

Legionellosis Brief Summary

Legionellosis is a disease caused by gram negative aerobic bacteria in the genus *Legionella*. Legionellosis was first recognized and named after a 1976 outbreak of pneumonia (with 182 cases and 29 deaths) among participants of the American Legion's convention at the Bellevue-Stratford Hotel in Philadelphia¹. There are two forms of legionellosis: Legionnaire's disease and Pontiac fever. For Legionnaire's disease, pneumonia is the most common clinical feature accompanied by other nonspecific symptoms including nonproductive cough, fever, headache and shortness of breath which begin 2 to 14 days after being exposed². Pontiac fever is a milder infection, beginning 1 to 2 days after exposure, with symptoms similar to Legionnaire's disease but without pneumonia and usually lasts 2 to 5 days². Several diagnostic tests are available to detect the *Legionella* bacteria within the body. Risk factors for Legionnaires' disease include age (50 years of age or older), smoking, chronic heart and lung disease, cancer, renal disease, immunosuppression, and diabetes³.

Legionella bacteria are found naturally in freshwater environments worldwide. The bacteria grow best in warm water (77°F - 107°F), like the kind found in hot tubs, air conditioning cooling towers, hot water tanks, premise plumbing systems, and decorative fountains³. Legionellosis is transmitted by inhalation of aerosolized water contaminated with the bacteria. It is not airborne nor is it transmitted from person-to-person. Most cases are sporadic, but outbreaks have been reported from several different environments including cruise ships, office buildings, hotels and hospitals².

Nationally reported legionellosis incidence rates increased 4.5 times from 0.42 per 100,000 persons in 2000 to 1.89 per 100,000 in 2015⁴. Although legionellosis cases are seen throughout the entire year, more cases were reported in summer and early fall in 2014 and 2015 versus winter and spring⁴. From 2014 to 2015, a total of 1014 (14%) Legionnaires' disease cases were travel-associated⁴. In Florida, 435 cases were reported in 2017 which is a 51.2% increase over the previous 5-year average incidence rate⁵. Most of the 2017 Florida cases were hospitalized (98.4%) and 11.3% died from the infection⁵. The majority of 2017 cases were acquired in Florida (93.8%) and were sporadic (93.7%)⁵.

References

¹Fraser, D.W., Tsai, T.R., Orenstein W et.al 1977. Legionnaires' disease, description of an epidemic of pneumonia. N.E.J.M. 297 (22) 1189-1197.

²Fields BS, Benson RF, Besser RE. Legionella and Legionnaires' disease: 25 years of investigation. Clin Microbiol Rev 2002;15:506-26.

³Heymann, D. (2008). Legionellosis. In *Control of Communicable Diseases Manual* (19th ed., pp.337-340) Washington DC: American Public Health Association.

⁴CDC. Legionnaires' Disease Surveillance Summary Report, United States-2014-2015, Published October 2018

⁵Florida Department of Health, Bureau of Epidemiology. Florida's Reportable Disease Surveillance System- MERLIN.

Updated November 2018