

The "Schneck":
Is it the shoulder or is it the neck?

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Disclosures:

- **Dr. Todd Weitzenberg has no relationships to disclose.**

Objectives

- Better identify and treat the “Shneck”
- Differentiate between
  - Axial (mechanical) neck pain
  - Cervical radiculopathy
  - Shoulder Pain
  - Repetitive Motion Injuries (RMI)
- Identify ‘red flags’ to evaluate for serious medical problems.
- Understand criteria for appropriate diagnostic tests, imaging, and treatment referral.



GOALS:

- GAME PLAN:
  - Strategically apply a ‘game plan’ to become more time efficient.
  - Pain diagrams, focused history and exam
- CONFIDENCE:
  - Feel confident when ruling-out red flags, ordering labs and imaging studies or referring to a specialist.
- COMMUNICATE:
  - Improve patient’s understanding of their diagnosis and treatment plan with a clear/concise explanation.



Differential Diagnosis of Neck/UE Pain

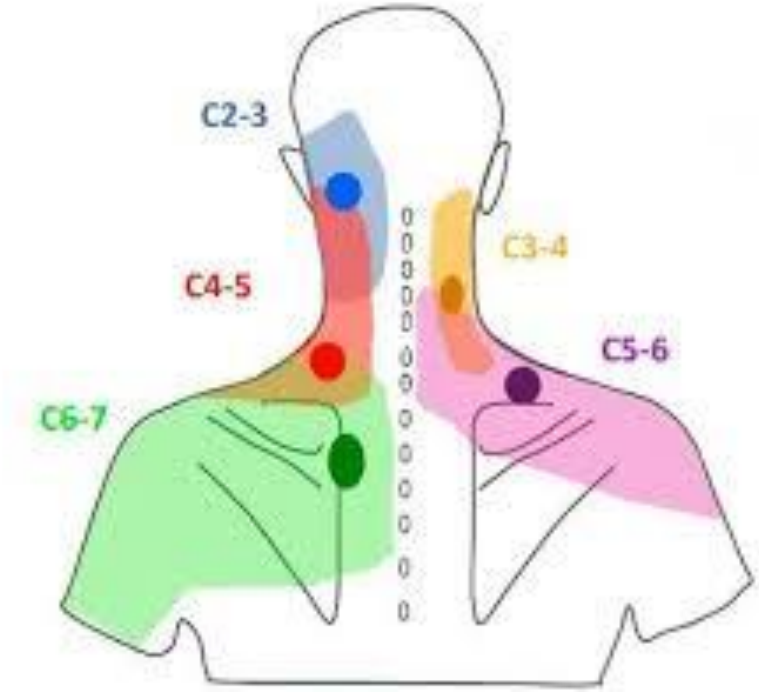
- Muscular strain
- Whiplash injury
- Facet or zygapophysial joint arthropathy
- Degenerative disc disease
- Disc herniation
- Cervical spinal stenosis
- Cervical radiculopathy
- Cervical myelopathy
- Thoracic Outlet Syndrome
- Brachial Plexus injury
- CTD/RMI
- Fibromyalgia
- Myofascial pain
- Referred pain from shoulder
- Cancer
- Infection
- Brachial Plexus
- Rotator cuff/impingement

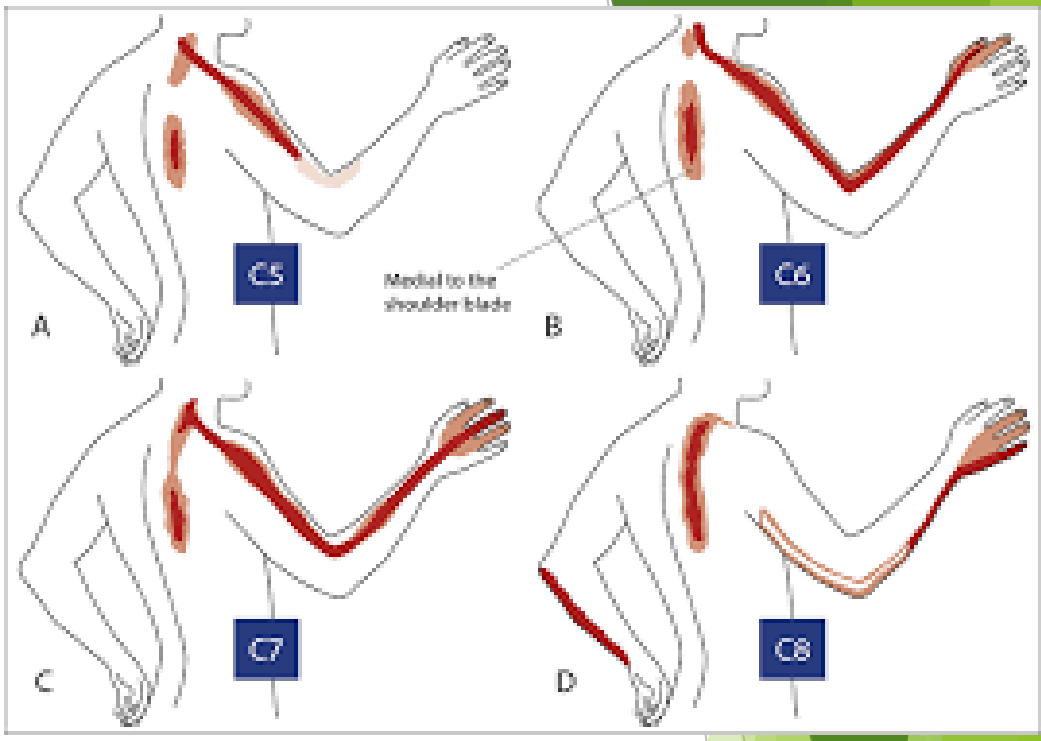
“Where does it hurt?”

