Ref: IPC 04

DECONTAMINATION POLICY

Executive Sponsor & Function	Executive Director of Nursing, AHPs and Health Sciences
Document Author:	Infection Prevention and Control Team
Approved by:	Quality, Safety & Performance Committee
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ABBREVIATIONS

ADR	Alternative Dispute Resolution
EMB	Executive Management Board
HBN	Health Building Note
HCAIs	Healthcare Associated infections
HCW's	Healthcare Workers
IPCMG	Infection Prevention and Control Management Group
IPCT	Infection Prevention and Control Team
MHRA	Medicines and Healthcare products Regulatory Agency
NIPCM	National Infection Prevention and Control Manual
VCC	Velindre Cancer Centre
VUNHST	Velindre University NHS Trust
WHTM	Welsh Health Technical Memorandum
WHTM	Welsh Hospital Technical Memorandum

1 POLICY STATEMENT

1.1 Medical devices play a key role in healthcare, vital for diagnosis, therapy, monitoring, rehabilitation, blood collection and care. Effective management of this important resource is required to satisfy high quality patient and donor care, clinical and financial governance, including minimising the risks of adverse events.

Decontamination of reusable devices is a combination of processes, which if not correctly undertaken, individually or collectively, may increase the likelihood of micro-organisms being transferred to patients, donors, or staff. This combination of processes includes acquisition, cleaning, disinfection, inspection, packaging, sterilisation, transportation, and storage.

2 SCOPE OF POLICY

2.1 This policy applies to all staff within Velindre University NHS Trust (VUNHST) who are involved with decontamination of medical devices/ healthcare equipment. It is also applicable to staff who are involved with decontamination of healthcare equipment prior to inspection, service, maintenance, or repair.

2.2 Cleaning and environmental cleanliness is not addressed in this policy and reference should be made to Policy IPC 05 National Infection Prevention and Control Manual.

2.3 Please refer to local Standard Operating Procedures for decontamination of specific reusable medical devices.

3 AIMS AND OBJECTIVES

3.1 Eliminating preventable healthcare associated infections (HCAIs) requires the proactive involvement of every member of staff across all healthcare settings. In conforming to the principles of Prudent Health and Care, healthcare organisations and individuals involved in providing services are obliged to prevent cross infection when using medical devices in patient care. It is essential that medical devices and care equipment are managed safely to ensure they are used within manufacturer guidance, cannot harbour organisms, and can be effectively decontaminated in accordance with this policy. This policy has been produced to ensure the safety of both VUNHST staff and outside contractors who are employed to use, maintain, and repair medical equipment.

3.2 To ensure that there is a system in place that ensures as far as is reasonably practicable all reusable medical devices are appropriately decontaminated prior to use and after use and the risks associated with decontamination facilities and processes are adequately managed appropriately. (in alignment with manufacturer's instructions and national guidance).

3.3 Effective decontamination of medical devices/ healthcare equipment will be carried out to ensure the device is:

- Safe for further use
- Safe for staff to handle
- Safe for use on the patient/ donor
- Safe for disposal

3.4 The policy objectives are to:

- Provide guidance on the appropriate decontamination of medical devices and healthcare equipment.
- Establish processes to ensure that equipment is kept clean, fit for purpose and in a good state of repair at all times during its operational life.
- Identify individuals' responsibilities for cleaning and maintaining medical devices/ healthcare equipment within VUNHST, ensuring consistency.

- Ensure safe systems of work are adopted to protect patients, donors, and staff from the transmission of infection from medical devices and other equipment that comes into contact with patients and donors.

4 RESPONSIBILITIES

4.1 Trust Roles and Responsibilities

Trust Accountability

The Chief Executive has overall responsibility to ensure this policy is adhered to. Other responsibilities are outlined below.
The Trust Executive Management Board is collectively responsible for minimising the risks of infection to patients, donors, healthcare workers (HCW's) and the public. The Executive director for Director of Nursing, Allied Health Professionals & Health Science is board lead for the IPC organisational structure for the service.

Trust Responsibilities

The Trust has a responsibility to ensure that:

- All Divisional Directors make staff aware of the policy and provide appropriate equipment and training in the use and decontamination of devices.
- An Executive Board Decontamination Lead (representing the Chief Executive) and the Operational Decontamination Lead are identified.
- The Infection Prevention and Control Team (IPCT) will assist with training as appropriate.
- The IPCT will advise on the use of decontamination processes and products as well assess new devices to ensure they comply with this policy.
- Facilities and equipment used by the Trust for decontamination comply with relevant Welsh Health Technical Memoranda (WHTM) and Health Building Note (HBN) requirements for good practice as well as Medicines and Healthcare products Regulatory Agency (MHRA) directives.
- Medical devices are managed in accordance with Health Safety & Welfare Policy (QS 18).
- Incidents relating to decontamination processes are monitored and reviewed in a timely manner.

4.2 Decontamination Executive Lead/ Operational Decontamination Lead

The Executive Decontamination Lead will provide the strategic lead for decontamination and will be responsible in ensuring that this policy is implemented in relation to the organisation and takes proper account of relevant national guidelines.

