Open Bankart Repair: Is it Still Relevant????

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DISCLAIMER

- I do the vast majority of my instability surgery arthroscopically
- I also do a fair amount of glenoid bone restoration (Latarjet) procedures
- I absolutely think there is a role for Open Bankart Repair surgery
Open Repair - where did it go?

- Limited exposures in training
- Less frequently done
- New trend in shoulder instability
  - Option A: scope repair
  - Option B: latarjet or bone procedure
  - WE ARE FORGETTING GOOD INTERMEDIATE OPTION - OPEN REPAIR

The reality

- The majority of primary instability surgery today is done arthroscopically
  - MOON shoulder data
  - 94% done arthroscopic (604/640)
  - 2/3 of revision surgery done open
    - Latarjet > open Bankart / shift

Anterior instability surgery
Proper Preoperative Planning – Evaluate Glenoid Bone Loss

- X-ray, CT with 3D recon, +/- MRI arthrogram; +/- Arthroscopy

<table>
<thead>
<tr>
<th>Glenoid Bone Loss</th>
<th>Primary Repair (Scope or open)</th>
<th>Primary Repair (Open or Scope)</th>
<th>OPEN bone Augmentation procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 15%</td>
<td>Incorporate any bony fragments if possible</td>
<td>Incorporate bony fragments if possible</td>
<td>+/− address Hill Sachs</td>
</tr>
<tr>
<td>15% to 25%</td>
<td>Liberal use of anchors</td>
<td>+/− bone augmentation</td>
<td></td>
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<tr>
<td>&gt; 25%</td>
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What was the prior procedure?
Consider different technique for revision
Glenoid Track  
- Yamamoto 2007

- Articulation area on humeral head in ABER
- If medial edge of HS extends medial to track - risk of engaging
  - 18.4 +/- 2.5mm from edge of cuff
  - ~16-17 mm from edge of articular cartilage
  - >4% +/- 14% of glenoid width + any glenoid bone loss

Other Factors affecting Decision

- **Age and Activity Level**
  - More aggressive in younger and more active patients
- **Contact sports / Job**
- **Ligamentous Laxity**
  - Open allows direct capsular shift
  - Rotator interval closure

- **Revision Setting:**
  - What was the prior procedure?
  - Consider different technique for revision

Factors that may push me to do open Bankart Repair

- **Hyperlaxity**
  - Tensioned vest over pants capsule vs. plication
- **Low level bone loss in contact athlete**
  - <15% range on glenoid
  - Often easier to repair bony Bankart open
What’s the Data?

Systematic Review - Brophy, Marx Arthroscopy '09

- 103 patients, ave age 20 years
  - Bone loss determined at arthroscopy
    - 27% engaging Hill Sachs
    - 4% >20% bone loss on glenoid
  - 2% recurrence
  - Bone loss not significant predictor
Why consider open revision?

**Results of revision surgery:**

- **Open Revision Series:**
  - Sisto AJSM '07
    - 0/30 recurrence
  - Cho AJSM '09
    - 3/26 (11%) recurrence
  - Neviaser J Shoulder Elbow Surg '15
    - 0/30 recurrence at 10 years

- Friedman et al, Arthroscopy '14, systematic review 388 patients
  - Arthroscopic revision: 14.7% recurrence
  - Open revision: 5.5% recurrence
  - Bristow / Latarjet: 14.7% recurrence

Why consider an open revision?

- Historically low recurrence rates (0-11%)
  - Sys rev scope revisions - 12.7% (Abouali)
- If arthroscopic repair failed once it may be prudent to do different procedure
  - (Warren: “don’t just assume you can do better than the last surgeon”)

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  - (Warren: “don’t just assume you can do better than the last surgeon”)
Why consider an open revision?

- Not every revision has significant bone loss

Why consider an open revision?

- Bristow / Latarjet is a difficult procedure - not benign
  - Greissler et al J Shoulder Elbow Surg ’13, systematic review 1904 shoulders
  - 30% complication rate after Bristow Latarjet
    - Recurrent instability 9%
    - Non-union / fibrous union of coracoid 9%
    - Neurovascular complication 2%
    - Average ER loss 13 degrees

Pearls of Open Bankart Surgery

- Need an assistant! - more difficult than arthroscopic
- Exposure: I am a proponent of subscapularis tenotomy
  - Upper 2/3 - allows optimal visualization
  - Need meticulous closure of subscapularis
    - interrupted modified Mason Allen sutures using #2 suture
    - running size 0 absorbable
Advantages of Open Bankart

- Can mobilize capsule from subscapularis and tension / shift appropriately
- Direct treatment of rotator interval as needed
- Capsule can be overlapped (vest over pants repair) - potentially double the thickness
- Can directly repair some bony lesions on glenoid

Subscapularis debate...

- Can do through subscap split if wanted
- Outcome directly linked to strength and function of subscapularis - (Sachs et al AJSM '05)
- Shoulder strength slower to return after open repair BUT NO DIFFERENCE at one year - (Rhee et al AJSM '07)
- Randomized trial scope versus open - no difference in strength and subscapularis function at 2-3 years (Hiemstra et al AJSM '08)

Technique

- Lateral capsulotomy
  - Can repair later with anchors or tissue to tissue
  - Mobilize capsulolabral tissue for anatomic repair
  - Suture anchor on anterior edge of glenoid
Technique

- Mattress suture configuration - sutures tied outside capsule - eliminates medial recess of anterior capsule
- Position arm appropriate for capsule repair (30/30/30)

Repair Capsule / Subscap

- Can tension capsule as needed
- If tenotomy - crucial to have outstanding subscapularis repair

Rehabilitation

- Sling immobilization for 4-6 weeks
  - Pendulums early to avoid stiffness
  - Protect subscapularis for 6 weeks - no ER past 0-30 degrees
  - Usually progress as fast or faster than arthroscopic repairs
Just remember....

- There is another option between arthroscopic repair
  And
  ...............Latarjet
- OPEN BANKART AND STABILIZATION!

References:


Thank you
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