My ‘shoulder’…



The“Shneck”



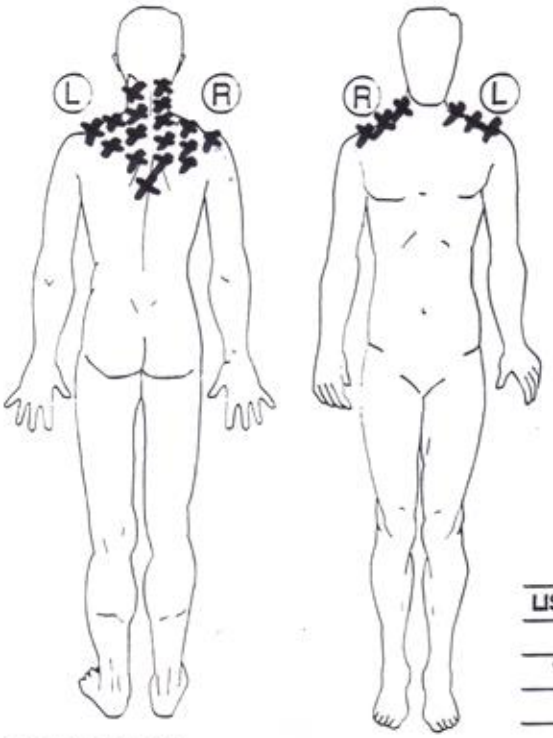


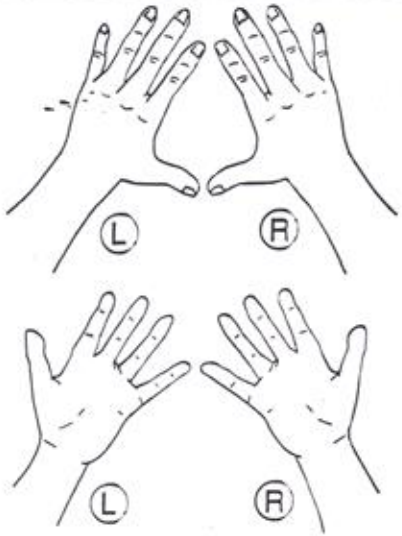
Cervical Radiculopathy Pain Referral Patterns

PAIN DIAGRAM *Please use a pen*

IMPRINT AREA

PATIENT'S NAME | DATE | MR#





Dominant hand: ☐ Left ☐ Right

DRAW YOUR PAIN

Using a pen - mark in the areas on the diagrams where you have pain/numbness.

X = Pain
o = Numbness

RATE YOUR PAIN ON THIS SCALE. (Mark with an X)

