

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.

CDC estimates that between 8,000 and 18,000 people are hospitalized with legionellosis in the United States each year. Nationally reported legionellosis incidence rates increased nearly threefold from 2000 to 2009 and were observed across all age groups and geographic regions⁴. Although legionellosis cases are seen throughout the entire year, 62% of the all the U.S. cases reported from 2000 to 2009 occurred between June and October⁴. During 2005 to 2009, a total of 1,220 (24%) cases involving U.S. residents were travel-associated. In Florida, 280 cases were reported in 2014 which is a 34.2% increase over the previous 5-year average incidence rate⁵. Most of the 2014 Florida cases were hospitalized (97.9%) and 14.3% died from the infection⁵. The majority of 2014 cases were acquired in Florida (89.3%) and were sporadic (93.9%)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. Legionellosis in the United States, 2000-2009. MMWR 2011;60:1083-1086

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

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