

## What the experts say

### The impact of Surgical Site Infections (SSI) and hospital-acquired pneumonia (HAP)

Surgical site infections (SSIs) are one of the most common healthcare-acquired infections and one of the most costly.<sup>1</sup> SSIs occur after 2% to 5% of all inpatient surgeries, amounting to 160,000-300,000 SSIs/year.<sup>2</sup> SSIs can also add 7-11 days to a patient's length of stay<sup>2</sup> and increase costs and mortality risk.<sup>3</sup> This has a dramatic impact on a patient's quality of life and leads to never events that impact the facility.

#### Recommendations & guidelines

##### Association for Professionals in Infection Control and Epidemiology (APIC) 2018<sup>4</sup>

- In the pre-admission period, a minimum of two (night before, morning of surgery) showers/cleansings using a standardized process with 4 percent chlorhexidine gluconate (CHG) aqueous soap or 2 percent CHG impregnated, no-rinse cloths has been shown to be an effective risk reduction strategy when combined with a number of other SSI prevention strategies.
- The Wisconsin Department of Public Health supports the use of CHG and antiseptic povidone-iodine (PVI) pre-operatively.
- APIC supports an oral CHG mouthwash pre-operatively for cardiac surgical patients.

##### Society for Healthcare Epidemiology of America (SHEA) 2014<sup>2</sup>

- "To gain maximum antiseptic effect of chlorhexidine, adequate levels of CHG must be achieved and maintained on the skin. Typically, adequate levels are achieved by allowing CHG to completely dry."

#### Published outcomes

##### Effect of a Preoperative Decontamination Protocol on Surgical Site Infections in Patients Undergoing Elective Orthopedic Surgery With Hardware Implantation<sup>5</sup>

- "Our study demonstrates that preoperative MRSA decontamination with chlorhexidine washcloths and oral rinse and intranasal povidone-iodine decreased the SSI rate by more than 50% among patients undergoing elective orthopedic surgery with hardware implantation."
  - 69% reduction in the number of SSIs
  - 100% reduction in MRSA-caused SSIs

##### Surgical Site Infection (SSI) Rates in the United States, 1992-1998: The National Nosocomial Infections Surveillance System Basic SSI Risk Index<sup>6</sup>

##### Surgical site infection rates by operative procedure

CABG-chest and donor site	<b>0.73% - 17.54%</b>
Cesarean section	<b>3.27% - 8.65%</b>
Vaginal hysterectomy	<b>1.08% - 1.47%</b>
Colon surgery (laparoscopic)	<b>0.69% - 12.95%</b>

#### References:

1. Zimlichman E, et al. Health Care-Associated Infections A Meta-analysis of Costs and Financial Impact on the US Health Care System. JAMA. 2013;173(22):2039-2046 2. Anderson DJ, Podgorny K, Berrios-Torres SI, et al. Strategies to Prevent Surgical Site Infections in Acute Care Hospitals: 2014 Update. Infection Control Hosp Epidemiol. 2014;35(6):605-627 3. Kirkland KB, et al. The impact of surgical-site infections in the 1990s: attributable mortality, excess length of hospitalization, and extra costs. Infect Control Hosp Epidemiol. 1999;20:725-730. 4. Association for Professionals in Infection Control and Epidemiology (APIC) Implementation Guide: Infection Preventionist's Guide to the OR 2018. 5. Bebeko SP, Green DM, Awad SS, Effect of a preoperative decontamination protocol on surgical site infections in patients undergoing elective orthopedic surgery with hardware implantation, JAMA Surg. 2015 May;150(5):390-395. 6. Gaynes RP, et al., Surgical Site Infection (SSI) Rates in the United States, 1992-1998: The National Nosocomial Infections Surveillance System Basic SSI Risk Index, Clinical Infectious Diseases, 2001;33(Suppl 2):S69-77.