Anterior Shoulder Instability: indications and surgical techniques for open stabilization

Andreas Panagopoulos, MD, Ph.D.
Lecturer in Orthopedics, Medical School, Patras University
Sports Medicine & Upper Limb Surgeon, Patras University Hospital
Has the management of shoulder dislocation changed over time?

Byron Chalidis · Nick Sachinis · Christos Dimitriou · Pericles Papadopoulos · Efthimios Samoladas · John Pournaras
Primary anterior shoulder dislocation in young athletes: fix them!

Pietro Randelli · Ettore Taverna

Surgery was proved to reduce the recurrence rate after a first-time anterior shoulder dislocation. The recurrence rate in the group of conservatively treated patients ranged between 60 and 75%. In surgically treated groups, the recurrence was between 11 and 20% [2, 11]. Even in a long-term follow-up [10], surgical stabilization gave better results, with approximately 10% recurrence rate compared to 58% recurrence in the conservative group.
Anatomy & Biomechanics
## Factors maintaining shoulder stability

<table>
<thead>
<tr>
<th>Static Factors</th>
<th>Dynamic Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articular version-conformity</td>
<td>Rotator cuff</td>
</tr>
<tr>
<td>Glenoid labrum</td>
<td>Coracoacromial arc</td>
</tr>
<tr>
<td>Capsule and ligaments</td>
<td>Biceps brachii</td>
</tr>
<tr>
<td>Adhesion–cohesion &amp; suction cup</td>
<td>Proprioception</td>
</tr>
<tr>
<td>Negative intraarticular pressure</td>
<td></td>
</tr>
<tr>
<td>Rotator cuff (static contribution)</td>
<td></td>
</tr>
</tbody>
</table>

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*no single factor is responsible for glenohumeral joint stability and no single lesion is responsible for clinical instability*
Glenoid labrum

1. Anchor point
2. Deepens the concavity
3. Increase the surface area of contact for the humeral head
4. Analogous to a chock-block
Capsule/Glenohumeral Ligaments

- **IGHL complex** acts like a hammock in preventing increased translation of the humeral head on the glenoid.

  - abduction moves beneath the humeral head and becomes taut
  - internal rotation moves posteriorly and limits posterior translation
  - external rotation moves anteriorly and limits anterior translation
1st law of glenohumeral stability

The GH joint will not dislocate as long as the net humeral joint reaction force is directed within the effective glenoid arc.

This force is the resultant of all muscular, ligamentous, inertial, gravitational, and other external forces applied to the head.
2nd law of glenohumeral stability

The humeral head will remained centered

- if the glenoid and humeral joint surfaces are congruent and

- if the net humeral joint reaction force is directed within the effective glenoid arc

The "effective glenoid arc" is the arc of the glenoid available to support the humeral head under the specified loading conditions.
Balance stability ratio

Is the force necessary to displace the head from the glenoid divided by the load compressing the head into the concavity.

- Resection of the labrum has been shown to reduce the stability ratio by 20 per cent. (Lippitt, Vanderhooft, Harris et al, 1993)
**Balance stability angle**

Is the maximal angle between the glenoid center line and the net humeral joint reaction force before the humeral head dislocates from the glenoid.

- A 3 mm anterior glenoid defect has been shown to reduce the balance stability angle over 25 per cent. (Matsen, Lippitt, Sidles et al., 1994)
Classification (Matsen)

**TUBS or “Torn Loose”**
- Traumatic etiology
- Unidirectional instability
- Bankart lesion
- Surgery is required

**AMBRI or “Born Loose”**
- Atraumatic: minor trauma
- Multidirectional instability may be present
- Bilateral: asymptomatic shoulder is also loose
- Rehabilitation is the treatment of choice
- Inferior capsular shift: surgery may be needed
“In the past, the mechanisms providing stability have been categorized as “static” and “dynamic” or as “active” and “passive.” We now recognize that the entire system functions as an integrated whole.”
Pathoanatomy, diagnostic imaging and related lesions
Normal labral variations (13.5-25%)

