

2022 NEHS Annual Meeting Abstract Submission

COMPLETE

NEHS Vice President, Daniel Mastella, M.D., is currently accepting abstract submissions for presentation at our Annual Meeting on December 2, 2022.

This meeting will be held at the Sturbridge Host Hotel in Sturbridge, MA.

Therapists, NPs, and PAs are also encouraged to submit.

THE DEADLINE FOR SUBMISSION IS OCTOBER 15, 2022

RESIDENTS AND FELLOWS ONLY. Please indicate if you want your paper to be considered for the prestigious H.Kirk Watson, M.D. Founder's Award. The abstracts for award consideration will be presented in the morning and the award will be presented in the afternoon.

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* ABSTRACT TITLE

DRUJ Capsular Release for Forearm Stiffness: Surgical Technique and Case Series

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* Name of who will present abstract at NEHS meeting on December 2, 2022 Please note that the same person cannot present more than one abstract at the meeting.

Kevin Kooi

* Please indicate if the presenter is:

Not currently a resident or fellow

* List full names of abstract authors

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*** ABSTRACT - should include background information and a description of methods, programs, or practices.**

Background:

Forearm stiffness can be caused by distal radioulnar joint (DRUJ) capsular contractures, which can occur after trauma such as a distal radius fracture. In this setting, a DRUJ capsular release may help improve forearm rotation, but the long-term functional outcomes remain unknown. The purpose of this case series is to investigate the short-term improvement in total pronosupination arc range of motion and long-term patient-reported outcomes (PROMs) after DRUJ capsular release.

Methods:

We performed a retrospective review of consecutive patients who underwent DRUJ capsular release. Range of motion prior to surgery and at final short-term follow-up were collected and analyzed with a Wilcoxon signed rank test. PROMs including QuickDASH and PROMIS Upper Extremity scores were obtained as medians with interquartile ranges, while patient satisfaction was measured on a 4-point Likert scale.

Results:

Five patients met the inclusion criteria with a median short-term follow-up of 5.5 (IQR: 4.3-10.3) months. The median pre-operative supination was 25 (IQR: 0-35) degrees and median post-operative supination was 50 (IQR: 40-60) degrees ($p=0.03$). The median pre-operative pronation was 45 (IQR: 10-60) degrees and median post-operative pronation was 70 (IQR: 60-80) degrees ($p=0.04$). After the long-term median follow-up of 10.9 (IQR 9.7-11.2) years all the patients were satisfied or very satisfied with the results of the surgery. The median DASH score was 13.6 (IQR: 9.1-20.5) and the median PROMIS UE score was 46.5 (IQR:43.8-47.7).

Conclusions:

DRUJ capsular release can improve pronation and supination in patients with post-traumatic forearm stiffness and is associated with high long-term patient satisfaction.

Please attach files with diagrams and/or photos to support your abstract (10 MB limit)

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*** Please attach the abstract presenter's CV**

Table 1 - Patient characteristics, procedure details and range of motion

Patient	Gender	Ethnicity	Age (years)	DRUJ Capsular Release Features				Supination ROM		Pronation ROM	
				PQ release	Interosseous membrane release	Volar DRUJ capsule release	Dorsal DRUJ capsule release	Pre-operative (degrees)	Post-operative (degrees)	Pre-operative (degrees)	Post-operative (degrees)
1	Female	Caucasian	44	No	No	No	Yes	45	60	10	80
2	Male	Caucasian	43	Yes	No	Yes	No	25	65	80	80
3	Female	Caucasian	57	No	No	Yes	No	0	40	45	70
4	Female	Caucasian	31	No	No	Yes	Yes	0	40	0	40
5	Female	Caucasian	42	No	No	Yes	No	35	50	60	80

DRUJ: distal radial-ulnar joint, PQ: pronator quadratus, ROM: range of motion

Table 2 - Patient-reported outcomes**Questionnaires (n=5)**

QuickDASH, median (IQR)	13.6 (9.1-20.5)
PROMIS UE, median (IQR)	46.5 (43.8-47.7)
Satisfied or very satisfied (%)	100

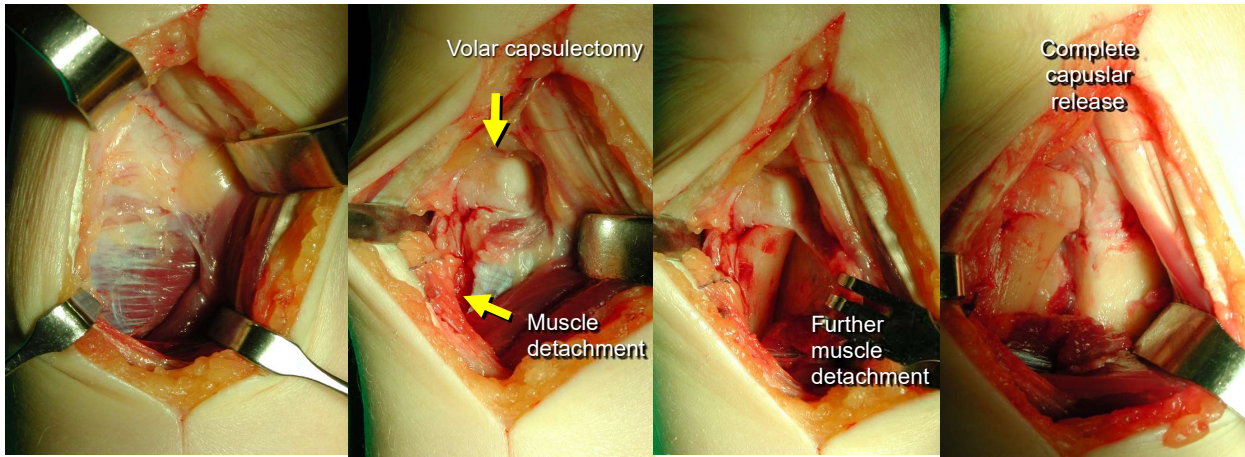


Figure 1. Intraoperative photographs demonstrating the thickened and contracted volar distal radioulnar joint (DRUJ) capsule. **A)** The arthrofibrosis of the DRUJ capsule and pronator quadratus (PQ) muscle contractures are visualized. **B)** Demonstration of the volar capsulectomy and PQ muscle detachment. **C)** Further muscle detachment and visualization of the DRUJ intraarticular fibrosis, as first it is dissected off its insertion on the radius, then the contour of the ulna is followed proximally until the portion that articulates with the sigmoid notch. **D)** The complete excision of the volar DRUJ capsule was achieved by elevating off its attachments to the TFCC and radius to protect these underlying structures then transecting from its attachment to the ulna.

