

2023 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 1, 2023.

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, 2023

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

Is Ulnar-sided Intercarpal Fixation Necessary in Treatment of Perilunate Injuries?

* Contact Person Name

Justin Kleiner

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*** Name of who will present abstract at NEHS meeting on December 1, 2023 Please note that the same person cannot present more than one abstract at the meeting.**

Justin Kleiner

* Please indicate if the presenter is:

Resident

*** List full names of abstract authors Please note - one of the lead authors must be present at the meeting to answer questions about the paper.**

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

Please consider for H.Kirk Watson, M.D. Founder's Award

Background:

Complete perilunate injuries are traditionally treated with reduction and radial sided (scapholunate fixation or scaphoid ORIF) and lunotriquetral fixation to maintain proximal row and midcarpal alignment. However, fixation of the lunotriquetral joint may be difficult and cause malalignment. We hypothesized that there would be no difference in patients with and without ulnar sided fixation. The purpose of this study was to compare the radiographic and clinical outcomes of patients with perilunate injuries treated with radial and ulnar sided fixation with those who had only radial sided fixation.

Methods

79 patients over a 20 year period treated for perilunate injury were contacted and QuickDASH scores were obtained from those available. Radiographs were reviewed for injury type and surgical fixation method. Final radiographs were evaluated for lunotriquetral gap, scapholunate angle, capitulunate angle, and presence of radiocarpal or midcarpal arthritis. Arthritis grading was performed by a board certified hand surgeon blinded to the ulnar fixation.

Results

32 (29M:3F) patients aged 35 (17-60) returned their quickDASH scores, 17 with and 15 without ulnar-sided fixation. There were no differences in the demographics of the two groups. We found no difference in quickDASH scores for those with (16.7) vs. those without (17.9) ulnar fixation ($p=0.86$). We also found no difference in luno-triquetral gap (1.3mm vs 1.6mm; $p=0.25$), scapho-lunate angle (58° vs 61° ; $p=0.94$), or capito-lunate angle (11.5° vs 7.8° ; $p=0.65$) on followup radiographs after union. 11/32 (46%) patients had radiographic evidence of midcarpal or radiocarpal arthritis at final followup; 9/13 (69%) of those with ulnar fixation and 2/11 (18%) without, ($p=0.01$). No patient developed a VISI deformity. Interestingly, the presence of radiographic arthritis did not correlate with a significant increase in quickDASH score (22.7 vs 15.9, $p = 0.38$).

Conclusion

This represents the largest reported series of patients with perilunate injuries treated without ulnar-sided fixation. No difference in functional or radiographic outcome was shown between patients treated with or without ulnar sided fixation although those with ulnar sided fixation were more likely to have radiographic arthritis. These results suggest that isolated radial sided fixation may result in acceptable functional outcomes for patients with perilunate injuries.

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

perilunate_tables.docx

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

Table 1. Demographics of patients treated with and without LT pinning

Demographic		LT pinning	No LT pinning	P-value
Age		35.3 +- 12.5	34.7 +-13.5	P=0.90
Gender	Male	16 (94%)	13 (87%)	P=0.47
	Female	1 (6%)	2 (13%)	
Injury Type	Perilunate dislocation	5 (29%)	4 (27%)	P=0.47
	Lunate Dislocation	5 (29%)	2 (13%)	
	Trans-scaphoid perilunate dislocation	7 (41%)	9 (60%)	
Time since injury	Less than 5 years	0	9	P=0.0002
	5 or more years	17	6	

Table 2. Functional and radiographic outcomes of patients treated with and without LT pinning

Outcome		LT pinning	No LT pinning	P-value
QuickDASH score		16.7 +- 19.3	17.9 +- 17.9	P=0.86
LT Gap		1.3 +- 0.6	1.6 +- 0.4	P=0.25
Arthritis	Yes	8 (62%)	4 (36%)	P =0.22
	No	5 (38%)	7 (64%)	
VISI	Yes	1 (7%)	0 (0%)	P=0.36
	No	13 (93%)	11 (100%)	
SL angle	<80 degrees	13 (93%)	10 (91%)	P = 0.85
	>80 degrees	1 (7%)	1 (9%)	
CL angle	< 30 degrees	12 (86%)	11 (100%)	P=0.48
	>30 degrees	2 (14%)	0 (0%)	