Trust Policy

University Hospitals Plymouth NHS Trust

Skin Preparation (Surgical Site) Policy

Issue Date	Review Date	Version
May 2019	April 2024	V2

Purpose

This policy provides all users of pre-operative skin prep with guidance on safe working practice and to safeguard the patient from adverse reactions and reduce the risk of postoperative infection

Who should read this document?

This policy applies to personnel employed by Plymouth Hospitals Trust (PHNT) and to personnel working in satellite facilities under the remit of UPHNT

Key Messages

This policy will ensure that there is a system in place for the safe and effective preparation of skin prior to surgery.

Core accountabilities	
Owner	Cindy McConnachie Senior Matron Theatres and Anaesthetics
Review	Theatre Policy Committee
Ratification	Clinical Governance Director /Lead
Dissemination (Raising Awareness)	Cindy McConnachie Senior Matron Theatres and Anaesthetics – Quality, Governance and Strategy, Project Lead NatSSIP's
Compliance	Theatre Policy Committee

Links to other policies and procedures

Infection Prevention and Control Policies
Intravenous Access Policy
Tourniquet Use Policy
Diathermy Use

Version History

Draft V1.3	09/06/2009	Final review by the Theatre Policy, Practice and Procedure Group
Draft V1.4	12/11/2009	Policy completed in new Trust Policy format
Final V1.4	09/02/2010	Policy given Theatre Management Board approval
Draft V1.5	31/05/2013	Policy reviewed and completed in new Trust Policy format
Final V1.5	08/04/2016	Policy reviewed
V2	July 2019	Policy reviewed and uploaded to new Trust Policy template, no other changes

The Trust is committed to creating a fully inclusive and accessible service. Making equality and diversity an integral part of the business will enable us to enhance the services we deliver and better meet the needs of patients and staff. We will treat people with dignity and respect, promote

equality and diversity and eliminate all forms of discrimination, regardless of (but not limited to) age, disability, gender reassignment, race, religion or belief, sex, sexual orientation, marriage/civil partnership and pregnancy/maternity.

An electronic version of this document is available on Trust Documents. Larger text, Braille and Audio versions can be made available upon request.

Contents

1 Introduction

Standard

"The risk of postoperative surgical site infection is minimised through the effective management of skin preparation of the surgical site"

AFPP 2011

Surgical site infection is a type of healthcare associated infection in which a wound infection occurs after an invasive (surgical) procedure. (NICE Clinical Guideline CG74 2008)

Surgical site infections have been shown to compose up to 20% of all of healthcare associated infections. At least 5% of patients undergoing a surgical procedure develop a surgical site infection. All staff has a Duty of Care to their patients to absolutely minimise the potential for surgical site infections.

2 Purpose

- To provide a safe system of working practice on the use of preoperative skin preparation.
- To minimise the potential for postoperative infection by removing debris and transient microorganisms from the skin; reduce the resident microbial count to sub pathogenic levels in a short period of time and with the least amount of tissue irritation; and inhibit rapid, rebound growth of microorganisms.
- This policy has trust wide relevance as it covers skin preparation prior to any aseptic procedure
- Policy based on NICE guidelines for prevention of surgical site infection and association of safe aseptic practise – ANNT and AfPP standards and recommendations for safe peri-operative practice (2011)

3 Definitions

- Antisepsis – Elimination of micro-organisms: the reduction or prevention of infection.
- Antiseptics – A substance which inhibits the growth and development of micro- organisms
- Aseptic – Free of pathogenic micro-organisms

4 Duties

Theatre Policy and Standards Group – The body responsible for writing the Policies and Procedures used peri-operatively.

Theatre Governance Group – The Committee responsible for ensuring that the Theatre Policies and Procedures are followed.

Senior Perioperative Theatre Matron – Senior Manager in overall charge of the day to day running of Theatres, responsible for safety, quality and efficiency.

