

Clean, Clipped, and Cozy:

Prioritizing Preoperative Care to Reduce Surgical Site Infections

Primary Investigator: Michelle Steinway MSN RN AGCNS-BC CAPA CCRN-K

Co-Investigators: Lisa M. Stafford MS BSN RN CAPA, Annie Waller BSN RN CPAN PCCN
Indiana University Health West Hospital, Avon, IN

Introduction: Surgical site infections (SSIs) are associated with increased hospital length of stay, cost, and mortality. Literature supports implementation of SSI prevention care bundles that include preoperative cleansing with chlorhexidine (CHG) and povidone iodine (PVI) nasal swabs, maintaining normothermia throughout the perioperative period, and restricting hair removal occurrences in the operative space.

Identification of the Problem: A midwestern community hospital noted that their standardized infection ratio (SIR) was higher (1.235) than the benchmark established by the National Healthcare Safety Network (1.0) for colorectal and hysterectomy cases. Prevention compliance data revealed inconsistent application of CHG and PVI nasal swabs preoperatively due to case variability and lack of standardization. Operating room staff frequently found inadequate hair removal which required hair clipping in the intraoperative space. Preoperative patient warming strategies were passive, utilizing pre-warmed blankets.

QI Question/Purpose of the Study: The purpose of this quality improvement initiative was to align preoperative care processes with established prevention evidence to reduce colorectal and hysterectomy SSI incidence.

Methods: Based on literature evidence review, standardization of CHG and PVI treatment for all adult anesthesia cases was vetted by nursing, surgeon, and anesthesia leadership. Staff education was provided to ensure consistency with CHG and PVI applications. A clipping guide illustrating appropriate hair removal by body region was developed with input from operating room staff. Passive warming with heated blankets was replaced with active warming through forced-air patient gowns.

Outcomes/Results: For the six-month post-implementation period, SIR decreased from 1.235 pre-intervention to 0.605 post-intervention, demonstrating a 50% reduction in SSI among colorectal and hysterectomy cases. This quality improvement initiative demonstrated cost avoidance of approximately \$100,000.

Discussion: Consistency in SSI prevention practices across case types can lead to decreased SSI rates. Standardization of cleansing and warming practices decreased variation. Easy to read visual references for clipping provided clear expectations for preoperative nurses.

Conclusion: Standardizing components of preoperative care can improve adherence to bundle components and reduce colorectal and hysterectomy SSI rates.

Implications for perianesthesia nurses and future research: Preoperative nurses have an integral role in the prevention of SSIs. Gaps in prevention measures can be avoided by

standardizing strategies across case types. Further research is warranted to evaluate SSI prevention rates beyond colorectal and hysterectomy cases.