

# The Swimmer's Shoulder: An Osteopathic Approach

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I have no relevant relationships/affiliations with any proprietary entity producing health care goods or services

# Goals & Objectives

- Become familiar with shoulder examination
  - Musculoskeletal exam
  - Functional exam
  - Imaging
- Discuss common examination of swimmer's shoulder
- Demonstrate osteopathic manipulation for:
  - Occipital Release
  - Thoracic outlet release
  - Muscle energy to SCM, trapezius, levator scapulae
  - Seven Stages of Spencer
- How to appropriately code for billing for OMM

# Weekly Swimmer Activity

- Practice 6 to 7 days
  - 20 to 30 hr
  - 10,000 - 14,000m
  - 16,000 to 25,000 shoulder revolutions
  - Year round, off 3 wk/yr
  - Mainly freestyle
- 
- Poor mechanics + fatigue = overuse injuries

# Poor Mechanics = Imbalance

- Crossing Midline
- Flat Body Positioning
- Dropped elbow
- Unilateral breathing
- Kick board

# Common Shoulder Injuries for the Swimmer

- Shoulder
  - Multidirectional Instability
  - Little League Shoulder
  - Impingement

# Multidirectional Instability

- History
  - Chronic shoulder pain
  - Popping during stroke
  - Numbness in hands
- Exam
  - Anterior posture
  - Tender at bicep tendon
  - Weak rotator cuff

# Little League Shoulder

- History
  - Pediatric patient: non ossified
  - Chronic anterior shoulder pain
  - ↑ sport
  - Limiting performance
- Exam
  - TTP humeral physis
- Imaging
  - AP view: widened humeral physis



# Little League Shoulder

# Musculoskeletal Exam

- Step-by-step process: less invasive to more invasive
  - Prevent undue pain
  - Gain trust & relieve patient apprehension
  - Thorough exam
- Examine the joint above and below
- Examine the uninjured contralateral extremity
  - Comparison
  - Symmetry

# Approach to Shoulder Exam

- Observation/Inspection:
  - expose the shoulder, symmetry, edema
- Neurovascular Assessment: pulses, warmth, sensation
- ROM: active → passive
- Palpation: Painful areas last
- Strength Testing
- Flexibility Testing
- Stability / Ligament Testing
- “Special Maneuvers”

# Shoulder ROM

- Flexion
- Abduction
- Int Rotation
- Ext Rotation



# Shoulder ROM & Strength

- Flexion
- Int Rot
- Ext Rot



# Impingement

- Hawkins
  - Stabilize scapula
  - Abd shoulder 90°
  - Flex shoulder 30°
  - Flex elbow 90°
  - Internally rotate
  - Pain +
- Neer's
  - Stabilize scapula
  - Internally rotate
  - Flex shoulder
  - Pain +





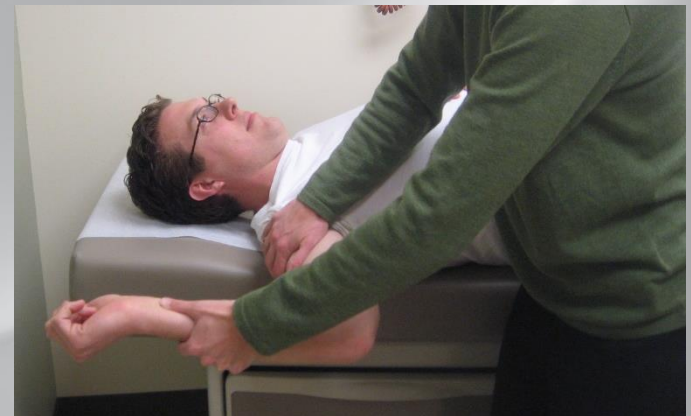
# Shoulder Instability

- Load & Shift Test:
  - Ant/post force
  - Humeral head to glenoid
  - Mild Mod Severe
- Sulcus Sign
  - Downward traction humeral shaft
  - Acromion to humeral head
  - > 2 cm



# Apprehension & Relocation

- Patient supine
- Stabilize scapula
- Abd & ext rotation
- Anterior force





# Labral Tear

- Crank Test
  - Abd shoulder
  - Axial load humerus
  - Int & Ext rotation
  - Click, pain +



# Treatment

- Physical therapy and home exercise program to address posterior scapular stabilization
- Limited participation → decrease practice
- OMM expedites return
  - Improves AROM
  - Restores symmetry

# Contra-indications to OMM

- **ABSOLUTE**

- Fractures of the vertebrae, clavicle, humerus, ribs
- Cervical instability traumatic
- Nerve root avulsion
- Bone metastasis to cervical spine

- **Cautions**

- Cervical instability from Down's Syndrome (C1-C2 instability) and severe cervical OA
- Disc herniation
- Spinal stenosis
- Hemophilia (direct techniques)
- Uncooperative patient
- Medical-legal issues: pediatric patients, chaperone