The Operational Decontamination Lead with support from the Consultant microbiologist and the IPCT will be responsible for the production, review, and audit of evidence-based policy to provide the Trust with up-to-date information on the decontamination or reusable medical devices and will provide staff with training on this policy where needed.

Assess risks associated with ineffective decontamination processes; determine remedial action and recognise areas for development. Report risks on the Boards Risk Register.

Identification and implementation of lessons learnt to inform and improve future practice.

4.3 Infection Prevention and Control Management Group

The role of the Infection Prevention & Control Management Group (IPCMG) is to provide strategic direction and develop a structured approach to the decontamination of reusable medical devices that eliminates or reduces as far as possible the risks associated with the decontamination processes to the patient, user and third parties. The Group is accountable to the Trust and reports to the Quality & Safety Committee and Executive Management Board.

4.4 Authorised Engineer (Decontamination)

The Authorising Engineer (Decontamination) provides independent auditing, and advice on decontamination, together with reviews and witness/validation of processes. This role is fully independent of the Trust and currently supports & advises All Wales Health Boards.

4.5 Infection Prevention & Control Team

- Provide specialist advice for the suitability of equipment prior to purchase and during use. This will include approving the design of equipment e.g. difficult to clean areas, dust traps etc. Such advice must be copied to the Decontamination lead.
- Provide information and advice to enable managers and users to undertake risk assessments on levels of decontamination required.
- Assist in and undertake risk assessments as required by the Infection Prevention & Control Management Group.
- Conduct investigations into areas of special risk advising on safe practice.
- Audit practice and monitor standards in line with current legislation and guidance.

4.6 Manager Responsibilities

Managers/supervisors have responsibility to ensure that:

- All staff are notified of this policy and must have access to and understand the contents and local procedures derived from this policy.
- All relevant staff are trained on how to decontaminate equipment and reusable devices as well as manage single use devices appropriately.
- Staff are trained to recognise the symbol for single use and other packaging marks, and expiry dates on all products are checked before use.
- Single use devices are used in accordance with MHRA guidance – Single-use medical devices: implications and consequences of reuse (2013, last updated 2021) and chosen according to risk over reusable.
- The manufacturer guidance and Trust Waste Policy PP08 are followed in the disposal of such devices.
- Failure or inappropriate use of a medical device is reported accordingly via the incident reporting mechanisms i.e. DATIX.
- New equipment is not purchased until it has been risk assessed against this policy to ensure it can be adequately decontaminated.

4.7 Staff responsibilities

All staff are responsible for ensuring effective decontamination takes place and they are competent to carry out the appropriate process. Staff involved in any aspect of the decontamination process of reusable medical devices are responsible for adhering to this policy.
In addition, key persons and responsibilities as defined in detail in WHTM 01:01 Part Aare in place as follows.

The Executive Lead is identified as the person with ultimate management responsibility for the operation of the premises and the decontamination process.

The Microbiologist is designated to be responsible on microbiological aspects of decontamination.

4.8 Distribution

The policy will be available via the Trust intranet site, Where the staff do not have access to the intranet their line manager must ensure that they have access to a copy of this policy.

5 DEFINITIONS

5.1 Please see Appendix 1.

6 IMPLEMENTATION/POLICY COMPLIANCE

6.1 Requirements for Effective Decontamination

To undertake decontamination effectively all the processes illustrated in the life cycle (below) must be implemented correctly and consistently with all appropriate controls and monitoring in place.

The reusable surgical instrument cycle

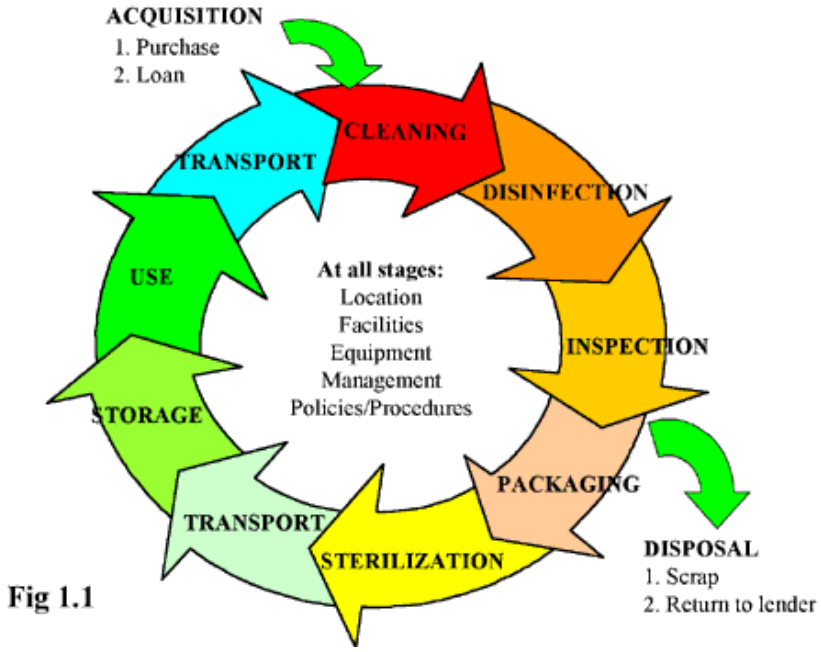


Fig 1.1

The essential requirements for good decontamination practice are:

