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Cumbria County Council

DECONTAMINATION, CLEANING AND DISINFECTION

Community Infection Prevention and Control Guidance for Health and Social Care

Decontamination, Cleaning and Disinfection

Version 2.02
October 2018

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DECONTAMINATION, CLEANING AND DISINFECTION

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DECONTAMINATION, CLEANING AND DISINFECTION

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DECONTAMINATION, CLEANING AND DISINFECTION

1. Introduction

In order to ensure safe systems of work and to prevent transmission of infection, it is essential that decontamination of equipment and the environment is carried out. This is in accordance with the requirements of the Health and Social Care Act 2008.

This guidance provides details on the methods of decontamination of equipment including cleaning, disinfection and sterilisation. It also provides guidance on the decontamination of the environment following a spillage of blood or body fluids.

2. Definitions

- **Cleaning:** A process that will physically remove contamination (blood, vomit, faeces, etc.) and many micro-organisms using detergent and water.
- **Disinfection:** A process to reduce the number of micro-organisms to a less harmful level. The destruction of spores is dependent on the type of disinfectant used.
- **Sterilisation:** A process that removes or destroys all organisms including spores.
- **Contamination:** The soiling of an object with harmful, potentially infectious or unwanted matter.

3. Evidence of decontamination

Re-usable medical equipment that has been cleaned or disinfected should be labelled, e.g., with 'I am clean' indicator tape or label giving details of the date of cleaning and signed by the person who performed the decontamination. It is recommended that equipment not in regular use should be checked on a monthly basis and decontaminated as appropriate and re-labelled. In exceptional circumstances when there are time constraints limiting immediate decontamination, equipment should be labelled, e.g., indicator label 'I am not clean'. The item should then be decontaminated as soon as possible.

4. Methods of decontamination

All equipment must be adequately decontaminated in between use and between service users use. The method recommended will depend on the manufacturer's instructions, a risk assessment of the procedure and the item being used in accordance with Control of Substances Hazardous to Health (COSHH) Regulations (see Section 11 Infection risks and categories).

There are 3 levels of decontamination:

1. Cleaning / 2. Disinfection / 3. Sterilisation

5. Cleaning

- Neutral detergent and warm water and single use cloths or detergent wipes are recommended.
- Cleaning is **essential** before disinfection or sterilisation is carried out.
- All equipment that has been cleaned must be dried thoroughly before storage.

6. Disinfection

- A disinfectant solution is not effective if there is dirt or visible soiling, e.g., urine, faeces, blood. Therefore, equipment should be cleaned before a disinfectant solution is used. Some disinfectant wipes, e.g., Clinell Universal disinfectant wipe and chlorine-based products such as Chlor-clean, Actichlor Plus, contain both a detergent and a disinfectant, this means equipment does not need to be cleaned before disinfection.
- The COSHH regulations must be adhered to at all times.
- A chlorine-based disinfectant solution at a dilution of 10,000 parts per million (ppm) should be used for the disinfection of any equipment contaminated with blood or blood stained body fluids.
- A chlorine-based disinfectant solution at a dilution of 1,000 ppm should be used for the disinfection of equipment that has been in contact with an infected service user, non-intact skin, body fluids (not blood stained) or mucous membranes.
- To ensure a disinfectant solution works effectively, it is important that the correct amount of disinfectant and water are used. If a weaker solution is used, the micro-organisms will not be killed, too strong, and equipment or surfaces can be damaged.
- Always wear disposable gloves, apron and eye protection, if indicated,

when using disinfectant products.

- As diluted chlorine-based disinfectant solutions become less effective after 24 hours, a new solution should be made each day.
- Thermal disinfection can be achieved for commode pans, bed pans, urinals, by the use of an automated bed pan washer disinfector and is the preferred method of disinfection for these items. If a bed pan washer is unavailable, items should be washed with detergent and warm water, dried and wiped with a chlorine-based disinfectant at 1,000 ppm.

