

Controlling legionella in nursing and residential care homes



This is a web-friendly version of leaflet INDG253(rev1), reprinted and redesigned 02/09

Introduction

This leaflet is intended to help you control risks from legionella and is based on existing HSE guidance. One way of controlling legionella is to keep water hot, which you are probably doing for other reasons already. Hot water brings a risk of scalding which you must also control.

The leaflet focuses on risks from hot and cold water systems. If you have cooling towers or other water systems, such as whirlpool baths or hydrotherapy pools, that could also spread legionella, you must consider these as part of your risk assessment.

What is legionella?

Legionella bacteria are common in natural and artificial water systems. They can survive at low temperatures and thrive at temperatures between 20°C and 45°C. They are killed at higher temperatures and this is the main method used for their control in domestic water systems.

Legionellosis is the name given to a group of pneumonia-like illnesses caused by legionella – the most serious and well-known being Legionnaires' disease. Legionnaires' disease is serious in elderly and infirm patients; pneumonia is a common cause of death in people over 70. Infection is caused by breathing small droplets of water contaminated by the bacteria. Anyone can get infected but those most at risk include elderly people, smokers, alcoholics, and those suffering from cancer, diabetes, chronic respiratory disease or kidney disease.

What do I have to do about legionella?

Under the Health and Safety at Work etc Act 1974 you have a duty to consider the risks from legionella that may affect people in your care. The Control of Substances Hazardous to Health Regulations 2002 (as amended) say that you must assess the risks to all staff and patients from bacteria like legionella and take suitable precautions.

Assessing the risk from legionella

The charts on page 3 show some of the things you need to take into account when assessing the risk of legionella.

Controlling the risk

Design

The system should be designed to avoid the conditions that favour the growth of legionella:

- ensuring pipework is as short and direct as possible;
- ensuring adequate insulation of pipes and tanks;
- using materials that do not encourage the growth of legionella; and
- protecting against contamination, eg fitting storage tanks with lids.

Operation and maintenance

You should ensure that your system is operated to minimise growth of legionella. One way of doing this is to store hot water above 60°C and distribute it at above 50°C. Water systems need to be routinely checked and inspected by a competent person and the risk assessment should be reviewed regularly.

If you don't need hot water for other reasons, eg for the laundry, you might consider using alternative legionella control methods. This may avoid the need for very high water temperatures which carries a risk of scalding.

Alternatives include ionisation, UV light, chlorine dioxide, ozone treatment or regular thermal disinfection of the system. These will need proper installation, maintenance and monitoring.

You should seek professional advice when considering new or alternative treatment systems.

Scalding

A survey of nursing homes and residential care homes, carried out by HSE, has shown that under 20% of homes keep water at temperatures over 60°C just to control legionella. Most homes keep water hot for other reasons including kitchen and laundry use, to ensure proper boiler operation, or to take account of long pipe runs.

Where water comes out of taps at temperatures above 43°C there is a risk of scalding. This is especially so for whole-body immersion in baths and showers of elderly people, and people with disabilities (who may not be able to recognise high temperatures and respond quickly).

You have a legal duty to assess the risk of scalding and to adopt appropriate measures to control it. Your approach will depend on the needs and capabilities of patients or residents. For capable people, eg staff, a warning notice may be sufficient. But if vulnerable people can get access to baths or showers, HSE strongly advises the fitting of thermostatic mixing valves that prevent water being discharged at more than 43°C. Valves should be fitted according to manufacturer's instructions and need regular maintenance.

LOW RISK

Population

- ▲ Fit, healthy – eg adolescents in a residential care home

Hot water system

- ▲ Well maintained, clean and properly insulated
- ▲ Purpose-built – storage cisterns and calorifiers correct size for intended use
- ▲ Frequently used
- ▲ Regularly cleaned and maintained

LOW RISK

HIGH RISK

Population

- ▲ Elderly, weakened immune system

Potential for droplet formation

- ▲ Showers or spray from taps

Hot water system

- ▲ Infrequently maintained, dirty cold water tanks poorly insulated or tanks in warm part of building
- ▲ Adapted/converted system – oversized cisterns or calorifiers, long runs of pipe
- ▲ Infrequently used – eg pipes may contain lukewarm water for long periods (deadlegs)
- ▲ Materials and fittings which support the growth of legionella
- ▲ Hot water heater or storage tanks holding water below 50°C or not heating contents uniformly

HIGH RISK

Where can I get more information and help?

Practical guidance on your duties and guidance on technical aspects of assessing and controlling the risk from legionella can be found in the Approved Code of Practice and guidance produced by the Health and Safety Executive, *Legionnaires' disease. The control of legionella bacteria in water systems. Approved Code of Practice and guidance L8* (Third edition) HSE Books 2000 ISBN 978 0 7176 1772 2.

You can also obtain advice from:

- HSE Infoline;
- environmental health departments of local authorities;
- nursing home and residential care home registration units;
- professional plumbers and heating engineers.

Other guidance

Health and safety in care homes HSG220 HSE Books 2001
ISBN 978 0 7176 2082 1

Health Guidance Note '*Safe*' hot water and surface temperatures Prepared by
NHS Estates TSO 1998 ISBN 978 0 11 322158 4

Control of legionella DVD HSE Books 2008 ISBN 978 0 7176 6261 6

Further information

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**This leaflet contains notes on good practice which are not compulsory but
which you may find helpful in considering what you need to do.**

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