Enhanced Recovery After Surgery in Combination with the Advanced Colon Bundle

September 2017

A partnership of the Healthcare Association of New York State and the Greater New York Hospital Association
## Agenda

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Why Focus on Surgical Site Infections (SSI)?

- 2.6% of 30 million operations per year are complicated by SSIs (800,000–2 million SSIs annually)
- SSI accounts for 38% of HAI in surgical patients
- Colorectal surgery SSI rate varies from 5% to 30%
- SSIs are associated with:
  - Increased length of stay
  - Increased hospital costs (estimated increase of $1,300–$5,000 per case)
  - Increased patient morbidity and mortality
  - Increased readmission rates

References:
2. Poulson KB, Bremmelgaard A, Sorensen AI, Raahave D, Petersen JV. Epidemiol Ifect. 1994; 113(2); 283-295
NYSPFP SSI SIR: Colon

COLO SSI Standardized Infection Ratio

Baseline: 01/15 - 12/15
Comparison: 01/17 - 03/17
Improvement: ↓ 24.36%
NYSPFP SSI Rate: Colon

COLO Surgical Site Infection Rate

Baseline: 01/15 - 12/15
Comparison: 01/17 - 03/17
Improvement: ↓ 20.37%

Year and Month

Baseline: 7.12
Comparison: 5.67
# NYSPFP SSI Rates

<table>
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<tr>
<th>Procedure – Rate per 100 operative procedures</th>
<th>Baseline 01/15-12/-15</th>
<th>Comparison 01/17-03-17</th>
<th>Improvement</th>
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<tr>
<td>Coronary Artery Bypass Graft (CABG)</td>
<td>2.60</td>
<td>1.29</td>
<td>↓ 50.61%</td>
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<td>Hip Replacement</td>
<td>1.06</td>
<td>0.81</td>
<td>↓ 23.04%</td>
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<td>Hysterectomy SSI Rate</td>
<td>1.76</td>
<td>1.65</td>
<td>↓ 6.01%</td>
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NYSPFP Advanced Colon Bundle Elements

- Normothermia
- Glucose Control
- Antimicrobial Prophylaxis
- Increased Perioperative Oxygenation
- Skin Preparation
- Clean Standardized Fascia Close
- Wound Management
- NEW: Mechanical Bowel Preparation in Combination with Oral Antibiotics
Going Beyond the Bundle to ERAS

- What is enhanced recovery after surgery (ERAS)?
  - Surgical intervention leads to endocrine and metabolic stress reactions that can slow recovery
  - ERAS is a program incorporating multimodal, multidisciplinary interventions in the peri-operative period to expedite recovery
  - Common modalities in ERAS can include (but are not limited to):
    - Early removal of drains
    - Optimized pain management
    - Early enteral nutrition
    - Pre-operative optimization of a patient’s nutritional status and other organ function
    - Patient education
    - Goal-directed fluid therapy
    - Early ambulation

Going Beyond the Bundle to ERAS (cont.)

○ Why consider implementing ERAS?
  ○ Studies have shown that ERAS can:
    ○ Reduce morbidity:
      ○ Reductions in SSI, ileus, and other associated complications have been reported
        ○ A recent meta-analysis reported that programs with high compliance ERAS elements can achieve up to a 50% reduction in complications
    ○ Reduce re-operations
    ○ Result in patient’s faster return to normal function
    ○ Reduce length of stay and readmissions
    ○ Lead to better quality of life outcomes in the medium and long term
    ○ Reduce costs

Colorectal Surgery SSI Prevention Bundle and ERAS

Christopher Mantyh, MD, FACS/FASCRS
Duke University Medical Center
Hospital Questions and Discussion

Hospital Participants
NYSPFP Staff
Tools to Support SSI Reduction

NYSPFP Staff
Tools to Support Hospital Efforts to Reduce SSI

**ERAS**
- American Society for Enhanced Recovery
  - Sample protocols: http://aserhq.org/protocols/
- ERAS Society Guidelines:
  - http://erassociety.org/guidelines/list-of-guidelines/
- American Association of Nurse Anesthetists

**NYSPFP Advanced Colon Bundle**
- NYSPFP Tools
  - Flowchart
  - Resource guide
  - Gap analysis
    - Companion document
  - Summary document
  - Data collection and analytical tools

*All of the above are available at www.nyspfp.org*
Next Steps

○ Contact your Project Manager to discuss:
  ○ Hardwiring advanced colon bundle elements into workflow
  ○ Incorporating ERAS elements into the advanced bundle to continue reduction of SSI Rates