

# 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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PUBLIC

Oct 15th 2023, 1:20:37 am



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## \* ABSTRACT TITLE

Type of Fixation is Not Associated with Range of Motion After Operative Treatment of Proximal Radius Fractures, A Systematic Review of 259 Patients

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## \* Contact Person Name

Nadia Azib

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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.

Nadia Azib

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## \* Please indicate if the presenter is:

Not currently a resident or fellow

**\* 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.**

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Nadia Azib  
Huub H. de Klerk  
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Bauke Kooistra  
Michel P.J. van den Bekerom

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

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**Background:**

The aims of this study were 1) to assess whether ORIF techniques for fractures of the proximal radius are associated with the range of motion (ROM), especially forearm rotation, 2) to determine the incidence of hardware-related complications and removal following plate and screw fixation of the proximal radius, and 3) to evaluate whether the definition of the safe zone is described in literature and how it relates to ROM.

**Methods:**

A literature search was performed in the PubMed, Embase, and Cochrane databases. Studies reporting ROM in patients undergoing ORIF for radial head or neck fractures were included. Two treatment groups were defined based on ORIF technique: sole screws or plates with and without additional screw placement.

**Results:**

A total of 11 articles were included with 259 patients, of which 158 belonged to the screw group and 101 to the plate group. At follow-up, the screw group reported a mean supination of 79 degrees (95%CI: 75-84), pronation of 78 degrees (95%CI: 70-86), flexion of 133 degrees (95%CI: 124-142), and loss of extension of 5 degrees (95%CI: 2-9). The plate group reported a mean supination of 77 degrees (95%CI: 67-87), pronation of 68 degrees (95%CI: 56-80), flexion of 127 degrees (95%CI: 116-139), and loss of extension of 12 degrees (95%CI: -5-28). All 9 (23%) major complications belonged to the plate group and required either revision or hardware removal.

**Conclusion:**

The predominantly low-level evidence studies show that the ROM seems comparable for screw osteosynthesis and plate osteosynthesis of proximal radial fractures. Complication rates showed comparable results as well, except for major complications and revisions that were only found within the plate group. Finally, the safe zone definition is rarely reported when describing the operative techniques. Future studies should describe the safe zone accurately to enable conclusive findings.

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

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figure\_2\_1.pdf

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

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Figure 2: Outcomes per group for postoperative supination (A), pronation (B), flexion (C), and loss of extension (D)

