

Knee dislocation is an infrequent complication after rotating hinge total knee arthroplasty (RHTKA). The aim of the present study was to describe our experience with dislocating RHTKA in a consecutive prospective large series, its occurrence rate, causative mechanisms and to perform a review of available literature. In total, six dislocations were observed in 303 RHTKA procedures (NexGen RHK, ZimmerBiomet, Warsaw, Indiana, US) at a mean of 10 (range, 2 - 24) months after surgery. This results in a 2% dislocation rate, which is lower than the 3.1% cumulative rate reported earlier in literature. Men and women were distributed equally, with a mean age of 56 years old. The indication for RHTKA among the six dislocations was revision in 4 cases and primary arthroplasty for the other 2 cases. Analysis revealed that the main mechanism of hinge dislocation was forced knee flexion with concomitant extensor mechanism insufficiency (4/6 cases). The second cause was unscrewing of the locking pin (2/6 cases). This is probably caused by the screw home mechanism that results in a counterclockwise torque -and therefore a loosening- effect on locking bolts, specifically in right-sided RHTKA. Obesity probably predisposes to hinge dislocation since 83% of patients in this series were obese (BMI, range 34 to 52). The findings of this study suggest that dislocation of RHTKA is a rare complication that could happen to obese patients without an adequate extensor mechanism. Level of evidence : IV.