- Management controls are in place
- Medical devices are used appropriately and are:
  - fit for purpose;
  - in accordance with manufactures' instructions;
  - properly maintained, monitored and validated;
  - used by staff who are fully trained and competent;
  - conforming to standards and requirements;
  - track and trace systems link device usage to individual patients;
  - robust records are maintained throughout the process;
    - appropriate facilities are provided for the decontamination process
    - single use instruments are not re-used
    - decontamination is undertaken in a dedicated Sterile service Department accredited to the Medical Device Directive department wherever possible (WHTM 01:01 Part A)

Risk Assessment

The decontamination methods must be chosen according to the risk of infection associated with the use of a particular piece of equipment and according to the risk that inadequate decontamination poses to patients and staff (Table 1).

	Application	Recommendation	Examples
HIGH	• Items in close contact with broken skin or broken mucous membrane • Items which penetrate the skin or are introduced into sterile body cavities • Invasive devices	• Use sterile single use devices where available • Thorough cleaning followed by: • Sterilisation in accredited SSU or high-level disinfection using approved chemicals and processors	IV cannula Vaginal or rectal probes Flexible endoscopes e.g. bronchoscopes, nasoscopes Dental equipment Theatre instruments Implants/prostheses
MEDIUM	• Items in contact with intact mucous membranes • Items/ environment contaminated with particularly virulent or readily transmissible organisms • Items prior to use on immuno-compromised patients	• Thorough cleaning followed by disinfection and/or sterilisation or high-level disinfection • Single use	Shared patient equipment (as below) after use on any known or suspected infected patient e.g. MRSA, *C. diff.*
LOW	• Items in contact with healthy intact skin • Items/environment not in contact with the patient/ donor	• Thorough cleaning with detergent solution or detergent /disinfectant impregnated wipes	Shared patient equipment e.g. BP cuffs, Tourniquets, Commodes, Stethoscopes, Beds, IV Pumps, Mattresses

Table 1 Risk Stratification for Decontamination of Medical Devices

Decontamination processes are referred to in Appendices.

6.2 Purchasing Medical Devices

Please refer to Quality and Safety Policy QS 24: Medical devices and Equipment Management Policy.

6.2.1 Storage

All devices following decontamination should be stored correctly in a designated area that is controlled and secure and inaccessible to the public.

Sterile packs

- Strict rotation of stock (first in, first out) to control inventory.
- Shelving should be easily cleaned and allow the free movement of air around the stored product.
- Products must be stored above floor level away from direct sunlight and water in a secure, dry and cool environment. Do not store clean or sterile supplies:
    - in corridors
    - on window sills
    - on the floor
    - under sinks

Before being used the sterile product should be checked to ensure that:

- The packaging is intact, and the product is still within expiry date.
- The sterilization indicator confirms the pack has been subjected to an appropriate sterilization process.

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

Anyone who inspects, services, repairs, or transports medical, dental or laboratory equipment, either on hospital premises or elsewhere, has a right to expect that medical devices and other equipment have been appropriately decontaminated; appropriate documentation must be provided to indicate the decontamination status of the item (MHRA 2021).

6.2.3 Transportation of Contaminated/Sterile medical equipment.

As per WHTM 07-01 Safe management of healthcare waste (2013). Where healthcare organisations are obliged to carry used medical devices or equipment by road to a centralised sterile services facility, a recent “multilateral agreement” now exempts these from the terms of alternative dispute resolution (ADR), providing the following conditions are met:

a. They are packed in packaging’s designed and constructed in such a way that, under normal conditions of carriage, they cannot break, be punctured, or leak their contents, and the packaging’s are designed to meet the construction requirements listed in 6.1.4 or 6.6.4 of ADR.
b. The packaging’s meet the general packaging provisions of 4.1.1.1 and 4.1.1.2 of ADR and are capable of retaining the medical devices when dropped from a height of 1.2 metres.
c. The packaging’s are marked “USED MEDICAL DEVICE” or “USED MEDICAL EQUIPMENT”. When using overpacks, if the mark is not visible, they need to be marked.

This agreement does not apply to: a. clinical waste (UN 3291); b. medical devices or equipment contaminated with, or containing, infectious substances in Category A (UN 2814 or UN 2900); and c. medical devices or equipment contaminated with or containing other dangerous goods that meet the definition of another hazard class.

Where contaminated instruments are to be transported outside of the healthcare premises onto a public highway, they must be handled collected and transported to their decontamination area in a way that avoids the risk of contamination to patients, staff, and any area of the healthcare facility. Those responsible for such transportation must refer to the requirements of the Health and Safety at Work Act 1974 and The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009.

