Latarjet Simplified

Nikhil N. Verma, MD
Director Sports Medicine Reserach
Associate Professor, Department of Orthopedics
Rush University Medical Center
Team Physician, Chicago White Sox & Chicago Bulls

Disclosure

Royalties/Stock Options: Smith and Nephew, Omeros, Minivasive

Consulting: Smith and Nephew, Minivasive

Research and educational support: Arthrex, Smith and Nephew, DJO, Ossur, Tornier

Bony Defects - The Problem…

- 194 patients (1992 - 98) arthroscopic Bankart repair with suture anchors
- Significant bone defects in 21 patients
  - Inverted-pear glenoid (18 patients)
  - Engaging Hill-Sachs lesion (3 patients)

11 % recurrence overall

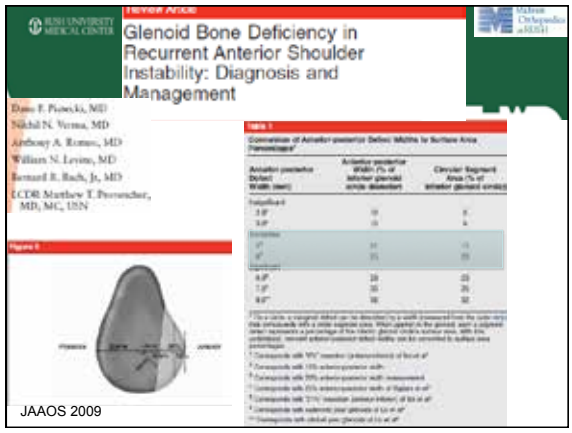
No bone defect
4% recurrence

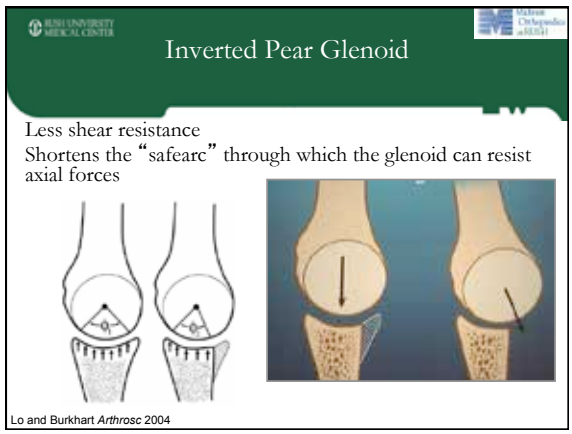
Bone defect
67% recurrence

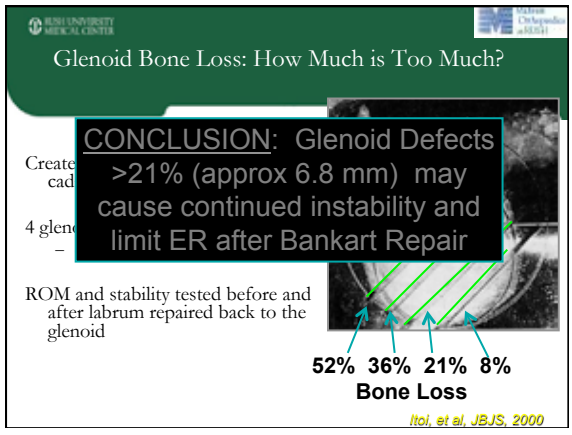
Inverted Pear
61% recurrence

Burkhart, DeBeer Arthroscopy, 2000

Anthony A. Romeo, MD
Rush University Medical Center
Chicago, IL

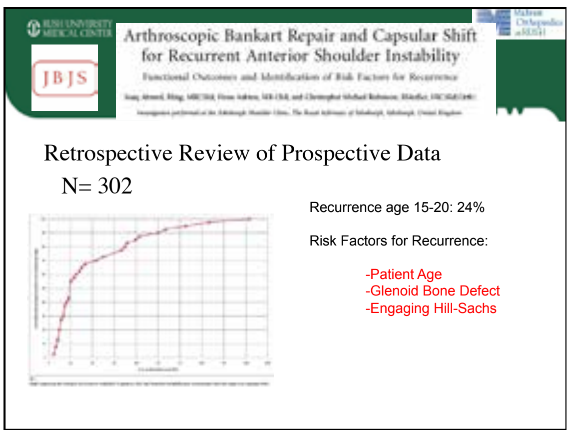

Glenoid Bone Deficiency in Recurrent Anterior Shoulder Instability: Diagnosis and Management
JAAOS 2009


