

Case #1: Who Should have Surgery After a First Dislocation?



Saturday, February 1, 2020, 8:30am-8:45am

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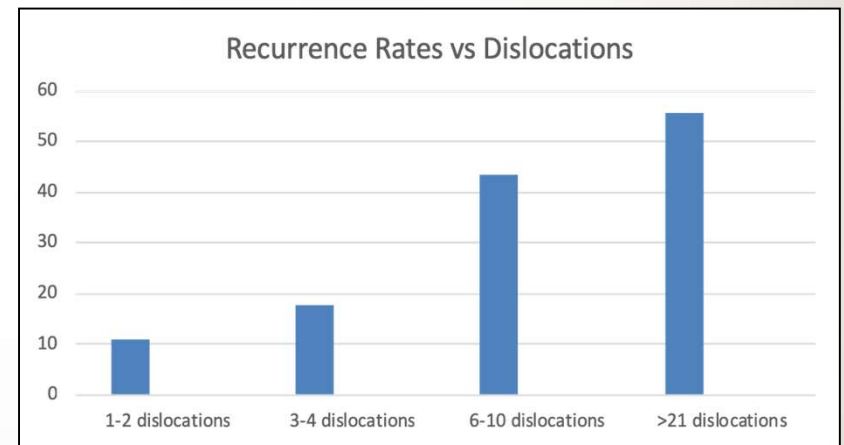
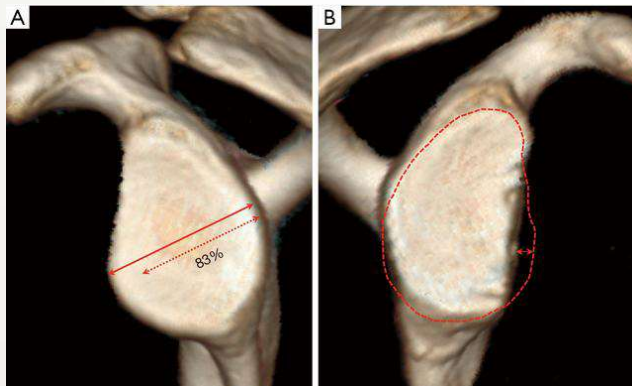
Panelists

- Jeff Abrams, MD
- Mark Getelman MD
- John Kelly IV, MD
- William Levine MD



WE DON'T LIKE RECURRENCE

- Leads to Osteoarthritis (10x higher)
- Leads to Bone Loss-Surgery More Difficult
- Leads to Failures of Surgical Repair



Kandziora F, Jager A, Bischof F, Herresthal J, Starker M, Mittlmeier T (2000) Arthroscopic labrum refixation for post-traumatic anterior shoulder instability: suture anchor versus transglenoid fixation technique. *Arthroscopy* 16(4):359–366

Marx et al Development of arthrosis following dislocation of the shoulder: A case-control study
JSES 11:1:1-5, 2002

First Question for Panel

In Your Practice...

If you had 10 patients who presented after a First Dislocation, how many would get surgery?

*If Recurrence Followed Every First Dislocation, then
Everyone would have Surgery After Their First
Dislocation*

Not all have Recurrence

OVERALL Rate of Recurrence
12-39%

Wasserstein DN, et al. The True Recurrence Rate and Factors Predicting Recurrent Instability After Nonsurgical Management of Traumatic Primary Anterior Shoulder Dislocation: A Systematic Review. *Arthroscopy*. 2016;32(12):2616-2625.

Olds M, et al. Risk factors which predispose first-time traumatic anterior shoulder dislocations to recurrent instability in adults: a systematic review and meta-analysis. *Br J Sports Med*. 2015;49(14):913-922.

