

Update for Primary Care on Upper Extremity Orthopedics

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No conflict of interest
No financial disclosures



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Objectives

General approach to arm pain
Lateral Epicondylitis
Shoulder - rotator cuff tear
Elbow - distal biceps rupture
Thumb - ulnar collateral ligament
Identify time sensitive orthopedic problems



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What constitutes an urgent Orthopedic Problem?

Tendon is retracted and begins to scar in shortened position
Bone is healing with malalignment
Ligament is scarring down
Fracture pain is severe due to instability

(Emergencies: dislocated joint, septic joint, compartment syndrome, flexor tenosynovitis)



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● Approach to UE exam

- "my whole arm hurts"
- Patient needs to participate in their care
- Patient is responsible for figuring out symptoms
- Palpate all the joints, medial, lateral, posterior anterior
- Neck pathology causes radicular pain but may not hurt at neck
- Location of the numbness



Rotator cuff tear



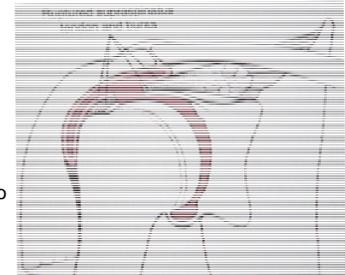
Rotator Cuff

- Supraspinatus, infraspinatus, teres minor, subscapularis
- stabilizes head in glenoid
- abducts, externally and internally rotate



Rotator cuff tear

- Pain with elevation
- usually chronic
- repetitive overhead activity
- 40% of people >60yo
- night pain common



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Physical examination

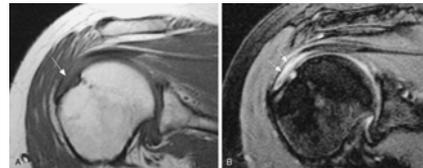
- Special Tests:
 - Subscapularis—"Lift Off" Test, "Belly press"
 - Supraspinatus—"Jobe" (empty can),
 - Infraspinatus—"Drop Sign"
- MRI if failed conservative treatment



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Partial thickness tear

- footprint is 15 mm thick
- 32-37% of people >40



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Full thickness tear

- 40% of people > 60 yo
- most commonly supraspinatus
- Meta-analysis of 1500 shoulders
 - MRI 91% accurate for full thickness tears



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Rotator cuff tear

- Most common site
 - supraspinatus insertion on humerus
 - watershed area of blood flow



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Treatment

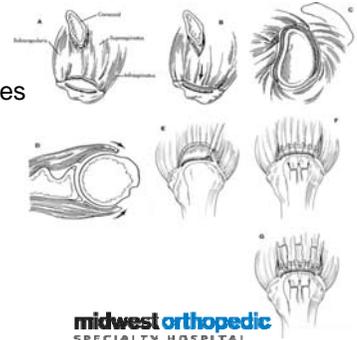
- < 50% tear - non op first
 - debride and decompression
- > 50% tear
 - RTC repair



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RTC repair

- different shapes
- double row
- single row



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Post op

- No active abduction for 6 weeks
- PT : ROM
 - strengthening after 6 weeks
 - 3-4 months to full use



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Lateral Epicondylitis



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Lateral epicondylitis

- ECRB tearing off the lateral epicondyle
- Caused by
 - 50% of tennis players
 - Repetitive use of the hand
 - Men = women
 - Majority Age 35-50



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Lateral epicondylitis

- Diagnosis of exclusion
- Clinical diagnosis
- Don't have to get MRI right away



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Lateral epicondylitis

- **DIFFERENTIAL:**
 - Posterolateral rotatory instability
 - Radial tunnel syndrome - 5% concurrently
 - Occult fracture
 - Cervical radiculopathy
 - Capitelear osteochondritis dissecans
 - Triceps tendinitis
 - Radiocapitellar osteoarthritis
 - Shingles
- **Treatment: (95% non op)**
 - Therapy : ionophoresis, dry needling, cross frictional massage
 - Band it counterforce brace
 - Home exercises
 - Time
 - Activity modification
 - Tennis racquet modification
 - PRP, stem cells (not proven)
 - Ultrasound guided percutaneous debridement (similar failure rate to nonop)
 - Surgery



Lateral epicondylitis

- Educate regarding pathology
- It will go away
- Coping mechanisms
- Give it time
- Everyone gets it (ish)



Distal biceps rupture



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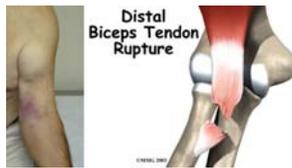
Distal biceps rupture

attaches to radial tuberosity
primary function: supinate

Injury: supinated, eccentric contraction

partial tears: chronic repetitive injury

watershed area




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Distal biceps rupture

pain with resisted supination
pop-eye muscle
ecchymosis
not very painful after rupture




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Distal biceps rupture

3 week window to repair

lacratus fibrosis may hold it out to length, if not it will retract up the arm.

young active patients require reattachment




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Distal Biceps Repair

- reattach tendon to bone.
- 30% lateral antebrachial n paresthesia
- may lose 5-10 degrees of extension/pro/supination

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Thumb Ulnar Colateral Ligament

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Thumb UCL

"gamekeepers thumb"
 "skier's thumb"

UCL ruptures and retracts behind adductor aponeurosis.
 = Stener lesion
 without surgery joint will not be stable
 - leads to premature OA

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Thumb UCL

Exam: Flex MCP to 30deg and stress UCL. If >30 degrees instability it is ruptured.

Repair:
 anchor UCL back to proximal phalanx

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Thumb UCL

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Thumb UCL

3 week window to reattach
 if later - may need allograft reconstruction
 if not repaired leads to joint instability and arthritis

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distal radius fracture

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Distal Radius

- FOOSH
- dorsal angulation
- shortening
- well padded wrist splint (mp's free)

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Distal Radius

- casting
- surgical fixation
 - >2mm articular step off
 - dorsal angulation >10 deg (active person)
 - shortening >2mm

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Summary

- Physical exam - arm pain details
- Identify time sensitive orthopedic problems
- Shoulder RTC tear
- elbow - distal biceps rupture
- Thumb - UCL rupture
- Fractures

Summary

- Have your orthoped on speed dial
- Communicate regarding injuries
- Get fractures referred quickly

Thank you

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