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H & S Guidance - Legionellosis

INTRODUCTION

Legionnaires Disease is one of a group of diseases collectively known as legionellosis. Thirty-seven different species of bacteria are associated with legionellosis, the most dangerous being Legionella pneumophila. Infection by L. pneumophila can result in pneumonia and other potentially life-threatening effects. Legionellosis is associated with a fatality rate of approximately 12%.



LEGIONELLOSIS

SOURCE

Legionella organisms are widespread in natural water sources and have been found in rivers, lakes, mud and soil. However, Legionella can also colonise man-made recirculating hot and water systems such as storage tanks, calorifiers and air conditioning systems.

ROUTE OF INFECTION

Legionellosis is caused by the inhalation of airborne droplets, which contain legionella bacteria. However, infection can only occur under certain conditions that permit the growth and multiplication of the organism and involve the creation of droplets, which can be inhaled.

LEGAL REQUIREMENTS

- a) Duties under the Health and Safety at Work etc. Act 1974 extend to risks from Legionella arising from work activities.
- b) The Control of Substances Hazardous to Health Regulations 2002 relate to risks from biological hazards such as Legionella.
- c) The HSC Approved Code of Practice, "The Prevention or Control of Legionellosis", provides guidance on standards that must be met in order to comply with legal requirements for dealing with these risks. The Approved Code of Practice applies whenever water is stored or used in a way which may create a foreseeable risk of Legionellosis and particularly to the following water systems:-

* Water systems incorporating a cooling tower.



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- * Water systems incorporating an evaporative
 - * condenser. Hot water services in which the volume of hot water exceeds 300 litres.
 - * Hot and cold water services, irrespective of size in premises where occupants are susceptible aged or sick.
 - * Humidifiers and air washers which create a spray of water droplets and in which the water temperature is likely to exceed 20°C.
 - * Spa baths and pools in which warm water is deliberately agitated or recirculated.
- d) The Notification of Cooling Towers and Evaporative Condensers Regulations 1992 require notification to the local authority of installations of wet cooling towers and evaporative condensers.

ACTIONS REQUIRED

The principles of a Legionella control system are:-

- a) The identification and assessment, by a competent person, of sources of risk.
- b) The preparation of a scheme for the prevention or control of such risks.
- c) The implementation and management of precautions.
- d) Keeping records of precautions implemented.
- e) The appointment of a person who is managerially responsible for the system.

THE PREVENTION OF LEGIONELLOSIS

Legionellosis can be prevented and controlled as follows:-

- a) Eliminating conditions which permit the proliferation of legionella bacteria
- b) Minimising the creation and release of water sprays and aerosols.



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Precautions which limit the proliferation of Legionella species include:-

- * Avoiding water temperatures between 20°C and 45°C.
- * Avoiding water stagnation.
- * Avoiding the use of materials in the system which can harbour or provide nutrients for bacteria.
- * Keeping the system clean to avoid the build up of sediments which may provide nutrients or harbourage.
- * The use of a suitable water treatment programme which involves the disinfection and maintenance of the system.
- * Ensuring that the system operates safely and is well maintained.

CHECKLIST - LEGIONELLOSIS

- 1) Have potential sources of Legionella been identified and assessed by a competent person? YES/NO
- 2) Has a scheme for the prevention or control of Legionella been prepared and implemented? YES/NO
- 3) Have precautions to prevent the proliferation of Legionella and the creation of water droplets or aerosols been implemented? YES/NO
- 4) Has a suitable water treatment programme including the disinfection and maintenance of the system been implemented, supported by appropriate information, instruction and training? YES/NO
- 5) Are records of precautions taken and water treatment programmes kept? YES/NO
- 6) Has a person with managerial responsibility been appointed to oversee the system and ensure it operates safely? YES/NO

REFERENCES/FURTHER DETAILS

- *1. Approved Code of Practice L8 (Rev) – Legionnaires Disease :The control of Legionella bacteria in water supplies.
HSE. ISBN 0717617726.
- *2. Legionnaires Disease :essential information for the providers of residential accommodation.
HSE. INDG 376.



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*3. Legionnaires Disease :Controlling the risks with spa pools
HSE

*4. Legionnaires Disease : Audit checklist.

HSE. ISBN 0717621987.

**5. Controlling Legionella in Residential and Nursing homes.

HSE. INDG 253.

**6. Legionnaires Disease : A guide for employers.

HSE. ISBN 0717617734