

CONFERENCE ABSTRACT

Preventing perioperative surgical site infections among hip fracture patients: An integrative care-bundle approach

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Introduction: Surgical site infection (SSI) following hip surgery is an unintended and often preventable complication with profound clinical and economic implications for both patient and healthcare system. Before setting up an integrated Hip Fracture Unit (HFU), there was absence of a standardised integrated care approach to prevent SSIs among surgical hip patients. SSIs prevention is an essential component in HFU's safety efforts in providing value-based integrated hip fracture care.

Practice change implemented, aim and theory of change, targeted population: A system redesign on SSI prevention was employed to reduce risk factors and optimise evidence-based care processes. The team capitalised on the expertise of various healthcare professionals by employing a three-prong (pre-operative, intra-operative, post-operative) integrative care-bundle approach informed by best-practice guidelines to ensure SSI prevention is comprehensive and spans the continuum of care. Ultimately, we hope to prevent SSIs among surgical hip patients.

Stakeholders:

- Geriatrician: Optimise modifiable patient risk factors; Conduct post-operative fever examination; Routine wound inspection
- Anaesthetist: Prevent intraoperative hypothermia
- Infectious disease physician: Initiate antibiotic prophylaxis
- Nurse: Screen and isolate surgical hip patients from infectious patients such as MRSA,ESBL; Perform preoperative skin preparation to reduce skin microflora
- Dietitian: Optimize patient's pre-and post-operative nutritional status
- Rehabilitation therapists: Improve patient's mobility and function post-surgery to facilitate recovery and discharge
- Case manager: Early discharge planning to reduce patient's length of hospitalisation stay and consequently reduce risk of SSI exposure

Timeline: The integrated SSI prevention system of care was put into practice when HFU opened on 3rd November 2014. Since then, SSI preventive efforts have been constantly re-evaluated and fine-tuned.

Highlights: The HFU admitted 1069 patients from January 2015 to December 2017, of which 827 patients (77.4%) undergone surgery. An overall low SSI incidence of 1.7% was achieved. Furthermore, there was decreasing trend of SSI incidence over the years, with the latest data standing at the lowest at 1.1%.

Consequently, successful SSI prevention contributed to outstanding clinical outcomes within HFU. The average length of stay for surgical patients has been decreasing steadily with the latest data standing at the lowest at 10.4 days. Additionally, HFU has low incidences of 30-day readmission (9.2%) and 30-day mortality (1.1%).

Sustainability and transferability: We have standardized SSI prevention by embedding necessary investigations and management plans into the Hip Surgery Pathway which promotes bundle compliance. The project runs in a systematic fashion with existing resources that benefits both patients and hospital. This model of care could be replicated with the integrated care pathway developed to improve outcomes of surgical hip patients.

Conclusion and discussion: SSIs cause significant patient morbidity and mortality and put a significant strain on healthcare resources. SSI prevention is a fundamental principle of perioperative hip fracture care. An integrative care-bundle approach informed by best practice guidelines promoted shared responsibility among multi-disciplinary team members, and successfully resulted in low SSI incidence while contributing to better patient outcomes within HFU.

Lessons learnt: An integrative team-based approach that capitalizes on the expertise of various healthcare professionals is essential to optimise patient outcomes.

Keywords: surgical site infection; hip fracture
