

SUP 05
Provision of drinking water
Unified procedures for use within NHS Scotland

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Acknowledgements

This unified procedures guidance has been produced for NHS Boards to adopt or adapt to suit individual circumstances and incorporates information made available by NHS Lothian which is gratefully acknowledged. This has been converted to generic form for general use and updated where required.

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1. Introduction

Drinking water systems and Drinking water dispensing equipment - General

Duty to protect

- 1.1 The NHS Board has a duty to protect all patients, employees, contractors, voluntary workers, visitors as well as members of the public from infection risks from bacteria or pathogens which occur naturally in drinking water supply systems and drinking water dispensing equipment.

Those at risk

- 1.2 Patients need good hydration to promote recovery but those who should be considered at risk and vulnerable include:
- vulnerable patients with suppressed immune systems;
 - staff, visitors and contractors.

Legal considerations

- 1.3 The legislative framework that underpins the NHS Board's obligation to manage its Drinking Water policy and procedures are contained within:
- the Health and Safety at Work etc. Act 1974;
 - the Workplace (Health, Safety and Welfare) Regulations 1992;
 - the Provision and Use of Work Equipment Regulations 1998;
 - the Management of Health and Safety at Work Regulations 1999;
 - the NHS Reform (Scotland) Act;
 - Water Byelaws (Scotland) 2000;
 - SHTM 04-01 (all parts): Water safety;
 - The Control of *Legionella* Bacteria in Water Systems Approved Code of Practice L8 and its part successor HSG 274;

2. Preface

Management guidance

- 2.1 It is the responsibility of the owners and occupiers of properties, NHS Board Chief Executive Officers and Managers to ensure that their premises comply with all statutory requirements.
- 2.2 Employers have a duty under the Health & Safety at Work etc Act 1974, so far as is reasonably practicable, to ensure the health and safety of employees, residents and visitors to their premises. It is incumbent upon both owners and occupiers of premises to ensure that there is a management regime in place for the proper operational and risk management of plant, equipment and systems with particular concern for the provision and maintenance activities related to drinking water supplies.
- 2.3 All personnel should be made fully aware of their safety responsibilities, as required by statute and they should be given the necessary information and training properly to understand and carry them out. This also applies to organisations and individuals to whom work has been contracted.
- 2.4 Management should make available guidance on the safe operation and practice of all activities undertaken by themselves or others under contract.

This procedures guidance lays out the responsibilities and requirements of NHS Board Estates Managers and staff in order to protect all patients, employees, contractors, voluntary workers and visitors as well as members of the public from waterborne bacteria or pathogens which occur naturally in drinking water supply systems or drinking water dispensers.

Note: Water dispensed from mains-fed water coolers is defined by legislation as a food product and must be treated as such.

3. Scope of the policy and procedure

- 3.1 The NHS Board attaches the greatest importance to the health, safety and welfare of its employees and others who may be affected by its activities and in particular recognises the significance of the risks associated with the management of its drinking water systems and drinking water dispensing equipment.
- 3.2 This document sets out how the NHS Board will ensure that such risks are eliminated or reduced to the lowest level in so far as is reasonably practicable.
- 3.3 The NHS Board recognises its responsibilities under health and safety legislation and the duty to provide, so far as is reasonably practicable, working environments that are safe and healthy for all patients, employees, contractors, students/pupils on placements, voluntary workers, visitors as well as members of the public.
- 3.4 The NHS Board will endeavour to protect all staff and other persons, to whom it has third party liability, from the effects of infection or contamination from drinking water systems within its premises. This shall be achieved by ensuring that there are effective and auditable processes and procedures in place for the management of drinking water systems.
- 3.5 A system of control has been established for the management of drinking water systems that shall ensure the safety of those within the NHS Board's premises by putting in place both physical and procedural controls. These controls shall be systematically examined and monitored by the NHS Board's Estates Department.

Note: This policy and procedure shall apply to all of the NHS Board managed and controlled premises where patients, staff, visitors and other users have access.

