

SURGICAL SITE INFECTION POLICY BUNDLE: SKIN PREPARATION AND PERI OPERATIVE WOUND MANAGEMENT

Department / Service:	SCSD
Originator:	Mat Trotman
Accountable Director:	Clinical Director SCSD
Approved by:	Anaesthetics, Critical Care, Theatres & Sterile Services Directorate Governance Meeting
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This is the most current document and should be used until a revised version is in place :	
Target Organisation(s)	Worcestershire Acute Hospitals NHS Trust
Target Departments	Theatres
Target staff categories	All clinical staff involved in surgical care of patients

Policy Overview:

This policy will cover the preparation of a patients skin prior to surgery. Theatre staff will ensure that the patient's skin is prepared for surgery in a safe and aseptic manner, exposing the patient as little as possible.

Key amendments to this Document:

Date	Amendment	By:
June 2019	New document approved	Directorate Governance meeting
Dec 2019	Chloraprep 2% revision added	Theatres, Directorate Governance meeting
Oct 2020	Re-approved on Governance meeting	Directorate Governance Meeting
July 2023	Reviewed with no changes	AF/RB
28 th Nov 2023	Document extended for 3 months whilst under review	Dr James Hutchinson
17.1.24	Review approved	TACCSS governance

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1. Introduction

This policy aims to be used in conjunction with the other surgical site infection bundle policies to minimise the numbers of post-operative infections that may be accountable to the surgical phase of a patients care. This particular section will focus on the best practise for preparation of the skin for a surgical procedure.

2. Scope of this document

This document will cover all patients undergoing any procedure within WAHT theatres that will require the preparation of skin for a surgical intervention. It is acknowledged that under certain clinical emergencies this process maybe missed/ modified if there is a deemed threat to life.

3. Definitions

WAHNT – Worcestershire Acute Hospitals NHS Trust

4. Responsibility and Duties

4.1. Role of the senior operating surgeon/clinician

The senior operating surgeon or clinician maintains overall responsibility for the preparation of a patient's skin prior to surgery or should ensure a suitable individual is assigned the task.

4.2. Role of the Divisional Managers & Divisional Directors of Nursing

Divisional Managers & Divisional Directors of Nursing maintain overall responsibility for compliance with this policy within their areas. This includes ensuring that Senior

Managers have agreed and instigated a structure that ensures all staff have been informed, educated and trained appropriately for completion of the agreed task.

4.3. Role of the Theatre/Departmental Managers

Theatre or Departmental Managers assume responsibility for the implementation of this policy on a daily basis. To ensure the health, safety and risk management standards are met and maintained. Ensuring regular audits are carried out to monitor compliance with this policy

4.4. Role of Individual Staff

The Trust expects all staff, including temporary members, to adhere to the principles of this policy at all times

5. Policy Detail

For surgical procedures

As per NICE guidance (2019) ChlorPrep 2% should be used for all in-tact skin preparation unless involving or next to mucous membranes or the patient is sensitive to CHG. The table below discusses the options available should this not be appropriate

When	Choice of antiseptic skin preparation
First choice unless contraindicated or the surgical site is next to a mucous membrane	Alcohol-based solution of chlorhexidine
If the surgical site is next to a mucous membrane	Aqueous solution of chlorhexidine
If chlorhexidine is contraindicated	Alcohol-based solution of povidone-iodine
If both an alcohol-based solution and chlorhexidine are unsuitable	Aqueous solution of povidone-iodine

Sodium chloride 0.9% can be used for wound irrigation and to clean the skin immediately after surgery. Sterile water can be used to clean instruments throughout the surgical procedure. Hydrogen peroxide 3% solution can be used to cleanse dirty and infected wounds and methylene blue 1% can be used to mark or stain the skin.

Alcohol solutions are deemed more efficient than aqueous solutions (Hospital Infection Society 2002). 2% chlorhexidine gluconate in alcohol is the preoperative skin prep of choice for surgery.

Where possible antiseptics should be sourced and supplied in ready to use, single use containers or sachets, as there is an increased risk of contamination from using multiple use containers.

