### DOCUMENT HISTORY

<table>
<thead>
<tr>
<th>Document Status:</th>
<th>Current</th>
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<tbody>
<tr>
<td>Developed by:</td>
<td>Gill Payne, Infection Control</td>
</tr>
<tr>
<td>Policy Number</td>
<td>ID 772, Version 1.0</td>
</tr>
<tr>
<td>Date of Policy</td>
<td>February 2009</td>
</tr>
<tr>
<td>Next Review Date</td>
<td>March 2010</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Gill Payne, Infection Control</td>
</tr>
<tr>
<td>Approved by / on</td>
<td>Clinical Policy Review Group, 27 January 2009</td>
</tr>
<tr>
<td>Approved by / on</td>
<td>Clinical Governance Group, 12 March 2009</td>
</tr>
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<tr>
<td>1.0</td>
<td>27 January 2009</td>
<td>Approved Clinical Policy Review Group</td>
</tr>
<tr>
<td></td>
<td>12 March 2009</td>
<td>Clinical Governance Group</td>
</tr>
</tbody>
</table>
DISINFECTION POLICY

1. POLICY STATEMENT

1.1 Patient care will be delivered without discrimination, regardless of gender/transgender, race, disability, sexual orientation, age, religion/belief or cultural practice.

1.2 Information will be given to all patients and carers in a way in which they can understand it.

2. INTRODUCTION

2.1 The prevention and appropriate management of infection is of paramount importance to the quality and safety of the care of patients/clients, visitors and members of staff. It is, therefore, important that all staff take appropriate actions during the discharge of their duties to assess the potential risks of infection to reduce these risks whenever possible.

2.2 The Health Act (2006) stipulates that NHS bodies must, in relation to preventing and controlling the risk of Health Care Associated Infections (HCAI), have in place appropriate core policies, including disinfection. Implementation of this policy will contribute to the achievement compliance with the Health Act (2006) revised 2008.

2.3 The basic principle of infection control is to prevent pathogens reaching a susceptible site in sufficient numbers to cause an infection (Hoffman et al 2004). The purpose of this document is to provide clear guidance on disinfection of medical devices to prevent cross infection. Skin disinfection will not be covered in this policy.

2.4 This document is an over arching Trust Policy and health professionals may wish to aid compliance with the policy by developing local guidelines for clinical procedures specific to their clinical practice/service. Local guidelines must be agreed by the Infection Prevention and Control Team.

3. SCOPE OF POLICY

3.1 This policy applies to all directly and indirectly employed staff and other persons working within the Trust.

4. ROLES AND RESPONSIBILITIES

4.1 All staff working in Dorset NHS involved with patient services in the healthcare setting, have a responsibility to comply with this policy, be competent to undertake the procedure and report any incidents/risks that occur.

4.2 In a community setting/patients own home, staff must be aware of this policy, support best practice, but be mindful of the patients choice and responsibility for cleaning spillages. Staff must be aware of the COSHH regulations with regard to using disinfection chemicals.
4.3 All employees:

- Have a duty to familiarise themselves with the Trust Disinfection policy or the policy that has been developed by the Trust for which they are providing a service.
- Must comply with the safe systems and procedures put in place to ensure the health, safety and welfare of themselves and others.
- Must adhere to manufacturers instructions for using the disinfectants at all times.
- Will inform risk management of any adverse incidents associated with disinfectants.

4.4 Managers must

- Consult the Infection Prevention and Control Team prior to purchasing equipment that is to be used for disinfecting.
- Ensure safe systems of work are developed and followed for all activities within their department or area of responsibility.
- Develop and maintain a COSHH Data File for all disinfectants, which must contain:
  - Inventory of all substances held and used within area responsibility
  - An up to date safety data sheet for all substances held and used
  - A completed risk assessment for each substance held or used.
- Provide employees with information, instruction, training and supervision on the risks identified by the assessment, together with protective and preventative measures to be adopted.
- Advise Occupational Health Department regarding any high risk substances that will be used as part of work activities which may affect the working environment.
- Refer any staff who report adverse health affects from working with hazardous substances to the Occupational Health Service.
- Ensure that when purchasing disinfectants, the chosen product is the safest available for the task.
- Ensure the Trusts policy for managing COSHH data sheets is followed.
- Ensure that resources including personal protective equipment are readily available to ensure the safe use of the disinfectants.
5. **BACKGROUND**

5.1 Disinfection aims to remove most microorganisms and should be used to minimise the risk of cross infection from medical devices, especially those that come in contact with mucous membranes. A few disinfectants are sporicidal and will kill spores with prolonged contact (see Table 2).