4. Roles and responsibilities

4.1 NHS Board responsibilities

- providing full and effective implementation of this policy and procedure document;
- providing a safe working environment in line with health and safety legislation;
- ensuring arrangements for identifying, evaluating and managing risks;
- where applicable providing sufficient resources to train staff effectively;
- ensuring that incidents relating to infection from drinking water systems are monitored and reported through the relevant Health and Safety Committee(s).

4.2 Chief Executive responsibilities:

- ensuring that there are arrangements for identifying, evaluating and managing risk(s) associated with the management of drinking water systems;
- ensuring resources are provided for the implementation of the policy and procedures;
- ensuring there are arrangements in place for the effective monitoring of any incident(s) involving drinking water systems.

4.3 Directors of Operations / General Managers:

- ensuring the risk control measures to control drinking water systems are implemented;
- ensuring the NHS Board's Health and Safety Committee is appropriately informed of the effectiveness of the control system and is made aware timeously of any problems being experienced in the operational procedures;
- ensuring operational arrangements are regularly monitored.

4.4 Head of Estates (Responsible Person):

- ensuring the effective maintenance of engineering controls installed for the purposes of controlling drinking water systems;
- ensuring an Estates Operational Manager(s) or his nominated deputy is appointed as Authorised Person (Water) and assumes responsibility for the maintenance of all the drinking water systems within hospitals and other NHS Board premises;
- ensuring records as set out in SCART questionsets are kept of all internal drinking water systems and their purpose, giving locations, and recorded and maintained within the estates management system;

- ensuring that every approved Drinking Water Dispenser is recorded and maintenance records are in place;
- ensuring that written schemes and risk assessments are in place and reviewed regularly or when alterations have occurred;
- ensuring that any significant change which affects the technical aspects of procedures and or safe operation of the installed services is communicated to the Director of Operations and other relevant people.

4.5 The Estates Operational Manager(s):

- ensuring that all maintenance records are maintained and kept up to date;
- ensuring that standards are maintained by regularly checking maintenance records;
- ensuring all staff conducting maintenance are competent to do so.

4.6 The Estates Authorised Person (AP) (Water):

- ensuring that their responsibilities are implemented;
- ensuring all work is carried out, in compliance with the estate departments;
- compliance with the NHS Board's Estates Procedure for control of *Legionella*, hygiene, 'safe' hot water, cold water and drinking water systems;
- ensuring all work activity undertaken is done so by adopting a safe system of work, safe means of access and the wearing of any personal protective equipment required.

5. Sources of drinking water supplies

Directly from tanks

- 5.1 This water is designated 'wholesome' by Scottish Water and therefore should be the sole source of drinking water in NHS premises whether it comes from potable water storage tanks or directly from incoming cold water mains supplies.
- 5.2 Where cold water storage tanks are fitted with sealed lids and screened vents it is assumed that water distribution derived from these tanks is of potable quality and no segregation is required between supplies for drinking purposes and those for general use.
- 5.3 Where this is not the case the NHS Board ensures that for the provision of Drinking Water within such premises shall be derived from the installed network of piping specifically designed to provide 'potable' water (cold/drinking water) to designated points within those premises, to taps marked 'drinking water'.

Mains-fed coolers

- 5.4 The risks associated with the provision of mains-fed chilled water dispensers and the requirement to maintain them free from contamination have been evaluated fully to identify microbiological hazards associated with their use and for existing equipment/approved equipment the guidance in the Appendix (Selection and Maintenance Procedures) must be followed.

Note: Under no circumstances will the use of '**Free Standing**' bottled water dispensers be allowed because of the Infection Risk.

- 5.5 The provision of equipment connected to the cold water service (from which the only aim is cooling the water supply without affecting in any way its quality) is restricted to areas where there is a proven need to provide chilled water for the benefit of patients.

Vulnerable patients

- 5.6 The NHS Board does not expect that water from mains-fed coolers will be given to moderately or severely immuno-compromised patients unless the water is first boiled for at least 3 minutes and then cooled swiftly in hygienic conditions. Patients in this category include
 - acute or chronic leukemia and lymphomas;
 - cancer patients undergoing intensive chemotherapy;
 - those with diseases requiring long-term treatment with high doses of corticosteroids;
 - patients undergoing organ transplantation;

- HIV/AIDS patients.

