Coracoacromial Arch
Preserve or Sacifice?

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- Introduction
  Push to preserve arch as a static stabilizer to superior migration
  Anterior superior instability remains an unsolved problem prevention best course

- Morphologic consideration
  Pieper JSES 1997
  3 ligament variants 26% homologous, 60% bipartite, 14% three parts
  Implicated medial band as a potential source of pain.
  Shaffer B, JSES 1997
  Length 26.7mm (15.5-31mm)
  SA extension 12.3 mm (7-20mm)
  Total length 39 mm (23-50mm)
  Antomic restoration possible in 93%
  Kopuz et al. JPO [Br] 2002
  3 variant identified. Authors surmise that final shape is determine by relative growth of acromion and coracoid rather than degenerative factors.

- Biomechanical considerations
  Jalovaara JSES 1993
  Highest pressure anterolateral acromion
  Pressure increases with abduction
  Humeral rotation has little effect
  Flatow JSES 1993
  Soft tissue contact starts anterolateral
  Contact sifts medially on acromion with elevation
  Contact increases with type II acromion
  Lararus et al and Moorman et al.
  CA ligament acts as a passive superior restraint

- Sacrifice (Pre-Neer)
  Meyer 1924 implicated degenerative nature of rotator cuff tears as entrapment of the supraspinatus tendon between acromion and humerus.
  Codman 1931 delineated spectrum of rotator cuff pathology
  McLaughlin 1944 refined open techniques of cuff repair

- Evolution of Acromioplasty
  Acomionectomy 1939-1962
  Smith-Peterson 1943

McLaughlin 1944
Debeyre 1965

- Neer- Impingement Syndrome (1972)
  Described results of dissection of 100 scapulae
  Implicated the anterior-inferior acromion in the mechanical attrition of the cuff
  Classification
  Stage 1: Acute traumatic subacromial bursitis. Younger individual, reversible with rest.
  Stage 2: Fibrosis and tendonitis. Between 25 to 40 years, tend to respond to conservative treatment when patients fail best treated with acromioplasty and CA ligament division.
  Stage 3: Rotator Cuff Tear. Older than 40 years, acromioplasty, burectomy and cuff repair.

- Isolated CA ligament release
  Pujadas GM JBJS [Am] 1970
  Resection for impingement type symptoms

- The case for preservation
  Wiley AM Clin Orthop 1991
  4 patients with superior dislocation following debridement
  Bigliani et al JSES 1995
  19/34 patients treated by partial CA ligament resection
  No difference between groups in outcome measures
  Flatow et al JSES
  Patients undergoing rotator cuff repair with CA ligament reconstruction
  16 massive tears
  Satisfactory outcome (no residual impingement)
  No superior instability
- Questions which need to be answers
  Any long term consequences of CA ligament preservation?
  Re-rupture rate
  Patient satisfaction
  Superior Instability

- Recommendations
  Superior instability remain difficult to treat
  Prevention is the best method of treatment
  CA ligament is a logical approach toward this end in the massive tear

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