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### Long-term results of hemiarthroplasty compared to arthrodesis for osteoarthritis of the first metatarsophalangeal joint

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If operative treatment is opted for grade III and IV osteoarthritis of the first metatarsophalangeal joint, arthrodesis is considered standard care. However, if preservation of joint mobility is preferred, implant arthroplasty could be favored. Previous studies suggest hemiarthroplasty might result in less pain, better function and higher patient satisfaction compared to arthrodesis. However, these studies only evaluated short-term (range 2.2-6.6 years) results. The aim of our study was to determine whether patients treated with hemiarthroplasty showed better postoperative outcomes compared to those treated with arthrodesis after a period of at least 5 years after surgery. The American Orthopaedic Foot and Ankle Society Hallux Metatarsophalangeal Interphalangeal (AOFAS-HMI) scale score was measured as primary outcome. Secondary outcomes addressed satisfaction rates, recommendation of the performed procedure and number of unplanned surgical repeat procedures. We also addressed influence of the procedures on daily activities (work as well as sports), influence of smoking on postoperative results and costs for both procedures. A total of 47 primary arthrodesis and 31 hemiarthroplasties performed between January 2005 and December 2011 were evaluated. After a mean follow-up of 8.3 years (range 5-11.8) the mean AOFAS-HMI scale score after arthrodesis and after hemiarthroplasty were  $72.8 \pm 14.5$  and  $89.7 \pm 6.6$ , respectively ( $p=0.001$ ). Patients were significantly more pleased after hemiarthroplasty ( $p<0.001$ ) and this procedure was better recommended ( $p<0.001$ ). The number of unplanned repeat surgical procedures did not differ between the two groups. Patients resumed sports activities significantly sooner after hemiarthroplasty ( $p=0.002$ ). Overall costs were similar for both procedures. Our study shows more favorable post-operative results for hemiarthroplasty compared to arthrodesis as operative treatment for osteoarthritis of the first metatarsophalangeal joint after a mean follow-up of 8.3 years.

#### Recent Publications

1. Voskuil T and Onstenk R (2015) Operative Treatment for Osteoarthritis of the First Metatarsophalangeal Joint: Arthrodesis Versus Hemiarthroplasty. *Journal of Foot and Ankle Surgery* 54(6):1085-1088.
2. Simons K H, van der Woude P, Faber FWM, van Kampen PM and Thomassen BJ (2015) Short-term Clinical Outcome of Hemiarthroplasty Versus Arthrodesis for End-Stage Hallux Rigidus. *Journal of Foot and Ankle Surgery* 54(5):848-851.
3. Kim P J, Hatch D, Didomenico L A, Lee M S, Kaczander B, Count G and Kravette M (2012) A multicenter retrospective review of outcomes for arthrodesis, hemi-metallic joint implant, and resectional arthroplasty in the surgical treatment of end-stage hallux rigidus *Journal of Foot and Ankle Surgery* 51(1):50-56.
4. Taranow W S, Moutsatson M J and Cooper J M (2012) Contemporary Approaches to Stage II and III Hallux Rigidus: The role of Metallic Hemiarthroplasty of the Proximal Phalanx. *Foot and Ankle Clinics* 10(4):713-728.
5. Clement ND, MacDonald D, Dall G F, Ahmed I, Duckworth A D, Shalaby H S and McKinley J (2016) Metallic hemiarthroplasty for the treatment of end-stage hallux rigidus. *Bone and Joint Journal* 98:945-951.

#### Biography

Stefan Beekhuizen is a Resident in Orthopaedic Surgery. His first study was "Long-term results of hemiarthroplasty compared to arthrodesis for osteoarthritis of the first metatarsophalangeal joint". In future, he would like to dedicate himself for orthopaedic care in the Third World.

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