

## **DUKE ENHANCED RECOVERY**

### **Whipple Procedure**

#### **PREOPERATIVE PHASE**

##### EDUCATION in SURGICAL CLINIC

1. DEFINE EXPECTATIONS-Preoperative Counseling and Training
  - a. Exercise- Daily until surgery
  - b. Healthy Diet and Nutritional supplements- Impact AR 1 box TID every day for 5 days prior to surgery- provide instructions for obtaining supplement
  - c. Nutrition Consult- All patients
2. LABEL the patient in the Case Request- Check box at end of form
3. COMPLETE Preop Orders via Maestro Order Set
4. PROVIDE instructions for individual care pathway and expected hospital stay
5. DEFINE DISCHARGE criteria
  - a. Medical criteria that the MD and team will monitor daily
  - b. Ambulating independently and self-care
  - c. Tolerating liquids enough to stay hydrated and eating
  - d. Pain control with oral analgesia- multimodal

##### CONFIRMATION of OPTIMIZATION and READINESS-Pre Anesthesia Testing (PAT)

1. IDENTIFY the ERAS patient
2. SCREEN for anesthetic risk and OPTIMIZING opportunities
3. DISTRIBUTE carbohydrate drink and instructions
4. DISTRIBUTE CHG sponges and instructions
5. PROVIDE written reinforcement of fasting guidelines- No food after midnight prior to surgery, Clear liquids until 1 hour before arrival to hospital and CHO drink prior to arriving at hospital

##### DAY of SURGERY, PREOP HOLDING

1. IDENTIFY ERAS patient and initiate protocol
2. DOCUMENT CHO drink was taken and document time
3. ADMINISTER and DOCUMENT multimodal drugs
  - a. Gabapentin 600 mg PO
  - b. Tylenol 975 mg PO
  - c. Naproxen 500 mg PO
  - d. Scopolamine patch for high risk PONV patients
  - e. Emend for patients with history of PONV
  - f. Thoracic Epidural (T7-10) unless contraindicated

##### TEAM STEPPS with discussion of ERAS preop and intraop elements

## Whipple Procedure- ERAS Protocol

### INTRAOPERATIVE PHASE

1. OBTAIN U/A with Foley insertion
2. ADMINISTER VT PROPHYLAXIS
  - a. Heparin 5000u SC after epidural placement. If no epidural, give before skin incision
  - b. SCD's in place
3. ADMINISTER ANTIBIOTIC PROPHYLAXIS
  - a. First line-**Cefazolin 2Gm + Metronidazole 500 mg IV**
  - b. If allergic, Clindamycin 900 mg IV + Ciprofloxacin 400 mg IV
4. PREVENT PONV- Dexamethasone at start of case and Zofran at end
5. ADMINISTER MULTIMODAL ANALGESIA- Per Anesthesia Protocol
6. ADMINISTER MULTIMODAL PAIN MGT during surgery-Per Anesthesia Protocol
7. AVOID intraoperative IV opioids (attending anesthesiologist approval required)
8. OPTIMIZE intraoperative fluids with GOAL DIRECTED FLUID THERAPY-Per Anesthesia protocol
9. MAINTAIN normothermia (Temp >36)
10. MINIMIZE tubes, lines, and drains
  - a. JP drains
  - b. NG tube remains unless surgeon states otherwise
  - c. Foley remains

### POSTOPERATIVE PHASE

1. IDENTIFY patient as ERAS protocol
2. ENFORCE continuous SCD usage from PACU arrival until discharge
3. CONTINUE PONV medications
  - a. Ondansetron 4 mg IV q8h prn-1<sup>st</sup> line
  - b. Phenergan 12.5 mg IV q6h prn- 2<sup>nd</sup> line
4. NPO POD 0
5. NG to LCWS
6. REMOVE NG on POD 1 if output less than 700 ml for 24 hours or 350 ml for 12 hours
7. ENCOURAGE Gum Chewing at least 3 times per day
8. ALLOW Sips of water- POD 1 (Max 250 ml q8h)
9. ENCOURAGE Impact AR 1 box TID + Clear liquids- POD2
10. CONTINUE Impact AR 1 box TID and advance to Post Surgical Bland Diet if no DGE-POD3
11. HOB elevated at 30 degrees at all times
12. SIT on side of bed or up in chair at least one time on day of surgery
13. OUT OF BED for all meals and at least 6 hours daily in addition to walks
14. AMBULATE at least 4 times daily until discharge beginning POD 1
15. MAINTAIN Optimal fluid status
  - a. POD0- Maintenance IVF w/LR based on IBW at 1ml/kg/hr, D/C POD 1 at 0600
  - b. POD 1 at 0600- Maintenance IVF D51/2 + 20 KCL based on IBW 1ml/kg/hr

## Whipple Procedure- ERAS Protocol

- c. Goal to saline lock on POD2
- 16. REMOVE Foley on POD 1 if no hx BPH
- 17. REMOVE JP drain if drain amylase is less than 5000 and serous- POD3 if attending agrees
- 18. WEIGH patient daily-
- 19. INITIATE VT prophylaxis POD 1 (am)
  - a. Heparin 5000u SC q8h if epidural in place
  - b. Lovenox 40 mg SC daily after epidural removed
- 20. INITIATE Aspirin 81 mg PO daily (vein graft or cardiac risk)- option but not checked
- 21. ENFORCE multimodal, non-narcotic pain management as first line
  - a. IV Tylenol X 4 doses beginning POD 0 while NPO
  - b. Begin Tylenol 600 mg PO q6h when taking sips POs
  - c. Begin Gabapentin 100 mg PO q8h when taking sips POs
- 22. TRANSITION from epidural/block to oral narcotics once diet is tolerated
  - a. Tramadol 25-50 mg PO q6h prn-1<sup>st</sup> line
  - b. Oxycodone prn-2<sup>nd</sup> line
- 23. MAINTAIN euglycemia. Check BS q6h X 24 hrs, with intervention and on-going surveillance if >150.
- 24. CONSULT Endocrine if random BS > 180 on 2 separate occasions
- 25. ENCOURAGE Incentive Spirometry every 1 hour X10 while awake
- 26. CONTINUE laxative until first BM
  - a. Senna S beginning POD 1
  - b. Miralax qd when diet begins
- 27. BEGIN Pantoprazole 40 mg IV/PO daily beginning POD 1
- 28. MONITOR lab work daily
  - a. CBC, CMP POD 0
  - b. CBC, CMP, Mg, Drain Amylase POD 1
  - c. CBC, CMP, Drain amylase POD 2
  - d. CBC, CMP POD 3,4
- 29. ENFORCE defined discharge criteria
  - a. Discuss from POD 0 with patient, family, resident team, and nurse staff
  - b. Reinforce expectations and discuss regularly with PATIENT, RN staff, PRM, and family
  - c. Anticipate discharge needs
    - i. Lovenox for VT prophylaxis X 28 days after surgery
    - ii. Senna S and Miralax while taking narcotics
    - iii. Prilosec OTC or Pantoprazole 40 mg qd- lifetime medication
    - iv. Tylenol 600 mg PO q 6h prn
    - v. Gabapentin X 2 weeks
    - vi. Naproxen OTC 220 mg BID
    - vii. Tramadol prn, Oxycodone prn
    - viii. Follow-up appointments w/MD, NP or PA 1 week after discharge