When multi-dispensing containers have to be used practitioners must be mindful of the following:

- The edge of the skin solution container should be considered contaminated after the cap is removed and therefore the sterility of its contents cannot be guaranteed once the cap is replaced (Hospital Infection Society 2002).
- When multiple use containers are used, they must not be refilled and must be dated and discarded after one week

When using alcohol based solutions, it is imperative that the skin is allowed to dry completely after every application by evaporation, prior to applying electrocautery or laser treatment. Spontaneous combustion can occur when flammable solutions are exposed to an ignition source when oxygen is present.

Skin preparation solutions must be stored in a locked cupboard and flammable solutions must be stored in accordance with COSHH regulations.

Intraoperative skin preparation

If antiseptic solution needs to be reapplied, the same type of antiseptic must be used.

Skin solutions must be used in accordance with the manufacturer's instructions and Control of Substances Hazardous to Health.

Skin solutions must be checked by the scrub and circulating practitioner to ensure they are in date and sterile.

Solutions must be poured into a container at the edge of the sterile field, from a height of approximately 10cm, to avoid contamination of the sterile area.

Care must be taken to avoid spillage onto the sterile area.

Skin preparation should be carried out using an aseptic and non-touch technique using sponge holders. A non-touch technique will prevent contamination of sterile gloves. Sponges should be positioned on the holder in such a way that the end of the holder cannot traumatise patients' skin.

Swabs, which are used for prepping, must be retained as part of the scrub count.

To maintain dignity and needless heat loss, unnecessary exposure of the patient should be avoided. However, the area exposed must be sufficient to comply with recognised skin preparation guidelines and surgical preference.

Skin solutions must not be allowed to seep or pool under the patient. To prevent seepage or pooling, absorbent or sterile towels can be placed under the patient. These must be removed if they become wet, as this may cause unnecessary skin irritation, even if the solution used is non-irritating.

Flammable solutions must be allowed to evaporate before placing the drapes to avoid fumes accumulating under them. This will reduce the risk of chemical burns.

Great care must be taken to avoid solutions running onto diathermy electrode plates, electrocardiogram (ECG) leads and tourniquets. This will also reduce the risk of chemical burns.

Only sufficient antiseptic solution must be applied.

Skin preparation must proceed from clean to dirty areas. Cleansing must begin at the incision site and continue outwards to the periphery in a circular motion. This will prevent any micro-organisms being returned to the incision site. This process should be repeated several times with a clean sponge each time.

An adequate area of skin surface must be prepared in order to allow for safe extension of the incision, placement of drains and for any possible movement of the drapes.

Used sponges and holders must be discarded after each application. Once all applications are complete, the area should be allowed time to air dry naturally through evaporation.

Additional considerations

In cases where a contaminated area is within the area to be prepped, skin preparation must start at the surrounding skin.

Areas which are considered to be heavily contaminated such as the perineum, anus, vagina and axilla must be prepped last. The umbilicus must be prepared first to prevent dirty solution running onto clean skin. Special care must be taken to avoid pooling of skin preparation within the umbilicus.

Skin ulcers and draining sinuses are also considered heavily contaminated areas and should be prepped last.

Multiple incision sites must be prepped separately.

Additional care should be given to prepping malignant areas to prevent potential spread of cancer cells.

Traumatic wounds may require large amounts of irrigation in addition to skin preparation to remove larger amounts of dirt or debris. Do not use wound irrigation to reduce the risk of SSI

Stomas must be sealed with adhesive drapes. If a stoma is within an area to be prepped, it can be covered with a sterile swab and the area around it must be prepared first. Once the surrounding area is cleansed, the swab can be removed, and the stoma cleaned.

Delicate areas such as the eyes and ears may require special diluted solutions.

Patients known to be allergic to Iodine should have Chlorhexidine as skin prep.

Do not use non-Iodophor-impregnated incise drapes routinely for surgery as they may increase the risk of surgical site infection. If an incise drape is required, use an iodophor-impregnated drape unless the patient has an iodine allergy

Solutions should not be allowed to pool in the patient's eye.

Skin preparation of wound sites following the removal of casts or dressings may require soaking with sterile solutions to remove skin squames or adherent dressings.

During preparation of limbs, additional personnel or equipment may be required to hold the limb securely thus allowing the whole circumference to be cleansed safely.

Graft and donor sites are prepared separately to prevent cross-contamination from one site to another. The donor site is prepared first. Colourless antiseptic solutions allow the surgeon to evaluate the vascularity of the graft.

