

# Study shows hip fracture risk rises in the 10 years after total knee replacement

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Researchers from the Sahlgrenska Academy in Molndal, Sweden have published preliminary results of a fracture risk study, which was based on analysis of medical records from 1987 to 2002 covering the entire Swedish population born between 1902 and 1952.

They were able to show that individuals with total knee replacement (TKR) due to primary osteoarthritis had a low risk for hip and [vertebral fracture](#) in the decade before surgery. However, after total knee replacement, the risk for [hip fracture](#) increased by 4% and the risk for vertebral fracture increased by 19% percent compared to the population without TKR.

A total of 3221 patients had both [total knee replacement](#) and hip fracture. The hazard ratio (HR) for patients with knee OA to have sustained a hip fracture during the ten years preceding TKR was 0.58 (0.54-0.63) and during the ten year after the surgery 1.04 (1.00-1.09). The HR for patients with knee OA to have sustained a vertebral fracture during the ten years preceding TKR was 0.55 (0.47-0.65) and during the ten year after the surgery 1.19 (1.09-1.31). The lower risk of hip or vertebral fracture before and the increasing risk of hip or vertebral fracture after TKR remained after adjustment for age, gender, calendar year, and latitude. The HR for mortality the first year after TKR was 0.40 (0.37-0.44) and after 10 years after TKR 1.06 (1.00-1.11).

Lead author C. H. Vala, said, "Studies have shown that osteoarthritis is associated with higher bone mass, and, as well, there may be a decreased

physical activity level due to pain. The increasing risk for hip and vertebral fracture in the 10 years after knee replacement may be explained by pain, increase of physical activity due to rehabilitation, and other biomechanical factors. With approximately 13,000 total knee replacements carried out in Sweden annually, further research on the increased fracture risk in this population group is needed."

**More information:** OC12 Risk for hip fracture ten years before and after total knee replacement surgery in the entire Swedish population  
Abstract book: WCO-IOF-ESCEO World Congress on Osteoporosis, Osteoarthritis and Musculoskeletal Diseases, 14 -17 April 2016, Malaga, Spain Osteoporosis International, Volume 27/ Suppl 1/ 2016

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