Introduction

- Surgical site infections (SSI) following spinal fusion surgery are associated with increased morbidity/mortality, cost, length of stay and decreased patient satisfaction
- Approximately half of SSIs are preventable by application of evidence-based strategies.

Why did we choose this project?

In 2017, Carolinas Medical Center (CMC) had a total of 19 fusion surgical site infections with a standardized infection ratio (SIR or observed to expected infection ratio) of 1.441, approximately 40% worse than what is predicted by national data after adjustment for hospital and patient specific factors.

In response to clinician suspicion of an increase in post fusion surgical site infections, Atrium Infection Prevention began monitoring all fusion surgeries in high risk facilities for SSIs and reporting the information into the Center for Disease Prevention and Control’s (CDC) National Healthcare Safety Network (NHSN) in early 2017.

Process Measures

According to the Association for Professionals in Infection Control and Epidemiology (APIC) each SSI has a total excess cost of $19,305 and results in 12 excess hospital days. Infection prevention applied these numbers to our observed infections and expected infections. January 2017 to June 2018 we had a total annualized loss of $186,473.43 with an excess of 348 hospital days. In the last 6 months of 2018 we had a total annualized savings of $72,084.87 with an excess of 60 hospital days. These increased hospital days also have a negative impact on hospital flow and capacity.

Results

• Rate of Fusion surgical site infections per 100 surgeries performed decreased from 1.44 (29/2018) from January 2017 thru June 2018 to 0.75 (5/667) in the last six months of 2018.
• This correlates to a SIR reduction of 1.427 to 0.728 (See figure below).

Conclusion

• Spread the PowerPlan to other areas/facilities
• Adding CHG bathing to preop PowerPlan on inpatients
• Added team members from other facilities to share best practices
• The implementation of the spine co-management work through the Musculoskeletal Institute will be significant in the spread of this work to other areas/facilities. We will be able to use this structure with their pre/intra/pre-operative committees and the leadership on their Joint Operating Board (JOB), led by the Chief of Spine, to help disseminate through all areas that perform spinal fusions.

Sustainability

• Implement preop CHG bathing for scheduled and add-on adult spinal fusion patients with a goal of 90% compliance.
• Ensure all neurosurgeons are using Chloraprep and/or Duraprep with a goal of 93% compliance.
• Implement postop CHG bathing for adult spinal fusion patients with a goal of 80% within the PowerPlan population.
• Standardized post op wound care interventions within the spine surgeon group.

Resources


Contact Info

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