

LEGIONELLA

INTRODUCTION

Legionellosis is the term used for medical conditions caused by the bacterium legionella pneumophila, the most serious of which is a form of pneumonia. The organisms can also be responsible for many milder illnesses including Pontiac Fever. The initial symptoms include a high fever, chills, headache and muscle pain. Later on chest infections appear with coughing and breathing difficulties as the pneumonia develops and in some cases the disease can be fatal.

THE PROBLEM

Legionella bacteria are found in all water courses, whether natural or man made, it is also found in the soil, in many re-circulating hot and cold water systems and in stored water. All infections are caused by breathing in water from systems which generate aerosol droplets and which carry bacteria capable of penetrating the lungs.

The HSE Approved code of Practice-“Legionnaires Disease The Control of legionella bacteria in water systems” L8, lists a number of water systems which may involve some risk. These include:

- (a) Water systems incorporating a cooling tower
- (b) Water systems incorporating an evaporative condenser
- (c) Hot and cold water systems
- (d) Other plant and systems containing water which is likely to exceed 20°C and which may release a spray or aerosol during operation or when being maintained.

Other risk area or activities might include whirlpool spas and jacuzzis, spray cleaning with pressure hoses, showers, water fountains, humidifiers and some air conditioning systems.

LEGAL RESPONSIBILITIES

In addition to duties under the Health and Safety at Work Act 1974, the Management of Health and Safety Regulations 1999, the Control of Substances Hazardous to Health Regulations 2002 (COSHH), as well as the approved code of practice mentioned apply. These require employers to make an assessment of the risks and to introduce remedial measures to prevent or minimise exposure.

ASSESSMENT OF RISK

Initially a water audit system might be needed in order to identify any potentially harmful organisms and to see if any changes to the water system are necessary. For example dead legs of pipes should be eliminated to avoid water stagnation.

The assessment is likely to include:

- Checks on conditions of pipework/tanks etc.
- Design of systems
- Water sampling
- Maintenance, cleaning and disinfecting procedures
- Activities involving risk exposure

An assessment will enable a valid decision to be made on the risk to health so that further measures can be taken to prevent or reduce that risk.

PRECAUTIONS AND CONTROL PROCEDURES

Services should operate at temperatures that prevent the proliferation of legionella. The recommended temperatures being :

- Cold water systems 20°C or below
- Hot water storage 60°C
- Hot water distribution at least 50°C (Care should be taken to protect people from very hot water)

It is suggested that test procedures for cold water be instigated in the summer months. Any results should be formally recorded in a log book. Hot water systems require annual inspection, cleaning, descaling and flushing. Other precautions may include:

1. Showers fed from a cold mains supply are the preferred option where possible. The flexible hose should be drained after use.
2. Showers and wash hand basins in regular use will receive adequate flushing from regular use, but if unused for more than 2/3 days flush for approx 2 minutes after reaching the maximum operating temperature.
3. During flushing avoid breathing in the spray mist.
4. In other areas where foul water collects systems of work must be in place so that persons are not put at risk during dispersal activities.
5. Descale and disinfect showerheads and flexible hoses at least quarterly.
6. Check and record water storage and delivery temperatures.
7. Ensure that water tanks are lidded and kept clean, the presence of sediment, sludge, scale and organic material can provide a source of nutrient for legionella bacteria.
8. Avoid using high pressure hoses or creating aerosol mists during high winds. Where necessary stipulate a safe system of work that should be followed this should include the provision of personal protection equipment.
9. Adequate monitoring of hygiene standards and disinfectant levels in whirlpool spas and jacuzzis.

FURTHER ADVICE

Property Services can arrange for plant maintenance work to be carried out and for periodic disinfection of the system. Such arrangements need to be co-ordinated between workplace managers and the contractor in order that alternative arrangements can be made if the system has to be shut down. Measures can then be taken to protect building users. Where council properties are not included in the schedule of work arranged by Property Services it will be for the individual manager to arrange for maintenance and repair work to be carried out.

The Health and Safety Section can advise on safe working practices. In addition, Property Services are able to carry out checks on water temperatures.

Sampling for Legionella should not be necessary in the majority of workplaces unless required to monitor the effectiveness of precautionary measures or in the case of an outbreak.

ACTION IN THE CASE OF SUSPECTED OUTBREAK

Legionnaires Disease is not a Notifiable Disease but any outbreak needs to be reported to the Public Health Department (Dr Bingham Whitecroft, Newport) who is likely to investigate. There may also be requirements for reporting under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995, in which case the Health and Safety Section needs to be notified in order that the necessary documents can be completed. In the event of suspected outbreak please inform a senior manager and contact Property Services at County Hall or the Health and Safety Section in order that contingency plans can be put into operation.