

Decontamination of Equipment

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Policy

All equipment used for patient care within the CDHB will be decontaminated appropriately to ensure patient safety.

Purpose

To ensure that reusable patient equipment is decontaminated appropriately and to a level that minimises the risk of transmission of infection by that item.

Scope/Audience

All clinical staff who decontaminate and reprocess patient care equipment.

Associated documents

CDHB Policies, Volume 11, Clinical: [Reprocessing of Single Use devices](#)
CDHB Infection Prevention & Control Intranet Guidelines,

- [Reprocessing of Flexible Endoscopes](#)
- [Birthing Suite Pool Cleaning and Poster](#)
- [Sigmoidoscopy Equipment Guidelines](#)

1.1 Purpose of decontamination

The aim of decontamination of reusable equipment is to prevent patient to patient transmission of infectious agents. Cleaning the equipment item is the first step in the decontamination process and may be followed by disinfection or sterilisation depending on the use of the equipment and the risk of transmission of infection

Only equipment that can be effectively decontaminated must be used in clinical areas.

1.2 Classification of equipment according to risk of infection

Critical	Items that confer a high risk for infection and must be sterile at the time of use. This includes any objects entering sterile tissue, site or vascular system.
Semi-critical	Items that come into contact with mucous membrane or non-intact skin should be single use or sterilised after each use. Where this is not possible, high level disinfection is the minimum level of reprocessing acceptable.
Non-critical	Items that come into contact with intact skin, not mucous membranes. Thorough cleaning after individual use or intermediate/low level disinfection may be appropriate.

1.3 Cleaning

- Cleaning is the most important step in the decontamination process.

- Cleaning of equipment using detergent and warm water or a detergent wipe will physically remove contamination, but does not necessarily destroy bacteria. Drying is also an important part of the process.
- Cleaning is a pre-requisite before either disinfection or sterilisation.
- Cleaning is adequate for most items which come into contact with intact healthy skin.

1.4 Disinfection

- Disinfection is a process which inactivates non-spore-producing infectious agents.
 - *Thermal disinfection* uses heat and water at temperatures that destroy infectious agents.
 - *Chemical disinfection* is achieved by using an approved chemical agent e.g. sodium hypochlorite, isopropyl alcohol.
- There are three levels of disinfection which may be used, depending on the intended use of the equipment:
 - Low e.g. blood pressure cuffs
 - Intermediate e.g. non-critical surfaces that may become contaminated with pathogens
 - High e.g. endoscopes
- All disinfection products and processes must be approved by the Infection Prevention & Control Service.
- Refer Appendix B for dilution Instructions for chlorine based disinfectants.

1.4.1 Using sodium hypochlorite disinfection solutions

- Handle with care
- Wear gloves, plastic apron and eye protection
- Ensure adequate ventilation while diluting and avoid directly inhaling fumes
- Follow the manufacturer's dilution instructions

1.5 Sterilisation

- Sterilisation is a process that destroys all micro-organisms, including bacterial spores.
- Sterilisation must only be carried out by an approved sterilising service, e.g. Sterile Services by suitably qualified staff.

1.5.1 Storage of sterile items

- Store sterile items away from direct sunlight in a clean, dust, insect and vermin free room in a manner which protects the items from damage or recontamination before reuse.

- Sterile items stored on open shelving must be stored 25cm above floor level.
- Storage trolleys, bins and cupboards shall be kept clean and free from dust.
- A system of stock rotation should be in place.

1.6 Single Use Instruments and Equipment

- Items labelled as 'single use only' must not be decontaminated or reprocessed for re-use on other patients.
- Any exception to this has previously been subjected to review by the Canterbury DHB Clinical Board. No new items will be submitted
- Refer to CDHB Policy Reprocessing of single use medical devices.

1.7 Specialist Equipment

All specialist reusable equipment must have cleaning and decontamination processes approved by the Infection Prevention & Control Service.

1.8 Decontamination of Equipment Prior to Inspection, Service or Repair

All medical devices and equipment intended for inspection, service, repair, or for return to the lending organisation, must first undergo cleaning and disinfection to reduce the risk of infection to any person who may handle the equipment.

- All equipment must be emptied of all potentially contaminated secretions/fluids.
- All disposable components, e.g. plastic tubing, must be discarded by the user.
- All equipment must have all outer surfaces cleaned with detergent and water.
- If contaminated with blood/body fluids or where used for a patient in Transmission-based precautions then the cleaning must be followed by disinfection with an approved disinfectant and left to dry.
- Metal equipment must be rinsed off with water (damp cloth) after ten minutes and dried immediately.

