Open vs. Arthroscopic Bankart Reconstruction for Recurrent Anterior Shoulder Instability

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A’scopic vs. Open Bankart “remains controversial”

- few RCTs; lack long term follow-up
- systematic reviews inconclusive

My practice:
- Arthroscopic Bankart - 75%
- Open Bankart - 10%
- Open Latarjet - 15%
Arthroscopic Bankart: “Maybe not as good as we think”

Recurrence Rates

- van der Linde et al, AJSM 2011: 35%
- Voos et al (HSS) AJSM 2010: 18%
- Castagna et al, AJSM 2012: 17%
- Castagna et al, Arthroscopy ’12: 21%
- Porcellini et al JBJS 2009: 13%
- Aboalata et al AJSM 2016: 19%

- age <22, male, collision/contact sport
Recurrence after Arthroscopic Stabilization: Bone Loss

Burkhart, DeBeer Arthroscopy 02
- “inverted pear” 67%
- “engaging Hill-Sachs”

Boileau et al, JBJS 06
- Bone loss + capsular laxity:
  - > 25% glenoid defect 75%
Re-defining “Critical” Bone Loss

- 72 arthroscopic repairs
- 4 quartiles of bone loss:
  - 13.5% glenoid bone loss
    - Worse outcomes: WOSI, SANE
    - Considered “failures”
  - Increased recurrence not observed until bone loss 20%

Shaha, Bottoni, Tokish et al AJSM 2015
May be more than a problem of Bone Loss: Instability Severity Score

Arthroscopic Bankart (93) vs. Latarjet (93)

Minimum 4 year follow-up:

- Male < 20 yo: 2 points
- Collision/contact athlete: 2 points:
- < or equal to 4 points: 22% recurrence
  with arthroscopic repair

Bessiere Boileau et al CORR 2014
May be more than a problem of Bone Loss

Arthroscopic Bankart (271) vs. Latarjet (93)

- 6 year follow-up

- Arthroscopic: recurrent instability/apprehension
  - 41%

- Latarjet: recurrent instability/apprehension
  - 11

- revision surgery> in arthroscopic group
- outcome difference increased with time

Zimmermann et al  Gerber JBJS 2016
Improving results: Surgical Treatment of Recurrent Anterior Instability:

- patient selection

- technique
Indications Arthroscopic Bankart:

Selection criteria:

- Traumatic, recurrent
- Throwing athlete
- Osseous Bankart
  - Sugaya JBJS 2005
    - < 15% bone loss
    - Good quality tissue
Lateral decubitus

2x risk recurrence beach chair
Mobilization, decortication
Percutaneous portal placement
Double loaded anchors

- 2 points of fixation
- minimize rim fracture through anchor tunnels

Right shoulder
- anchor placement on edge
- shuttling suture inferior to anchor
- mattress suture
- mattress with simple

Left shoulder
Adjunctive Techniques

▪ address capsular redundancy
▪ tension IGHL

“Combi”stitch: combines capsular plication with labral repair
Extension of Bankart posterior

Left shoulder
Summary:

- few episodes
- good tissue
- NO BONE LOSS
- all pathoanatomy treated
- minimum 3 anchors
- lateral decubitus

The Influence of Evidence-Based Surgical Indications and Techniques on Failure Rates After Arthroscopic Shoulder Stabilization in the Contact or Collision Athlete With Anterior Shoulder Instability

Timothy S. Leroux,‡ MD, Bryan M. Saltzman,† MD, Maximilian Meyer,‡ BSc, Rachel M. Frank,‡ MD, Bernard R. Bach Jr,† MD, Brian J. Cole,‡ MD, Anthony A. Romeo,† MD, and Nikhil N. Verma,‡ MD

Investigation performed at Rush University Medical Center, Chicago, Illinois, United States

Recurrence rate: 8%
If Arthroscopic Bankart not indicated

"A" to "C"

Coracoid transfer
Latarjet
What Happened to “B”? Open Bankart

**Patient factors:**
- Collision athlete
- Hyperlaxity

**Pathoanatomic factors:**
- Bone loss 10- 20%
- Mild Capsular deficiency
- Exposed hardware
- Subscapularis deficiency
Open Bankart is not the same as an Arthroscopic Bankart
Open Bankart has been a reliable procedure for > 60 years:

<table>
<thead>
<tr>
<th>Study</th>
<th>Type</th>
<th>Patients</th>
<th>Bone defects:</th>
<th>Recurrence</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rowe JBJS 1978</td>
<td>161 patients</td>
<td>Glenoid: 77% Hill-Sachs: 78%</td>
<td>5 recurrences</td>
<td>97% satisfied</td>
<td></td>
</tr>
<tr>
<td>Lenters et al JBJS 2007</td>
<td>meta-analysis</td>
<td>Open vs. Arthroscopic</td>
<td>greater return to work</td>
<td>less recurrence</td>
<td></td>
</tr>
<tr>
<td>Pagnani AJSM 2008</td>
<td>103 patients</td>
<td>85% contact 85% Hill-Sachs 14% glenoid</td>
<td>2 recurrences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhee et al AJSM 2006</td>
<td>46 patients</td>
<td>Open vs. Arthroscopic</td>
<td>collision athletes</td>
<td>recurrence: open: 11% scope: 25%</td>
<td></td>
</tr>
<tr>
<td>Mohtadi et al JBJS 2014</td>
<td>RCT Open (79) vs. Arthroscopic (83)</td>
<td>WOSI: no diff. ASES: no diff.</td>
<td>recurrence: Open: 11% Scope: 23%</td>
<td></td>
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</tbody>
</table>
Open Bankart: minimum 20 year F/U

- 47 patients; bone loss excluded
- WOSI: 256 pts
- Rowe: 88 pts
- SST: 90%
- Recurrence: 17%
  - 5 dislocations
  - 2 subluxations
- 95% satisfied with operation
- 2 revisions

Moroder et al JBJS 2015
Thank you