

Conservative Management of Rotator Cuff Injury

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The Rotator Cuff

- Subscapularis
- Infraspinatus
- Teres Minor
- Supraspinatus

Types of Tears

- Macrotrauma
 - Falls
 - Physical contact
- Microtrauma
 - Overuse
 - Impingement
- Micro/macro
 - Elderly trauma
 - Spontaneous rupture

Neer Classification of Impingement

- Stage 1
Edema & hemorrhage
- Stage 2
Fibrosis & tendinitis
- Stage 3
RC/Biceps tears
Bony changes

Characteristics

- Supraspinatus most involved tendon
- 95% RC tears have impingement

- Weak RC allows humerus to ride up
 - Increases impingement
- RC tears most common after age 40

Kinematics

- Dynamic mechanics: ball and socket
- Anatomical mechanics: ball on the nose of a seal
- Resolution: Rotator cuff and soft tissue constraints become the ball and socket

Older vs. Younger

- 18-35 age population
 - Common in throwers
 - 2° GH instability
 - 2° internal impingement
 - Few tears are large or full-thickness
- Older (>35 yrs)
 - Degenerative cuff pathology
 - Narrow subacromial space
 - Spur formation
 - Decreased vascularity
 - Retracted full thickness tears seen commonly

Conditions involved with tears

- AC joint arthritis
- Acromial spurring
- Hooked acromion
- Glenohumeral instability
- Weak RC musculature
- Smoking?

Sports with RC injuries

- Baseball
- Softball
- Volleyball
- Swimming

- Tennis

The Acromion

- Type 1: Flat
- Type 2: Curved
- Type 3: Hooked (left)

Outlet view

- Acromial shape
- AC joint degeneration
- Acromial spurring

Partial Cuff Tears

Partial Cuff Tear

Supraspinatus thickening with tendinosis

RC fraying and small partial tear

Full Thickness Rotator Cuff Tears

Full Thickness Rotator Cuff Tears

Partial tear treatment

- Remove irritating actions
 - Overhead work, military presses
 - Rest may be needed
- NSAIDs
 - More effective in Neer Stage 1-2

Physical therapy

- Strengthen cuff—keep humerus in its place
- Scapular stabilization
- ↑ flex (lats, levators, posterior capsule)
- ↑ strength of movers
 - Deltoid,
 - Latissimus dorsi
 - Pectoralis major

Partial Tear Treatment

- Corticosteroid injection
- Acromioplasty

- Widen subacromial space
- Smooth AC irregularity
- Tendon debridement

- *Surgery indicated if symptoms persist despite conservative tx*

Full-thickness tear repair

- Competitive athletes: repair quickly
- Older population
 - More apt to have open procedure
 - Rehab is done to ↑ ROM, ↓ pain
 - Surgery can improve pain, but do little for function and strength
 - Difficult to repair old retracted tendons
 - Scarring, needs dissection
 - Difficulty reaching far-retracted stumps

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