Preventing Orthopedic Total Joint Replacement Surgical Site Infections through a Comprehensive Best Practice Bundle/Checklist

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Project: The project goal was to implement clinical processes that result in SSI rates in the THA/TKA implant population (~120 annually) at the 10th percentile or less (zero SSIs) (NHSN, CDC, 2009). To accomplish this goal, a collaborative multidisciplinary team was formed and these surgeries were not performed for nearly 3 months, allowing the team to conduct a thorough investigation and develop a plan to meet the project goal.

The investigation included:
- assessment of adequacy and reliability of adherence to best clinical practice
- evaluation of environmental cleanliness
- external evaluation of instrument processing
- review of scientific literature for additional best practice opportunities
- review of new products with potential to decrease SSIs

The investigation resulted in development of a comprehensive THA/TKA checklist including the five following elements in addition to SCIP standards of care:
- Sage® 2% Chlorhexidine Gluconate (CHG) Cloths “showers” the night before and morning of surgery
- 3M™ Skin & Nasal Antiseptic applied intranasally in the preoperative area
- Patient warming 30 minutes prior to & during surgery using 3M™ Bair Paws™ System
- Antibiotic infusion completed 10 minutes prior to incision
- Team huddle prior to patient entry into the operating room to review completion of the checklist & to coordinate start time for opening of instruments

The checklist was implemented with resumption of THA/TKA surgical procedures and SSI surveillance continued.

Results: SSI surveillance on THA/TKA procedures demonstrated zero SSIs in the 7-month period following implementation. Not all elements were universally performed. The CHG “showers” and nasal product were most consistently implemented.

Lessons Learned: A multidisciplinary team approach was essential for defining the problem, identifying best practice, incorporating key elements of best practice into a useable checklist and monitoring the outcome.

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