

# Assessing Outcomes for Posterior Shoulder Instability Surgery in Patients With Normal Reported MRA Studies

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# Disclosures

- ◆ The authors of this presentation have no financial disclosures or conflicts of interest to report

# Objective

- ◆ The purpose of this study is to evaluate the outcomes of patients who underwent posterior shoulder capsulolabral repair despite having a Magnetic Resonance Arthrogram (MRA) defined by the interpreting radiologist as having no pathology indicative of shoulder instability.

# Materials and Methods

- ◆ **Patient Identification:**

- ◆ Single surgeon, retrospective review of patients who underwent posterior capsulolabral repair between August 2016 and July 2020.

# Materials and Methods

## ◆ **Inclusion Criteria:**

- ◆ clinical diagnosis of posterior shoulder instability (PSI)
- ◆ pre-operative MRA with available radiologist interpretation
- ◆ minimum of two years follow up

## ◆ **Exclusion Criteria:**

- ◆ rotator cuff lesions
- ◆ Beighton score greater than 6
- ◆ glenoid bone loss or fracture
- ◆ history of prior shoulder surgery on the affected side

# Materials and Methods

- ◆ Patients were classified as Normal MRA or Pathological MRA based on the interpreting radiologist's MRA impression
- ◆ Prior to arthroscopic capsulolabral repair, all patients failed a minimum of 12 weeks of physical therapy.



# Materials and Methods

- ◆ **Capsular Measurements:**
  - ◆ performed pre-operatively by a single fellowship-trained shoulder and elbow surgeon
  - ◆ an axial posterior linear capsular measurement greater than 14 mm was considered indicative of an enlarged capsule by the lead surgeon



Axial linear capsular measurements ( $a - b$ )

# Materials and Methods

## ◆ **Surgical Technique:**

- ◆ lateral decubitus positioning
- ◆ labral mobilization and repair with a minimum of suture anchors
- ◆ for patients without a labral tear but diminutive labrum and enlarged capsular volume, the suture anchor was passed around a bite of capsule and the diminutive labrum
- ◆ the technique had the dual result of creating an enlarged labrum or bumper as well as a reduction in the capsular volume



# Results

- ◆ **Of the 40 patients identified, 25 patients met the inclusion criteria:**
  - ◆ 14 had pathologic findings on radiologist MRA impression
  - ◆ 11 lacked pathologic findings on radiologist MRA impression
- ◆ **Demographics:**
  - ◆ mean age was 35 (range: 19 to 59)
  - ◆ mean BMI was 26 (range: 18 to 31)
  - ◆ mean follow up duration was 40 months (range: 24 to 64)
  - ◆ 14 (0.56) patients had surgery on their dominant arm

# Results

Comparison of pre and post operative demographic variables and patient reported outcome measures between the Pathological MRA and Normal MRA groups.

	Pathological MRA (n=14)	Normal MRA (n=11)	P-value
<b>Demographic</b>	Mean $\pm$ SD	Mean $\pm$ SD	
Male Sex	10 (0.71)	1 (.09)	.008
Age (years)	37.1 $\pm$ 8.1	33.3 $\pm$ 10.4	.528
BMI	26.2 $\pm$ 2.2	25.0 $\pm$ 4.4	.477
Follow-up Duration (Months)	37.3 $\pm$ 11.3	43.3 $\pm$ 16.5	.338
Surgery on Dominant Side	8 (.57)	6 (.55)	.899
<b>Pre-operative</b>			
VAS Pain	4.7 $\pm$ 1.9	4.2 $\pm$ 2.0	.434
SANE Score	41.9 $\pm$ 25.0	46.5 $\pm$ 11.6	.467
<b>Post-operative</b>			
VAS Pain	2.4 $\pm$ 2.7	1.7 $\pm$ 2.4	.202
SANE score	75.3 $\pm$ 25.7	81.7 $\pm$ 26.5	.344
WOSI summary	49.1 $\pm$ 38.8	42.0 $\pm$ 39.5	.344
WOSI Physical Symptoms	48.2 $\pm$ 39.8	39.6 $\pm$ 37.8	.403
WOSI Sports Recreation/Work	47.9 $\pm$ 40.06	42.5 $\pm$ 41.5	.536
WOSI Lifestyle	50.6 $\pm$ 40.0	43.8 $\pm$ 41.5	.501
WOSI Emotions	51.7 $\pm$ 36.7	47.8 $\pm$ 43.9	.767

# Results

- ◆ Both groups with statistically significant increase in SANE
  - ◆ 29.4 ( $p=0.003$ ) for the Pathological Group
  - ◆ 35.2 ( $p = 0.007$ ) for the Normal MRA group
- ◆ Both groups with statistically significant reduction in VAS pain
  - ◆ -2.4 ( $p = .006$ ) for the Pathological MRA group.
  - ◆ -2.5 ( $p = 0.016$ ) for the Normal MRA group

# Conclusions

- ◆ Regardless of preoperative MRA radiologist results, there is no difference in clinical outcomes in patients who underwent posterior capsulolabral repair for clinically symptomatic posterior shoulder instability.
- ◆ Utilization of objective capsular measurements can identify pathologic findings in patients with symptomatic shoulder instability despite radiologist defined normal findings.

# Significance of Findings

- ◆ When there is a lack of clear labral pathology on MRA, use of capsular measurements on MRA can assist surgeons in determining candidacy for PSI surgery.
- ◆ This study emphasizes that a careful clinical exam is the most important factor when determining indication for PSI surgery.