• $1.5 million gastrointestinal endoscopies are performed annually in the United States and are predicted to grow at an annual rate of 2.6%.

• University of Colorado Hospital (UCH) Department of Anesthesiology implemented Monitored Anesthesia Care (MAC) for sedation of gastrointestinal procedures in place of Nurse Administered Sedation (NAS) on 7/1/21.

• MAC Sedation: propofol without adjuncts NAS: IV fentanyl, midazolam, diphenhydramine

• Consenting by GI proceduralists shifted from in-procedural suite to time patient exits procedure suite on 7/1/21.

• We hypothesize that MAC will improve operational outcomes as compared to NAS.

Methods

• A COMIRB approved, retrospective, single-cohort analysis using STROBE guidelines.

• Inclusion criteria was based on sedation type (MAC or NAS), abstracted from the UCH EMR, and analyzed using a two-sample t-test.

• Significant comorbidities assessed: obstructive sleep apnea, asthma, coronary arterial disease, GERD, hepatic dysfunction, hypertension, kidney disease, liver disease, pulmonary hypertension, renal disease, and valvular heart disease.

• Primary and secondary outcome measures will include:

1. Sedation Start to Scope-in (SSSI): Time sedation begins to time scope is placed

2. In-room to Scope-in (IRSI): Time patient enters procedural suite to time scope is placed

3. Total Case Length (TCL): Time patient enters procedural suite to time patient exits suite

4. Scope-out to Out of Room (SOUR): Time sedation ends to time patient exits procedural suite

5. PACU Length of Stay (PACU LOS): Time patient enters PACU to time patient exits PACU

6. MAC Sedation: 3.22 minutes

7. Propofol Sedation: 5.49 minutes

8. There is opportunity for other service lines to adopt MAC sedation for enhanced efficiency and increased access to care.

9. The results in improved access to care which studies have shown can reduce patient morbidity and mortality.

Conclusions

• Primary and secondary outcomes demonstrate MAC sedation at UCH is more operationally efficient than NAS.

• Statistically significant decreases in SSSI and PACU LOS were a result of changes in sedation depth and medications between MAC sedation and NAS. Statistically significant decreases in IRSI were a result of changes to both sedation and consenting procedures during surgeries.

• TIC, decreased as a result of decreases in all outcomes.

• SSSI was chosen as the primary outcome for its direct correlation to the change in sedation technique. Secondary outcomes were a result of both sedation technique changes and improvements to process flow.

No Disclosures

No clinical trials, surveys, and no modeling studies were conducted.

References


Operational Outcomes of Propofol Sedation versus Fentanyl, Midazolam and Diphenhydramine Sedation for Endoscopies and Colonoscopies at an Academic Medical Center

A Mariotti, MHA, C Lace MD, A Brown, BSN RN, S Rast, BS, S Edmundowicz, MD, T Hardesty RN BSN MA, M Lemley, MD, N Weitzel, MD, J Pattee, PhD, AA Faruki, MD

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Table 1: Demographics

<table>
<thead>
<tr>
<th>Procedure Type</th>
<th>Total Case Length (TCL)</th>
<th>Scope-out to Out of Room (SOUR)</th>
<th>PACU Length of Stay (PACU LOS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper GI</td>
<td>48.17</td>
<td>47.84</td>
<td>5.62</td>
</tr>
<tr>
<td>Lower GI</td>
<td>41.57</td>
<td>38.96</td>
<td>4.90</td>
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<tr>
<td>P-value</td>
<td>0.001</td>
<td>0.001</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table 2: Evaluation of Primary Outcome

<table>
<thead>
<tr>
<th>Procedure Type</th>
<th>PACU Length of Stay (PACU LOS)</th>
<th>P-value</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper GI</td>
<td>5.92</td>
<td>0.015</td>
<td>-2.11</td>
</tr>
<tr>
<td>Lower GI</td>
<td>5.31</td>
<td>0.000</td>
<td>-2.09</td>
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</tbody>
</table>

Table 3: Evaluation of Secondary Outcomes