1.9 Decontamination of Commonly Used Equipment

- If equipment is contaminated with blood and body fluids, cleaning must be followed by disinfection.
- Use a sodium hypochlorite solution of 1000ppm for disinfection of patient equipment unless electronic or unable to withstand a chlorine

product. Refer Appendix B for dilution table.

- An alcohol-based surface wipe is a suitable alternative only for chlorine or water-sensitive equipment.
- Equipment used for a patient in Contact Precautions must be cleaned and disinfected prior to use on another patient.
- Disinfection of reusable patient care equipment may follow cleaning in the following situations not covered by Table 1:
 - After use on a patient in Transmission-based precautions
 - If visibly contaminated with blood or body fluids
 - If directed by the Infection Prevention & Control Service

Table 1: Routine Decontamination Methods

NB: Where detergent and water is referred to in this section, a detergent wipe may be used if available.

Equipment / Item	Routine Decontamination Method	Frequency
AirPal inflating mattress	Refer to manual handling procedure	
Ambubag	Disposable single patient use only. Reusable: Return to ICU for reprocessing via Sterile Services	After each patient use
Anti-thrombotic hosiery (TED stockings) and	Single patient assigned. Wash as per manufacturers recommendations	As required for patient
Anti-slip socks	Single patient assigned. Wash as per manufacturers recommendations	As required for patient
Auroscope	Clean hand piece with detergent and water Use single use heads or sterilise reusable heads via Sterile Services	After each patient use
Baby Baths	Clean with detergent & water followed by disinfection at 1000 ppm sodium hypochlorite solution. Use a clean cloth for each step of process	After each patient use
Baby bottles and Teats	Single patient assigned.	Single use
Baby Scales	Clean with detergent and water.	After each patient use
Baths	Clean with approved cream cleanser.	After each patient use
Bed Frames and Wheels (see also mattresses)	Clean with detergent and water.	After each patient use
Bedpans	Disinfect in bedpan washer/sanitiser.	After each patient use
Birthing Pools	Refer to Birthing Pool Cleaning Procedure	
Blood Glucose Meter e.g. AccuChek	Wipe monitor and charging stand with detergent wipe. Use 70 % alcohol swab/wipe if blood contamination	Weekly After patient use as required
Blood Pressure Cuffs (nylon) Cloth BP cuffs	Clean BP cuff, tubing and bulb using a dampened cloth with detergent and water or use a disposable detergent wipe. Use a cap to cover flexiport hole for cleaning. DO NOT IMMERSER TUBING OR CUFF. Where fitted, remove cloth cover and wash weekly with detergent and water. Allow to fully dry before refitting for use. Wipe over cuff inner/ hose/ bulb or connectors (do not immerse).	Weekly
Bowls (washing)	Clean with approved cream cleanser, then disinfect in washer/sanitiser and store dry.	After each patient use

Breast Pumps	Use one immersion tank per mother. Clean and rinse breast pump equipment, then soak in diluted Presept (refer to dilution of disinfectants). Clean and disinfect breast pump machine with an alcohol wipe. On discharge: rinse breast pump and send to Sterile Services to be packaged and re-sterilised.	Change solution daily After each patient use
Cleaning Bucket (plastic)	Empty contents down toilet or sluice. Clean with detergent and water, store dry, positioned upside down.	
Chairs (fabric covered)	Spot clean as required. Hot water extraction clean/steam clean. NOTE: Impermeable, wipe able fabrics are advised for clinical areas.	6 monthly or if contamination with body fluid occurs.
Commodes	Clean with detergent and water. Refer to commode cleaning poster	After each patient use
Computers, lap tops, tablets and other devices	Clean with detergent wipe If disinfection is required wipe using a 70% alcohol wipe	After each use if used by patients or daily for items used by staff I.E. E-med computers i-Pad Mini
CPR Trolley	Damp dust using a detergent wipe.	Weekly
Crockery and Cutlery	Wash in approved dishwasher.	
Curtains / Window Coverings	Window curtains are sent to laundry. Roller blinds are cleaned with detergent and water. Privacy Curtains are sent to laundry. Shower curtains are sent to laundry. Venetian blinds are removed for cleaning and maintenance inspection/repair by specialist venetian blind service. (Venetian blinds are not recommended in clinical areas unless between double glazing)	Yearly Yearly 6 monthly 3 monthly 3 monthly
Dressing / Procedure trolleys	Clean with detergent and water. Ensure any sticky tape residue is removed. Clean wheels regularly	After each patient use
Duvet inners and covers	Clean via laundry service (single patient assigned only).	After each patient use
ECG trolley, leads and electrodes	Ensure the ECG machine is disconnected from the power supply before cleaning. Wipe with alcohol-based surface wipe including all leads and electrode buttons.	Weekly
Endocavity transducers and probes	Requires high-level disinfection or sterilisation. Refer to departmental specific procedure manuals.	

