

Independent Guide

What do I need to know about legionella bacteria?



Independent workplace compliance

What are legionella bacteria?

Legionella are the bacteria (not viruses) which cause infections in humans, such as Legionnaires' disease, Pontiac fever and Lochgoilhead fever. Any infection caused by legionella bacteria is known as a 'legionellosis'.

What are the medical implications of legionella?

Whilst Pontiac and Lochgoilhead fevers are non-fatal, flu-like illnesses, Legionnaires' disease is a form of pneumonia, fatal in approximately 12% of cases. The bacterium Legionella pneumophila serogroup 1 is the most common cause of Legionnaires' disease. It first hit the headlines in 1976 after an outbreak among attendees at an American Legion Convention in Philadelphia, where 221 people were infected, of which 34 died.

Legionnaires' disease primarily affects people who have increased susceptibility due to predisposing factors, such as age (50 years +), smoking, existing illnesses etc. Men are also three times more susceptible than women. Legionella infections can only be contracted by the deep inhalation of tiny water droplets, called aerosols, which are contaminated with legionella bacteria. Aerosols can be produced from water systems which create spray, such as showers, cooling towers, spray taps, decorative fountains and jacuzzis. Infection by person-to-person contact has not been reported.

Where are legionella found?

Legionella bacteria live naturally in a wide spectrum of natural and artificial water systems, such as lakes, rivers and soils. They will be present in mains water so will enter a building's water systems in very low numbers. Due to this, they can easily get into a building's water systems and be present in domestic hot and cold water services, evaporative cooling towers/condensers, whirlpools, spas and decorative fountains.

In what conditions do legionella grow?

The bacteria have been found in water systems ranging in temperature from 6°C to 60°C, although they will grow best between 20°C and 45°C. Legionella bacteria will rapidly be killed at temperatures above 60°C, and do not multiply at temperatures above 50°C. They will not multiply at temperatures below 20°C either, but can remain alive until the temperature rises to a level allowing multiplication to occur. In addition to appropriate temperatures, legionella bacteria require nutrients to enable them to multiply. These nutrients are found in the water systems and include other common water organisms, sludge, scale and sediment. Legionella bacteria also require iron to grow, which is often provided by corrosion.

Is there legionella in my building?

As they are widespread in nature, legionella bacteria are very likely to enter a building's water systems, albeit in very low numbers. There is very little you can do to prevent this. What you can do, however, is manage your water systems effectively to minimise the risks and prevent growth.

How do I manage my water systems to control legionella bacteria?

In line with health and safety legislative requirements, ensure that you minimise the risk by preventing the conditions described above occurring. This is achieved by having a complete 'control of legionellosis management programme' in place, including risk assessments, written schemes, monitoring regimes, auditing regimes, essential documentation and regular programme reviews.

What happens if I do not manage my water systems?

Unfortunately, we are still seeing the results of water system management failures today, over three decades since the first outbreak in America. Barrow-in-Furness in 2002 is a prime example. With Corporate Manslaughter legislation and the new sentencing guidelines now in force, it is even more critical to ensure that you have an appropriate management system in place to control the legionella risk in your building. The potential damage to corporate image, not to mention potential loss of life, is of as much a concern today as it has ever been.

This guide is of a general nature; specific advice can be obtained from Assurity Consulting. Assurity Consulting is the UK's leading independent compliance consultancy specialising in workplace health, safety and environmental solutions. We have over 30 years' experience of helping customers of all sizes, from across all sectors, manage their compliance responsibilities, making sure that their organisation is compliant, their employees are safe, their processes are cost effective and their management team is in control.



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