a. A cord-like middle glenohumeral ligament (MGHL)
b. **Sublabral foramen** in the anterosuperior quadrant of the shoulder.
c. The **Buford complex** (cord-like MGHL in conjunction with an absent anterosuperior labrum complex)
Pathologic lesions in shoulder instability

a. Bankart, bony-Bankart
b. PERTHES
c. ALPSA
d. HAGL
e. GLAD
f. SLAP
g. Hill - Sacks
A Bankart lesion is a tear of the anteroinferior glenoid labrum with an associated tear of the anterior scapular periosteum.
A Bony - Bankart lesion is a tear of the anterioinferior glenoid labrum with an associated tear of the anterior scapular periosteum, with associated fracture of the anterior inferior glenoid rim.
An ALPSA lesion is an anterior labroligamentous periosteal sleeve avulsion. The anterior inferior labrum is torn and the labrum, inferior glenohumeral ligament and intact scapular periosteum are stripped and displaced medially on the glenoid neck.

**POLPSA** is similar to ALPSA and is associated with posterior dislocation.
An Perthes lesion is a variant of the Bankart, where the anterioinferior labrum is avulsed from the glenoid and the scapular periosteum remains intact but is stripped medially.
A HAGL lesion is humeral avulsion of the glenohumeral ligament that occurs from shoulder dislocation, with avulsion of the inferior glenohumeral ligament from the anatomic neck of the humerus (J sign).

A BHAGL is a bony HAGL, or a HAGL lesion that involves a bone fragment.
SLAP is an acronym for superior labral tears, that propagate anterior and posterior in reference to the biceps anchor. Originally, SLAP lesions were classified by Snyder et al, based on arthroscopic evaluation.
The GLAD lesion refers to glenolabral articular disruption, which involves a tear of the anterior inferior labrum with an associated glenoid chondral defect.
The Hill-Sachs lesion is a cortical depression in the humeral head. It results from its forceful impaction against the anteroinferior rim of the glenoid when the shoulder is dislocated anteriorly (reverse Hill-Sachs in posterior dislocation).
Surgical treatment considerations

(1) Is the problem in the glenohumeral joint?
(2) Is the problem one of failure to maintain the humeral head in its centered position?
(3) What mechanical factors are contributing to this instability?
(4) Are the identified mechanical factors amenable to surgical repair or reconstruction?

This evaluation is based primarily on a carefully elicited history, a physical examination of the stability mechanics, plain radiographs and MRI scan.
Implications for surgical reconstruction

For surgical treatment of glenohumeral instability to be appropriate, the instability must be attributable to mechanical factors that can be modified by surgery.

The causes may be deficiencies of the glenoid concavity, deficiencies in the muscles that compress the head into the socket, and/or deficiencies in the capsule and ligaments.
Widespread acceptance of an all-arthroscopic approach to shoulder instability is lacking, partly because of the high failure rate that was reported in early studies.


Arthroscopic Versus Open Repair for Traumatic Anterior Shoulder Instability: A Meta-analysis

Nicholas G. H. Mohtadi, M.D., F.R.C.S.C.,
Ivan J. Bitar, M.D., Treny M. Sasyniuk, B.P.E., Robert M. Hollinshead, M.D., F.R.C.S.C.,
and Wade P. Harper, M.B.B.S., F.R.A.C.S.(Orth)

Research performed from 1966 to October 31, 2003

<table>
<thead>
<tr>
<th>Study</th>
<th>Total No. of Shoulders</th>
<th>Recurrence</th>
<th>Reoperation*</th>
<th>RTA</th>
<th>Traumatic Recurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Arthro</td>
<td>Open</td>
<td>Arthro</td>
<td>Open</td>
</tr>
<tr>
<td>Cole et al.47,48</td>
<td>37</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Geiger et al.51</td>
<td>16</td>
<td>7</td>
<td>2</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Guanche et al.50</td>
<td>15</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Jorgensen et al.60</td>
<td>21</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Karlsson et al.57</td>
<td>60</td>
<td>9</td>
<td>5</td>
<td>4</td>
<td>3</td>
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<tr>
<td>Kartus et al.61</td>
<td>18</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Kim and Ha56</td>
<td>59</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Sperber et al.59</td>
<td>43</td>
<td>15</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Steinbeck and Jerosch53</td>
<td>30</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Roberts et al.58</td>
<td>30</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Weber62</td>
<td>43</td>
<td>7</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>
- cohort studies (Level I to II) that evaluated:
- outcomes of patients undergoing arthroscopic stabilization after the first dislocation or multiple recurrent episodes
- 15 studies (5 in the first-time dislocation group and 10 in the recurrent instability group).
- There were no differences in recurrence or complication rate
No recurrence of dislocation in either group at 2 years fup
Systematic Review