7. Sterilisation

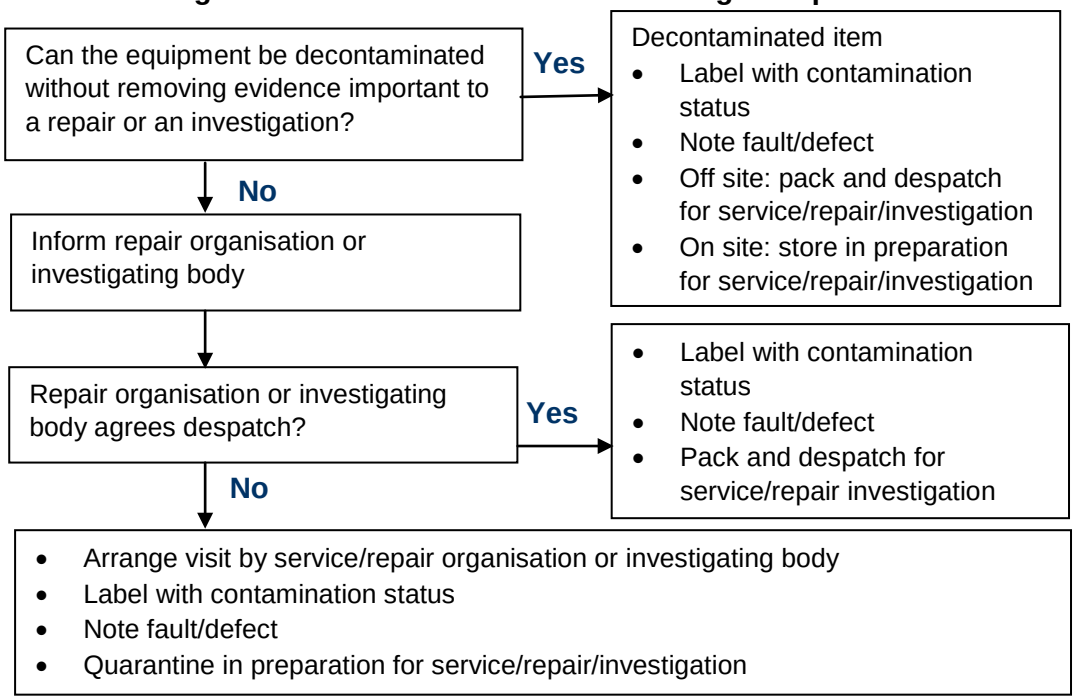
The use of bench top steam sterilisers (autoclaves) is not recommended. Sterilisation is a specialist means of decontamination of equipment. Items requiring sterilisation after use must be sent to an accredited Decontamination Services facility.

8. Decontamination of equipment prior to inspection, service or repair

When equipment requires servicing or repair, documentation should accompany the equipment stating if the item has or has not been decontaminated (see Appendix 1).

Flow chart for handling of equipment prior to inspection, service, repair, return to lending organisation or investigation of adverse incident.

Note: It is illegal to send contaminated items through the post.



Ref DB2003 (05) June 2003 page 11

9. Symbols and their meanings

Single use means that the medical device is intended to be used on an individual service user during a single procedure and then discarded. It is not intended to be reprocessed and used on another service user.

Items intended for single use are packaged with symbol: 
or are labelled 'single use'.

KEY ISSUES

- Reprocessing a single use device may alter its characteristics so that it may no longer comply with the original manufacturer's specifications and, therefore, the performance may be compromised.
- If a manufacturer has not declared the device as being suitable for reuse, it is then the responsibility of the user (in its widest term) to take all necessary steps to demonstrate that their actions are consistent with their duties of care to the service user and to staff.
- User organisations, professional users and reprocessors who disregard this information and prepare single-use devices for further episodes of use without due precautions, may be transferring legal liability for the safe performance of the product from the manufacturer to themselves, or the organisation that employs them.

For any queries regarding reprocessing of equipment staff, should contact the manufacturer or your local Community Infection Prevention and Control or Public Health England team for advice.

10. Spillage of blood

All spillage of blood and blood stained body fluid must be dealt with promptly as below or if a blood spillage kit is used, following the manufacturer's guidance.

EQUIPMENT REQUIRED

- Disposable latex or nitrile gloves.
- Disposable apron.
- Disposable paper hand towels.
- Waste bag, either:
  - a yellow and black striped waste bag for offensive/hygiene waste if there is no indication a service user has an infection or suspected infection
  - an orange waste bag for infectious waste if a service user has a known or suspected infection
  - in a service user's own home, waste should be placed in a plastic bag, tied and placed inside a black household waste bag.

