Group arrangements:
Salford Royal NHS Foundation Trust (SRFT)
Pennine Acute Hospitals NHS Trust (PAT)

Northern Care Alliance NHS Group

# Cleaning, Disinfection and Sterilisation Policy

| | |
|---|---|
| Lead Author: | Jane Redshaw, Specialist Nurse Infection Prevention and Control |
| Additional author(s) | N/A |
| Division/ Department:: | Infection Prevention and Control |
| Applies to: | Salford Royal Care Organisation |
| Date approved: | 5th September 2018 |
| Expiry date: | September 2021 |

+

## 1. What is this policy about?

**1.1** Micro-organisms will always be present in the hospital environment and all Trust employees have a responsibility to be aware of methods to prevent their transmission. The choice of decontamination method depends on a number of factors, which include the type of material to be treated, the organisms involved, the time available for decontamination, manufacturers' instructions and the risks to employees and patients. Decontamination of equipment and the environment is a key infection control measure and this policy will outline a risk assessment strategy that Trust employees can use. Choice frame work for local policies and procedures (CFPP 01-01) states that each area should risk assess their decontamination specialists to achieve essential Quality Requirement and a local risk-assessed progression to Best Practice. Not all service providers will be in a position to adopt Best Practice recommendations, however they will be able to assess what Best Practice is appropriate for each of the decontamination settings in their control, based on the surgical procedures undertaken and what improvements they need to undertake to move towards there by preparing a plan for progression to Best Practice.

## 2. Where will this document be used?

**2.1** Trust wide

## 3. Why is this document important?

**3.1**

- Decontamination of equipment and the environment is a key infection control measure
- There are three levels of decontamination to consider, cleaning, disinfection and sterilisation
- Cleaning, disinfecting or sterilising equipment and the environment can be understood more readily if medical devices, equipment and surgical materials are divided into three categories with decontamination methods clearly defined as set out below
- Where chemical disinfection is appropriate, only those disinfectants which have been approved by the Hospital Infection Control Committee (HICC) should be used.
- Prior to purchasing equipment Trust employees must ensure that the item can be decontaminated effectively with the Trusts recommended products and that the company supplying the equipment offers clear instructions on suitable cleaning, disinfection and sterilisation methods . This should also be discussed with a member of the Infection Prevention and Control Team.(IPCT)

## 4. What is new in this version?

**4.1** This is an update of a previous version but there are no important changes to the content.

# 5. Policy

## 5.1 Decontamination

Decontamination is a process which removes or destroys contamination and thereby prevents micro-organisms or other contaminants reaching a susceptible site in sufficient quantities to initiate infection or any other harmful response. It is comprised of three processes, cleaning, disinfection and sterilisation

## 5.2 Cleaning

Cleaning is essential prior to disinfection and sterilisation. Cleaning is the removal of all foreign material (e.g soil, organic material) by thorough cleaning with a detergent solution or a product that combines both detergent and disinfection e.g. “Chlor-clean®”

Personal Protective equipment (PPE) should be worn according to the Trusts Standard Precautions Policy (Infect2(09) policy Link to policy and protocols found within the area that cleaning takes place. Detergent is essential for effective cleaning. It breaks up grease and dirt and improves the ability of water to remove soil, organic material such as blood is coagulated by heat or chemicals and therefore, must be cleaned with detergent and water in addition to disinfection

Wet surfaces and equipment are more likely to encourage the growth of microorganisms and to spread potential pathogens. Cleaning equipment (e.g. cleaning cloths etc) and cleaning solutions should be removed from the patient treatment area or a food preparation area as soon as cleaning is completed. Surfaces should be left as dry as possible following cleaning.

All cleaning equipment should be examined at regular intervals and cleaned if soiled. Worn or damaged equipment should be repaired or replaced. All equipment sent for repair must be cleaned prior to leaving the area in which it was used and a sticker attached.

Prior to purchasing equipment Trust employees must ensure that the item can be decontaminated effectively and that the company supplying the equipment offers clear instructions on suitable cleaning, disinfection and sterilisation methods. This information should be retained by the purchaser. If advice is needed from the Infection Prevention and Control Team (IPCT) please ensure contact is made prior to purchase.

Cleaning, disinfecting or sterilising equipment and the environment can be understood more readily if medical devices, equipment and surgical materials are divided into three categories with decontamination methods clearly defined as below.

