Trauma Series

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Trauma Series

- Lateral Cervical Spine
- AP chest X-ray
- AP Pelvic X-ray
The essentials

- Team leader should supervise the 1° & 2° survey and the initial trauma X-rays
- Trauma team should be mindful of irradiation and wear adequate protection
- Do the full trauma series unless a reason not to
- Injuries to thoracolumbar spine should be actively sought, correct evaluation of the X-ray will exclude most bony injuries
- CT useful adjunct if mediastinal/large vessel injury/classifying pelvic fractures.
Lateral C-spine

- With a team member exerting gentle traction on arms to pull down the shoulders, to get C7-T1 exposure
- 60% of spinal cord injuries = cervical
Examination of the lateral C-spine

- **A = Alignment**
  - Inspection of four lordotic lines: anterior, posterior, spinolaminar line and tips of spinous processes
  - Angulation between adj vertebrae up to 11 degrees may be normal

- **B = Bony Structures**
  - Examine vertebral body, pedicles, facet joints, laminae and spinous processes and interspinous distance
Further Elaboration

- C = Cartilage Spaces
  - All the spaces between adj processes should be inspected for equality

- S = Soft Tissue
  - For pre-vertebral hematoma
  - If >7mm at C2
  - If > 22mm at C6
  - Look again for fracture or ligamentous disruption
Normal C-spine
Normal C-spine
Step C5/C6
Step C2
C5 fracture dislocation
C6 fracture
Normal Peg View
C2 fracture
Widening around Peg -> C1#
Chest X-ray

- A – Airway/ Airfields
- B – Bony structures
- C – Cardiac shadow, cardiac system
- D – Diaphragm
- E – Expansion
- F – Foreign objects

Before those though R.I.P
Rotation, Inspiration and Penetrance
Chest trauma

- Usually AP due to inability to clear the spine
- Should include both clavicles, all ribs, lung fields, mediastinum and diaphragm
- Look for haemothorax, pneumothorax and may show signs of major vessel injury by a widened mediastinum
Flail Chest
Pneumothorax
Pneumothorax
Chest tube in right main bronchus
AP Pelvis

- All bony components included and the hip joints
- Integrity of the pelvic structures and components
- NB 30% of posterior fractures involving the sacrum and sacro-iliac joints will not be seen on the plain films
Pelvis

- Assessment of Pelvic fractures
  - Major or minor?
  - Open or closed?
  - Haemodynamic compromise or hollow viscus injury?
  - Bony stability and instability?
Superior pubic rami #/dislocation
Pelvic fractures
Left sup+inf pubic rami #
The FAST examinations

- The right upper quadrant (Morison’s pouch)
- The left upper quadrant (splenorenal recess)
- The subxiphoid area (pericardium)
- The suprapubic area (pouch of Douglas/rectovesicle pouch)
The X-rays to remember

- C-spine +/- peg view
- AP Chest X-ray
- AP Pelvis X-ray