Reduction of lower segment caesarean section site infections

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Background

Infection Prevention at Fiona Stanley Hospital (FSH) uses the Healthcare Infection Surveillance of Western Australia (HIS) to undertake surgical site surveillance for all patients who undergo a Caesarean section. Globally, there has been an increase in the number of SCS infections performed, due to the increasing complexities of women. The increasing comorbidities during pregnancy include a larger population with high Body Mass Index (BMI) and subsequent development of gestational diabetes, both significantly increasing the risk of surgical site infection. Since January 2018 to March 2019, FSH has completed 1487 LSCS procedures. Ten (10) of these resulted in surgical site infection. It was recognised that the number of infections was higher in comparison to other benchmark hospitals and following robust clinical reviews of all the reported cases, clinical practice was reviewed.

Aims / objectives

1. To identify ward environment for issues that would impact on infection prevention
2. To identify education gap for wound care management
3. To identify resources required on ward to assist with wound care
4. To review type of dressings used for LSCS
5. To review hand hygiene compliance and address education needs
6. To review theatre processes and surgical site preparation

Methodology

A collaborative partnership between Infection Prevention and Maternity was formed to share clinical expertise, and lead clinical change through education in order to reduce the risk of surgical site infections. Through clinical case reviews and Clinical Environment assessment, the following contributing factors were identified:

Back to basics overview

* Environment assessment, the following contributing factors were identified:
  * Non-compliance of bare below elbow across all disciplines including: watches / Fitbits; rings; bracelets; false nails; nailpolish
  * Inconsistencies identified with type of dressings used and cared of.
  * There is no liaison with theatres regarding sourcing standard wound dressings and those required dependant on BMI (PICO)
  * Non-compliance of bare below elbow identified across all disciplines including:
    * watches / Fitbits
    * rings
    * bracelets
    * false nails
    * nailpolish

Consultation with other Health Service Providers’ and theatre staff at FSH to identify surgical preparation concentration levels

Findings / contributing factors

**Untidy areas, rooms and sinks**

- Education on wound care required following review of data trends and surgical practice assessment of several staff on ward round checks:
  - Patient having brown dressings covering wound dressing
  - Dressage removed outside of recommended time and not replaced
  - Documentation of wound care observations and management

**Surgical preparation**

- Action required:
  - Recording notification for BMI > 35
  - Inconsistencies with type of dressings used and care of
  - Identified trend for high BMI cases to have more incidences of wound infection

**Lack of Aseptic Non Touching Technique trolleys**

- Action required:
  - Provision of wound care leaflet which includes basic principles for the
  - Education board that is mobile across the floor
  - Staff huddles
  - Patient education advice provided before discharge on wound
  - Consumer involvement in protecting wound from hands of staff

**Hand Hygiene**

- Action required:
  - Disposal of rubbish
  - Review of dressings used for LSCS
  - Action required:
    - Use of ASNFT trolleys
    - Education board that is mobile across the floor
  - Staff awareness of each other
  - Use of ASNFT trolleys
  - Education board that is mobile across the floor
  - Staff notification of use

**Lack of resources on the ward**

- Education required on 5 moments (including line preparation) required in treatment room.

**Infection Surveillance**

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  - Education board that is mobile across the floor
  - Staff notification of use
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**Recommendations**

SSI Prevention Bundle List Implemented 2018: Identified through clinical review at FSH maternity in collaboration with IINM Team

**SSI Prevention Bundle List Implemented 2018**

- Action required:
  - Planned to develop a Wound Care leaflet to hand out for discharge
  - Referral to theatre to provide a dedicated trolley
  - Review of ANTT trolleys on ward was a barrier to ensuring clean space

**Back to basics overview**

- Hand Hygiene Auditing
  - Hand Hygiene Auditing
  - Action required:
    - Reduction of hand hygiene inpatient
  - Action required:
    - Disposal of gloves

**Surgical preparation**

- Action required:
  - Referred procedure for the back of staff
  - Monitoring of ward resources

**Lack of resources on the ward**

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Conclusion

Since the implementation of the SSI bundle, a dramatic reduction in LSCS infections was noted. To date, there have not been any reported LSCS infection for 3 months. However, ongoing vigilance is required to maintain these lower infection rates with a collaborative approach to risks identified and ongoing monitoring of staff compliance, especially BBE and hand hygiene.

The use of the LSCS SSI bundle demonstrated that it is an effective tool that acts a guide for checking that systems are in place to prevent infection from occurring.

Monitoring of compliance and surveillance of SSI’s will continue to ensure patient safety.

The SSI bundle was subsequently shared with another HSP following consultation and sharing of best practice.

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