History

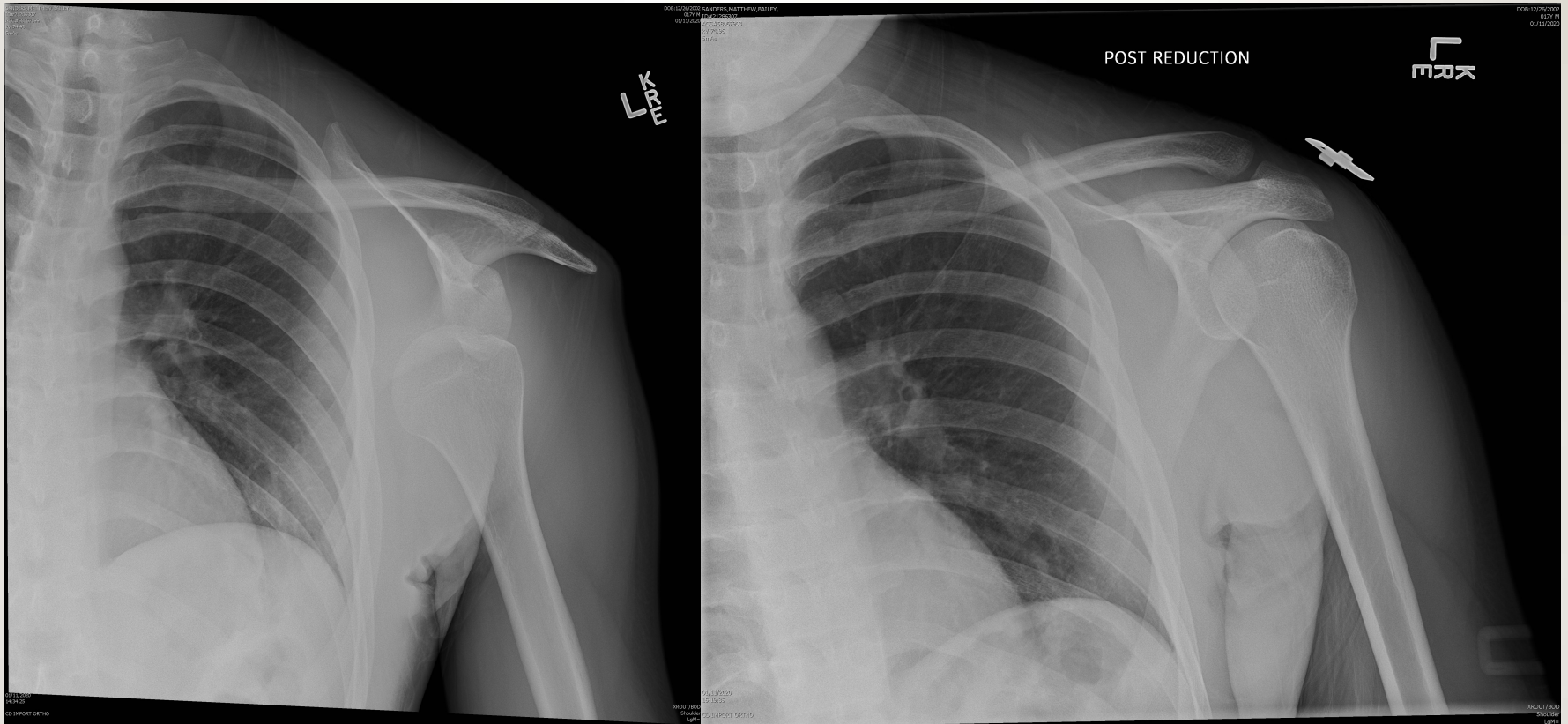
- 17 year old HS Student
- In HS JROTC, Band, no athletics
- Works at Tire Store
- Fell running along wet parking lot in rain
- Left Shoulder Dislocation
- Reduced in ED within about 1.5 hours and Placed in Sling



