

Penetrating Neck Trauma Handout

Anatomy

Zone I – between the clavicle/suprasternal notch and the cricoid cartilage

Zone II - between the cricoid cartilage and the angle of the mandible

Zone III - between the angle of the mandible and the base of the skull



Platysma – the first muscle layer under the skin of the anterolateral neck

- If the **Platysma** is violated, consult surgery

ABCs

AIRWAY – secure the airway early if you find Acute Respiratory Distress, Compromise from blood/secretions, Massive SQ emphysema, Tracheal Shift, or MS alteration

- In general, RSI should be your 1st choice
- Have a back up ready (Cric. Kit open and neck prepped, etc)
- Alternatives - Gum Elastic Bougie, Blind Nasotracheal, Fiberoptic, Retrograde tracheal intubation, Cricothyrotomy, Tracheostomy
- Maintain C-spine the best you can

BREATHING - High-Flow Oxygen/ Pulse OX

- Difficulty ventilating could be an upper airway or thoracic injury
- Unequal breath sounds or asymmetric chest movement = pneumo/hemothorax
- Watch for tracheal deviation – tension pneumothorax

CIRCULATION - Control active bleeding with direct pressure

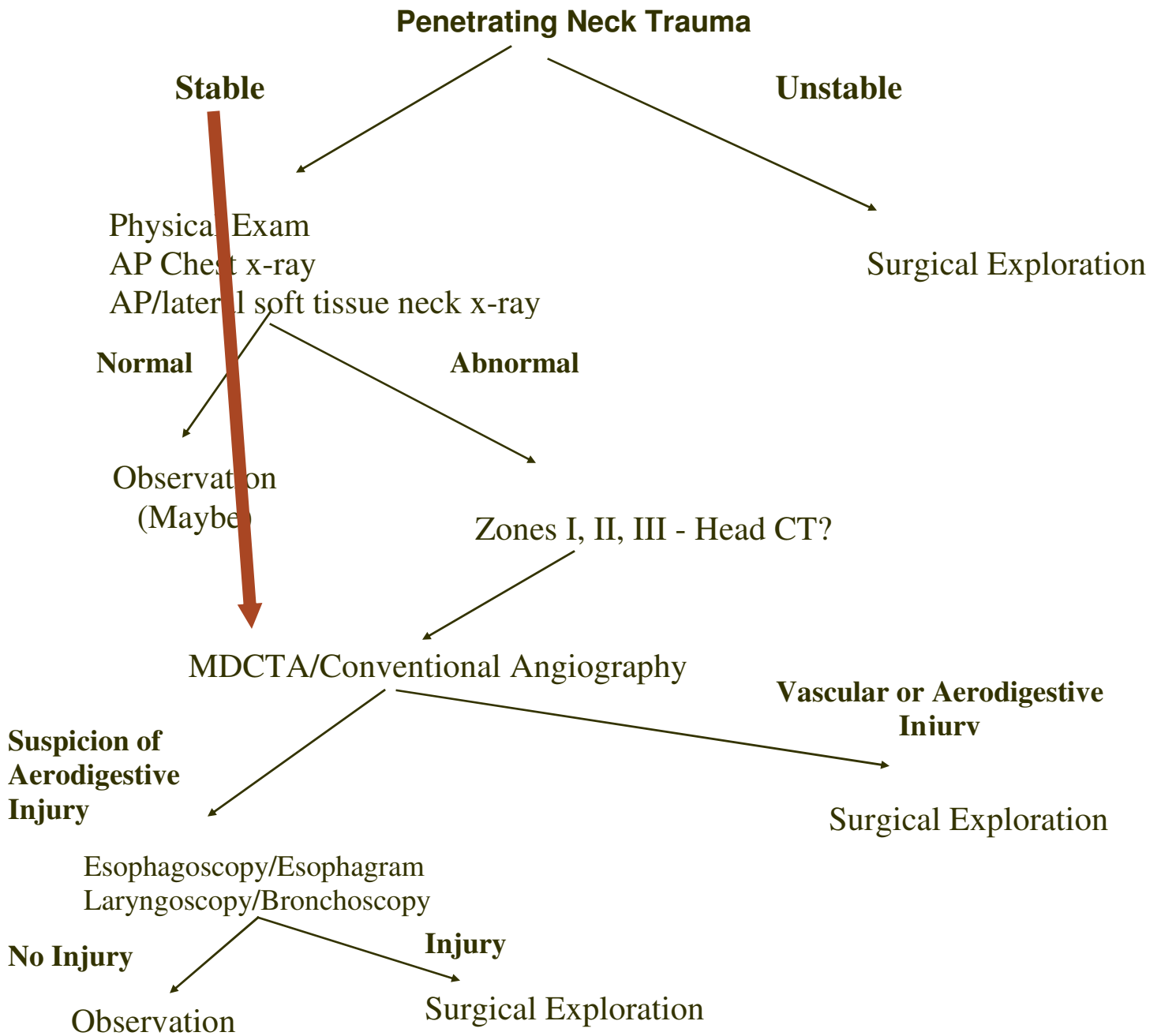
- 2 Large Bore IVs and judicious fluid resuscitation
- Do not clamp bleeding vessels as this can cause additional vascular/nerve damage
- Avoid NG tubes initially as gagging may dislodge a clot → hemorrhage
- Mild Trendelenburg position to decrease the risk of air embolization in venous injuries
- The EJ vein can be tied off w/o adverse affect
- Do NOT remove impaled objects
- Injuries that do not stop bleeding– consider temporizing with foley catheter tamponade

DISABILITY – Look for injuries to the following structures: Spinal Cord, Phrenic, Recurrent Laryngeal, Cranial Nerves IX-XII, Brachial Plexus, Focal neurological deficits from damage to the carotid or vertebral artery → CNS Ischemia

EXPOSURE – look for additional injuries

Who goes emergently to the OR ?

- Absolute Criteria: Shock, Uncontrolled Bleeding, No Radial Pulse, Rapidly Expanding or Pulsatile Hematoma, Respiratory Distress
- Relative Criteria: Air Bubbles from Wound, Hemoptysis, Crepitus



Diagnosis & Management

- Institution, Resource, and Surgeon dependant
- All hemodynamically unstable patients or those with obvious aerodigestive injuries should go immediately to the OR
- Everybody gets a an AP CXR & a Lateral/AP Neck
- Type and Cross
- Consider LA, base deficit, or bicarb