Recurrent Shoulder Dislocations Prior to Stabilization Procedure is Associated with Increased Risk of Reoperation for Instability: A Large Matched Cohort Insurance Database Analysis

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BACKGROUND

- Shoulder instability increases risk of recurrent dislocation.
- Risk escalates with repeated dislocations prior to surgical stabilization.
- Impact of multiple preoperative dislocations on revision risk remains poorly defined in large-scale studies.
- Recurrent instability negatively impacts shoulder function, quality of life, and athletic participation.
- Delayed surgical management after multiple dislocations may lead to increased bone loss and surgical complexity.

PURPOSE

To evaluate whether the number of preoperative dislocations independently predicts revision surgery after stabilization.

To inform clinical decision-making regarding early vs. delayed surgical intervention for shoulder instability.

Hypothesis:
➔ Patients with multiple preoperative dislocations are at higher risk of postoperative instability and revision surgery.

METHODS

- Queried large insurance database (2010-2018).
- Included patients who underwent surgical shoulder stabilization.
- Matched cohorts by age, sex, comorbidity index, and procedure type.
- Groups:

➔ Single dislocation (N=161)

➔ Multiple dislocations (N=161)

- Primary outcome: revision surgery for instability.
- Secondary outcomes:

➔ Postoperative shoulder reduction.

➔ ED visits, readmissions, complications

METHODS (continued)

- CPT codes analyzed:

➔ Bankart (23455), Latarjet (23462), Posterior capsulorrhaphy (23466)

➔ Arthroscopic capsulorrhaphy (29806), SLAP repair (29807)

Multivariate logistic regression identified independent risk factors.

RESULTS

Table 1. Comparison of complication rates and reoperations in patients with a single versus multiple shoulder instability events prior to the index stabilization surgery.

	Single Dislocation (N=161)	%	Multiple Dislocations (N=161)	%	P-value
Revision instability procedure	**21**	13.0	**47**	29.2	**0.0006**
Postoperative Shoulder Reduction	**13**	8.1	**40**	24.8	**<0.0001**
Manipulation Under Anesthesia	0	0.0	2	1.2	0.50
Adhesive Capsulitis	1	0.6	4	2.5	0.81
ED visit	**23**	14.3	**53**	32.9	**0.0001**
Readmission	3	1.9	6	3.7	0.46
ICU Admission	0	0.0	1	0.6	>0.99
Medical Complications					
AKI	0	0.0	1	0.6	>0.99
Cardiac Arrest	0	0.0	0	0.0	>0.99
DVT	0	0.0	0	0.0	>0.99
Wound Disruption	0	0.0	0	0.0	>0.99
Hematoma	0	0.0	1	0.6	>0.99
Joint Infection	0	0.0	0	0.0	>0.99
Nerve Injury	1	0.6	1	0.6	>0.99
Pneumonia	2	1.2	3	1.9	>0.99
PE	0	0.0	0	0.0	>0.99
Sepsis	0	0.0	0	0.0	>0.99
SSI	0	0.0	0	0.0	>0.99
Transfusion	0	0.0	0	0.0	>0.99
UTI	7	4.3	6	0.6	>0.99
Any medical complication	10	6.2	11	6.8	>0.99

Table 2. Risk factors for reoperation for shoulder instability

Risk factor	OR	(95% CI)	P-value
Male gender	1.21	0.62, 2.46	0.59
Age	0.96	0.92, 1.00	0.05
Charlson Comorbidity Index	0.94	0.38, 2.05	0.87
CPT-23455 (Bankart)	1.03	0.03, 16.28	0.99
CPT-23462 (Latarjet)	**10.39**	**1.36, 108.0**	**0.03**
CPT-23466 (Posterior capsulorrhaphy)	10.01	0.31, 211.87	0.13
CPT-29806 (Arthroscopic capsulorrhaphy)	**7.53**	**1.78, 57.56**	**0.03**
CPT-29807 (Arthroscopy with SLAP repair)	**1.62**	**0.83, 3,11**	**0.15**
Multiple Dislocations	**2.92**	**1.64, 5.35**	**0.0003**

- Revision surgery:

  Multiple dislocations: 29.2%
  Single dislocation: 13.0% (OR 2.75, p = 0.0006)

- Postoperative closed reduction:

  Multiple dislocations: 26.1%
  Single dislocation: 7.5% (OR 4.38, p<0.001)

- Increasing number of dislocations -> higher odds of:

  Revision (OR 1.03, p<0.0001)
  Closed reduction (OR 1.05, p<0.0001)

- Predictors of revision surgery:

  Open Latarjet (OR 10.39, p = 0.03)
  Arthroscopic capsulorrhaphy (OR 7.53, p = 0.03)
  Multiple prior dislocations (OR 2.92, p = 0.0003)

- No significant differences in readmissions, ICU stays, or medical complications.

DISCUSSION

- Multiple preoperative dislocations significantly increased risk of revision sgy (3x) & instability after surgical stabilization.
- Risk escalates linearly with dislocation count.
- Earlier surgical intervention may improve outcomes and reduce need for future procedures.