

What is legionellosis?

Legionellosis is an infection caused by the bacterium *Legionella pneumophila*. The disease has two distinct forms: Legionnaires' disease, the more severe form of infection which includes pneumonia and Pontiac Fever, a milder illness. Legionnaires' disease acquired its name in 1976 when an outbreak of pneumonia occurred among persons attending a convention of the American Legion in Philadelphia. Later, the bacterium causing the illness was named *Legionella*.

How common is legionellosis in the United States?

An estimated 8,000 to 18,000 persons get Legionnaires' disease in the United States each year. An additional unknown number are infected with the *Legionella* bacterium and have mild symptoms or no illness at all. Outbreaks of Legionnaires' disease have received the most media attention; however, most often the disease occurs as single, isolated cases not associated with any recognized outbreak. Outbreaks are usually recognized in the summer and early fall, but cases may occur year-round. Approximately 5%-15% of known cases of Legionnaires' disease have been fatal.

What are the symptoms of legionellosis?

Patients with Legionnaires' disease usually have fever, chills and cough, which may be dry or may produce sputum. Some patients also have muscle aches, headache, tiredness, loss of appetite and occasionally, diarrhea. Laboratory tests may show decreased function of the kidneys. Chest x-rays often show pneumonia. It is difficult to distinguish Legionnaires' disease from other types of pneumonia by symptoms alone; other tests are required for diagnosis. Persons with Pontiac Fever experience fever and muscle aches and do not have pneumonia. They generally recover in 2-5 days without treatment. The time between exposure and onset of illness for Legionnaires' disease is 2-10 days; for Pontiac Fever, it is shorter, generally a few hours to 2 days.

How is legionellosis diagnosed?

The diagnosis of legionellosis requires special tests not routinely performed on persons with fever or pneumonia. Therefore, a physician must consider the possibility of legionellosis in order to obtain appropriate tests. Several types of tests are available. The most useful are detecting the bacteria in sputum, finding *Legionella* antigens in a urine sample and comparing antibody levels to *Legionella* in two blood samples obtained 3-6 weeks apart.

Who gets legionellosis?

People of any age can develop Legionnaires' disease, but the illness most often affects middle-aged and older persons, particularly those who smoke cigarettes or have chronic lung disease. Also at increased risk are persons whose immune system is suppressed by diseases such as cancer, kidney failure requiring dialysis, diabetes, or AIDS. Persons who take drugs that suppress the immune system are also at higher risk. Pontiac fever most commonly occurs in persons who are otherwise healthy.

What is the treatment for legionellosis?

Erythromycin is the antibiotic currently recommended for treating persons with Legionnaires' disease. In severe cases, a second drug, rifampin, may be used in addition. Other drugs are available for patients unable to tolerate erythromycin. Pontiac fever requires no specific treatment.

How is legionellosis spread?

Outbreaks of legionellosis have occurred after persons have inhaled aerosols that come from a water source (e.g., air conditioning cooling towers, whirlpool spas, showers) contaminated with *Legionella* bacteria. Persons may be exposed to these aerosols in homes, workplaces, hospitals or public places. Infection cannot be acquired from another person with legionellosis, and there is no evidence of persons becoming infected from auto air conditioners or household window air-conditioning units.

Where is the *Legionella* bacterium found?

Legionella organisms can be found in many types of water systems; however, the bacteria reproduce to high numbers in warm, stagnant water (95-115°F), such as that found in certain plumbing systems and hot water tanks, cooling towers and evaporative condensers of large air-conditioning systems and whirlpool spas. Cases of legionellosis have been identified throughout the United States and in several other countries. The disease likely occurs worldwide.

What is being done to prevent legionellosis?

Improved design and maintenance of cooling towers and plumbing systems to limit the growth and aerosolization of *Legionella* organisms are the foundations of legionellosis prevention. During outbreaks, CDC and health department investigators seek to identify the source of disease transmission and recommend appropriate prevention and control measures, such as decontamination of the water source. Current research will likely identify additional prevention strategies.