Enhanced Recovery After Surgery in OB/GYN

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Outline

- Brief background of ERAS
- Goals of Project
- Steps of Implementation
- Specific Process
- Future directions
What is ERAS?

- Collection of evidence-based perioperative practices designed to improve recovery in patients undergoing major surgery
  - Reduce surgical stress
  - Maintain normal physiologic function
  - Enhance early mobilization after surgery
Audience poll

Who has heard of ERAS?

Who has implemented ERAS in their institution?
What is ERAS?

- Benefits of ERAS
  - Reduced length of stay
  - Decrease surgical complications and readmissions
  - Decrease cost
  - Increase patient satisfaction and quality of life
What is ERAS?

History of ERAS

- Roots in colorectal surgery protocols
- ERAS Society created in 2001
- First consensus protocol published in 2005
- 2013 – Kalogera et.al in Green Journal
- 2016 – ERAS Society guidelines for Gyn Onc
Elements of ERAS

Postoperative
- Short-acting anesthetic agents
- Mid-thoracic epidural anesthesia/analgesia
- No drains
- Avoidance of salt and water overload
- Maintenance of normothermia (body warmer/warm intravenous fluids)

Preoperative
- Preadmission counseling
- Fluid and carbohydrate loading
- No prolonged fasting
- No/selective bowel preparation
- Antibiotic prophylaxis
- Thromboprophylaxis
- No premedication

Intraoperative
- Mid-thoracic epidural anesthesia/analgesia
- No nasogastric tubes
- Prevention of nausea and vomiting
- Avoidance of salt and water overload
- Early removal of catheter
- Early oral nutrition
- Non-opioid oral analgesia/NSAIDs
- Early mobilization
- Stimulation of gut motility
- Audit of compliance and outcomes
ERAS at UAB

- Initially implemented in colorectal surgery and urology in 2015
- GYN/ONC started in our department in 2016
- Moved to Benign Gyn Fall of 2017, initial quarter of FY 2018
ERAS-Gynecology

- Chosen for Elective Open Hysterectomies
- Purpose:
  - to optimize patient status
  - engage them in their own care
  - return them to daily activities

- Project goals to improve:
  - Length of Stay
  - Pain management
  - Readmission
  - Surgical site infection
Implementation Process

**Discovery**
- Data analysis
- Team formation
- Determine best practices

**Implementation**
- Process determination
- Staff education
- Go Live

**Sustainment**
- Process improvement
- Outcome analysis
Implementation Process

- How could ERAS improve the surgical experience at your institution?
- What goals would you set?
- How would you measure success?
Brainstorm

Who do you want/need on your team?
Implementation Team

- Head RN from Gyn/Continuity Clinic
- RN Director from Perioperative Services
- RN Quality Improvement
- Selected Resident*
- Selected Benign Gynecology MD*
- Anesthesia MD*
- EMR contact
- Gyn Inpatient Nurse Manager
- Clinical Manager from attending clinics
- CRNA
- Project Manager UAB Care
- Director of Women and Infant Services
- Emmi Solutions Rep

Teamwork!!!
ERAS Process Map

Multiple areas working together
Faculty ERAS Open Hysterectomy Information

Clinic
- Patients will be enrolled into ERAS for a set of educational videos to view before their initial surgical consultation in the clinic – please encourage your patient to view.
- An information booklet will be reviewed by the provider and nurse and we recommend utilizing the Teach Back Method for patient education. The patient is to repeat back, in their own words, their understanding of what you educated them on, and if needed, reinforcement of education from the provider.
  - For more information on Teach Back visit www.teachbackprocedure.org
  - It’s a very simple method of patient education – a quick review of the website materials will be sufficient.
- Provider does brief education on intrathecal anesthesia during initial visit.
- When scheduling the patient for surgery using the surgery planning order, specify “ERAS = General” and for Regional Anesthesia Consult Field, specify “Per UAB ERAS Guidelines.”
- The PACT apt ACO post op follow up apt will be scheduled in the Gyn clinic for 4-6 weeks post op which is to be confirmed while pt is inpatient, prior to discharge.

Perioperative
- Multimodal meds will be given preoperatively
- OR debriefing (already in place)
- Powerplan created for PACU and Floor – “ERAS – Gyn Open Hysterectomy Post op (UAB Care)” – has a PACU and Post-op [floor] included
- Limited usage of epidurals
- Ice chips in PACU

Acute Care
- Mobilizing POD 0 (2 hrs. chair, ambulating in hall TID). Increased POD 1 and until discharge
  - GYN staff will be documenting distance and activity
- Clear liquid diet POD 0
- Regular diet 12 hours post op – automatic from powerplan (assess for need for supplements and unselect if not needed)
- Daily showers
- Encourage chewing gum suggested POD 0
- CBC only on POD 1 – unless otherwise indicated
Preoperative Education

- Provide oral and written education to patient regarding ERAS:
  - Expectation of Surgical Procedure
  - When and where to arrive day of surgery
Preoperative ERAS—new paradigm shift

