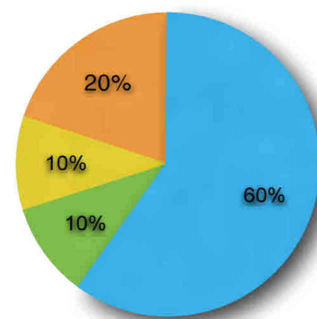
## Neck Examination




History: This patient has sustained an injury to the neck and is now complaining of neck pain.

Task: Determine this patients need for cervical spine immobolization, assessment and x-ray. Examine the patients upper limb.

● examination ● communication ● management ● history

| Marking Criteria | Not Completed | Partially Completed | Completed |
|---|---|---|---|
| Washes hands, introduction, confirms patient identity | | | |
| Gains verbal consent and explains process of examination | | | |
| Establishes mechanism of injury and need for immobilization (Dangerous mechanism of injury: fall from > 1 m or 5 stairs; axial load to head – for example, diving; high-speed motor vehicle collision; rollover motor accident; ejection from a motor vehicle; accident involving motorised recreational vehicles; bicycle collision.) | | | |
| Asks about pain and offers analgesia | | | |
| Determines if safe to assess neck (Safe assessment can be carried out if patient: was involved in a simple rear-end motor vehicle collision; is comfortable in a sitting position in the emergency department; has been ambulatory at any time since injury and there is no midline cervical spine tenderness; or if the patient presents with delayed onset of neck pain.) | | | |
| Maintains in line immobilisation at all times (uses helper and checks they are able to apply in line immobilisation). | | | |
| Removes blocks and opens out the collar, (no sudden or excessive movements) | | | |
| Inspects neck region for bruising, swelling, wounds etc | | | |
| Palpates central C-Spine for tenderness or bogginess and then paravertebral region each side | | | |
| Assesses dermatomes (light touch with cotton wool, pain with sharp object): C5 regimental badge, C6 thumb, C7 middle finger, C8 little finger, T1 inner aspect elbow | | | |
| Assesses Myotomes (MRC scale 0-5): C5 shoulder abduction, C6 elbow flexion, wrist dorsiflexion, C7 elbow extension, C8 finger flexors, T1 finger abduction | | | |
| Assesses reflexes: C5 biceps, C6 supinator, C7 triceps, C8 finger flexors | | | |
| Asks patient to rotate head 45 degrees | | | |
| Assesses patient appropriately | | | |
| Applies immobilization appropriately (if needed) | | | |
| Summarises findings and management plan | | | |
| Overall | | | |

# Neck Examination

## Level 1 Understanding

What are the four important anatomical curves of alignment on lateral neck x-ray?
Anterior vertebral line
Posterior vertebral line
Spinolaminar line
Tips of the spinous processes

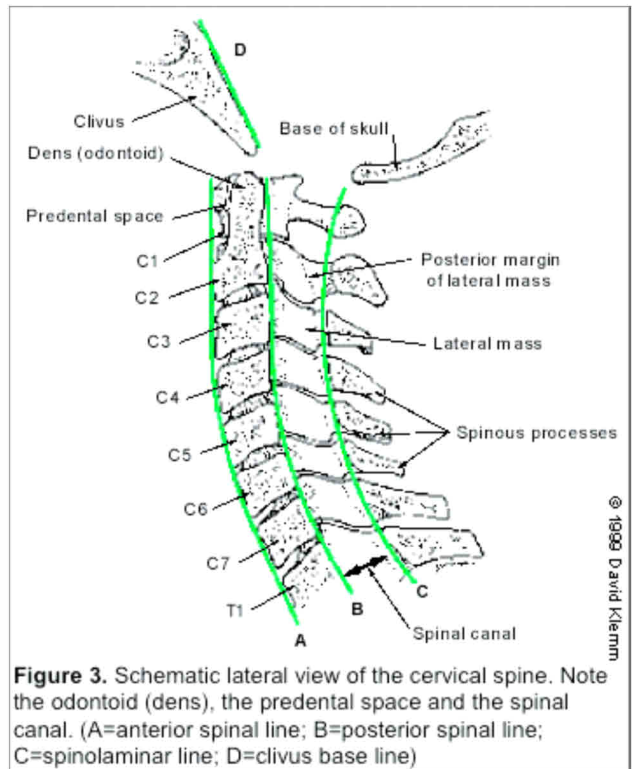



**Figure 3.** Schematic lateral view of the cervical spine. Note the odontoid (dens), the predental space and the spinal canal. (A=anterior spinal line; B=posterior spinal line; C=spinolaminar line; D=clivus base line)

## Level 2 Understanding

What are the indications for cervical spine x-rays?
Patient can not actively rotated the neck 45 degrees
Not safe to assess movement of the neck
Neck pain and midline tenderness plus: age >65 or dangerous mechanism.
To aid in urgent exclusion of c-spine injury

What are the NICE criteria of dangerous injury regarding cervical spine injuries?
Dangerous mechanism of injury: fall from > 1 m or 5 stairs; axial load to head – for example, diving; high-speed motor vehicle collision; rollover motor accident; ejection from a motor vehicle; accident involving motorised recreational vehicles; bicycle collision.

What are the indications for CT of the cervical spine in trauma?
GCS<13, Patient has been intubated, Plain films are inadequate, Continued clinical suspicion despite normal X-rays, Patient is being scanned for multi-region trauma

## Level 3 Understanding

What are the NEXUS Low-Risk Criteria for cervical spine radiography?
Cervical spine radiography can be omitted when all the following are present:
No posterior midline tenderness, Normal alertness, No evidence of intoxication, No focal neurological deficit, No painful distracting injuries

What are the components of the of the Canadian Spine Rule?
See opposite