

LEGIONELLOSIS FACT SHEET

Overview

Legionellosis is a general term for any disease caused by *Legionella* bacteria. The bacterium is named after a 1976 outbreak among people who attended an American Legion convention. Some of the convention attendees developed a previously unrecognized type of pneumonia that became known as Legionnaires' disease. A milder disease, also caused by *Legionella* bacteria, is called Pontiac fever.

Signs and Symptoms

Legionellosis symptoms include:

- Cough;
- Shortness of breath;
- Fever;
- Muscle aches; and
- Headaches.

The disease has two forms:

- Legionnaires' disease is the more severe form of infection, which includes pneumonia and can lead to death. Symptoms begin two to 10 days after exposure to the bacteria.
- Pontiac fever is a milder illness in which the patient does not have pneumonia. Pontiac fever is probably not a true infection but, rather, a reaction that can follow exposure to the bacteria. Symptoms begin five to 72 hours after exposure.

Causes and Transmission

Legionella bacteria are found naturally in the environment, and they grow well in warm water. They have been found in:

- Creeks and ponds;
- Hot and cold water taps;
- Hot water tanks;
- Water used in air conditioning cooling towers and evaporative condensers;

- Hot tubs;
- Decorative fountains; and
- Soil.

Legionella bacteria do not grow in car or window air conditioners.

People become infected with *Legionella* when they inhale the bacteria in mists or vapors (such as those from showers, bubbling hot tubs or decorative fountains) or when they aspirate (choke on) drinking water that contains the bacteria. *Legionella* bacteria are not easily transmitted from one person to another.

Risk Factors

Most healthy people do not become infected with *Legionella* after exposure. People at higher risk of getting sick are:

- Older people (usually 50 years or older);
- Current or former smokers;
- People with a chronic lung disease (like chronic obstructive pulmonary disease or emphysema);
- People with a weak immune system from diseases like cancer, diabetes or kidney failure; and
- People who take drugs that suppress (weaken) the immune system (for example, after a transplant operation or chemotherapy).

Complications

Most patients with Legionnaires' disease are hospitalized and about 40 percent require treatment in intensive care units. Some patients suffer lung failure and about 10 percent die from the illness.

Pontiac fever does not progress to pneumonia or death. Treatment is not necessary, and patients recover within a week.

Tests and Diagnosis

A legionellosis diagnosis might be missed because the symptoms are similar to those caused by influenza or other types of bacterial pneumonia. If a doctor thinks a patient has Legionnaires' disease, he/she can use chest x-rays or physical exams to check for pneumonia. Doctors may also order tests on urine and sputum (phlegm) to see if pneumonia is caused by *Legionella* bacteria. A urine test is quick and easy to do, but a sputum test is more likely to identify the bacteria and is more useful if an outbreak is suspected.

Treatments

Most cases of Legionnaires' disease can be treated successfully with antibiotics. Pontiac fever goes away on its own with no treatment.

Prevention

There is no vaccine to prevent legionellosis. The key to preventing the disease is proper maintenance of the water systems in which *Legionella* grow, including drinking water systems, hot tubs, decorative fountains and cooling towers. Persons at increased risk of infection may choose to avoid high-risk exposures, such as being in or near a hot tub.

Disease Patterns

Most cases of legionellosis occur as single isolated events rather than outbreaks. The highest incidence is in the summer and early fall, but cases can occur at any time of year. Incidence rates are highest in the northeastern area of the United States; this is thought to be related to climate and weather.

Pennsylvania generally has one of the highest annual incidence rates by state. In Pennsylvania, between 300 and 500 cases of legionellosis are reported each year. 3

Additional information

Centers for Disease Control and Prevention:
<http://www.cdc.gov/legionella/index.html>

This fact sheet provides general information. Please contact your physician for specific clinical information.

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