5 Key elements (determined from guidance, templates, exemplars etc)

- Antiseptics used for skin preparation have to be effective against resident and transient micro-organisms. They should have a broad spectrum of activity with a fast and lasting effect against Gram-negative and Gram-positive bacteria, as well as viruses and fungi. They should also be resistant to inactivation by organic matter, be non-toxic and acceptable cosmetically. (AfPP 2011)

- All skin preparation solutions should be used in accordance with manufacturers' instructions and The Control of Substances Hazardous to Health (COSHH 2002) guidelines.
- Antiseptics can be supplied in ready to use, single use containers, sachets or multi use containers.
- At the time of writing, evidence suggests that preoperative skin antisepsis is best performed with 2% chlorhexidine gluconate and 70% isopropyl alcohol applied using a single use applicator. However, further comparator trials are required, particularly with alcoholic iodine formulations. Although the Trust recommends use of the best performing solution, choice will also depend on the site of surgery, patient hypersensitivities and surgeon choice
- When using an alcohol based solution, it is imperative that the skin is allowed to dry completely after every application, and before applying electrocautery or laser treatment. Spontaneous combustion can occur when flammable solutions are exposed to an ignition source when oxygen is present.
- Chemical burns and skin irritations are more likely to occur if antiseptic solutions are not allowed to dry and remain in contact with the skin for a prolonged period of time.
- The use of forced air warming under surgical drapes adds heat to antiseptic solution, which may increase the likelihood of a chemical or thermal burn.

Other Formulations Available for Skin Preparation

- Povidone-Iodine Alcoholic Solution
- Povidone-Iodine Antiseptic Solution
- Chlorhexidine Gluconate Spirit Based
- Chlorhexidine Gluconate Aqueous
- Chlorhexidine Gluconate and Cetrimide Solution e.g. Tisept

Other solutions may be used inter-operatively:

- Sodium Chloride 0.9%
- Sterile Water
- Proflavine Hemisulphate 0.1%
- Hydrogen Peroxide 6% (safety bulletin)

- Methylene Blue 1%

Single Use Skin Preparations (2% Chlorhexidine Gluconate + 70% Isopropyl Alcohol)

- Prepare a large enough area of skin surface to enable a safe extension of incision if necessary.
- If necessary, pads should be positioned to prevent pooling of preparation.
- Remove applicator from sterile packaging without touching the sponge.
- Pinch the wings together to break the ampoule.
- Press the applicator gently against the skin and move in 'up & down, back & forth' directions concentrating on the intended incision site – for approx. 30 seconds as per manufactures instructions.
- A circular motion should not be used as this can cause wrinkling of the skin and render some areas untreated.
- Apply sufficient solution, whilst taking great care to avoid excess solution running onto diathermy plate or seeping under tourniquet cuffs.
- To maximise effectiveness and to ensure drape adhesion the prep solution must be allowed to dry naturally.

Multiple Use Preparations

- If multiple use containers are to be used, they must not be refilled and must be used within date, as there is an increased risk of contamination. The edge of the skin solution container should be considered contaminated after the cap is initially removed and therefore sterility of its contents cannot be guaranteed if the cap is replaced. If an alcohol based product is used, the alcohol will have started to evaporate thus reducing efficacy.
- 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 should be taken to avoid spillage and staining of the label.
- Always follow manufactures instructions when applying a laser.

Using Pink Chlorhexidine with added Red Staining (extra pink)

- Extra red staining may be added to a bottle of 0.5% Pink Chlorhexidine giving it more skin staining ability.
- This extra staining solution comes in packs of 12 X 12ml bottles and is stored along with the Pink Chlorhexidine solution. Each pack is supplied with labels for relabelling the original bottle.
- All the contents of the staining bottle should be added to the 600ml bottle of Pink Chlorhexidine and shaken well. The mixing date and expiry date (7 days after mixing) must be written on label provided.

Pre-operative Skin Preparation

- Showering or bathing on the day of surgery is recommended (except in emergency situations).

- The skin should be assessed for any breaks, cuts, abrasions and sores as the effectiveness of the skin as a protective barrier is reduced if the skin is not intact.

Hair Removal

- The removal of hair is only necessary if it will directly interfere with access to the incision site, or if there is a risk it will contaminate the wound. In cases where it is required the following is advised:

- Patient consent should be obtained prior to hair removal, with full explanation given.

- Once method has been agreed, the person who performed the hair removal, method and area from which hair has been removed must be documented.

- The only recommended method for this intervention is to remove hair around the incision site by electric clippers. An electric or battery powered clipper with a single use head (NICE) surgical site infection Oct 2013. Hair removal should take place as near to surgery time as possible to minimise risk of bacterial contamination to the skin surface.

- Hair removal must be performed by a practitioner conversant with the technique used, in a clean area with appropriate lighting whilst affording the patient dignity at all times.
- ANTT 2014 – Aseptic practise should be standardised

Intra-operative Skin Preparation

- Only practitioners who are conversant with intra-operative skin preparation techniques should prepare the surgical site.

