Infection control 1: decontamination of non-invasive shared equipment

Care equipment is easily contaminated with body fluids and infectious agents, which can be transferred during care delivery. To minimise patients’ risk of healthcare-associated infections, it is crucial that decontamination practices are adhered to; as such, healthcare organisations are required to have in place local protocols for cleaning and decontamination that comply with national evidence-based guidance (Department of Health, 2015; Health Protection Scotland, 2015; Loveday et al, 2014; Public Health Agency, 2011; National Patient Safety Agency, 2009). Cleaning is a shared responsibility, with cleaning staff and nurses working collaboratively. Specific responsibilities must be clearly determined, and staff with cleaning responsibilities should have the necessary skills, competencies and resources to fulfil them.

This article, the first in a six-part series, explains the principles of decontamination and the procedures for cleaning and disinfecting care equipment.

**Principles of decontamination**

Routine decontamination of reusable non-invasive care equipment must be done according to manufacturers’ instructions and using suitable cleaning products that are in line with local policy. It should be undertaken:
- Between each use;
- After blood and/or body fluid or other visible contamination;
- At regular predefined intervals as part of an equipment cleaning protocol;
- Before inspection, servicing or repair (Health Protection Scotland, 2015).

The level of decontamination required depends on the level of risk associated with the item. There are three levels of decontamination for care equipment:
- Cleaning – thorough cleaning with water and a neutral detergent or disposable detergent wipes to remove substances such as dust, soiling and organic matter, along with a large proportion of micro-organisms – the first and most important step in any decontamination process (Public Health Agency, 2011);
- Disinfection – use of heat or chemicals after cleaning items known to be suspected of being contaminated with blood and/or body fluids; in contact with mucous membranes; used by a patient with a known suspected infection or colonisation with organisms such as *Clostridium difficile* and multidrug-resistant bacteria, as specified in local protocols (Health Protection Scotland, 2015), to reduce the number of viable micro-organisms to a level that is not harmful to health;
- Sterilisation – use of heat (some chemicals may sterilise in specific, highly controlled systems) to render objects free from viable micro-organisms, including bacterial spores and viruses (used to decontaminate high-risk items including reusable invasive equipment such as surgical instruments).

The procedures for routine decontamination of hospital beds and commodes are outlined below as examples of routine cleaning and disinfection. During outbreaks of infections or increased incidence of a particular organism, an enhanced cleaning routine is recommended (at least twice daily) (Public Health Agency, 2011). Enhanced cleaning and disinfection may be required in the following circumstances:
- Following an outbreak or increased incidence of infection;
- Following discharge, transfer or death of a patient who has had a known infection specified in local protocols;
- Following isolation/contact precaution nursing of a patient.

This is known as terminal cleaning and should be undertaken following discussion with the infection prevention and control team (Public Health Agency, 2011).
How to clean and disinfect a commode

**Equipment needed**
- Colour-coded bucket (unless you are using sporicidal wipes);
- Colour-coded cloth or disposable detergent wipes;
- Disposable plastic apron;
- Single-use non-sterile gloves;
- Non-abrasive cloth;
- Cleaning trolley;
- General purpose detergent or general surface cleaner (unless you are using disposable wipes);
- Sporicidal disinfectant wipes or combined detergent and disinfectant wipes.

**The procedure**
Commodes should be cleaned in the sluice, which should display a poster showing the cleaning procedure. They should have their pan, seat and frame cleaned after each use, and disassembled for a full clean periodically, as specified in local protocols.

1. Wash hands and put on apron and gloves (Fig 1).
2. If not using disposable wipes, prepare the cleaning solution in the bucket according to the manufacturer’s guidelines and place the bucket on a cleaning trolley.
3. Raise or lower the bed to a convenient height.
4. Remove any items from the bed frame and put them in a safe place.
5. If damp dusting, dampen or rinse the cloth in the cleaning solution. If using detergent wipes, take a wipe from the container.
6. Clean from top to bottom, working downwards to the base and wheels (Fig 2a). If damp dusting, turn the cloth regularly and rinse regularly in the cleaning solution; change the cleaning solution when it becomes soiled. If using wipes, replace when they become dry or soiled.
7. Take care to clean the edges and undersides of surfaces after cleaning the tops.
8. If cleaning the mattress, wipe the impermeable cover clean using an S-shaped motion (Fig 2b) and non-abrasive cloth. Turn the mattress and clean the underside, then clean all the edges. Change the cleaning solution and cloth when soiled or dry. Allow the mattress to dry, then wipe all surfaces with a disinfectant wipe.
9. When the bed frame is dry (and the mattress, if cleaned), replace any items that were removed before cleaning commenced.
10. Lower or raise the bed to its original position.
11. Dispose of the cloths or wipes and cleaning solution.
12. Clean and dry the bucket according to local policy.
13. Remove the apron and gloves. Wash your hands.
14. Document that cleaning has taken place according to local policy.
15. Dampen the cloth in the cleaning solution or take a sporicidal wipe from the bucket.
16. Check for signs of wear and tear, replacing the commode if it is damaged.
17. Dispose of the cloths or wipes and cleaning solution.
18. Clean and dry the bucket according to local policy.
19. Remove the apron and gloves. Wash your hands.
20. Document that cleaning has taken place according to local policy.

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Professional responsibilities

This procedure should be undertaken only after approved training, supervised practice and competency assessment, and carried out in accordance with local policies and protocols.

Fig 3. Cleaning a commode

3a. Using an S-shape motion, wipe the backrest clean, working from the outside in and from top to bottom

3b. Clean the front and back or top and underside of each part of the commode (backrest, armrest, seat, seat cover, pan)

3c. Clean the top of the seating area in an S-shaped motion, moving from clean to dirty. Do each part of the commode (backrest, armrest, seat, seat cover, pan)

3d. Turn the commode upside down, clean underneath the seat

3e. Place ‘I am clean’ indicator tape across the arms or seat

8. Clean the top of the seating area in an S-shaped motion, moving from clean to dirty (Fig 3c).

9. Turn the commode upside down and clean underneath the seat, ensuring all areas are cleaned (Fig 3d).

10. Allow the commode to air dry.

11. Wipe thoroughly with a sporidical disinfectant wipe, working in the same order as above (unless using combined detergent and disinfectant wipes). Dispose of the wipe.

12. Dispose of the cloth/wipes and cleaning solution.

13. Clean and dry the bucket according to local policy.


15. If disassembled, reassemble carefully. Allow surfaces to dry before use.

16. Place an ‘I am clean’ indicator tape across the arms or seat. Tick the ‘I am clean’ box on the tape, fill in the date and time, and print your name (Fig 3e).

References