “Positive specimens by urine antigen tests for the detection of <i>Legionella pneumophila</i> serogroup 1 are considered presumptive. When possible, patients should also be tested through accepted laboratory tests as outlined in section 4.2.”
January 2013	References	Updated.

<b>Revision Date</b>	<b>Document Section</b>	<b>Description of Revisions</b>
February 2019	General	Minor revisions were made to support the regulation change to Diseases of Public Health Significance

