**Comparison of Arthrodesis and Metallic Hemiarthroplasty of the Hallux Metatarsophalangeal Joint**

**Reference:**

**Scientific Literature Review**

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**Podiatric Relevance:**
There is no standard of treatment for end stage arthritis of the first metatarsophalangeal joint. Patients with Coughlin stage III and IV 1st MTP arthritis were evaluated. The purpose of the study was to compare two surgical protocols and to analyze their outcomes.

**Methods:**
Forty-six patients from January 1999 to August 2005, with end stage arthritis of the first metatarsophalangeal joint, were evaluated by two surgeons. Surgical correction consisted of arthrodesis versus metallic hemiarthroplasty. One surgeon performed the arthrodesis and the other performed the metallic hemiarthroplasty. There were 27 patients in the arthrodesis group and 21 patients in the hemiarthroplasty group. The objective was to compare the peri-op care, median term clinical, and radiographic evaluation. Clinical assessment was based on patient satisfaction and function. Radiographic criteria for the arthrodesis group was osseous union and alignment. Radiographic criteria for the hemiarthroplasty group was position, alignment, evidence of bone loss, or evidence of hardware loosening. An independent observer assessed patients on clinical, radiographic, functional and patient satisfaction outcomes based on a questionnaire.

**Results:**
Of the 46 patients, 43 were available for follow-up and 3 were interviewed on the phone. The average time of follow up was 30.0 months for arthrodesis group 79.3 months for the hemiarthroplasty group. The arthrodesis group demonstrated less pain, more patient satisfaction, higher post-op scores, 96% appropriately aligned, and 100% osseous fusion. The hemiarthroplasty group required revisional surgery in 24% (5/18), one implant was revised, and the other four needed arthrodesis.

**Conclusions:**
This retrospective analysis demonstrated that arthrodesis of the 1st MPJ leads to high rates of patient satisfaction and the results are consistently reproducible. Intra-operative placement of the arthrodesis helps correlate with post-op patient satisfaction, anatomic alignment, and decreases the likelihood of secondary complications.