GUIDELINE *ESSENTIALS*

CASE STUDY

Sterile Technique

A Colorectal Surgical Site Infection Bundle

Does your organization have an evidence-based colorectal surgical site infection (SSI) bundle?

What are the components of your organization's SSI bundle?

What components of the SSI bundle do you assist with?

A large district hospital that performed an average of 120 to 150 elective colorectal procedures annually began conducting prospective surveillance of colorectal SSIs following elective surgery. The initial 6 months of data revealed higher than expected SSI rates in the colorectal surgical patient population. In response, the organization put together a multidisciplinary committee that focused on evaluating and implementing an evidence-based colorectal SSI bundle.

The components of the SSI bundle included

- administering antibiotics at induction and 4 hours later;
- removing hair using clippers;
- maintaining patient normothermia (> 36° C [97° F]) by using warmed IV fluids and mechanical warming;
- maintaining optimal blood sugar (72 mg/dL to 198 mg/dL);
- using a dual ring wound protector;
- separating the abdominal wall closure tray;
- changing gowns before closure;
- re-draping before closure;
- using absorbable subcuticular suture and skin glue;
- applying the stoma bag before dressing, if applicable; and
- leaving the padded Tegaderm dressing in place for 5 days after surgery.

The perioperative team was educated on the bundle and the aids that were put into place to assist with compliance.

The multidisciplinary committee continued to meet monthly after implementation to conduct root cause analyses on all colorectal SSIs that were identified, as well as to evaluate progress and analyze the results of the quality improvement initiative. The SSI rates decreased from 16.4% in the first year of the study to 5.1% in the eighth (ie, final) year of the study. It's important to note that SSI bundle components were adjusted at times during the study.

TAKEAWAY

Colorectal surgical bundles that include isolation techniques (ie, isolating instruments and equipment that have been used in the bowel or metastatic tumors and not reusing them) are known to reduce the risk of SSI in colorectal patients. When deciding on the components of an SSI bundle (eg, wound protectors, changing gowns and gloves), consider evaluating evidence-based practice and convening an interdisciplinary team.

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Reference

Falconer R, Ramsay G, Hudson J, Watson A; Highland Colorectal SSI Group. Reducing surgical site infection rates in colorectal surgery – a quality improvement approach to implementing a comprehensive bundle. *Colorectal Dis*. 2021;23(11):2999-3007. doi: 10.1111/codi.15875

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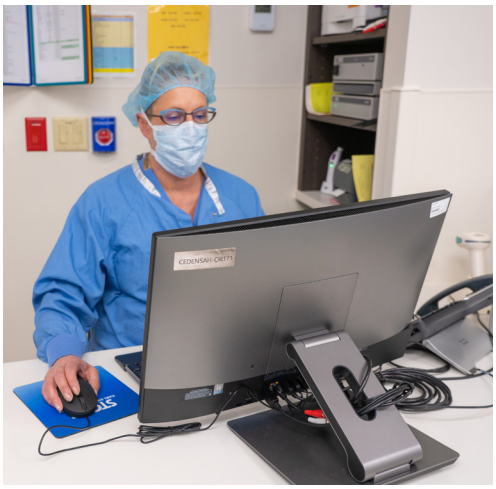

Improving the Accuracy of Surgical Wound Classification Documentation

Have you ever assigned the incorrect surgical wound classification (SWC) to a procedure?

What barriers did you encounter when assigning the wound class?

Do you have reference guides to use when deciding on a procedure's SWC?

Assigning the correct SWC is challenging and not always straight forward. A children's hospital seeking to improve wound classification documentation implemented two interventions. The first intervention included an educational slide presentation along with case discussions between the pediatric surgeons and the OR nurses. The second intervention included placing laminated posters with AORN's wound classification algorithms and a reference list of common surgical procedures with their corresponding SWC in each OR (see example). The nurses were also encouraged to include SWC in the debrief. The misclassification of SWC decreased from 70/200 (35%) to 18/200 (9%) after the interventions were implemented.

Example: SWC Pediatric Reference List

No wound class (no incision)

- Endoscopy (unless biopsies were done)
- Gastroschisis sutureless closure (if no incision was made)

Class 1 Clean (no inflammation)

- Adrenalectomy
- Circumcision

Class 2 Clean-Contaminated (no inflammation)

- Cholecystectomy (chronic cholecystitis, biliary colic)
- Colectomy (no spillage)

Class 3 Contaminated

- Appendectomy (acute, gangrenous, nonperforated: no pus/no hole)
- Bowel resection for necrotic bowel

Class 4 Dirty or Infected (pus or perforated)

- Appendectomy (perforated or presence of pus)
- Perforated bowel

TAKEAWAY

Assigning the correct SWC is imperative when it comes to identifying what is or is not classified as a surgical site infection. Surgical site infections are reported to the American College of Surgeons National Surgical Quality Improvement Program and are publicly reported, impacting hospital and physician reimbursement rates. Incorporating SWC education, visual cues, and post-surgical discussions has proved to be successful at improving accurate SWC documentation.

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Reference

Butler MW, Zarosinski S, Rockstroh D. Improvement of surgical wound classification following a targeted training program at a children's hospital. *J Pediatr Surg.* 2018;53(12):2378-2382. doi: 10.1016/j.jpedsurg.2018.08.037