Long-Term Outcomes After Bankart Shoulder Stabilization


Table 7. Comparison of All Surgical Techniques Analyzed

<table>
<thead>
<tr>
<th></th>
<th>Arthroscopic Bankart Repair With Suture Anchors</th>
<th>Arthroscopic Bankart Repair With Tacks</th>
<th>Arthroscopic Bankart Repair With Translateral Caspari Technique</th>
<th>All-Arthroscopic Bankart Techniques (n = 584)</th>
<th>Open Bankart Repair (n = 731)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of follow-up (yr)</td>
<td>7.3</td>
<td>11.5</td>
<td>8.4</td>
<td>9.1</td>
<td>13.1</td>
</tr>
<tr>
<td>Recurrent dislocation rate (%)</td>
<td>8.5</td>
<td>17</td>
<td>8</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Recurrent subluxation rate (%)</td>
<td>4</td>
<td>7</td>
<td>3</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Timing of recurrent instability (yr)</td>
<td>2.2</td>
<td>3.1</td>
<td>1.2</td>
<td>2.5</td>
<td>3.7</td>
</tr>
<tr>
<td>% of recurrently unstable patients who underwent revision surgery</td>
<td>57</td>
<td>30</td>
<td>67</td>
<td>41</td>
<td>19</td>
</tr>
<tr>
<td>% of recurrent instability due to new trauma</td>
<td>60</td>
<td>48</td>
<td>35</td>
<td>48</td>
<td>24</td>
</tr>
<tr>
<td>% of radiographic OA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>26</td>
<td>56</td>
<td>19</td>
<td>39</td>
<td>33</td>
</tr>
<tr>
<td>Mild</td>
<td>12</td>
<td>38</td>
<td>12</td>
<td>25</td>
<td>23</td>
</tr>
<tr>
<td>Moderate</td>
<td>12</td>
<td>15</td>
<td>6</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Severe</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Rate of return to sport at preinjury levels</td>
<td>87</td>
<td>53</td>
<td>79</td>
<td>74</td>
<td>89</td>
</tr>
<tr>
<td>Final follow-up Rowe score</td>
<td>84.6</td>
<td>92.0</td>
<td>88.8</td>
<td>87.2</td>
<td>85.6</td>
</tr>
<tr>
<td>Final follow-up Constant score</td>
<td>90.6</td>
<td>82.3</td>
<td>88.1</td>
<td>86.4</td>
<td>82.2</td>
</tr>
<tr>
<td>Final follow-up WOSI score</td>
<td>NR</td>
<td>419</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
</tr>
</tbody>
</table>

NR, not reported; OA, osteoarthritis.
- “modern” arthroscopic techniques

- our understanding of the multifactorial etiology of GH instability

- recognition of complex injury patterns with advanced imaging

- increasing learning curve
Current arthroscopic techniques have evolved to where arthroscopy should be the preferred method of repair for anterior instability, posterior instability, and MDI, because the results show equal stability, better motion, improved functional outcomes, and most importantly, return to sports.
Arthroscopic stabilization is clearly contraindicated when a significant pathologic lesion cannot be adequately addressed as a result of the limitations of current techniques or instrumentation.

We believe that **sizable glenohumeral bone defects** remain the only absolute contraindication to an all-arthroscopic approach.
Technical Note

The Arthroscopic Latarjet Procedure for the Treatment of Anterior Shoulder Instability

Laurent Lafosse, M.D., Etienne Lejeune, M.D., Antoine Bouchard, M.D., Carlos Kakuda, M.D., Reuben Gobezie, M.D., and Tony Kochhar, M.Sc., F.R.C.S.(Tr&Orth)
Patient Perceptions of Open and Arthroscopic Shoulder Surgery

John W. Sperling, M.D., M.B.A., Adam M. Smith, M.D., Robert H. Cofield, M.D.,
and Sunni Barnes, Ph.D.

