

Legionella and legionellosis SoNG Factsheet

Legionellosis is a collective term for lung infections caused by *Legionella* bacteria. The severity of legionellosis can range from a mild self-limiting flu-like illness (Pontiac fever) to potentially life-threatening pneumonia requiring treatment (Legionnaires' disease). *Legionella* bacteria are found naturally in the environment particularly in fresh water environments and soil, however very few people develop illness.

Legionella bacteria thrive in warm and stagnant water. There are more than 50 different species of *Legionella* bacteria. In Australia, the most common species that cause human disease are *Legionella pneumophila* and *Legionella longbeachae*.

There are about 400 cases of confirmed and probable legionellosis cases in Australia each year.

Human disease caused by *L. pneumophila* is most commonly associated with water systems such as air-conditioning cooling towers with high levels of *Legionella* bacteria. Disease caused by *L. longbeachae* infection is most commonly associated with potting mix and other gardening soils.

Transmission

Legionellosis may occur after a person breathes in aerosols from a contaminated water source (usually *L. pneumophila*) or after inhaling contaminated particles (usually *L. longbeachae*). Person to person spread of the disease is very rare, having been reported on only one occasion.

Outbreaks of Legionnaires' disease have usually been traced to cooling water systems within large air conditioning plants; hot water distribution systems; or spas and fountains that have been poorly maintained, enabling the organisms to thrive and cause infection.

Signs and Symptoms

Pontiac fever is characterised by mild flu-like symptoms that resolve within two to five days without treatment.

Legionnaires' disease is characterised by the development of more severe flu-like symptoms with pneumonia. Symptoms include fever, headache, muscle aches, shortness of breath and occasionally diarrhoea, or a dry cough. Legionnaires' disease can result in respiratory failure, multi-organ failure or death.

Incubation period

From the time of infection with *Legionella* bacteria, it usually takes 4 - 72 hours for Pontiac fever to develop and between 2 - 10 days (commonly 5 - 6 days) for Legionnaires' disease to develop.

Who is at risk?

Legionellosis can occur in any age group but is most common among people over the age of fifty. People at higher risk of serious illness include those on immunosuppressant medication or with compromised immunity and those who smoke or have underlying medical conditions such as diabetes, chronic lung disease, kidney disease and some forms cancer.

Diagnosis

Laboratory tests on blood, sputum and urine may be needed to diagnose legionellosis. Blood tests may need to be repeated a few weeks later to confirm the diagnosis.

Treatment

There are antibiotics that are effective for treating legionellosis. Most people with Legionnaires' disease need to be admitted to hospital for treatment.

Prevention

There is no vaccine available to prevent legionellosis. Prevention focuses on preventing high levels of *Legionella* bacteria in the environment and by reducing people's exposures.

There are guidelines and standards available that aim to control the growth of *L. pneumophila* in air conditioning cooling towers, water heaters, and other water systems (e.g. whirlpool spas, fountains, car washes, humidifiers, nebulisers and water misters).

To minimise exposure to *L. longbeachae*, there is an Australian Standard which requires warning labels on bags of potting mix. The labels advise gardeners to handle potting mixes and composts in well-ventilated areas and to use a face mask, gardening gloves and to practice good hand hygiene.