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Chlorhexidine Vs. Povidone-Iodine in Reducing Surgical Site Infection Rates

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Abstract

Surgical site infections are an ongoing problem that are prevalent in hospitals around the globe. The problem is relevant because it causes the patient unnecessary suffering, prolongs hospital stays, and increases hospitalization costs. Surgical site infections are also associated with substantial morbidity and mortality. The current practice in preventing surgical site infections is to use preoperative antibiotics and preoperative skin antiseptics. Research shows that the two most common preoperative antiseptic agents are chlorhexidine and povidone-iodine. Research regarding which antiseptic is best is limited and contradictory. Some studies have shown that povidone-iodine is more than acceptable to use as a pre-operative antiseptic and is well known, inexpensive, and has been used for skin preparation before surgery for decades. Other studies found that chlorhexidine was more effective in reducing contamination of surgical wounds and led to lower rates of surgical site infection when compared to povidone-iodine. Research also shows that the use of povidone-iodine and chlorhexidine together has not been studied extensively. *Objective:* Since sources reveal that each antiseptic has different mechanisms of action, it may be that a combination of the two antiseptics is more effective than using just one or the other. *Methods:* This study will look at the 120 patients at Northside hospital who have hernia surgery and are older than 18 years of age. The study will investigate the use of povidone-iodine on 40 patients, chlorhexidine on 40 patients, and a combination of povidone-iodine and chlorhexidine antiseptic on 40 patients. In order to evaluate post op infection, a culture of the incision site will be taken on day 3, 7, and 30, as well as clinical observation for any signs on infection including fever, redness, and purulent drainage. *Results:*

This study will determine which preoperative antiseptic or combination works better to reduce surgical site infections.

Key words: Surgical site infections, povidone-iodine, chlorhexidine, antiseptics