**Table 1. Patient Perceptions of Open and Arthroscopic Surgery**

<table>
<thead>
<tr>
<th></th>
<th>Center A</th>
<th>Center B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Open</td>
<td>Arthroscopy</td>
</tr>
<tr>
<td>My hospital stay will be shorter</td>
<td>0%</td>
<td>88%</td>
</tr>
<tr>
<td>My surgery will be less expensive</td>
<td>6%</td>
<td>68%</td>
</tr>
<tr>
<td>My recovery will be faster</td>
<td>1%</td>
<td>91%</td>
</tr>
<tr>
<td>I will have less pain</td>
<td>2%</td>
<td>79%</td>
</tr>
<tr>
<td>I will have better motion*</td>
<td>10%</td>
<td>44%</td>
</tr>
<tr>
<td>My time away from activities will be shorter</td>
<td>3%</td>
<td>84%</td>
</tr>
<tr>
<td>My long-term outcome will be better*</td>
<td>13%</td>
<td>42%</td>
</tr>
</tbody>
</table>

*P < .05 ($\chi^2$ test).
Open Operative Treatment for Anterior Shoulder Instability: When and Why?

Peter J. Millett, Philippe Clavert and Jon J.P. Warner

- Arthroscopic equipment & lack of expertise
- Marked bony deficiencies
- Capsular ruptures, Prior failed thermal capsulorrhaphy
- RC lesions?
- HAGL lesions?
- Collision athletes?
- Revision arthroscopic surgery?
3-4 mm from anterior lip (15%)
4-9 mm in front of spot (15-30%)
< 4 from the spot (> 30%)
Open Surgical repair: categories

**Anatomic**

- Capsulolabral reconstruction → Bankart-Perthes, Rockwood, DuToit staple capsulorrhaphy, inferior capsular shift

**Non-anatomic**

- Subscapularis procedures → Putti-Plat, Magnuson-Stuck
- Bone block procedures → Oudard and Trillat, Eden-Hybinette, J-graft
- Coracoid transfer → Bristow, Latarget-Patte
- Osteotomy of Humerus → Weber, Cautilli, Joyce and Mackell

**Combined techniques**
Capsulolabral reconstruction

“Bankart repair” (1923, 1939)

- first performed by Perthes (1906)
- shave off bone from the anterior glenoid
- reconstruction of the avulsed capsule and labrum at the glenoid lip, using simple drill holes
- subscapularis, which is carefully divided to expose the capsule, is re-approximate without shortening
- osteotomy of the coracoid
30 pt for review after 29 years
3 pt (10%) recurrence of dislocation
5 patients symptomatic osteoarthritis
mean loss of external rotation 24°
mean loss of internal rotation was 19°
global rate of osteoarthritis 40%
Long-Term Results of Staple Capsulorrhaphy for Anterior Instability of the Shoulder

BY SHAWN W. O’DRISCOLL, M.D., PH.D., F.R.C.S.(C), AND DENNIS C. EVANS, M.D., F.R.C.S.(C), TORONTO, ONTARIO, CANADA

Investigation performed at the Upper Extremity Reconstructive Service, Division of Orthopaedic Surgery, St. Michael’s Hospital, University of Toronto, Toronto

The subjective and objective results after the stapling procedure were not as good as previous reports have suggested, and we no longer recommend staple capsulorrhaphy for anterior instability of the shoulder, even when it is augmented by a Putti-Platt procedure.
Subscapularis procedures

“Subscapularis shortening Putti-Platt (1925)”
Glenohumeral osteoarthrosis after Putti-Platt repair

Henrica M. van der Zwaag, MD, Ronald Brand, PhD, Willem R. Obermann, PhD, and Piet M. Razing, PhD, Leiden, The Netherlands

(Orthopaedic Surgery 1999;8:252-8.)

