

Physical Diagnosis of Spinal Pathology

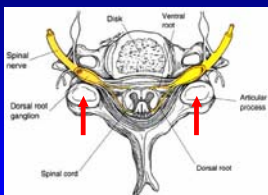
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Basic Concepts

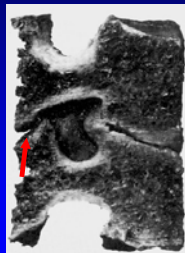
- Standard Physical Exam
- What you don't want to miss:
 - Cervical radiculopathy
 - MYELOPATHY

Anatomy

- Boundaries of the neuroforamen:

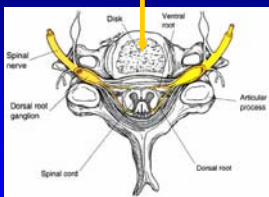


Facet Joints

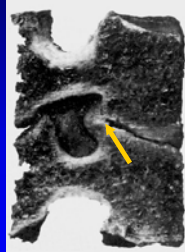


Anatomy

- Boundaries of the neuroforamen:



Disk

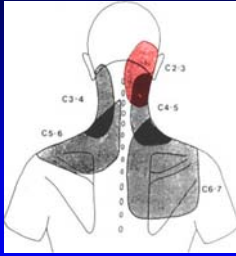


Muscle Strength

- 5 – Complete ROM – Full resistance
- 4 – Complete ROM – Some resistance
- 3 – Complete ROM – Against gravity
- 2 – Complete ROM – Gravity removed
- 1 – Slight contractility
- 0 – No contractility

Cervical Spine

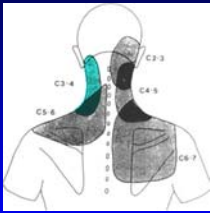
Physical Exam – C3



Pain Distribution

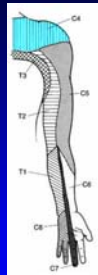
- Symptoms
 - Occipital headache
 - Posterior neck pain
 - No motor involvement

Physical Exam – C4



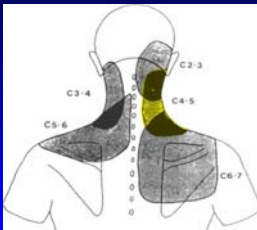
Pain Distribution

- Symptoms
 - Neck pain
 - Traps pain
 - No motor

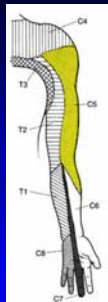


Sensory Distribution

Physical Exam – C5



Pain Distribution



Sensory Distribution

Physical Exam – C5



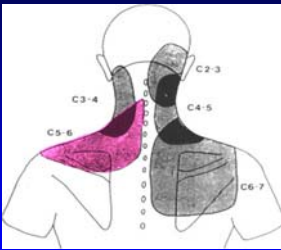
Deltoids and Biceps

■ Motor/Reflex

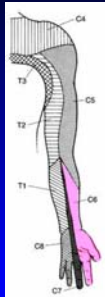


Biceps reflex

Physical Exam – C6



Pain Distribution



Sensory Distribution

Physical Exam – C6



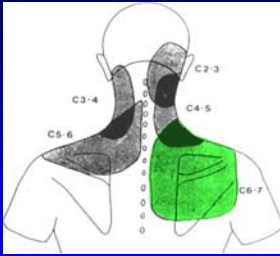
■ Motor/Reflex

- Biceps and wrist extensors

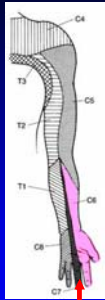


Brachioradialis Reflex

Physical Exam – C7



Pain Distribution



Sensory Distribution

Physical Exam – C7



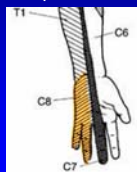
- Motor/Reflex
Triceps and Wrist flexors



Physical Exam – C8



- Motor/Reflex
• Grip No Reflex



Thoracic and Lumbar Spine

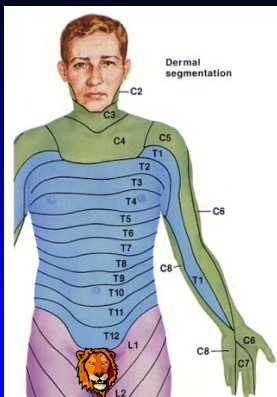
Dermatomes

- No need to memorize them all:
 - Learn 2-3 dermatomes with each region
 - Cervical C6-8
 - Thoracic T4/10
 - Lumbar L4-S1
- Everyone is wired differently



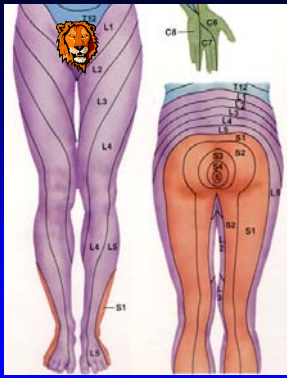
Dermatomes

- Shoulder - C5
- Thumb - C6
- Long Finger - C7
- Small Finger - C8
- Nipple line - T4
- Umbilicus - T10



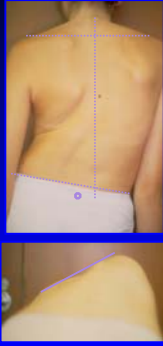
Dermatomes

- Medial malleolus - L4
- Dorsal Foot - L5
- Lateral/Plantar Foot - S1



Idiopathic Scoliosis

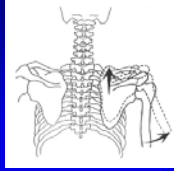
- Physical examination
 - Observation
 - Shoulder asymmetry
 - Waist asymmetry
 - Trunk shift
 - Rotation (Angle of trunk rotation)





Physical Exam

- Special tests for spinal cord compression:
 - Lhermitte's sign
 - Finger escape sign
 - Jaw reflex
 - Scapulohumeral reflex
 - Inverted radial reflex
 - Hoffmann's sign
 - Hyperreflexia, clonus



Scapulohumeral reflex

Physical Exam

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 - Finger escape sign
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Hoffmann's sign