0 = No Pain 10 = Worst possible pain

PAIN TODAY
0 ——— X ——— 10

LEAST (pain in last 2 weeks)
0 ——— X ——— 10

WORST (pain in last 2 weeks)
0 ——— X ——— 10

LIST ALL DRUG, ENVIRONMENTAL, AND FOOD ALLERGIE

Sulfas

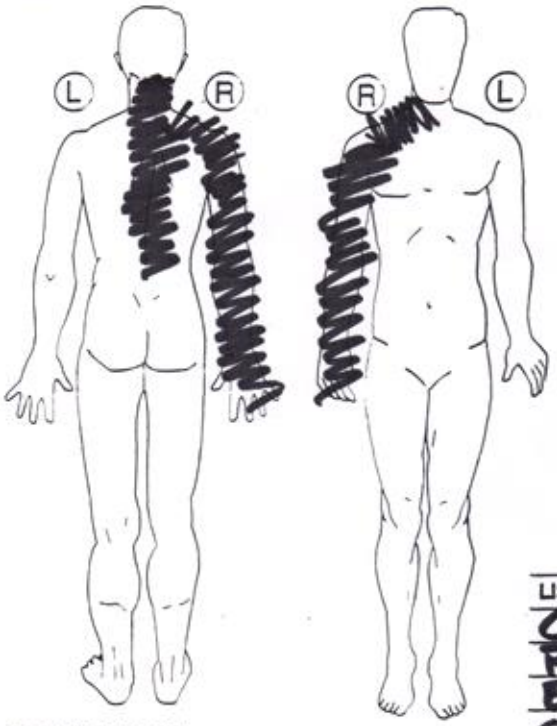
LIST ALL MEDICATIONS YOU TAKE (including nonprescriptior
(Check the box for those meds that you take for this problem.)

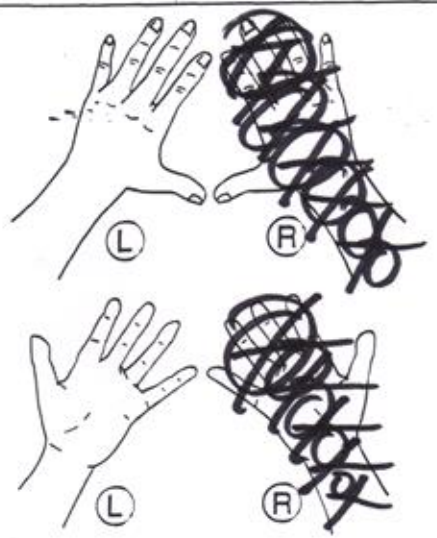
	Medication	Dosage
✓	ibuprofen	3
✓	flexeril	1-2
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WORST (pain in last 2 weeks)
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LIST ALL DRUG, ENVIRONMENTAL, AND FOOD ALLERGIE

Cipro	All NSAIDs
PCN	iodine
ECN	Codiene
Sulfas	

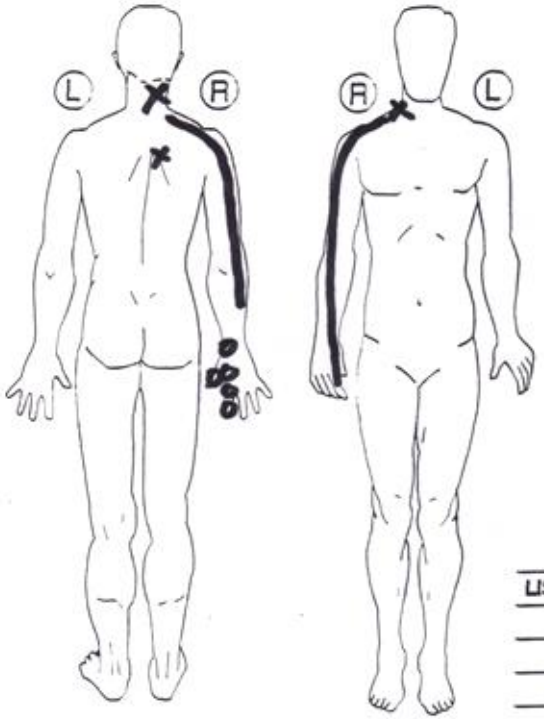
LIST ALL MEDICATIONS YOU TAKE (Including nonprescription
(Check the box for those meds that you take for this problem.)

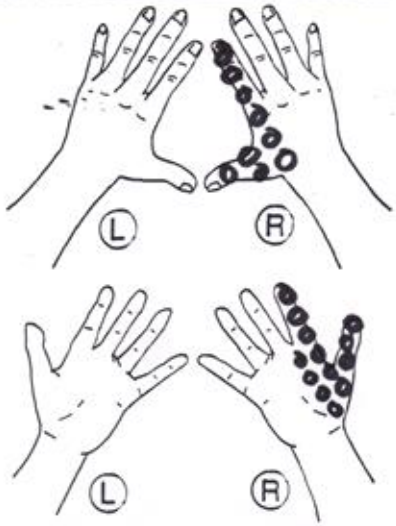
	Medication	Dosage
☑	Norco	
☑	Vicodin	
☑	Paxil	
☑	Morphine sulfate	
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PAIN DIAGRAM *Please use a pen*

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0 — X — 10

LEAST (pain in last 2 weeks)
0 — X — 10

WORST (pain in last 2 weeks)
0 — X — 10

LIST ALL DRUG, ENVIRONMENTAL, AND FOOD ALLERGIE

None

LIST ALL MEDICATIONS YOU TAKE (Including nonprescription
(Check the box for those meds that you take for this problem.)

