“Older” Shoulders

Rotator Cuff Disease
Rotator Cuff Tears

Anatomy
Rotator Cuff Tears

Anatomy
Rotator Cuff Tears

Definition
Pathologic changes of the rotator cuff tendons
Rotator Cuff Tears

Progressive thinning and weakening with ↑ age
Rotator Cuff Tears

Cause

Trauma

Degenerative
Rotator Cuff Tears

**Types**

- Tendinitis
- Partial thickness tear
- Full thickness tear
Rotator Cuff Tears

Partial Thickness Tear
How to Recognize

Complaints
Pain, ↓ sleep, overhead, weakness, stiffness, catching, popping
How to Recognize

**History**

Acute (traumatic) vs. Chronic (insidious)
How to Recognize

Exam
Atrophy, ecchymosis, weakness, subacromial roughness, pain, positive injection test
How to Recognize Atrophy
How to Recognize Subacromial Roughness
How to Recognize Weakness
How to Recognize Pain
Differential Diagnosis

• Acromioclavicular arthritis
• Frozen shoulder
• Glenohumeral arthritis
• Herniated cervical disc
• Suprascapular nerve entrapment
• Fracture (Skier’s)
How to Work-Up

X-rays
Greater tuberosity reactive changes, acromial sourcil/spur, high-riding humeral head
How to Work-Up

Greater tuberosity reactive changes, acromial sourcil/spur
How to Work-Up

High-riding humeral head
How to Work-Up

Other Imaging Studies

Arthrogram
Ultrasound
MRI
How to Work-Up

Positive arthrogram with dye leakage

Acromion

Humeral Head
Ambulatory Treatment

Conservative - rest, ROM, NSAID,s, injection (?), time, avoidance, modifications, education, compensatory muscle strengthening, progressive resumption of activities (except acute tear in young/active?)
Ambulatory Treatment

Progressive Range of Motion

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Ambulatory Treatment

Compensatory Muscle Strengthening
Outcome

Most do well with appropriate conservative management
Other Thoughts

Wheelchair/Crutch
Ambulators
Difficult, rehab, rehab, rehab, rehab, rarely if ever repair
After dislocation in > 40 y.o.

Beware potential for RCT, image those doing poorly with rehab EARLY
Other Thoughts

Calcific Tendinitis
Calcific Tendinitis
- Insidious onset...PAIN!
- Try conservative approach
- May need to remove or decompress if symptoms persist
“Impingement”
“Impingement”

Question what it is...Triad!
- posterior capsular tightness
- subacromial bursitis
- cuff pathology (-itis vs. tear)
When to Refer

**Acute**
Weakness, bruising, positive study, especially young/active pts.
When to Refer

Chronic

After several months, positive study, failure of conservative care, continued/worsening pain & dysfunction, difficulty sleeping
How We Treat It

• More Rehab/Avoidance/Modification
• Meds/Injections
• Explanation of risks/benefits
• Surgery - arthroscopic or open subacromial smoothing/debridement vs. repair
How We Treat It

$\text{RCT} \neq \text{RCR}$
Prognostic indicators for RCR Failure

↑ Age (> 70)  ↑ Injections
↑ Chronicity  ↑ # tendons
Atraumatic  Smoking
How We Treat It

Open rotator cuff repair
Outcome

Most do well extremely well with near complete recovery of function and relief of pain.
Outcome
Rotator Cuff Tears

Summary
- VERY common problem
- Can be acute or chronic
- Many will improve adequately with conservative care
- Some require surgery
Rotator Cuff Tears

**Summary**
- In young/active/traumatic tears...think early referral
- In elderly/sedentary/insidious tears...think rehab, refer prn
“Older” Shoulders

Stiffness
Capsular Laxity
“Frozen Shoulder”

• Definition - Symptomatic limitation of passive motion in a shoulder

• Cause - Stiffening of joint capsule after inflammation
Inflammation
Adhesions
Actually…

Four Types (etiologies) of Stiffness

Idiopathic Frozen Shoulder
Diabetic Stiff Shoulder
Post-Traumatic Stiff Shoulder
Post-Surgical Stiff Shoulder
Capsular Contracture
How to Recognize

• History - loss of comfort & function (inability to sleep comfortably)
• Exam - limited range of flexion, external rotation, internal rotation and/or cross body motion
• X-rays - normal
Peak age = 55 years
Top 3 in middle age