### 5.2.1 Risk Categories Spaulding Classification

| | | |
|---|---|---|
| Critical | Definition | A device that enters normally sterile tissue or the vascular system or through which blood flows should be sterile. Such devices should be either single use where possible or sterilized, which is defined as the destruction of all microbial life. |
| | Examples | Surgical instruments<br>Syringes and needles<br>Intrauterine devices<br>Dressings |
| | Suitable Methods | Sterilisation required<br>Use disposable, single use items where possible |
| Semi Critical | Definition | A device that comes into contact with intact mucous membranes and does not ordinarily penetrate sterile tissue. These devices should receive at least high-level disinfection, which is defined as the destruction of all vegetative microorganisms, mycobacterium, small or non-lipid viruses, medium or lipid viruses, fungal spores, and some bacterial spores items. |
| | Examples | Respiratory equipment<br>Gastro scopes |
| | Suitable Methods | Disinfection required by chemical/heat where possible. |
| Non Critical | Definition | Devices that do not ordinarily touch the patient or touch only intact skin. These devices should be cleaned by low-level disinfection. |
| | Examples | Washing bowls<br>Floors |
| | Suitable Method | Cleaning and drying usually adequate. |

(CDC 2008).

### 5.2.2 National Colour Coding Scheme

- The Trust adheres to the National Patient Safety Agency Colour Coding Scheme. See Appendix 1

- All cleaning materials and equipment (e.g. cloths, mops and buckets) should be colour coded.

- Cleaning products where applicable do not need to be colour coded.

- The code does not extend to catering equipment (e.g. chopping boards and knives) as there are already well-recognised and well-established procedures to ensure food hygiene and food separation issues are addressed.

- Equipment will be cleaned and mop heads and cloths changed after use for each isolation room/area.

- Equipment, cloths and mops for the ward kitchen or catering areas (green) must be stored separately from other cleaning equipment.

## 5.3 Disinfection

Cleaning is an essential pre-requisite when decontaminating equipment and must precede disinfection. The routine of disinfectants is wasteful, potentially harmful and unnecessary.

Disinfection can be achieved by physical methods such as heat or pasteurisation. In practice, the use of chemical disinfectants is more common in hospitals. Chemical disinfection is less reliable than physical methods and should not generally be used when sterilisation is required.

Whenever heat disinfection can be used employees should choose this option

Most flexible endoscopes are cleaned through an automated process using a chemical high level disinfection process within the endoscope decontamination facility

### 5.3.1 COSHH Regulations and Disinfection

Employees must only use produces when a COSHH assessment has been performed using safety sheets obtainable from the manufacturer which can be found within the departments COSHH folder, copies of which should be stored locally to where the product is stored. Assessments must be reviewed annually within the department and upon a change of product records will be kept as per records management policy, and should be readily available to users of all disinfectants/cleaning materials. Protective clothing must be worn when making up and using solutions according to the risk assessment. Ensure exposure limits are adhered to if applicable. Only use solutions or powders that are within their expiry date. Any sensitivity or reaction to a disinfectant must be reported to Occupational Health, who must ensure it is properly documented. Disposal of empty containers or those with residual waste present should be in accordance with manufacturer's instructions, local procedures and COSHH requirements.

**General Considerations:**

- Follow manufacturer's instructions carefully

- Use in well ventilated areas and avoid inhalation of fumes

- Wear appropriate protective clothing e.g. gloves, apron, goggles/visors, and masks where risk of splashing to mucous membranes is possible

- Avoid splashes to skin, mucous membranes. Should these occur wash immediately under running water and follow local procedures for reporting accidents immediately

- Ensure any adverse incidents are reported using the Datix reporting system and that the Health and Wellbeing Team are informed

### 5.3.2 Important Do's and Don'ts of Disinfection

| **Do** | **Don't** |
|---|---|
| Add the measured amount of disinfectant to the right amount of water, to make an effective solution for use | Add detergent to a disinfectant; this may inactivate both |
| Use a clean, dry container for the solution | Store instruments or cleaning tools in a disinfectant |
| Wash away dirt, where possible, before using the disinfectant | Top up yesterday's solution: make up a fresh one at least every 24hrs |
| Remember that if disinfectants are used carelessly they may promote microbial growth | Use two disinfectants together, unless one of them is alcohol |
| Check expiry dates | Bring in your own disinfectant to the hospital |
| Give adequate time for disinfectant to work | Disinfect if cleaning is sufficient |

### 5.3.3 Disinfectants and Their Properties

A list of disinfectants which includes the properties of each type of disinfectant can be found at Appendix 2

Only chemicals on the approved list must be used in the Trust. Employees must never bring in agents from home or order agents not on the list unless written permission is given by the IPCT. A table of approved disinfectants can be seen at Appendix 3.

