Case Scenario for discussion

- 23 y.o. male in 1 vehicle MVA found at the side of the road by you, who witnessed the MVA
- Victim was thrown from the vehicle and lies prone
- Unconscious, not breathing, no external blood loss
- What are your priorities?
Initial Assessment and Priorities

ABCDE

- Airway
- Breathing
- Circulation
- Disability
- Expose/Examine
Airway

- Mechanism of injury requires assumption of C-spine injury
  - Log roll patient to supine maintaining neutral C-spine

- Assess airway
  - Clear foreign bodies from upper airway
  - Listen and observe chest
  - Jaw thrust
  - Prevent tongue obstruction of airway
Breathing

- No chest movement with open upper airway
  - Breathe for victim

- Accessible airway
  - Stabilize oral/nasal airway (intubate)

- Airway inaccessible (facial/mandibular fracture, blood in upper airway)
  - Establish surgical airway
Emergency Surgical Airway

- **Cricothyroidotomy**
  - Airway of choice
  - Quick, superficial, stable

- **Oxygen jet insufflation**
  - Large bore intracath thru CT membrane
  - High flow O2 in, no exhalation phase
  - Patients with poor landmarks (infants, thick necked patients)
Case #1

35 yo in A/A

- P=120, BP=85/50, RR=40
- No breath sounds on R, NI BS on L
- Hyper-resonant percussion note on R
- Distended neck veins

Your diagnosis?

Initial treatment?

Definitive treatment?
Tension Pneumothorax

- **Initial treatment**
  - McSwain Dart – 2nd ICS, MCL
  - Hear the “swoosh”
  - VS stabilize

- **Definitive Treatment**
  - Tube Thoracostomy (Chest tube)
  - 2nd ICS, MCL for air
  - 5th ICS, AAL for blood
Case #2

- 24 yo with .35 caliber GSW to L Chest
  - P=132 BP=80/40 RR=50
  - Dull percussion L chest, flat neck veins

- Your diagnosis ?
- Initial treatment ?
- Definitive treatment ?
Hemothorax

- Initial treatment establishes diagnosis
  - IV fluid support
  - Tube thoracostomy 5th ICS, AAL
  - 1800 cc blood immediately
  - Dx = Massive Hemothorax

- Patient goes to OR

- Thoracotomy finds Pulmonary Vein injury which is repaired
Case #3

- 27 yo male with .22 caliber GSW to R chest
- P=105 BP=100/75 RR=24
- Dull percussion note R chest, flat neck veins
- Your diagnosis?
- Initial Rx?
Hemothorax

- Initial Chest tube drains 600cc blood
  - Establishes dx = Submassive hemothorax
  - Manage non-operatively in ICU

- Hourly blood volumes
  - 80cc, 180cc, 150cc, 130cc, 120cc, 115cc
  - Pt. Requires blood, remains stable

- Further Rx plan?
Continued Intrapleural Bleeding

- Bleeding > 100 cc/hr for 6 hrs.
  - Treatment => Go to OR for Thoracotomy
- Most common bleeding site = Intercostal artery
Case #4

- 31 yo male in AA broadsided by pickup
  - P=100, BP=120/80, RR=30
  - L chest rhonchi, R chest nl, abd. benign
  - L chest segment moves inward with inspiration

- Diagnosis ?
- Treatment ?
Flail Chest

- Endotracheal intubation and positive pressure ventilation
- Follow-up CXR for pulmonary contusion
  - Contusion is main reason for pulmonary insufficiency after 24-48 hours
  - Treat pulmonary contusion with supportive therapy
Case #5

- 19 yo driver in MVA, no seatbelt with contusion over the sternum
- P-140 BP 80/40 RR-40
- +JVD, normal breath sounds, muffled heart sounds
- Diagnosis ?
- Initial treatment ? Definitive treatment ?
Acute Cardiac Tamponade

- Signs of Hypovolemic shock with JVD due to pump restriction
- Treat with pericardiocentesis initially
- Definitive treatment with pericardial window in OR
## Differentiating 3 Killers

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Summary

- ABCDE
- Surgical Airway
- Tension Pneumothorax
- Massive Hemothorax
- Submassive Hemothorax/Continued bleeding
- Flail Chest
- Cardiac Tamponade
Summary

- Rapid clinical recognition
- Rapid initial treatment (in the field)
- Accurate definitive treatment