Physical Exam

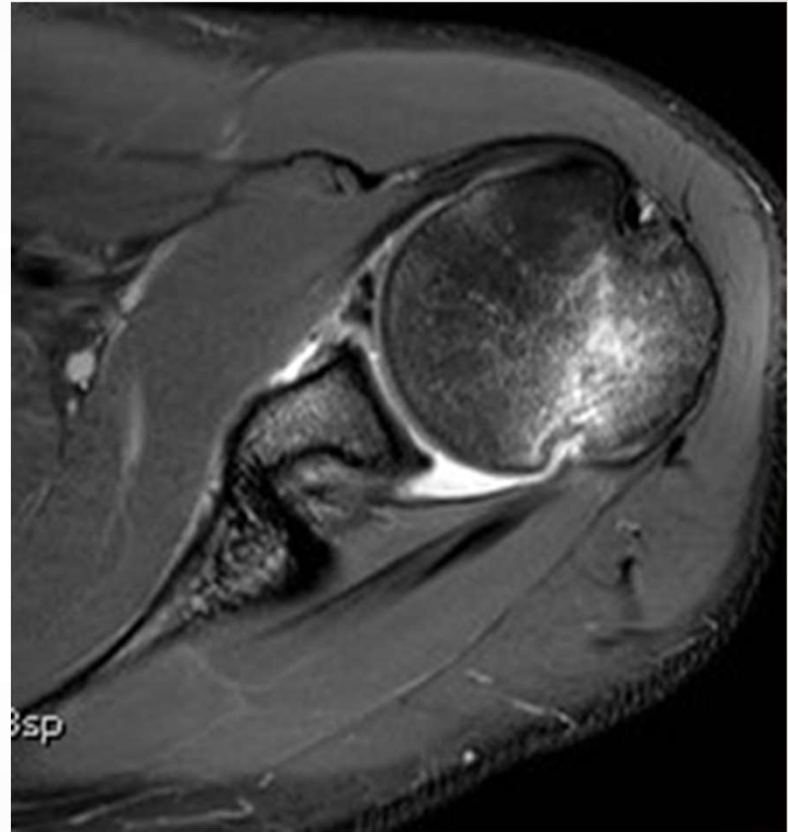
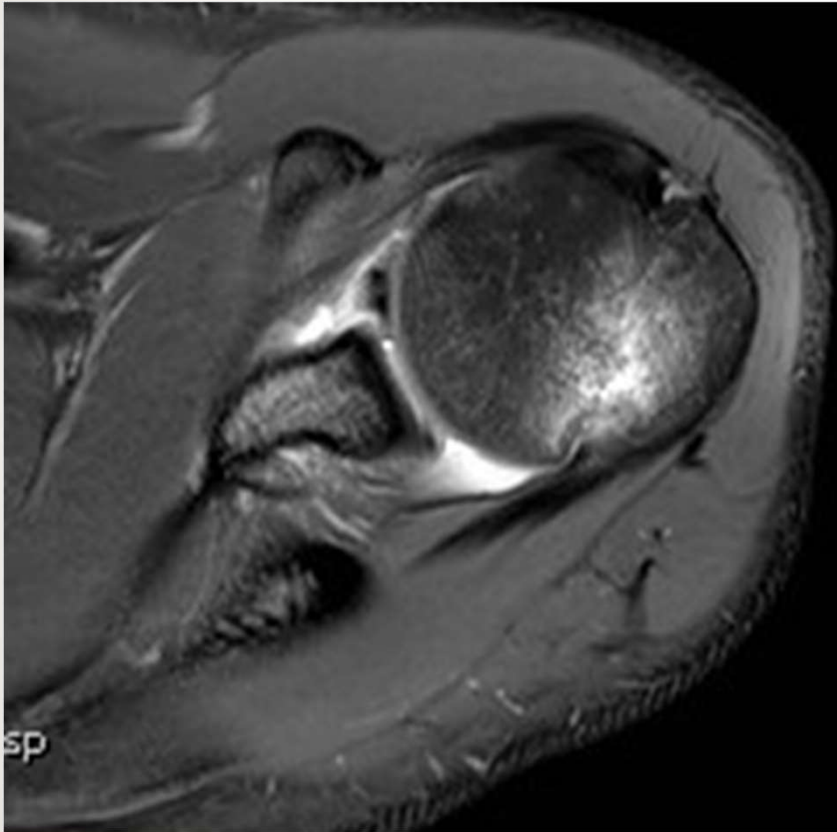
- Axillary Nerve Intact
- No Generalized Laxity
- Painful Still, Difficult to range shoulder

