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## **LEGIONELLA SAFETY POLICY /PROCEDURES**

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(January 2019)

To live and learn in harmony,  
Caring for each other;  
Treating everybody as a sister and a brother;  
Reflecting Christ's actions and His message too,  
By striving for excellence in all that we do.

## Introduction

### What is Legionnaire's disease?

Legionnaire's disease is a potentially fatal form of pneumonia which can affect anybody of any age. Healthy people can develop Legionnaire's disease but there are a number of factors/conditions in people that increase the risk, these include; smokers, alcoholics, asthma sufferers, persons with weakened immune system, diabetes, and chronic respiratory complaints or kidney disease. The risk of contracting Legionnaires disease increases with age with those over 40 being of greater risk and healthy children only rarely being infected.

The disease begins quite abruptly with high fever, chills, headaches and muscle pains within 3-16 days of being exposed although longer periods of incubation have been documented, most cases develop between 3-7 days of being exposed. Usually a dry cough will soon develop, and many patients experience difficulty with breathing, symptoms may also include diarrhea and vomiting and those infected may become confused or delirious. One of the major difficulties in diagnosing Legionnaires disease is that the illness is not "Atypical" as in that not all patients will display the same symptoms and of the symptoms described individuals could display all or only some of them. The incubation period can be up to 9 days

### What are the possible routes of potential infection?

Legionella bacteria occur naturally in locations such as rivers, lakes, and reservoirs, it is also present in very small quantities in the mains water supply. In some premises these small quantities in the mains water supply can multiply to dangerous levels in an unmanaged water system, *Legionella* bacteria may be found in:

- Domestic water systems in schools, office buildings and Homes for the Elderly etc.
- Whirlpool or hydrotherapy spas.
- Fountains with fine sprays.
- Locations where aerosols may be formed such as showers, taps, or drinking water fountains.
- Cooling Towers.
- Any vessel which stores water over a period of time which is not controlled.

The most likely route for infection is by direct inhalation of bacteria carried by water droplets. The spread and life of the bacteria will depend on ambient temperature, relative humidity, sunlight, wind strength and direction.

### **In what conditions does *Legionella* thrive?**

*Legionella* bacteria will thrive in any water system that is conducive to its life cycle. The optimum temperature at which the bacteria will multiply is between 32°C and 42°C but can multiply through the range of 20°C and 45°C. The bacteria will survive at higher temperatures, but the survival rate decreases from a matter of hours at 50°C, to one minute at 60°C, whilst at 70°C the organism is killed instantaneously. Below 37°C the multiplication rate decreases and can be considered to be insignificant below 20°C.

Bacterial growth will be encouraged by water systems suffering from stagnation, or which contain certain materials that may serve as a source of nutrition to the bacteria.

Contaminated water only presents a risk when dispersed into the air as an aerosol, which may then be inhaled. The fine particles can remain airborne for a long period and small droplets have the potential to penetrate deep into the lungs and cannot be easily expelled.

Larger droplets evaporate and become smaller but still contain the initial number of organisms.

### **Appointed Persons:**

The 'Jointly Accountable Responsible Person' is the person or persons with responsibility for the management of *Legionella* risks and water systems at that premises.

Their responsibilities include:

- a) Appointing a consultant to act on their behalf to ensure that the system is effectively maintained with appropriate sampling, inspections, checks and modifications carried out. (This could include checks which otherwise would be done at the site level.)
- b) Ensuring contact arrangements are in place for all 'Responsible Person(s)' and persons with designated duties, which are documented and made known to relevant employees.
- c) Ensuring that all persons designated with a duty have the time, resources, knowledge and training to carry out that duty.

### **Appointed Responsible Accountable Persons:**

1. Victoria McNaughton	Headteacher
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### **Appointed Deputy**

Lee Joyce	Facilities Manager
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### **Responsible for:**

Annual Risk Assessments	Western	Contracted Service
Monthly Monitoring Programme	Western	Contracted Service
Daly Monitoring Programme	Premises Staff	In House
Audit	Facilities Manager	In House
Training	Business Manager	

### ***Legionella* risk assessments:**

The school will externally source a specialist contractor/consultant to undertake a site-specific *Legionella* risk assessment examination of the entire water system within the premises on a bi- annually basis and act upon any findings.

The primary purpose is to identify if there are any parts of the system that might support or enable the growth of the Legionnella bacteria and therefore present a risk by contaminating the system.

