

Increased risk of revision in total knee arthroplasties following high tibial osteotomy is explained by patient demographics **63.**

Anders El-Galaly, Poul Torben Nielsen, Steen Lund Jensen, Andreas Kappel

Department of Orthopaedics Surgery, Aalborg University Hospital;

Background: High tibial osteotomy (HTO) is used to treat primary osteoarthritis (OA) of the medial or lateral knee chamber in young active patients. The aim is to relieve pain while preserving the knee joint thus postponing the need for arthroplasty. However, the influence of HTO on the survival of a subsequent total knee arthroplasty (TKA) is still debated.

Purpose / Aim of Study: We conducted this nation-wide registry study to evaluate the influence of HTO on the survival of TKA.

Materials and Methods: From the Danish Knee Arthroplasty Registry, we retrieved 1,049 TKA inserted from the 1st of January 1997 till the 31st of December 2015 in knees previously treated with HTO. We compared these with 63,954 de novo TKA without prior surgery. We analyzed demographics and calculated the estimated survival by Kaplan-Meier analyses and multi-variate Cox regression covering prior HTO, sex and age. In addition, we compared the indications of revision between the groups.

Findings / Results: The proportion of males were significantly higher in the prior-HTO group (57% vs 35%, $p < 0.001$) and the patients were significantly younger at the time of TKA with a median age of 62 as opposed to 70 years ($p < 0.001$). TKA inserted in knees previously treated with HTO had an inferior estimated survival ($p < 0.001$) with a crude hazard ratio (HR) of 1.70 (95% CI: 1.38-2.10, $p < 0.001$). However, after adjustment for the differences in sex and age the two groups had a similar risk of revision with an adjusted HR of 1.17 (95% CI: 0.96-1.42, $p = 0.11$). Instability showed a trait of been more frequent in the prior-HTO group (25% vs 18%).

Conclusions: In this nation-wide registry study TKA following HTO were revised more often than de novo TKA. However, our analyses suggest that the increased risk of revision is due to younger age and increased percentage of males in this group rather than the prior HTO.

No conflicts of interest reported