Imaging



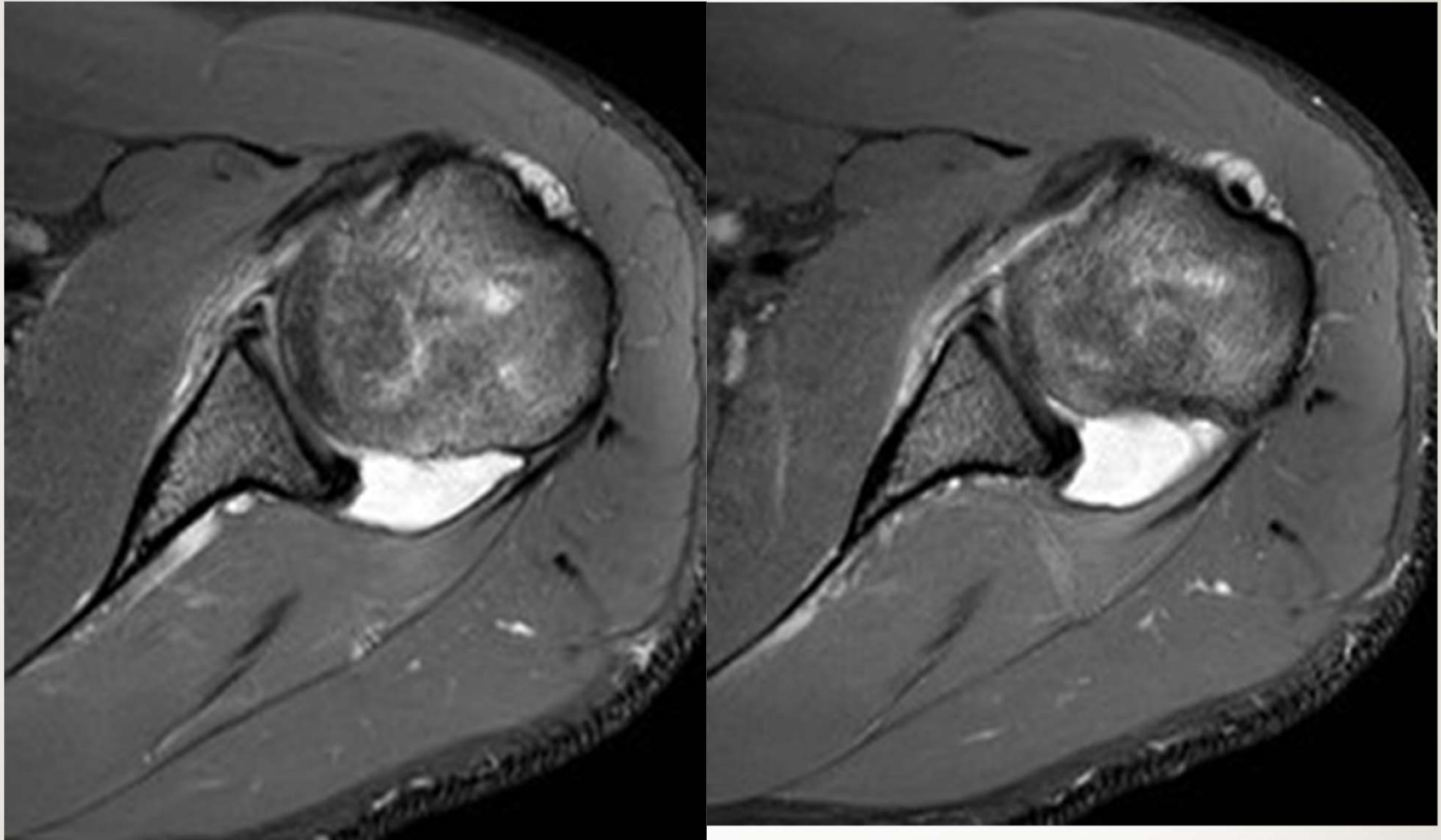
Imaging

XR in Office = no Glenoid Bone Loss + Small Hill Sachs Lesion



Hill Sachs Lesion

Imaging



Bankart Lesion

***What is your Approach?
Would you Recommend Surgery After His
First Dislocation?***

The History



- His Brother, who played High School Football had a Successful Bankart Repair and is Now in the Naval Academy Doing Well
- He is Applying for Annapolis and must do a physical in 6 months.
- ***What Other HISTORICAL Features Might Drive you to Recommending Surgery?***

Predicting Recurrence-*History*

- Age
 - *Age <13 or >40 or Significantly Lower Risk*
 - *Closed Physes and Aged 14-20 are Highest Risk*
- Sex
 - *Males 3X more likely than Females*
- Other Trends
 - *Trend for Contact Athletes to Be at Higher Risk*
 - *Manual Labor, Overhead Work may NOT be Higher Risk*
 - *RTP Before 6 Weeks Increases Risk for Recurrence*

Olds M, et al. Risk factors which predispose first-time traumatic anterior shoulder dislocations to recurrent instability in adults: a systematic review and meta-analysis. *Br J Sports Med.* 2015;49(14):913-922.

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History Features

- Activity Level
 - Non-Athlete
 - Non-Contact Athlete
 - Contact Athlete
 - Active Duty Military
- Time in Season?
- Athletic Expectations
- Duration of Dislocation?

The Physical Exam

***What Physical Exam Features Would Influence
you to Recommend Surgery After a First
Dislocation?***

Predicting Recurrence-*Exam*

- Hyper Laxity
 - *Increases Risk of Recurrence by 2.7X*
- Axillary Nerve Injury
 - *Decreases Risk of Recurrence by 2.5X*
- Apprehension on Exam?

