


AC Joint Instability



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Sports Medicine


Disclosures

- I have no disclosures relevant to this topic.

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Outline

- Introduction & Epidemiology
- Anatomy
- Clinical Evaluation
- Imaging
- Management



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Introduction

- ~9% of injuries to the shoulder
- More common
 - young patients (< 30)
 - males
 - Contact sports



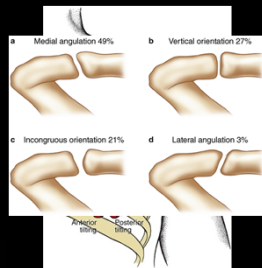
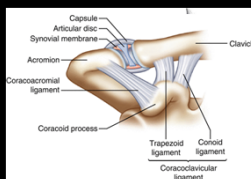
Mazzocca et al. AJSM 2007.

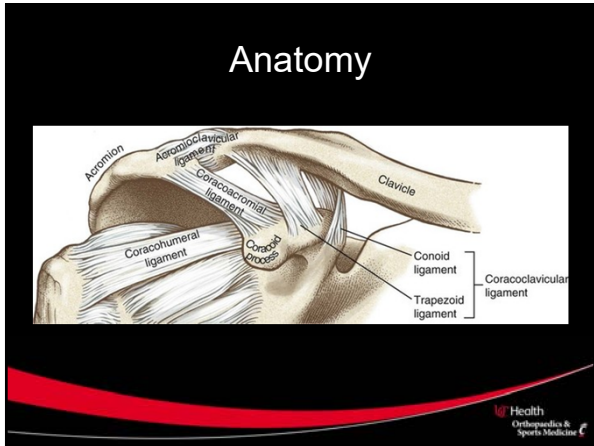
Introduction

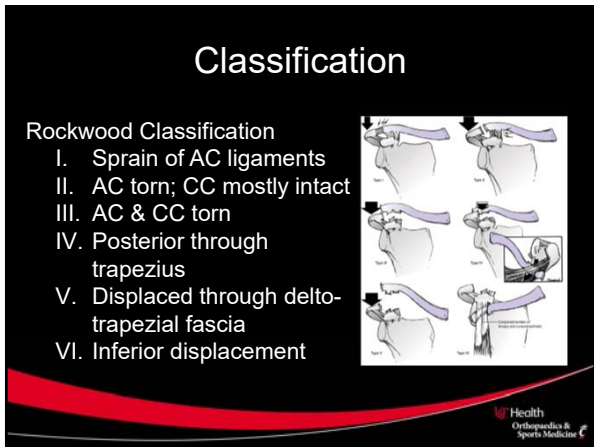
- Cause of injury
 - Direct
 - Fall onto anterior, superior edge of acromion w/ arm in adduction
 - Results in progressive failure of AC ligaments followed by CC
 - Deformity is inferior displacement of shoulder

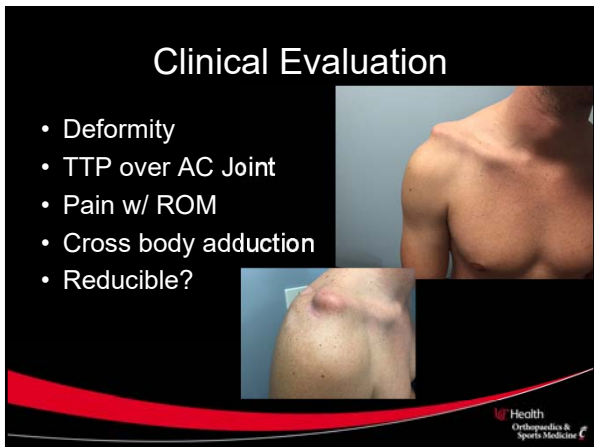


Anatomy



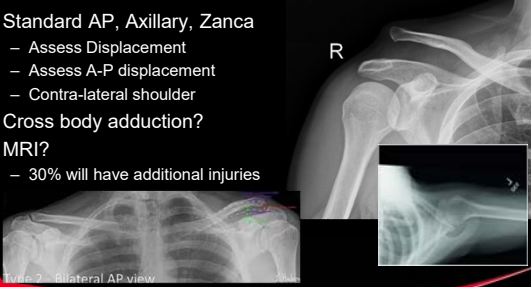






Radiographs

- Standard AP, Axillary, Zanca
 - Assess Displacement
 - Assess A-P displacement
 - Contra-lateral shoulder
- Cross body adduction?
- MRI?
 - 30% will have additional injuries




Type 2 - Bilateral AP view

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Treatment


- Rockwood I & II – non-op
- Rockwood IV, V, VI – operative
- Rockwood III - ???
- Non-op
 - Sling
 - PT for ROM & strengthening
 - Possibly taping for athletes
 - Padding for athletes



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Treatment

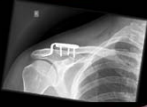

- Rockwood III – Controversial
 - Multiple RCT's
 - Meta Analysis
 - no difference at 2 yrs
 - Earlier RTW in non-op
 - Better early (6 wk & 3 month) outcome scores with non-op
 - Better cosmesis op Chang et al. JOT 2018
 - Still – some fail non-op
 - Acute surgical intervention may result in better outcomes than chronic injuries
 - How do we identify those patients?



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Surgical Treatment

- Indications
 - Type IV,V,VI
 - Type III that fail non-op treatment
 - Ability to comply with post-op regimen
- What Procedure?
 - Over 150 surgeries have been reported
 - No 1 procedure clearly better
 - Hook plate
 - CC Fixation
 - "Anatomic Reconstruction"





Beitzel et al. Arthroscopy 2013

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Hook Plate

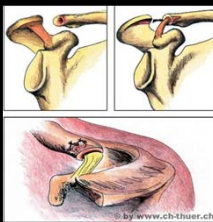
- Advantages
 - Technically easy
 - Works well for acute injuries
- Disadvantages
 - Hook can erode acromion
 - Must be removed (3 months)



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Weaver Dunn

- Transfers CA ligament from acromion to distal clavicle
- Initially reported to have 75% good results
- Initial strength of CA ligament only 25% of normal CC
- Recurrent subluxation in 30%

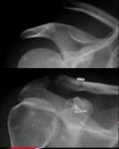



Weaver & Dunn. JBJS 1972
Harris et al. AJSM 2000
Lee et al. AJSM 2003
Weinstein et al. AJSM 1995

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Coracoclavicular Fixation

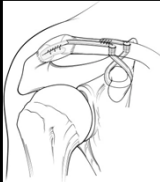
- Bosworth Screw
 - Technically difficult
 - Complications – coracoid fracture
 - Screw must be removed (8-12 wks)
- Suture Button Devices
 - Can be done arthroscopically
 - Do not need to be removed
 - AP instability?



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Anatomic Reconstruction



- Use allogenic or autogenic tissue to reconstruct CC & AC ligaments
- Multiple variations
 - Most loop around coracoid
 - Through or around clavicle
 - Some form of reconstruction of AC
 - Secondary method of initial stabilization



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Anatomic Reconstruction

- My Preference
 - Arthroscopic assisted
 - Loop graft around clavicle
 - Suture button for immediate stability
 - Reconstruct AC in chronic



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Post-op Protocol

- Sling with support for 6-8 weeks
- PROM only 1st 6 weeks
- 6-12 – AROM & isometrics
- Wait until 12 weeks to start strengthening exercises



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Final Thoughts

- Common sports injury
- Most do well with non-op treatment
- Prefer operative treatment on Type IV, V, VI
- Arthroscopic assisted reconstruction
- Post-op rehab is critical

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Thank You!



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