

# **ORTHOPEDIC MANAGEMENT OF THE CERVICAL SPINE**

## **NECK PAIN WITH RADIATING PAIN**

### **EVALUATION & EXAMINATION**

# NEURO EXAMINATION OVERVIEW

Neurological examination is warranted on individuals with signs and symptoms of an upper motor neuron or lower motor neuron lesion, peripheral nerve entrapment, or atypical symptoms not consistent with mechanical neck pain.

## Exam Components

- Dermatomes
- Myotomes
- Reflexes
- Cranial nerve testing
- Upper motor neuron special tests



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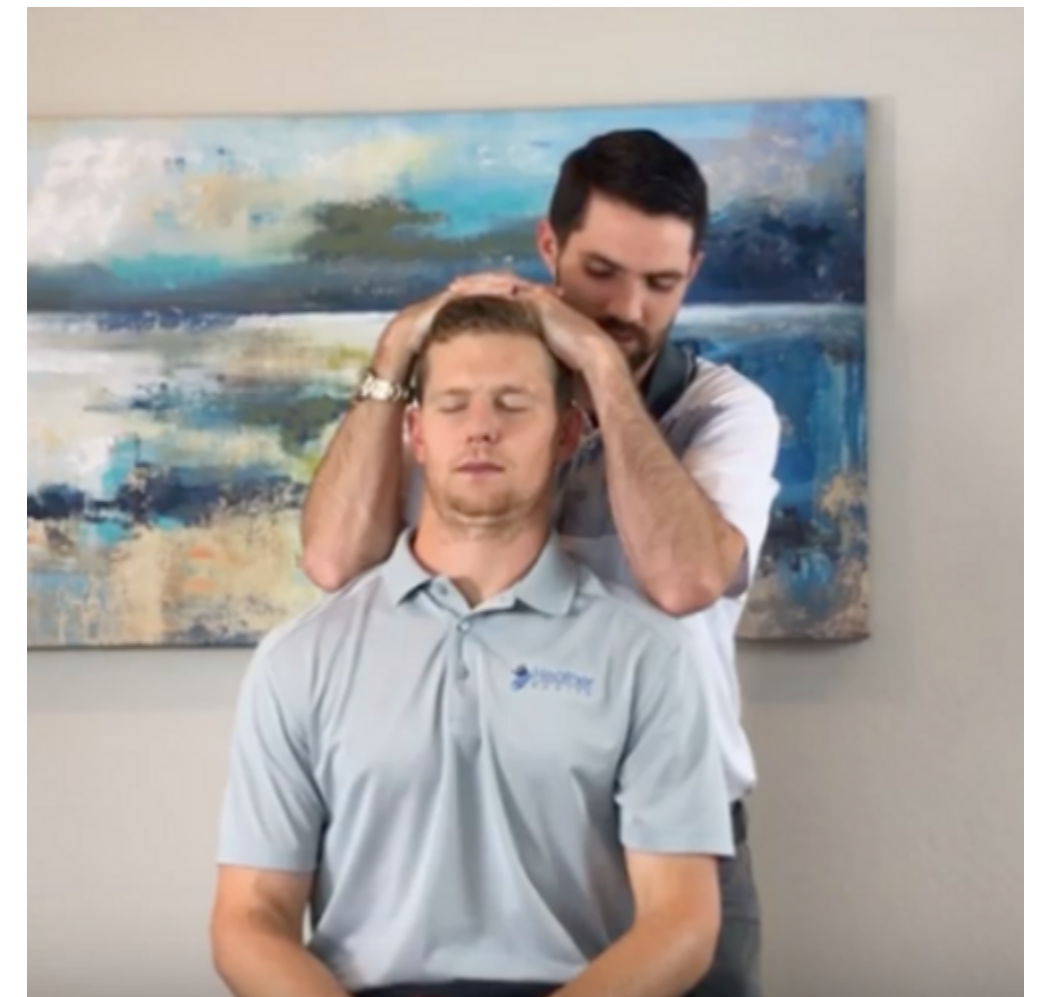
**For a quick neurological screening, observe for changes in muscle tone, coordination deficits, muscle wasting, and gait ataxia.**

# Neck Pain with Radiating Pain

- Cervical AROM (focus on rotation, extension, and sidebending)
- Spurling's Test
- Distraction Test
- Thoracic segmental mobility
- Muscle length testing

**Will these clients have Upper Motor Neuron or Lower Motor Neuron findings?**

Lower Motor Neuron because the nerve root is likely the source of entrapment





# SEATED SPECIAL TESTS & ASSESSMENT

## Cervical Spine

- Compression/Distract
- Spurling's

## Shoulder

- Decreased scapular rhythm

## Rib

- 1st: inferior, AP
- 2nd: inferior, PA, AP



**Important Note: The cervical distraction test is only positive if it alleviates/centralizes radicular symptoms, not just if it "feels better."**



# SUPINE SPECIAL TESTS

## **Cervical Distraction Test** (Sp = .9 Sn = .44)

- Place hands under mastoid processes and provide axial distraction
- The test is positive with centralization or alleviation of peripheral symptoms
- This test may be performed in sitting