Examination equipment e.g. Ophthalmoscope, reflex hammer, sonic aid transducer (Doppler)	Clean with detergent and water.	After each patient use
Examination Bed/Couches	Use a paper cover or sheet to protect bed and pillow. Change pillow case daily. If paper cover is unavailable, change linen between patient use. Clean couch bed with detergent and water	Change paper between patients. Weekly
Flower vases	Change vase water every two days (do not discard in hand wash basin). Clean with detergent and water. Store dry positioned upside down.	After each patient use
Gumboots	Clean with detergent and water.	Weekly
Hair Trimmers / Clippers	Use trimmers with single use disposable heads. Disposal via sharps container. Clean trimmer handles with detergent and water	After each patient use
Hoist Equipment	Refer Appendix A	
I-Pads	See above 'Computers'	As above
IV Stands	Clean with detergent and water.	After each patient use
IV Pumps	Clean with detergent and water.	After each patient use
Kidney Dishes	Reusable Clean with detergent and water (ensure all residue from tape/labels removed prior to washing). Sanitise in washer/sanitiser or with an alcohol- based surface wipe. Store dry. Disposable kidney dishes Cardboard: No blood/body fluid contamination – dispose of in recycled waste paper stream Blood/body fluid contamination or used in Transmission-based precautions room – dispose of in infectious/medical waste stream Foil/Plastic meat tray style: follow either as general or infectious/medical waste stream as above.	After each patient use. Single use
Linen Carriers	Clean with detergent and water including base and wheels.	Weekly
Mattresses	Clean with detergent and water. Replace mattress if the cover is torn or damaged whereby the foam inner of the mattress may become contaminated. Dispose of mattress as infectious/medical waste. Specifically designed mattresses (such as airflow mattresses) should be cleaned in accordance with manufacturer's recommendations.	After each patient use

Medicine cup/pill pottles	If non-disposable, clean in approved dishwasher or “clean” washer/sanitiser.	After each patient use
Mobility Aides, Walking Frames, Crutches.	Clean with detergent and water.	After each patient use
Mop (cotton head for wet use)	Mops heads are laundered by the contracted cleaning or laundry service. Store dry. Rural hospitals refer to separate procedure	Daily
Nail Clippers	Send to Sterile Services for reprocessing.	After each patient use
Pillows	Treat as for mattresses.	After each patient use
Pulse Oximeter	Clean finger probe/ear sensor with approved alcohol based surface wipe/swab. Clean monitor with detergent and water	After each patient use
Razors	Disposable safety razor – dispose in sharps container. Electric – patient’s own only.	Single-use
Refrigerators - Food	Defrost and clean weekly to prevent ice build-up. Refer to CDHB IPC Policy: Food and Water Hygiene	Weekly
Resuscitation Manikins	Refer to manufacturer’s guidelines / CDHB Resuscitation Training Coordinator for full cleaning instructions.	After each patient use
Rubbish Bag Stands/Bins	Clean with detergent and water.	Weekly
Scissors	Reusable scissors for sterile use, e.g. dressings, are returned to Sterile Services for processing. Designated sluice room scissors - clean with detergent and water and sanitise in ward sanitiser.	After each patient use Daily
Sheepskins	Send to laundry service; place in black laundry bag.	After each patient use
Shower Chairs / Stools	Clean with detergent and water.	After each patient use
Sigmoidoscopy Equipment	Refer to Sigmoidoscopy Guidelines , Infection Prevention and Control Intranet site for detailed instructions.	
Slide Sheets/Lifting Belts	Refer Appendix A	Single patient assigned.
Stethoscopes	Use alcohol-based surface wipe/swab.	After each patient use
Telephone	Clean with detergent and water.	Daily

