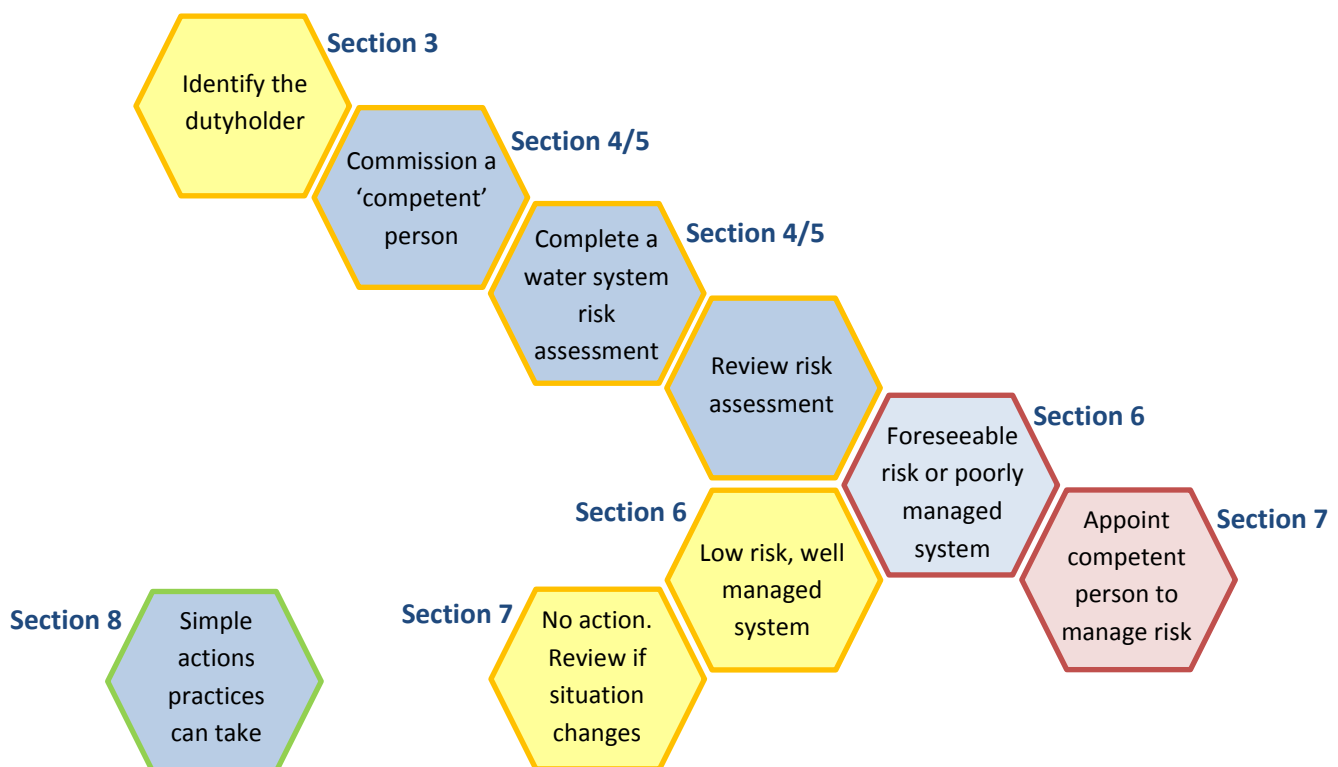


Water Safety in Primary Care: Summary Guide

Legionella: This document is a summary designed to introduce Primary Care practices to the requirements around water safety but does not replace national legislation or approved codes. If practices have any doubts regarding water risk assessments or managing risks, they should consult a competent person.

Pseudomonas: Current guidance on the control of *Pseudomonas aeruginosa* control relates to augmented care areas in secondary/tertiary care. However, there are some simple principles practices can apply at no inconvenience to prevent contamination of the water supply and protect patients.

Legionella Risk Assessment Process:



1. Legislation and Guidance

Primary Care practices have a duty to ensure that their water systems do not pose a risk to the health and safety of employees and visitors (e.g. patients, hosted staff and contractors) from legionella bacteria under the Control of Substances Hazardous to Health Regulations (COSHH) and the Health & Safety at Work Act.

The Care Quality Commission (CQC) will expect practices to fulfil these obligations to demonstrate compliance with the essential standards of quality and safety (Outcome 8: cleanliness and infection control and Outcome 10: safety and suitability of premises).

Relevant health and safety legislation:

- Health and Safety at Work Act (HSAW) 1974
- Control of Substances Hazardous to Health (COSHH) Act 2002
- Management of Health and Safety at Work Regulations (the Management Regulations) 1999.

