Summary of changes to Surgical Site Infection
Getting Started Kit (Updated September 2014)

1. Perioperative Antimicrobial Coverage

a) Appropriate use of prophylactic antibiotics

- Governing bodies recommend that the complete dose of prophylactic antibiotics be infused prior to inflation of a tourniquet. New SSI GSK recommendations indicate that a prophylactic antibiotic infusion be started and completed within 60 minutes prior to skin incision or tourniquet inflation or within 120 minutes for vancomycin and fluoroquinolones in order to maximize antibiotic efficacy.

- Revisions to this GSK also recommend that prophylactic antibiotic administration should be started and completed within 60 minutes prior to first incision for c-sections instead of after cord clamping.

- There is no data to support continuation of antibiotic prophylaxis after wound closure or until all indwelling drains and intravascular catheters have been removed.

- Antibiotic prophylaxis should only be repeated for surgeries lasting longer than two half-lives of the antibiotic (e.g., four hours for cefazolin) or if intra-operative blood loss exceeds 1.5L.

b) Antiseptic Use

- It is recommended patients should shower or bathe with either soap or an antiseptic agent on at least the night before the operative day.

- Intra-operative skin preparation should be performed with an alcohol-based antiseptic agent, unless contraindicated.

- To maximize its efficacy, the intra-operative antiseptic agent, such as two per cent (2%) CHG-seventy per cent (70%) alcohol, that will be covered by the surgical dressing should not be washed off at the end of surgery.

- In order to reduce the risk of fire, it is imperative that alcohol-based antiseptic agent, such as CHG-alcohol, be allowed to air dry for at least three minutes before skin incision or longer if there is excessive hair at the surgical site.

c) Decolonization

- Mupirocin nasal ointment has the ability to nearly eradicate S. aureus from the nasal site.

- Photodynamic Therapy (PDT) along with chlorhexidine gluconate wipes have also been shown to reduce the rate of SSIs.

d) Antiseptic Coated Suture

- Sutures coated with antiseptic agents have been recommended to reduce the rate of SSIs. However, do not routinely use antiseptic-impregnated sutures as a strategy to prevent SSIs.
2. Appropriate Hair Removal

- Again this GSK recommends that as per WHO guidelines, no hair removal is optimal\(^{34}\) and if necessary clippers may be used to improve visibility of the surgical area - razors are not recommended under any circumstances. New recommendations include:
  - If hair removal is necessary, clippers should be used outside of the OR within 2 hours of surgery\(^{34-35}\)
  - No hair removal to be done prior to admission\(^{35}\)

3. Maintenance of Perioperative Glucose Control

- It is recommended that Perioperative blood glucose levels should be checked on all surgical patients who are diabetic or have risk factors for diabetes\(^{36-37}\)
- Teams are encouraged to apply conventional glucose control (BG < 10-11 mmol/L) to surgical populations during surgery and the immediate post-op period Strict perioperative glycemic control (4.1-6.0mmol/L) should be avoided to enhance patients’ outcome. Blood glucose should not drop below 4.1mmol/L\(^{38}\).

4. Perioperative Normothermia

- This version of the SSI continues to recommend that normothermia be maintained throughout the perioperative course for all surgical patients. The recommended range of core body temperature to be maintained among surgical patients is between 36.0\(^{\circ}\)C and 38.0\(^{\circ}\)C pre-operatively, intra-operatively, and in PACU\(^{40-41}\).
  - Active pre-warming and Intra-op warming is indicated when surgery is expected to last >30 minutes\(^{39}\)
  - Fluid warmers should be used if an abdominal surgical procedure is planned to last more than one hour\(^{39}\).
  - The ambient room temperature in the OR should range between 20° to 23°C\(^{42}\).

Other Additions to SSI GSK

There are additional evidence-based topics within this guideline that were not discussed in the previous Getting Started Kit:

- SSI Health Economics
- Canadian Pediatric SSI Journey - B.C. Children’s Hospital
- Enhanced Recovery After Surgery (ERAS)
- National Surgical Quality Improvement Program (NSQIP)
- SSI Individual Risk Factors
- SSI Impact on Patient’s Perspective and Quality of Life
- OR Environment and SSI
- SSI Prevention Compliance

Please refer to Patient Safety Metrics for the current list of SSI Measures

https://psmetrics.utoronto.ca/metrics/WorksheetPreview.aspx
Summary of Changes

References


11. Webster J, Osborne S. Preoperative bathing or showering with skin antiseptics to prevent surgical site infection. Cochrane Database of Systematic Reviews. 2007(2):CD004985.