Table V  Distribution of shoulders with glenohumeral osteoarthrosis by 3 time intervals to follow-up (n = 66)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>10 to 20 y</th>
<th>20 to 30 y</th>
<th>30 to 40 y</th>
</tr>
</thead>
<tbody>
<tr>
<td>No arthrosis</td>
<td>20 (74%)</td>
<td>4 (16%)</td>
<td>2 (14%)</td>
</tr>
<tr>
<td>Arthrosis</td>
<td>7 (26%)</td>
<td>21 (84%)</td>
<td>12 (86%)</td>
</tr>
<tr>
<td>Mild</td>
<td>6</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Moderate</td>
<td>1</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Severe</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

“The rate of glenohumeral arthrosis is increased in patients who have undergone a Putti-Platt procedure and is positively correlated with the length of time since surgery”
Subscapularis procedures

“Magnuson – Stack (1940)”

Transfer of the subscapularis tendon from the lesser tuberosity across the bicipital groove to the greater tuberosity


**Recurrent traumatic anterior dislocation of the shoulder.** 218 consecutive cases treated by a modified Magnuson-Stack procedure and follow for 2-18 years.

**Karadimas JE.**
Department of Orthopaedics, University of Athens, Greece.

**Abstract**
Over a period of 30 years (1961-1991), 218 patients with recurrent anterior dislocation of the shoulder were operated on at the Naval Hospital of Greece using a modified Magnuson-Stack method. The modification involved transfer of the subscapularis tendon not only laterally to the bicipital groove, but also 1 cm distally (Karadimas et al. 1980). 210 patients (213 shoulders) were examined after a follow-up of 9 (2-18) years. Results were evaluated according to pain, limitation of motion, muscular power and atrophy. 183 patients (87%) had very good results. 21 cases (10%) had good results, while 6 cases (3%) had fair results. Only 3 recurrences (1%) were recorded.
Bone block procedures

“Eden-Hybinette Procedure (1932)”

- creation of a trough through the capsule and into the anteroinferior aspects of the scapula neck.

- a tricortical iliac crest bone graft was then wedged into the trough without fixation
Our 1- to 2-year follow-up showed that the bone block stabilization procedure had successful outcomes and can be recommended for use in patients with recurrent shoulder instability and a significant glenoid bony defect.
J-bone graft procedure
Coracoid transfer

“Bristow - Helfet procedure (1958)”

- coracoid tip is transferred to the anteroinferior glenoid neck and serves as a bone block

- the transferred conjoined tendon acts as a strong dynamic buttress across the anterior and inferior aspects of the joint
Conclusion: This study represents the longest follow-up in the literature of the modified Bristow procedure. The authors have shown nearly **70% good and excellent results** and recurrent instability comparable with other long-term follow-up studies of open instability procedures.
- 319 shoulders, 3 (1%) revision surgery
- bony union in 83%
- position too medial to the glenoid rim (1 cm) was associated with recurrence.

The open Bristow-Latarjet procedure is a good alternative for revision surgery and for shoulders with a bony Bankart lesion. When a **horizontal capsular shift** was added to the repair, the results with respect to recurrences and subjective assessment were improved
Humerus osteotomy

- subcapital osteotomy
- medial rotation of the head ($25^\circ$)
- shortening of the subscapulans tendon and capsule anteriorly

average loss of external rotation >5 degrees, without noticeable diminution of power or function in most patients. The results as graded by a standard rating scale were good to excellent in 90 per cent
Only 3 patients (9%) did not show signs of degeneration.

Increased internal rotation of the head more severe degenerative disease.

