

## **Hemiarthroplasty Successfully Treats Thumb Basilar Arthritis**

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### **INTRODUCTION:**

Osteoarthritis along the thumb axis is usually isolated to the carpometacarpal (CMC) joint. It is more common in women than men, usually post-menopausal. Typical symptoms include pain, decrease in mobility and loss of strength. Conservative management is universally performed initially with subsequent more invasive management, culminating in a surgical intervention for intractable cases.

There are a myriad of surgical options such as partial or complete trapezium excision, interposition with relatively flat or disk like implants, and other implants more similar to prosthetic replacement of the joint. Prosthetic replacement can be a hemi replacement or a total replacement. Previous thumb basilar prosthesis have not universally been accepted and have been felt to have an unacceptably high complication or revision rate.

Replacing the saddle joint with a stemmed hemi arthroplasty with a ball and socket joint is a reasonable approximation of the thumb CMC joint. Successful implantation of such a prosthesis demonstrates improved function, reduced pain and low complication revision rate, in addition to survivorship comparable to soft tissue procedures [1].

### **METHODS:**

This is a retrospective review of the author's experience. All patients having implant arthroplasty for osteoarthritis at the base of the thumb were reviewed. This was the total of one hundred and six thumbs. Only implants present for at least six months were eligible reducing the total eligible thumbs to ninety eight. A total of sixty-three thumbs were available for follow up and QuickDASH scores and grip and pinch measurements were taken on all patients as able. For patients that lived in a geographically remote area only grip and pinch measurements were performed by a local therapist and the QuickDASH was collected and interviewed over the telephone. The procedure was considered a failure if the implant, or implants, were removed and the thumb converted to some form of suspensionplasty.

### **RESULTS:**

Prosthetic implant arthroplasty at the base of the thumb, primarily using a stemmed, modular hemispherical implant decreased pain and improved function and strength of the thumb as determined by grip and pinch measurements as well as the QuickDASH ( $p < .05$ ). Group strength testing showed return of strength to the same or greater than the non-operative thumb, which of course excludes bilateral cases. The average QuickDASH went from a forty-nine pre-operatively to a twenty-six post-operatively. The mean follow-up was forty-three months with a range of eight to one hundred and one months. The average age was sixty-one. The ages ranged from forty one to eighty six years old. There were thirty six male and seventy females. Implant survivorship was ninety-two and a half percent.

### **DISCUSSION AND CONCLUSION:**

Trapezium metacarpal osteoarthritis is a disabling condition primarily affecting post-menopausal women. No one surgical procedure has proven to be outstanding and successful in all cases, this applies to prosthetic implant arthroplasty as well. The primary implant used in this study has a modular design that addresses problems previously inherent to other implant designs. This series demonstrates that implants can provide excellent pain relief with high level function and restoration of normal grip and pinch strength, with a low rate of revision [5].