- Skin preparations should be checked by the scrub and circulating practitioners to ensure they are both in date and sterile.

- Patient dignity and unnecessary heat loss must be a major consideration whilst prepping.

Additional Considerations

- Multiple incision sites should be prepped separately.

- Delicate areas such as eyes and ears may require special or diluted solutions. Chlorhexidine is not recommended for facial prep and iodine may cause corneal damage if introduced to the eye, however there is now a 5% diluted aqueous betadine solution available for use around the face. Any solution must not be allowed to pool into the patients eyes. Chlorhexidine gluconate and alcohol or alcohol based solutions should also be avoided on mucous membranes.

- Traumatic wounds may require large amounts of irrigation in addition to skin preparation to remove larger amounts of dirt or debris.

- Intestinal or urinary stomas within the surgical field should be cleansed gently and separately from the rest of the prepped area. If required, the stoma can be covered with an adhesive dressing.

- Skin preparation of wound sites following removal of casts or dressings may require soaking with sterile solutions to remove skin squames or adherent dressings
- .
- Graft and donor sites are prepped separately to prevent cross contamination. The donor site is prepped first. Colourless antiseptic solutions can be used to enable the surgeon to evaluate the vascularity of the graft.

- Jewellery (body piercings, rings etc) within the surgical site should be removed before cleansing the skin, as jewellery harbours microorganisms and traps these organisms in adjacent skin. If removal is not possible, then this should be documented appropriately.
- If using two distinct solutions, in order to obtain maximum activity from both it is essential that each application is allowed to dry naturally.

- The potential for inadvertent injection of solutions for topical use has been identified. The use of Gallipots to draw up local anaesthetic is prohibited as this may increase the risk of inadvertent injection of skin prep solution. NHS England Patient safety alert NHS/PSA/W/2015/005 May 2015

6 Overall Responsibility for the Document

Perioperative Senior Theatre Matron: Cindy McConnachie

7 Consultation and Ratification

The design and process of review and revision of this policy will comply with The Development and Management of Formal Documents.

The review period for this document is set as default of five years from the date it was last ratified, or earlier if developments within or external to the Trust indicate the need for a significant revision to the procedures described.

This document will be reviewed by the Theatre Central Governance Committee and ratified by the Theatre Central Governance Committee Director / Lead / senior matron.

Non-significant amendments to this document may be made, under delegated authority from the director /Lead/ senior matron, by the nominated owner. These must be ratified by the Director /Lead/ senior matron.

Significant reviews and revisions to this document will include a consultation with named groups, or grades across the Trust. For non-significant amendments, informal consultation will be restricted to named groups, or grades who are directly affected by the proposed changes.

8 Dissemination and Implementation

Following approval and ratification, this policy will be published in the Trust's formal documents library and all staff will be notified through the Trust's normal notification process, currently the 'Vital Signs' electronic newsletter.

Document control arrangements will be in accordance with The Development and Management of Formal Documents.

The document owner will be responsible for agreeing the training requirements associated with the newly ratified document with the named Director /Lead/ senior matron and for working with the Trust's training function, if required, to arrange for the required training to be delivered.

9 Monitoring Compliance and Effectiveness

- Compliance will be monitored by senior staff conducting annual audits, using audit tools to randomly monitor the staffs' understanding of this Policy.
- A record of new staff that have completed induction training and been assessed as competent will be held by the Senior Team Leader.
- All perioperative staff will be required to self-verify that they have read the Policy and understood the process. These records will be held by their Senior Team Leader. All staff must maintain competency and updates as required.
- Breaches of the Policy are to be recorded as Incidents using the Trust Incident Reporting Process.