“We therefore recommend this osteotomy only as a salvage procedure whereby the internal rotation of the humeral head should not exceed 20 degrees”
Combination of capsulolabral techniques

- **Repair of Bankart lesion**

- **Inferior capsular shift**
  
  Neer CS, Foster CR:
  
  Inferior capsular shift for involuntary inferior and multidirectional instability of the shoulder. JBJS Am 1980

- **Reinforced cruciate repair**

  Neer CS, Fithian TE:
  
  Reinforced cruciate repair for anterior dislocation of the shoulder. Orthop Trans 1985

160 pt at Patras University Hospital (5% recurrences)
Surgical steps

Direction of the instability (under anesthesia)

beach chair position

axillary approach (Ryan-Lesley)
Subscapularis cut (leave 1/3 attached to the capsule)
The capsule is opened in "T-shape"
Repair of capsulolabral detachment

Three holes with drill 2.5mm (3:00, 5:00, 7:00)
Glenocapsular reattachment with ethibon No 2 (Mitec G II)
Inferior capsular shift
Cruciate repair
...to reinforce anterior capsule

**arm position**

- Elbow flexion  90°
- Shoulder lift
- External rotation 10°
Subscapularis is reattached in its anatomical insertion (without shortening)

No functional limitation of external rotation
POST OPERATIVELY

- First 48 hours: Velpeau
- Till 4th week: controlled external rotation gradually to neutral position
4th to 6th week: active assisted immobilization

After 6th week: muscular strengthening
Coracoid transfer

“Latarzet procedure (1958)”

- the gold standard treatment for anterior glenohumeral instability in the presence of glenoid bone loss

- 3 stabilizing mechanisms

- coracoid process acts as a bony extension

- conjoint tendon act as a soft tissue sling preventing anterior subluxation

- the capsule can be repaired to the stump of CA ligament, thus providing a new, strong, inferior glenohumeral ligament
Coracoid transfer

“Latarzet procedure (1958)”

The Latarjet reconstruction extends the glenoid articular arc so that

1. off-axis loads are resisted by bone rather than soft tissue

2. the humerus cannot externally rotate enough to cause engagement of the Hill-Sachs lesion over the front of the graft.
Results of Modified Latarjet Reconstruction in Patients With Anteroinferior Instability and Significant Bone Loss

Stephen S. Burkhart, M.D., Joe F. De Beer, M.D., Johannes R. H. Barth, M.D.,

30 studies describing the results of 1658 coracoid transfer procedures

- reoperation 4.9%
- recurrent instability 6.0%
- hardware complications 6.5%
- graft nonunion, fibrous union, or graft migration 10.1%
- graft osteolysis 1.6%
- nerve palsy 1.2%
- infection occurred in 1.5%
The most relevant osteolysis was represented by the superficial part of the proximal coracoid.

No patient with recurrent shoulder dislocation. This reinforced the hypothesis that the coracoid bone graft is not the principal factor in the Latarjet procedure for anteroinferior shoulder stabilization.
Biomechanically, the Latarjet procedure outperforms the bone graft in reducing translation in anteroinferior glenoid bone defects. The advantage of the Latarjet procedure is particularly evident at 60° of glenohumeral abduction.
Revision anterior capsular shoulder stabilization using hamstring tendon autograft and tibialis tendon allograft reinforcement: Minimum two-year follow-up

Jess G. Alcid, MD, Scott E. Powell, MD, and James E. Tibone, MD, Toms River, NJ, and Panorama City and Los Angeles, CA

15 patients
2 years fup
ASES score 73
no postoperative dislocations
decreased range of motion
2 patients TSA
Open Operative Treatment for Anterior Shoulder Instability: When and Why?

Peter J. Millett, Philippe Clavert and Jon J.P. Warner


Arthroscopic equipment & lack of expertise

Marked bony deficiencies

Capsular ruptures, Prior failed thermal capsulorrhaphy

RC lesions?

HAGL lesions?

Collision athletes?

Revision arthroscopic surgery?
Personal preference

Always start with diagnostic arthroscopy

(1) First time dislocation, young pt = Arthroscopic Bankart

(2) Recurrent traumatic instability ± ALPSA = Arthroscopic Bankart repair + inferior capsular shift, [OPEN in collision athletes + cruciate reinforcement, open in HAGL lesion]

(3) First time dislocation/small bone loss = Arthroscopic Bankart + incorporation

(4) First time dislocation/> osseous fragment = open reconstruction + fixation

(5) Recurrent traumatic instability/significant bone loss = Latarzet procedure

(6) Revision arthroscopy + bone loss = Latarzet procedure

(7) Instability in elderly patients ±RC injury = Bristow procedure