

## Long-Term Outcomes of Total Ankle arthroplasty with mobile bearing in 124 ankles, Over eight years of follow-up

Yeokgu Hwang, MD, Kwang Hwan Park, MD, Seung Hwan Han, MD, PhD, Jin Woo Lee, MD, PhD

**Category:** Ankle Arthritis

**Keywords:** ankle; osteochondral lesion of the talus; bone marrow stimulation; clinical outcome; long-term follow-up

**Introduction/Purpose:** Total ankle arthroplasty (TAA) is increasingly recommended for patients with end-stage ankle osteoarthritis. However, there were few studies which had investigated long-term clinical outcomes with mobile bearing system. We analyzed the patient reported results of 124 arthroplasties performed with one type of three-component total ankle prosthesis. This prospective cohort study analyzed long-term outcomes of total ankle arthroplasty with use of the Hinteagra prosthesis at one center.

**Methods:** Consecutive patients who received the hintegra prosthesis between September 2004 and December 2009 were enrolled at one large, university hospitals. Patients were annually evaluated clinically, and the patients reported survey with visual analog scale (VAS), American Orthopaedic Foot & Ankle Society (AOFAS) scores, Foot and Ankle Outcome Score (FAOS) and revision rate. Kaplan-Meier survival result showed survival outcomes of TAA in long-term follow-up.

**Results:** One hundred and twenty-four ankles underwent arthroplasty with the Hinteagra prosthesis. The mean age of patient at operation time was 64.2 years old (range, 47 to 84 years old ). The mean duration of follow-up for all living patients without revision (Eighty-six ankles) was  $10.0 \pm 1.3$  years. The mean change from baseline to final follow-up was  $-6.7 \pm 4.3$  points for Visual analog scale, and  $26.1 \pm 10.3$  points for the AOFAS score. . Seven (5.6%) of the ankles required metal component revision at a mean of  $2.9 \pm 1.8$  years (range, 0.5 to 5.8 years). Ten (8%) of the prostheses underwent polyethylene bearing exchange, mostly due to asymmetric wear, at a mean of  $2.8 \pm 1.8$  years (range, 0.1 to 9.1 years).

**Conclusion:** Long term outcomes were good after ankle arthroplasty with the Hinteagra prosthesis performed by experienced surgeons, and long-term outcomes demonstrated. The revision rate was substantially higher among the first fifty ankles than among subsequent ankles. Further study to elucidate possible reasons for osteolysis and subjective pain after TAA is warranted.

**Table 1. Summary of revision operation**

Polyethylene bearing exchange	10 *
Bone graft	24 *
Arthroscopic debridement	5
Implant removal and conversion to TTC fusion	1
Open debridement	2
Ankle arthrodesis	2
Revisional hemiarthroplasty	1
Revisional TAA	3 *
Achilles tendon lengthening	1
Lateral ligament reconstruction	1
Bony spur removal	1
Total ( ankles )	38

\* Five inlay change plus Bone graft, One lateral ligament reconstruction plus bone graft, Two revisional TAA plus bone graft, Two ankle arthrodesis plus bone graft, One inlay change plus bone graft and bony spur removal