Water cooler locations

5.7

High-risk areas

Under no circumstances should water coolers be located in:

- Intensive care and Neonatal units;
- Oncology and transplant units;
- Surgical wards and operating theatres;
- Laboratories;
- Toilets.

Medium-risk areas

Coolers may be placed in the following areas subject to consultation with the NHS Board's infection prevention and control team;

- General wards and day rooms;
- Hospices and geriatric units;
- Kitchens.

Low-risk areas

Coolers may be installed in the following areas without special precautions:

- Office / administration and staff rooms;
- Outpatient areas, public areas and waiting rooms.

General

Coolers located:

- away from heat sources should and direct sunlight;
- away from areas where they may create an obstruction.

Sanitation and filters for mains-fed coolers

- 5.8 Where a mains-fed cooler is non-pressurised and vented, an air filter of at least 5 micron performance should be incorporated.
- 5.9 Sanitising and maintaining mains-fed coolers should only be undertaken by BWCA trained personnel at intervals not exceeding 3 months.
- 5.10 Weekly disinfection of taps with an appropriate food-grade disinfectant spray by NHS Board staff will be required.

- 5.11 COSHH documentation and risk analysis for authorised chemicals should be provided.
- 5.12 Warning notices must be displayed to prevent inadvertent use while sanitisation and filter changes are being carried out.
- 5.13 Cooler sanitisation procedures should be documented and supplied to the NHS Board's Authorising Engineer (Water).

Note: Only personnel with relevant BWCA approved training should carry out installation, sanitisation and filter changing procedures.

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6. Risk reduction strategies/procedures

- 6.1 Following any assessment of the risk, risk reduction strategies and procedures must be implemented where possible to reduce the likelihood and/or severity of incidents from infection.
- 6.2 Risk Reduction strategies/procedures include:
- policy awareness and implementation;
 - appropriate maintenance of internal systems and approved equipment;
 - training;
 - local cleaning procedure development;
 - reporting and recording;
 - evaluating effectiveness of risk reduction strategies/procedures;
 - reviewing in the light of experience; look at incident investigation and inspection reports. Do they show improvement?
 - re-train staff if required, reading available policies, strategies and procedures;
 - always review clinical and workplace risk assessments after reports of any adverse events.
- 6.3 Water coolers must not be switched off for more than around five minutes.
- 6.4 Where water coolers have been switched off for more than 36 hours they should not be put back into use before the water cooler specialist supplier has sanitised them and provided documentary evidence.
- 6.5 If water coolers have not been used for 3+ days (including holidays) but left “switched on” they must be flushed through with distilled water before use recommences. 4 litres would be the minimum recommended).
- 6.6 Mains-fed coolers should not be “un-plumbed” without the cooler company being given prior warning.

Hospital maintenance

- 6.7 Drip-tray emptying and exterior cleaning of the cooler between contracted cooler care visits are considered to be part of the hospital’s maintenance policy. Staff undertaking such work should be advised that only clean, unused cloths or wipes and food-grade disinfectants should be used.
- 6.8 Disposable drinking cups should be kept in their protective sleeves or a cup dispenser before use. Unused cups should be stored in a clean dry place and a bin located nearby for safe disposal of used cups.

7. Operational arrangements

Note: All NHS Board patients, visitors and staff must be presumed to be potentially at risk. However, some are more vulnerable to infection than others. The management of drinking water systems for the prevention of infection must follow guidance in both the SHTM 04-01 and the NHS Board's Operational Procedure for Control of *Legionella*, hygiene, 'safe' hot water, cold water and drinking water systems.

