Chest Trauma
- Penetrating
- Blunt
- Cardiac contusion
- Cardiac Tamponade
- Diaphragm Rupture
- Esophageal injury

- Rib fractures
- Pneumothorax
- Hemothorax
- Tension pneumothorax
- Flail chest
- Pulmonary contusion
Treatment of PTX

- Oxygen therapy
- Chest tube – 80% of chest trauma (blunt and penetrating) only requires a chest tube
Don’t want to Dx Tension PTX with Chest x-ray!
Treatment of Tension PTX

- Requires immediate diagnosis and treatment
- Diminished breath sounds, tracheal deviation, hypotension
- Angio cath 2nd intercostal space midclavicular line
- Followed by chest tube
Hemothorax

- Mild < 400 cc blood
- Moderated 400–1000
- Massive > 1000

- Place Chest tube
- May require OR
- Remember retained hemothorax a bad complication
THE MECHANISM OF A FLAIL CHEST

mediastinum shifts with each breath

loose part of the chest wall

inspiration

expiration
Treatment of Flail Chest

- Pain control, pain control, pain control
- May require intubation of respiratory distress
- Chest tube may be required
- Epidural evaluation
Pulmonary Contusion

Edema of Alveoli
Pulmonary Hemorrhage
Atelectasis
Treatment of Pulm Cx

- This is an injury that doesn’t look as bad as it means clinically
- Pain control
- Oxygen therapy
- Limit fluid intake
- May require intubation
Remember:
- The Chest is connected to the abdomen.
- The margins of the abdomen are the lower margin of the scapula and the gluteal fold.
- Intrathoracic may mean intraabdominal
- Sternal Fx, First rib Fx, Scapular Fx indication major blunt force to chest
- Associated TBI
Rib Fractures

- Incredibly painful
- Pain control and pulmonary toilet mainstay of therapy
- Respiratory care consult
- Incentive Spirometry
- Early mobilization
Rib Fracture

FVC < 1000
- Admit ICU
  - Respiratory care consult
  - CPAP if FVC < 500
  - Nebulizers
  - IS q 1 hr
  - PEP q 2 hr
  - Percuss and vibrate q 2 hr
  - Daily chest x-ray
  - Total Sports Bed
  - Epidural
  - Continuous pulse ox

FVC 1000-1500
- Admit SDU
  - Respiratory care consult
  - FVC q 8 hr
  - If falls below 1000 – ICU
  - Nebulizers as needed
  - IS q 1 hr while awake
  - PEP q 4 hr
  - Percuss and vibrate q 2 hr
  - Epidural
  - Continuous pulse ox

FVC > 1500
- Admit Floor
  - Respiratory care consult
  - IS q 1 hr while awake
  - PEP q 4 hr
  - Pulse ox with vital signs
Pain Control Options

- NSAIDS
- Toradol
- Narcotics
- PCA
- Rib Blocks
- Epidural
- Local Infusion catheters
- Ketamine
Chest tubes

- Barium strip on side
- Sentinel hole must be within the chest cavity
- Occlusive dressing
- Suction vs. waterseal
Material Needed

1. Chest tube with or without trocar
2. Chest tube suction unit (Pleurevac), tubing, wall suction hookup
3. Chest tube tray to include scalpel blade and handle, large Kelly clamps, needle driver, scissors
4. Packet of 0 or 1 silk suture on a curved needle
5. Tape, gauze
6. Lidocaine with or without epinephrine, 20 cc syringe, assortment of gauged needles for infiltration (18, 23)
7. Sterile prep solution; mask, gown and gloves
8. IV pain medicine
Chest tubes

CHEST TUBE INSERTION PROCEDURE
The distal end of the chest tube is clamped and, using the clamp as a guide, inserted into the incisional site (E above). At this time, the patient should be encouraged to take a deep breath; this will displace the diaphragm downward, minimizing the risk of its injury. The clamp is removed and the tube is then advanced into the pleural space and directed anteriorly or posteriorly depending on the material being drained (F above).
Pleurevac

- Waterseal
- Suction
  - 20 cm wet suction
  - 40 cm dry suction