Medical Instruments subject to inspection, maintenance, repair, or disposal, either on site or at the manufacturer's or agent's premises, should be decontaminated beforehand. Any loaned items being returned to a manufacturer or supplier should also be decontaminated (see Table.1). Devices intended for single use only do not require decontamination, except where they are implicated in an adverse incident and may need to be sent to the manufacturer for investigation. In this situation, contact the manufacturer to find out the most appropriate method of decontamination.

If the manufacturer’s instructions appear inappropriate or incomplete, the organisation should report this to the MHRA as an adverse incident.

Adverse incidents can be easily reported online through the Yellow Card scheme:
https://yellowcard.mhra.gov.uk/

Once decontamination has been completed, the items should be labelled accordingly, and a declaration of contamination status form/label completed.

6.2.4 Decommissioning and disposal of devices

Please refer to QS 24: Medical devices and Equipment Management Policy.

6.2.5 Single Use / Single Patient Use Devices

Single-use medical devices

The expression single use on the packaging of medical devices means that the manufacturer:

- Intends the device to be used once and then discarded.
- Considers the device is not suitable for use on more than one occasion.
- Has evidence to confirm that reuse would be unsafe.

Single- use:

The above symbol is used on medical device packaging indicating '**DO NOT RE-USE'** and may replace any wording.

Single Patient Use Devices

Some devices are designated for **Single Patient Use.** This will be clearly stated on the packaging. These devices include such items as nebulisers, disposable pulse oximeter probes, and certain specified intermittent catheters.

Always follow the manufacturer's instructions regarding cleaning and disinfection between uses **on a named patient only. Never reprocess and use on another patient.**

6.3 Audit and Monitoring

Audits as per Annual Audit programme for Infection Prevention & Control.

6.4 Implementation

This policy will be implemented and maintained by the IPCT.

Please refer to the responsibilities section for further information in relation to the responsibilities in connection with this policy.

7 REFERENCES

European Agreement Concerning the International Carriage of Dangerous Goods by Road. ADR (2011). Volume II.
https://unece.org/DAM/trans/danger/publi/adr/adr2011/English/VolumeII.pdf

The 2025 edition of the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) is online. https://unece.org/adr-2025-files
This new edition entered into force on 1 January 2025. Nevertheless, due to the transitional measure in 1.6.1.1, the previous version ("2023 ADR") may continue to be used until 30 June 2025.

Department of Health. Management and decontamination of surgical instruments used in acute care. 2013
https://www.england.nhs.uk/estates/health-technical-memoranda/

Welsh Health Technical Memorandum (WHTM) 01-01. Decontamination of Surgical Instruments (Medical Devices) used in Acute Care. Part A: Management and Provision (2018)
https://nwssp.nhs.wales/ourservices/specialist-estates-services/specialist-estates-services-documents/whtms-library/whtm-01-01-decontamination-of-surgical-instruments-medical-devices-used-in-acute-care-part-a-management-and-provision-pdf/

Welsh Health Technical Memorandum (WHTM) 01-01. Decontamination of Medical Devices within Acute Services. Part B: Common Elements (2013)
https://nwssp.nhs.wales/ourservices/specialist-estates-services/specialist-estates-services-documents/whtms-library/whtm-01-01-decontamination-of-medical-devices-within-acute-service-part-b-common-elements-pdf/

Welsh Health Technical Memorandum WHTM 01-06 Decontamination of Medical Devices within Acute Services Part F: Decontamination of flexible endoscopes Part F: Decontamination of Semi-Critical Ultrasound Probes; Semi-invasive and Non-invasive Ultrasound Probes (2023)
https://nwssp.nhs.wales/ourservices/specialist-estates-services/specialist-estates-services-documents/whtms-library/whtm-01-06-part-f-decontamination-of-flexible-endoscopes/

WHTM 07-01 Welsh Health Technical Memorandum Safe management of healthcare waste 2013)
https://nwssp.nhs.wales/ourservices/specialist-estates-services/specialist-estates-services-documents/whtms-library/whtm-07-01-safe-management-of-healthcare-waste-pdf/

Welsh Health Circular (2016) Decontamination of medical devices: A development plan for healthcare organisations
https://gov.wales/sites/default/files/publications/2019-07/decontamination-of-medical-devices-a-development-plan-for-healthcare-organisations.pdf

Managing Medical Devices (2021) Guidance for healthcare and social services organisations.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/982127/Managing_medical_devices.pdf

Health and Safety at Work etc Act (1974)
https://www.hse.gov.uk/legislation/hswa.htm

The Management of Health & Safety at Work Regulations (1999)
https://www.legislation.gov.uk/en/uksi/1999/3242/made

The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations (2009) (CDG Regs)
https://www.legislation.gov.uk/uksi/2009/1348/introduction/2014-04-01

8 GETTING HELP

8.1 Further information and support

Infection Prevention and Control Team: 02920196129.