Medication	Dosage
☒ ibuprofen	as needed
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Definition of Terms for Neck Pain

- **Axial (mechanical) neck pain**
  - Pain localized to the cervical spine and surrounding tissues, usually involving the intervertebral disc, vertebral body, facet/zygapophysial joints, joint capsules, ligaments, or muscles.
- **RMIs of the neck or upper extremity** (UE)
  - Repetitive Motion Injuries (RMI), often the result of rapid, repetitive movements of the hands/arms, commonly occurring in the occupational medicine setting.
- **Cervical Radiculopathy**
  - Pain and neurologic symptoms in the UE arising from compression or inflammation/irritation of the cervical nerve roots.

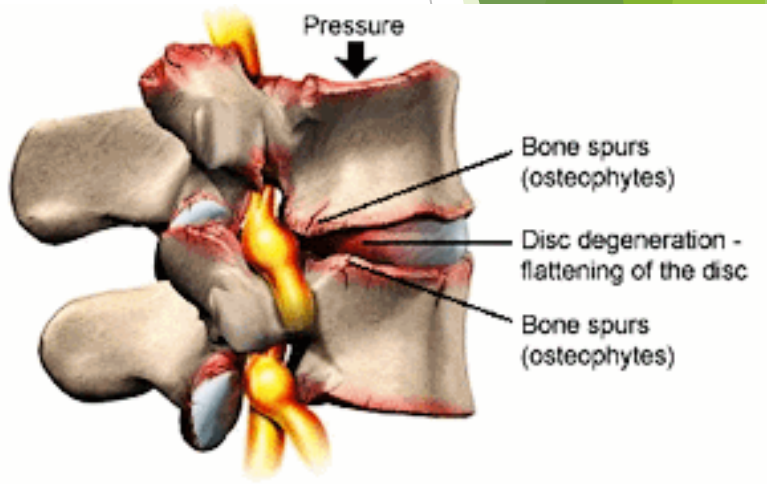
History

- Onset? Duration? Trauma?
- Recurrence? Previous similar episode?
- Aggravating and relieving factors?
- Pain, numbness, weakness
  - (pain diagram, visual analog scale)?
- Bowel or Bladder incontinence?
- Saddle paresthesias?
- Imbalance, difficulty walking/standing?
- Previous treatments?



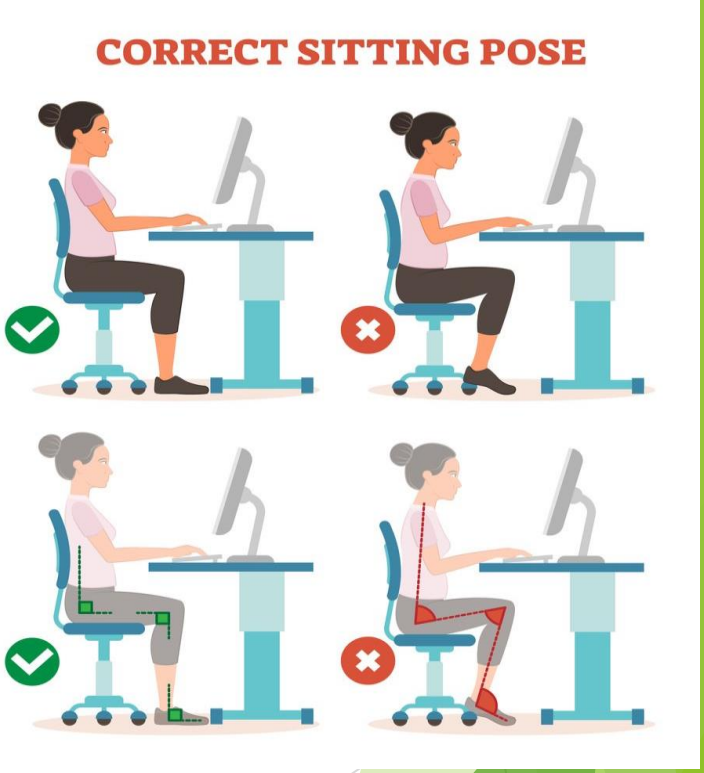
Axial Neck Pain, Historical Pearls

- Often preceded by trauma, acute event.
- May develop slowly, hours to days after acute event.
- Pain localized to cervical spine.
- Pain reproducible with specific movements.
- Often recurrent episode.



