



Current Approaches to Preoperative Skin Preparation: Literature Review

Mahmut DAĞCI

Bezmialem Vakif University Health Sciences Faculty, Nursing Department, Istanbul / TURKEY

Introduction: The skin is the body's first line of defense against surgical site infection (SSI). Despite many advances in surgical asepsis, SSI is a still major problem for patients. It is estimated that a large proportion of SSI can be prevented by evidence-based practices.

The aim of this study is to discuss preoperative skin preparation accordingly to the literature information.

Metod: Review of the literature has been made for updated information about preoperative skin preparation.

Findings:

To begin with, one or two days before elective surgery, patients should shower and repeat it at least the night before the surgery. So, it removes any soil or debris from the surgical site and surrounding areas. Another step is performing preoperative hair removal. A piece of research have shown that there is no difference in complications whether this occurs the evening before or the same day as the surgery and neither does the method appear important; shaving, clipping, or chemical depilation. Much evidence-based research suggests that the depilatory creams are the best solution for hair removal if it isn't contraindicated. But before using it patient should be tested with skin patch for allergy. Another recommendation, which is clippers with the replaceable head is also a good solution.

References:

- Kalbakdij-Sánchez, C., Arroyo-Salcedo, G., & Rodríguez-Merchán, E. C. (2018). Depilation and Skin Preparation to Prevent an Infected Total Knee Arthroplasty. In *The Infected Total Knee Arthroplasty* (pp. 31-33). Springer, Cham.
- Lucero, S., & Dryden, M. (2019). Antisepsis, asepsis and skin preparation. *Surgery (Oxford)*.
- Corby, M., Meller, C., & Park, S. (2018). Does perioperative skin preparation reduce surgical site infection?. *The Laryngoscope*, 128(9), 1987-1989.
- Aorn (2018) AORN Guidance Statement: Perioperative patient skin antisepsis, AORN Inc.

Applying antiseptic agents are a standard practice used before the surgical procedure for decontamination of the patient's skin. The choice of which agent to use for these patients is crucial for reducing SSI. The most commonly used antiseptic solutions are iodine and chlorhexidine combined with isopropyl alcohol.

Table 1: Summary of the research

| One or two days before surgery | |
|---|--|
| Shower | Before the night of the surgery Evening before – same day |
| Just before the surgical procedure | |
| Hair removal | Depilatory creams are the best (pay attention to allergic reactions) Clippers with replaceable head |
| Antiseptic agents | Isopropyl alcohol based antiseptic agents like clorhexidine and iodine |

Many studies have evaluated their effectiveness for SSI by comparing chlorhexidine and iodine-based preparation solutions with and without an alcohol component. Most of studies related preoperative skin antisepsis demonstrate that chlorhexidine is a broad-spectrum more effective than iodine. Furthermore, factors affecting SSI such as glycemic control (<200mg/dl), antibiotics management and provision of normothermia are also important.

Conclusion: Evidence - based current skin preparation practices play an important role in the prevention of SSI.