Thermometers (oral/axilla) (Reusable only)	<p><u>Electronic or Tympanic</u> Use disposable sleeve or ear piece. Wipe probe/handpiece with approved alcohol-based surface wipe /swab.</p> <p><u>Mercury</u> Single patient assigned thermometers. Rinse with tepid water and detergent under tap, dry with paper towel, then wipe with alcohol - based surface wipe /swab. On discharge, clean in detergent and cold water and soaked for one hour in diluted Presept (140ppm) and store dry.</p>	After each patient use
Tooth Mugs and Bowls	<p>Single use: Dispose of as general waste. Reusable: Rinse and sanitise in washer/sanitiser.</p>	After each patient use
Toilets (Patients)/Raised Sea	Clean with detergent and water or toilet sanitiser solution.	After each patient use
Toilet Brushes	Rinse in flushing water and store dry. Sanitise in washer/sanitiser.	Daily Weekly
Tourniquets	<p>Clean with detergent and water and soaked for one hour in diluted Presept (140ppm) and store dry. Use disposable tourniquets for patients in isolation.</p>	<p>Weekly or when visibly soiled</p> <p>Single patient use</p>
Toys	<p>All shared toys must be able to be cleaned with detergent and water. Toys must then be disinfected by immersing in diluted Presept (140ppm) for one hour or toys that cannot be immersed, thoroughly wipe with an alcohol-based surface wipe. Soft toys must not be provided unless exclusively for one child's use or is disposed of after use.</p> <p>(The Activity Room in Christchurch Hospital and Child Development Services in Ashburton Hospital have their own departmental procedures)</p>	Weekly or when contaminated / placed in mouth
Urinals	Rinse and sanitise in washer/sanitiser.	After each patient use
Urine Bag Holders/Stand	<p>Single patient assigned only.</p> <ul style="list-style-type: none"> • Metal urine bag holders/stands: Sanitise in washer/sanitiser or disinfect with an approved disinfectant between patients e.g. Sodium Hypochlorite 1000ppm (bleach). • Plastic urine bag holders: Clean with detergent and water and soaked for one hour in diluted Presept (140ppm) and store dry. 	After each patient use

Wheelchairs	Clean with detergent and water.	After each patient use
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Measurement/Evaluation




- All equipment is inspected and is visually clean prior to use at ward level.
- Equipment requiring maintenance is clean prior to leaving the department
- The state of equipment is checked during the Infection Prevention and Control Environmental Audit process.

References

- 1 CDC Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008, available from http://www.cdc.gov/hicpac/pdf/guidelines/Disinfection_Nov_2008.pdf
- 2 Howell V, Thoppil A, Mariyaselvam M, Jones R, Young H, Sharma S, Blunt M, Young P, Disinfecting the iPad: evaluating effective methods, *Journal of Hospital Infection* (2014), doi: 10.1016/j.jhin.2014.01.012.

Policy Owner	Infection Prevention & Control Service
Policy Authoriser	Executive Director of Nursing
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Appendix A: Cleaning of Patient Handling Equipment

Item	Action	Frequency	Example	Comment
<ul style="list-style-type: none"> • Hoist slings • Sliding sheets • Handling belts 	Send to laundry in black laundry Bag*	At end of patient stay or when soiled.		Individually assigned.
<ul style="list-style-type: none"> • Hoist • Standing lifter • Turntables 	Wipe with detergent and water after use.	At least weekly.		Wipe with disinfectant /chlorine based solution) when used on patient in Transmission-based Precautions.
<ul style="list-style-type: none"> • Transfer boards 	Wipe with detergent and water after use.	Between patient use.		Wipe with disinfectant (e.g. chlorine based solution) when used on patient in Transmission-based Precautions.

Note: The items shown may differ slightly from those in your clinical area.

*When sending items to the Laundry, ensure they are clearly labelled with return location, including hospital site. Laundry can arrange labelling. Colour of laundry bag may vary depending on the hospital – check local guidelines.

Appendix B: Dilution Instructions for chlorine based disinfectants

(500ml suitable squeezy bottle available from Oracle 181062)

Dilution Instructions for Presept* Disinfection Tablets

Disinfection of	Required Concentration of available Chlorine	Dilution Rate:			Additional Instructions
		0.5g Tablets	2.5g Tablets	5.0g Tablets	
Blood spillage	10,000ppm	18 tab in 0.5L water	7 tab in 1L water	9 tab in 2.5L water	See also IPC Decontamination of the Environment
General environmental use	1,000ppm	4 tab in 1L water	4 tab in 5L water	4 tab in 10L water	Wipe down surfaces with disinfectant-saturated disposable cloth.
Breast pumps and plastic tubing	140ppm	1 tab in 2L water	1 tab in 10L water	1 tab 20L water	Immerse for one hour.

Diluted Presept solutions are unstable and should be freshly prepared daily

Sodium Hypochlorite 5% (Chlorwhite) Dilution Instructions

Item to be disinfected:	Required Concentration of available Chlorine	Dilution Rate	Application and Exposure Time
Toilet bowls, Sumps, Sluices	N/A	Undiluted	Direct stream of product onto area being cleaned. Agitate with brush or cloth. Leave at least 10 minutes. Rinse with water.
Surfaces	1,000 ppm	20mL/L	2 capfuls per litre of water.
Blood and Body Spills	10,000 ppm	200mL/L	20 capfuls per litre of water. Allow two minutes contact time to achieve decontamination.