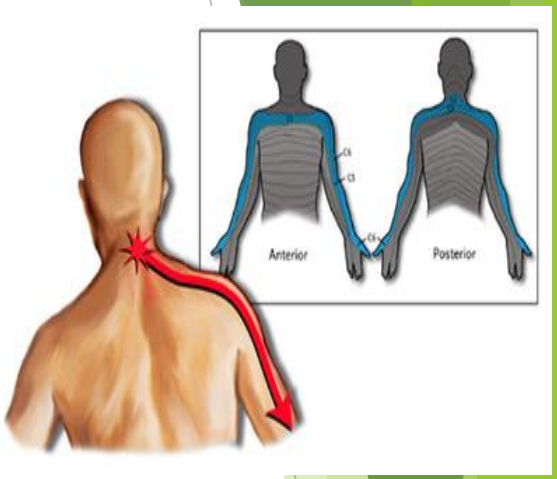
Repetitive motion injury, Historical Pearls

- Pain initially localized, then becomes widespread.
- Often associated w/ repetitive tasks.
- May describe symptoms as numbness, tingling, cold, swelling, or cramping sensations in non-dermatomal distribution.
- Varying degrees of associated psychological distress?
- Occupational?



Cervical Radiculopathy, Historical Pearls

- Insidious onset of neck pain and arm discomfort, ranges from dull ache to severe burning pain.
- Often progresses from neck, to shoulder blade, then down arm into hand.
- Positional; worse w/ ext.+lat.bend+rotation to affected side.
- May have associated numbness/tingling in dermatomal distribution.
- May have associated weakness.





We don’t want to miss something ‘bad’!



Red Flag: Cancer



- Prior history of cancer?
- Unexplained weight loss?
- Age greater than 50 y.o.?
- Pain greater than 12 weeks?
- Night Pain?
- Failure to improve?



Red Flag : Infection



- Fever?
- Previous history of I.V. drug use?
- Recent bacterial infection?
  - (ie. UTI, cellulitis, pneumonia)
- Immunocompromised?
  - Chemo, transplant, AIDS
  - Steroids
  - Diabetes
- Rest pain?



Red Flag: Myelopathy

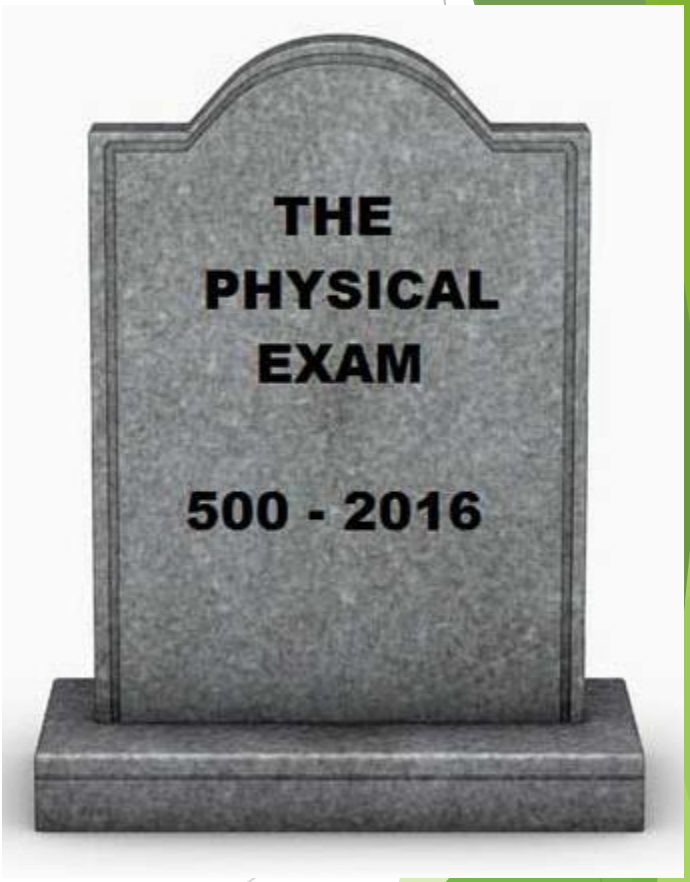


- Symmetric neurologic deficits
- Upper Extremities:
  - Decreased sensation
  - **Hypo-reflexia**
  - Weakness
  - Lower Motor Neuron signs
- Lower Extremities:
  - Decreased sensation
  - **Hyper-reflexia**
  - Weakness
  - Upper Motor Neuron Signs
- Bowel/bladder symptoms
- Abnormal gait, **ATAXIA**



Focused Physical Examination

- Formulate a focused differential based on the pain diagram and history.
- Your examination should allow you to key in on your diagnosis.



