Cervical Spine Injuries and Neck Pain

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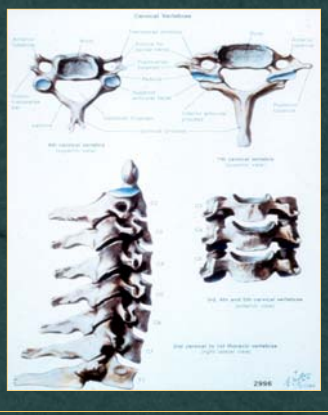
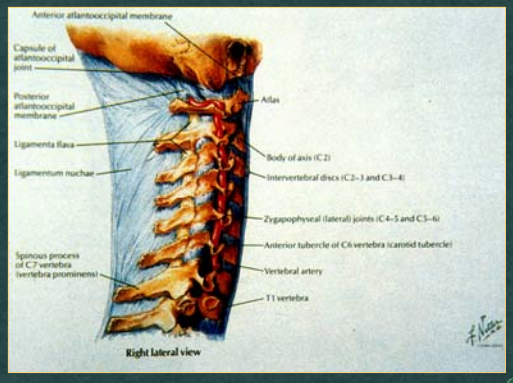
Cervical Spine Injuries and Neck Pain

- Common problem
- Potentially very serious
- Injuries may involve multiple structures:
  - Ligaments, disks, muscle, bone, facet joints, spinal cord, or nerve roots

Cervical Spine

Anatomy





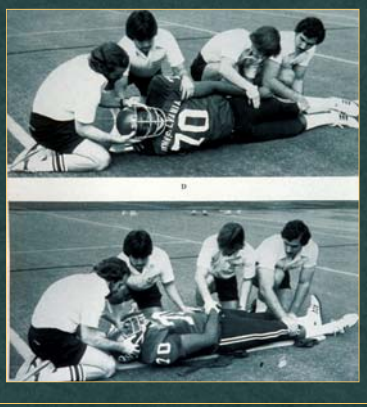
Acute Injuries

Severe Injuries

Fractures and Dislocations

Cervical Spine Injuries Unconscious Patient

- Very serious problem
- Always assume a cervical spine injury
- Follow spine injury protocol with head and neck support, log roll, and back board



Cervical Spine Injuries Mechanism of Injury

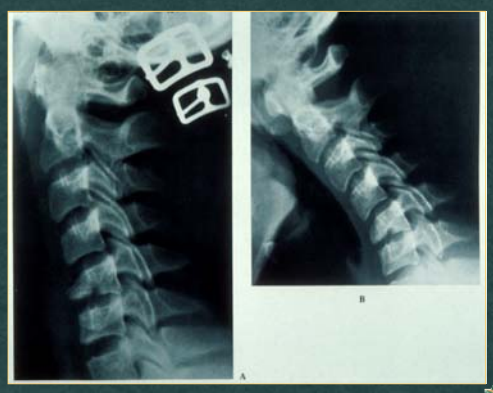
- Axial loading
- National Football Head and Neck Injury Registry
  - Formed in 1975
  - Data led to rule changes:
    - Banning spearing
    - No head first contact

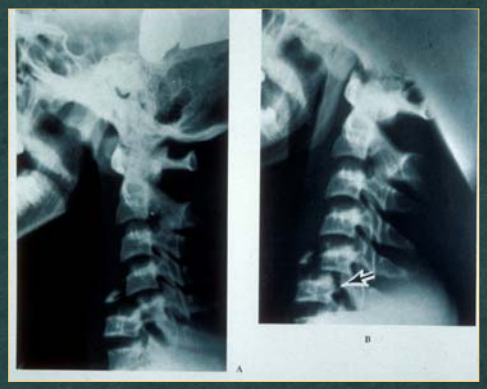
Cervical Spine Injuries Fractures and Dislocations

- Dislocations or subluxations:
  - Can be mild or sever, may be associated with fractures
  - Involve serious ligament and soft tissue injuries with potential instability
  - Facet dislocations or jumped facets are very serious
  - Neurological risk, careful neurological exam
  - Many will need surgical treatment