# Osteopathic Manipulation

- Somatic dysfunction of the swimmer's shoulder
  - Cranial
  - Cervical
  - Thoracic
  - Lumbar
  - Ribs
  - Upper extremity
  - Thoracic Outlet
  - Abdomen

# OMM Techniques

- Myofascial release cervico-thoracic outlet
- Sub-occipital release
- Thoracic Inlet treatment (Indirect)
- Muscle energy for trapezius / levator scapulae / SCM
- Occiput-C1 muscle energy
- C1-C2 muscle energy
- Seven stages of Spencer

# Myofascial Release of Cervico-Thoracic Outlet Technique

- Place thumbs on 1<sup>st</sup> ribs near cervico-thoracic junction
- Evaluate rotation and side-bending (1<sup>st</sup> rib moves caudal)
- Gently apply pressure with thumb in direction of the ease of motion until tissue relaxes or motion is less asymmetric
  - Optional: Approximate hands during techniques to enhance release
- Picture shows ease of motion in side-bending and rotation to the right





# Sub-occipital Release

- Place hands near inferior nuchal line
- Lift head up onto fingertips
- Allow a slow release of tissues under head until head is back to neutral
- Repeat 2-3 times



# Muscle Energy for Trapezius

- Place distal hand near AC joint
- Place superior hand on occiput
- Side bend away with small amount of cervical flexion
- Ask pt to shrug shoulder
- Ask pt to move head to neutral
- Alternate command motion
- Repeat 2 times





# Muscle Energy for Levator Scapulae

- Place distal hand near superior border of scapula
- Place superior hand on C2/C3
- Side bend away with cervical rotation and flexion
- Ask pt to shrug shoulder
- Ask pt move head to neutral
- Alternate command motion
- Repeat 2 times

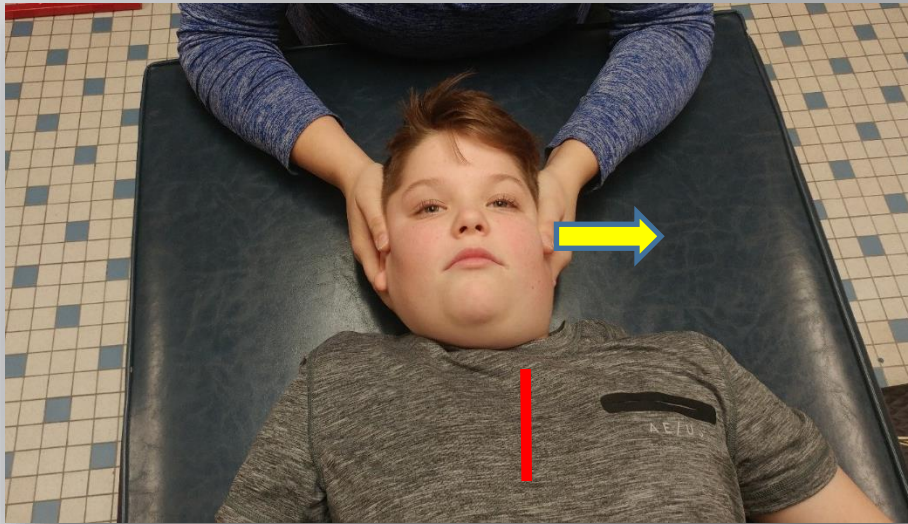


# Muscle Energy for Sternocleidomastoid (SCM)

- Place distal hand near superior clavicle
- Place superior hand on mastoid process
- Side bend away and rotate towards treatment side
- Ask pt to shrug shoulder
- Ask pt to move head to neutral
- Alternative command motion
- Repeat 2 times



# Occipital-Atlantal Muscle Energy Treatment



- Diagnosis:
  - Induce mild cervical flexion
  - Translate L & R
  - Repeat with mild cervical extension
  - Note direction of ease & restriction
  - Picture shows OA restricted right
- Treatment:
  - Translate head into restriction
  - Ask patient to push head to neutral for 3 secs (yellow arrow)
  - Return patient head to neutral
  - Repeat 2 times



