Posterior Shoulder Instability
Open Management

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Ambiguity of Terminology

- Dislocation vs subluxation
- Traumatic vs atraumatic
- Habitual vs voluntary vs involuntary

Basic Questions

• Is the shoulder unstable? Directions?
• Is the labrum torn?
• Is the capsule stretched? Gone?
• Is the bony fulcrum adequate
  – Glenoid
  – Humerus: “Locked” dislocation?
• Does the patient have mental reasons to fail?
• Previous surgery?

Determination of Instability

- History
- Clinical examination
  - Supine load and shift with comparison to opposite side
  - ABER apprehension/Relocation tests
  - Posterior jerk test
- Arthroscopic Evaluation
Labrum/Capsule

• History & exam:
  – Thermal Capsulorrhaphy
  – Hyperlaxity
• MRI/Arthrogram
  – Labrum
  – Posterior/inferior pouch
• Arthroscopy

Millett et al, JAAOS 2006
Osseous Evaluation

- MRI suboptimal
- CT scan best. 2D and 3D recons of glenoid face
  - Bone loss: Glenoid or humerus
  - Posterior rim sloping/Fx
  - Excess retroversion/dysplasia
Psychological Factors

• Workman’s Compensation claim
• Psychiatric/emotional disorder
  – Habitual (psychiatric, willful)
  – Voluntary (intentional but not willful)
  – Involuntary/unintentional
    • Hawkins et al, JBJS 1984
• We are **not** psychiatrists
Etiology and Treatment

- Detached labrum
  - Arthroscopic repair
- Capsular tissue stretched
  - Arthroscopic or open repair/capsulorrhaphy
- Inadequate bony fulcrum
  - McGlaughlin Procedure
  - Open Glenoid Augmentation
- Inadequate capsular tissue
  - Open capsular reconstruction, Graft Reinforcement
Open Capsulectomy: Exposure

Matsen: www.orthop.washington.edu
Exposure

Matsen: www.orthop.washington.edu
With Infraspinatus Release

Neer Humeral Sided Capsular Shift

Courtesy of Gilles Walch
Posterior Glenoid Deficiency

- Dysplasia
  - Osteotomy

- Posterior Glenoid Rim Loss
  - Augmentation ("Bone Block")
Glenoid Dysplasia: Osteotomy

Matsen: www.orthop.washington.edu
Glenoid Osteotomy

Matsen: www.orthop.washington.edu

Case Courtesy of Gilles Walch
Patient Selection/Complications

- Severe hypoplasia
- Perforation of Glenoid
  - Johnston et al CORR 1984
- Osteoarthritis
Complication: Osteoarthritis

Case Courtesy of Gilles Walch
Posterior Glenoid Rim Loss

- Open Posterior Glenoid Augmentation with Bone Graft

Courtesy of Gilles Walch
Vertical Glenoid Sided Capsuloplasty

- Post glenoid abraded
- Drill inferior hole (3.2 mm)

T-Shift of Capsule

Courtesy of Gilles Walch
Iliac crest (Inner Table Graft)

2-3 cm Deep
3-4 cm Long
Extra-Articular Fixation of Graft

- 2 Malleolar Screws (Large Frag)
- Slight Overhang

*Courtesy of Gilles Walch*
Graft Position

Courtesy of Gilles Walch
Post operative course

Neutral rotation
4 to 6 weeks

Passive ROM

No IR for 6 weeks

Return to sports after 4 months
Results (Gilles Walch)

21 shoulders
FU 6 y (2-19)
20 VS or S (95%)

Failures : 3 (14%)
- 1 recurrence
- 2 apprehension +++

## RESULTS

Mean Constant score : 93.3 (80-100)

<table>
<thead>
<tr>
<th></th>
<th>Constant Score</th>
</tr>
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<tbody>
<tr>
<td>Pain</td>
<td>13 (8-15)</td>
</tr>
<tr>
<td>ADL</td>
<td>19.3 (17-20)</td>
</tr>
<tr>
<td>Mobility</td>
<td>39.5 (37-40)</td>
</tr>
<tr>
<td>Strength Kg x 2</td>
<td>22 (14-28)</td>
</tr>
</tbody>
</table>

(55% no pain)  
(80% symmetric ER)

*Courtesy of Gilles Walch*
XR Results

4 Arthritis
  2 preop
  2 postop

Courtesy of Gilles Walch
## Post. Capsulorrhaphy

<table>
<thead>
<tr>
<th>Study</th>
<th>$n$</th>
<th>Follow-up (FU)</th>
<th>Recurrent sub/dislocation (Rec sub/dis)</th>
<th>Failure Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wolf BR (Open) (2005-JSES)</td>
<td>37</td>
<td>8 y</td>
<td>8</td>
<td>19%</td>
</tr>
<tr>
<td>Kim (Ascop) (2003 - JBJS Am)</td>
<td>27</td>
<td>3 y</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td>Williams (Ascop) (2003-AJSM)</td>
<td>27</td>
<td>5 y</td>
<td>3</td>
<td>11%</td>
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Additional Open Procedures

• Posterior Stabilization via an anterior approach
• Posterior “Addition Acromioplasty”
• Cadaver Graft/Capsular Reinforcement
Post Stabilization via Anterior Approach

- Introduced by Neer (“cruciate closure”) for MDI patients with significant posterior instab.

Posterior Addition Acromioplasty

Scapinelli JSES 2006
Graft Reinforcement

- Possible improvement of results in cases of thinned/insufficient capsular tissues
Open Posterior Capsular Reconstruction

• Acceptable treatment option. Higher morbidity but effective alternative to arthroscopic stabilization if performed properly

• Can be performed from the front in cases of MDI

• Treatment of choice in cases of bony and capsular deficiency
Thanks