5.2 Disinfection may be achieved using heat or chemicals. The preferred and most reliable method is heat disinfection as chemicals may be unstable and prone to deactivation if equipment is contaminated with organic matter. For the purpose of this policy we will explore different methods of chemical disinfection.

6. **LEVELS OF DECONTAMINATION**

6.1 The three different levels of decontamination are: **sterilisation** which aims to remove or kill all microorganisms, **disinfection** which removes most organisms and **cleaning**, which relies on the use of detergents to physically remove microorganisms.

6.2 Cleaning with detergent and water is considered adequate for medical devices that are coming in contact with intact skin (refer to Appendix 1 for cleaning process).

6.3 Items that come in contact with mucous membrane or are contaminated with readily transmissible microorganisms are considered medium risk and must be disinfected as a minimum, with preference given to sterilisation where possible.

6.4 Sterilisation is a process used to render an object free from living organisms.

6.5 Factors that affect the efficacy of both disinfection and sterilisation include; prior cleaning to remove organic matter, the type and level of microbial contamination, concentration and contact time with the disinfectant and the physical nature of the object (e.g. crevices, lumens and hinges) (CDC 2008).

6.6 Decontamination will only be effective if the chosen method has been completed correctly. We cannot check sterility and however clean an item may appear, guidelines and risk assessments must be in place to ensure the chosen process is appropriate and robust.

6.7 **Single use instruments must not be reprocessed.** Used once they must be discarded in the appropriate waste stream.
## Table 1: Example of Risk Categories and Required Decontamination Process

<table>
<thead>
<tr>
<th>Category of risk</th>
<th>Indication</th>
<th>Examples</th>
<th>Method of Decontamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Items in close contact with a break in the skin or mucous membrane or enter a normally sterile body area</td>
<td>Surgical instruments, syringes, dressings, needles, catheter</td>
<td>Sterilisation or high level disinfection if sterilisation not possible. Autoclave, single use or central sterilising</td>
</tr>
<tr>
<td>Intermediate</td>
<td>Items that have contact with intact mucous membranes or non intact skin</td>
<td>Respiratory equipment gastroscopes, items contaminated with virulent or readily transmissible organisms</td>
<td>Disinfection</td>
</tr>
<tr>
<td>Low</td>
<td>Items in contact with normal and intact skin</td>
<td>Stethoscopes, wash bowls</td>
<td>Cleaning and drying usually adequate</td>
</tr>
<tr>
<td>Minimal</td>
<td>Items not in contact with patients or immediate surroundings</td>
<td>Floors, walls, ceilings and sinks</td>
<td>Cleaning and drying usually adequate</td>
</tr>
</tbody>
</table>

Hoffman et al 2004

### 6. Properties of an Ideal Disinfecant

- Broad spectrum: should have a wide antimicrobial spectrum
- Fast acting: should produce a rapid kill
- Not affected by environmental factors: should be active in the presence of organic matter (e.g., blood, sputum, faeces) and compatible with soaps, detergents, and other chemicals encountered in use
- Non-toxic: should not be harmful to the user or patient
- Surface compatibility: should not corrode instruments and metallic surfaces and should not cause the deterioration of cloth, rubber, plastics, and other materials follow manufacturers recommendations
- Residual effect on treated surfaces: should leave an antimicrobial film on the treated surface
- Easy to use with clear label directions
- Odourless: should have a pleasant odour or no odour to facilitate its routine use
- Economical: should not be prohibitively high in cost
• Solubility: should be soluble in water
• Stability: should be stable in concentrate and dilution
• Cleansers: should have good cleaning properties
• Environmentally friendly: should not damage the environment on disposal (CDC 2008)

8. GENERAL PRINCIPLES FOR USING DISINFECTANTS

8.1 The disinfectant used must be compatible with the item being disinfected, follow manufacturers recommendations (CDC 2008).

8.2 The disinfectant should be in contact with all surfaces requiring disinfection at the required concentration and for the required time (Appendix 1).

