TITLE: Skin Sterilization Prior to Minor Surgical Procedures: Guidelines

DATE: 17 August 2009

RESEARCH QUESTION:

What are the guidelines associated with sterilization of the skin prior to minor surgical procedures performed in the outpatient or ambulatory setting?

METHODS:

A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 3, 2009), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI, EuroScan, international health technology agencies, and a focused Internet search. The search was limited to English language articles published between 2004 and August 2009. Filters were applied to limit the retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, controlled clinical trials, observational studies, and guidelines. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

RESULTS:

HTIS reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, controlled clinical trials, observational studies, and evidence-based guidelines.

Three relevant evidence-based guidelines were identified pertaining to the sterilization of the skin prior to surgical procedures. No relevant health technology assessment reports, systematic reviews, meta-analyses, randomized controlled trials, controlled clinical trials, or observational...
studies were identified. Additional information that may be of interest has been included in the appendix.

OVERALL SUMMARY OF FINDINGS:

The National Institute for Clinical Excellence (NICE) guidelines for the prevention and treatment of surgical site infections recommend the use of an antiseptic preparation (either aqueous or alcohol based) on the skin at the surgical site immediately before surgical incision is performed. They recommend either povidone-iodine or chlorhexidine. These pertain specifically to outpatient settings and minor surgical procedures. The full guideline provides additional detail pertaining to specific comparisons of antiseptic preparations.

Although it does not specify an out-patient surgical population, a guideline from the Massachusetts Department of Public Health states that showering or bathing with antiseptic agents such as chlorhexidine have been shown to reduce the amount of bacteria on the skin, but have not been proven to reduce surgical site infections. While the Massachusetts guideline does not specifically recommend showering or bathing with antiseptic agents as a part of skin sterilization, another American guideline recommends that when feasible, a patient undergoing certain surgeries (below the chin) should bathe twice using chlorhexidine gluconate. Both guidelines recommend thorough cleaning around the surgical site to remove gross contamination and appropriate use of antiseptic agents for skin preparation, and also state that the product manufacturer’s guidelines should be followed when performing skin preparation. The Colorado guideline states that the application of antiseptic agents should be applied in a way that minimizes skin damage, and if a flammable agent is used, precautions should be taken to avoid patient burns and surgical fires. Furthermore, steps should be taken to remove the antiseptic when surgery is complete (unless the manufacturers guidelines specify otherwise). The full guidelines provide additional recommendations regarding staff competency in selecting agents, preparing surgical sites, required documentation, and policies and procedures.

All relevant guidelines recommended chlorhexidine as a potential antiseptic agent for skin preparation preceding surgery. While the recommendations of the two American guidelines are likely relevant to an outpatient population, only the British guideline stated that their guidance was specific to minor surgical procedures performed in the outpatient or ambulatory setting.
REFERENCES SUMMARIZED:

Health technology assessments
No literature identified.

Systematic reviews and meta-analyses
No literature identified.

Randomized controlled trials
No literature identified.

Controlled clinical trials
No literature identified.

Observational studies
No literature identified.

Guidelines and recommendations


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APPENDIX – FURTHER INFORMATION:

Randomized controlled trials- inpatient setting


Review articles