Post-operative Shoulder
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Outline:
• Rotator cuff repair
• Biceps tenotomy and tenodesis
• Shoulder replacement

Rotator Cuff Repair: surgery
• Partial tear repair:
  – Articular <50% and bursal: debridement
  – Articular >50%: repair or convert to full tear
• Full-thickness repair:
  – Trans-osseous fixation + trough
  – Decorticated tuberosity + direct apposition

Rotator Cuff Repair Techniques

Rotator Cuff Repair: surgery
• Subacromial-subdeltoid bursa:
  – Debrided or resected
• AC joint:
  – Subacromial enthesisophyte spur resection
  – AC joint osteophyte resection
  – Coracoacromial ligament release from acromion
  – Distal clavicle resection: Mumford procedure

Repaired Cuff: ultrasound
- Post-op intact tendon:
  - Variable and heterogeneous echogenicity
  - Variable thickness
- Reimplantation trough
- Echogenic sutures & anchors


Post-operative cuff: intact

Recurrent Cuff Tear: ultrasound results
- Sensitivity = 95%, specificity = 90%, accuracy = 94%
  
- Tendon defects at 1 year may heal
- Defects increase in size with decreased strength but may be asymptomatic
- Structural integrity does not correlate with pain or function

1Yen, Clin Imaging 2004; 28:69
4Russell RD et al. JBJS 2014; 96A:265
Post-operative Rotator Cuff

- Recurrent tear:
  - Defined tendon defect
    - Ultrasound: anechoic or hypoechoic
    - MRI: fluid or contrast signal
  - Tendon non-visualization (ultrasound)
  - Tendon retraction

Post-operative Cuff: retear

- Long Axis
- Coronal-obl T2w

Post-operative cuff: recurrent tear

- Long Axis
- PDw fat-sat coronal

Open arrow = bioabsorbable suture anchor

Post-operative cuff: recurrent tear

- Short Axis
- PDw fat-sat sagittal

Open arrow = suture

Subject B.A.

Rotator Cuff Repair:

- How does the repaired tendon appear at specific time points after surgery?
- How does the appearance change over time?
- When should the tendon appear “normal”?

Post-operative Cuff: Intact

Subject B.A.

- 2 weeks
- 6 weeks
- 3 months
- 9 months
- 1 year
- 3 years
Rotator Cuff Repair:
- Most recurrent tears: within 3 months
- Tendons start to look “normal” by 6 to 9 months
- Focal defects are equivocal, may be post-surgical, may disappear
- Recurrent tears tend to be larger or get larger
- If unsure, get follow-up scan

Rotator Cuff Repair:
- Patients with intact tendons may have continued symptoms
- Patients with recurrent tears may be asymptomatic
- Large recurrent tears are more likely symptomatic

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Shoulder Arthroplasty:
- Total shoulder arthroplasty or hemiarthroplasty
  - Rotator cuff normally inserts onto tuberosities
- Reverse total shoulder arthroplasty:
  - Used when tear of rotator cuff
  - No cuff or tuberosities

Shoulder Arthroplasties
- Total
- Hemi
- Hemi
- Reverse Total

Note: normal tuberosities and cuff attachments

Do not do US here
Arthroplasty: Intact Cuff

Arthroplasty: Cuff Tear

Take-home Points

• Repaired rotator cuff:
  – Most recurrent tears: within 3 months
  – Appears somewhat normal by 6 – 9 months
  – Diagnose retear if obvious defect
  – If equivocal, follow-up scan
• Arthroplasty:
  – Use greater tuberosity landmarks

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