Enhanced Recovery Thoracic Surgery

Anesthesia Pathway

Preoperative

- Patient Education & Expectations for Hospital
- Medical Risk Consultation: Cardiac Clearance and PFTs for All Patients
- Surgery Wellness Referral for >65 years old or concern for diminished functional status
- Smoking Cessation: Goal 4 weeks prior to Surgery
- Nutrition: Referral to Dietician for all esophagectomy patients

Intraoperative

- Fasting:
  - No solid food after midnight
  - Clear liquid diet until 2 hours prior to arrival to hospital
- Postoperative Nausea/Vomiting Prevention:
  - Zofran 4mg at end of the case for all patients
  - If young female or history of PONV, then use dexamethasone 4-8mg as well as scopolamine transdermal patch. If >75 years old, do not use scopolamine.
- Lines:
  - Arterial Line: Indicated for Esophagectomy and Lobectomy. To be removed at end of case if admitted to the ward.
  - Central Line: Placed at discretion of anesthesia provider. To be removed at end of case if admitted to the ward.
- Surgical Site Infection Prophylaxis:
  - Ancef 2g (or 3g if >120kg) every 4 hours
  - Discontinue following closure of wound
- Venous Thromboembolism Prophylaxis:
  - SQ Heparin 5000units given prior to incision and re-dosed every 8 hours
- Normothermia

- Lung Protective Ventilation:
  - 2 Lung Tidal Volume 7ml/kg ideal body weight
  - 1 Lung Tidal Volume 4-5ml/kg ideal body weight
  - Respiratory Rate set to maintain $PaCO_2$ 40-50
  - FiO_2 100% until single lung ventilation, then decrease to goal <70% to maintain SpO_2 >92-94%

- Goal Directed Fluid Management:
  - Goal Euvolemia

- Pain Management:
  - PCEA
    - To be used for esophagectomy and for open lung resection only; not to be routinely used for minimally invasive (VATS and robotic) resections
    - Level: T6/7 or T7/8
    - Solution: Ropivacaine 0.1% with 2 mcg/ml fentanyl
    - To be run throughout the case
  - Tylenol:
    - PO 1g given in preop, then re-dosed every 6 hours
  - NSAIDS:
    - To be used in all patients <75 years old and normal renal function.
    - IV Toradol 15mg q6h to be started at the end of the case
    - Transition to PO Diclofenac 50mg BID when patient taking PO.
  - Gabapentin:
    - 600mg given in preop, then continued on the floor 300mg BID
    - Note: consider dose reduction or avoidance of gabapentin in older adults and patients with reduced renal function

Postoperative – <u>Esophagectomy</u>

POD0
- Admit to 8S or 10 CVT as Stepdown
- Ambulation Required Day of Surgery

POD1
- Ambulate QID

POD2
- Remove NGT
- Start Sips/Chips

POD3
- Advance to Clear Liquid Diet
- Remove Chest Tube
- Wean PCEA

POD4
- Advance to FLD

- Remove PCEA

POD5
- Discharge Home

Postoperative – <u>Open Lobectomy/Wedge Resection</u>

POD0
- Admit to 8S or 10 CVT
- Ambulation Required Day of Surgery
- Sips/Chips

POD1
- Advance diet as tolerated
- Ambulation QID
- Wean PCEA in PM

POD2
- Remove Chest Tube
- Remove PCEA

POD3
- Discharge Home

Postoperative – <u>Minimally Invasive (VATS and Robotic) Lobectomy/Wedge Resection</u>

POD0
- Admit to 8S or 10 CVT
- Ambulation Required Day of Surgery
- Sips/Chips

POD1
- Ambulation QID
- Advance diet as tolerated
- Remove Chest Tube/Discharge Home if Wedge Resection

POD2
- Remove Chest Tube/Discharge Home if Lobectomy