Study Shows 84 Percent Reduction in Post C-Section Infections Through Prevention Strategy

A new study published in the May issue of *American Journal of Infection Control* concluded a statistically significant reduction in the rate of surgical site infections (SSI) in patients undergoing cesarean section (C-section) delivery(1) (7.5 percent versus 1.2 percent; relative reduction of 84 percent) through an infection prevention bundle including the use of 2 percent chlorhexidine gluconate (CHG)/70 percent isopropyl alcohol (IPA) solution (ChloraPrep®), 2 percent CHG no-rinse cloth, instrument sterilization, staff education and training.

SSIs affect approximately 400,000 people per year and can cost as much as $25,000 per patient to treat, but more importantly, they are dangerous to patients. Women who undergo a C-section are five times more likely to develop a postpartum infection after delivery than women who undergo vaginal delivery.(2) In 2007, the rate of C-section delivery was 31.8 percent.(3)

Naturally occurring bacteria on the skin that enters the body through an incision site is a leading cause of SSIs. Therefore, effective hospital infection prevention protocols must include recommendations on sufficient preparation of the patient's skin prior to surgery, in order to reduce the amount of bacteria on the skin.

In this study, the quality improvement interventions implemented by the University of Minnesota Medical School included skin prep with CHG no-rinse cloths prior to patients' arrival in the delivery room and interoperative skin preparation with ChloraPrep as opposed to alcohol alone. The study compared pre-intervention C-section SSI rates from January through July 2006 to post-intervention C-section SSI rates during the same time period in 2007. In doing so, any seasonal effects on the results were eliminated.

ChloraPrep is a proven antiseptic designed to prepare patients' skin for a range of medical and surgical procedures by reducing the number of microorganisms on the skin. ChloraPrep's formulation helps in two ways: Isopropyl alcohol rapidly kills microorganisms while chlorhexidine maintains persistent antimicrobial activity. Further, the applicator's soft sponge gently scrubs the skin to help the solution penetrate the first five layers of the epidermis, where 80 percent of microorganisms reside.

The applicator minimizes direct hand-to-patient contact, helping reduce the risk of cross-contamination of microorganisms. The efficacy and safety of ChloraPrep for skin antisepsis are supported by more than 35 clinical studies and recommendations by 18 internationally recognized organizations or guidelines, including 11 that specifically recommend 2 percent chlorhexidine—a key ingredient in ChloraPrep.

For more information, visit www.carefusion.com [1]

(1) Rauk, P N. "Educational intervention, revised instrument sterilization methods, and comprehensive preoperative skin preparation protocol reduce cesarean section surgical site infections." AJIC: American Journal of Infection Control. 22 February 2010. (2) Villar J, Carroli G, Zavaleta N, Donner A, Wojdyla D, Faundes A, et al. World Health Organization 2005 Global Survey on Maternal and Perinatal Health Research Group. Maternal and neonatal individual risks and benefits associated with caesarean delivery: multicentre prospective study. BMJ 2007;335:1025. Available at: http://www.bmj.com/cgi/content/full/335/7628/1025 (last accessed on 4 March 2010) (3) Hamilton B, Ph.D., Martin J A, M.P.H, et al. "Births: Preliminary Data for 2007." National Vital Statistics Report. 18 March 2009.

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