Implementation of a Simple Process for Preoperative Skin Antisepsis in the Cardiovascular Population Leads to Sustained SSI Reduction in CABG Procedures

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METHODS

CLINICAL POPULATION: Cardiovascular patients undergoing CABG procedures

TIEMLINE:  
- Baseline data: Jan-Dec 2009  
- 1st year Intervention: Jan-Dec 2010  
- 3 years Post Intervention: Jan-Dec 2011 through Jan-Dec 2012

QI TEAM: A multidisciplinary team was developed to design the QI initiative. Team members consisted of cardiovascular surgeons, nurse practitioners, cardiovascular operating room staff, infection prevention staff, and cardiovascular service line leadership. The Plan, Do, Check, Act (PDC) methodology was utilized to guide QI efforts.

ROOT CAUSE ANALYSIS: A root cause analysis was conducted by the QI team to identify areas for improvement in three-quarters of CABG patients. It was determined there was inconsistent preoperative patient education regarding bathing and the need for skin antisepsis. Furthermore, patients were receiving bathtub preoperatively in the outpatient surgery center if nurses perceived they were "dirty" on admission, which could wash away the protection of preoperative antimicrobial protection.

LITERATURE REVIEW: The QI team reviewed the literature to determine best practices and alternatives for skin antisepsis. Based on these findings, the decision was made to implement non-rinse 2% CHG cloths for chin-to-toe application the night before surgery at the patient's home and the morning of surgery in the hospital.

INTERVENTIONS:  
- The QI team developed standardized preoperative education for patients regarding the preoperative bathing and skin antisepsis regimen. The focus was on providing patients with a simplified and standardized process.  
- The QI team developed standardized teaching points for the health care team regarding standardized preoperative bathing and skin antisepsis and the need for SSI prevention. The focus was on providing staff with a simplified and standardized process.  
- Patients were provided the 2% CHG cloths preoperatively during the Cardiac Rehabilitation visit and received standardized education on appropriate use by hospital staff.  
- Surgery staff were provided easy access to 2% CHG cloths for standardized application to the skin the morning of surgery and to ensure compliance with skin antisepsis.

EDUCATION: Standardized education was disseminated in November of 2009 and additional education is provided on an ongoing and annual basis.

RESULTS

ONSOING QI COMMUNICATIONS:  
- The CM Manager and Director notified residents immediately when SSI is identified.  
- The team is assembled to review each case to determine if there were any deviations in care.  
- SSI information is shared at the Center: Service Line Committee, Surgical Services, and Infection Prevention and Control Committee meetings.  
- SSI information is shared with staff at their daily huddles.  
- QI SSI reports are provided on monthly Quality Score Cards and Quarterly Infection Control meetings.  
- Research articles are disseminated regarding best practices associated with SSI prevention as it becomes available.

COMPLIANCE MONITORING: The operating room nurse educator and CVOR observe nurses during preoperative skin antisepsis application in orientation and as part of their annual skills lab.

REFERENCES


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