

LEGIONELLA INFORMATION LEAFLET

What is Legionella?

In short, the genus Legionella is a pathogenic group of Gram-negative bacteria that includes the species *L. pneumophila*, causing legionellosis including a pneumonia-type illness called Legionnaires' disease and a mild flu-like illness called Pontiac fever.

Legionella is common in many environments, including soil and aquatic systems, with at least 50 species and 70 serogroups identified.

The illness occurs more frequently in men, than women and usually affects middle aged or elderly people. Smokers, people with chest problems and those whose immune systems are impaired are commonly at a higher risk.

What are the symptoms of Legionella?

Legionnaires' disease is a lung infection that you can catch by inhaling water droplets containing bacteria from both portable and non-portable air conditioning units, spa pools, hot tubs, showers, taps and toilets, to name a few examples. It is usually caught from environments, such as hotels, hospitals or offices, where the bacteria have got into the water supply. It is very rare to catch this at home and you cannot usually contract it from person to person, drinking water containing the bacteria, places, such as ponds and rivers. The incubation period of Legionnaires' disease is from two to ten days: this is the time it takes for the illness to appear after being exposed to the Legionella bacteria.

It is an uncommon condition but can be very serious and has the potential to kill between 10 – 40% of those affected. The symptoms of Legionnaires' disease are very much like the symptoms of flu, which include:

- High temperature, feverishness, often greater than 39.5 C (103 F) and chills
- Chest pain
- Cough and shortness of breath
- Muscle pain
- Headache
- Persistent fatigue
- Diarrhoea and signs of mental confusion
- Pneumonia

It is important to get an urgent appointment if you have a bad cough and:

- it doesn't go away
- you can't breathe properly
- you have a high temperature and feel hot and shivery
- you have severe chest pain
- you feel like you have severe flu

These could be symptoms of Legionnaires.



Treatment for Legionnaires' disease

You may need to go to hospital if you are diagnosed with Legionnaires' disease. Treatment in hospital may include IV antibiotics, oxygen through a face mask or tubes through your nose, a machine to help you breathe. As the condition starts to improve, you may be able to take antibiotic tablets at home, which will usually last 1 to 3 weeks.

Most people make a full recovery, but it might take a few weeks to feel back to normal.

How can one control the risk of Legionnaires' disease?

It is important to identify any places where the bacteria can grow and ensure adequate controls are in place to reduce the risk of bacteria surviving and entering the environment in droplets. The bacteria is more likely to grow:

- in warm water, between 20 – 45 C and nutrients are available (optimum temperature 37 C)
- where there is a source of nutrients for the bacteria to feed on e.g. slime (biofilm), rust, algae, limescale, and dirt on pipe and tank surfaces
- in water heaters / calorifiers where water is stored at temperatures of less than 45 C
- in pipes with little or no water flow (this includes unoccupied rooms)

The Legionella bacteria is dormant below 20 C and does not survive above 60 C. To minimise the risk of bacteria growing and reproducing:

- Cold water must flow from outlets below 20 C after running for 2 minutes
- Hot water should flow from outlets above 50 C, within 1 minute of running the water. Note that temperatures above 50 C will increase the risk of scalding injuries, so it is advisable to provide warning signs and consider fitting thermostatic mixing valves.
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Shower heads

Shower heads produce a fine spray of aerosol and are an ideal source for Legionella bacteria. Dirt and mould are a food source for bacteria, which can also build up on the shower head.

Instantaneous electric showers pose less of a risk as they are generally cold water-fed and heat only small volumes of water during operation.

Recommendation:

- Cleaning and disinfecting shower heads and hoses on a regular basis removes both the nutrients and habitat required by bacteria, thus minimising the risk of any legionella bacteria which may be present in the water from multiplying.
- All shower heads and hoses should be dismantled, cleaned, descaled (if necessary) and disinfected every three months.

Dead legs.

A dead leg is a length of pipe leading to an outlet which has been removed, or is rarely used, or unused entirely. These sections of process piping therefore become isolated and no longer maintain a regular flow of water e.g. if you remove a sink and cap off the piping that once led to the appliance, this would create an area for water to stagnate.

Recommendation:

- If these outlets are not required and if the pipework can be cutback to prevent the creation of a dead leg they should be removed.

Unoccupied property

It is important that water is not allowed to stagnate within the water system and so there should be careful management of properties left vacant for extended periods (e.g. student accommodation left empty over the summer holidays).

Recommendation:

- During periods of inoccupancy all outlets on hot and cold-water systems should be flushed through at least once a week for at least 2 minutes.
- To manage the risks during non-occupancy, consideration should be given to implementing a suitable flushing regime or other measures, such as draining the system if it is to remain vacant for long periods.

Hot tub / Whirlpool / Spa bath.

The warm water of a spa can provide an ideal environment for legionella bacteria to thrive. In addition to this, breathing in moist air that is infected with the bacteria can cause a person to contract the disease.

If the whirlpool bath is connected to a hot water system, in which a temperature of at least 60 C is maintained as far as the whirlpool bath taps from which the bath is filled, there is no risk at all.

Recommendation:

- Keep the spa clean and free from dirt and debris and check and clean the filters on a regular basis.
- If a whirlpool bath has not been used for a while, fill with water, heated to 60 C, for approximately 5 – 10 minutes, then drain..