## 5.4 Sterilisation

Cleaning is essential preparation when decontaminating equipment and must precede sterilisation activity. Sterilisation could present the handler with a potentially hazardous situation and full standard precautions apply. Only employees who can demonstrate that they have been adequately trained are permitted to carry out this task.

Sterilisation can be achieved by physical methods such as heat in an autoclave (moist heat) or hot-oven (dry heat), by irradiation, chemical methods (including ethylene oxide), fine membrane filters (for lipids and pharmaceuticals), and low temperature plasma diffusion. Certain solutions such as glutaraldehyde Peracetic Acid are capable of achieving sterilisation, but only under controlled conditions and over prolonged exposure

times. These methods are less reliable than physical methods of sterilisation. Further advice on sterilisation can be obtained from the Sterile Services Department Unit (SSDU) and Infection Prevention and Control Team.

### 5.4.1 Heat Sterilisation

The sterilisation service available through the SSDU uses steam at 134°c for 3 to 3.5 minutes using a pre vacuumed autoclave, porous load machine.

Sterilisers are not in use locally, all sterilisation is to be carried out in the above unit. If you feel you must process locally you must seek advice from the IPCT and the Sterile Services Manager. Do not reprocess items without authority. Additional information can be obtained through the Trust Decontamination Committee/Manager

Before returning procedure trays to SSDU the contents list, which is included in each tray, must be signed by the assisting nurse or user, confirming that he/she has removed all sharps and all instruments are correct. All items being received into the SSDU for re-processing will be considered to be high risk.

All items which are routinely sterilised, by whatever method, and wherever the location, must be specifically documented by the manufacturer as being suitable for re-sterilisation and include the particular sterilisation method chosen. Before any item is purchased it is the responsibility of the purchaser (procurement department) to ensure that a Pre Purchase Questionnaire (PPQ) has been completed by the manufacturer and that the product can withstand the rigors of autoclaving in a porous load autoclave wherever appropriate. (Health Act 2008) records will be kept as per the Records Management Policy.

### 5.4.2 Benchtop Sterilisation

No bench top steriliser is to be used or purchased for use within Salford Royal NHS Foundation Trust

### 5.4.3 Chemical Sterilisation

Glutataldehyde (Cidex 2% ASEP 2.2%) This chemical is not recommended for use within Salford Royal NHS Foundation Trust if it is in use in any area, its application must be reported and the Director of Infection Prevention and Control (DIPC) informed.

### 5.4.4 Peracetic Acid Gigasept

This gives a high level disinfection including an adequate sporicidal effect with a contact time of ten minutes with testing of the chemical before every use; this is disposed of at the end of each list. All devices must be cleaned in accordance with the relevant SOP and recording all information on the relevant form. The rinse used to remove residual chemicals needs careful controls to avoid recontamination or depositing of particulates on the load. Final rinse water should be sterile water for irrigation which is Pyrogen free.

### 5.4.5 Occupational Exposure Standard

There are no Works Exposure Limits (WELL) to Peracetic Acid.

## 5.5 Decontamination of Re-usable Medical Devices

All re-usable medical devices must be decontaminated as per manufacturer's instructions, and in line with local cleaning policy and procedure

In order to standardise methods of decontamination within the Trust a list of equipment and decontamination methods is outlined in the table at Appendix 4. If an item is not on the list and employees require assistance after undertaking an initial assessment, please contact one of the following:

- Decontamination Manager
- Infection Prevention and Control Team
- Consultant Microbiologist
- Health and Safety Adviser
- Medical Physics Manager

