

An Updated Survey on Practice Patterns and Trends in the Surgical Management of Thumb Carpometacarpal Arthritis ‐ The Rising Popularity of the Suture Suspension Arthroplasty

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INTRODUCTION:

The purpose of this study is to conduct an updated survey study through the American Society for Surgery of the Hand (ASSH) membership to evaluate the current preferences for surgical management of thumb carpometacarpal (CMC) arthritis and trends. We hypothesize that current surgical preferences for the management of thumb CMC arthritis may have changed over the last several years due to rising popularity of novel suture implant technology.

METHODS:

A 22-question survey was created inquiring about the preferences for the surgical management of basal joint arthritis. After approval from the American Society for Surgery of the Hand, the survey was successfully delivered to a total 5,011 physician members through electronic mail on November 9, 2022. Study data was collected and managed using electronic data capture tools and the survey was closed after 6 weeks. Descriptive statistics and chi-squared analyses were performed.

RESULTS:

A total of 1,499 responses were available for analysis, yielding a response rate of 29.9%. For surgical management of basal joint arthritis in the primary setting, the majority of respondents preferred open trapeziectomy with suture suspension arthroplasty (39.2%), followed by open trapeziectomy with ligament reconstruction tendon interposition (LRTI) (38.3%). For surgical management of basal joint arthritis in the revision setting, the majority of respondents preferred open trapeziectomy with suture suspension arthroplasty (53.5%), followed by LRTI (24.6%). In terms of ranking of importance, respondents thought of metacarpal suspension and implant cost to be more important than ligament reconstruction and interposition. A higher proportion of international members (16.2%) utilized implant arthroplasty than US/Canadian members (1.1%; $p < 0.01$). Figure 1 demonstrates the preference trends of the LRTI and suture suspension arthroplasty over the last few years in comparison to previously published survey studies.

DISCUSSION AND CONCLUSION:

Open trapeziectomy and suture suspension arthroplasty continues to gain in popularity among surgeons, while open trapeziectomy and LRTI is decreasing in preference. The results of this survey state that suture suspension arthroplasty is now the most common preferred surgical technique in both the primary and revision setting. With rising healthcare costs, the comparative costs and cost effectiveness of basal joint arthroplasty must be further investigated.

Figure 1: Surgical Preference Trends for LRTI and Suture Suspension Arthroplasty

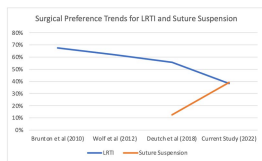


Table 1: Preferred Surgical Treatment for Basal Joint Arthritis in the Primary and Revision Setting

	Primary	Revision
Open trapeziectomy only	2.9%	1.3%
Arthroscopic trapeziectomy with or without interposition	1.1%	0.4%
Open trapeziectomy and hematoma distraction arthroplasty (K-wire)	0.7%	0.9%
Open trapeziectomy with ligament reconstruction	5.5%	4.6%
Open trapeziectomy with tendon interposition	3.0%	2.0%
Open trapeziectomy with ligament reconstruction and tendon interposition (LRTI)	38.3%	24.6%
Open trapeziectomy with interposition material other than tendon autograft	1.1%	1.8%
Open trapeziectomy with suture suspension	39.2%	53.5%
CMC arthrodesis	0.5%	1.1%
Artificial implant arthroplasty (metallic, silicone, pyrocarbon, etc.)	3.1%	2.2%
Other	4.1%	7.7%

Table 2: Importance of ligament reconstruction, suspension, interposition and implant cost

	Ligament Reconstruction	Metacarpal Suspension	Interposition	Implant Cost
It is not important at all	22.3%	5.8%	29.8%	18.4%
It has very little importance	20.2%	9.5%	28.9%	13.3%
It is somewhat important	38.2%	47.2%	33.2%	45.0%
It is extremely important	19.4%	37.5%	8.0%	23.3%