Managing the risks from hot water and surfaces in health and social care

HSE information sheet

Health Services Information Sheet No 6

Introduction

This information sheet explains the risks associated with hot water and hot surfaces in health and social care premises and sets out guidance to help control them. It covers the risks vulnerable people may be exposed to when bathing or showering, or where there are hot surfaces such as pipes or radiators.

This guidance aims to help health and social care providers comply with their legal duties.

What are the issues?

Health and social care providers often care for people who are vulnerable to the risk of scalding or burns. These include:

- children;
- older people;
- people with reduced mental capacity, mobility or temperature sensitivity;
- people who cannot react appropriately, or quickly enough, to prevent injury.

Hot water

If hot water used for showering or bathing is above 44 °C there is increased risk of serious injury or fatality. Where large areas of the body are exposed to high temperatures, scalds can be very serious and have led to fatalities.

Hot surfaces

Contact with surfaces above 43 °C can lead to serious injury. Prolonged contact often occurs because people have fallen and are unable to move, or are trapped by furniture. Incidents often occur in areas where there are low levels of supervision, for example in bedrooms, bathrooms and some communal areas.

Particular care needs to be taken to manage these risks where water temperatures are circulated above 50 °C to control legionella. Further information on managing legionella can be found on HSE's website (www.hse.gov.uk/healthservices/legionella.htm).

What the law says

The following legislation applies:

- Health and Safety at Work etc Act 1974 (HSWA), section 3;
- Management of Health and Safety at Work Regulations (MHSWR), regulation 3;
- Provision and Use of Work Equipment Regulations 1998 (PUWER).

What should I do?

You should assess potential scalding and burning risks in the context of the vulnerability of those being cared for.

A risk assessment of the premises should be carried out to identify what controls are necessary and how the systems will be managed and maintained.

The results of the general risk assessment should be taken into account when completing an individual's care assessment. An individual's assessment needs to consider whether:

- the person is likely to try to run a bath or shower or add water when unattended. This is a particular issue for people whose mental capacity is impaired;
- the person's lack of mobility means they are unable to respond safely to hot water or surfaces (eg safely get in/out of the bath or shower, or move away from a radiator);
- the person's sensitivity to temperature is impaired;
- the person's mental state means they cannot recognise or react to hot water or a surface that is too hot;
- the person can summon assistance;
- any lifting or other aids limit mobility in the bath or elsewhere;
- any furniture, fixtures and fittings restrict movement away from the source of heat.

Control measures

Hot water

Engineering controls should be provided to ensure that water hotter than 44 °C is not discharged from outlets that may be accessible to vulnerable people and where there is the potential for whole-body immersion. Similar controls may be needed at other outlets where people are especially vulnerable (eg basins where people have skin sensitivity impairment).

Engineering controls can include:

- thermostatic mixing valves (TMVs);
- temperature-restricted, instant water heaters.

TMVs should be located as close as possible to the outlet, where they are necessary. In healthcare settings, Type 3 is the standard required by the Department of Health's Health Technical Memorandum 04-01 *The control of legionella, hygiene, 'safe' hot water, cold water and drinking water systems*.[1] Type 3 TMVs should be installed when TMVs are replaced or where there are new installations. Further information on TMVs can be obtained from the Thermostatic Mixing Valve Association (TMVA) or at www.beama.org.uk.

TMVs should ensure only safe water temperatures are available. Healthcare standard controls (eg Type 3 TMV or healthcare standard electric showers) and regular safety testing should ensure that the equipment remains safe at all times.

Where TMVs are not fitted to baths or showers **other equally effective controls should be in place**.

Locking bathroom doors or removing the hot tap head is not advisable **where this will prevent water being flushed out regularly to control the risk from legionella**. These measures may only be acceptable in the short term until thermostatic controls are fitted.

Where electric showers are fitted, these should be designed so that water cannot be delivered at a temperature that may cause scalding. Domestic electric showers are likely to have temperature regulation features but water temperatures above 44 °C may still occur if there are fluctuations in flow or pressure.

If this is the case, and vulnerable people are at risk, additional measures will be required. This **may** include installing 'healthcare standard' showers which are designed to prevent unsafe hot water temperatures under all conditions. NHS standards require these to be fitted in healthcare settings.

Hot surfaces

Many radiators and associated pipework are likely to operate at temperatures which may present a burn risk. Where assessment identifies that vulnerable people may come into prolonged contact, such equipment should be designed or covered so that the maximum accessible surface temperature does not exceed 43 °C.

The risk of burns from hot surfaces may be reduced by:

- providing low surface temperature heat emitters;
- locating sources of heat out of reach;
- guarding the heated areas (eg providing radiator covers, covering exposed pipework);
- reducing the flow temperatures, although this should not reduce their effectiveness or increase risk from legionella.

Maintenance and monitoring

Controls to manage the risk from hot water or surfaces should be adequately maintained. Maintenance schedules should take into account local conditions (for example hard water or limescale) and the risk of valve failure. Staff should be instructed to report any obvious defects immediately, and to take the facility out of use if necessary.

Where there are vulnerable individuals and whole-body immersion, widely-recognised professional bathing practice involves testing of outlet temperatures using a thermometer to provide additional reassurance. Further advice on safe bathing can be found in the UK Homecare Association (UKHCA) guidance *Controlling scalding risks from bathing and showering*.[2]

Training

Adequate training and supervision should be provided to ensure that staff who maintain the premises, or assist vulnerable people, understand the risks and precautions.

Reporting accidents under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR)

Any injury to a person who is not at work must be reported if it results from an accident arising out of or in connection with work and leads to the person being taken to hospital. Further information is provided in HSE's information sheet *Reporting injuries, diseases and dangerous occurrences in health and social care*.[3]

Sources of further advice

Role of other regulators

Health and social care is also regulated by other organisations in England, Scotland and Wales. For further information see our web page on who regulates health and social care (www.hse.gov.uk/healthservices/arrangements.htm).

Social care provided in a private, domestic household

The requirement to fit devices (eg thermostatic mixer valves or radiator covers) would not necessarily apply to all private domestic premises.

Seek agreement with the person receiving care or in control of the premises where care is provided by outside organisations (eg local authorities, care agencies or community nurses) to ensure systems for reducing the risk of burns or scalding are in place and the risk is adequately controlled, so far as is reasonably practicable.

Guidance

This information sheet sets out requirements for temperature to ensure compliance with the law. However, Department of Health guidance[1] sets out different temperatures for different settings that may be required in healthcare facilities.

References

1 Health Technical Memorandum (HTM) 04-01 *The control of legionella, hygiene, 'safe' hot water, cold water and drinking water systems* Department of Health 'Space for Health' website (registration required) www.spaceforhealth.nhs.uk

2 UKHCA guidance *Controlling scalding risks from bathing and showering* www.ukhca.co.uk/downloads.aspx?id=286

3 HSE Information Sheet *Reporting injuries, diseases and dangerous occurrences in health and social care: Guidance for employers* (HSIS1) www.hse.gov.uk/pubns/hsis1.pdf

Further information

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit www.hse.gov.uk/. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory, unless specifically stated, and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance.

This publication is available at: www.hse.gov.uk/pubns/hsis6.htm.

You can find more advice at: www.hse.gov.uk/healthservices/index.htm.