NPO status – no solids after midnight, **clears up to 2 hours before surgery**

Carbohydrate rich beverage (exception with delayed gastric emptying ie, gastroparesis and/or passive reflux patients) – 400ml Gatorade 2 hours before surgery

PREHYDRATION important
**Preoperative Education**

- Chlorhexidine bathing, full body shower, starting daily 3 days prior to surgery
- **Intrathecal anesthesia**
- Pain management
- **Early mobility expectation**
- **Discharge date expectation**
- **Patient role in recovery**
- Smoking cessation and alcohol intake reduction
- No Bowel Prep
Preoperative Education

- Present as standard of care that improves outcomes
  - *Set expectations*
- Teach back
Preoperative Assessment Consultation Treatment (PACT) Clinic

- All patients evaluated in PACT within 7 days prior to surgery date
- Relevant labs
- Education regarding regional anesthesia—stop NSAIDS 5 days prior
- Patient is provided 4% chlorhexidine Gluconate (CHG) for full body shower daily, for three days to include the night before and the day of surgery
Pre-Operative Holding

- Multimodal analgesic regimen given in preop
  - Tylenol, Celebrex, Gabapentin

- Intrathecal injection performed + Truncal block
  - PCA pump if not a candidate for intrathecal

- Multimodal postoperative nausea/vomiting prophylaxis
  - Preop 2 of the following: Dexamethasone 4 mg IV, Zofran 4 mg IV, Scopolamine patch, Gabapentin 200-400 mg, Haldol 0.5 mg

- ERAS Gyn Open Hysterectomy Order Set
Intraoperative

- Goal directed fluid management to maintain cardiac output while avoiding postoperative volume overload
  - 800 cc/hour
  - Limit crystalloid—albumin for bolus if MAP < 60 mmHG
  - Avoidance of normal saline-LR or Plasmalyte

Complications

- Hypovolemic
  - Hypoperfusion
  - Organ dysfunction
  - Adverse outcome

- OPTIMAL

- Overloaded
  - Edema
  - Organ dysfunction
  - Adverse outcome
Anesthesia

- Specific calculations for mechanical ventilation recommended
- Anesthetic agents up to attending anesthesiologist
Order set created for PACU and floor components
  - Standardization is important for all cases
- Limited usage of opioids
- LR @ 40 cc/hr
- If hypotensive, notify surgeon
  - 250 cc bolus of LR
  - 250 cc bolus Albumin 5%
- If interventions above unsuccessful-surgical team notified
Postoperative Day of Surgery

- Clear liquids and advance diet as tolerated, as quickly to regular as patient tolerates

- Out of bed 2 hours before midnight DOS

- LR @ 40 cc/hr
  - “Permissive oliguria”
Postoperative Day #1

- Regular diet with Ensure TID
- DC foley and IVFs by 0600
- Out of bed 8 hours—staff to document activity
- Daily Showers
- Chewing gum recommended

- (Hemoglobin in AM with other labs as indicated, not necessarily evidence based)
Multimodal Pain Control

- Acetaminophen
  - 975 mg Tab orally every 6 hours SCHEDULED

- Oxycodone regular release (24 hrs after intrathecal)
  - For pain scores >4/10

- Hydromorphone
  - 0.4 mg, IV, every 1 hr, PRN breakthrough pain
  - Only if pain score >7 more than 1 hr after receiving oxycodone
  - Notify MD if 2 doses required
Multimodal Pain Control

- Based on age and weight of patient:
  - Ketorolac: 15-30 mg IV every 6 hours x 4 doses. Start 12 hours after preoperative Celebrex dose
  - Ibuprofen 400-800 mg Tab every 6 hr. Start 6 hours after last dose of Ketorolac

- IF GFR <60 or patient unable to take NSAIDS for other reasons:
  - Tramadol 100 mg, oral, every 6 hours. Begin on morning of POD 1 for patients <65
  - Tramadol 100 mg, oral, every 12 hours. Begin on morning of POD 1 for patients >65 or Cr clearance <30 ml/min.

Pain control managed by anesthesia for first 24 hours
Discharge planning starts on POD1

- Discharge *when tolerating diet, voiding, and adequate pain control*
  - Assess the need for opioid prescription
  - ERAS patient education for depart process
- Automated phone call with 72 hours of discharge
- Postop visit within 4-6 weeks
In-service training for clinic and floor RNs

Grand rounds for residents and faculty
22 Gynecology patients underwent ERAS (67% of eligible cases)

- Expected LOS reduced from 2.77 to 2.30
- Cost reduction projected at $39,500
- 0% readmission rate down from 4.2%
- Surgical Site Infection remained same
What barriers do you foresee to implementing ERAS at your institution?
Implementation Pitfalls

- Surgical delays (patient still drinking in preop…)

- Anesthesia timing (if surgery cancelled and already had block, admitted regardless for 24 hours)

- Paradigm shift for patients/staff/faculty
Next Steps

- Increase use in eligible cases – goal 100%
- Obstetrics implementation in May 2018 – scheduled c-sections
- Expand to other gyn cases
Acknowledgments

- Danny Mounir, PGY-4
- Michael Straughn, Gyn Onc
- Todd Jenkins, WRH Division Director
Questions?