New York State Partnership for Patients

Advanced Colon Surgery Bundle
Summary Table

ESSENTIAL BUNDLE ELEMENT	STRATEGIES FOR APPLICATION OF BUNDLE ELEMENT
Pre-operative Mechanical Bowel Preparation Combined with Oral Antibiotics*	• For patients undergoing elective bowel surgery, establish standardized preoperative mechanical bowel preparation regimen combined with preoperative oral antibiotics the day prior to surgery. • Mechanical bowel preparation in combination with oral antibiotics prior to surgery should be used in addition to standard intravenous antibiotic prophylaxis pre-operatively.
Antimicrobial Prophylaxis Maintain therapeutic levels of the prophylactic antimicrobial agent in serum and tissues throughout the operation, using weight-based dosing and re-dosing as appropriate.	• Standardize prophylactic antibiotic protocols, with additional guidance on weightbased dosing and re-dosing for long cases based on the half-life of the selected antibiotic. • Administer weight-based antibiotics within 1 hour prior to surgical incision.(N.B. Vancomycin or a fluoroquinolone should be administered within 60-120 minutes before the initial incision due to the longer infusion time required for these antimicrobials). • Re-dosing for long cases based on half-life of drug used or when there is excessive blood loss. • Prophylactic antibiotics discontinued within 24 hours after surgery end time (48 hours for cardiac surgery).
Skin Preparation Use an antiseptic agent with alcohol for skin preparation unless contraindicated	• Use chlorhexidine gluconate with isopropyl alcohol or iodine povacrylex with alcohol (70%) to prepare skin prior to surgery. • Allow skin to dry completely prior to application of adhesive drapes to ensure good adhesion and to reduce fire risk. • Standardize processes for hair removal prior to surgery. If hair removal is required, use clippers. (N.B. razor or depilatory creams should not be used.)
Normothermia Maintain core temperature ≥ 36°C during the perioperative period	• Standardize warming interventions and protocols in both the pre-operative holding area, OR, and PACU. • Active warming of patients (e.g., Bair hugger) in the holding area to reduce risk of inadvertent hypothermia for patients with temperature ≤ 36°C. • Check temperature prior to entering the operating room. Check every 15 minutes intra-operatively. Check immediately upon arrival in PACU and every 30 minutes until discharge from PACU. • Use of warmed IV fluids in the OR.

ADVANCED COLORECTAL SURGERY BUNDLE SUMMARY TABLE *continued*

ESSENTIAL BUNDLE ELEMENT	STRATEGIES FOR APPLICATION OF BUNDLE ELEMENT
Glucose Control Maintain blood glucose level < 200 mg/dl on the day of surgery and through the postoperative period	• Establish glucose control protocols for use throughout peri-operative operative process. • Identify known diabetics and potential hyper-glycemics in the Pre-admission testing (PAT). Work with endocrinologist to reduce HbA-1C for known diabetics. • Frequent monitoring of blood glucose (all patients, both known diabetics and nondiabetics) beginning in the pre-operative holding area, in the OR, in the PACU, and on all units. Institute glucose management protocol (e.g. Basal bolus or standard protocol insulin delivery for blood glucose > 200 mg/dl).
Increased Perioperative Oxygenation Maintain optimal tissue oxygenation throughout perioperative period by administering supplemental oxygen at intra-operatively and post-operatively	• In patients with normal pulmonary function administer increased FiO2, (e.g., up to 0.80 FiO2) intra-operatively and post-operatively while in PACU or for 2 hours in the receiving unit, in combination with strategies to optimize tissue oxygenation through maintenance of perioperative normothermia and adequate volume replacement.
Clean Standardized Fascia Close Change gown, gloves, and surgical instruments for closure of fascia	• Surgeon announces time to close to indicate necessity for change of gowns, gloves, and closing trays. • Ensure clean closing trays and instruments are available for closing of fascia. • Standardize closing of abdominal wound (e.g. with a subcuticular closure except type IV cases, where skin is left partially open).
Wound Management Standardize wound management strategy for all types of colorectal surgeries.	• Standardize intra-operative application of wound dressing to reduce risk of contamination and maximize wound healing. • Standardize post-operative wound dressing, such as continuation of wound dressing for 24-48 hours and dressing removal on POD 2. • Instructions for cleansing agent use based on open or closed status of wound. • Provide patient and caregiver education on optimal post-discharge wound care.

SSI Prevention Basics

- Hand Hygiene (for staff, patient, and family)
- Environmental Cleanliness (maintaining aseptic environment in the OR)
- Basic Safe Surgery Bundle

* The only bundle element that is specific for colon surgery. All colon bundle elements can be used to reduce SSI in all surgeries.