Cervical Spine Injury in Children

**Immobilise C spine if any of:**
- Significant mechanism of injury
- GCS < 15 on initial assessment
- Midline bony tenderness
- Focal neurological deficit or paraesthesia
- Any other clinical suspicion of C spine injury
  - eg distracting injury, intoxication

**Discharge Criteria**
- Normal imaging or imaging not indicated
- No other condition requiring admission
- No persisting neurology
- Able to mobilise to normal level

**STOP! THINK!**
Is a trauma call required?

1. **Can range of neck movement be safely assessed?**
   - Involved in simple read-end RTC
   - Comfortable in sitting position in ED
   - Ambulatory at any time since injury
   - No midline cervical spine tenderness
   - Presents with delayed onset neck pain
   - No neurological symptoms arms or legs
   - Can patient actively rotate neck to 45° left and right?
     - **Yes**
     - No imaging required
     - Re-evaluate if clinical picture changes
     - **No**

2. **Is imaging required?**
   Patient alert & stable with clinical suspicion of cervical spine injury where ANY of following present:
   - 1. Unable to safely assess range of movement
   - 2. Unable to rotate neck 45° as above
   - 3. GCS 14-15 at time of assessment

3. **Is a CT scan required?**
   Admit to PCDU to complete scan if no exclusions
   - GCS < 13 on initial assessment with head injury
   - Patient has been intubated
   - Definitive diagnosis of C spine injury needed urgently (eg before surgery)
   - Patient having other body areas scanned for head injury or multi-region trauma
   - MRI Cervical Spine:
     - May be indicated in addition to CT if neurological signs and symptoms
     - Discuss with ED Senior

4. **Is a CT scan required after x-ray?**
   - Plain x-ray suspicious or definitely abnormal
   - Plain x-ray technically inadequate
   - Strong clinical suspicion of injury despite normal x-ray
   - Imaging to be carried out within 1 hour of request
   - Provisional written report should be available within 1 hour of scan being completed

5. Focal peripheral neurological deficit
   - 5. Paraesthesia in upper or lower limbs

**Request X-ray**
3 view (omit peg view if child cannot cooperate)
  - to be carried out within 1 hour of request

**Request Immediate CT**
- Major Trauma
  - Discuss with ED Consultant RLH #6116
  - bleep 1115 or 0203 594 5722
  - The ED Consultant RLH will liaise with neurosurgery as required and if necessary identify a suitable bed
  - Time-critical injuries may need NUH to transfer 0207 902 2511 or #6209
  - Critical Transfer = within 10 minutes
  - eg cord compression
  - or
  - Discuss with CATS 0800 085 0003

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The receiving hospital for spinal injury as part of the major trauma network in East London is Stanmore Hospital #6225
Consultant Emergency Medicine

Reference Documents

Triage, assessment, investigation and early management of head injury in children, young people and adults, NICE CG176, January 2014
Acute Neurosurgical Emergency Transfer, CATS, June 2013