

Initial Evaluation of the Trauma Patient

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Priorities

- Airway
- Breathing
- Circulation
- Disability (Mini-neurologic examination)
- Exposure (preservation of heat)



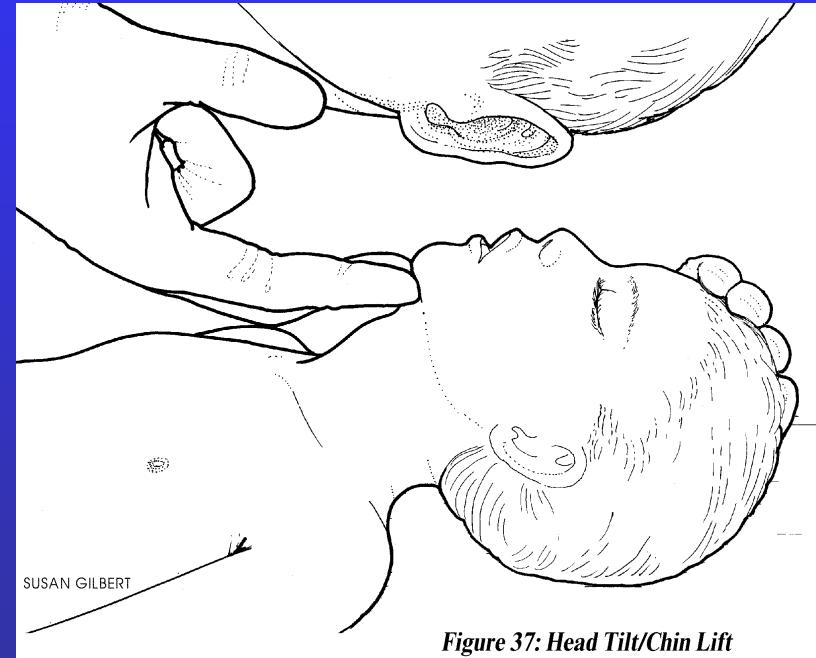
Airway

- Open Airway
- Give O₂
- Stabilize Cervical Spine



Open the Airway

- Chin Lift
- Jaw Thrust
- Suction
- Oral/Nasal Airway
- Intubation
- Cricothyroidotomy



Airway

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Breathing

- The examination begins in the neck
- Look for tracheal deviation
- Look for distended neck veins
- Look for symmetric motion of the chest wall
- Palpate the chest wall
- Listen for bilateral breath sounds



Tension Pneumothorax

- Tracheal shift to contralateral side
- Distended neck veins
- Decreased breath sounds on ipsilateral side of chest

