



Safety Information

SI: 001/11

7 October 2011

Distributed to:

- Chief Executives
- Directors of Clinical Governance
- Hospital General Managers
- Directors of Surgery
- Hospital Infection Control Committees

Expert Reference Group

Content reviewed by:

- Surgical Services Taskforce
- Healthcare Associated Infections Steering Committee

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This Safety Information supersedes Safety Information SI: 001/07 issued on 27 June 2007

This Safety Information outlines guidance for safe use of alcohol based agents for preoperative skin preparation for surgical and anaesthetic procedures. Staff need to be trained and supported in the correct use of these solutions for safe use.

Background
 Surgical-site infection increases morbidity, mortality, length of hospital stay and cost after surgical procedures.¹

There is a growing body of evidence that alcohol based skin preparations are superior to water based skin preparations in reducing surgical site infections.¹

Despite the use of alcohol based surgical skin preparations over many years, fires and burns are rare complications of use.

Steps to safe use
 If a surgeon wishes to use alcohol based skin preparations, then local implementation protocols, plans and training programs must first be put in place. Examples of these can be found at http://www.health.nsw.gov.au/resources/quality/hai/pr2009_294_pdf.asp.²

The use and application of alcohol based skin preparations is the responsibility of the surgeon. Written acknowledgement that s/he has read the local protocol should be provided by the surgeon to the LHD prior to use of alcohol based skin preparations in surgery.

Alcohol based skin preparations for surgical and anaesthetic procedures are safe provided that these preparations are used correctly with the following safety precautions:^{3,4,5}

- Only staff with documented training in safe use can participate in procedures involving alcohol based skin preparations.
- The amount of solution used to prepare the skin is kept to a minimum to avoid run-off and pooling either on or around:
 - the patient
 - electrodes
 - hair
 - skin folds / umbilicus
 - beneath pneumatic tourniquets
 - electrosurgical dispersive pads
 - endotracheal tube ties
 - hand/toe between digits.
- Any solution run off that occurs is contained by absorbent disposable plastic-backed sheets that are placed around the patient and are removed before any drapes are applied.
- Only alcohol based skin preparations with dye added are to be used to easily identify what part of the body has been skin prepped and more easily identify any pooling.

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Recommended actions by Local Health Districts and Networks

1. Ensure this Safety Information is distributed to all relevant staff.
2. Ensure that staff performing surgical and anaesthetic procedures are aware of the procedures for the correct use of alcohol based preoperative skin preparations.



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Safe Use of Alcohol Based Skin Preparations for Surgical and Anaesthetic Procedures

- Sufficient time must be allowed for alcohol-based skin preparations to dry prior to draping the patient.
- Alcohol based skin preparations must evaporate completely before electrical, diathermy or laser instruments are switched on.
- Alcohol based skin preparations are not to be stored in the operating theatre.
- If their scrubs, uniforms or personal protective equipment become soaked in alcohol based skin preparation solution, staff must leave the area and replace the soaked item(s) immediately, or prior to further tasks.
- The creation of oxygen rich atmospheres is to be avoided by being careful not to create oxygen tents by the placement of surgical drapes over nasal cannula or oxygen masks. Special care is taken in head and neck surgery, when the operative field is close to the oxygen source, either a closed system is used or a non-alcohol containing disinfectant.
- Alcohol based skin preparations are handled and stored in accordance with both the manufacturer's instructions and *Hazardous Substances and Dangerous Goods in NSW Health - Guidelines for the Safe Use*.⁶

References

- ¹ Noorani A, Rabey N, Walsh SR, Davies RJ. Systematic review and meta-analysis of preoperative antiseptics with chlorhexidine versus povidone-iodine in clean-contaminated surgery. *B J Surg*. 2010; 97:1614-20. <http://onlinelibrary.wiley.com/doi/10.1002/bjs.7214/pdf>
- ² Central Coast Health. *Alcohol Based Skin Preparations – Safe Use in Operating Suites*. PR2009_294. http://www.health.nsw.gov.au/resources/quality/hai/pr2009_294_pdf.asp
- ³ Centre for Healthcare Related Infection Surveillance and Prevention, *Surgical Skin Antisepsis in Operating Theatres*. Queensland Health, 2011. http://www.health.qld.gov.au/chrisp/resources/rec_prac_skinprep.pdf
- ⁴ New Zealand Medicines and Medical Devices Safety Authority, *The Use of alcohol Based Skin Preparation in Operating Theatres*. Alert, 15 October 2002. <http://www.medsafe.govt.nz/hot/alerts/alcoholalert.asp>
- ⁵ Toohar R, Maddern GJ, Simpson J. *Surgical Fires and Alcohol-based Skin Preparations*. *Australian and New Zealand Journal of Surgery*. 2004; 74 (5): 382-385. <http://onlinelibrary.wiley.com/doi/10.1111/j.1445-1433.2004.02997.x/abstract>
- ⁶ *Hazardous Substances and Dangerous Goods in NSW Health - Guidelines for the Safe Use* - GL2006_10. http://www.health.nsw.gov.au/policies/gl/2006/GL2006_010.html