

QUICK LINKS**Legionella Infection—TRAVELER INFORMATION**

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Traveler Information

LEGIONELLA INFECTION**INTRODUCTION**

Legionnaires' disease is pneumonia caused by legionella infection (*Legionella pneumophila*). This bacterial organism was first identified in 1976 during an outbreak of pneumonia at an American Legion convention in Philadelphia. The bacteria live in freshwater in lakes, ponds, puddles and streams, hot springs, mud, and moist soil. One in 5 cases in North America and Europe are associated with recent travel, whether domestic or foreign.

TRANSMISSION

Most human infections arise from artificial sources of water that create an aerosol of very small particles that can be inhaled. Common sources of infection are water heating and storage tanks, tap water used for drinking, air-conditioning and cooling systems, whirlpool baths, shower heads, fountains, and nebulizers, including those in hospital ventilation machines. Particularly hazardous are water-cooling towers whose fine aerosol stream may spread over a large area; these are the most commonly identified sources of infection.

Legionnaires' disease often occurs as an outbreak or a cluster of a few cases among people gathered together for a common purpose in a hotel, convention center, or cruise ship. The water source can remain infectious for months or years, until it is sterilized. Sporadic infections may be acquired by people who pass by an aerosol source or from a contaminated showerhead.

EPIDEMIOLOGY

Legionnaires' disease accounts for about 2% of community-acquired pneumonia in North America and Europe. In the United Kingdom and the United States, 20% of cases are associated with recent travel.

Surveillance in 31 European countries found 864 travel-related cases in European travelers in 2010, including 24 deaths; half of the cases were acquired at European destinations. The largest cluster (14 cases) occurred aboard a cruise ship. Throughout Europe, incidence continues to increase each year.

Clusters of cases have occurred following holidays in European Mediterranean countries and Caribbean Islands. Surveillance data from tropical countries are not available.

Infection is most common in the warmer months of summer and autumn.

RISK FACTORS

- The disease is most common in persons aged 40 to 70 years.
- Men are 2-3 times more susceptible than women.
- Persons who smoke or who drink too much alcohol are at risk.
- Also at risk are individuals with a chronic disease such as diabetes and persons whose immune systems are suppressed.
- Travelers to conventions and those staying in budget hotels with air-conditioning during the hot season are at particular risk.
- Risky behavior includes sitting in or around whirlpool-type baths (e.g., spa pools, whirlpool baths, hot tubs, Jacuzzi, etc.).
- The infection does not seem to be associated with freshwater sports or canoeing.

SYMPTOMS

The illness usually starts with high fever, chills, headache, and muscle aches. Confusion and diarrhea occur in one-third of cases.

Respiratory symptoms (cough and difficulty breathing) occur and chest pain is common. One in 5 patients will require ventilatory support. Severe disease can cause neurologic, cardiac, and renal (kidney) involvement. Death occurs in 5-40% of cases, but this depends on how quickly the infection is diagnosed and appropriate treatment is given.

PREVENTION

Travelers should avoid whirlpool-type spas. If pneumonia develops, the traveler should inform his or her health care provider of the link between legionella infection and travel, as well as any use of whirlpool spas. There are no medications or vaccines that can prevent this disease.

NEED FOR MEDICAL ASSISTANCE

Seek medical assistance immediately if a high fever or signs of pneumonia emerge during or after travel. Persons who become infected are likely to become very ill quite quickly, and antibiotic treatment and hospitalization are needed.

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