

Cervical Spine Injuries and Neck Pain



Pablo Vazquez-Seoane, M.D.

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Financial Disclosure

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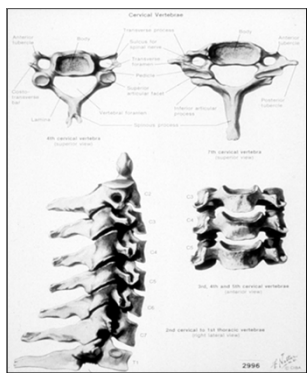
- Common problem
- Potentially very serious
- Injuries may involve multiple structures:
 - Ligaments, disks, muscle, bone, facet joints, spinal cord, or nerve roots

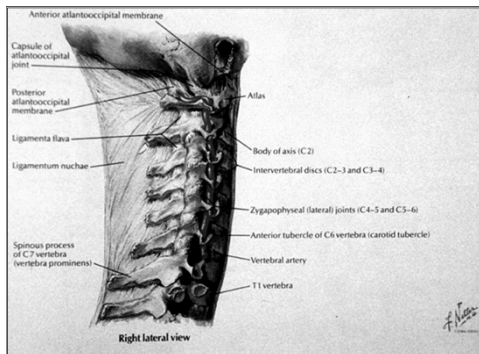


Cervical Spine

Anatomy

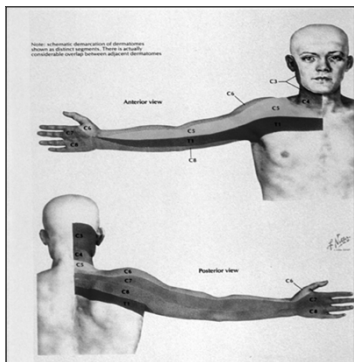




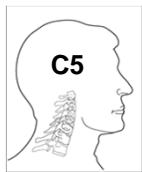


Physical Exam

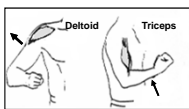




C5 Neurologic Level



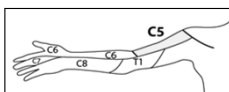
Motor



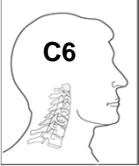
Reflex



Sensation

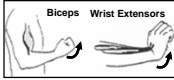


C6 Neurologic Level




C6

Motor

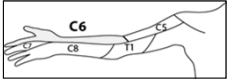


Biceps Wrist Extensors


Reflex



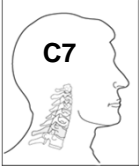
Sensation



C6 C8 T1 C5




C7 Neurologic Level



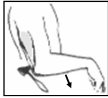
C7

Motor

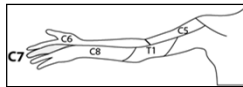


Triceps Wrist Flexors Finger Extensors


Reflex



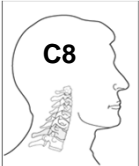
Sensation



C7 C6 C8 T1 C5

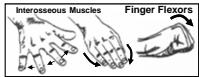


C8 Neurologic Level



C8

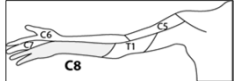
Motor




Interosseous Muscles Finger Flexors

Reflex--None

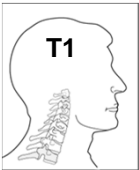
Sensation



C8 C6 T1 C5

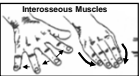


T1 Neurologic Level



T1

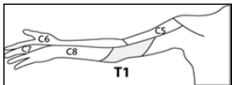
Motor




Interosseous Muscles

Reflex--None


Sensation






Acute Injuries

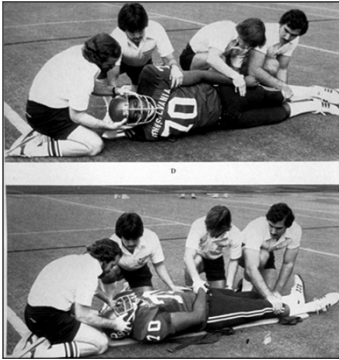
Severe Injuries
Fractures and Dislocations



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



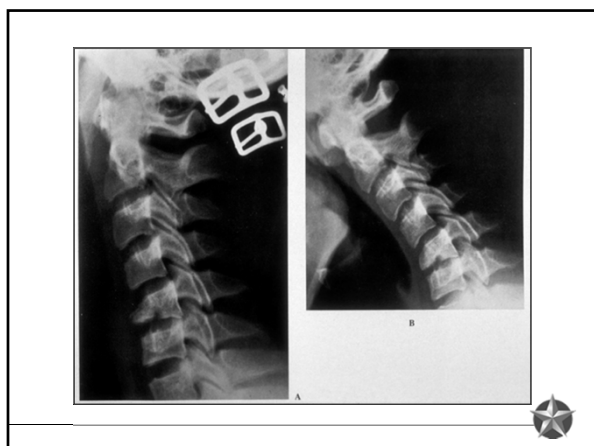


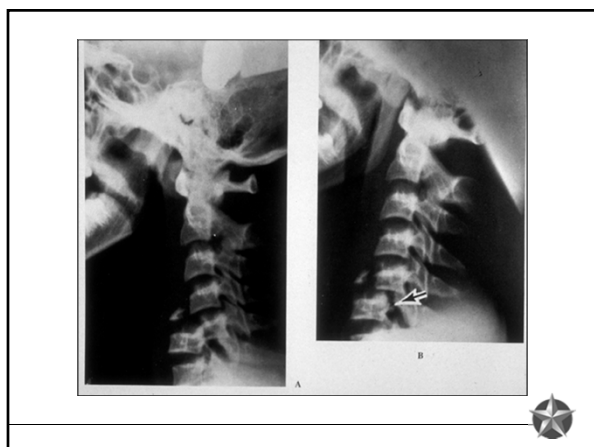


Cervical Spine Injuries Fractures and Dislocations

- **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








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



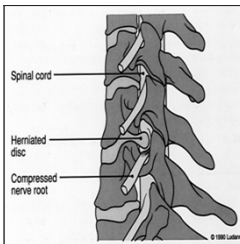
General Types of Injuries

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

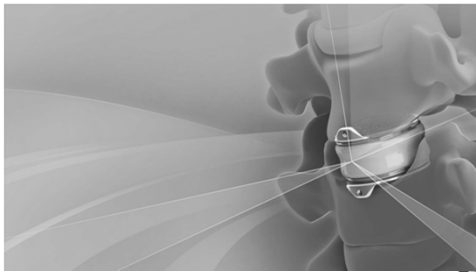


General Types of Injuries Cervical Cord Neuropraxia

- 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



New Developments Disk Replacement



Thank you!