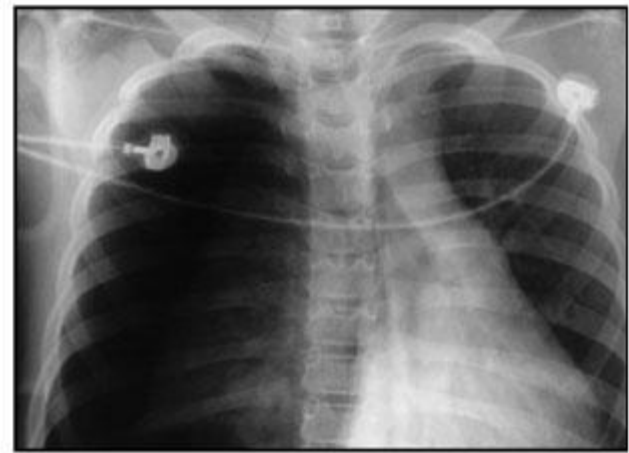


Figure 1

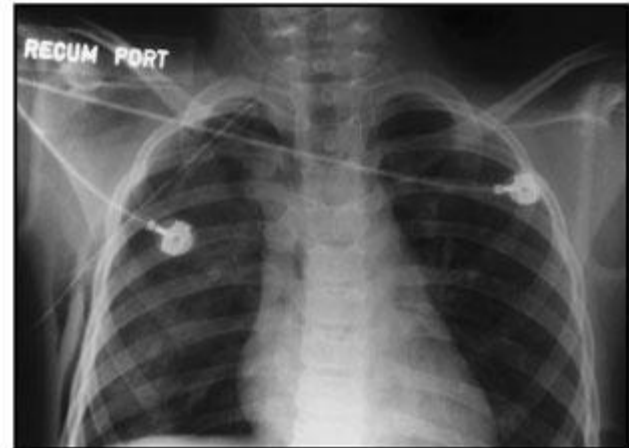


Figure 2



Pericardial Tamponade

- Hypotension
- Distended Neck Veins
- Muffled Heart Sounds



Circulation

- Check pulse – Measure blood pressure
- Stop external hemorrhage
- Vascular Access
- Send blood to the blood bank
- Begin warm saline infusion
 - 2 liters in adults
 - 20 cc/kg in children



Clinical Definition of Shock

- Rapid weak pulse
- Hypotension

SEND FOR A SURGEON



Disability – Mini-Neurologic Exam

- Mental Status
 - Glasgow Coma Scale
- Pupils
- Moves all four extremities?



Unconscious: Send for a Neurosurgeon



Exposure/Environment

- Disrobe the patient completely
- Log roll the patient maintaining axial traction—INSPECT THE BACK
- Cover the patient to keep him warm!



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Stage of Resuscitation

- Re-evaluate ABC
- Monitors
- X-rays
 - Chest
 - Pelvis
 - Cervical spine
 - FAST Ultrasound
- Insert Foley and Gastric Tube



Re-evaluate ABC

- If the patient remains hypotensive after 2 units of saline—GIVE BLOOD



Monitors

- EKG
- Pulse Oximeter
- End tidal CO₂
- Continuous blood pressure measurement
- Consider arterial blood gases



Chest x-ray

- Pneumothorax?
- Hemothorax?
- Rupture of Diaphragm?

