

Legionellosis

Reporting Obligations

Legionellosis is designated as a disease of public health significance and is reportable under the *Ontario Health Protection and Promotion Act*. Report all suspect and confirmed cases within **one business day** to the health unit.

REPORTING FORM

Epidemiology

Aetiologic Agent:

Legionellae species are fastidious aerobic bacilli that stain gram negative after recovery on artificial media. More than 50 species have been recognized of which *Legionella pneumophila* (*L. pneumophila*) is most commonly associated with disease in humans.

Clinical Presentation:

There are 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.

Modes of transmission:

Legionella are opportunistic pathogens most commonly associated with water-droplet transmission to humans through inhalation of aerosolized contaminated water.

Incubation Period:

For Legionnaires' Disease it is 2-14 days, most often 5-6 days. For Pontiac Fever it is 5-72 hours, most often 24-48 hours.

Period of Communicability:

Person-to-person transmission has not been documented.

Risk Factors/Susceptibility

Illness occurs most frequently with increasing age (most cases are at least 50 years of age). Persons who smoke, have diabetes, lung, or renal disease are at most risk. The disease is rare in persons under 20 years of age. Outbreaks have occurred among institutionalized patients/residents.

Outbreaks and sporadic cases have been linked to air conditioning cooling towers, evaporative condensers, humidifiers, whirlpool spas, respiratory therapy devices, ponds and soil from their banks, decorative fountains and potable water systems which can be found in hospitals and among other places.

Diagnosis & Laboratory Testing

Consider the diagnosis of legionellosis infection in any cluster of respiratory illness with pneumonia, or individual presenting with a respiratory illness and pneumonia.

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

Note: Seroconversion requires up to eight weeks for antibody levels to peak. A fourfold increase in antibody levels requires two samples taken 3-6 weeks apart. Urinary antigen testing is the most rapid and sensitive test however only detects infection with *L. pneumophila* serogroup 1. Cases with positive urine antigen are recommended to have confirmatory cultures.

TESTING INFORMATION & REQUISITION

Treatment & Case Management

Treatment is under the direction of the attending health care provider. Public Health staff will investigate the case to determine the source of infection.

Patient Information

PATIENT FACT SHEET

References

1. [Ministry of Health, Infectious Diseases Protocol - Ontario Public Health Standards, 2022.](#)

Additional Resources

1. [CDC: Legionella](#)
2. [PHAC: Legionella](#)
3. [SMDHU HealthSTATS: Legionellosis](#)
4. [PHO. "Legionellosis \(Legionella, Legionnaires Disease\)". Dec 2022.](#)