Shoulder Dislocations

Peter N. Chalmers, MD
Division of Shoulder and Elbow Surgery
Department of Orthopaedic Surgery
University of Utah
What is the pathoanatomy of anterior shoulder instability?

- ALPHABET SOUP
  - GLAD
  - Bankart
  - ALPSA
  - GAGL
  - Capsular stretch
  - HAGL
Labral tests: endless complexity

- Apprehension
- Relocation
- Surprise
- Anterior Drawer
- Posterior Drawer
- Anterior Glide
- Kim’s
- Crank
- O’Brien’s
- Dynamic labral shear
- SLAPrehension
- Superior shear
- Nice Knee-Shoulder
- Sulcus
- Anterior load and shift
- Posterior load and shift
- Leffert’s
- Rowe’s
- Kinetic Medial Rotation
- Jerk
- Fukuda
- Posterior apprehension
- Gagey
- Anterior slide
- Posterior slide
- Luddington’s
- Curtain’s
- Kibler’s
- LaFosse’s
- Feagin’s
- Biceps Load 1
- Biceps Load 2
- Passive compression
- Passive distraction
- Supine Flexion Resistance
- Clunk 1
- Clunk 2
- Push-Pull
Treatment options?

- Physical therapy: strengthening of cuff and periscap.
- Bracing to avoid the ABER position
- Immobilization: Internal rotation vs. external rotation
- Arthroscopic capsulorrhaphy/labral repair
- Open capsular shift
- Open bankart
- ORIF glenoid
- Reimplissage, humeral head grafting, disimpaction
- Latarjet/Distal tibial allograft/ICBG
- Resurfacing/Hemiarthroplasty/TSA/RTSA
Indications

• First time dislocators
  • Bottoni (2002):
    • Nonop: 75% Recur
  • Robinson (2008)
    • Debride: 38% Recur
    • Repair: 7% Recur
  • Arciero (1994)
    • Nonop: 80% Recur
  • Kirkley (2005)
    • Nonop: 60% Recur
  • Op: 11% Recur
  • Op: 14% Recur
  • Op: 19% Recur
# Risk Factors

<table>
<thead>
<tr>
<th>Prognostic factors</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at surgery (yrs)</td>
<td></td>
</tr>
<tr>
<td>≤ 20</td>
<td>2</td>
</tr>
<tr>
<td>&gt; 20</td>
<td>0</td>
</tr>
<tr>
<td>Degree of sport participation (pre-operative)</td>
<td></td>
</tr>
<tr>
<td>Competitive</td>
<td>2</td>
</tr>
<tr>
<td>Recreational or none</td>
<td>0</td>
</tr>
<tr>
<td>Type of sport (pre-operative)</td>
<td></td>
</tr>
<tr>
<td>Contact or forced overhead</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
</tr>
<tr>
<td>Shoulder hyperlaxity</td>
<td></td>
</tr>
<tr>
<td>Shoulder hyperlaxity (anterior or inferior)</td>
<td>1</td>
</tr>
<tr>
<td>Normal laxity</td>
<td>0</td>
</tr>
<tr>
<td>Hill-Sachs on AP* radiograph</td>
<td></td>
</tr>
<tr>
<td>Visible in external rotation</td>
<td>2</td>
</tr>
<tr>
<td>Not visible in external rotation</td>
<td>0</td>
</tr>
<tr>
<td>Glenoid loss of contour on AP radiograph</td>
<td></td>
</tr>
<tr>
<td>Loss of contour</td>
<td>2</td>
</tr>
<tr>
<td>No lesion</td>
<td>0</td>
</tr>
</tbody>
</table>

Balg, F., & Boileau, P. (2007). The instability severity index score: a simple pre-operative score to select patients for arthroscopic or open shoulder stabilisation. *JBJS Br, 89(11), 1470.*
Arthroscopic view of Glenoid Bone Loss
Glenoid Bone Loss

- 20-25%: “critical” – Augment
- “subcritical” bone loss also influences results

<table>
<thead>
<tr>
<th>Bone Loss $^t$</th>
<th>WOSI $^c$</th>
<th>$P$ Value</th>
<th>IE Failure Rate, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score, Mean ± SD (Range)</td>
<td>Score, Mean</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.8 ± 2.8 (0.0-7.1)</td>
<td>383.3</td>
<td>.02</td>
<td>5.6</td>
</tr>
<tr>
<td>10.4 ± 1.9 (7.3-13.5)</td>
<td>594.0</td>
<td>.04</td>
<td>5.3</td>
</tr>
<tr>
<td>16.1 ± 2.0 (13.5-19.8)</td>
<td>839.5</td>
<td>.02</td>
<td>11.1</td>
</tr>
<tr>
<td>24.5 ± 4.6 (20.0-35.5)</td>
<td>1187.6</td>
<td></td>
<td>27.8</td>
</tr>
<tr>
<td>13.4 ± 8.5 (0.0-35.5)</td>
<td>756.8</td>
<td></td>
<td>12.3</td>
</tr>
</tbody>
</table>

1. Diameter of the glenoid circle = D
2. Width of bone loss = X
3. 3D distance from cuff to medial HS perpendicular to artic margin = HS
4. If \((0.83 \times D) - X > HS\), add reimplissage
Hill-Sachs Reimplissage
Treatment algorithm, simplified

Age < 22, competitive/contact athlete, recurrent instability, bony bankart (relative)

Nonoperative: PT, <1 week sling

Operative, MRI

Arthroscopic Labral Repair, incorp. bone fragment if present

Yes

Open HAGL repair

HAGL

Rare Combo

Bankart

Bone Loss, CT scan

Glenoid >20-25%

Yes

Latarjet

Engaging HS via GT

Yes

+Reimplissage

No

No
Thank you!

• C: (503) 803-0643
• T: (801) 587 0064 (MA)
• chalmerspractice@hsc.utah.edu