

HIGHLAND HOSPITAL CLINICAL PRACTICE GUIDELINE

Colorectal SSI Prevention Bundle

Pre-Testing/Office Setting

1. Education

Give patient the patient education tools (SSI Prevention Sheet).
Provide education about hand hygiene.
Document receipt and understanding of the material.

2. Smoking Cessation (Office setting)

Encourage Smoking Cessation for at least 30 days.

3. Screen for Infections

Screen for infections during preadmission testing – refer for treatment.
Document history of MDRO (multi-drug resistant organism).

4. Nutrition/Pre-Op Diet

Instruct patients to consume a clear high-carb drink 2 hours prior to hospital arrival.
NPO for solids 8 hours pre-operatively and 2 hours pre-operatively for clear liquids.

5. Pre-Op Skin Prep

Require bathing or showering night before and morning of surgery.

6. Mechanical Bowel Prep

Preoperative

1. Education

Verify receipt of patient education tools and understanding of the material.
If education not completed or not understood, provide education regarding SSI Prevention and hand hygiene.

2. Nutrition/Pre-Op Diet

Confirm curtailed fast per pre-testing instructions.
Verify that patient consumed a clear high-carb drink two hours prior to hospital arrival.
Give additional clear high-carb drink if surgery is delayed significantly.

3. Glucose Control

Initiate Highland Hospital Clinical Practice Guideline -- Perioperative Glucose Control Guidelines.

4. Temperature

Bair Huggers applied to maintain temperature of $\geq 36^{\circ}\text{C}$.
Warm IV fluids used for pre-op boluses.
Initiate Policy 8.18 Maintaining Normothermia in the Surgical Patient.

Guidelines are intended to be flexible. They serve as reference points or recommendations, not rigid criteria. Guidelines should be followed in most cases, but there is an understanding that, depending on the patient, the setting, the circumstances, or other factors, guidelines can and should be tailored to fit individual needs.

Intraoperative

1. Hair Removal

Hair removal (only if hair will interfere with the operation) with clippers, outside the OR if at all possible.

2. Antibiotics

Prescribe appropriate antibiotic. Refer to Highland Hospital Clinical Practice Guideline – Prophylactic Antibiotics for Surgery.

Dose prophylactic antibiotic by weight.

Administer antibiotic within 1 hour prior to incision (2 hours for vancomycin or fluoroquinolones).

Single dose prophylactic antibiotic.

Redose prophylactic antibiotic based on duration of operation.

3. Skin Prep

Use standardized antiseptic agent for skin prep: **alcohol-containing** (Chloraprep, Duraprep) unless contraindicated (infants, mucous membranes, ear procedures, open wound).

When alcohol-based skin prep is contraindicated, use Chlorhexidine or Povidone Iodine antiseptic agent for skin prep. Regardless of antiseptic agent used, it must be allowed to dry completely. Alcohol prep would be contraindicated for use for during emergent cases with no drying time.

4. Hand Hygiene & Asepsis

Refer to Highland Hospital Policy 10.12: Surgical/Procedural Attire.

Ensure double gloving/sterile gloves for all scrubbed surgical team members.

5. Temperature

Maintain intra-operative temperature of $\geq 35.5^{\circ}\text{C}$.

Use Bair Hugger.

Administer warm IV fluids.

6. Drains

If drainage is indicated, use a closed suction drain placed through a separate incision.

Remove drain as soon as possible.

Do not continue prophylactic antibiotics because drains are in place.

7. Items intentionally left in patient

Document items left behind in operative notes (stents, packing, drains, etc).

Document plan for removal if item is temporary.

8. Surgical Technique

Use wound protectors as appropriate.

Change gloves prior to closing.

Use clean instruments (Colorectal Closing Set) for closing of the wound.

PACU

1. Glucose Control

Maintain glucose per Highland Hospital Clinical Practice Guideline – Perioperative Glucose Control Guidelines.

2. Temperature

Maintain post-operative temperature of $\geq 35.5^{\circ}\text{C}$

Guidelines are intended to be flexible. They serve as reference points or recommendations, not rigid criteria. Guidelines should be followed in most cases, but there is an understanding that, depending on the patient, the setting, the circumstances, or other factors, guidelines can and should be tailored to fit individual needs.

Postoperative

1. Order Sets

Use standardized post-op physician order sets, when available.

