Imaging Guide Book

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PREVIEW

Skeletal Survey

→ Plain radiography

- Axial Skeleton
  - PA chest
  - Skull: lateral projection
- Appendicular Skeleton
  - AP Humeri
  - AP femora
  - AP pelvis
  - Lateral Thoracic and Lumbar spine

→ Bone scintigraphy

→ CT scanning

→ MRI scanning

→ PET scanning

➤ Purpose: to evaluate the presence and extent of a pathology or injury in the cause of non-accidental injury

➤ Diagnoses:
↳ Metastases
↳ Multiple Myeloma
↳ Paget's Disease

Sternum

- Use moving Bucky or stationary grid
- Cassette: 24 x 30 cm (portrait)

➤ AEC not recommended
↳ It will detect radiation for lung tissue

→ Lateral Erect

- SID: 150 – 180 cm
- 70 – 75 kVp, 50 mAs
  - Longer time (blurs ribs)
- Expose on inspiration

➤ Arrest inspiration pushed sternum further forward
↳ Esp. When arms are pulled backwards

➤ Lateral Recumbent: Patient lying on the side with arms above their head
↳ Only for patients who are unable to sit up

➤ Hands behind the back
↳ Expand sternum joints → easier to see

➤ Collimate to that shadow of front chest can be seen on Bucky
↳ factor in inspiration space

➤ AP Marker for side on Bucky

→ Right Anterior Oblique

- 60 – 65 kVp, 60 mAs
- SID: 100 cm
  - < 100 cm decrease exposure
  - > 100 cm increase exposure
- Angled 15° - 20°
- Centre: 3 - 5 cm on raised side

➤ Not recommended for trauma patients → torsion of spine

➤ 2 – 3 seconds exposure time with normal breathing
↳ Blur ribs → allows more visibility

➤ Angle dependent on patient size
↳ Ensure that sternum is aligned with spine

PREVIEW

• Normal breathing	➤ Marker placed in the same direction as the patient is facing (PA/AP)
Sternoclavicular Joint • SID: 100 – 115 cm • Cassette: 18 x 20 cm landscape • 65 kVp, 20-25 mAs	➤ Marker in PA ➤ In Bucky
→ PA • Centre: middle of Jugular notch or ~7 cm below vertebra prominence • Cassette 18 x 20 cm landscape • Suspended respiration on expiration	➤ Prone: lying face down → for patients who can't stand ➤ Head turned to a side ➤ Collimate 3 cm to each side
→ Anterior Oblique • 10° – 15° on affected side • Centred 3 – 5 cm towards the raised side	➤ Left sternoclavicular joint → LAO ➤ Injured side towards the Bucky ↳ Dislocated clavicle shows signs of swelling
Ribs • 35 x 43 cm cassette portrait • Expose on inspiration	➤ Chest x-ray first to see general placement of fracture and pathology ↳ 80 - 100 kVp, 300 mA, 10mAs
→ Oblique (Upper or Lower or both) • SID: 120 – 180 cm • Angled 45° • Upper Ribs: – 60 kVp, 25 mAs • Lower Ribs: – 63 kVp, 32 mAs • RPO or LPA – Centre: mid rib on Bucky side • RAO or LAO – Centre: mid rib on raised side	➤ Do the opposite ↳ Imaging Right Posterior → Position RPO ↳ Imaging Right Anterior → Position LAO ↳ Imaging Left Posterior → Position LPO ↳ Imaging Left Anterior → Position RAO ➤ Upper: expose on inspiration ↳ Rib 1 to Rib 10 (Xiphoid Process) ➤ Lower: expose on expiration ↳ Rib 9 to Rib 12

PREVIEW