

2007 NSW Health Awards Entry

Entry Title (50 characters or less)
Preventing Surgical Site Infections (SSI) in Maternity- A Collaborative Approach
Abstract (120 Words)
Current literature reviews have shown that postoperative infection can be up to 30% following a LSCS ⁵ . At Hornsby Ku-ring-gai Hospital (HKH) baseline data for women undergoing Lower Segment Caesarian Section (LSCS) suggests that post operative infections were as high as 20%. A collaborative approach amongst key departments was fostered to implement the components of Safer System Saving Lives ⁴ (SSL) SSI bundle. The project team addressed gaps such as: education in pre-operative skin care ⁷ , appropriate use of prophylactic antibiotics in operating theatre, appropriate and timely hair removal ⁶ and compliance with a locally developed surgical wound care protocol. Overall, results showed significant improvements in the infection rate. Within 11 months the infection rate decreased from 20% to zero.
Aim (30 Words)
To decrease the incidence of surgical site infections in LSCS patients thus preventing fatal and non-fatal harm and achieve 100% compliance with the four components of the Preventing SSI bundle.
Nature of the Problem (100 words)
In 2003 the Australian Council for Safety and Quality in Health Care suggested that the incidence of SSI nationally is between 2- 13% ¹ . Prior to SSSL there was no documented evidence at Hornsby Hospital of infection rates in the population of women undergoing caesarean sections. Feedback from General Practitioners and Emergency departments was that women were presenting with post operative infections. This leads to increased patient morbidity ² and interferes with mother and infant interaction. The decision was made to implement the SSI bundle of care with patients undergoing LSCS.
Extent of the problem (150 words)
<p>Prior to the start of this project, a retrospective audit of post operative LSCS infections at HKH have been measured at 20%. This included patients that presented post natally to our hospital and or to another health care provider with wound infection. Clinical practice gaps were identified through a retrospective review of 50 patient's medical records. Based on these audits and through consultation with key staff from Maternity, Operating Theatre, Quality and Safety Department and Infection Control initial investigations demonstrated that:</p> <ul style="list-style-type: none"> • patients booked for Elective LSCS did not receive adequate information on pre-operative skin care • patients were not receiving adequate antibiotic cover during their surgery for LSCS • hair removal occurred anytime to 2-48 hours prior to surgery • there was no documented wound care protocol available
Strategic importance (100 words)
The project relates to the strategic directions of NSW Health: "make prevention everyone's business" ³ . The SSI project was a collaborative approach at preventing adverse outcomes to women after LSCS. Adverse outcomes for women with infections after caesarean section can result in an increase length of stay (LOS) and associated costs to the health service. Significant illness can impact on the establishment and continuation of breastfeeding and mother / child interaction. Part of NSW Health's vision is to deliver high quality services and

promote health with early intervention to reduce risk³. This project enhances and supports this vision.

Planning and implementing solutions (300 words)

A Quality Assurance audit/Ethical review application was completed for this

project. The project was colour-coded orange for heightened staff awareness. The Project Team met regularly during the project and reviewed current practice. Results were compared with SSSL SSI bundle components. Gaps were identified and audit tools developed with input from key stakeholders to facilitate compliance monitoring and highlight the practice changes. The audit tools were completed by Maternity, Operating theatre (OT) staff and the project officer.

The following strategies were implemented:

- Education of staff in Maternity and Operating theatres was attended highlighting key changes. The changes were advertised throughout both of these areas
- An information pamphlet called 'Are you having a Caesarean Section?' was developed. This had information pertaining to antenatal and postnatal care of the skin for patients under going Elective LSCS with recommendations not to shave, wax or use depilatories. It was also used as an opportunity to impart information on diet and the importance of hand washing. In addition Women received pre-operative skin care education in Day Assessment Unit and at their 36 week antenatal visit.
- A brief project description and privacy information letter was written given to all patients post LSCS.
- Hair removal to be attended to with clippers in the operating theatre immediately prior to surgery
- Appropriate prophylactic antibiotics doses were promoted through advertising and the purchasing of The Therapeutic Guidelines for Antibiotics 2006⁷ for each operating theatre
- The checklist audit tool was included in all pre-operative medical record packs.
- Daily auditing was performed by the project officer on all in-patients with LSCS.
- A local surgical wound care protocol was developed in consultation with wound care consultants
- Compliance and data was monitored daily by Project Officer with assistance of SSI Champions, from Maternity and OT staff. This was reported to Infection Control Committee and all stakeholders.
- Non-compliance was investigated and monitored continually

Outcomes and Evaluation (200 words)

Continuous auditing of the bundle components until February 2007 has demonstrated high compliance to the SSI interventions. This has had a significant decrease in the overall infection rate in patients with LSCS at Hornsby Hospital.

has exemplified the notion of “making prevention everyone’s business”.

References

1. Australian Council for Safety and Quality in Health Care, National Strategy to address health care associated infections, Fourth Report to the Australian Health Minister’s Conference, 31 July 2003
2. HKirkland KBH, Briggs JP, HTrivette SLH, HWilkinson WEH, HSexton DJH. The impact of surgical- site infections in the 1990’s: attributable mortality, excess length of hospitalisation, and extra costs, *Infect Control Hospital Epidemiology* 1999 (20): 725-30
- 3 NSW Department of Health 2007- Future Directions for Health in NSW- toward 2025.
4. Safer Systems Saving Lives Project <http://www.health.vic.gov.au/sssl>
5. Surgical site infections after cesarean section: results of a five-year prospective surveillance [J Gynecol Obstet Biol Reprod \(Paris\)](#). 2004 Oct; 33(6 Pt 1):487-96.
6. The Impact of Preoperative Hair Removal on Surgical Site Infection. Best Practice. Evidence Based Practice Information Sheets for Health Professionals. Volume 7, Issue 3, 2003
7. The Therapeutic Guidelines for Antibiotics 2006 Version 13 195-196