Physical Examination 1

- Passively observed movements
- Shirt removed, gown
- Alignment, asymmetry, deformity, atrophy
- Active ROM (AROM)
- Passive ROM (PROM)
- Spurling's test



Physical Exam 2

- Palpation: *"Touch them where it hurts!"*
  - Bone:
    - Spinous process, occiput, SC/AC joints, acromion
  - Soft Tissue:
    - Cervical paraspinals, trapezius, parascapular, deltoid muscles
  - Tender points
  - Trigger points



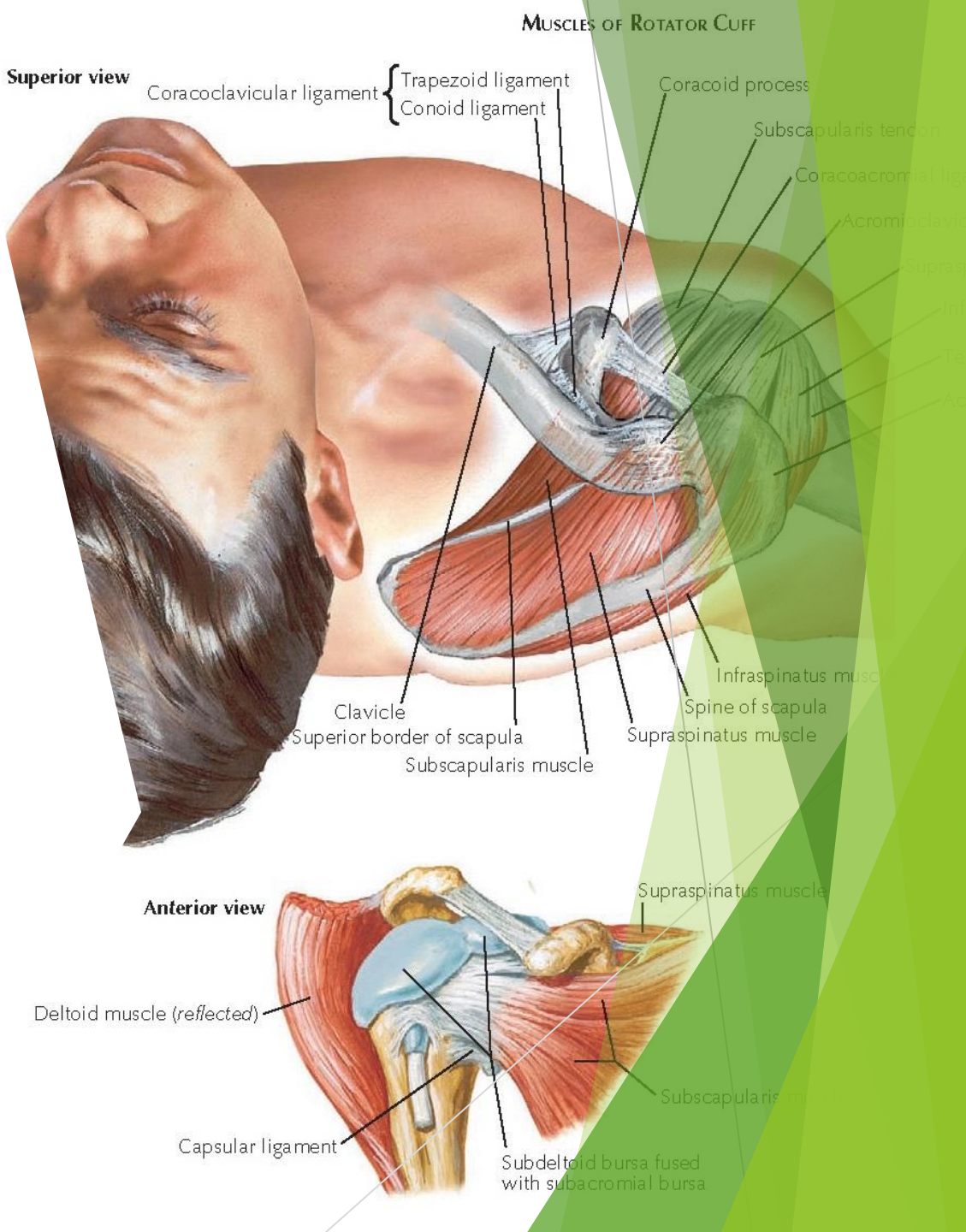
Physical Exam 3

- Upper Extremity
  - Shoulder:
    - AROM, painful arc? Limitation of motion?
    - Impingement
    - Rotator cuff strength
  - Elbow:
    - Lateral and medial epicondyle
    - Extensor and flexor muscle compartments
    - Ulnar neural tension? Ulnar Tinel's?
  - Wrist/Hand:
    - Carpal tunnel compression test?
    - Phalen's?
    - Finkelstien's?
    - 1st CMC joint tenderness, Grind Test?, Watson's stress test?