9 RELATED POLICIES

This policy should be read in conjunction with:

- QS24 Medical Devices and Equipment Management Policy
- QS33 Control of Substances Hazardous to Health (COSHH) Policy
- PP08 Trust Waste Management Policy

10 INFORMATION, INSTRUCTION AND TRAINING

10.1 Training

Whilst there are no formal training programmes in place to ensure implementation of this policy, each Executive Director, Divisional Director, Clinical Director, Divisional General Manager, Divisional Nurse, Departmental Manager, Head of Nursing and Head of Departments must ensure that managers and all staff, clinical and non-clinical, are made aware of the policy provisions and that they are adhered to at all times.

11 MAIN RELEVANT LEGISLATION

Legislation considered in the development of this policy includes:

- WHTM 01-01 Decontamination of Medical Devices Within Acute Services Part A: Management and Environment (2018)
- WHTM 01-01 Decontamination of Medical Devices Within Acute Services Part B: Common Elements (2018)
- WHTM 01-01 Decontamination of Medical Devices Within Acute Services Part C: Steam Sterilisation and Steam for Sterilisation (2018)
- WHTM 01-01 Decontamination of Medical Devices Within Acute Services Part D: Washer Disinfectors (2018)
- WHTM 01-01 Decontamination of Medical Devices Within Acute Services Part E: Alternatives to Steam for the Sterilisation of Reusable Medical Devices (2018)
- WHTM 01-06 Parts A-D Decontamination of Flexible Endoscopes (2018)
- WHTM 01-06 Part F Decontamination of Medical Devices within Acute Services Part F: Decontamination of flexible endoscopes. Decontamination of Semi-Critical Ultrasound Probes; Semi-invasive and Non-invasive Ultrasound Probes (2023)
- The Alternative Dispute Resolution for Consumer Disputes (Competent Authorities and Information) Regulations 2015
- Health Building Note (HBN) 13: Sterile Services Department, NHS Estates, Department of Health (2021).
- Medical Device Regulation (EU) 2017/745
- Provision and Use of Work Equipment Regulations (PUWER), 1998
- Managing Medical Devices, Guidance for healthcare and social services organisations, MHRA, January 2021.

APPENDIX 1 - DEFINITION IN TERMS

Medical Device	Medical device' means any instrument, apparatus, appliance, software, implant, reagent, material or other article intended by the manufacturer to be used, alone or in combination, for human beings for one or more of the following specific medical purposes: — diagnosis, prevention, monitoring, prediction, prognosis, treatment or alleviation of disease — diagnosis, monitoring, treatment, alleviation of, or compensation for, an injury or disability — investigation, replacement or modification of the anatomy or of a physiological or pathological process or state — providing information by means of in vitro examination of specimens derived from the human body, including organ, blood and tissue donations, and which does not achieve its principal intended action by pharmacological, immunological or metabolic means, in or on the human body, but which may be assisted in its function by such means The following products shall also be deemed to be medical devices: — devices for the control or support of conception — products specifically intended for the cleaning, disinfection or sterilisation of devices as referred to in Article 1(4) and of those referred to in the first paragraph of this point
Cleaning	A process that physically removes contaminants but does not necessarily destroy micro-organisms**.** The reduction in microbial contamination will depend upon many factors including the efficiency of the cleaning process and the initial level of contamination.
Disinfection	A process following cleaning that is used to reduce viable micro-organisms but not necessarily inactivate some bacterial agents, such as viruses and bacterial spores. Once disinfected, equipment should be stored in a clean environment to prevent recontamination.
High-Level Disinfection	A process following cleaning that is used to significantly reduce the number of viable micro-organisms including viruses and bacterial spores using designated chemicals in a validated reprocessing machine e.g. washer disinfector.
Sterilization	A process following cleaning and disinfection used to render an object free from all viable micro-organisms including viruses and spores but not necessarily prion proteins. Sterilization can be achieved using steam or gas.
Single Use	Items labelled "single-use" or "not for reuse" or with the international single use sign that must not be reused or reprocessed in any way (QS 24).
Single Patient Use	A medical device labelled as 'single patient use' that may be use for more than one episode on **one patient/ donor only** which can undergo some sort of reprocessing as specified by the manufacturer guidance e.g. nebuliser.
Reusable or Multi Use	May be used more than once for different patients/ donors subject to proper decontamination. This may include care equipment that is shared e.g. BP cuffs, stethoscopes, beds, infusion pumps etc., or surgical instruments, endoscopes that require a higher level of decontamination.

APPENDIX 2 – DECONTAMINATION METHODS (VELINDRE CANCER CENTRE)

Operator Protection

Staff should be instructed on how to handle disinfectants carefully and advised what protective clothing is required. Reference should always be made to the COSHH risk assessment for each product and COSHH advisor for further advice. Disinfectants should never be mixed with other products and always be used in the correct dilution: higher or lower concentrations are wasteful and potentially harmful.

Expiry dates
Certain disinfectants will bear expiry dates and they should not be used after that date. Where chemicals need to be diluted or mixed always use freshly prepared solutions that are dated and labelled accordingly with strength and do not store for longer than advised (usually 24 hours but refer to manufacture guidance).

Note: Welsh Blood Service methods are written into operational procedures

1. Cleaning
Please refer to Cleaning Standards Manual for specific details on cleaning products for clinical and non-clinical areas.
Cleaning removes organic material and many, but not all, microorganisms.

