

Quality Improvement Project Utilizing Evidence Based Guidelines for Cardiac Surgical Wound Prophylaxis
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PROBLEM: Nosocomial and surgical-site infections are significant burdens to our health care system that account for \$1.6 billion each year in the United States, respectively. These infections are associated with significant morbidity and mortality rates, increased length of hospitalization, and increased treatment costs that are often not reimbursed by third-party payers and currently in 2008, Medicare will no longer be reimbursing for mediastinitis, also known as deep sternal wound infection. Overall surgical site infections (SSI) in our heart surgery service varied from 0.3 to 2.4%, deep sternal wound infections (DSWI) from 0.1 to 1.6%, and superficial SSI from 0.1 to 1.1% during 2003 through 2007.

EVIDENCE: Prospective case-by-case gathering of surgical site infections by trained infection control staff were categorized as superficial site infection (SSI) or deep sternal wound infections (DSWI). Results were reviewed quarterly, and annually for 5 years.

STRATEGY: Practice guidelines and user friendly order sets linked findings to practice change utilizing the “Plan-Do-Study-Act methodology.”

PRACTICE CHANGE: Routine mupirocin intranasal administration was initiated during the second quarter of 2007. This is a Class 1, Evidence A recommendation from the Society of Thoracic Surgeons. All patients undergoing cardiac surgical procedures in the absence of negative testing for staphylococcal colonization received intranasal mupirocin preoperatively. Those patients transferred from another inpatient facility, or admitted from a nursing home received surveillance cultures.

QUARTERLY RESULTS for 2007					RESULTS for year 2007
	1 ST	2 ND	3 RD	4 TH	
Overall	1.6% 3/187	1.2% 2/173	1.4% 2/148	0.0% 0/178	1.0% 7/686
DEEP	0.5% 1/187	1.2% 2/173	1.4% 2/148	0.0% 0/178	0.7% 5/686
Superficial	1.1% 2/187	0.0% 0/173	0.0% 0/148	0.00% 0/178	0.3% 2/686

**OUTCOMES/
RESULTS:**

RECOMMENDATIONS: Initiation of mupirocin intra nasal administration has been added to our infection control practice based on STS Guidelines. Our overall SSI and DSWI rates continue to remain low. These modifications of the prophylaxis program have been successful as we have not had another sternal wound infection, surgical site infection or MRSA infection in cardiac surgery since the inception of the new guidelines. We continue to monitor the outcomes of the evidence based guideline practices and our sternal wound infection rates both quarterly and annually.

Bibliography

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