Perioperative Hyperglycemia Management Algorithm

QI Project Patient Inclusion Criteria:
Intraoperative hyperglycemia (glucose > 180 mg/dL) for all patients between Anesthesia Start and Stop

Blood Glucose (BG) Reading (mg/dL)
(ABG/VBG/POCT)

- High (> 180)
- Target (70-180)
- Low (< 70)

Give 12.5 g D50 Monitor every 30 min until in target range

Decision

Recheck BG every 90 min

Bolus of IV Insulin (Regular)

<table>
<thead>
<tr>
<th>BG (mg/dL)</th>
<th>Home Insulin Usage Daily Insulin Use (unit/day)</th>
<th>Insulin Naive BMI (kg/m²)</th>
<th>Infusion of IV Insulin (Regular)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>≤ 50</td>
<td>51-90</td>
<td>&gt; 90</td>
</tr>
<tr>
<td>180-200</td>
<td>1 unit</td>
<td>2 units</td>
<td>3 units</td>
</tr>
<tr>
<td>201-250</td>
<td>2 units</td>
<td>4 units</td>
<td>6 units</td>
</tr>
<tr>
<td>251-300</td>
<td>3 units</td>
<td>6 units</td>
<td>9 units</td>
</tr>
<tr>
<td>&gt; 300</td>
<td>Start Infusion of IV insulin per table</td>
<td>Consider DKA as a differential diagnosis</td>
<td>≥ 360</td>
</tr>
</tbody>
</table>

Suggested starting doses.

Recheck BG after 60 minutes. Adjust dosing based on response to insulin administration.

Consideration for insulin infusion:
- surgical length > 4 hours
- complex surgery
- critical illness
- metabolic instability / poor control

Created July 2023