1.1 General purpose detergent and water or detergent wipes
This is the preferred method of decontamination for the vast majority of items such as furniture, fittings and general equipment e.g. mattresses, bed frames, washing bowls etc.

1.2 General principles:
- Where possible immerse the item in a designated bowl or sink of warm water and detergent. If immersion is not possible surface clean with detergent wipes.
- If using detergent wipes, use a sufficient number to prevent drying out.
- Do not use wash-hand basins in ward areas for cleaning equipment. Use a designated sink or bowl.
- Dry thoroughly.
- Store items dry.
- When cleaning equipment check for signs of damage e.g. covers on mattresses, pillows, cushions. If there are signs of damage report this to the department manager who can initiate replacement or repair.

1.3 Cleaning of Surgical Instruments before Sterilization
Effective cleaning to remove all organic material is an essential pre-requisite for sterilization or high level disinfection. **Automated cleaning** in a washer disinfector is the **preferred option;** however, some instruments cannot be processed in a washer disinfector or may need manual cleaning prior to processing in a washer disinfector.

To minimise the contamination risk to personnel, splashing and the creation of aerosols must be avoided at all times.
- Always wear appropriate protective clothing when cleaning contaminated equipment e.g. gloves, apron and eye protection
- Fill the clean sink or container (not hand wash basin) with the appropriate amount of water and enzymatic detergent or other appropriate detergent to achieve a working solution (refer to manufacturer's instructions)
- Dismantle or open instrument
- With the exception of power tools*, fully immerse the instrument in the solution for a minimum of 2 minutes
- Drain any excess detergent prior to rinsing with clean water
- Drain the item before drying with a clean non- linting clean cloth
- Visually check to ensure organic material has been removed
- Complete any relevant documentation
- If cleaning solution or rinse water is obviously soiled or contaminated, replace immediately

* Power tools must not be immersed but should be surface cleaned only using a non- linting cloth impregnated with an enzymatic detergent solution. This should be followed by a non- linting cloth dampened with clean water and then dried using a dry non -linting cloth. Alcohol impregnated wipes can be used following the manual cleaning procedure.

2. Disinfection

Disinfection reduces the number of micro-organisms to a safe level for a defined procedure but does not kill bacterial spores and does not necessarily inactivate all viruses.

The following disinfection methods and products are used locally. The use of alternative methods/products must be approved by the Infection Control Team prior to introduction.

2.1 Heat Methods

2.1.1 Washer/Disinfectors

Washer disinfectors can be used to clean and disinfect equipment, such as bed pans, that can withstand wet heat.

2.1.2 Steam cleaners

Steam cleaners can be used to clean and disinfect fabric that cannot be laundered and surfaces that require surface disinfection. To achieve this a steam cleaner with a continuous vacuum extraction facility must be used.

The steam cleaner produces dry steam at temperatures exceeding 130ºC. The water is turned into high temperature microfine vapour, the microscopic water particles penetrate the surface of the item being decontaminated and are subsequently removed by continuous vacuum extraction. The contaminated water then goes into a separate dirty water tank.

2.2 Chemical Methods

Chemical disinfectants are often irritant when allowed contact with skin and mucous membranes or when inhaled as vapor. They can also be corrosive and flammable. A risk assessment, under the Control of Substances Hazardous to Health (COSHH) Regulations, must be undertaken before chemical disinfectants can be introduced.

There is a potential fire hazard associated with all chemical disinfectant products. It is advisable that these products are stored in appropriate sealed containers/cupboards.

Chemical disinfectants may also be damaging to equipment. It is vital, therefore, that equipment manufacturers instructions are reviewed to ascertain compatibility. This should be clarified prior to purchase of new equipment and a decontamination procedure written by the users and approved by the Infection Prevention & Control Team.

2.2.1 Low level chemical disinfection

Alcohol

- Usually in the form of ethyl or isopropyl alcohol this is most active at a concentration of 60 – 90%. It has good bactericidal and fungicidal activity but whilst ethyl alcohol is effective against most viruses, isopropyl alcohol is not.
- Alcohol is available as a bottled solution or, more commonly, as wipes, in tubs or individually wrapped sachets e.g. Cliniwipes, Sanicloth 70.
- Alcohol is useful for surface disinfection of instruments such as power tools, prior to sterilization.
- Alcohol does not penetrate well into organic matter and must only be used on visibly clean surfaces. If an item is obviously contaminated with organic matter, it must be cleaned before disinfection.

Chlorine releasing agents

- This includes sodium hypochlorite and di-isochlorocyanurate (NaDcc).
- Wide range of bactericidal, virucidal and fungicidal activity.
- Corrosive to some metals

- 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.

Chlorine dioxide
This is sporicidal disinfectant that can be used in a wipe system i.e. Tristel Trio, for cleaning and disinfecting non lumened flexible endoscopes and ultrasound probes e.g. nasoendoscopes and bladder scanners.