Reporting and monitoring

- 7.1 All incidents (including near misses) must be reported using the NHS Board's incident reporting and recording system in line with the NHS Board's Incident Management Policy and Procedure.
- 7.2 Line managers must ensure that a review and investigation of a contamination incident which can be demonstrated as originating in a drinking water system is carried out and recorded.
- 7.3 These incidents should be reviewed as a significant adverse event as per the Incident Management Policy and Procedure. In order to ensure the implementation and effectiveness of this policy and procedures all incident reports relating to water management should be reviewed regularly by the responsible manager.
- 7.4 All accidents and incidents are monitored by the local health and safety committees;

Audit

- 7.5 The application and effectiveness of this policy, throughout the organisation, shall be monitored by an internal audit process. The policy will be reviewed and revised on a regular basis or as a result of any changes in legislation, standards and Healthcare Facilities Scotland guidance.

Appendix: Selection and maintenance procedures

Initial checks - selection

- A/1 A major source of contamination of water from plumbed-in water dispensers arises from tap outlet contamination which is made worse by low usage, unclean cooler environment, incorrect pipework installation and poor hygiene awareness of users.
- A/2 Assuming a clinical need has been established for this equipment the NHS Board assesses the following in considering its selection
- cooler location – has it been installed in correct area?
 - what is the potential frequency of use?
 - the potential for pipework supplying these dispensers promoting the formation of bio-film when run in higher environmental temperature situations;
 - is the cooler of the type which minimises tap contamination?
 - is the plumbing installation best practice and using WRAS approved components?
 - is the filter carbon granular or block type with nominally 5 micron porosity?
- A/3 Once these issues have been considered and a suitable Drinking Water Dispenser has been installed in the correct manner, attention must turn to an appropriate maintenance (cleaning) regime as set out below.
- A/4 Maintenance procedures for drinking water dispensers
- a full sanitisation programme must be in place (6-Monthly minimum or more frequently (3 months) for coolers with high risk);
 - filter to be changed 6 monthly (3-monthly for high risk);
 - tap outlets should be replaced 6-monthly (3-monthly for high risk);
 - descaling of outlet tap by brushing or use of de-scaler spray, monthly;
 - disinfection of tap outlets (with, say, hydrogen peroxide), weekly or daily for high use coolers.
- Note:** ‘high risk’ can be defined as a combination of frequent use, poor environmental surroundings, public usage, lack of interim disinfection and location where immuno- compromised users are present.
- A/5 All of the maintenance actions should be undertaken by a suitably trained operative.
- A/6 There should be a log sheet attached (in plastic cover) to allow recording of:

- cooler description and serial number;
- dates of maintenance;
- type of sanitation carried out (including name of any agent used);
- signature of operative.

User awareness

- A/7 There should also be evident some guidance about maintaining 'good hygiene' practices when using the dispenser.
- A/8 It will be essential that these maintenance procedures are put in place immediately the dispenser is brought into service and continued at the detailed frequencies for the life of the equipment.

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References

Related documents

These procedures should be followed in conjunction with the following:

- NHS Board Policies and Procedures – Policies and Guidance for all Employees;
- NHS Board Incident Reporting and Investigation Policy;
- NHS Board Incident Reporting Operational Procedure;
- NHS Board Policy on Provision of Drinking Water;
- SHTM 04-01: 'Water Safety' (Parts A and B);
- Corporate Greencode (Environmental Management);
- British Water Cooler Association (BWCA) current Code of Practice;
- British Water Cooler Association (BWCA) 'Guidelines for the location, use and servicing of (Bottled Water) & Mains-fed Water Coolers in Hospitals, Hospices & Nursing Homes';
- Relevant SCART questionsets, particularly, "Water Safety";.
- CEL letter CEL 08 (2013) dated 3 May 2013 'Water sources and potential infection risks to patients in high-risk areas – revised guidance';
- National Services Scotland guidance for neonatal units (NNUs) (levels 1,2,3), adult and paediatric intensive care units (ICUs) in Scotland to minimise the risk of *Pseudomonas aeruginosa* infection from water.

References

The following references are relevant published by the Health & Safety Executive:

- The Control of Legionella Bacteria in Water Systems Approved Code of Practice L8 and its part successor HSG 274.