Posterior Instability Treatment Made Easy

Larry D. Field, M.D.
Mississippi Sports Medicine and Orthopaedic Center
Jackson, Mississippi

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Posterior Shoulder Instability

- Diagnosis can be challenging
- Careful history/PE and testing important for accurate diagnosis
- Increasingly recognized as relatively common

Posterior Instability

High frequency of posterior and combined shoulder instability in young active patients

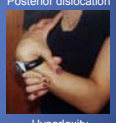
Daniel J. Song, MD[a,*], Jay B. Cook, MD[b], Kevin P. Krul, MD[b], Craig R. Bottoni, MD[b], Douglas J. Rowles, MD[b], Steve H. Shaha, PhD, DBA[c,d], John M. Tokish, MD[b,d]

- JSES 2015
- 231 consecutive active military patients undergoing instability surgery
- 24% unidirectional posterior instability
- 19% combined instability
- **43% (almost half of all patients) did not have isolated anterior instability**

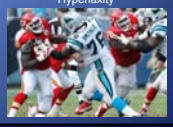
Posterior Pathoanatomy

- 3 causative factors
  - Traumatic instability
    - Rare
    - Seizure disorder
  - Atraumatic instability
    - MDI
    - Generalized laxity
  - Cumulative microtrauma
    - Most frequent cause
    - Repetitive loading
      - Football lineman
      - Rowing
      - Swimming

Posterior dislocation



Hyperlaxity



Posterior Instability

HISTORY

- Repetitive injury patients (weight lifters)
  - Pain posteriorly
  - Subluxation
  - Decreased strength
  - Bench press reproduces
  - Dislocations rare

Posterior Instability

PHYSICAL EXAM

- Increased posterior translations
  - ± Apprehension
  - Pain more common
- Posterior compression test helpful
  - Causes pain

Posterior Translation

Posterior Compression

Posterior Instability

PATHOLOGY

- Is it just a reverse Bankart?
  - Dislocations much less common
    - Posterior (25%) vs Anterior (90%)
  - Bone loss (and bony Bankarts) less common and less extensive
  - Glenoid morphologic abnormalities more common
    - Glenoid retroversion
    - Glenoid hypoplasia

Posterior Instability

- Soft tissue lesions different
  - **No single key lesion**
  - Labral tears less common
    - Less impressive
  - Posterior capsule thinner
  - Capsular patholaxity more common and contributory
  - Combined lesions more common
    - RHAGL
    - Floating PIGHL

Posterior Labrum Tear

RHAGL

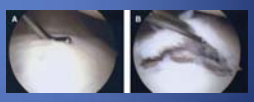
Floating PIGHL

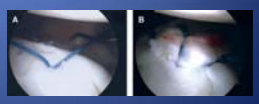
Kim's Lesion: An Incomplete and Concealed Avulsion of the Posteroinferior Labrum in Posterior or Multidirectional Posteroinferior Instability of the Shoulder

Seung-Ho Kim, M.D., Kwon-Ick Ha, M.D., Jae-Chul Yoo, M.D., and Kyu-Cheol Noh, M.D.

Arthroscopy (2004)

- 15 patients
- Concealed posterior labrum avulsion
- Careful assessment
- Repair along with posterior capsulloraphy





Kim et al

The biomechanical effect of specific labral and capsular lesions on posterior shoulder instability

Mathias Wellmann · H. Blasig · E. Bobrowitsch · P. Kobbe · H. Windhagen · W. Petersen · M. Bohnsack

Arch Orthop Trauma Surg (2011)

- Evaluated contribution of posterior stabilizing structures
  - 16 cadaveric shoulders
- Both labral and capsular lesions contribute significantly
  - Posterior labrum
    - Straight posterior stabilizer
  - Posterior capsule
    - Primary posteroinferior stabilizer

Arthroscopic Posterior Stabilization

- Increasingly accepted
- Better than open?
  - Improved assessment
  - Access to entire joint
    - Anterior and inferior lesions common

Arthroscopic Posterior Stabilization

LITERATURE REVIEW

	SUCCESS RATE
Bradley (AJSM 2013)	94%
Bahk (A'scopy 2010)	96%
Pennington (A'scopy 2010)	93%
Bradley (AJSM 2006)	91%
Provencher (AJSM 2005)	80%
Kim (JBJS 2003)	96%
Harryman (JBJS 2000)	85%
Bottoni (AJSM 2005)	94%

- Arthroscopic > open stabilization

Arthroscopic Posterior Stabilization

Bradley at al (AJSM, 2013)

Arthroscopic Capsulolabral Reconstruction for Posterior Instability of the Shoulder

A Prospective Study of 200 Shoulders

- Prospective study of 200 shoulders
- Unidirectional posterior instability
- 94% successful outcomes
- 80% had posterior labral tear
- 70% had patulous posterior capsule

"It is imperative to not underestimate the degree of posterior instability and associated capsular laxity…and to perform an appropriate capsular shift in these cases."

Arthroscopic Posterior Stabilization

Arthroscopic Treatment of Posterior Shoulder Instability: A Systematic Review

Dimitra Leivadiotou, M.B.B.S., M.R.C.S., Dip. Sports Med., E.B.O.T. Fellow, and Philip Ahrens, F.R.C.S.(Tr&Orth)

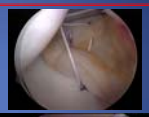
- Arthroscopy, 2014
- 6 studies included
- 396 shoulders
- 44 month follow-up
- Mean recurrence only 5.4%
- 92% returned to sport

Arthroscopic Posterior Stabilization

- Lateral decubitus position preferred
- Repair depends on intraop findings
- "Posterior instability portal" valuable

Arthroscopic Posterior Stabilization

- Capsular laxity often significant
- Capsule routinely incorporated to supplement labrum repair
- Pinch and tuck technique effective



Posterior Labrum Tear

POSTERIOR VS. ANTERIOR LABRUM LESION

REVERSE BANKART

VS.

BANKART

Reverse HAGL

"Floating" PIGHL

Postoperative Rehabilitation

- 0 – 4 weeks
  - Immobilization
  - Slight ER for posterior instability
- 4 – 8 weeks
  - Scapular stabilization
  - Safe ROM
  - Limited strengthening
- 8 – 12 weeks
  - More advanced

Summary

- Unidirectional posterior instability common
  - Careful H&P important to diagnose
- Often has prominent capsular contribution
- Posterior instability effectively managed arthroscopically
- Technical considerations important
  - Lateral decubitus position
  - Posterior instability portal
  - Capsular plication

THANK YOU