### 5.5.1 Decontamination of Equipment Prior to Inspection / Repair / Return to Medical Physics

All equipment needing inspection or repair must be decontaminated prior to such inspection or repair and must have a completed decontamination certificate attached. The Department of Health issued guidance on the need for decontamination of equipment prior to inspection, service or repair in Safety notice SN 9516 (1995) Medicines and Healthcare Regulatory Agency (MHRA) (2006) DB2006(04) Single-Use Medical Devices: Implications and Consequences of Reuse and HSG (93) 26 Medicines and Healthcare Regulatory Agency (MHRA) (2003) DB2003(05) Management of Medical Devices prior to repair, Managing Medical Devices (MHRA)( 2014) service or investigation and Department of Health The Health & Social Care Act 2008 – Code of Practice for the Prevention and Control of Health Care Associated Infection.

### 5.5.2 Single Use Items

Items which are designated single use by the manufacturer must not be re-used or decontaminated for re-use in any way.

The manufacturer's instructions will state for single use only and this symbol  will appear on the packaging indicating that the device must never be used more than once.

Single patient use items may be re-used on the same patient only and should be disposed of after use. These items include disposable blood pressure cuffs, disposable wash bowls etc.

## 5.6 Transmissible Spongiform Encephalopathies (TSES) e.g. Creutzfeldt-Jakob Disease (CJD)

For equipment used on patients with known of suspected TSE/CJD please refer to the Policy for "Management of Transmissible Spongiform Encephalopathies – TSE including Creutzfeld Jakob Disease – CJD" (Link to TSE policy)

## 5.7 Endoscope Disinfection

The Trust has centralised most endoscope disinfection. Those departments processing endoscopes have detailed protocols that must be followed. Endoscopes must not be decontaminated in any other area or using any other process.

## 6. Roles and responsibilities

**6.1** **The Executive Directors of Nursing and Medicine (DIPC)** on behalf of the Chief Executive will ensure that the Clinical Directors take clinical ownership of the policy

**6.2** **The Clinical Directors** on behalf of the Executive Directors will ensure that all clinicians comply with this policy

**6.3** **The Senior Nurses and Matrons** on behalf of the Executive Directors and the Clinical Directors will ensure that all clinicians comply with this policy

**6.4** **The Infection Control Team** will:

- Act as a resource for information and support
- Monitor the implementation of this policy within clinical areas
- Provide education in relation to this policy
- Regularly review and update the policy

**6.5** **All Trust staff including all clinicians** will:

- Comply with the Cleaning, Disinfectant and Sterilisation policy
- Inform the Infection Prevention and Control Team about any issues or concerns relating to cleaning, disinfection and sterilisation
- Undertake annual mandatory Infection Control training

## 7. Monitoring document effectiveness

**7.1** **Key standards:** The Health and Social Care Act (2008)

## 8. Abbreviations and definitions

**Cleaning –** A process, using a detergent, that physically removed contaminants, including dust, soil, large numbers of micro-organisms and the organic matters (e.g. faeces and blood) that protects them. Cleaning must precede disinfection and sterilisation.

**Disinfection -** A process used to reduce the number of micro-organisms but not usually bacterial spores: the process does not necessarily kill or remove all micro-organisms. (NB. Disinfection of the skin and living tissues is known as antisepsis)

**Sterilisation -** A process, using a detergent, that physically removes contaminants, including dust, soil, and large numbers of micro-organisms includes spores. Standard sterilisation procedures may not eliminate 'prions' (e.g. agents of variant and classical Creutzfeldt Jakob Disease) .Whenever a particular hazard from such agents is identified, refer to TSE Policy. Single-use (disposable) items will generally be preferred.

# 9. References and Supporting Documents

## 9.1 References

Centres for Disease Control, 2008. *Guidelines for Disinfection and Sterilisation in Healthcare Facilities*. http://www.cdc.gov/hicpac/pdf/guidelines/Disinfection_Nov_2008.pdf. Accessed March 2016.

Department of Health, 2015. *The Health and Social Care Act 2008*. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/449049/Code_of_practice_280715_acc.pdf .Accessed March 2016.