8.3 The chemical disinfectant solution should be used once and discarded unless directed otherwise by manufacturer.

8.4 Rinsing should be undertaken to reduce the concentration of the chemical and residual contamination.

8.5 Dry thoroughly to avoid contamination with and growth of, microorganisms.

8.6 Follow manufacturer’s recommendations for safe storage. For example No more than 5 litre of alcohol base hand gel must be stored at ward level (NPSA 2008).

9. CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH

9.1 The Control of Substances Hazardous to Health Regulations (COSHH 2002) require employers to control exposure to hazardous substances to protect both employees and others who may be affected from work activities. The General Provisions of the Health and Safety at Work Act 1974 will also apply.

9.2 The COSHH regulations require that where a hazardous substance is used, an assessment of risk is made and that exposure is reduced as far as is reasonably practicable.

9.3 Exposure should be controlled by a range of methods starting with elimination of the substance or where this is not reasonably practicable by substitution for a less hazardous material, containment and personal protective equipment.
<table>
<thead>
<tr>
<th>Stock Lists (examples)</th>
<th>Example of Brand</th>
<th>Intended Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALCOHOLS</strong> (cleaning is a pre requisite to remove organic matter)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethanol and Isopropanol</td>
<td>Alcohol wipes (optimum bactericidal concentration is 60-90% solution in water)</td>
<td>Hard surface disinfection Effective against bacteria, fungi enveloped viruses, less effective against non enveloped viruses</td>
</tr>
<tr>
<td><strong>CHLORINE RELEASING AGENTS (CRA)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium Dichloroisocyanurate solution tablets 4.75 g (= 2.5 g available chlorine)</td>
<td>haz-tabs tablets, presept acticlor, actichlor plus (combined detergent and chlorine releasing agent)</td>
<td>Spillages of body fluids Effective against wide range of microorganisms, including spores. May be corrosive at high concentration. Correct contact time with device is essential</td>
</tr>
<tr>
<td>Granules 500 g</td>
<td>haz-tabs granules, presept acticlor</td>
<td>Spillages of body fluids, correct contact time is essential. Effective against wide range of microorganisms, including spores. May be corrosive at high concentration. Irritant if mixed with large volume of urine</td>
</tr>
<tr>
<td><strong>MISCELLANEOUS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peracetic - acetic acid</td>
<td>Nu Cidex, Steris, Perasafe, Gigasept PA</td>
<td>High level decontamination of complex equipment e.g. endoscopes Correct contact time is essential Rapidly bactericidal, virucidal, fungicidal and sporicidal. May be irritant to skin or unstable once prepared for used</td>
</tr>
<tr>
<td>Detergent Wipes</td>
<td>Various</td>
<td>Hard surface cleaning to remove organic matter</td>
</tr>
<tr>
<td>Peroxide Compounds</td>
<td>Virkon Hydrogen Peroxide</td>
<td>Used for specialist equipment Fogging to decontaminate rooms and equipment. Correct contact time is essential. Active against wide range of bactericidal, virucidal and fungicidal activity.</td>
</tr>
</tbody>
</table>

10. STAFF PROTECTION

10.1 Avoid eye and skin contact with all disinfectant solutions. Wear gloves when handling or preparing disinfectants. Irrigate eye splashes with sterile water or saline as soon as possible if accidentally exposed to these agents. Wash off skin splashes under cold running water. If contact or injury occurs, report immediately to the Occupational Health Department or Accident and Emergency Department for advice. Complete an incident form.

10.2 Chlorine: Staff must take special precautions when using CRA (e.g. Haztab granules). Splashing may occur and there is intense release of free chlorine. Staff must wear appropriate protective clothing including eye protection and nitrile/chemical resistant gloves. The area should be ventilated as far as possible and staff and patients kept away until the spillage is cleared up (refer to Appendix 1 for cleaning process and Management of blood and body fluid policy)

10.3 NOTE: It is dangerous to put chlorine releasing granules on a large liquid volume spill such as urine, the excess must be removed prior to using CRA.

11. OCCUPATIONAL HEALTH

11.1 chemicals identified through COSHH as hazardous will require a safe working practice and the appropriate use of Personal Protective Equipment Health Surveillance may be required.

12. MONITORING EFFECTIVENESS

12.1 The effectiveness of this policy will be assessed through Infection Prevention and Control audits of hand hygiene, patient equipment and the environment in conjunction with Essential Steps.

