



# Preserving the Posttrapeziectomy Space with a Human Acellular Dermal Matrix Spacer: A Pilot Case Series of Patients with Thumb Carpometacarpal Joint Arthritis

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**Background:** Advanced thumb carpometacarpal arthritis is widely treated with trapeziectomy and tendon interposition despite donor-site morbidities. Trapeziectomy alone leaves a postresection space, leading to proximal metacarpal migration and scaphoid/trapezoid impingement. Prosthetic implants have been unsuccessful due to particulate debris, silicone synovitis, osteolysis, and migration. Recent studies have shown successful use of allograft for interposition material in the posttrapeziectomy space both in animal and human models. To obviate the need for autologous tissue, maintain thumb length, and reduce the risk of scaphoid impingement, the senior author developed an interposition arthroplasty technique using a spacer constructed from human acellular dermal matrix (HADM).

**Methods:** Sixteen patients with Eaton stage III–IV thumb carpometacarpal osteoarthritis received the above procedure from the 2 senior authors. HADM was imbricated to fill the posttrapeziectomy space and secured to the volar capsule and metacarpal base. Pre- and postoperative trapezial space on radiograph, pain scores, and grip strength were recorded.

**Results:** Six months postoperatively, radiographs showed an average joint space loss of 11%. Heights postoperatively were not significantly different from immediate postoperative heights ( $P \geq 0.01$ ). At 6 months, patients had improved pain and grip strength ( $P \leq 0.01$ ). No infections, foreign body reactions, or other complications occurred.

**Conclusions:** HADM has been used extensively in other forms of reconstruction and has been shown to incorporate into surrounding tissues through neovascularization. Our early results illustrate that HADM can safely fill the dead space left by trapeziectomy. (*Plast Reconstr Surg Glob Open* 2013;1:e65; doi: 10.1097/GOX.0b013e3182aa8793; Published online 29 October 2013.)

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