# Atlanto-Axial Muscle Energy Treatment

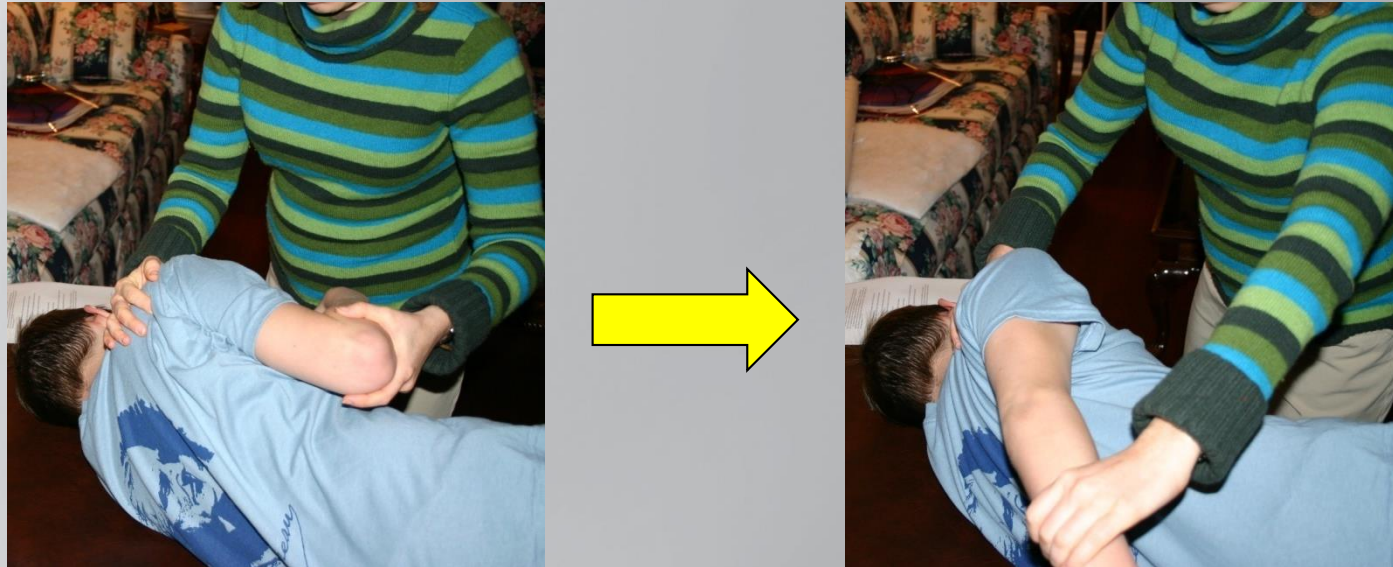
- Diagnosis:
  - Introduce 30-45 degrees of cervical flexion
  - Introduce rotation to R/L
  - Note area of ease & restriction
  - Picture shows AA restricted right
- Treatment:
  - Rotate pt head into restriction
  - Ask pt to rotate head to neutral (yellow arrow)
  - Repeat 2 times



# Seven Stages of Spencer's Technique for the Shoulder

- 1 Extension with elbow flexion
- 2 Flexion with elbow extension
- 3 Circumduction with compression
- 4 Circumduction with traction
- 5 Abduction
- 6 Internal rotation
- 7 Pumping, elbow extended

# Step 1: Extension with elbow flexion



- Cephalad hand stabilize GH
- Caudad hand engages extension to barrier
- Patient applies isometric counter force 3-5sec

# Step 2: Flexion with elbow extension

- Caudad hand stabilizes GH with cupping
- Cephalad hand flexes pt shoulder to barrier
- Patient applies isometric counterforce 3-5 sec
- Flex to engage new barrier





# Step 3: Circumduction w/ compression

- Cephalad hand stabilizes
- Caudad hand abducts and flexes elbow, applies compression
- Small circles of clockwise then counter-clockwise motion
- ME techniques may be applied for barriers
- Modify elbow pressure & direction for areas of resistance





# Step 4: Circumduction w/ traction

- Cephalad hand stabilizes
- Caudad hand abducts and extends elbow, applies traction
- Small circles of clockwise then counter-clockwise motion
- ME techniques may be applied for barriers
- Modify elbow pressure & direction for areas of resistance



# Step 5: Abduction



- Cephalad hand stabilized GH
- Inferior hand stabilize flexed elbow
- Abduct shoulder to barrier
- ME force 3-5 sec
- Engage new barrier

# Step 6: Extreme internal rotation



- Cephalad hand stabilizes GH
- Caudad hand flexes elbow and internally rotates shoulder
- Engage barrier of internal rotation by pushing elbow forward
- Pt applies isometric counterforce 3-5 sec
- Engage new barrier

# Step 7: Pumping, elbow extended



- Extend pt elbow, abduct shoulder, rest hand on DO shoulder
- Cup hands on head of humerus
- Apply rhythmic caudal force with mild traction to create pumping motion to joint
- Repeat in circular motion along humeral head



# Billing & Coding

- Document: Patient was referred/evaluated for shoulder pain & OMM was performed
  - Hint: Try NOT to say patient seen for OMM only
- Established patient/New patient/Consult
- 25 Modifier: separately identifiable service performed
- Somatic dysfunction areas treated (98927 for OMM to 5-6 areas):
  - Head / Cranium
  - Upper extremity
  - Cervical
  - Thoracic
  - Ribs
- In-office exercises taught and successful demonstrated
  - 97110- “Therapeutic procedure, 1 or more areas, each 15 minutes; therapeutic exercises to develop strength and endurance, range of motion and flexibility”

# QUESTIONS?