

Norwich Union Risk Services

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Legionella in Nursing and Care Homes

Legionella and Legionellosis

Legionella is a bacteria which is common in the environment and frequently found in natural and artificial water systems. Legionellosis is the term used to describe the infections caused by Legionella and related bacteria.

Legionnaires' disease, a form of legionella, is a pneumonia that principally affects those who are particularly susceptible to such diseases as a result of age, illness, smoking or suppression of the immune system. Legionnaires' disease is the most serious disease that can be caused by the bacteria and is often fatal. The bacteria can also cause other diseases though these are less serious and are not fatal and do not cause permanent disablement, but they can affect all people.

The infection is spread by inhaling water droplets that contain the bacteria. The droplets would need to be small enough to penetrate the deeply into the lung. The bacteria can enter man made water systems where, under certain circumstances, they will multiply. If the water then ends up in droplets or a spray and a susceptible person inhales the droplets, the resulting disease can often be fatal.

Situations Where Legionellosis Can Occur

Although Legionellosis can occur wherever water is used or stored and droplets are created, experience has shown that there are certain situations where there is a foreseeable risk.

These include any hot and cold water systems where there may be susceptible persons such as residential care homes, nursing homes and hospitals.

Water droplets can especially occur in showers or spray from taps.

Assessment of Risk

Legionella is a substance hazardous to health as defined by the Control of Substances Hazardous to Health Regulations, 2002 and an assessment of the risks from Legionellosis must be carried out. The assessment will allow informed judgements to be made about:

- Whether there is potential for harm to health from exposure unless adequate precautions are taken
- What measures for preventing or controlling the risk need to be taken

As with all assessments, they will need to be reviewed periodically.

When there is a significant risk, a person will need to be appointed to take managerial responsibility and to oversee the precautions. Some of the factors to be considered are:

Low Risk	High Risk
Population	
Fit & healthy (e.g. adolescents in a care home).	Elderly, weak immune system
Potential for Water Droplet Formation	
	Showers or spray from taps
Hot Water System	
Well maintained, clean and properly installed.	Infrequently maintained, dirty cold water tanks poorly insulated tanks in warm parts of building.
Purpose built storage systems and calorifiers, correct size for intended use.	Adapted or converted systems, oversized tanks or calorifiers, long pipe runs, with dead ends.
Frequently used	Infrequently used, pipes contain lukewarm water for long periods.
Regularly cleaned and maintained	Materials and fittings which support growth of Legionella.
	Hot water or storage tanks

	holding water below 50°C or not heating contents uniformly.
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Preventing or Minimising the Risks from Legionella

If there is a foreseeable risk, then exposure should be prevented. Reasonably practicable precautions should be steps taken to minimise exposure. These precautions should be written down. The precautions that would normally be taken involve both the design of the system and its operation and maintenance.

Design

- Ensure that pipework is as short and direct as possible
- Ensure adequate insulation of pipes and tanks
- Use materials that do not encourage the growth of Legionella
- Protect against contamination such as by fitting storage tanks with lids
- Do not install showers for vulnerable persons if the showers are likely to be used less than once a week

Operation and Maintenance

- Store hot water above 60°C
- Distribute water above 50°C
- Provide routine maintenance and inspection

Other controls such as ionisation, UV light, chlorine dioxide, ozone or regular thermal disinfection might be provided if there is no need for very hot water supplies.

Scalding

The storing of water at above 60°C and distribution at above 50°C also presents a further problem of scalding. This risk is particularly serious for full body immersion such as in a bath or shower and if the individual is elderly or has disabilities which mean that they are less able or likely to respond quickly.

Such risks would need to be considered as part of a general risk assessment and the response will depend on the capabilities of the residents concerned.

For capable staff, a warning notice and thermometer for checking the water temperature may be sufficient. If vulnerable people can get access to baths or showers then the HSE strongly recommend the fitting

of thermostatic mixing valves which prevent the discharge of water at above 43°C. The valves must be positioned as close to the outlet as possible to avoid standing warm water that could allow the growth of legionella bacteria.

Key Action Steps

- Identify potential sources of Legionellosis
- Assess the risks
- Write down the method for controlling the risks
- Implement the measures
- Monitor its effectiveness
- Keep records
- Appoint a person with managerial responsibility
- Consider other risks such as scalding from hot water

Reference Documents

- HSE Leaflet- Controlling Legionella in Nursing and Residential Care Homes IND(G)253L. HSE Books, 1997.
- Legionnaires disease: A guide for employers HSE IAC L27.
- Legionnaires disease: The control of legionella bacteria in water systems. HSC Approved Code of Practice L8, 2003.

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Norwich Union Risk Services operates a Risk Helpline during normal business hours for the cost of a local telephone call. The telephone number is:
0845 366 66 66
www.nu-riskservices.co.uk