Inverted Pear Glenoid
Less shear resistance
Shortens the "safearc" through which the glenoid can resist axial forces
Lo and Burkhart Arthrosc 2004


Glenoid Bone Loss: How Much is Too Much?
CONCLUSION: Glenoid Defects >21% (approx 6.8 mm) may cause continued instability and limit ER after Bankart Repair
ROM and stability tested before and after labrum repaired back to the glenoid
52% 36% 21% 8%
Bone Loss
Itoi, et al, JBJS, 2000

AANA Masters Experience
Shoulder Course #107
April 27-29, 2012

Latarjet: Scope and Open
Indications and Results



Anthony A. Romeo, MD
Rush University Medical Center
Chicago, IL

Decision Making: Other Questions?

Predictors of Dislocation and Revision After Shoulder Stabilization in Ontario, Canada. From 2003 to 2008

David Wasserstein,*† MD, MSc, FRCSC, Tim Dwyer,‡ MBBS, FRCSC, *Am J Sports Med* 2013 41: 2837

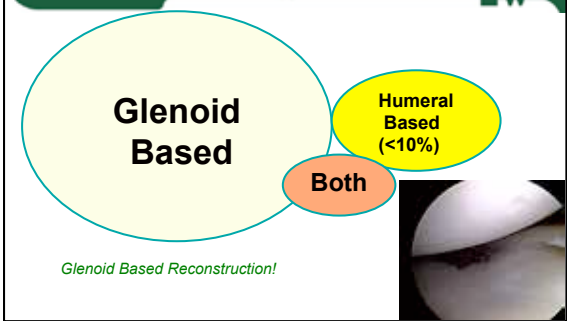
Bone Loss Estimate

XR, CT, MRI
Arthroscopy?

0 to 15%	15% to 25%	> 25%
-**Arthroscopic Repair** -Incorporate Bony Fragment -Liberal use of anchors -Consider posterior repair (contact athletes)	Arthroscopic Repair CAUTION! (>20%) -Best with bony fragment that is incorporated -**Open procedures ± bone augmentation**	**OPEN bone Augmentation procedures**

Provencher et al. J Bone Joint Surg Am. 2010 Dec

Bone Loss? Consider Coracoid Transfer



Anthony A. Romeo, MD
Rush University Medical Center
Chicago, IL

Options in this Patient?

If your goal is to minimize risk of recurrent instability……

Biomechanical and Clinical Data is clear:

BONE RECONSTRUCTION

Why Open Latarjet

Single Cosmetic Incision

Defined Muscular Interval

Avoid Graft Harvest Morbidity

Introduction

Latarjet 1st described technique in 1954

- Horizontal coracoid graft placed on anterior-inferior glenoid with a **single** screw
- Subscapularis takedown

Since then, multiple modifications

- Open with multiple screws
- Subscapularis split
- Arthroscopic

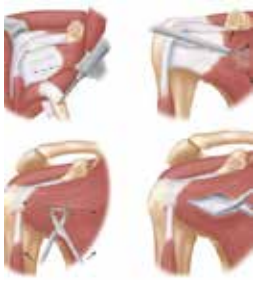
Anthony A. Romeo, MD
Rush University Medical Center
Chicago, IL

Principles of Latarjet Stabilization

1. Bone effect by increasing AP diameter of glenoid
2. Conjoint tendon as a sling in abduction-external rotation
3. Repair capsule to the stump of the coracoacromial ligament

Latarjet Open Technique

- Deltopectoral approach
- Subscapularis split
- Coracoid harvest
- Flush graft placement
- Two bicortical solid screws
- Extraarticular placement
- Capsular repair

