

Surgical site skin antisepsis policy

Describes the correct types of pre-operative surgical antisepsis agents and precautions to mitigate the risks of surgical fire.

Who is this policy for?

All perioperative team members and medical practitioners.

Why is this important?

Surgical skin antisepsis is used to reduce the microbial load on the skin before incision, and consequently reducing the risk of surgical site infection. Alcohol-based antiseptics are flammable and therefore precautions must be taken to mitigate the risks of fire.

Contents

- [Types of skin antisepsis](#)
- [Method of application](#)
- [Surgical fire precautions](#)
- [Monitoring](#)
- [Alternative antisepsis options](#)

Types of skin antisepsis

Preoperative skin antisepsis involves use of an antiseptic agent with both rapid and long-acting antimicrobial properties.

Alcohol based skin preparations should always be used **unless** there is contact with mucous membranes, eye, facial, or oral surgery.

- In these instances, use an aqueous based antiseptic (Chlorhexidine or Iodine)

The two types of skin preparations that combine alcohol (which has a rapid effect on skin bacteria) with longer acting microbial properties are

- Chlorhexidine gluconate 2% plus alcohol (at least 70%)
 - For spinal / epidural preparation, Chlorhexidine 0.5% is usually used
- Povidone-iodine plus alcohol (at least 70%)

During the surgical safety checks, the surgical team members should confirm the skin preparation that will be used and discuss alternatives if the patient has any known sensitivities.

Method of application

Single-use applicators should be used

Multi-use bottles is not recommended as there is a risk of product contamination. If this is unavoidable e.g. supply chain issues

- Always follow the manufacturer's instructions for use for storage
 - Solutions should not be prewarmed
- Perform hand hygiene each time the bottle is opened
- Record date and time of opening on the bottle
- Keep lid on bottle when not in use
- Discard unused contents after 24 hours

The patient's skin is cleansed after they are positioned on the operating table and immediately before draping.

- Firstly paint the intended **surgical incision** site, for 30 seconds then the broader area of the skin and any dirty area's last

- Consider use of tinted skin prep for greater visibility of painted area and reducing the amount used.

Surgical fire precautions

While fires in the operating theatre are extremely rare, alcohol-based antiseptics are flammable and therefore the following precautions must be taken

Staff must be aware of the [Electrosurgery safety guidelines](#) for applying a flammable product to the skin.

- The quantity used should be kept to a minimum in order to avoid run off and pooling, the amount of fluid in the paint bowl should be restricted to and generally less than 100mls
- Do not use large applicators for painting to minimise the risk of pooling
- Any run-off or dripping of solution on or under the patient, tourniquet or diathermy pad must be removed before the drapes are applied
- Allow time for the liquid to be completely dried by evaporation before draping.
- Evaporation is critical for the biocidal activities of alcohol (3 minutes is usually sufficient). Areas with excess hair may take longer to dry.

After the initial skin preparation, there must be **no further** use alcohol-based solution anywhere in the operative field or around the surgical site during the procedure until **after** the diathermy has been disabled.

Monitoring

The type of skin antiseptics used is recorded in the CWS intraoperative record.

The infection prevention and control surgical surveillance program (SSI) monitors reports the use of surgical skin antiseptics. Results are reviewed by hospital Infection Prevention and Control Committees (IPC) and National Infection Prevention and Control Committee (NIPCC).

Where incorrect solutions are used, improvement actions are taken and monitored.

Alternative antiseptics options [ONLY for use when regular products are unavailable]

Alternative pre-operative surgical antiseptics preparations may be required when the availability and supply of preferred antiseptics agents are interrupted.

- Sequential use of alcohol (70%) followed by either aqueous CHG or PVI can be considered.
- In the absence of either CHG or iodine products, alcohol (70%) should be used as a last resort.

Alternative regimes should consider the following important points:

- Alcohol-based preparations are more effective at reducing SSIs than aqueous preparations.
- Tincture of iodine 1% contains iodine in alcohol.
- CHG 2.0–2.5% is recommended but if unavailable 0.5% or 4% concentrations are alternative choices.

[HQSC recommendations, 2023]

Associated documents

 [Electrosurgery safety guidelines](#)

 [Procedure for correct surgical site/side marking and verification](#)

References

- [AORN Guidelines for Perioperative Practice 2017: Guidelines for Preoperative Patient Skin Antisepsis](#)
- [Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection, 2017](#)

- Morris A, Jackways T, Morgan A, Robertson R, McIntyre M. 2018. Reduction in surgical site infections in the Southern Cross Healthcare network, 2004-2015: Successful outcome of a long-term surveillance and quality improvement project. NZMJ, 131, 1481, 27-39
- World Health Organisation: Guidelines for the prevention of Surgical Site infection, 2016
- Medsafe Use of Alcohol Based Skin Preparations in Operating Theatres
- Health & Disability Commissioner Burns Sustained during surgery breach
- SSIIIP skin antisepsis guide | Health Quality & Safety Commission (hqsc.govt.nz), 2023

CONTENT CONTROL

Published Date: **13 Sep 2023**

Version: **33**

Site: **Network**

Content Owner: **Jane Barnett**

Authorised By: **Chief of Quality & Risk**



**WATCHING
THIS
CONTENT**