- A hypochlorite product of 10,000 ppm. This can be in the form of granules, e.g., Haz tabs, or a solution, i.e., Milton 2%, using 1 part Milton to 2 parts water. (Household bleach can be used – usually 1 part bleach to 10 parts water – but check manufacturer's instructions.)
- Disposable cleaning cloth.
- Detergent and warm water.
- Eye protection may be necessary to prevent splashing into eyes with blood or hypochlorite.
- Cuts should be covered with a waterproof plaster.
- Open wounds, including eczema and psoriasis lesions should be covered.

When dealing with a spillage on carpets or soft furnishings, the use of a chlorine-based disinfectant solution may cause damage. Therefore, the use of detergent and water alone is advised, a carpet shampoo machine or steam cleaner can be used where practicable.

Action	Rationale
Put on disposable apron and gloves (wear facial protection if there is a risk of splashing to the face)	To protect against risk of contamination
Cover spill with disposable paper towels (not required if Haz tab granules are to be used)	To prevent further handling by others and risk of contamination and soak up fluids
Ventilate area if possible	Toxic fumes from hypochlorite solution can occur
Make up hypochlorite solution 10,000 ppm and label with date and time made up	For disinfection of spillage
Pour solution of hypochlorite over paper towels on spillage and leave for 5-10 minutes. If using granules, sprinkle on spillage and leave for 2 minutes, then use paper towels to remove	To disinfect the spillage
Clear away towels from spillage area and dispose of as infectious or offensive waste. In a service user's own home dispose of as household waste	To prevent against further risk of contamination
Wash area with a detergent and warm water using a disposable cloth, dry with disposable paper towel	To clear away remains of spill and/or hypochlorite
Discard all used materials into appropriate waste bag (see above). Remove protective equipment and discard in waste bag. If generated in a service user's home, securely bag and treat as household waste	To prevent risk of contamination
Wash hands thoroughly	To prevent transmission of infection

11. Spillage of body fluids (not blood)

EQUIPMENT REQUIRED

- Disposable latex, nitrile or vinyl gloves.
- Disposable apron.
- Disposable paper hand towels.
- Waste bag, either:
  - a yellow and black striped waste bag for offensive/hygiene waste if there is no indication a service user has an infection or suspected infection
  - an orange waste bag for infectious waste if a service user has a known or suspected infection
  - in a service user's own home waste should be placed in a plastic bag, tied and placed inside a black household waste bag.
- A hypochlorite product of 1,000 ppm. This can be in the form of granules, e.g., Haz tabs, or a solution, i.e., Milton 2%, using 1 part Milton to 20 parts water. (Household bleach can be used – usually 1 part bleach to 100 parts water, but check manufacturer's instructions.)
- Disposable cleaning cloth.
- Detergent and warm water.
- Eye protection may be necessary to prevent splashing into eyes with hypochlorite.
- Cuts should be covered with waterproof plaster.
- Open wounds, including eczema and psoriasis lesions, should be covered with a waterproof dressing.

When dealing with a spillage of urine, hypochlorite products should not be used directly onto a spillage, the area should be cleaned with hot water and detergent and then wiped with a hypochlorite product.

When dealing with a spillage on carpets or soft furnishings, the use of a chlorine-based disinfectant solution may cause damage. Therefore, the use of detergent and water alone is advised, a carpet shampoo machine or steam cleaner can be used where practicable.

Action	Rationale
Put on disposable apron and gloves (wear facial protection if there is a risk of splashing to the face)	To protect against risk of contamination
Soak up spillage with paper towels and dispose of as infectious waste.	To prevent possible aerosol dispersion and prevent further handling by others
Wash area with a detergent and warm	To remove any remains of the

