Background

- Surgical site infections (SSIs) are common complications after pediatric gastrointestinal (GI) surgery
- SSIs can prolong hospitalization, increased pain, psychological distress, and added costs
- Bundled interventions/guidelines have been developed to address modifiable risk factors
- Adherence to guidelines has not been well-studied

Definition of Outcome

- Surgical site infection (SSI): Any superficial site infection, deep space/organ infection, wound dehiscence, or percutaneous drainage of an intra-abdominal/intra-pelvic abscess

Research Question

How adherent are pediatric surgeons to an SSI prevention bundle for pediatric patients undergoing GI surgery?

Methods

- Prospective randomized trial of children (10-18y) undergoing elective GI surgery from July 2020–March 2024 at 18 children’s hospitals nationwide
- Excluded those with anastomotic leak

Results

- Cohort: 529 patients
- Median # of interventions from bundle / patient: 3 (IQR 3-4)
- # of patients receiving all 5 interventions: 70 (13%)
- Patients with an SSI: 32 (6%)
- Age group and surgery type were associated with # of interventions received (p<0.05)

Table. Adherence by Intervention

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Adherence</th>
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<tbody>
<tr>
<td>1) combined (oral &amp; mechanical) or no preoperative bowel regimen</td>
<td>139 (26%)</td>
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<td>2) pre-incisional antibiotic prophylaxis</td>
<td>482 (91%)</td>
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<td>3) use of a wound protector</td>
<td>164 (31%)</td>
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<td>4) maintenance of normothermia</td>
<td>486 (92%)</td>
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<td>5) exchange of sterile gloves/instruments</td>
<td>297 (56%)</td>
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Conclusions

- Adherence to SSI prevention bundles in pediatric GI surgery is suboptimal
- Future research should:
  - Explore barriers to implementation of bundles
  - Assess the fidelity of implementation of interventions
  - Investigate variation related to age and surgery type

Figure 1. Number of Interventions by Patient Age

Figure 2. Number of Interventions by Surgery Type