2. Dressing and Wound Care

Consult a wound ostomy nurse for complicated wound management, such as use of vacuum dressing.

Use appropriate hand hygiene.

3. Antibiotics

Discontinue prophylactic antimicrobial agent within 24 hours of surgery.

4. Glucose Control

Initiative Inpatient Diabetes Management Protocol.

Maintain glucose for non-diabetic patients, who were eligible for the Highland Hospital Clinical Practice Guideline – Perioperative Glucose Control Guidelines, at ≤ 180 mg/dl.

5. Hand Hygiene

Provide education about hand hygiene.

Provide hand sanitizing agents to patient.

6. Education

At discharge, provide education on wound care and how to recognize the symptoms of infection.

Emphasize importance of informing healthcare providers if these signs and symptoms develop.

7. Removal of items intentionally left in patient

Remove all packing, drains, etc prior to discharge whenever possible.

Include plan for removal of items intentionally left behind – before patient leaves hospital, schedule appointment with provider who will remove them.

8. Post-op Follow Up

Follow-up phone call to patients within three days after discharge from the hospital.

Follow-up appointment with provider. Schedule prior to discharge if possible.

9. System/Process

Regularly audit compliance with measurable elements of SSI bundle and SSI Rates.

References

Berríos-Torres, SI, Umscheid, CA, MD MSCE2, Bratzler, DW, DO MPH3, et al. Draft Guideline for the Prevention of Surgical Site Infection. Atlanta, GA : 1Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention, 2014.

Anderson D, et. Al Strategies to Prevent Surgical Site Infections in Acute Care Hospitals: 2014; Update *infection control and hospital epidemiology* June 2014, vol. 35, no. 6:605-626

Dronge AS, Perkal MF, Kancir S, Concato J, Aslan M, Rosenthal RA Long-term glycemic control and postoperative infectious complications. *Arch Surg* 2006;141(4):375–380.

Bratzler DW, Hunt DR. The surgical infection prevention and surgical care improvement projects: national initiatives to improve outcomes for patients having surgery. *Clin Infect Dis* 2006;43(3):322–330.

Guidelines are intended to be flexible. They serve as reference points or recommendations, not rigid criteria. Guidelines should be followed in most cases, but there is an understanding that, depending on the patient, the setting, the circumstances, or other factors, guidelines can and should be tailored to fit individual needs.

Darouiche RO, Wall MJ Jr, Itani KM, et al. Chlorhexidine alcohol versus povidone-iodine for surgical-site antisepsis. *N Engl J Med* 2010;362(1):18–26.

Swenson BR, Hedrick TL, Metzger R, Bonatti H, Pruett TL, Sawyer RG. Effects of preoperative skin preparation on postoperative wound infection rates: a prospective study of 3 skin preparation protocols. *Infect Control Hosp Epidemiol* 2009; 30(10):964–971.

van Klei WA, Hoff RG, van Aarnhem EE, et al. Effects of the introduction of the WHO “Surgical Safety Checklist” on inhospital mortality: a cohort study. *Ann Surg* 2012;255(1):44–49.

Cannon JA, Alstom LK, Deierhoi RJ, et al. Preoperative oral antibiotics reduce surgical site infection following elective colorectal resections. *Dis Colon Rectum* 2012;55(11):1160–1166.

Hendren S, Fritze D, Banerjee M, et al. Antibiotic choice is independently associated with risk of surgical site infection after colectomy: a population-based cohort study. *Ann Surg* 2013;257(3):469–475.

Lewis RT. Oral versus systemic antibiotic prophylaxis in elective colon surgery: a randomized study and meta-analysis send a message from the 1990s. *Can J Surg* 2002;45(3):173–180.

Nelson RL, Glenny AM, Song F. Antimicrobial prophylaxis for colorectal surgery. *Cochrane Database Syst Rev* 2009;(1): CD001181.

Approved:

W6 CSQC:	6/9/14
Peri-op CSQC:	8/6/14
Clinical Council:	8/14
Peri-op CSQC:	4/16
Clinical Council:	4/16

Guidelines are intended to be flexible. They serve as reference points or recommendations, not rigid criteria. Guidelines should be followed in most cases, but there is an understanding that, depending on the patient, the setting, the circumstances, or other factors, guidelines can and should be tailored to fit individual needs.