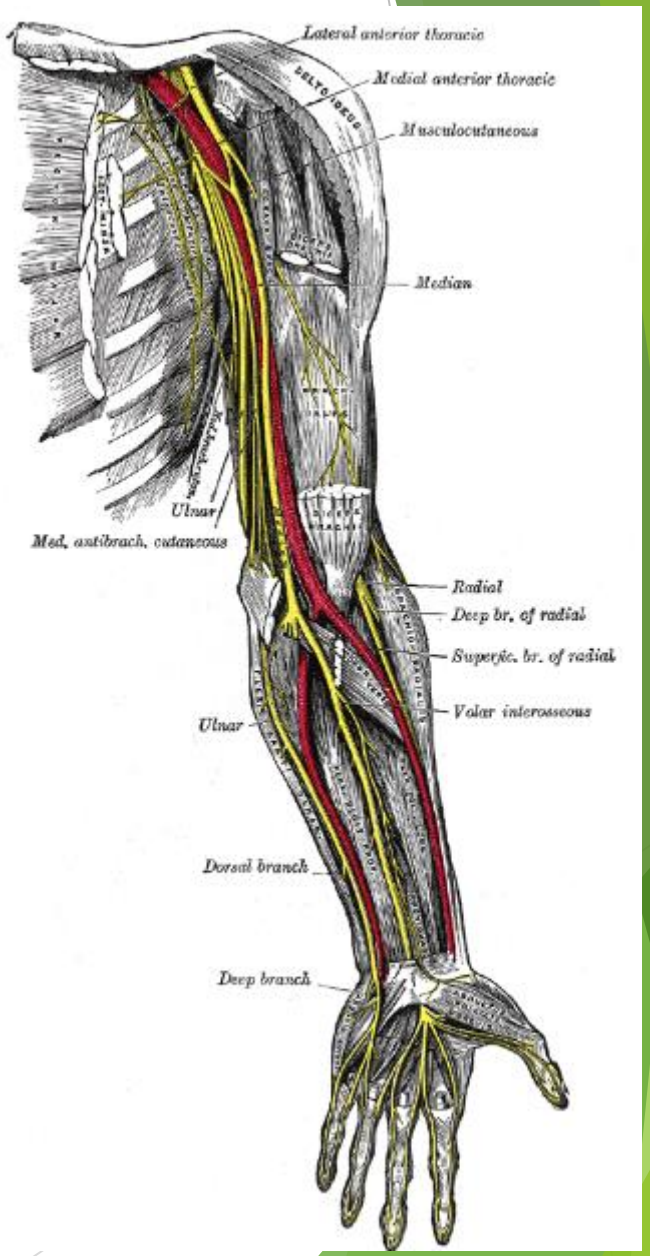
Shoulder Exam, Pearls

- Inspection
  - Swelling, atrophy, winging
- Active Range of Motion (AROM)
- Drop Arm Test
- Passive Range of Motion (PROM)
- Provocative Test's
  - Impingement
- Rotator Cuff strength testing



PEx: Neurologic Exam[4]

- Manual Muscle Testing (MMT):
  - C5 Deltoid/Biceps
  - C6 Wrist extension
  - C7 Triceps
  - C8 Finger flexion
  - T1 Finger abduction
- Sensation:
  - C5 Lateral antebrachial fossa
  - C6 Thumb/index finger
  - C7 Middle finger
  - C8 Little finger
  - T1 Medial antebrachial fossa
- Muscle Stretch Reflexes (MSR):
  - C5 Biceps
  - C6 Brachioradialis
  - C7 Triceps
- Long Tract signs:
  - Hoffman's sign





Axial Neck Pain, PEx Pearls

- Specific, reproducible movements reproduce patient's pain.
- Focused palpation reproduces patient's pain.
- Neurologically intact.
- Negative shoulder/UE screening exam.