10 References and Associated Documentation

- Association for Perioperative Practice (2007) AfPP Standards and Recommendations for Safe Perioperative Practice, Harrogate
- Association of peri-Operative Registered Nurses (2011) AORN
- The Control of Substances Hazardous to Health (COSHH 2002)
- Surgical site infection (2013) NICE
- Association for safe aseptic ANNT (2014) practise
- NHS England Patient Safety Alert NHS/PSA/W/2015/005 (2015)
- NatSSIPs National Safety Standards for Invasive Procedures – (2015)

Dissemination Plan and Review Checklist | Appendix 1

Dissemination Plan			
Document Title	**Skin Preparation (Surgical Site) Policy**		
Date Finalised			
Previous Documents			
Action to retrieve old copies			
Dissemination Plan			
Recipient(s)	**When**	**How**	**Responsibility**
All Trust staff		Vital Signs	Information Governance Team

Review Checklist		
Title	Is the title clear and unambiguous?	Yes
	Is it clear whether the document is a policy, procedure, protocol, framework, APN or SOP?	Yes
	Does the style & format comply?	Yes
Rationale	Are reasons for development of the document stated?	Yes
Development Process	Is the method described in brief?	Yes
	Are people involved in the development identified?	Yes
	Has a reasonable attempt has been made to ensure relevant expertise has been used?	Yes
	Is there evidence of consultation with stakeholders and users?	Yes
Content	Is the objective of the document clear?	Yes
	Is the target population clear and unambiguous?	Yes
	Are the intended outcomes described?	Yes
	Are the statements clear and unambiguous?	Yes
Evidence Base	Is the type of evidence to support the document identified explicitly?	Yes
	Are key references cited and in full?	Yes
	Are supporting documents referenced?	Yes
Approval	Does the document identify which committee/group will review it?	Yes
	If appropriate have the joint Human Resources/staff side committee (or equivalent) approved the document?	Yes
	Does the document identify which Executive Director will ratify it?	Yes
Dissemination & Implementation	Is there an outline/plan to identify how this will be done?	Yes
	Does the plan include the necessary training/support to ensure compliance?	Yes
Document Control	Does the document identify where it will be held?	Yes
	Have archiving arrangements for superseded documents been addressed?	Yes
Monitoring Compliance & Effectiveness	Are there measurable standards or KPIs to support the monitoring of compliance with and effectiveness of the document?	Yes
	Is there a plan to review or audit compliance with the document?	Yes
Review Date	Is the review date identified?	Yes
	Is the frequency of review identified? If so is it acceptable?	Yes
Overall	Is it clear who will be responsible for co-ordinating the dissemination,	Yes

Responsibility	implementation and review of the document?	

Equalities and Human Rights Impact Assessment | Appendix 2

Core Information	
Date	May 2019
Title	**Skin Preparation (Surgical Site) Policy**
What are the aims, objectives & projected outcomes?	
Scope of the assessment	
Collecting data	
Race	There is no evidence to suggest there is a disproportionate impact on race regarding this policy. Consideration has been made for the patient and family with regards to communication needs and information will be made available in different formats upon request or as required Data will be monitored through incidents and complaints and reported as required.
Religion	There is no evidence to suggest there is a disproportionate impact on religion regarding this policy. Data will be monitored through incidents and complaints and reported as required.
Disability	There is no evidence to suggest there is a disproportionate impact on disability regarding this policy. Consideration should be made for those who may have a disability, or learning disability and reasonable adjustments may be required when discussions are taking place or information is being provided. Data will be monitored through incidents and complaints and reported as required.
Sex	There is no evidence to suggest there is a disproportionate impact on sex regarding this policy. Data will be monitored through incidents and complaints and reported as required.
Gender Identity	There is currently no data collected to show the impact in this area, however, this will be monitored through incidents and complaints.

Sexual Orientation	There is no evidence to suggest there is a disproportionate impact on sexual orientation regarding this policy. Data will be monitored through incidents and complaints and reported as required.
Age	There is no evidence to suggest there is a disproportionate impact on age regarding this policy. Data will be monitored through incidents and complaints and reported as required.
Socio-Economic	There is currently no data collected to show the impact in this area.
Human Rights	There is currently no data collected to show the impact in this area.
What are the overall trends/patterns in the above data?	No trends or patterns have been identified at this stage
Specific issues and data gaps that may need to be addressed through consultation or further research	

Involving and consulting stakeholders	
Internal involvement and consultation	Safe Care Group Theatre Safety Group AMD Safety and Quality Surgical Care Group Clinical Director Service Line Clinical Director-Theatres
External involvement and consultation	None
Impact Assessment	
Overall assessment and analysis of the evidence	Consideration has been made for the patient and family with regards to communication needs and information will be made available in different formats upon request or as required Consideration should be made for those who may have a disability, or learning disability and reasonable adjustments may be required when discussions are taking place or information is being provided.

Action Plan

Action	Owner	Risks	Completion Date	Progress update
Data monitoring of incidents and complaints	Theatre Policy & standards group		On going	