



LEGIONELLOSIS

What is legionellosis?

Legionnaires' disease, often referred to as legionellosis (LEE-juh-nuh-low-sis) is an infection caused by the bacterium *Legionella*. There are many different types of the *legionella* bacteria that cause human illness; the most common is *Legionella pneumophila*. Legionnaires' disease got its name in 1976 when an outbreak of pneumonia occurred among persons attending a convention of the American Legion in Philadelphia. In the United States, between 8,000 and 18,000 people are annually hospitalized with Legionnaires' disease. However, many infections are not diagnosed or reported, so this number may be higher. Most illness is usually found in the summer and early fall, but it can happen any time of year.

What are the symptoms of legionellosis?

The bacterial infection is associated two (2) separate illnesses: Legionnaires' disease and Pontiac fever.

- **Legionnaires' disease** can have symptoms like many other forms of pneumonia or lung infection. It is characterized by fever (up to 102–105 F), nonproductive cough, and other flu-like symptoms such as: loss of appetite, general fatigue, muscle aching, and headache. Abdominal pain and diarrhea are not uncommon. Symptoms usually begin 2 to 14 days after being exposed to the bacteria. Chest X-rays are needed to confirm the pneumonia. Special tests can be done on respiratory secretions (sputum or phlegm), as well as blood or urine to find evidence of the bacteria in the body.
- **Pontiac fever** is a similar but milder illness caused by the same type of *Legionella* bacteria. Symptoms generally resemble the flu. The symptoms of pontiac fever generally occur 1 to 2 days after exposure to the bacteria and usually last for 2 to 5 days. However, there is no pneumonia and symptoms usually resolve in a few days without treatment.

How do people get Legionellosis? How is it transmitted?

The bacteria are NOT spread from one person to another person. The *Legionella* bacteria are found naturally in the environment, usually in waters of rivers, lakes and streams and well as man-made water systems. However, they are not present in sufficient numbers to cause disease. The bacteria grow best in warm water, like the kind found in hot tubs, cooling towers, hot water tanks, large plumbing systems, or parts of the air-conditioning systems of large buildings.

People may be exposed to the bacteria when they breathe in a mist or vapor (small droplets of water in the air) that has been contaminated with the bacteria due perhaps to improper cleaning and disinfection. Aspiration (or choking) on secretions or water contaminated with the bacteria is also a common way for the organism to enter the lung. Three conditions are needed for transmission of *Legionella*: heat, stasis or lack of movement, and aerosolization (spraying). Car or window air-conditioners are not the sources of infection.

Most cases occur as single isolated events. Outbreaks, when two or more people become ill in the same place at about the same time, are relatively rare. Some outbreaks have been linked to aerosol sources in the community (such as hospitals, nursing homes), or with cruise ships and hotels, with the most likely sources being whirlpool spas, cooling towers (air-conditioning units from large buildings), and water used for drinking and bathing.

A person diagnosed with Legionnaires' disease in the workplace is not a threat to others who share office space or other areas. However, if the workplace is a suspect source of a person's illness, it is important to contact the local health department.

How serious is it? What is the treatment?

Most people exposed to the bacteria do not become ill. However, Legionnaires' disease is serious and can be life-threatening. The symptoms of pneumonia related to the *Legionella* bacterium resemble other forms of pneumonia. Therefore, it can be difficult to initially diagnose. Most cases can be treated successfully with antibiotics [drugs that kill bacteria in the body], and healthy people usually recover from infection without problems.

Certain individuals are at higher risk of illness and associated complications. In other words, they are most vulnerable to infection after exposure to the *Legionella* bacteria. These individuals include those who:

- are over 50 years of age
- abuse alcohol
- are cigarette smokers
- have no spleen
- have weakened immune systems due to underlying disease (e.g. diabetes, cancer, kidney disease, emphysema)
- have weakened immune systems due to drugs that may suppress or diminish the body's ability to fight infection (such as large doses of steroids or cancer medication)

How can Legionellosis be prevented?

Research has found that the risk of acquiring Legionnaires' disease from a home water system is low. Generally, those who have contracted the disease from their home water systems are usually smokers. Maintaining hot water temperature at about 122 degrees or higher may minimize the chance that *Legionella* will grow in a water system. Caution should be taken with the elderly and children and hot water temperatures. There is no risk with normal use of a dishwasher, washing clothes, and showering. Tap water is not recommended for use in home nebulizers or other respiratory equipment.

FOR MORE INFORMATION:

SCPH Communicable Disease Unit - 330-375-2662

Centers for Disease Control and Prevention (www.cdc.gov)

Mayo Clinic (www.mayoclinic.com)

Minnesota Department of Health (www.health.state.mn.us)

The Legionella Experts (www.legionella.org)