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Wasserstein DN, et al. The True Recurrence Rate and Factors Predicting Recurrent Instability After Nonsurgical Management of Traumatic Primary Anterior Shoulder Dislocation: A Systematic Review. *Arthroscopy.* 2016;32(12):2616-2625.

Imaging

What Imaging Findings Would Influence you to Recommend Surgery After a First Dislocation?

Imaging

- What is Meaningful Glenoid Bone Loss?
- What is Meaningful Humeral Bone Loss?

How Much Glenoid Bone Loss Occurs after a First Dislocation?

- Prospective Cohort Westpoint
- 714 Athletes for 4 Years
- 23 First Instability Events (5 Dislocations, 18 Subluxations)
- Glenoid Bone Loss
 - Average 6.8% of Glenoid Width
 - 4 shoulders >13.5%, None >20%

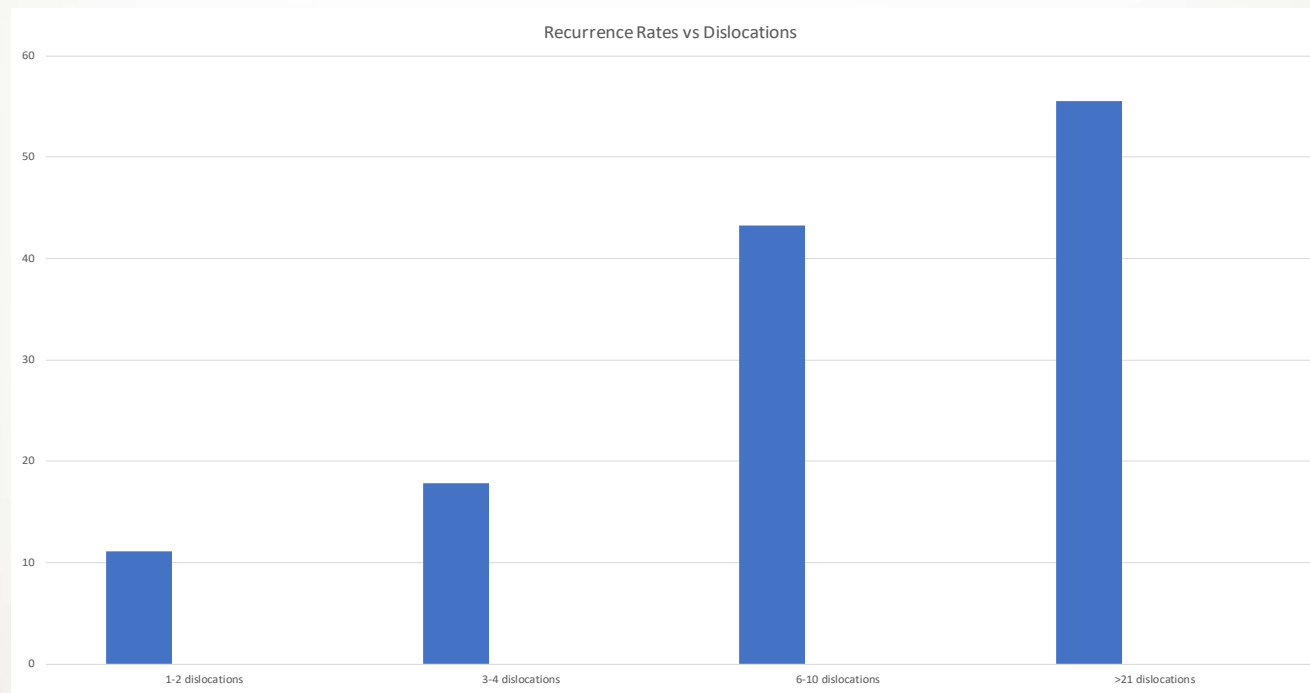
Dickens et al Prospective Evaluation of Glenoid Bone Loss After First-time and Recurrent Anterior Glenohumeral Instability Events AJSM 2019;47(5):1082–1089

***If you Elect Nonoperative Treatment, How do
you Manage the Patient?***

What do you Tell the Parents and Coach?

If you Treat him Nonoperatively, and he has another dislocation 1 year later, what do you tell him?

Number of Dislocations and Surgical Failures



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2-3 is the Magical Number....

