

# Legionella bacteria



Legionellosis is the collective term for diseases caused by legionella bacteria. The most dangerous form is pneumonic legionellosis (also known as Legionnaire's disease), which can potentially be fatal.

Legionella bacteria are all around in the natural environment, particularly in slow-moving surface water within lakes, rivers and ponds and soils. They can become a health hazard when they settle in hot and cold water systems like showers and recirculating systems where water is heated and allowed to cool.

The bacteria readily multiply at temperatures between 20°C and 45°C when a nutrient source (such as rust, sediment, algae and other organic material) is present. An infection can happen when contaminated water droplets are inhaled. Everyone is susceptible to infection, the risk increasing with age and individuals with impaired immune systems, diabetes, lung, heart disease or other pre-existing conditions.

Employers, or those in control of premises (such as a landlord), have a legal duty to identify, assess and reduce the risks of exposure to legionella as any water system, with the right conditions, can be a source of the bacteria.

### Key actions to reduce the risk from legionella bacteria

- Make sure you understand the water system, its associated equipment and integral parts. You'll need to identify whether they're likely to create a risk of exposure to legionella. This might be because:
  - the water temperature in the system is between 20°C and 45°C;
  - the water is stored or recirculated;
  - there are sources of nutrients, like rust, scale or organic matters;
  - the conditions are likely to cause the bacteria to multiply; and/or
  - it's possible for water droplets to be produced and dispersed over a wide area by showers, spa pools, aerosols from cooling towers.

- Appoint a competent person to take responsibility for controlling any identified risks from legionella bacteria.
  - If you decide to employ contractors to treat water or other work it's still the responsibility of the competent person to make sure that the treatment is to the required standard.
- Carry out a risk assessment for any system where legionella bacteria could be present, to establish the level of risk and whether existing control measures are adequate. Low risk situations include:
  - daily water usage is sufficient to 'turn over' the entire system;
  - cold water supplied directly from good mains, with no stored water tanks;
  - hot water fed from instantaneous heaters; and
  - there are only toilets and wash basins on the system, with no showers.
- Include in your assessment of legionella risk:
  - a description of the system;
  - management responsibilities, including the name of the designated 'competent person';
  - competence and training of key personnel;
  - potential risk sources that have been identified;
  - any means of preventing the risk and/or controls in place;
  - monitoring, inspection and maintenance procedures;
  - records of the monitoring results and the inspection and checks carried out; and
  - arrangements to review the risk assessment regularly.
- Consider whether legionella risk can be prevented by designing, maintaining and /or operating the water system under conditions preventing or controlling the growth of legionella bacteria.
- Introduce controls and a course of action that will help you manage the risk.
- Make a record of your risk assessment if you have five or more employees, and keep the records for at least two years after the system is no longer in use.
- Report any cases of legionellosis in an employee who has worked on cooling towers or hot and cold water systems, in accordance with the requirements of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR).
- Notify your local authority (in writing) if you have a cooling tower or an evaporative condenser on site. This was made compulsory by the Notification of Cooling Towers and Evaporative Condensers Regulations.
- Dry and wet condensers which don't solely rely on evaporation still need to be assessed under the regulations, for example, where such systems spray water directly onto the surface of the heat exchanger.