

Dislocation After Primary THA Declined 30% in 25 Years, but Risk of Revision May Be Rising

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INTRODUCTION: Dislocation is a well-recognized complication of primary total hip arthroplasty (THA) and a leading cause of early revision. Advancements in technique and implant design have aimed to reduce the risk of dislocation. This study evaluated 25-year trends in incidence of dislocation and revision for dislocation following primary THA.

METHODS: We identified 30,239 primary THAs performed between 1998 and 2022 using our institutional total joint registry. Incidence of postoperative dislocation (n=648) was calculated and stratified by surgical era (e.g., 1998–2004, 2005–2010, 2011-2017, 2018-2022). Patient demographics, surgical approach, head size, and liner were recorded. Univariable Cox models and time-to-event analyses assessed the association between surgical era, risk of dislocation, and risk of revision. Mean follow-up was 6 years.

RESULTS: The risk of dislocation decreased over each era from 1998-2004 to 2018-2022 (HR 0.7; $p<0.05$). The 1- and 5- year dislocation rates decreased from 1.9% and 2.7%, respectively, in 1998-2004 to 1.2% and 2.1% in 2018-2022. Across all eras, anterior (vs. posterior) approach (HR 0.2; $p<0.001$) and head sizes ≥ 36 mm (HR 0.8; $p<0.001$) were protective against dislocation. Increased dislocation risk was associated with major spine disease (HR 1.6; $p<0.001$), neurologic disease (HR 1.6; $p<0.001$), non-osteoarthritis indication (HR 1.5; $p<0.05$), female sex (HR 1.4; $p<0.001$), and use of an elevated liner (HR 1.3; $p=0.01$). Among those who dislocated, the risk of revision for dislocation increased from 1998-2004 to 2018-2022 (HR:1.5; $p<0.05$).

DISCUSSION AND CONCLUSION: The incidence of dislocation following primary THA has decreased by 30% over the past 25 years, likely reflecting advancements in surgical approach and implant selection. Although specific clinical and technical risk factors remain, these findings challenge the long-standing perception that dislocation is an unmitigated issue in modern THA. The increased rate of revision following dislocation may suggest that surgeons today are taking a more proactive approach to managing dislocations.