All water systems in Primary Care practices require a risk assessment. However not all systems will require elaborate control measures and responses and actions should be proportionate to the identified risk. A simple risk assessment may show that the risks are low and being properly managed to comply with the law. *It is likely that most practices will not require anything more than a basic local risk assessment and simple in-house control measures.*

The document providing instruction on this is:

- [*Legionnaires' disease. The control of legionella bacteria in water systems Approved Code of Practice and Guidance L8 \(4th Ed\)*](#)



This is further supported by the Department of Health's guidance document:

- [*Health Technical Memorandum 04-01: The control of Legionella, hygiene, "safe" hot water, cold water and drinking water systems \(HTM04-01\) Part A and Part B and Addendum Pseudomonas aeruginosa – advice for augmented care units*](#)

If dental treatment facilities are present within the practice then the following HTM document will also apply:

- [*Health Technical Memorandum 01-05: Decontamination in Primary Care Dental Practices \(HTM01-05\)*](#)

Compliance with HTM04-01 and where relevant, HTM01-05 should satisfy the requirements of the Health and Safety Executive's ACoP L8 (reminding practices that ACoP L8 is the document with legal status relating to water safety).

2. Legionella and Legionnaires' Disease

Legionella bacteria are common in natural water sources and can be found in low levels in most piped water supplies.



Legionella bacteria are not a risk to human health when ingested (i.e. drinking contaminated water) or through direct contact. However, Legionella bacteria can cause Legionnaires' disease, a potentially fatal type of pneumonia, if airborne water aerosols (i.e. very fine droplets/mist) containing viable Legionella bacteria are inhaled. Such aerosols can be created, for example, by hot and cold water outlets including showers; atomisers; wet air conditioning (evaporative) units, sprinklers and pressure washers. Anyone can develop Legionnaires' disease, but the elderly, smokers, alcoholics and those with an impaired immune system, cancer, diabetes or chronic respiratory or kidney disease are at more risk. Legionella bacteria multiply where temperatures are between 20-45°C and nutrients (biofilms and lime scale) are available. The bacteria are dormant below 20°C and do not survive above 60°C.

3. The Dutyholder

The dutyholder is the employer or person in control of the premises (e.g. a landlord). Under general health and safety law, the dutyholder needs to take suitable precautions to prevent or control the risk of exposure to legionella. For practices where the GP's own the building, the dutyholder is likely to be a designated senior partner. For practices which rent premises, the landlord is likely to be responsible, although Primary Care as an employer will also need to fulfil its duties under Health and Safety legislation.

For further information, see [Legionnaires' disease: A brief guide for dutyholders \(HSE\)](#)

4. The Risk Assessment

A legionella risk assessment is an assessment of a water system with regard to the opportunities the system provides for supporting the proliferation of legionella bacteria and their discharge in the form of aerosols.

It is the responsibility of the duty holder to ensure that a suitable water assessment is carried out.

5. Who can carry out the Risk Assessment?

The Health and Safety Executive (HSE) requires that the person carrying out the risk assessment must be competent (i.e. have such ability, experience, instruction, information, training and resources) to undertake the risk assessment competently and safely and provide advice on prevention and control of exposure (or be assisted by a competent person). Practices may decide they have sufficient 'in-house' expertise or commission an external agency/consultant to undertake the risk assessment.

Examples of a competent person may include:

- The dutyholder (where they have sufficient competence)
- A water consultancy company
- A water treatment company
- A person experienced in carrying out risk assessments
- A plumber with knowledge of the water system and appropriate training
- A combination of the dutyholder, one or more workers and someone from outside the business.

The risk assessment should identify and evaluate potential sources of risk to enable a decision on:

- (a) the risk to health, i.e. whether the potential for harm to health from exposure is reasonably foreseeable, unless adequate precautionary measures are taken;
- (b) the necessary measures to prevent, or adequately control, the risk from exposure to legionella bacteria.

The risk assessment also enables the duty holder to show they have considered all the relevant factors, and the steps needed to prevent or control the risk.

The risk assessment should include:

- management responsibilities, including the name of the competent person and a description of your system
- any potential risk sources
- water temperature
- condition of pipework
- nutrients that may allow Legionella proliferation
- aerosol creation
- at risk personnel or visitors
- potential for stagnation, including water tanks, redundant pipework and underused outlets
- training of staff
- any controls currently in place to control risks
- monitoring, inspection and maintenance procedures
- records of the monitoring results, inspection and checks carried out and
- a plan to review if the situation changes

6. Potential Sources of Risk

Any water system that has the right environmental conditions could potentially be a source for legionella growth. There is a reasonably foreseeable legionella risk in the water system if:

