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

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)

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 > 60 yo
- Night pain common

Physical Examination

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

Partial Thickness Tear

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

Full Thickness Tear

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

Rotator Cuff Tear

- Most common site
- Supraspinatus insertion on humerus
- Watershed area of blood flow
Treatment

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

RTC repair

- different shapes
- double row
- single row

Post op

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

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

Lateral epicondylitis

- Diagnosis of exclusion
- Clinical diagnosis
- Don’t have to get MRI right away
Lateral epicondylitis

**DIFFERENTIAL:**
- Posterolateral rotatory instability
- Radial tunnel syndrome - 5% concurrently
- Complex regional pain syndrome
- Central midhumeral fracture
- Capitellar osteochondritis dissecans
- Tropeal tendinitis
- Radial head osteoarthritis
- Tendinitis

**Treatment:** (95% non-op)
- Therapy: ionophoresis, dry needling, cross frictional massage
- Band it counterforce brace
- Home exercises
- Taping
- Physical therapy modifications
- Tennis racket modification
- PRP, stem cell, and PRP
- 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

Attaches to radial tuberosity
Primary function: supinate
Injury: supinated, eccentric contraction
Partial tears: chronic repetitive injury
Watershed area

3 week window to repair
Laceratus fibrosis may hold it out to length, if not it will retract up the arm.
Young active patients require reattachment

Distal biceps rupture

Pain with resisted supination
Popeye muscle
Ecchymosis
Not very painful after rupture
Distal Biceps Repair

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

Thumb Ulnar Colateral Ligament

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

Exam: Flex MCP to 30deg and stress UCL. If >30 degrees instability it is ruptured.
Repair: anchor UCL back to proximal phalanx

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

Distal Radius
- FOOSH
- dorsal angulation
- shortening
- well padded wrist splint (mp’s free)

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