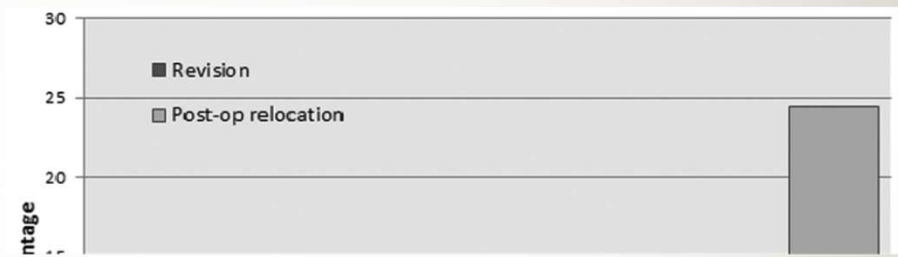
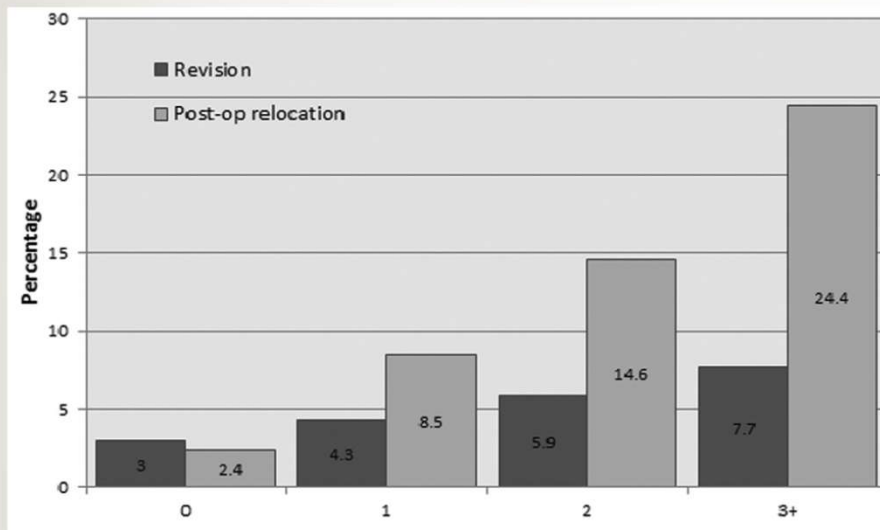


Figure 6. Rates of revision stabilization and postoperative relocation by number of Ontario physician-documented dislocations prior to the index event.

Patients who had ≥ 3 dislocations before their stabilization surgery were at significantly increased risk of requiring revision stabilization.

Patients with 1 or 2 prior documented relocations had no significant change in their risk of revision stabilization.

Wasserstein et al. Predictors of Dislocation and Revision Predictors of dislocation and revision after shoulder stabilization in Ontario, Canada, from 2003 to 2008. Am J Sports Med 2013 Sep;41(9):2034-40

Another Scenario

- 17 year old Football Player, at the End of the Season, with Apprehension and Meaningful Bone Loss
- ***Who would Recommend Surgery After First Dislocation?***





Neer Circle Consensus

Who should have Surgery After a First Dislocation?



Neer Circle Consensus Committee

John E. (Jed) Kuhn MD
John M (JT) Tokish MD
Robert A. Arciero, MD
Robert T. Burks, MD
David M. Dines, MD
Xavier A. Duralde, MD
Neal S. ElAttrache, MD
Peter J. Millett, MD, MSc
Patrick St. Pierre, MD
Matthew T. Provencher, MD
James E. Tibone, MD
Jonathan B. Ticker, MD
Frank A. Cordasco, MD, MS, *Board Liaison*

Delphi Process to Find Consensus

Who Should have Surgery After First Dislocation?

- ***Round 1 Open Ended Questions***
 - Defining Experts
 - Identify Features Important in Making the Decision to Operate after First Dislocation
- ***Round 2 Rating Importance of Features***
 - Exclude Non-Experts
 - Combine/Catalogue Responses from Round 1
 - Rank Responses to Make Clinically Meaningful Scenarios
- ***Round 3 Present Clinical Scenarios and Look for Consensus***
 - Item Reduction to Decrease Responder Burden
 - Combine highly rated features into meaningful clinical Scenarios
 - For Each Scenario: Would you Operate (yes/no), how strongly would you make your recommendation

NEER CIRCLE CONSENSUS

- >90% consensus for surgery after a first dislocation on 8/162 scenarios (5%). *All were Athletes at the End of the Season with Meaningful Bone Loss*
- *Contact Athletes, Age>14, at the End of the Season, with Apprehension and Meaningful Bone Loss* had >90% consensus AND *Very Strong Recommendations* for Surgery

Thanks!

