Shoulder Injuries in Athletes

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Definition of Athlete

- Little league ball player
- High school, college football
- Weekend warrior
- Seventy year old tennis player
Overview

- Shoulder instability
- AC separations
- Overuse injuries
  - Bursitis
  - Tendonopathies
Shoulder Instability

- TUBS (traumatic, unilateral, Bankart, surgery)
  - Anterior
  - Posterior
- AMBRI (atraumatic, multidirectional, bilateral, rehab)
  - >80% respond to rehab
Dislocations

- The shoulder is the most commonly dislocated joint.
- Usually antero-inferior
  - Mechanism- abduction, ER
- Axillary nerve injury frequent
- Variety of reduction techniques
Anterior sub-coracoid shoulder dislocation
Reduction

- Preferred method is gentle, steady longitudinal traction
- Stimson maneuver
- Intra-articular lidocaine
Anterior Instability - delayed presentation

- Hx of self reduction on field or in ER
- Continued apprehension or recurrence
- Positive apprehension sign and load and shift
MRA

- MRI with contrast is the study of choice to evaluate for labral tears!!
Pathoanatomy

- Bankart tear
- Hill Sachs lesion
- First time dislocator <20 yo → 80% recurrence of instability
- >40 yo almost always tear cuff
Treatment-Traumatic Anterior Instability

- Depends on timing of injury, needs of athlete
- Sully brace to finish season
- Arthroscopic labral repair recommended
Posterior Shoulder Dislocation

- <3% of Shoulder Dislocations
- Men
- Bilateral
- Seizures, Epilepsy, ECT, Electrocution
- High Energy Trauma
- At risk sports- offensive linemen, bench press
Mechanism - posterior instability

Fig. 1
The shoulder is most at risk for posterior dislocation when it is axially loaded with the arm in forward elevation, adduction, and internal rotation during a high-energy injury. That position is also the one in which patients with recurrent subluxation of the shoulder characteristically experience instability symptoms. (Printed with permission of Jennifer Fairman, Fairman Studios, Waltham, Massachusetts.)
X-ray. What’s the matter?
Treatment - Posterior Instability

- 50% respond to conservative treatment
- Arthroscopic posterior labral repair
AC Injuries Background

- 9% of shoulder girdle injuries
- Occur in active adults, athletes
  - M>W (ratio 5:1)
- Fall onto the top of the shoulder with the arm adducted
- Direct blow
- Cycling!!
AC Joint Injuries Classification
Treatment

- **Consensus**
  - Nonop types I and II
  - Op rx types IV-VI

- **Controversy**
  - Rx of type III
  - Treatment method
Type III?

- Dynamic Instability
Taylor Treatment to Patient

- Goals?
- Occupation?
- Expectations?
Nonop Treatment AC injuries

- Rest, temporary activity modification
- NSAIDS
- Injection
- Delayed distal clavicle excision +/- CC ligament reconstruction for those who fail non-op treatment
Operative Treatment of AC Separations

Where are we in 2010?
Treatment Options
Pub med 2 yrs

- “coracoclavicular ligament reconstruction”
- 1 prospective comparison
- 1 outcomes study (N=9)
- 4 biomechanical comparisons
- 12 new techniques for CC reconstruction
Surgical Options for AC Separations
Biologic Reconstruction

Nicholas et al AJSM 2007
Clavicle Fractures

- Cyclists!!
- Contact Athletes
- Trend away from benign neglect towards fixing displaced fractures

Wheelessonline.com
Clavicle Fractures in Athletes

- **Mid shaft**
  - >2cm shortening or 100% displacement recommend fixing

- **Distal**
  - High nonunion rate, surgery recommended
Overuse Injuries

- Subacromial Bursitis
- AC arthropathy
- Biceps Tendonopathy
- Rotator Cuff Tendonopathy
- Progression to cuff tear
Subacromial Bursitis

- Pain with overhead activity
- Usually no associated with night pain
Treatment

- Physical therapy
  - Script should include periscapular and cuff strengthening below shoulder level
- NSAIDS
- Subacromial injection
- Arthroscopy with bursectomy, +/- acromioplasty
AC arthropathy

- The shoulder disease of anyone who has worked hard...
- Do not treat xray!
- Often asymptomatic
- PE findings- TTP, cross body adduction
Treatment of AC Arthropathy

- NSAIDs
- Corticosteroid injection
- Arthroscopic distal clavicle excision
Biceps Tendonopathy

- Long head of the biceps tendon
- Injury may involve the tendon as well as its anchor at the superior labrum
- “SLAP tear”
  - Problematic in throwing, overhead athletes
Treatment options

- PT
- NSAIDs
- Tendon sheath injection
  - Ultrasound guidance
- Surgical
Surgical Treatment for Biceps Tedonopathy

- Tenotomy
- Tenodesis
- Repair superior labrum if detached
Tenotomy vs tenodesis

**Tenotomy**
- Occasional cramping
- "popeye" 15-20%
- Slight decrease in supination strength

**Tenodesis**
- Occasional pain at tenodesis site
- More postop restrictions during healing phase
- Similar subjective outcomes
Cuff Tendonopathy and Tears

- Cuff tears can be traumatic or degenerative
- Tendonopathy and small tears can be treated with PT
- Many tears progress and require repair
  - Arthroscopic surgery
Signs of Cuff Tear

- Night pain
- Pain with overhead lifting or lifting away from body
- PE with ER weakness and drop arm sign
- MRI consistent with cuff tear
Arthroscopic Cuff Repair
Thank You

Questions??