Implementing the ERAC Protocol for Cesarean Sections

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Background

Enhanced Recovery After Cesarean (ERAC) protocol is a multi-step approach to improve maternal outcomes, maternal – infant bonding, and recovery rate. Studies have shown that implementation of the ERAC protocol can significantly decrease opioid use and postoperative length of stay. Evidence based recommendations include the Society for Obstetric Anesthesia and Perinatology for the ERAC pathway include pre-operative, intra-operative, and post-operative elements. Pre-operative recommendations include patient education, limiting fasting intervals, and carbohydrate loading. The goal of the intraoperative element is to prevent spinal induced hypotension, maintain normothermia, administer multimodal anesthesia and uterotonic agents, and to promote maternal-infant bonding. Postoperative elements include early oral intake, mobilization, early urinary catheter removal, VTE prophylaxis, continued multimodal analgesia, and to promote maternal-infant bonding. Implementation of the ERAC protocol involves the patient, nurses, anesthesia, and obstetrician working together to optimize recovery rate.

Objective

Implement the ERAC protocol at Osceola Hospital with the goal to decrease postoperative opioid use and overall length of stay after cesarean sections.

ERAC Protocol

<table>
<thead>
<tr>
<th>Preoperative</th>
<th>Intraoperative</th>
<th>Postoperative</th>
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</thead>
<tbody>
<tr>
<td>Limited fasting intervals (2 hours)</td>
<td>Active warming</td>
<td>Patient education</td>
</tr>
<tr>
<td>Carbohydrate drink</td>
<td>Multimodal analgesia</td>
<td>Multimodal analgesia</td>
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<tr>
<td>Gabapentin</td>
<td>Nausea prophylaxis</td>
<td>Early ambulation</td>
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<tr>
<td>Tylenol</td>
<td>Prevention of hypotension</td>
<td>Early resumption of diet</td>
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</tbody>
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Methods

Plan: After implementation of ERAC Protocol, evaluate total inpatient opioid and morphine equivalent use and average length of stay after cesarean section at HCA Florida Osceola Hospital.

Patients included

- Women of all ages undergoing a benign scheduled cesarean section or non- emergent indicated add-on cesarean section for immunologic gestation

Implementation

- Clinical information team with OB & anesthesia to decide on order set changes & patient education. If no improvement demonstrated, will reassess & intervene with other existing elements needed to improve.

Patient Pamphlet

- Created May 2023
- Includes postoperative goals re-enhancement recovery
- Early ambulation with scheduled walks
- Breastfeeding
- Routine incentive spirometer use
- Return to normal diet

PDSA Cycle

**PLAN: Implement ERAC Protocol at HCA FL Osceola Hospital**

**DO: 1) Order set changes to include recovery warm clothing, nutrition & prophylactic medication order/protocol. Early oral intake & mobilization. 2) Patient order set changes & multivitamins. 3) Patient educational pamphlet.**

**STUDY: Evaluate total inpatient opioid and morphine equivalent use and average length of stay after cesarean section at Osceola Hospital.**

**ACT: If improvements demonstrated, will continue order set changes & patient educational pamphlet. If no improvements demonstrated, will continue order set changes and patient educational pamphlet.**

Discussion

- We are currently implementing the DO portion of the PDSA cycle with Meditech order set changes in progress (pending approval by Medical Executive Committee), patient informational pamphlet created, and provider education ready to be performed at start date. We anticipate full implementation in June 2023.
- The next step will be the STUDY portion of the PDSA cycle, which we will undertake 3-6 months after implementation (depending on number of Cesarean deliveries performed per month which can fluctuate).
- We predict that after implementation of our plan we will see decreased postoperative opioid use and length of stay after Cesarean sections.
- If improvements are demonstrated as predicted, we will continue with the order set changes and patient educational pamphlet. If no improvements demonstrated, we will restart the PDSA cycle.

Conclusion

- Enhanced Recovery After Cesarean is an evidence-based method that is recommended by multiple specialty societies which we will utilize to improve quality of patient care at HCA Florida Osceola Hospital.

References

3. Mallan, Luciana MPH; Hilden, Patrick MS; Goral, Jain MD; Gwacham, Ianandi DO; Tauro, Caillin BS; Spiraño, Kristen RN; Rosakis, Kim MSN; Collier, Sheila MSN; Holmes, Lynise MSN; Maccione, Janice MSN; Pilera, Richard MD; Miller, Richard MD; Yotica, Paul MD. Improved Outcomes With an Enhanced Recovery Approach to Cesarean Delivery. Obstetrics & Gynecology 136(4):p 685-691, October 2020. | DOI: 10.1097/AOG.0000000000004023.