



Legionnaires' Disease Environmental Health Guide

What is Legionnaires' Disease?

Legionnaires' disease is a serious and potentially life threatening lung infection that is caused by the bacteria *Legionella*.

There are over 40 species of *Legionella* bacteria. However, only a few cause infections. The most common species associated with causing human disease in Australia are *Legionella pneumophila* and *Legionella longbeachae*.

How do you get Legionnaires' Disease?

Legionella bacteria are found naturally at low levels in the environment. They are commonly found in lakes, streams, ponds and soils. However, man made environments can also provide an environment that allows *Legionella* to increase to large numbers.

Legionella pneumophila can be transmitted through the air by inhaling fine droplets of water contaminated with the organism, and are associated with warm water environments such as cooling towers, evaporative air-conditioners, showers, warm water systems, spa pools, misting or droplets sprays and fountains.

Legionella longbeachae is the **most common** strain in Western Australia and is associated with breathing in aerosols from potting mixes, gardening soils, mulches, composts and soil conditioners.

Legionella infections cannot be spread from person to person or from animals.

What are the Symptoms of a Legionella Infection?

The early symptoms of Legionnaires' disease are often like a severe 'flu' infection, and include some or all of the following symptoms:

- Fever (up to 40°C)
- Chills, aching muscles and joints
- A dry cough
- Headache (often severe)
- Tiredness
- Loss of appetite
- Shortness of breath.

In acute infectious cases many bodily systems may be affected, leading to diarrhoea, vomiting, mental confusion and even kidney failure.

How long does it take for *Legionella* infections to develop?

It takes 2-10 days for symptoms to appear after being exposed to the bacteria. In most cases symptoms begin after 5-6 days.

Who is at Risk of Legionella Infections?

A *Legionella* infection is more common in the middle aged and older persons and those whose immune system is weak. Men are affected more commonly than women.



Factors that increase your risk include:

- Smoking
- Lung disease
- Diabetes
- HIV/Aids
- Cancer
- Steroid use or other immunosuppressive medication
- Renal disease
- Being over 50 years of age
- Excess alcohol consumption.

These conditions lower a person's resistance (immune system) to this disease. Young and healthy people rarely get a *Legionella* infection.

How is Legionnaires' Disease Diagnosed?

It is difficult to distinguish a *Legionella* infection from other types of pneumonia by symptoms alone and other medical tests are required to diagnose the disease. Such tests include sputum, blood and/or urine tests, which are repeated after 7 days to confirm diagnosis.

How is Legionnaires' Disease Treated?

There is no vaccine currently available for the prevention of Legionnaires' disease. Most people who are diagnosed with the disease will need to be treated with antibiotics such as erythromycin and ciprofloxacin. Most patients who receive early antibiotic treatment begin to improve within 3 - 5 days but usually require treatment for 10 - 14 days.

Can I be Infected by Legionella more than once?

Tests show that your body is able to develop immunity against a second infection but how long immunity lasts is unknown. It is, therefore, important to take care at all times.

What is being done to Prevent Legionnaires' Disease?

Owners of commercial premises that have cooling towers or warm water systems (such as hospitals) are required by law to conduct regular maintenance of this equipment to reduce the risk of *Legionella* contamination. This includes regular cleaning and disinfection to prevent *Legionella* growth.

Suppliers of gardening soils both bagged and bulk forms are also required to ensure their customers are aware of the safe handling of potting mixes and gardening soils prior to use. Warnings should be displayed on bags and where bulk products are sold.

Warning Notice
<p>Health Warning</p> <p>Garden Soils contain micro-organisms that may be harmful to your health.</p> <p>Always wear gloves, keep damp while in use, avoid inhaling the mix and wash your hands after use.</p>



How can I Minimise my risk of getting a Legionella Infection around the Home?

There are a few simple things you can do around the home to avoid or prevent conditions that allow *Legionella* to grow to high levels.

When using Potting Mixes and Gardening Soils

Potting mixes, composts, mulches, soil conditioners and gardening soils can be harmful to your health if you do not take some simple precautions. This includes bagged material and soils purchased in bulk form (e.g. trailer load of mulch).

Simple precautions should be followed when handling such materials:

1. Always wear gloves
2. Wear a face mask to help avoid inhaling aerosols
3. Open bagged material with care to avoid inhaling aerosols
4. Keep the mix damp while in use
5. Wash your hands thoroughly after use
6. Store potting mix in a cool place, out of the sun

Domestic Evaporative Air Conditioners

Evaporative units used for home air conditioning are a potential source of Legionnaires' disease - but have not yet been linked to any known cases in Australia.

Some simple steps should be followed to maintain your evaporative air conditioner.

Before summer:

- Disconnect power to unit.
- Remove external weatherproof covers.
- Remove filter pads, clean them thoroughly with a hose and replace with new filters if necessary.
- Clean and scrub all waterways, including the bleed-off system and sump.
- Close drains if required and fill with clean water.
- Disinfect the unit with a biocide such as chlorine based household bleach.

At the end of summer:

- Disconnect power to unit
- Loosen any sediment and slime with a brush
- Drain all water from the unit's tank and pipes
- Clean the tank and pump with a cloth soaked with a chlorine based household bleach then flush with clean water
- Remove filter pads, hose clean and allow to dry
- Dry the internal components, leave drains open and fit covers to exposed units if required.

Air conditioning firms can provide a cleaning and maintenance service.

Portable Evaporative Coolers

Portable evaporative units should be completely drained and cleaned at least once during the summer seasons, and left dry when not in use.

With all evaporative coolers always make sure the water supply is clean and fresh.

Refrigerated air conditioners such as domestic refrigerated/reverse cycle integrated and split systems remove heat and moisture from air without using water. They do not cause Legionnaires' disease.



Domestic Hot Water Systems

- Domestic hot water systems should be operated and maintained at a temperature above 55° C
- Regularly flush hot/warm water pipe lines (e.g. showers, taps) to prevent stagnant water
- Regularly clean shower heads.

Spa Baths

Regularly clean/disinfect your spa as per manufacturer's recommendations to control the growth of *Legionella* bacteria.

Further Information

For further information contact your Local Government Environmental Health Officer

or

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