Management of Transmissible Spongiform Encephalopathies – TSE including Creutzfeld Jacob Disease (CJD)
http://intranet/policies-resources/trust-policy-documents/find-a-policy/departments/infection-control/

# 10. Document Control Information

**It is the author's responsibility to ensure that all sections below are completed in relation to this version of the document prior to submission for upload.**

| | | | | | |
|---|---|---|---|---|---|
| **Nominated Lead author:** | Jane Redshaw | | Specialist Nurse Infection Control | | |
| **Lead author contact details:** | 0161 206 1971 | | Jane.redshaw@srft.nhs.uk | | |
| **Lead Author's Manager:** | Linda Swanson | | Group Associate Director of Infection Control | | |
| **Applies to:** | | | | | |
| | Salford CO<br>**X** | Oldham CO | North Manchester CO | Bury & Rochdale CO | Northern Care Alliance Group (NCA) |
| **Document developed in consultation with:** | SCO's - Decontamination Lead. Infection Control Team | | | | |
| **Keywords/ phrases:** | cleaning, disinfection, sterilisation, national colour coding, decontamination, risk categories, spalding Classification, COSHH Regulations, disinfectants, heat sterilisation, benchtop sterilisation, chemical sterilisation, peracitic acid, gigasept, occupational exposure standard, re-useable devices, single use items, Transmissible spongiform encephalopathies (TSE's), CJD, endoscope disinfection | | | | |
| **Communication plan:** | All managers will ensure that staff are made aware that this policy has been reviewed and updated<br>This policy will be available on the Trust intranet site<br>All Trust staff as detailed in roles and responsibilities will be responsible for their part in implementing this policy<br>Ward Matrons, Ward Managers and Clinicians with the support of the Infection Control team will ensure that staff comply with this policy, and undertake any training and competency assessment required. | | | | |
| **Document review arrangements:** | This document will be reviewed by the author, or a nominated person, at least once every three years or earlier should a change in legislation, best practice or other change in circumstance dictate. | | | | |
| **Approval:** | Hospital Infection Control Committee<br><br>Dr Peter Turkington, DIPC<br><br>Insert full approval date: 05/09/2018 | | | | |
| **How approved:** | Chair's actions – Dr P Turkington | | Formal Committee decision – HICC Meeting | | |

## 11. Equality Impact Assessment (EqIA) screening tool

Legislation requires that our documents consider the potential to affect groups differently, and eliminate or minimise this where possible. This process helps to reduce health inequalities by identifying where steps can be taken to ensure the same access, experience and outcomes are achieved across all groups of people. This may require you to do things differently for some groups to reduce any potential differences.

| | |
|---|---|
| **1a) Have you undertaken any consultation/ involvement with service users, staff or other groups in relation to this document?** If yes, specify what. | *No* |
| **1b) Have any amendments been made as a result?** If yes, specify what. | *No* |

**2) Does this policy have the potential to affect any of the groups listed below differently?**
*Place an X in the appropriate box*: *Yes, No or Unsure*
This may be linked to access, how the process/procedure is experienced, and/or intended outcomes. Prompts for consideration are provided, but are not an exhaustive list.

| Protected Group | Yes | No | Unsure |
|---|---|---|---|
| **Age** *(e.g. are specific age groups excluded? Would the same process affect age groups in different ways?)* | | No | |
| **Sex** *(e.g. is gender neutral language used in the way the policy or information leaflet is written?)* | | No | |
| **Race** *(e.g. any specific needs identified for certain groups such as dress, diet, individual care needs? Are interpretation and translation services required and do staff know how to book these?)* | | No | |
| **Religion & Belief** *(e.g. Jehovah Witness stance on blood transfusions; dietary needs that may conflict with medication offered.)* | | No | |
| **Sexual orientation** *(e.g. is inclusive language used? Are there different access/prevalence rates?)* | | No | |
| **Pregnancy & Maternity** *(e.g. are procedures suitable for pregnant and/or breastfeeding women?)* | | No | |
| **Marital status/civil partnership** *(e.g. would there be any difference because the individual is/is not married/in a civil partnership?)* | | No | |
| **Gender Reassignment** *(e.g. are there particular tests related to gender? Is confidentiality of the patient or staff member maintained?)* | | No | |
| **Human Rights** *(e.g. does it uphold the principles of Fairness, Respect, Equality, Dignity and Autonomy?)* | | No | |
| **Carers** *(e.g. is sufficient notice built in so can take time off work to attend appointment?)* | | No | |
| **Socio/economic** *(e.g. would there be any requirement or expectation that may not be able to be met by those on low or limited income, such as costs incurred?)* | | No | |
| **Disability** *(e.g. are information/questionnaires/consent forms available in different formats upon request? Are waiting areas suitable?) Includes hearing and/or visual impairments, physical disability, neurodevelopmental impairments e.g. autism, mental health conditions, and long term conditions e.g. cancer.* | | No | |

| | | | |
|---|---|---|---|
| **Are there any adjustments that need to be made to ensure that people with disabilities have the same access to and outcomes from the service or employment activities as those without disabilities?** *(e.g. allow extra time for appointments, allow advocates to be present in the room, having access to visual aids, removing requirement to wait in unsuitable environments, etc.)* | | No | |

