

Legionellosis

(Legionnaires' disease, Pontiac fever)

What is legionellosis?

Legionellosis is a bacterial disease caused by *Legionella* that can cause mild respiratory illness or pneumonia. Most cases occur as single isolated events. Outbreaks are relatively rare. There are two distinct forms of the disease: "Legionnaires' disease" and "Pontiac fever." Legionnaires' disease is named after a large outbreak at an American Legion convention in Philadelphia in 1976.

Who is at risk for legionellosis?

Most healthy individuals do not develop symptoms after exposure to *Legionella*, and symptomatic infection is rare in people younger than 20. The disease most often affects older individuals (≥ 50), males, current or former smokers, immunocompromised individuals, or those with underlying illnesses such as chronic lung disease, cancer, diabetes, or kidney failure.

What are the symptoms of legionellosis?

The early symptoms of legionellosis are muscle aches, headache, tiredness, loss of appetite and dry cough followed by high fever (102°F to 105°F), chills and occasionally diarrhea. In Legionnaires' disease, chest X-rays often show pneumonia, which may lead to death, especially in those with weakened immune systems. Pontiac fever is a milder illness that has symptoms similar to those of Legionnaires' disease, but does not progress to pneumonia or death. Symptoms of Pontiac fever go away in two to five days without treatment.

How soon do symptoms appear?

The period between exposure and onset of illness for Legionnaires' disease is two to 10 days, but most often is five to six days and can be up to 19 days; for Pontiac fever it is one to two days, but can be as short as four hours.

How is legionellosis spread?

People can get Legionnaires' disease when they breathe in a mist or small droplets of water in the air that contains the bacteria. The bacteria grow best in warm water, like the kind found in hot tubs (spas), cooling towers, hot water tanks, or parts of the air-conditioning systems of large buildings. Person-to-person spread does not occur. Outbreaks occur following the exposure of many individuals to a common source of the bacteria in the environment, such as places like hotels, hospitals, and other large buildings, when the water supply becomes contaminated.

When and for how long is a person able to spread the disease?

People are not able to spread the disease to others. Only one case of possible person-to-person transmission has ever been reported.

How is a person diagnosed?

Legionellosis is usually diagnosed by a medical provider using a variety of laboratory tests including culture and antigen testing.

What is the treatment?

Antibiotics given by a medical provider can be used to treat the disease.

Does past infection make a person immune?

It is unknown at this time if past infection gives people immunity.

Should children or others be excluded from child care, school, work or other activities if they have legionellosis?

No. Infants, toddlers and school-aged children should not be excluded unless the staff determines the child is unwilling or unable to participate in activities. They also should be excluded if the staff determines that they cannot care for the child without compromising their ability to care for the health and safety of the other children in the group.

All others can attend work and other functions as long as they are well enough to do so.

What can be done to prevent the spread of legionellosis?

General guidelines for legionellosis prevention include cleaning and/or chlorinating areas known to be reservoirs in reported outbreaks, such as decorative water fountains, air conditioning cooling towers, humidifiers, whirlpool spas and respiratory therapy devices.

Additional Information

Additional information is available by calling the North Dakota Department of Health at 800.472.2180.

This disease is a reportable condition. As mandated by North Dakota law, any incidence of this disease shall be reported to the North Dakota Department of Health.

Resources:

1. American Academy of Pediatrics. [Children in Out-Of-Home Child Care]. In: Kimberlin DW, Brady MT, Jackson MA, Long SS, eds. *Red Book: 2018 Report of the Committee on Infectious Diseases*. 31st ed. Itasca, IL: American Academy of Pediatrics; 2018:[pages 122-136].
2. American Academy of Pediatrics. [Legionella pneumophila infections]. In: Kimberlin DW, Brady MT, Jackson MA, Long SS, eds. *Red Book: 2018 Report of the Committee on Infectious Diseases*. 31st ed. Itasca, IL: American Academy of Pediatrics; 2018:[pages 498-501].
3. Heymann, D. L. (2015). *Control of Communicable Diseases Manual, 20th Edition*. Legionellosis. American Public Health Association. 2015: 334-337.