Action	Rationale
water using a disposable cloth, dry with disposable paper towels	spill
Make up hypochlorite solution 1,000 ppm and label with date and time made up. **Do not put hypochlorite solution directly on to urine as toxic fumes will be released**	To prevent against further risk of contamination To prevent harmful fumes caused by mixing hypochlorite and urine
Wipe area with hypochlorite solution 1,000 ppm	To disinfect the spillage
Clear away towels from spillage area and dispose of as infectious or offensive waste. In a service user's own home dispose of as household waste	To prevent against further risk of contamination
Wash area with a detergent and warm water using a disposable cloth, dry with disposable paper towel	To clear away remains of spill and/or hypochlorite
Discard all used materials into clinical waste bag. Remove personal protective equipment and discard as offensive waste if no known or suspected infection or infectious waste if known or suspected infection	
Wash hands thoroughly	To prevent transmission of infection

12. Infection risks and categories

Risk category	Level of decontamination	Method	Examples
High risk Items in contact with a break in the skin or mucous membrane or introduced into a sterile body area	Cleaning and then sterilisation Single use items where appropriate	• Single use or sterilised by an accredited Decontamination Services facility	• Surgical instruments • Sutures • Dressings • Needles, syringes
Medium risk Items in contact with intact mucous membranes, or are contaminated	Cleaning and then disinfection or sterilisation	• Washer/ disinfectors • Chemical disinfectant, e.g., chlorine releasing	• Bedpans, commodes • Equipment contaminated with body fluid

Risk category	Level of decontamination	Method	Examples
with blood / body fluids or in contact with a service user with a known or suspected infection		agents, alcohol • Sterile single use items • Items sterilised by an accredited Decontamination Services facility	spillage • Vaginal Speculae
Low risk Items in contact with intact skin	Cleaning usually adequate (disinfect if contaminated with blood or body fluids)	• Manual cleaning using detergent and water • Disinfectants	• Service user wash bowls • Mattresses • Pressure relieving cushions • Toilets • Baths
Minimal risk Items not in close contact with the service user or their immediate surroundings	Cleaning is usually adequate apart from in an outbreak or contamination with blood or body fluids	• Manual or automated cleaning • Damp dusting • Wet mopping • Vacuum cleaning	• Floors • Walls • Ceilings • Furniture

13. Additional IPC resources

The North Yorkshire and York Community Infection Prevention and Control (IPC) team have produced a wide range of innovative educational and other IPC resources, including support for decontamination, cleaning and disinfection, e.g., National colour coding scheme posters. These resources are designed to assist your organisation in achieving compliance with the Health and Social Care Act 2008 and CQC requirements. Further information on these high quality evidence-based resources is available at www.infectionpreventioncontrol.co.uk

14. References

Department of Health (2013) *Prevention and control of infection in care homes*

Department of Health (2010) *The Health and Social Act 2008. Code of Practice for the Prevention and control of healthcare associated infections*

Department of Health (2006) *Essential steps to safe, clean care*

Doughty L Lister S (Eds) (2008) *The Royal Marsden Hospital Manual of Clinical Nursing Procedures 7th Edition*

Loveday et al (2014) epic3: *National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospital in England*

Journal of Hospital Infection Volume 86; Supplement 1; Pages S1-S70; January 2014

15. Appendices

Appendix 1: Declaration of Contamination Status

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NHS

DECLARATION OF CONTAMINATION STATUS

From (consignor):	.....	**To** (consignee):	.....
Address:	.....	Address:	.....
	.....		.....
Reference:	.....	Reference:	.....
Emergency tel:	.....		

Type of equipment: .	.....	Manufacturer:	.....
Description of equipment:	.....		
Other identifying marks:	.....		
Model No:	.....	Serial No:	.....
Fault:	.....		

Is the item contaminated? **Yes*** ☐ **No** ☐ **Don't know** ☐

* State type of contamination: blood, body fluids, respired gases, pathological samples, chemicals (including cytotoxic drugs), radioactive material or any other hazard .....

Has the item been decontaminated? **Yes(a)** ☐ **No(b)** ☐ **Don't know** ☐

(a) What method of decontamination has been used? Please provide details:

Cleaning: ☐ .....

Disinfection: ☐ .....

Sterilisation: ☐ .....

(b) Please explain why the item has **NOT** been decontaminated:

.....

.....

CONTAMINATED ITEMS SHOULD NOT BE RETURNED WITHOUT PRIOR AGREEMENT OF THE RECIPIENT

This item has been prepared to ensure safe handling and transportation:

Name:	.....	Position:	.....
Signature:	.....		
Date:	.....	Tel:	.....

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