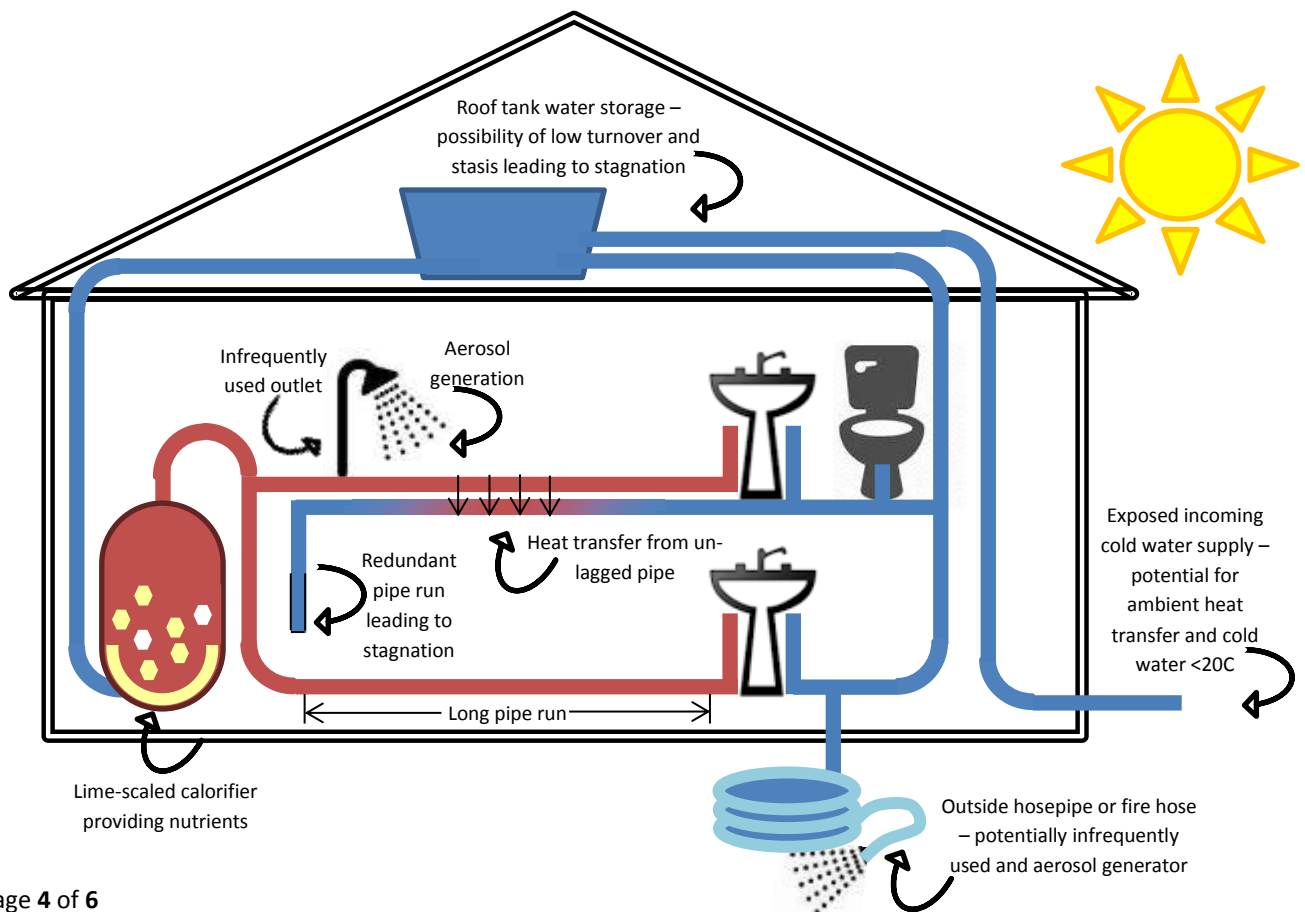
- water is stored or re-circulated as part of your system
- the water temperature in all or some part of the system is between 20 °C–45 °C
- there are sources of nutrients for the organism, such as sludge, scale, rust, algae, other organic matter and biofilms
- the conditions are likely to encourage bacteria to multiply
- there are means of creating and spreading breathable droplets, e.g. the aerosol generated by showers, high pressure hoses etc. For practices with in-house dentistry, consider spray from high energy drill bits when being cooled and ultrasonic cleaners
- it is likely that any of your employees or visitors etc. could be susceptible to infection and whether they could be exposed to any contaminated water droplets.

Examples of people at higher risk of Legionnaires' disease:

- people over 45 years of age
- smokers and heavy drinkers
- people suffering from chronic respiratory or kidney disease
- anyone with an impaired immune system.