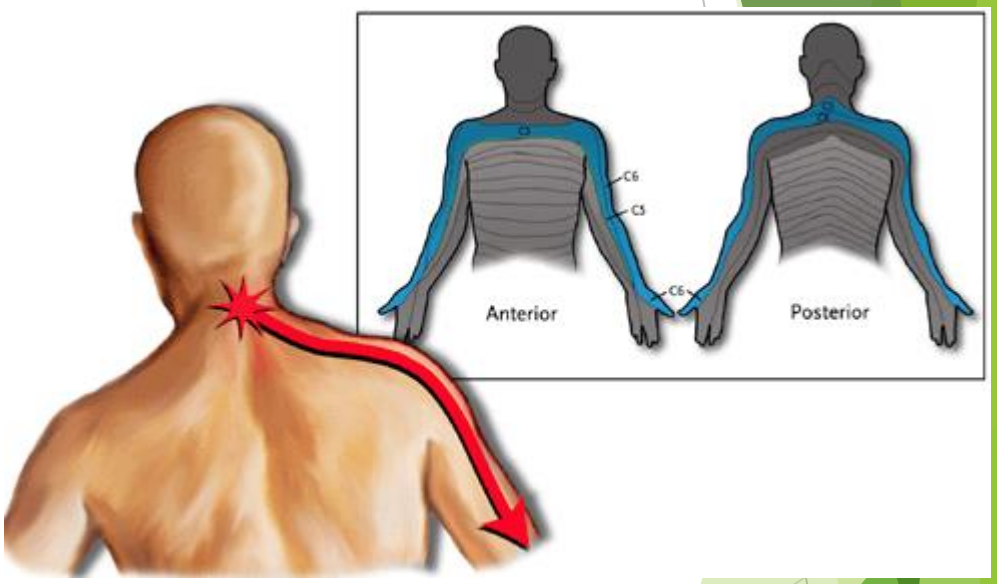
Repetitive motion injury, PEx Pearls

- + Upper Limb Tension Test
- Diffuse tenderness
- Hypersensitivity
- Tender points +/- trigger points
- Painful, limited AROM of neck and UE
- Diagnosis of exclusion



Cervical Radic, PEx Pearls

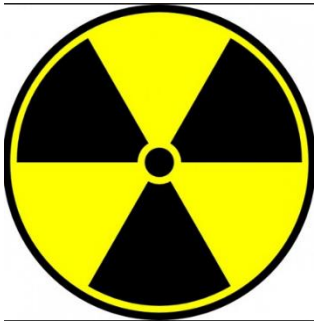
- Pain in upper extremity > neck.
- Positive Spurling's Test.
- Negative shoulder/UE screening exam.
- Focal neurologic findings in reproducible neuro-anatomic distribution.



Zebra = TOS
Thoracic Outlet Syndrome



Medical Imaging



- X Rays
  - May be useful to identify fracture (trauma), degenerative changes (pain > 6 weeks), or when red flags present (tumor/infection).
  - Not recommended for axial neck pain or CTD in absence of red flags (pain < 6 weeks).
- Advanced Imaging, MRI/CT:
  - Recommended in presence of neurologic deficit or suspicion of tumor/infection in consultation w/ Spine Specialist.

Lab Studies

- If malignancy or infection is suspected:
  - CBC with differential
  - ESR
  - CRP
  - CCP



Treatment Axial Neck Pain

- Educate, review diagnosis, and reassure.
- Define source of pain, anatomically yet simplistically.
- Provide reassuring explanation as to why additional studies and referral are not indicated.
- Ice/Heat, rest, activity modification
- NSAIDs, narcotic analgesics, muscle relaxants.
- Physical Therapy program



Treatment RMI

- Longer problem untreated, longer time required for improvement
  - Prompt recognition and intervention
- Self care and active participation critical
- Limit immobilization
- Ergonomics, biomechanics, micro-breaks
- Psychosocial issues must be addressed



Treatment Cervical Radiculopathy

- **No Neurologic Deficit:**
  - Educate/define/re-assure/outline treatment
  - Ice/rest/activity modification
  - Oral prednisone taper
  - NSAIDs, narcotic analgesics, muscle relaxants
  - PT program
- If improved at 2-4 weeks, then advance home program, PT neck class.
- If not improved at 2-4 weeks, then Spine Consult referral.

Treatment Cervical Radiculopathy

- Positive Neurologic deficits:
  - If progressive, or in presence of cervical myelopathic symptoms, then urgent consult, contact spine specialist on-call directly.
  - Cervical spine X-rays
  - Cervical Spine MRI
  - Document careful neurologic examination
  - Discuss w/ spine specialist need for MRI, initiating course or oral prednisone, possible cervical epidural steroid injection.

Conclusion

- GAMEPLAN:
  - Utilization of a pain diagram, a focused history and a focused physical examination will help you identify the appropriate diagnosis for neck/UE pain in a timely, effective manner.
- CONFIDENCE:
  - Identification of ‘red flags’ and knowing what studies to order will improve outcome and facilitate timely and appropriate coordination of care with your spine specialist.
- COMMUNICATE:
  - An accurate diagnosis will increase patient understanding, satisfaction, and compliance with treatment.

Thank you;)

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