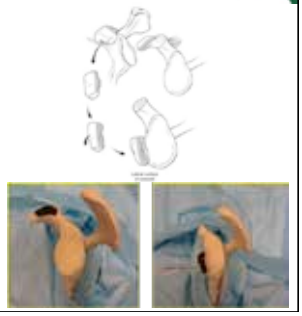


Lateral Coracoid Positioning – Most Common

Coracoid rotated 90 degrees and passed through a Subscap split

Alternatively, upper half of the subscapularis is detached and coracoid passed over the inferior portion of tendon

3.5 mm screws used for fixation



Anthony A. Romeo, MD
Rush University Medical Center
Chicago, IL

Inferior Coracoid Positioning (Congruent Arc Modifcation)

Coracoid is rotated such that its inferior aspect becomes the face of the glenoid.

Capsulolabral complex is fixed posterior to the bony block with suture anchors.

By making coracoid extra-articular, one can limit the effect of humeral head abrasion

Burkhart et al 2002

The effect of capsular repair, bone block healing, and position on the results of the Bristow-Latarjet procedure (study III): long-term follow-up in 319 shoulders

Lennart Hovelius, MD, PhD[a,b,*], Björn Sandström, MD[b], Anders Olofsson, MD[b], Olle Svensson, MD, PhD[a], Hans Rahme, MD, PhD[c]

- 319 shoulders
- 5% sustained one or more dislocations; 1% revision surgery
- 13% reporting subluxations, worst outcomes in group with 2 or more subluxations (16 patients)
- Bony healing in 83%
- 5 of 6 with graft positioned >1cm medial had redislocations
- 96% satisfied/very satisfied at final follow-up

JSES 2011

Why Degenerative Changes?

Normalization of Glenohumeral Articular Contact Pressures After Latarjet or Iliac Crest Bone-Grafting

By Neil Ghodadra, MD, Aman Gupta, BS, Anthony A. Romeo, MD, Bernard R. Bach Jr., MD, Nikhil Verma, MD, Elizabeth Sherman, PhD, Jordan Goldstein, MD, and Matthew T. Provencher, MD, CDR, MC, USN

- ICBG restored contact pressure to 116%, 120% with Latarjet-INF, and 137% when Latarjet-LAT was used.
- When proud: contact pressure increased 250% normal in anteroinferior quadrant and 200% increased contact pressure posterosuperior
- When recessed: High amount edge loading observed

Flush Graft Placement is Preferred!

Latarjet Coracoid Transfer

Rehabilitation

0 – 4 Weeks: Sling Immobilization, Passive ROM
FE to tolerance, ER per Repair

4 – 8 Weeks: Progress to Active ROM, Light End Range Stretching, Scapular/Cuff Isometrics and Re-activation

8 – 16 Weeks: Progress Strengthening and Plyometrics

RTS: 16 – 24 Weeks

Latarjet Outcomes

REVIEW ARTICLE

Complications and re-operations after Bristow-Latarjet shoulder stabilization: a systematic review

Michael J. Griesser, MD*, Joshua D. Harris, MD*, Brett W. McCoy, MD*, Wayne M. Hussein, MD*, Morgan W. Jones, MD*, Julie Y. Bishop, MD*, Anthony Miniaci, MD, FRCSC†,‡

Level IV
45 Studies, 1904 Patients

2.9% Re-dislocation open, 5.8% Arthroscopic

30% Overall Complication Rate

Journal of Shoulder and Elbow Surgery

Short-Term Complications of the Latarjet Procedure

Anup A. Shah, MD, R. Bryan Butler, MD, James Romanowski, MD, Danny Goel, MD, Dimitrios Karadagli, FRCS, and Jon J.P. Warner, MD

Investigation performed at Massachusetts General Hospital/Harvard Medical School, Boston, Massachusetts

JBJS 2012

48 Latarjet procedures

Retrospective review

45 shoulders for follow-up (94%)

3 Groups of complications
- Infection
- Instability
- Neurologic injury

Overall rate = 25%

- **Infection: 6%**
- **Instability: 8%**
- **Neurologic: 10%**
  - **Only 2 were permanent**

Thank you!