

2023 NEHS Annual Meeting Abstract Submission

COMPLETE

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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

Failed Basal Joint Arthroplasty: A Retrospective Review of Common Etiologies Leading to Reoperation

* Contact Person Name

Adina Harri

* Contact Person Email

* Contact Person Phone Number

* 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.

Adina Harri

* 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.

Emily Harman, MD, MS
Adina Harri, BA
Jennifer Chickering, OTR
Lance G. Warhold, MD
Vincent Pellegrini, MD

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

Background:

-Hand osteoarthritis is the second most prevalent anatomic site of osteoarthritis (OA) globally and is a significant contributor to years lived with disability^{1,3,4,6}. The basal joint of the thumb is critical for grasping and pinching and is a common site of hand OA often treated surgically^{3,4,7}. Various surgical techniques for basal joint arthroplasty have been developed, but there is currently no consensus as to which technique results in superior outcomes. Choice of technique continues to be based largely on surgeon preference. While these various techniques are largely successful with good outcomes, data to understand prevalence of revision arthroplasty and the causes of primary arthroplasty failure is scarce. Existing data suggest a revision rate of 2-4% of those undergoing primary basal joint arthroplasty (BJA)^{2,5}.

-Understanding common pathologies leading to failure of primary BJA performed for osteoarthritis can inform pre-surgical planning for revision arthroplasty and improve outcomes following primary BJA.

Methods:

-We performed a retrospective review of patients undergoing operation for failed primary BJA by two senior hand surgeons at our institution for failed primary BJA. A screening of medical records using CPT and ICD-9/10 codes yielded 23 patients and 24 reoperations between 2014 and 2022. Four of the primary procedures were performed by one of our hand surgeons, while all others were performed at outside hospitals. Chart review yielded demographic information and past medical history, surgical technique of index and revision procedures, revision indications based on preoperative clinical notes, time to reoperation, and intraoperative (revision) findings. Radiographic measures of pre-revision first metacarpal proximal migration, radial subluxation, impingement on the distal scaphoid, as well as untreated scaphotrapezoid arthritis seen on PA hand and wrist preoperative revision x-rays were calculated specifically for purposes of this review.

Results:

-All patients reported pain on preoperative presentation to our clinic. Following pain, the most common presenting complaints included impaired function (45.8%; n=11) and dorsal thumb dysesthesias (8.3%; n= 2). Of 7 patients with an index tightrope or swivel-lock suspensionplasty, 3 were unable to flatten the palm. The most common physical findings included MCPJ hyperextension (50%; n=12), which was greater than 30 degrees in 5 patients, and proximal thumb metacarpal subsidence (37.5%, n=9). Seven patients (29.2%) had "other" pathologies which included thumb trauma, carpal tunnel syndrome, palpable foreign body (2 patients), capitate subluxation, flexion-extension laxity of the basal joint, and absent EPL function. Radiographic findings included persistent scaphotrapezoid arthritis in 18 (75%) patients, greater than 25% radial subluxation of the metacarpal base in 18 (75%) patients, proximal thumb metacarpal migration beyond the index metacarpal base in 17 patients (70.8%), trapezial space height less than 5mm in 16 (66.7%) patients. The most common intraoperative revision findings were proximal thumb metacarpal migration in 11 (52.4%), untreated scaphotrapezoid arthritis in 9 (42.9%), foreign body reaction in 6 (28.6%), MCPJ hyperextension in 5 (23.8%), impinging osteophytes in 4 (19%), scaphoid-thumb metacarpal impingement in 3 (14.3%), and suture anchor pull-out in 2 (9.5%) thumbs.

Summary Points:

Awareness of common reasons for failed BJA requiring reoperation can inform surgical planning for primary procedures as well as strategies for successful revision surgery. Treatment priorities for successful BJA include:

- Recognition and treatment of scaphotrapezoid arthritis
- Stabilization of the thumb metacarpal
- Treatment of metacarpophalangeal joint instability

References:

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- 6.Long, H., Liu, Q., Yin, H., Wang, K., Diao, N., Zhang, Y., . . . Guo, A. (2022). Prevalence Trends of Site-Specific Osteoarthritis From 1990 to 2019: Findings From the Global Burden of Disease Study 2019. *Arthritis & Rheumatology*, 74(7), 1172-1183. doi:10.1002/art.42089
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Please attach files with diagrams and/or photos to support your abstract (10 MB limit)

* Please attach the abstract presenter's CV