## **REVIEW SPECIAL TEST**

### **Vertebral Artery Test** (Sp = .67-.9 Sn = 0)

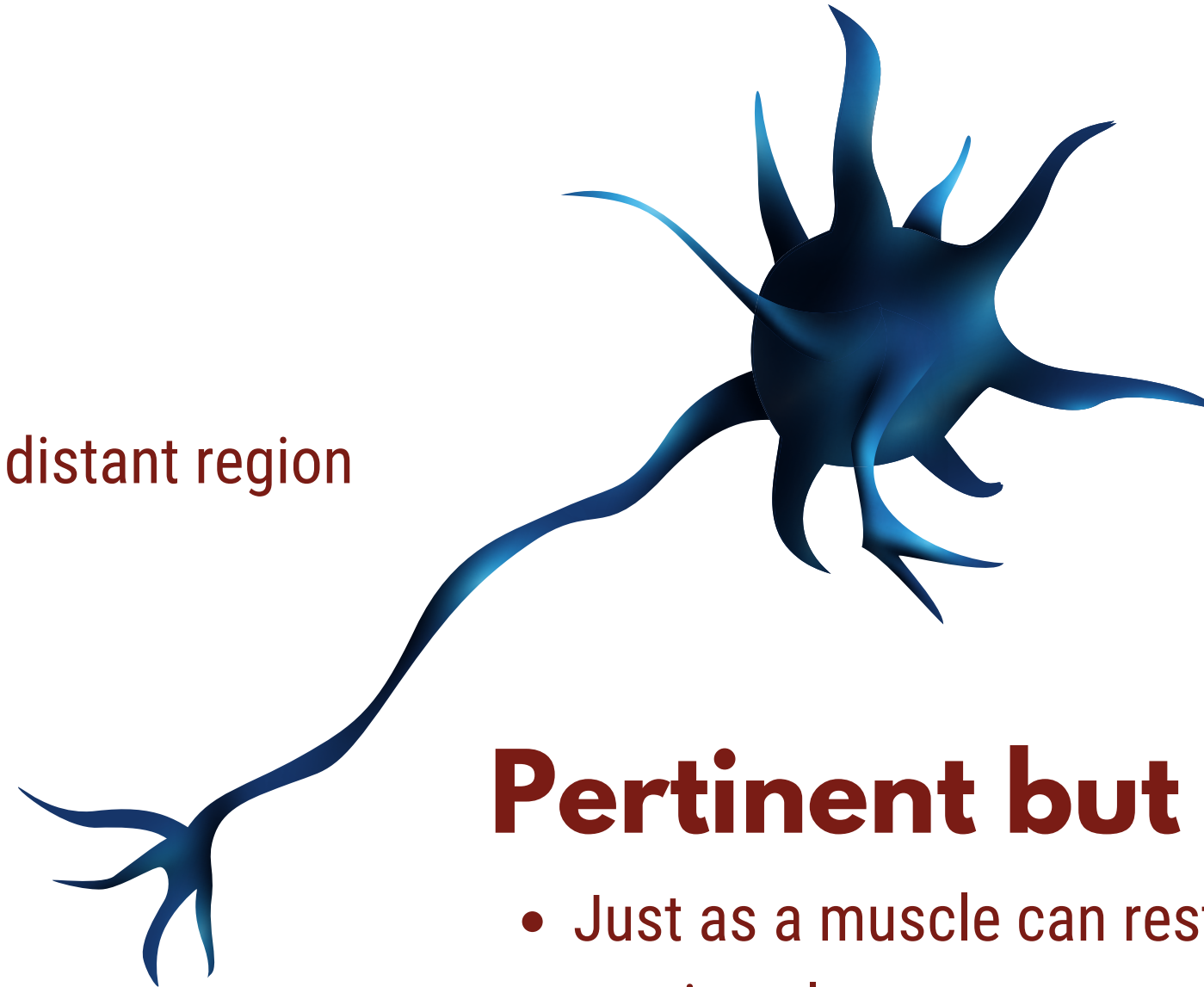
- Maximally rotate head to end-range passively
- Monitor eyes for nystagmus and have patient count backwards from 10 aloud
- Rest 10 seconds in neutral and repeat on CL side
- Monitor for 5 D's and 3 N's
- May be performed in sitting actively and with variations of extension/rotation



# ADVERSE NEURAL TISSUE TENSION

## Positive Findings

- Recreation of patient's symptoms
- Asymmetrical findings
- Altered symptoms with movement of distant region



## Pertinent but not Positive

- Just as a muscle can restrict a joint's motion, so can tension along a nerve pathway
- People often have neural tension present even without pain

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**Any restrictions along path of nerve may contribute to neural tension.**



# UPPER LIMB NEURAL TENSION

## Median Nerve

- Wrist/finger extension
- 90 deg shoulder ER
- Full supination
- Elbow extension

## Ulnar Nerve

- Wrist/finger extension
- 90 deg shoulder ER
- Full pronation
- Elbow flexion

## Radial Nerve

- Wrist/finger flexion
- Full pronation, elbow extension and shoulder IR
- Shoulder abduction



There are several ways to perform each ULNT