13. REVIEW

13.1 This policy may be reviewed at any time at the request of either staff side or management, but will be automatically reviewed after twelve months and thereafter on a bi-annual basis.

14. LINKS TO OTHER POLICIES

- Hand Hygiene for healthcare workers
- Isolation
- Medical devices
- Cleaning Policy
- Management of Blood and body fluid
15. REFERENCES


Health and Safety Executive. Control of Substances Hazardous to Health Regulations (2002).


APPENDIX 1

KEY TO CLEANING PROCESSES

1. General purpose detergent (GPD): Damp dust or wash with a fresh solution of hand-hot water with general purpose detergent (e.g. 1 capful per gallon). Rinse and dry thoroughly with a disposable cloth. GPD disposable wipes are an acceptable alternative.

2. Enzymatic detergent (ED): Can be used as a pre-soak-plus-cleanser for use in manual and automated instrument processing systems. Used to clean instruments before they are high level disinfected or sterilised, the detergent penetrates and lifts off tough, dried-on, hard-to-reach organic matter. The detergent is specially formulated for endoscopes and general medical equipment (establish compatibility) and can be used anywhere instruments are processed. Follow manufacturers’ instructions for storage, dilution, use and disposal.

3. Washer-Disinfector (WD): Ward level washers are being increasingly used for reprocessing objects that need to be socially cleaned such as urine jugs. The bedpan washer is an example of a washer-disinfector.

4. Cream Cleanser (CC): Wash with cream cleanser or hypochlorite scouring powder. Rinse thoroughly and dry with a disposable cloth.

Chlorine-releasing agent (CRA)*

<table>
<thead>
<tr>
<th>Uses</th>
<th>Available chlorine (parts per million ppm)</th>
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<tbody>
<tr>
<td>Blood/Body Fluid Spillages</td>
<td>10 000</td>
</tr>
<tr>
<td>General environmental disinfection</td>
<td>1 000</td>
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</tbody>
</table>

Chlorine releasing agents (dichloroisocyanurate)

a. SOLUTION

4 x achtichlor plus tablets in 1 litre water gives 10,000 ppm free chlorine

b. GRANULES

Pour chlorine releasing granules or fresh solution onto the blood or body fluid spillage except for Urine which must be mopped up prior to use of CRA. Allow the body matter to be absorbed for a minimum of five minutes, then mop up the residual. Wash the area with GPD, rinse and dry. Make sure the area is well ventilated.

Note that these agents damage metals and rubber. Ensure that solutions are wiped off and equipment cleaned with GPD, rinsed and dried.

Fresh solution may be used to wipe surfaces in a clinical area after discharge of a patient in source isolation (especially MRSA, Group A streptococcus, diarrhoea etc).
5. Alcohol (ALC): After washing with GPD, wipe over with 70% alcohol or isopropyl solution. This is provided in spray bottles, or individually wrapped sachets or disposable wipes. Use no naked flame in the vicinity. Alcohol gel (to include an emollient) is used for skin disinfection.

6. Heat-sensitive equipment HSE: Equipment for sterilisation which will be destroyed by autoclave temperatures must be processed by special methods. Local policy must be developed.

   Alternatives for endoscopes, include peracetic acid/acetic acid solution (Nu-Cidex) or chlorine dioxide (Tristel). Local policy applies.
APPENDIX 2

BLOOD/BODY FLUID SPILLAGES

Introduction:

For the purposes of this a spillage may be defined as a leak or spill of blood or other body fluid from a patient, equipment, specimen, container or cadaver. All spillages present a potential infection hazard and must be dealt with promptly.

Cleaning of Spillages:

Co-operation and flexibility between groups of staff in the removal of spillages is essential. However, the following staff should take responsibility for spillage clearance in these respective areas.

- Nursing Staff: All wards, clinics and patient treatment areas
- Housekeeping: All hospital corridors and public areas

Equipment Required:

- Personal protective equipment (e.g. disposable gloves, apron, visor)
- Disposable cloths
- Clinical waste sack (orange)
- For all blood/body fluid* spills use Sodium Dichloroisocyanurate granules (e.g. Actichlor) directly, or tablets in dilution (e.g. four tablets per litre of tap water = 10,000 ppm free chlorine). Ensure that you read the instructions.

* DANGER: Do not put granules on urine spills until they have been mopped up.