Patient age 31 to 45

- **AI**: Atraumatic Instability
- **TAI**: Traumatic Anterior Instability
- **AVN**: Avascular Necrosis
- **CA**: Capsulorrhaphy Arthroplasty
- **ICL**: Incomplete Cuff Lesion
- **RA**: Rheumatoid Arthritis
- **FS**: Frozen Shoulder
- **DJD**: Degenerative Joint Disease
- **FTCT**: Full Thickness Cuff Tear
Top three > 45 years

- Atraumatic Instability (AI)
- Traumatic Anterior Instability (TAI)
- Avascular Necrosis (AVN)
- Capsulorrhaphy Arthropathy (CA)
- Incomplete Cuff Lesion (ICL)
- Rheumatoid Arthritis (RA)
- Frozen Shoulder (FS)
- Degenerative Joint Disease (DJD)
- Full Thickness Cuff Tear (FTCT)
Asymmetrical range
Asymmetrical Range

Limited External Rotation
Pain at the extreme
Flexion
External Rotation
Internal rotation
Cross body
How to Work Up

• Rule out predisposing factors
  – Diabetes
  – Cervical spondylosis
  – Underlying shoulder pathology - e.g.: tumor
  – Previous trauma or surgery
Good quality films
Exclude

• Fractures/Dislocations
  • Tumors
• Bony Abnormalities
  • Arthritis
Posterior Fx/Dislocation
Tumor
Avascular Necrosis
Rheumatoid Arthritis
Ambulatory Management

Treat the PAIN!!!

NSAID’s
Injections
Acupuncture

(ANYTHING But Narcotics)
Ambulatory Management

Avoid Overuse and Bothersome Activities!!!

Rest and Time!

No Strengthening!!!
Ambulatory Management

• Recognize that gentle stretching 5X/day for 6 weeks will improve most cases
• Demonstrate stretching exercises
• Return visit to check on exercises
• Monitor range of motion, symptoms
Flexion
Forward lean
Cross-body
External rotation
External rotation
Internal rotation
Internal Rotation
Document progress
When to Refer to Ortho

- No improvement in range of motion or symptoms after 6-12 weeks of exercises
- Concern about other diagnoses (e.g.: questionable X-ray)
How We Treat It

- Home stretching exercises
- Regular monitoring/feedback
- Possibly exam/manipulation under anesthesia if no previous injury/surgery and bone strong
- Possibly surgical release
How We Treat It
Capsular Release
“Frozen Shoulders Thaw!”

Most do well well with near complete recovery of function and relief of pain, one way or another…
“Older” Shoulders

Arthritis
Shoulder Arthritis

**Definition**
Loss of the cartilaginous surfaces in the glenohumeral joint
Shoulder Arthritis

Cause
Generally idiopathic, but multiple others possible.
Shoulder Arthritis

Potential Causes:

- Osteoarthritis
- Rheumatoid Arthritis
- Post-traumatic Avascular Necrosis
- Cuff Tear Arthropathy
- Post-surgical
- Previous Infection
- Tumor
- Spondyloarthropathy
Shoulder Arthritis

Post-traumatic Arthritis
Shoulder Arthritis

Cuff Tear Arthropathy
How to Recognize

Complaints
Night/rest pain, stiffness, weakness, roughness, functional limitation
How to Recognize

History

Insidious, progressive worsening, possible distant injury and/or surgery
Shoulder Arthritis

Post-surgical
How to Work-Up

Exam
Atrophy, weakness, stiffness, crepitation, tenderness, rarely swelling
How to Work-Up

Stiffness

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How to Work-Up

X-ray
AP
Axillary Lateral
How to Work-Up

Osteoarthritis
How to Work-Up

Other Studies
Occasional CT or MRI
Labs as needed
to R/O certain dxs
Shoulder Arthritis

Avascular Necrosis
Differential Diagnosis

- Infection
- Charcot Joint
- Fracture of the proximal humerus
- Herniated cervical disc
- Rotator cuff tear
- Tumor
Ambulatory Treatment

Conservative

NSAID’s, avoidance, modification, passive stretching, ice/heat, support, possible cortisone injection (?)
Ambulatory Treatment

Passive Stretching
When to Refer

* Failure of conservative treatment and time (at least 3 mos?)
* Severe pain, difficulty sleeping, functional limitations disabling
How We Treat It

• Further conservative management
• Explanation of risks/benefits
• Surgery - Arthroscopic or open smoothing/debridement vs. hemi- or total shoulder arthroplasty/fusion
How We Treat It

Total Shoulder Arthroplasty
How We Treat It

Shoulder Arthrodesis
Outcome

Most do well extremely well with relief of pain and improvement of function
Shoulder Arthritis

Summary

- A challenging problem
- Can have many etiologies and be very debilitating
- If conservative care fails, surgery can be very rewarding