**3) Where you have identified that there are potential differences, what steps have you taken to mitigate these?**
*N/A*

**4) Where you have identified adjustments would need to be made for those with disabilities, what action has been taken?**
*N/A*

**Will this policy require a full impact assessment? No**
(*a full impact assessment will be required if you are unsure of the potential to affect a group differently, or if you believe there is a potential for it to affect a group differently and do not know how to mitigate against this - Please contact the Inclusion and Equality team for advice on* equality@pat.nhs.uk)

Author: Type/sign:  Date: 11/09/18

Sign off from Equality Champion: Date:

# 12. Appendices

## Appendix 1 National Colour Coding Scheme

NHS
National Patient Safety Agency

### National colour coding scheme for hospital cleaning materials and equipment

All NHS organisations should adopt the colour code below for cleaning materials. All cleaning items, for example, cloths (re-usable and disposable), mops, buckets, aprons and gloves, should be colour coded. This also includes those items used to clean catering departments.

**Red**
Bathrooms, washrooms, showers, toilets, basins and bathroom floors

**Blue**
General areas including wards, departments, offices and basins in public areas

**Green**
Catering departments, ward kitchen areas and patient food service at ward level

**Yellow**
Isolation areas

Your local contact for hospital cleaning is:

# Appendix 2 Disinfectants and Their Properties

**Chlorine-based Disinfectants**
Examples: Sodium Dichloroisocyanurate (NaDCC), Chlor-clean, Hypochlorite solutions. Actichlor Plus

- Wide range of bactericidal, virucidal , sporicidal and fungicidal activity
- Disinfectant of choice for use against viruses, including HIV and HBV
- Rapid action
- Inactivated by organic matter, particularly at low concentrations
- Corrosive to come metals, and may bleach and rot fabrics
- Diluted solutions are unstable and must be freshly prepared daily
- Care should be taken not to allow contact with strong acids as chlorine gas will be released
- Do not use in the presence of formaldehyde, as one of the by-products is carcinogenic
- Useful for water treatment and in food preparation areas

For surface decontamination and management of spillages involving agents of Transmissible Spongiform Encephalopathy Sodium Hypochlorite at 20,000 parts per million (ppm) Free Available Chlorine (FavCI): contact time: one hour, has been found to be effective. Frequent re-wetting of surfaces will be necessary

**Peroxygen Compounds**
Examples: Virkon, Hydrogen Peroxide, Peracetic Acid

- Wide range of bacterial, virucidal and fungicidal activity
- Activity is greatly reduced by organic matter
- Anti-mycobacterial activity is variable
- Corrosive to some metals
- Often formulated with detergent
- Virkon has low toxicity and irritancy
- Seek manufacturer's approval for equipment where corrosion may present problems e.g. endoscopes, centrifuges

**Iodine and Idophors**
Examples: Betadine, Videne

- Wide range of bactericidal, virucidal and fungicidal activity
- Some activity against bacterial spores
- Inactivated by organic matter (depending on preparation and concentration)
- May corrode or stain metals

A 1% solution of iodine in 70% alcohol is an effective skin antiseptic. Some iodophors may be used for disinfection of the environment, but they are expensive and cannot be recommended or general disinfection in hospital.

