

**Using Evidence to Implement the SIP Bundle in a Community Hospital**  
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**Problem:** Surgical infections account for 38% of all nosocomial infections in surgical patients, 4 – 16% of patients overall, and result in prolonged hospital stays. A nationwide initiative to reduce related morbidity and mortality began in 2003. Initial quality indicators for the Surgical Infection Prophylaxis (SIP) initiative included surgical site preparation, appropriate choice and timely administration of antibiotics, maintenance of normothermia, glucose control, and use of post-operative oxygen. Recently, the initiative was expanded and is now listed as a Medicare Quality Improvement Organization Program priority.

**Evidence:** Variable staff awareness of the SIP bundle resulted in inconsistent attention to quality indicators.

**Strategy:** A multidisciplinary team was formed to review the literature, determine priorities, and develop a mechanism for implementation of practice change.

**Practice Change:** A change trajectory was developed for four of the five original quality indicators.

**Evaluation:** Process measures include: 1] replacement of shaving with clipping for site preparation; 2] documentation of normothermia standard care; 3] choice of antimicrobial; 4] documentation of antibiotic delivery time; and 5] documentation of postoperative oxygen delivery. Outcome measures include: 1] frequency of surgical site infections; 2] patient length of stay.

**Results:** Clipping has replaced shaving. The standard protocol to maintain normothermia now includes assessment and documentation of body temperatures, appropriate use of warming blankets and adjustment of room temperature to accommodate patient outcomes rather than staff comfort. Antibiotics are being delivered 1 hour prior to surgery in 81 % of cases, a 27% improvement from baseline. Recently, a housewide protocol with default pre-operative antibiotic orders was implemented, and the standardized order set for PACU was changed to reflect the need for oxygen for 2 hours following a procedure. Outcome data collection is in progress.

**Recommendations:** A systematic approach to implementing practice changes that includes administrative support and staff involvement can result in positive practice changes.

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