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***Trauma Radiography – Clinical Techniques***

**Thinking Like a Radiologist?**

* Changing role of technologist
* Nature of trauma
* Why things show up on radiographs (It’s not what you think!)
* Five (5) basic radiographic densities
* Image contrast using radiographic densities
* Clinical examples of radiographic densities
* Principles of image interpretation
* Mach effect/boundary effect
* Measures of optimal image resolution in digital world
* Veil glare
* Expectation of radiologists
* Trauma positioning principles (Think outside the box!)
* Positioning pointers and tricks
* Role of beam angulation and divergence

**Trauma Considerations**

* Trauma equipment designs
* Digital receptors and trauma cases
* Positioning considerations
* Grid challenges
* Double angles
* Role of distance
* Trauma positioning attitudes and rules

**Chest Analysis in Trauma Situation**

* Concept of Silhouette Sign
* Chest analysis Strategies
* Features of a normal chest image series
* Role of interpretive stripes and lines on images
* Chest considerations in trauma
* Significance of cardiac silhouette
* Positioning considerations in trauma including image interpretation
* Pneumothorax (causes and types)
* Hemothorax
* Flail chest and rib fractures
* Pericardial tamponades

**Image Analysis in Trauma Setting and Radiologist Expectations**

* Chest trauma analysis including bony thorax
* Abdomino-pelvic injuries
* Injuries to the spine
* Hip and pelvic fractures
* Positioning considerations
* “Precious Blood Supply” bones (which ones and why)
* Upper and lower extremity
* Bone assessment and 12 factors of bone analysis
* Role of periosteum diagnostically
* Fracture assessment
* Importance of multiple views in fx assessment
* Role of soft tissues and fat in image analysis

**Trauma Positioning for Body Parts with Clinical Image Expectations**

* Spine imaging and interpretive considerations
* Pelvis and interpretive considerations
* Upper extremity and interpretive considerations
* Lower extremity and interpretive considerations
* Shoulder girdle and interpretive considerations
* Bony thorax and interpretive considerations
* Abdomen imaging and acute abdominal pain
* Role of CT, US, MR and radiography for suspected abdominal pathologies

**Exposure Index (EI) and Deviation Index (DI)**

* EI and target EI (EIT) relationship
* Deviation index as a professional standard
* Exposure data errors simulating image pathology
* Suggestions to correct for gross overexposure
* Importance of bolus materials and creative beam limitation

 **~ Agenda Subject to Change ~**

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