2.3 High level disinfection
This process must be preceded by thorough cleaning.

2.3.1 Vaporised Hydrogen peroxide for disinfection of the environment
Vaporised hydrogen peroxide may be used to achieve high level disinfection of the environment following outbreaks of infection such as Clostridioides *difficile* and Norovirus. It will only be used with the agreement of the IPCT and operated by housekeepers/domestic assistant who have received training to operate the vaporiser. The area to be treated must be free of people when the vaporiser is in use.

2.3.2 Trophon2
is an automated high level disinfection for endocavity probes. The device has high-frequency ultrasonic vibrations that generate a 'sonically activated', hydrogen peroxide (H_2O_2) mist that kills bacteria, fungi and viruses.

2.3.3 Ultraviolet (UV) Light Systems for disinfection of the environment
Ultraviolet light systems aid in reducing environmental contamination after terminal cleaning and disinfection and can be used following outbreaks of infection such as *Clostridioides difficile* and Norovirus. It will be used with the agreement of the IPCT and operated by housekeepers/ domestic assistants and nursing staff who have received training to operate the system.

2.3.4 AE1 Antigermix®
Is an automated system which uses patented UV-C technology to provide High-Level Disinfection of endocavity ultrasound probes, transoesophageal ultrasound probes, and ENT endoscopes without operating channels.

2.3.5 Heat labile endoscope disinfection
There are no flexible endoscopes at VCC.

3. Sterilization
Sterilization is the complete removal or destruction of all viable microorganisms including viruses and bacterial spores. All reusable medical devices used in acute healthcare settings requiring sterilization will be reprocessed in a Medical Device Directive (MDD) accredited facility.

Autoclaving for VCC will be carried out in the Sterile Services Unit at Llandough Hospital as part of the Service Level Agreement.

4. Tracking and Traceability of Surgical Instruments
It is important to be able to trace products through the decontamination processes and to the patient on whom they have been used. The ability to track and trace surgical instruments and equipment enables corrective action to be taken when necessary. For example, in the unlikely event of a sterilisation cycle failure products can then be recalled.

Records should be maintained for all the sets cleaned and sterilised identifying:

- The cleaning and sterilisation method used.
- The name of the person undertaking the decontamination.
- Details of the item being processed.
- Records should be maintained for a minimum of eleven years.

5. Transportation of contaminated surgical instruments and associated equipment

All contaminated reusable medical devices must be handled collected and transported to their decontamination area in a way that avoids the risk of contamination to patients, staff and any area of the healthcare facility. All contaminated surgical instruments present a risk of infection.

To minimise this risk:

- The instruments must be placed in closed, secured containers and transported to the decontamination area as soon as possible following use.
- Contaminated medical devices and equipment are kept separate from clean during transportation; this is achieved by using separate containers to provide physical barriers between clean and dirty items.
- Personnel are trained to handle collect and transport contaminated medical devices/equipment and should wear protective clothing as appropriate.
- Contaminated and clean/sterile instruments must be segregated during transportation. (Records should be kept of vehicles and containers used).
- Transport containers must protect both the product during transit and the handler from inadvertent contamination and therefore must be:
    - Robust
    - Rigid
    - Leak-proof
    - Easy to decontaminate
    -
    - Capable of being closed securely
    - Sealed with cable ties, to prevent tampering, or spillage of items
    - Clearly labelled to identify the user and the contents

APPENDIX 3 - SPILLS OF BLOOD AND BODY FLUIDS (VELINDRE CANCER CENTRE)

Note: Welsh Blood Service methods are written into their organisational standard operational procedures

Spills of blood or body fluids must be removed immediately. The removal of blood and bodily fluid spills is the responsibility of the clinical staff in that department, not the cleaning staff. Domestic supervisors are responsible for spillage in non-clinical areas within the building. Estates staff are responsible for the grounds of the hospital. However, some common sense and flexibility must be adopted with the priority being to remove the spill as soon as possible.

Do not use your hands if a spillage contains broken glass or sharps use a brush and pan for example and discard into an appropriate sharp's container.

Sodium hypochlorite should be used to disinfect equipment or surfaces contaminated by blood or body fluids.

When a spillage occurs, if practical, close off the immediate area.

WEAR APPROPRIATE PROTECTIVE CLOTHING. (Standard Infection Control Precautions (SIPCs) Policy IPC 05 National Infection Prevention and Control Manual)
Note: Welsh Blood Service methods are written into operational procedures

Spills of blood
Make up a solution of Sodium Hypochlorite 10,000ppm - pour on to spillage, leave for 5 mins before mopping up with disposable paper towel then cleaning with detergent and water.

Sodium Dichloroisocyanurate (NaDCC) Granules
These granules are stocked in Velindre Pharmacy and can be used to soak up larger spillages of body fluids. Use protective clothing and follow directions on containers.

Do not use on urine spillages for these soak up urine in paper towels discard into clinical waste and clean the area with Sodium Hypochlorite 1000ppm or Chlor clean Tablets diluted to 1000 ppm. Wear appropriate protective equipment.

Spillage Kits
Spillage Kits are available in some divisions; the instruction on the kits should be followed.