**Clear Soluble Phenolics**

Examples: Stericol, Hycolin, Clearsol

- Good bacterial and fungicidal activity
- Have limited virucidal activity and poor activity against bacterial spores
- Relatively cheap, stable and not readily inactivated by organic matter
- May corrode or stain metal
- Should not be used in food preparation areas as they taint food
- Should not be used on equipment that is likely to be in contact with skin or mucous membranes

**Alcohols**

Example: 70% industrial methylated spirit (IMS), 70% isopropyl alcohol solution, alcohol hand rub, alcohol impregnated wipes

- Good bactericidal and fungicidal activity
- Active against mycobacteria but not against spores
- Activity against viruses is variable, and non-enveloped viruses tend to be more resistant
- Rapid action and easy to use in wipe form
- Volatile and especially useful as rapidly drying disinfectants for skin and surfaces
- Recommended concentrations of ethanol (70%) and isopropanol (60%) are optimal in vitro for killing organisms, and are more effective than absolute alcohol
- Can be used with other bactericides such as chlorhexidine, iodine and Triclosan
- Do not penetrate well into organic matter, especially protein-based, and should be used only on physically clean surfaces

**Chlorhexidine**

Examples: Hibiscrub, Hibitane, Hibisol

- More active against Gram-positive than Gram-negative organisms
- No activity against tubercle bacilli or bacterial spores
- Good fungicidal activity
- Limited activity against viruses
- Low toxicity and irritancy
- Inactivated by organic matter, soap and anionic detergents
- Most useful as a skin disinfectant
- Must not come in contact with brain, meninges or middle ear
- Available in easy use sachets and bottles

**Hexachlorophane**

- More active against Gram-positive than Gram-negative bacteria
- Good residual effect on skin
- 0.33% powder gives protection against colonisation with Staphylococcus aureus in neonates
- Cutaneously absorbed hexachlorophene may be toxic to babies after repeated application of 3% emulsions

**Triclosan (Irgasan DP300)**

Examples: Manusept, Phisomed, Aquasept

- Triclosan has similar properties to hexachlorophene and does not have toxicity in neonates
- Often used in the treatment of MRSA carriers, as they may be better tolerated than some other antiseptic-containing detergents

**Aldehydes**

Examples: Formaldehyde, Glutaraldehyde

- Wide range of bactericidal, virucidal and fungicidal activity
- Good but slow activity against bacterial spores
- Active against tubercule bacilli, but less so against M. avium-intracellulare
- Irritant to eyes, skin and respiratory mucosa – Potential sensitiser in some individuals
- Most preparations are non-corrosive to metals and other materials
- Little inactivation by organic matter, but penetrates slowly
- A useful disinfectant for heat-labile equipment, but is expensive and toxic

# Appendix 3 Approved Disinfectants

| Generic Name | Product Available | Indications |
|---|---|---|
| Cream cleanser | Proprietary brand | Cleaning baths/sinks |
| Detergent | Proprietary brand | General purpose cleaning |
| 70% Isopropyl Alcohol | Sterets<br>Alco wipes<br>Sani-wipes | Skin disinfection<br>Equipment disinfection |
| Chlorhexidine gluconate 2% in 70% Isopropyl alcohol | Chloraprep | Skin disinfection prior to all IV devices and venepuncture. Other skin disinfection prior to invasive procedures |
| Chlorhexidine Gluconate 4% | Hibiscrub<br>Hydrex | Hand washing/disinfection<br>1. For designated areas e.g. Theatres<br>2. For outbreak situations only as advised by the Infection Control Team |
| Povidone Iodine 7.5% | Betadine<br>Videne | Handwashing/disinfection alternative to Chlorhexidine gluconate 4% |
| Octenidine | Octenisan | Patient washing as part of MRSA decolonisation regimen (see MRSA policy and pathway) |
| Alcohol Gel | | Hand Hygiene |
| Detergent/chlorine releasing agent solution (1,000ppm) | Chlor-clean | Cleaning and disinfection of surfaces and equipment |
| Chlorine releasing agent solution (10,000ppm) | HazTabs | Disinfection following blood spillage<br>Items contaminated with Mycobacterium tuberculosis (TB) |
| Chlorine releasing agent liquid solution | Milton | For use in approved areas only when Chlor-clean or Haz Tabs are not appropriate |

