



Safety Action Bundle: Surgical Site Infections (SSI)

Background

- Surgical site infections (SSI) are the third most frequently reported health care-associated infection (HAI).¹
- SSIs are associated with significant patient morbidity and mortality. It is estimated that between 750,000 and 1 million SSIs occur in the United States each year, extending hospital stays by 3.7 million extra days and generating more than \$1.6 billion in excess hospital charges each year.²
- Hyperglycemia in surgical patients, with and without diabetes, is associated with poorer clinical outcomes and HAI.³

Aim

To reduce the incidence of Surgical Site Infections by 40% by December 31, 2013.

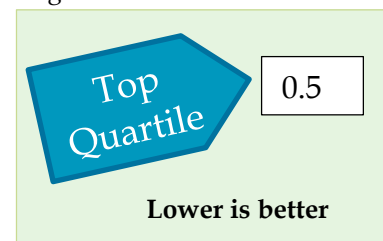
* Hospitals in top quartile (zero) should focus on maintenance and hardwiring.

Measures

Outcome: Surgical Site Infections Rate per Centers for Medicare and Medicaid (CMS) and State Law 

Process: SSI Perfect Care Bundle Qualis Health 

Submit: National Healthcare Safety Network (NHSN) 




Core Strategies

Definition 

Reference 

Tool 


Leadership	<ul style="list-style-type: none"> <input type="checkbox"/> Set aims, goals and timelines for practice changes. <input type="checkbox"/> Identify administrative and clinical leaders to champion initiative. <input type="checkbox"/> Educate care providers including information about surgical infections and how to prevent including the bundle. Ensure that new staff are educated as they begin caring for patients. <input type="checkbox"/> Educate clinicians about identification of high risk patients and additional steps that can be taken to help keep these patients be safe.
Pre-Operative Period	<ul style="list-style-type: none"> <input type="checkbox"/> Antimicrobial prophylaxis administered within one hour prior to incision (two hours for Vancomycin and Fluoroquinolones). <input type="checkbox"/> Select appropriate antimicrobial agents for surgery type, that is consistent with published guidelines. <input type="checkbox"/> Evaluate if hair removal is needed. If so, use clippers and not razors.
Intra-Operative Period	<ul style="list-style-type: none"> <input type="checkbox"/> Pause and have surgeon review surgical checklist. Establish teamwork including ability to speak up. 

	<ul style="list-style-type: none"> □ Verbal pause at the three critical points involving all surgery team members: prior to anesthesia, prior to incision and prior to patient leaving the operating room. □ Skin Prep: Wash and clean skin around incision site using a 2 percent chlorhexidine gluconate product. □ Standardize procedures for active warming in the operating room (Maintain body temp \geq 96.8° F/36.0°C). *For example, warming blankets under patients on the operating table.
Post-Operative Period	<ul style="list-style-type: none"> □ Discontinue antibiotics within 24 hours after surgery end time (48hrs for cardiac). □ Cardiac Patients: Blood glucose level at 6AM on day one following surgery and day two following surgery should be <200mg/dL. □ Surgical wound dressing: Protect primary closure incisions with sterile dressing for 24-48 hours post-op. □ VTE Prophylaxis: Surgery patients will be given appropriate venous thromboembolism prophylaxis within 24 hours prior to surgery to 24 hours after surgery end time. D
Performance and Variation	<ul style="list-style-type: none"> □ Present your performance compared to others, to the board and other key stakeholder groups.

Moving Towards Zero

Perioperative Glucose Control	<ul style="list-style-type: none"> □ Intervene with insulin bolus or continuous infusion if blood glucose is 180 mg/dL or higher both before surgery and for at least 48 hours after surgery. □ Have blood glucose in control prior to patient arriving for surgery. □ If continuing to have surgical infections, segment population and implement the following: <ul style="list-style-type: none"> ○ Change pre-surgical bowel preparation procedure. ○ Create process for obese patients such as removing suture or staples later, consider using oxygen to help heal, types of dressing, and if closure needs to be different. ○ Chlorhexidine baths in adult patients with history of recurrent colonizations, infections, or at high risk of sequelae.
Patient and Family Engagement	<ul style="list-style-type: none"> □ Encourage and support patient and family participation in care planning and decision making using materials like the FAQ available through the CDC. X □ Educate patient and family on bundle and how they can help remind staff. □ When an infection occurs, interview all staff, patient, and family for ways in which this might have occurred.

Hardwiring

Culture	<ul style="list-style-type: none"> □ Promote a blame-free environment where individuals are able to report errors or near misses without fear of reprimand or punishment. □ Encourage collaboration across ranks and disciplines to seek solutions for patient safety problems.  □ Promote transparency of results from display on units to the board and public.
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Key Resources

1. Klevens M, et al. "Estimating Health Care-Associated Infections and Deaths in U.S. Hospitals." *Public Health Reports* 32 (2007) 160-166. Web June 2012. <http://www.publichealthreports.org/issueopen.cfm?articleID=1813>.
2. Edwards JR, Peterson KD, Mu Y, et al. "Improving Risk-Adjusted Measures of Surgical Site Infection for the National Healthcare Safety Network." *National Healthcare Safety Network*. October 2011. 32:10. Web June 2012. http://www.cdc.gov/nhsn/PDFs/pscManual/SSI_ModelPaper.pdf.
3. Alexanian, S., McDonnell, M., and Akhtar, S. "Creating a Perioperative Glycemic Control Program." *Anesthesiology Research and Practice*. 2011(9) Hindawi Publishing Corporation/465974. Web 2012.
4. Bratzler, D., and Houch, P. "Antimicrobial Prophylaxis for Surgery: An Advisory Statement from the National Surgical Infection Prevention Project." *Clinical Infectious Diseases*. 38:1 (2004) 7061-715.