

Legionella

Background

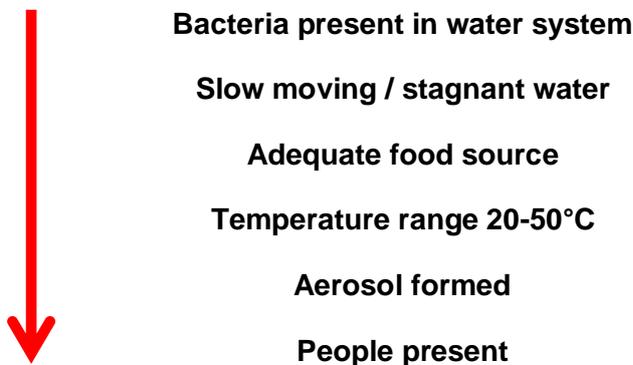


Picture: housemanwaterhygiene.com

- Legionella is one of a range of water hygiene issues which needs to be managed
- Legionella is a type of bacteria with many different strains
- Small numbers bacteria will probably be present in **most** water systems
- The bacteria can survive at very low temperatures and multiply between 20°C and 45°C - above and below these levels they begin to die off

- When bacteria levels grow and there is potential for exposure
- For growth of the bacteria it requires:
 - Water temperature between 20°C and 45°C
 - A food source such as sediment, sludge, scale and organic materials
 - Somewhere to live, a slow moving water source such as a low use storage tank or a 'deadleg'¹ is ideal as it gives the bacteria time to multiply (and grow)

Chain of Events



¹ A capped off pipe with water remaining in it

- The diseases are potentially fatal forms of pneumonia – legionnaires disease.
- The bacteria enters deep into the lungs and multiplies
- The main disease is legionnaires disease which has a fatality rate of approximately 10% of cases
- Cannot be passed from one person to another
- Legionnaires disease was originally diagnosed in 1976 at a legionnaires convention in America
- Symptoms include:
 - High Fever
 - Chills
 - Headache
 - Muscle pain
 - Dry cough
 - Difficulty in breathing
 - Diarrhoea and vomiting
 - Confused and delirious
- Often difficult to diagnose due to its similarity with other illnesses

Those particularly susceptible to infection are:

- Over 45s
- Men more so than women
- Smokers
- Diabetics
- Heavy drinkers
- Those with impaired immune systems / atopic (e.g. people with cancer and other terminal illnesses)

Legislation

In the UK the main relevant pieces of legislation for this topic is the Control of Substances Hazardous to Health (CoSHH) Regulations as legionella bacteria is classed as a hazardous substance.

In addition to the legislation, the HSE have produced produce an approved code of practice and associated guidance documents:

L8 Approved Code of Practice and Guidance on Regulations

HSG274 Guidance Document – Cooling Towers (2013)

HSG274 Guidance Document – Hot and Cold Water Systems (2013)

HSG274 Guidance Document – Other Water Systems (2013)

Key Requirements

Some of the key requirements relating to legionella are shown in the table below:

Key Requirement	Content of requirement
Legionella and water hygiene policy	There should be a policy document covering the organisations approach to the management of legionella and water hygiene
Legionella and water hygiene risk assessment	<p>Risk assessments need to be carried out and documented for all properties from shops to offices to hospices and this risk assessment needs to be carried out by a competent person.</p> <p>This can be someone internal to the organisation with the appropriate skills and training (there is a City and Guilds qualification for legionella risk assessment).</p> <p>This can be (and is more often) an external water hygiene company – they should be members of the Legionella Control Association.</p> <p>The risk assessment needs to consider:</p> <ol style="list-style-type: none">1. Contamination (source of water / potential for contaminants)2. Amplification (water temperature, design of system, water movement (or not) water treatment and nutrients)3. Transmission (aerosol generation)4. Exposure (potential for aerosol inhalation)5. Host Susceptibility (people at risk) <p>The risk assessment may result in remedial works needed – e.g. removal of dead-legs, modifications to water tanks etc...</p>
Written scheme / management plan	<p>All properties should have a documented written scheme / management plan for the management of water hygiene – examples include:</p> <ul style="list-style-type: none">• Monthly temperature monitor of water outlets• Flushing regimes for little used outlets• Water tank inspections <p>These activities must be recorded.</p>
Training for employees and volunteers involved in implementing the written scheme / management plan	Anyone involved in the management of legionella must be provided with appropriate training and guidance.
Healthcare environment specifics (e.g. hospices)	Due to the vulnerable nature of patients in a hospice environment, there is specific healthcare guidance to be complied with which increases the control measures required to manage the risk. This guidance is in the form of a Healthcare Technical Memorandum (HTM).

Unique Challenges

- Legionella has traditionally been seen as only an issue for management by organisations with large and complex water systems and for sites with cooling towers.
- Charity shops are seen as low risk from a legionella perspective.
- As such, a number of charities do not have risk assessment processes in place for this.
- However, risk levels cannot be determined without a risk assessment process in place.
- A number of charity shops are in older buildings and may have water tanks that are not known about.
- In older buildings, dead-legs can be left in place after historical changes to water systems by “lazy” plumbers who do not cut pipework fully back.
- As space is a premium in the charity shop environment, if more than one toilet and sink are in place, very often, only one is used and the other is used for storage leading to taps and toilets not being used and this increases the risk of legionella bacteria growing in the water system.