Perioperative Management and Implementation of Enhanced Recovery Programs in Gynecologic Surgery for Benign Indications

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Question 1:

For those facilities looking to implement enhanced recovery after surgery (ERAS) in a stepwise fashion, what stage would you consider the most bang for your buck: preadmission, preoperative, intraoperative, or postoperative?

Response from Drs. Carey and Moulder:

Perioperative components may be the easiest for surgeon-led implementation. I would recommend starting with the components of the surgery the surgeon has the most control over in each category rather than a single stage. Educate the patient on early dismissal at her initial consultation. Avoid a bowel preparation. Consider the introduction of a single preoperative analgesic the morning of surgery, such as gabapentin or acetaminophen. Offer a minimally invasive surgical intervention. Remove the urinary Foley catheter at the end of the procedure, order a regular diet, and, if appropriate, provide ketorolac at the end of the case. Also, an easy discussion with the anesthesia team about a euvolemic goal may keep the patient from fluid overload in low-risk cases. These few changes may make a considerable affect without requiring significant change. Once a new routine has been established, use the outcomes to build on a more substantial protocol with anesthesia. Easy measurements to follow include patient satisfaction and time to discharge.

Question 2:

Which stage was the most difficult for you to implement? Why?

Response from Drs. Carey and Moulder:

The preadmission component is notoriously the most challenging. It requires a significant buy-in from the patient to optimize their mental, physical, and emotional health prior to surgery. At the very least, setting patient expectations for postoperative pain management and discharge can be achieved at the preoperative visit. It is also a time to highlight the importance of exercise and sleep in the weeks leading up to the scheduled surgery.
**Question 3:**

For many facilities, access to a psychologist specializing in cognitive behavior therapy is nonexistent. Are there any protocols to align presurgical, immediate postsurgical, and long-term postsurgical opioid dosing for those patients on chronic opioids?

**Response from Drs. Carey and Moulder:**

Unfortunately, not to my knowledge. The ERAS society has a general patient guide that explains ERAS in accordance to colorectal surgery and gynecologic oncology (see [http://erassociety.org.loopiadns.com/patient-information/](http://erassociety.org.loopiadns.com/patient-information/)).

**Question 4:**

For those patients who smoke and are not ready or willing to try to stop preoperatively, has any role been determined for supplemental nicotine (such as patches) in the perioperative period?

**Response from Drs. Carey and Moulder:**

A recent Cochrane Review identified smoking cessation may reduce perioperative morbidity, even in the setting of nicotine replacement therapy. It may also provide a platform for a sustainable intervention such as sustained cessation (see [Cochrane Database Syst Rev. 2014 Mar 27;(3):CD002294](http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD002294.pub3)).

**Question 5:**

Do you have an example of postoperative orders using a multimodal opioid-sparing protocol?

**Response from Drs. Carey and Moulder:**

<table>
<thead>
<tr>
<th>No IV pain medication after release from PACU if possible</th>
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<tbody>
<tr>
<td>Opioid-sparing analgesia</td>
</tr>
<tr>
<td>• Scheduled acetaminophen 1,000 mg PO every 6–8 h (3,000–4,000 mg/24 h) for 24 hours</td>
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<tr>
<td>• Scheduled NSAIDS:</td>
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<tr>
<td>◦ Ketorolac 15–30 mg IV every 6 h for 4 doses or ibuprofen 600 mg orally every 6 hours for 24 hours</td>
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<tr>
<td>Opioids</td>
</tr>
<tr>
<td>• Oxycodone 5 mg PO every 4 h PRN pain rated 4–6/10 or 10 mg orally for pain rated 7–10/10 or 7–10/10</td>
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<tr>
<td>Breakthrough IV opioids if no relief with oral opioids in 30 min: Hydromorphone 0.4 mg IV once; repeat in 20 min once if no response or Morphine 2 mg IV once; repeat in 20 min once if no response</td>
</tr>
<tr>
<td>• Consider patient-controlled analgesia if unable to obtain pain relief with above regimen</td>
</tr>
<tr>
<td>Nausea and vomiting management</td>
</tr>
<tr>
<td>• Ondansetron 4 mg PO every 6 h prn nausea and vomiting or Prochlorperazine 10 mg IV every 6 h prn</td>
</tr>
</tbody>
</table>

Modified from Box 1 in Carey ET, Moulder JK. Obstet Gynecol 2018;132:137-46.

PO, oral administration; IV, intravenous; PACU, postanesthesia care unit; NSAIDs, nonsteroidal antiinflammatory drugs; prn, as needed.
Question 6:
What are your oral intake regimens immediately before and immediately after surgery for both minimally invasive surgery and open procedures?

Response from Drs. Carey and Moulder:
Preoperatively: No solid food after midnight, clear liquids up until 2 hours before presenting to the hospital for registration. We recommend 8 ounces of a carbohydrate beverage such as Gatorade prior to major gynecologic surgery 2 hours before presenting to the hospital. This is the same for minimally invasive surgery and open procedures.

Postoperatively: No dietary restrictions. Regular diet ordered. Important to treat postoperative nausea and vomiting to allow for oral intake, including oral medications.

Question 7:
What metrics do you measure to assess effects on postoperative milestones, readiness for discharge, length of stay, and opioid-related adverse events? What results have you seen?

Response from Drs. Carey and Moulder:
Our postoperative recovery team uses the Aldrete’s scoring system to assess patient readiness for discharge. To meet discharge criteria the patient must have stable vital signs, be free from nausea, have their pain under control, and be able to spontaneously void. Most patients are discharged from the postanesthesia care unit between 2 and 4 hours.

Question 8:
What effects has ERAS implementation had on Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS), patient, and health care provider satisfaction scores?

Response from Drs. Carey and Moulder:
Our HCAHPS scores are in the 99th percentile currently, which is the highest it has ever been. The physicians are also scoring in the 99th percentile. This suggests that our current protocols are very effective. The patients feel well-educated and that their needs are being addressed, even in the setting of same-day discharge for most surgical procedures.