

## OPERATIONAL GUIDELINES: RADIOGRAPHIC STUDIES ON TRAUMA PATIENTS

### Guidelines

1. Trauma Room Radiographic studies:
  - a. Radiographic studies in the Trauma room should focus on identification of immediate threats to life.
  - b. Trauma Room supine chest X-ray for all patients.
  - c. Trauma Room AP pelvis.
    - i. Obtain on all patients with a possible mechanism suggesting an unstable pelvic injury.
  - d. Other Trauma Room films should be obtained when indicated by the patient's injuries.
2. Wound clips: Use for identification of point of entry or exit on X-rays:
  - a. On all penetrating stab or gunshot wounds.
3. Retrograde cystogram:
  - a. Should be considered for all cases of gross hematuria, penetrating abdominal trauma and pelvic fractures where bladder disruption is suspected.( NOTE: A CT Cystogram may replace this study if available)
  - b. Allow 300 ml of contrast agent to flow into Foley catheter and then clamp.
  - c. X-ray the pelvis.
  - d. Obtain repeat x-ray after emptying bladder.
  - e. Cannot accept a cystogram from the abdominal/pelvis CT scan unless contrast has been injected into the bladder, i.e., a CT cystogram.
4. Retrograde urethrogram:
  - a. Should be considered for all cases of gross hematuria, penetrating abdominal trauma and pelvic fractures where disruption of the urethra is suspected.
    - i. Blood at the urethral meatus.
    - ii. Displaced or non-palpable prostate.
    - iii. Obvious perineal injury (perineal hematoma or open perineal injury or scrotal hematoma).
  - b. May position patient in right anterior oblique (45°) in "bicycling" position with right hip flexed and penis placed on medial aspect of right thigh if possible. Insert small (12 Fr.) Foley catheter into the meatus for a distance of 2-3 cm. gently inject 10 – 25 ml of renograffin contrast.
  - c. X-ray tube centered over pubic tubercle.
  - d. If Foley catheter has been previously placed, may be performed alongside the catheter by inserting 18 gauge angiocath next to Foley.
5. CT scans:
  - a. Head -- Mechanism for brain injury and
    - i. GCS  $\leq$  14
    - ii. "Witnessed" loss of consciousness in a patient with GCS = 15.
  - b. Cervical spine – mechanism for C-spine injury and
    - i. Unconscious patient who is not anticipated regain consciousness within 24 hours.
    - ii. C-spine tenderness
  - c. Abdomen / Pelvis – Mechanism for abdominal / pelvic injury and

- i. Abdominal or pelvic pain.
  - ii. Substantial mechanism for abdominal injury in the comatose or unresponsive patient.
  - iii. Pelvic fracture on plain film.
  - iv. Fluid in the abdomen on FAST exam in the hemodynamically stable patient.
  - v. If indicated consider reformatting of T,L,S spine if chest and abdominal CT scans are obtained.
- d. Spine (thoracic or lumbar) – limited to area of interest.
- i. Confirm or further diagnose fractures seen on plain films or chest/abdomen/pelvis CT Scans. Evaluate severe point tenderness over midline spine.