Introduction
Surgical site infection (SSI) is the most common and costly health care-associated infection (HAI), occurring in up to 5 percent of patients undergoing inpatient surgery. Annual costs are estimated at $3.5 billion to $10 billion, and the emotional and physical costs patients are staggering, including lengthened hospital stays, readmission and death. Experts estimate that up to 60 percent of SSIs are preventable.

In response to Hospital Compare data indicating that Minnesota hospitals report higher SSI than the national average, the Collaborative Healthcare-Associated Infection Network (CHAIN) convened a multidisciplinary Surgical Site Infection subgroup comprised of surgical and infection prevention professionals to learn more about the infections being reported, and design an action plan to decrease the number of surgical site infections in Minnesota.

Due to a lack of sound scientific evidence suggesting the absolute benefit of every surgical site infection prevention strategy individually, national SSI experts are encouraging groups of hospitals, systems, or surgical practices to select and implement a group of interventions, or “bundle” that is derived from scientific evidence where it exists, as well as theoretically sound practices that make good common sense.

Findings from an analysis of over 60 abdominal hysterectomy surgical site infection cases reported to NHSN, a review of the literature and current best practices, implementation costs, and current surgical site infection practices at the participating hospitals were all considered as the Slashing SSI Bundle was developed. Surgeon leadership was provided throughout the course of the project, and rural hospitals were included to ensure rural relevance.

The Minnesota (MN) Slashing SSI bundle elements were thoughtfully selected by a group of OR professionals and surgeons convened by Minnesota’s Collaborative Healthcare Associated Infection Network (CHAIN). The Slashing SSI tool kit is a collection of supporting documents, resources, and tools to assist hospitals in implementing the bundle.
Slashing SSI Bundle Elements

Summary of recommendations for patients of all ages having surgery in the OR that involves a skin incision

1. Showering/bathing
   - Patients are to be advised to shower or bathe (full body) with either soap (antimicrobial or non-antimicrobial) [1] or an antiseptic agent once the evening before and once the morning of the surgical procedure [2-7].
   - Upon admission to the preoperative area, an FDA approved antiseptic solution is to be applied in full strength to the operative site [2-4,8].
   - Adherence to instructions for preoperative antiseptic showering or bathing at home is to be assessed upon admission to the preoperative area as a part of a preoperative bundle/checklist. If a patient reports that he or she was unable, an antiseptic shower, bath or full body wipe is to be completed pre-operatively.
   - Hospital inpatients requiring surgery are to receive an antiseptic shower, bath, or full body wipe prior to surgery whenever possible.

2. Normothermia
   - Maintain normothermia (body temperature ≥ 36ºC or 96.8º F) preoperatively [9-12], intraoperatively [1-4,9-12] and postoperatively [9-12].

3. Antibiotic dosing
   - Intra-operative re-dosing of surgical prophylactic antibiotics is to be performed for procedures that last longer than two half-lives of the drug [2,13-16].
   - Intra-operative re-dosing of surgical prophylactic antibiotics is to be performed for procedures involving blood loss >1500mL [13,16].
   - A weight based dosing protocol is to be implemented per guidelines by the American Society of Health-System Pharmacists (ASHP), the Infectious Diseases Society of America (IDSA), the Surgical Infection Society (SIS), and Society for Healthcare Epidemiology of America (SHEA) [2,13,14,16,17].

4. Glycemic control
   - Implement perioperative glycemic control and use blood glucose target levels <200mg/dL for diabetic [4] and non-diabetic patients [1-3,11,12].

5. OR traffic
   - An assessment of OR traffic, with the intent to reduce unnecessary traffic [2,11], is performed upon implementation of SSI bundle and periodically thereafter.

6. Closing instrumentation/trays for class II and higher open surgeries
   - For all bowel procedures, clean instruments, water, and gloves/gowns are to be utilized for wound closure [18,19].
   - For all class II and higher clean/contaminated open laparotomies, including extracorporeal bowel anastomoses, clean instruments, water, and gloves/gowns are to be considered for wound closure.
   - The need for closing instrumentation/trays is to be added to the preoperative briefing or timeout script.

7. Postoperative wound care
   - Surgical sterile dressings are to be left intact 24–48 hours unless there is bleeding or a reason to suspect early infection [4,11,19].
   - Where postoperative dressing changes are necessary, sterile gloves and dressings should be used [4,19].
   - Patient education on the importance of hand hygiene in preventing SSI is to be provided preoperatively [19,20].
   - Hand hygiene products are provided at the patient bedside [19,20].
Bundle References