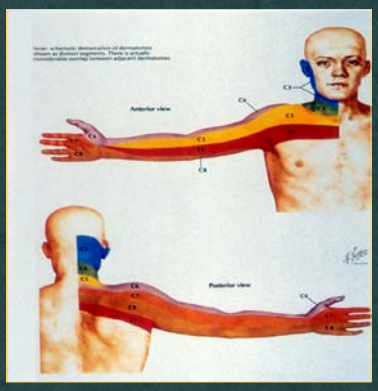
Cervical Spine Injuries
Fractures and Dislocations

- **Fractures:**
  - **May involve vertebral body, lamina, facet joint, or spinous process**
  - **Can be mild or very severe**
  - **Fracture and dislocation combination usually is the worst case scenario**
  - **Neurological risk, careful neurological exam**
  - **Many may need surgical treatment**

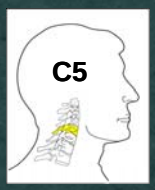




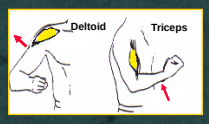
Physical Exam



C5 Neurologic Level

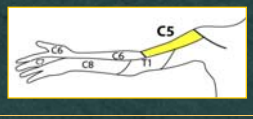


Motor

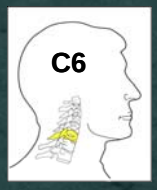


Reflex

Sensation

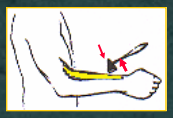


C6 Neurologic Level

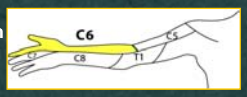


Motor

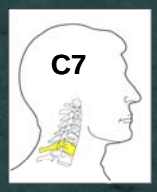
Reflex



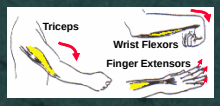
Sensation



C7 Neurologic Level

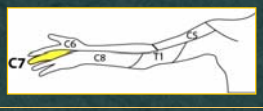


Motor

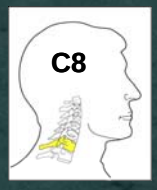


Reflex

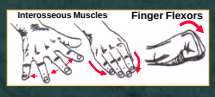
Sensation



C8 Neurologic Level

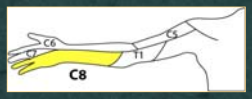


Motor

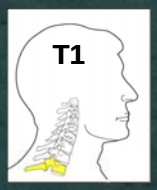


Reflex--None

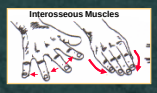
Sensation



T1 Neurologic Level

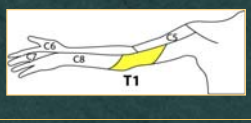


Motor



Reflex--None

Sensation



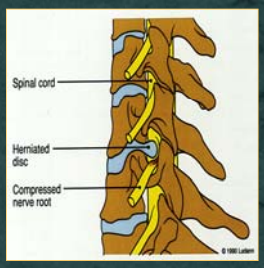
General Types of Injuries Cervical Sprain

- Common injury
- Ligament, muscle, soft tissue injury
- Localized neck pain, stiffness
- No numbness or weakness
- Treatment: rehab.
- Return to play: normal ROM

General Types of Injuries Cervical Disk Injuries

- May include tears or herniations
- Radicular pain and/or numbness, weakness
- Persistent symptoms
- Treatment varies, depends on severity: rehab, medications, injections, or surgery

Cervical HNP



General Types of Injuries Nerve Root/Brachial Plexus Neuropraxia

- Burner or stinger
- Temporary weakness and numbness
- Cervical nerve root compression (C6)
- Stretch injury
- Return to play only when symptoms are COMPLETELY resolved
- Best prevention is in good shoulder pads

General Types of Injuries Cervical Cord Neuropraxia

- Rare severe condition
- Symptoms usually bilateral or involving the lower extremities, transient quadriplegia
- On severe cases may last over one week
- Needs evaluation with MRI and frequent neurological examinations
- Treatment based on severity and MRI findings