### **Preventative Actions**

Where a risk exists the following action is taken by the Facilities Manager:

- 1 Water tanks are:
    - 1.1 Well-enclosed to prevent foreign matter entering
    - 1.2 Covered by lids with overlapping edges which are secured to the tank
    - 1.3 The overflow pipe protected by mesh screens
    - 1.4 Installed in warm roof spaces and plant rooms may need to be insulated
    - 1.5 Inspected every three months for deposits of organic materials
  - 2 Hot water distribution
    - 2.1 water temperatures at taps one minute after switching on will be 50(C - this is to be checked every three months and record of the checked monitored.
    - 2.2 This temperature will be hot enough to prevent proliferation of legionellae and other micro-organisms, but not so hot as to present a risk of scalding to people using the taps
    - 2.3 particular caution should be exercised with regard to very young children and very old people and those with sensory loss, to which the temperature of 50(C could be a risk
- Safe hot water temperature is set at 43°**

## Reviews and updates of the risk assessment:

To remain valid, *Legionella* risk assessments must be reviewed at least every 2 years, or earlier if required, and updated as necessary. The risk assessment needs to be reviewed whenever the monitoring regime indicates that the control is/has become ineffective or the validity of the assessment is in doubt

- Changes to the water system have been carried out
- If a case of Legionnaires disease is associated with the building/system
- Changes to the use of the building or its management
- The way the water system/s is/are monitored or maintained
- If the building/organisation is carrying out alterations to the building/water system

Organisation appointed as risk assessors:

Western	
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## Legionella site logbook:

The site logbook summarises the key findings of the risk assessment and identifies the steps necessary to monitor and manage the water systems. Logbooks should provide a detailed record of; water treatment regimes, chemical dosing, cleaning and disinfection, maintenance, inspections, monitoring results, laboratory reports, temperature readings and any physical, chemical, and biological parameters measured. This log will be kept with the Facilities manager in the premises office and is accessible to the appointed person at all time.

## Records of Inspection and Monitoring

A record is kept of the following:

- The name of the accountable person
- The responsible for carrying out regular checks
- Simple description and plan of the system identifying storage tanks and relevant items of equipment.
- Details of the risk assessment
- Details of system operation relevant to controlling the risk
- Copy of this procedure for reference
- Details of control measures carried out, including:
- A record of water temperatures
- Inspection recording including results and subsequent action.

## Repair and maintenance works:

The *Legionella* risk assessment may identify remedial actions, such as physical changes to the water system, which are necessary to control *Legionella* risks. Any repairs to the premises, (i.e. repair and maintenance works) that have been identified

Autor: MWS

Issue Date: Jan 2019

Review Date: Jan 2021

by the risk assessment will be organized/arranged and managed by the responsible person. The funding for these works will be the responsibility of business manager in control of the premises.

### **Capital works**

The *Legionella* risk assessments may highlight repairs or remedial works that are greater than reactive repairs, or they may highlight improvement works that will negate the need for some routine checks, or to improve the efficiency of the system. Such remedial works are invariably improvements with the responsibility for funding lying with the business manager in control of the premises.

### **What checks/tests must be carried out at site level?**

Premises staff carry out weekly and monthly checks

### **Physical changes to water systems/installations:**

Facilities manager(s) should be aware that physical changes to water systems (e.g. new pipes, installation of showers, etc.) may increase the likelihood of *Legionella* bacteria appearing. For example, if a tap is removed and the pipe work left in place, it will create a new 'dead-leg' in the system that would then act as a location where the bacteria may proliferate.

All works must be undertaken by suitably qualified contractors and must be in accordance with all standards and guidelines inclusive of but not exclusive too Legionnaires disease:  
The control of *Legionella* bacteria in water systems.

### Approved Code of Practice and Guidance L8 (**ACoP L8**)

- **BS8558:2011** Guide to the design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages.

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### Complementary guidance to BS EN 806

- **BS EN 806-5:2012** Specifications for installations inside buildings conveying water for human consumption. Parts 1-5
- All products must be WRAS (Water Regulations Advisory Scheme) approved

**All works are to be carried out in accordance with the *Legionella* Approved Code of Practice (ACoP).**

### **Training:**

The HR officer in consultation with the Facilities manager will arrange appropriate training for staff members to enable them to carry out weekly and monthly inspections/checks.

Training and competency is required at every level of the process, and competency must be demonstrated by certification.

## **Actions in the Event of an Outbreak**

If an outbreak of Legionnaire's disease is suspected that may be attributed to the water system within a building, or where urgent action is required following routine inspections, the following course of action must be taken:

(An 'outbreak' is defined by the Public Health Laboratory Service, as two or more confirmed cases of Legionnella occurring in the same locality within a six month period.)

the necessary actions must be managed and organised by the premises using a specialist consultant/contractor.

The local authority Safety Adviser (even though the water systems are not managed by them must inform of any outbreak.

The Local authorities Safety Adviser will in conjunction with the Responsible Manager:

- Monitor that the appropriate action has been taken.
- Determine whether further advice is needed.
- Determine whether the incident needs to be reported to the HSE and if it does, to ensure that a report is made.
- Keep a record of the incident and carry out any necessary investigation.

The actions that should be taken in the event of an outbreak may include:

- The affected water service may be taken out of use, to ensure that any part of the water system that is suspected of being contaminated is not used.

This may include:

Ensuring that all outlets connected to the water system are made unavailable for use by the fitting of locks and barriers wherever possible and/or by the posting of signage/notices instructing all staff and others not to use the water outlets or system.

The recording of an 'Events Diary' to document the extent and nature of the problem and record all actions taken from initial reporting of the outbreak to its conclusion.

Legionnaires' is reportable under RIDDOR. Obtain any further advice from the HSE