What the Experts Say
Chlorhexidine Gluconate (CHG) Skin Preps: Benefits and Compatibility

SSI Prevention Guidelines

CDC Recommendations for Prevention of Surgical Site Infection

7. Require patients to shower or bathe with an antiseptic agent on at least the night before the operative day. Category 1B

Mangram AJ, et al., Guideline for prevention of surgical site infection, 1999. Centers for Disease Control and Prevention, Hospital Infection Control Practices Advisory Committee, Atlanta GA.

AORN Guidelines for Preoperative Skin Antisepsis

"Patients undergoing open Class I surgical procedures below the chin should have two (2) preoperative showers with chlorhexidine gludonate (CHG) before surgery, when appropriate."

Perioperative standards and recommended practices, Association of Registered periOperative Nurses, 2008, 537-555.

SHEA Compendium of Strategies to Prevent Healthcare-Associated Infection in Acute Care Hospitals

"To gain the maximum antiseptic effect of chlorhexidine, it must be allowed to dry completely and not be washed off."

Society for Healthcare Epidemiology of America, Oct 2008, Vol 29, Supplement 1, S58.

2009 Joint Commission National Patient Safety Goals

NPSG #7: Reduce the risk of healthcare-associated infection

NPSG 7.5.01 – Implement Best Practices for Preventing Surgical Site Infection, p12.

Pathogen Origination

1895 Joseph Lister, Father of Germ Theory

"…great precautions have been taken to get the region absolutely sterile. We have begun three days before by shaving and cleansing the region of the operations. This was repeated on the second and third days. Then, the patient was brought to the operating room …"

Lehrer S, Explorers of the body: dramatic breakthroughs in medicine from ancient times to modern science. 2nd ed., Universe Inc., Lincoln, NE. 2006: 136-140.

"Because microorganisms from the patient's own skin are the number one pathogen resulting in surgical site infections (SSIs), it is important to follow guidelines to help reduce the risk."

Mangram AJ, Horan TC, Pearson ML, et al. Guideline for prevention of surgical site infection. Hospital Infection Control Practices Advisory Committee. Infec Control Hosp Epidmiol. 1999;20(4):250-287.

Traditional Rinse-Off CHG Challenges

"However, its activity is pH-dependent (5.5-7.0) and is reduced or neutralized in the presence of nonionic surfactants, inorganic anions (e.g., phosphate, nitrate, chloride, and other substances that are present in hard tap water and in many pharmaceutical preparations), and organic anions such as natural soaps."

Larson E, APIC guidelines for infection control practice: guidance for use of topical antimicrobial agents. Am J Infection Control. 1988;16(6):253-65.

"Chlorhexidine is absorbed onto the fibers of certain fabrics, particularly cotton, and resists removal by washing."

Denton GW, Chlorhexidine. In Seymour S. Block (Ed.) Disinfection, sterilization and preservation. 4th ed., Lea & Febiger, Williams & Wilkins, Media PA, 1991:276.

"Notwithstanding shortcomings in the design and execution of most of the trials, we suspect that it is more likely that the failure to find a significant benefit of preoperative chlorhexidine showering or bathing, if there is indeed a true benefit, derives from inadequate application of the agent."

Maki DG, Paulson DS, Prospective evaluation of 6 preoperative cutaneous antiseptic regimens for prevention of surgical site infection. Poster presented at SHEA Conference, March 2006.

"…the $\log_{10}$ reduction for inguinal sites prepped with 4% CHG …did not meet the specific FDA criteria for preoperative skin preparations (a 3.0 $\log_{10}$ reduction from baseline) at 10 minutes."

Edmiston C, Seabrook G, Johnson C, et al., Comparative of a new and innovative 2% Chlorhexidine Gluconate-impregnated cloth with 4% Chlorhexidine Gluconate as topic antiseptic for preparation of the skin prior to surgery. American Journal of Infection Control. 2007;35. No 10:89-96.