For anaesthetic procedures

Central and Peripheral Neuraxial blockade (CNB & PNB)

The Association of Anaesthetists of Great Britain and Ireland safety guidelines recommend the use of 0.5% chlorhexidine for CNB and PNB to provide antimicrobial assurance and reduce the risk of neurotoxicity.

Vascular access (including arterial)

Healthcare workers must decontaminate their hands before accessing or dressing a vascular access device, using an alcohol hand rub or by washing with liquid soap and water if hands are contaminated.

ANTT guidance should be followed for insertion of vascular access devices, however life threatening emergencies would be considered an exception to this practise.

An aseptic technique must be used for vascular access device catheter site care, when accessing the system and when administering intravenous medication. (NICE 2014)

The skin should be decontaminated at the insertion site with 2% chlorhexidine gluconate in 70% alcohol and allowed to dry before inserting a vascular access device

'Open systems' for injectable medicines, including gallipots or other types of open container such as moulded plastic procedure trays should not be used, except where a specific procedure has been approved by the Medicines Safety Committee according to <https://improvement.nhs.uk/news-alerts/restricted-use-open-systems-injectable-medication/> (policy and procedures for the prescribing and administration of injectable medicines WAHT-CG-516)

Perioperative wound management

When using sutures, consider using antimicrobial triclosan-coated sutures, especially for paediatric surgery, to reduce the risk of surgical site infection.

Consider using sutures rather than staples to close the skin to reduce the risk of superficial wound dehiscence.

Cover surgical incisions with an appropriate interactive dressing at the end of the operation.

Use an aseptic non-touch technique for changing or removing surgical wound dressings.

6. Implementation and Dissemination

6.1 This policy will be implemented and disseminated through the theatre communication routes to include staff meetings and the 08.00AM huddle. The policies will be located and stored on the electronic document library and there will be links to them from the theatre intranet homepage.

6.2 All theatre staff involved in the surgical phase will have an initial set of competencies that will include the preparation of the surgical site

7. Monitoring and compliance

Regular infection control audits should be occurring to closely monitor post-operative infection rates.

Theatres should also conduct their own audit to monitor compliance with this policy and ensure strict adherence where appropriate.

8. Policy Review

This Policy will be reviewed every two years.

Revisions can be made ahead of the review date when the procedural document requires updating. Where the revisions are significant and the overall policy is changed, the author must ensure the revised document is taken through the standard consultation, approval and dissemination processes.

9. References

References:

Code:

AfPP Principles of Safe Practice in the Perioperative Environment (2015)	
NICE Guideline (2019) surgical site infection: prevention and treatment	

10. Background

10.1 Consultation

Key individuals involved in developing the document

Name	Designation
Susan Smith	
Mathew Trotman	
Andy Fryer	
Sally Ann Pickard	
Tracey Cooper	Deputy Director of Infection Prevention & Control

10.2 Approval process

This document has been circulated to the following individuals for comment/approval.

Name	Designation
Julian Berlet	Divisional Medical Director – Specialised Clinical Services
Tracy Pearson	Divisional Director of Operations – SCSD
Amanda Moore	Divisional Director of Nursing – SCSD
Paul Rajjayabun	Divisional Medical Director – Surgery

10.3 Equality requirements

Equality assessment Supporting Document 1

10.4 Financial risk assessment

Financial risk assessment Supporting Document 2

Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

		Yes/No	Comments
1.	Does the policy/guidance affect one group less or more favourably than another on the basis of:		
	• Race	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender	No	
	• Culture	No	
	• Religion or belief	No	
	• Sexual orientation including lesbian, gay and bisexual people	No	
	• Age	No	
2.	Is there any evidence that some groups are affected differently?	No	
3.	If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?	No	
4.	Is the impact of the policy/guidance likely to be negative?	No	
5.	If so can the impact be avoided?	No	
6.	What alternatives are there to achieving the policy/guidance without the impact?	No	
7.	Can we reduce the impact by taking different action?	No	

Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of document:	Yes/No
1.	Does the implementation of this document require any additional Capital resources	No
2.	Does the implementation of this document require additional revenue	No
3.	Does the implementation of this document require additional manpower	No
4.	Does the implementation of this document release any manpower costs through a change in practice	No
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	No
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval