

# The Relationship Between Tear Size & Outcomes of All-Arthroscopic Rotator Cuff Repair: A Prospective Study

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## 1. INTRODUCTION

Each year in the United States, more than 100,000 surgeries are done to repair rotator cuffs.<sup>1</sup> Traditionally, surgical repair of the rotator cuff relies on an open incision. More recently, all-arthroscopic surgery has been applied successfully.

Previous studies of all-arthroscopic rotator cuff repair are inconsistent regarding the relationship between tear size and outcome. The current study's null hypothesis is that outcome of all-arthroscopic rotator cuff repair is independent of tear size. Patients in this prospective study were treated at a community-based orthopedic clinic and hospital. Results could help community-based surgery centers understand what outcomes to expect from all-arthroscopic rotator cuff repair.

## 2. METHODS

This ongoing study collects comprehensive preoperative, intraoperative, and postoperative data using common, validated outcomes assessment tools.

Patients with full-thickness rotator cuff tears were identified for the study prospectively based on confirmation by MRI (70%), plain arthrogram (20%), or arthroscopic examination (9%). For this analysis tear sizes were categorized as small/medium (< 3 cm) or large (3-5 cm). Tears were repaired entirely arthroscopically using the tendon-to-bone (81%), margin-convergence (2%), or both techniques (17%).

Patient follow-up surveys and clinical examinations are conducted at one week, six weeks, twelve weeks, and twenty-four weeks following all-arthroscopic rotator cuff repair.

Postoperative scores are compared to preoperative scores to evaluate change in shoulder function, pain, stability, and general physical and mental health.

## NOTES

1 Owings MF, Kozak LJ. Ambulatory and inpatient procedures in the United States, 1996. National Center for Health Statistics. Vital Health Stat 1998; 13(139).

<sup>1</sup>Rotator Cuff" image reproduced with permission from HSMF, Hughston Sports Medicine Foundation, www.hughston.com.

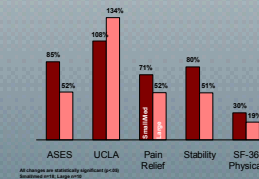
## 3. RESULTS

Preliminary findings support the null hypothesis that outcome of all-arthroscopic rotator cuff repair is independent of tear size. Patients with small/medium tears and patients with large tears experienced similar levels of statistically significant improvements in function, pain relief, and shoulder stability.

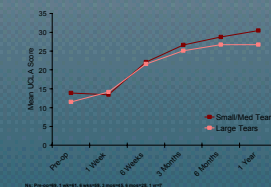
### Patient Characteristics (entire study)

	Small/Med Tears < 3 cm (n=10)	Large Tears 3-5 cm (n=10)
Mean age	62.2 years	61.1 years
Sex	95%	40%
Gender (M/F)	90%	30%
Mean comorbidity	1.4	1.4
Mean tear size	1.8 cm	2.3 cm
Age-adjusted sex	50%	50%
Operative time	95%	40%
Repaired with	80%	50%

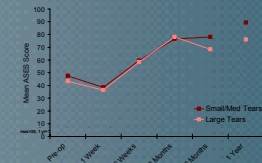
### Improvement at Six Months Follow-up



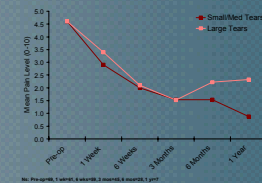
### Improvement in UCLA Score



### Improvement in ASES Score



### Decrease in Pain



## CONCLUSIONS



➤ Preliminary findings suggest all-arthroscopic repair is reasonable for large tears as well as small and medium tears.

➤ Outcomes at three months after rotator cuff repair are similarly positive for patients with small/medium and large tears. Additional data are necessary to examine outcomes beyond three months.