Spills of body fluids not visibly contaminated with blood

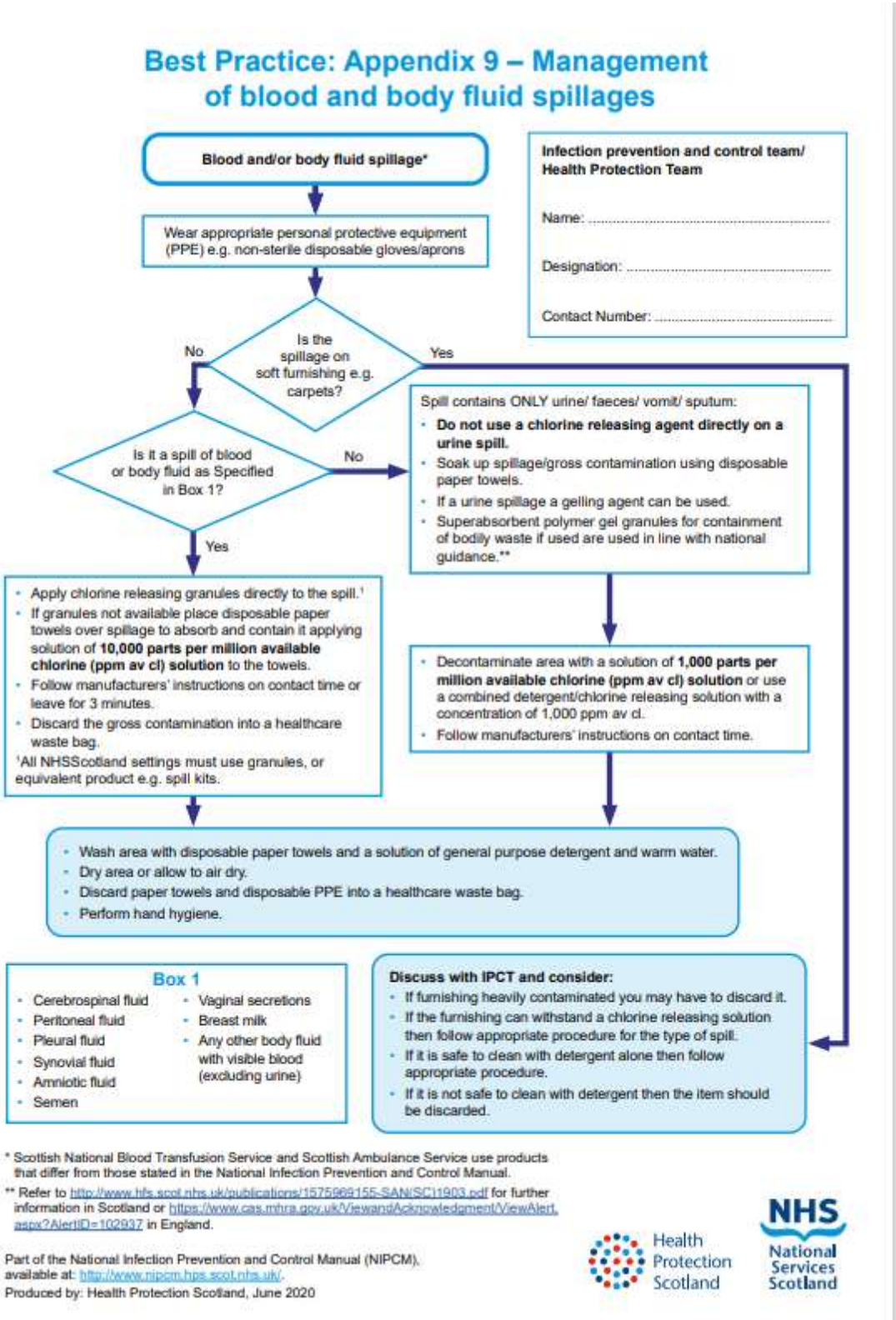
- These include spills of faeces, vomit, urine and sputum.
- Soak up the spill as thoroughly as possible with paper towels.
  Discard the paper towels and any other waste from the spillage into a clinical waste bag.
- Clean and disinfect the area.
- Discard personal protective equipment into the clinical waste bag.

Divisions should follow their Standard Operating Procedures.

APPENDIX 4. BEST PRACTICE: MANAGEMENT OF BLOOD AND BODY FLUID SPILLAGES

Part of the National Infection Prevention and Control Manual (NIPCM) - Chapter 1 Standard Infection Control Precautions (SICPs). Best Practice: Appendix 9

Available at: https://phw.nhs.wales/services-and-teams/antibiotics-and-infections/nipcm/chapter-1-standard-infection-control-precautions-sicps/



APPENDIX 5 - DECONTAMINATION OF REUSABLE NON-INVASIVE EQUIPMENT

Part of the National Infection Prevention and Control Manual (NIPCM). Chapter 1 Standard Infection Control Precautions (SICPs). Best Practice: Appendix 7

Available at: https://phw.nhs.wales/services-and-teams/antibiotics-and-infections/nipcm/chapter-1-standard-infection-control-precautions-sicps/