Study: DuraPrep May Trump Chlorhexidine In Preventing SSI

A study published in *Infection Control and Hospital Epidemiology* finds Iodophor-based skin preparation solutions may be superior to chlorhexidine in preventing surgical-site infections

A new independent study, “Effects of Preoperative Skin Preparation on Postoperative Wound Infection Rates: A Prospective Study of 3 Skin Preparation Protocols,” has been published comparing the effects of three different skin preparation solutions on surgical-site infections, 3M Health Care.

The study found that Iodophor-based skin preparation solutions, such as 3M™ DuraPrep™ Surgical Solution (Iodine Povacrylex [0.7% available Iodine] and Isopropyl Alcohol, 74% w/w) Patient Preoperative Skin Prep, may be superior to chlorhexidine in preventing surgical-site infections.

Authored by Brian R. Swenson, MD, Robert G. Sawyer, MD, and colleagues from the University of Virginia Health System in Charlottesville, VA, the study appears in the October 2009 issue of the journal *Infection Control and Hospital Epidemiology*.

The study examined more than 3,200 general surgery patients during an 18-month period and was performed in concert with ongoing data collection for the American College of Surgeons’ National Surgical Quality Improvement Project (NSQIP).

This program, which employs a prospective, peer-controlled, validated database to quantify 30-day risk-adjusted surgical outcomes, is a tool to measure and report surgical quality and outcomes and is recognized by the Institutes of Medicine, the Joint Commission and the American Board of Surgery.

“The main findings of the study were somewhat unexpected. Based on data derived from central venous catheter insertions, we had thought that the infection rates would be lowest in the period where chlorhexidine was the preferred agent for skin preparation. This was not the case. If these findings are reproduced in a multicenter study, switching to iodine-based preparations on a broad basis could significantly reduce the huge morbidity and cost associated with surgical site infection in this country and abroad,” says Robert G. Sawyer, M.D., Professor of Surgery and Public Health Science, Co-director Surgical Trauma Intensive Care Unit and Director of Surgical Nutrition Services at the University of Virginia Health System and co-author on the study.

“To date, there have only been limited studies comparing the impact of various skin preparation solutions on surgical-site infections. Previous studies examined only specific surgical sites or relied on less impactful surrogate endpoints such as

microbial counts. Dr. Sawyer's study provided a broader assessment of general surgery patients and specifically examined means to reduce the risk of surgical-site infections," says Debra Rectenwald, Vice President and General Manager 3M Infection Prevention Division, 3M Health Care. "We are pleased that DuraPrep solution has been proven effective in the fight against surgical-site infections, and that hospitals, like the University of Virginia Health System, are updating their protocols to include its use."

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