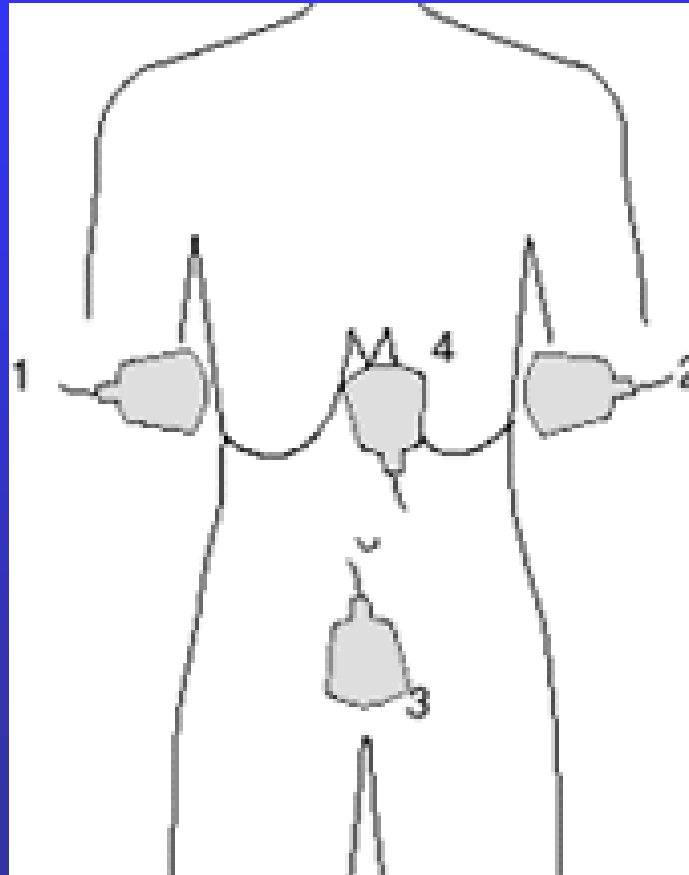


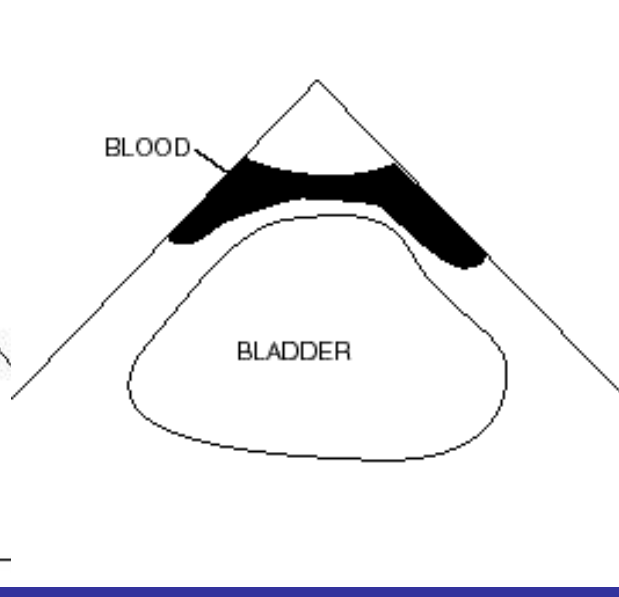
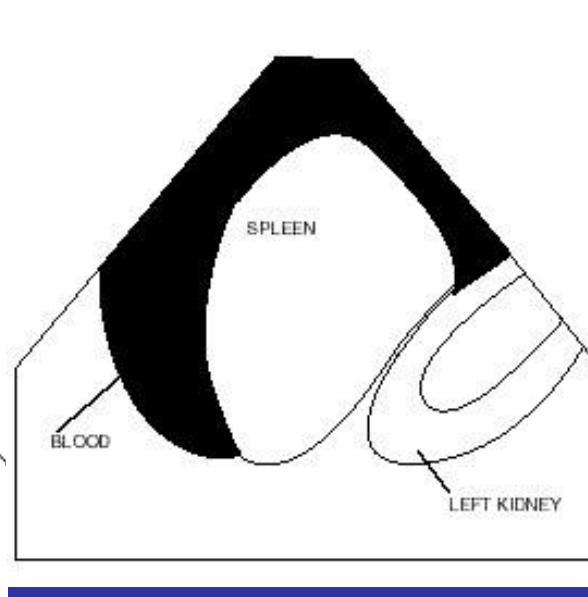
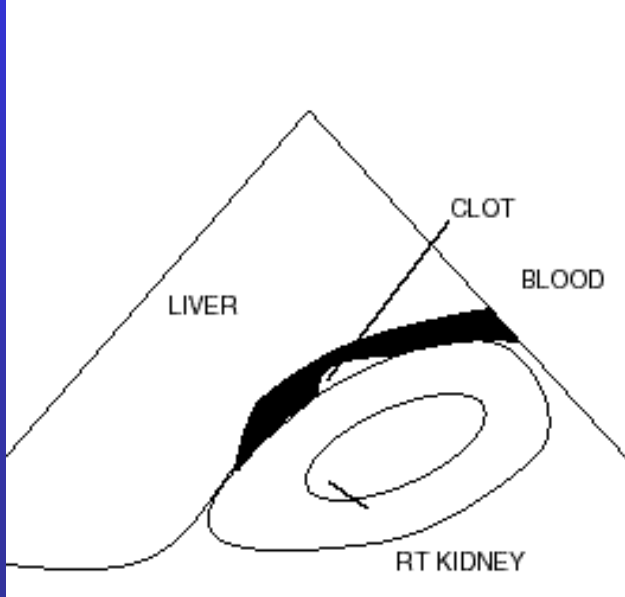
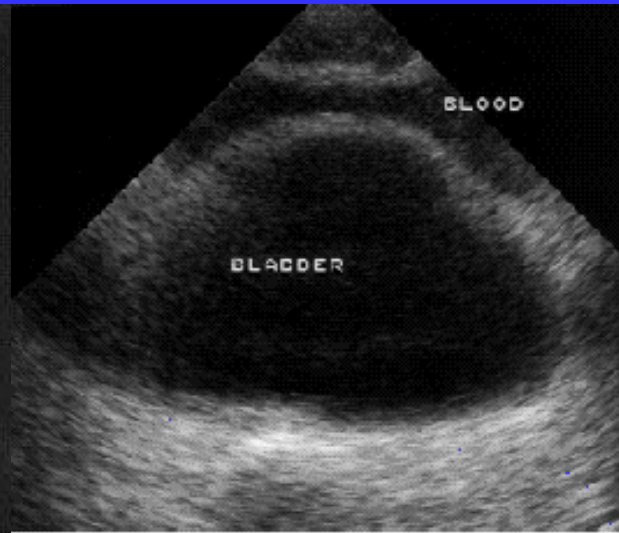
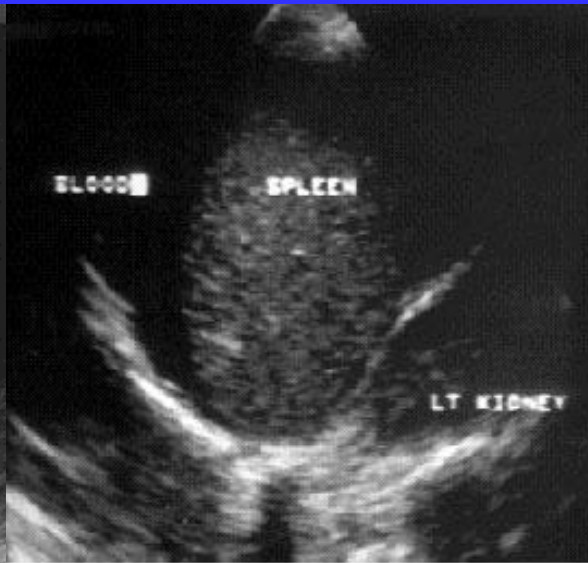
Pelvic Film

