DukeMedicine

Enhanced Recovery after Surgery (ERAS) Pathway

For breast reconstruction

PREOPERATIVE PERIOD

1. **Optimization as necessary**
    a. **Anemia clinic**
    b. **Diabetes clinic**
    c. **Pain clinic**

DAY of SURGERY, PREOP HOLDING

1. Carbohydrate drink: Given to patient by preoperative screening to drink 1 hour before scheduled arrival time.
2. Preoperative nursing staff will
    a. IDENTIFY ERAS patient and initiate protocol
    b. WARM ROOM to 72 degrees Fahrenheit and close door
    c. DOCUMENT if CHO drink was taken and document time
3. Reinforce expectations and review education of the patient about expectations for pain and pain control
    a. Expectation: Pain of 2-3/10 is expected and reasonable.
    b. Expectation: Pain of 5/10 would be the point to ask for additional medication (if patient were at home – they would self-treat at a 5/10
4. Multimodal analgesia and anti-emetics to be given
    a. **Acetaminophen** 975 mg PO
    b. **Gabapentin** 300mg PO
    c. **Celecoxib** 400 mg PO (Naprosyn 500 mg if allergic to celecoxib). Avoid if renal impairment.
    d. **Scopolamine** patch
    e. Aprepitant 40mg PO for high risk PONV patients (failed scop patch in the past)

INTRAOPERATIVE

1. VTE PROPHYLAXIS
    a. SCD's in place
2. ANTIBIOTIC PROPHYLAXIS
    a. First line - Cefazolin 1-2g IV;
    b. Second line, if allergic to Cefazolin, then Clindamycin 600 mg IV.
3. LOW FLOW ANESTHESIA - suggested gas flow ≤1L/min
4. MULTIMODAL PAIN MGT during surgery
    a. FOR SELECT PATIENTS (to be determined by surgical and anesthesia teams) - Bilateral Quadratus Lumborum blocks after induction using 30mL 0.25% bupivacaine per side
        - Addition of unilateral/bilateral PVBs or PECS blocks if concurrent mastectomy
    b. Ketamine bolus 0.25 mg/kg IV (based on IDEAL body weight) at induction and then 2mcg/kg/min;
    c. Intraoperative Exparel (diluted in saline ONLY) infiltration directly into tissue planes by surgeon
5. OPTIMIZE intraoperative fluids
    a. Crystalloid infusion (LR) at 3ml/kg/hr (IBW)
    b. Both phenylephrine and ephedrine use **permitted** at all times as needed
    c. Optimize with goal-directed fluid therapy using non-invasive CO monitor

- Record stroke volume (SV)
    - Give a 250ml albumin bolus over <15 min (can omit if SVV < 10%)
    - If SV increases by >10 % repeat bolus
    - If SV increases by < 10% patient does not require a further bolus
    - Record peak value achieved
    - If still hypotensive consider phenylephrine bolus or infusion
    - Give a further colloid bolus when SV drops 10% from peak value
    - Repeat cycle

6. MAINTAIN normothermia with under body warmer to maintain Temp >36
7. TRANSFUSION – Please keep surgeons informed if transfusion is needed
8. VENTILATION
    - Low-flow anesthesia at flows ≤1l/min
    - Maintain TV 6-8ml/kg (ideal body weight)
    - Minimize FiO_2 30-40% to minimize atelectasis
    - Maintain PEEP as appropriate to minimize atelectasis

9. No arterial lines or central lines required unless specific indication.
10. PONV prophylaxis – dexamethasone 4mg IV at start of case, ondansetron 4mg IV when closing.

Revision History:

Version: 3 Created by: Timothy Miller and Michael Bullock Date: 11/2017