# Appendix 4 Recommendations for Decontamination of Specific Items

| Equipment/Site/ Contamination | Routine method | Recommendations for infected patients and/or when equipment is visibly contaminated with blood or body fluids |
|---|---|---|
| Airways<br>Marshall bags (AMBU bags) | Disposable – single use only<br>Disposable – single use only | |
| Baths/Bidets | Detergent or cream cleanser<br>Rinse well | Chlorine releasing agent 10,000ppm<br>(HazTabs)<br>Rinse well |
| Bed pan supports (for disposables) | Chlorine releasing agent 1000ppm (Chlor-clean) | Chlorine releasing agent 10,000ppm (HazTabs)<br>for blood spillage & rinse |
| Bed frames/Patient trolleys/ Wheelchairs | Chlorine releasing agent 1,000ppm (Chlor-clean) | |
| Bedpans | Use disposable wherever possible<br>For re-useables wash in machine with heat disinfection cycle | |
| Blood and body fluid spillage (not urine) | Chlorine releasing agent 10,000ppm (HazTabs) | |
| Bowls (surgical) | Autoclave | |
| Bowls (patient washing) | Use disposable wherever possible<br>For re-useables wash with detergent and dry. Store clean, dry, separately and inverted | |
| Crockery and cutlery | 1. Wash in dishwasher with rinse temperature above 800C and air dry<br>2. Hand wash by approved method i.e. 2 sink method – See Ward Kitchen Policy<br>3. Use disposables if unable to clean to either standard above | |
| Endoscopes | Follow Trust policies – these should be approved by the Infection Control Team | |
| Endotracheal tubes | Disposable – single use only | |
| Floors (dry cleaning) | Vacuum<br>Dust attracting mop | Deal with any spillage – See Appendix 1. Clean as routine |
| Floors (wet cleaning) | Chlorine releasing agent 1,000ppm (Chlor-clean) | |
| Furniture/fittings | Chlorine releasing agent 1,000ppm (Chlor-clean) | |
| Feeding bottles and teats | 1. Pre-sterilised or heat treated | |

| | | |
|---|---|---|
| | feeds<br>2. Chlorine releasing agent 125ppm (Mini HazTabs) for baby feeding equipment | |
| Instruments (surgical) | Autoclave (SSD) | |
| Laryngeal masks | 1.single use disposable<br>2.autoclave (SSD) | |
| Laryngoscope blade | Disposable single use | |
| Mattresses/Pillows | Chlorine releasing agent 1000ppm (Chlor-clean) | |
| Mop heads (wet) | Use mop head once, bag and store for laundering. Domestic staff will arrange laundering daily | 1. Use disposable mop<br>2. Heat disinfection |
| Nail brushes | Disposable - single use only | |
| Razors | Disposable – single use only | |
| Shaving brushes | Do not use for clinical shaving – Individual personal use only | |
| Theatre floors/surfaces | Chlorine releasing agent (Chlor-clean) 1,000ppm for disinfection of surfaces | Chlorine releasing agent (Haz Tabs) 10,000ppm for blood spillage |
| Toilet seats | Chlorine releasing agent 1,000ppm (Chlor-clean) | |
| Toys | Must be washable with hot water and detergent. Soft toys are discouraged but if considered necessary must be discussed with Infection Control | |
| Trolley tops | Wash with detergent and water, dry, wipe surfaces with 70% Isopropyl Alcohol (Alcowipe) | |
| Tubing (anaesthetic and ventilator) | Disposable- single use only | |
| Urinals | Use disposables then macerate | |
| Ventilator (surfaces) | Chlorine releasing agent 1,000ppm (Chlor-clean) | |

# Appendix 5 Procedure for cleaning and disinfecting blood and blood stained body fluids

Spillages of blood and blood stained body fluids including vomit, should be cleaned up as soon as possible. It is important to ensure that the area is made cordoned off and made safe whilst you appropriate materials are being collected.

a) Plastic aprons and gloves should be worn plus goggles/visors and a mask if risk of splashing to mucous membranes

b) If possible first mop up excess with paper towels. Take care to avoid handling broken glass or sharp objects.

c) Spillages should be cleaned up using paper towels and a fresh solution of Chlorine releasing agent 10,000ppm available chlorine. Currently HazTabs are supplied – make dilutions as per instructions provided in each ward and department (See also Appendix 3)

d) The area involved should then be dried with paper towels

e) The gloves, plastic apron and paper towels should be placed in the clinical waste stream

f) Hands should be washed and dried thoroughly

g) The area should then be cleaned in the usual way with detergent and water

h) Use disinfectants in a well ventilated area; avoid splashing skin, eyes or mucous membranes. Follow COSHH advice