- Pelvic Fracture – Possible Source of Hemorrhage



Focused Abdominal Sonography for Trauma (FAST)





RUQ

LUQ

Pelvis



Prior to Foley Insertion

- Blood at the Urethral Meatus?
- Rectal Exam - High riding Prostate?
- Hematoma of the Perineum?

Obtain retrograde Urethrogram prior
to inserting the Foley





Massive Facial Trauma

- Do not insert NG tube
- Insert gastric tube by mouth



Stage of Resuscitation

- Re-evaluate ABC
- Monitors
- X-rays
 - Chest
 - Pelvis
 - Cervical spine
 - FAST Ultrasound
- Insert Foley and Gastric Tube



Secondary Survey

- Complete Head to Toe Examination
- Continuous Reassessment
- Exam more detailed with each review



“AMPLE” History

- A = Allergies
- M = Medications
- P = Previous Operations and Hospitalizations
- L = Last Meal
- E = Events leading to Injury



Head

- Palpate skull
- Look for Battle's Sign (hematoma over mastoid process)
- Look for blood or fluid draining from the ears



Face

- Palpate
 - Forehead
 - Periorbital ridge
 - Nose
 - Maxilla
 - Mandible
- Check extraocular motion and pupils
- Inspect mouth



Neck

- Trachea
- Neck Veins
- Palpate for Subcutaneous Emphysema
- Remove anterior portion of neck collar – palpate posteriorly searching for pain, swelling or a bone abnormality



Chest

- Symmetric Chest Expansion?
- Localized Pain to Palpation
- Subcutaneous Emphysema?
- Bilateral Breath Sounds?



Abdomen

- Inspection
 - Distension?
 - Signs of penetrating injury?
 - “Seat belt” sign?
- Percussion/Palpation
 - “peritoneal signs”
- Auscultation



Additional Tests to Evaluate the Abdomen

- FAST Exam
- Diagnostic Peritoneal Lavage
- CT Scan of the Abdomen



Pelvis

- Do NOT check pelvic stability by rocking the pelvis. This can increase retroperitoneal hemorrhage. The diagnosis of pelvic fracture is a radiologic diagnosis!!



Extremities

- Palpate all extremities
- Palpate and record all pulses
- Do a careful motor and sensory examination of all extremities



Neurologic Examination

- Continuous re-assessment of patient's mental status by maintaining verbal contact with the patient.
- Time and record mental status, sensory and motor examinations



Additional Test to Evaluate the Brain

HEAD CT



Consultants?

- Shock — Surgeon
- Unconscious or deteriorating mental status
— Neurosurgeon
- Fractures -- Orthopedist



Summary

- Primary Survey
- Stage of Resuscitation
- Secondary Survey
- Transfer
- Definitive Treatment



Suggested Reading

http://www.nda.ox.ac.uk/wfsa/html/u06/u06_011.htm

