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Medicine at
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Sinai

Long-term Outcomes Following Arthroscopic Elbow Contracture Release

Christina M. Beck, Matthew J. Gluck, Todd Rubin, Michael R. Hausman

Leni & Peter W. May Department of Orthopaedics, Icahn School of Medicine at Mount Sinai, New York, NY

Introduction

- Elbow stiffness is common after trauma, from osteoarthritis, or previous surgical intervention
- Traditionally open surgery has been performed to release elbow contracture, however this results in scars and further damages soft tissue, and thus can lead to a repeat incidence of contracture
- An arthroscopic approach offers increased visualization of the joint, less soft tissue damage, smaller scar formation, and shorter recovery time
- This study aims to determine the long-term functional outcomes of arthroscopic contracture release of the elbow

Methods



Figure 1. Arthroscopic setup

Methods

- Retrospective review of 33 patients who underwent arthroscopic contracture release (Fig. 1) for either primary osteoarthritis or traumatic injury (including previous surgical intervention) by one surgeon at a single institution from 2003-2014
- At minimum of one-year follow up, patients were evaluated for elbow range of motion during an office visit or via digital pictures (Meislin et al), and completed the Disabilities of the Arm, Shoulder, and Hand (DASH) questionnaire

Results

- 33 patients at average age 45.7 years (range 13-70)
- Indications included 13 secondary to osteoarthritis and 20 due to trauma
- Average length of follow-up was 4.8 years (range 1.5-13) with average DASH score of 23±26
- Average flexion/extension arc of motion was 15-130 degrees
- Average supination was 84 degrees, and pronation was 84 degrees
- 4 patients underwent reoperation: 1 for hematoma, 3 for subsequent contracture release

Results

Table 1. Outcomes of arthroscopic elbow contracture release	
	N=33
Age (mean)	45.7
Etiology	
Osteoarthritis	13
Trauma	20
Follow-up (yrs)	4.84
DASH (mean)	23±26
ROM (degrees)	
Flexion/Extension	15.9±15.4
Extension	130.3±18.7
Pronation	84.5±14.6
Supination	84.2±13.0

Discussion

- This study demonstrates good to excellent subjective and objective outcomes at long-term follow up.
- Despite the challenge associated with this procedure, we demonstrate a low complication rate.
- An arthroscopic approach offers many advantages over open procedures including shorter recovery time, less soft tissue damage, and smaller scar formation.

References

Meislin MA et al. Comparison of Elbow Range of Motion Measurements: Smartphone-Based Digital Photography Versus Goniometric Measurements. J Hand Surg Am. 2016 Apr;41(4):510-515