Action Required:

- Move patients and other workers away from the spillage while using the dichloroisocyanurate
- Don protective equipment prior to actively dealing with the spillage and the chemical disinfectant
- Cover the spillage with granules, or solution as appropriate: leave to act for a minimum of 5 minutes
- Mop up the spillage using disposable cloths until the area is visibly clean
- Dispose of cloths and protective equipment into clinical waste sack and seal sack as per normal
• Wash and dry hands thoroughly
• Contact housekeeping staff to ‘spot’ clean the area with general purpose detergent
• Note that chlorine solutions tend to leave floors slightly sticky or slippery

Carpets:
• Clean up spillage as far as possible using disposable paper towels and arrange with housekeeping to steam clean the carpet as soon as possible. (Chlorine will bleach carpets)
• Move patients away from the area.
**POLICY APPROVED BY:**

<table>
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<th>JOB TITLE</th>
<th>PRINTED NAME</th>
<th>SIGNATURE</th>
<th>DATE</th>
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**POLICY AUTHORISED BY**

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<tr>
<th>PRINTED NAME</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
</thead>
</table>
| **AUTHORISING MANAGER (First)** Ian Brennan  
Associate Director of Community Health Services | | |
| **AUTHORISING MANAGER (Second)** Brian Goodrum  
Associate Director of Mental Health Services | | |
| **AUTHORISING MANAGER (Third)** Peter Mankin  
Managing Director | | |

**DATE APPLICABLE**

**REVIEW DATE**

**PERSON RESPONSIBLE FOR REVIEW**

* if applicable
## PART 1-Screening

**EQUALITY IMPACT ASSESSMENT FORM**

<table>
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<th>Department/Service area:</th>
<th>Provider Services</th>
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<tbody>
<tr>
<td>Policy Sponsor:</td>
<td>Gill Payne, Infection Control</td>
</tr>
<tr>
<td>Name of the policy/protocol: (please attach a copy)</td>
<td>Disinfection Policy</td>
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Which target groups are affected by this policy/protocol (delete as appropriate)

<table>
<thead>
<tr>
<th></th>
<th>a) Gender/transgender</th>
<th>b) Race</th>
<th>c) Disability</th>
<th>d) Sexual Orientation</th>
<th>e) Age</th>
<th>f) Religion/Belief</th>
</tr>
</thead>
</table>

Please indicate if this affects staff, patients or both (delete as appropriate)

<table>
<thead>
<tr>
<th></th>
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<th>b) Patients</th>
<th>c) Both</th>
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</table>

If any groups are excluded please state why.

Can the policy be implemented on a differential basis to any of the following target groups? Please tick yes or no and provide appropriate evidence.

<table>
<thead>
<tr>
<th>Equality Target Groups</th>
<th>YES</th>
<th>NO</th>
<th>Evidence to support your decision (see Appendix 1 for sources of evidence)</th>
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<tr>
<td>Race (BME communities)</td>
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<tr>
<td>Disability</td>
<td>✓</td>
<td></td>
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<tr>
<td>Sexual orientation (lesbian, gay men or bisexual)</td>
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<td>Age (older people, young people/children)</td>
<td>✓</td>
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</tr>
<tr>
<td>Religion/Belief</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
If you have identified evidence of an impact for any of the above target groups, consultation with the appropriate organisations should take place to identify if there is any differential impact from the service development or policy implementation.

### EVIDENCE OF CONSULTATION

<table>
<thead>
<tr>
<th>Equality Target Groups</th>
<th>Name of Appropriate Body</th>
<th>Date Consulted</th>
<th>Outcome/Agreed Action</th>
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</thead>
<tbody>
<tr>
<td>Gender/transgender</td>
<td></td>
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<td>Religion/Belief</td>
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</tbody>
</table>

If no evidence of differential experiences has been identified, the Equality Impact Assessment has been completed. If differential experience has been identified then Part 2 the full assessment should be completed.

**Signed by Writer/Reviewer:**

Name (print) G C Payne

**Signed by Sponsor:**

Name (print)

Date completed: 25 March 2009

**Name (print)**

Date completed: 25 March 2009

**Date of next policy review:** March 2010

Completed copies of Equality Impact Assessments should be sent to the nominated equality coordinator within the Human Resources and Workforce Development.

A signed hard copy should be submitted with the policy or service development plan when it is presented for approval. A hard copy and an electronic copy should be kept within your department for audit purposes.