An example of a low risk situation may be found:

- in a small building without individuals especially 'at risk' from legionella bacteria
- where daily water usage is inevitable and sufficient to turn over the entire system
- where cold water is directly from a wholesome mains supply (not stored water tanks)
- where hot water is fed from instantaneous heaters or low volume water heaters (supplying outlets at 50 °C)
- where the only outlets are toilets and wash hand basins (no showers).



Primary Care practices will have varying levels of risk due to design and water management. All Primary Care practices will have individuals on site who are 'at risk' from legionella bacteria and the risk assessment should determine the extent to which the water system is susceptible to contamination with legionella and the likelihood of these people coming into contact with water aerosols.

In most cases, Primary Care practices are likely to be low risk because vulnerable people are unlikely to come into contact with aerosolised water.

7. After the Risk Assessment is Completed:

Where the assessment demonstrates there is no reasonably foreseeable risk or that risks are insignificant and unlikely to increase, and are properly managed, no further assessment or measures are needed. Records of any assessments must be kept for five years.

The assessment must be reviewed when there is reason to believe that the original risk assessment may no longer be valid. As review may be indicated following:

- (a) changes to the water system or its use;
- (b) changes to the use of the building in which the water system is installed;
- (c) the availability of new information about risks or control measures;
- (d) the results of checks indicating that control measures are no longer effective;
- (e) changes to key personnel;
- (f) a case of legionnaires' disease/legionellosis associated with the system.

If the assessment shows that there is a reasonably foreseeable risk and it is reasonably practicable to prevent exposure or control the risk from exposure, the dutyholder should appoint a competent responsible person or persons to help undertake the measures needed to comply with the requirements in COSHH. The appointed competent person or persons should have sufficient authority, competence and knowledge of the installation to ensure that all operational procedures are carried out in a timely and effective manner.

8. Simple Actions Practices can Take:

- Educate staff on the risks of Legionella and managing water safely
- Ensure staff are aware to immediately report water outlets that are infrequently or under-used or rooms where use has changed (e.g. a toilet with a sink now used as a storeroom)
- Flush showers regularly and document when this is done
- Flush underused outlets twice a week, full bore for at least two minutes and record this
- Ensure that water storage tanks are covered, free from debris and well maintained and that sufficient water is turned over to prevent stagnation
- Identify and remove redundant pipework that is forming a dead leg or blind end
- Ensure that pipes are lagged to prevent heat transfer
- Maintain water tanks and heaters / calorifiers to prevent build-up of limescale

9. *Pseudomonas (P. aeruginosa)*

P. aeruginosa is an opportunistic pathogen with the potential to cause infections in humans in almost any organ or tissue, especially in patients compromised by underlying disease, age or immune deficiency.

P. aeruginosa thrives in relatively nutrient-poor environments at a range of different temperatures. As a microorganism that is often found in water, the more frequent the direct or indirect contact between a susceptible patient and contaminated water, and the greater the microbial contamination of the water, then the higher the potential for patient colonisation or infection.

Contaminated water in a Primary Care setting can transmit *P. aeruginosa* to patients through the following ways:

- direct contact with the water through clinical procedures, including leg washing/soaking, contact with surgical sites or through splashing from water outlets or basins
- medical devices/equipment rinsed with contaminated water
- indirect contact via healthcare workers' hands following washing hands in contaminated water, from surfaces contaminated with water or from contaminated equipment

The source of *P. aeruginosa* in water supplies is complex and is exacerbated where surfaces (including lime scale) provide nutrients which support microbial growth. Unlike *Legionella*, which is usually present in the incoming water supply, the source of *P. aeruginosa* is often internal through:

- the water supply within the building (both from the storage and distribution system), usually within biofilms
- via external contamination from clinical areas or outlet users, poor hygiene or processes during cleaning (e.g. cleaning the waste water outlet or basin bowl before the taps) or splash back from contaminated drains.

Steps to take to reduce the risk of *P. aeruginosa*

- Regular removal/cleaning/descaling or replacement of the water outlets
- Use the clinical wash-hand basin only for hand-washing
- Do not dispose of body fluids at the clinical wash-hand basin – use the sluice, dispose of urine specimens in closed containers or if not available a toilet
- Do not wash any patient equipment in clinical wash-hand basins or use them to store used equipment awaiting decontamination
- Do not touch the spout outlet when washing hands
- Clean taps before the rest of the clinical wash-hand basin. Do not transfer contamination from wash-hand basin waste to the water spout
- Do not dispose of used environmental cleaning agents at clinical wash-hand basins
- Avoid when possible reusable containers containing environmental cleaning agents and if required, ensure that such containers are kept clean, free from debris and (for carpet cleaning reservoirs etc.) emptied and stored dry after use
- Use non-fillable single-use bottles for antimicrobial hand-rub and soap
- Identify and report any problems or concerns relating to safety, maintenance and cleanliness of wash-hand basins.