

Incidence of Instability following Primary Total Hip Arthroplasty Continues to Decline in the Medicare Population

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INTRODUCTION: Instability has been the primary cause of failure following primary total hip arthroplasty (THA) leading to revision hip surgery. Prior studies have shown that dislocation incidence in North America has plateaued around 2%. Since that time, there has been an increase in the use of dual mobility articulations, direct anterior approach, advanced technology, and further knowledge of the hip-spine relationship. The purpose of this study was to determine if dislocation incidence after primary THA have further decreased given the changes in surgical technique and implant selection.

METHODS:

Using the 5% Medicare Part B claims data from 1999-2019, we identified 154,372 patients who underwent primary THA from 1999-2019 for osteoarthritis. Using ICD-9, ICD-10, and CPT codes we identified patients who experienced instability with or without revision surgery for dislocation at 3 months, 6 months, 1 year, and 2 years postop. A Multivariate Cox regression analysis was performed to evaluate the effect of patient and procedure characteristics on the adjusted complication risk for dislocation.

RESULTS: Dislocation incidence at 1 year following primary THA has declined from approximately 4% in 2000 to 2.3% in 2010 and further declined to 1.6% in 2018 (Fig 1.). Dislocation rates have declined relatively by 13.6% each year over the last 20 years and by 40.7% over the past decade. High risk groups for instability continue to include increased age, female gender, higher Charlson index, lumbar spine pathology, and neurocognitive disorders.

DISCUSSION AND CONCLUSION: Incidence of instability following primary total hip arthroplasty continues to decline with approximately 40% reduction over the past decade. The most recent data in the Medicare population demonstrated an incidence of 1.6% of hip instability at 1 year following primary THA. This decline is likely due to multiple factors including increased use of dual mobility articulations, direct anterior approach, improved knowledge of the hip-spine relationship, and use of advanced technology.

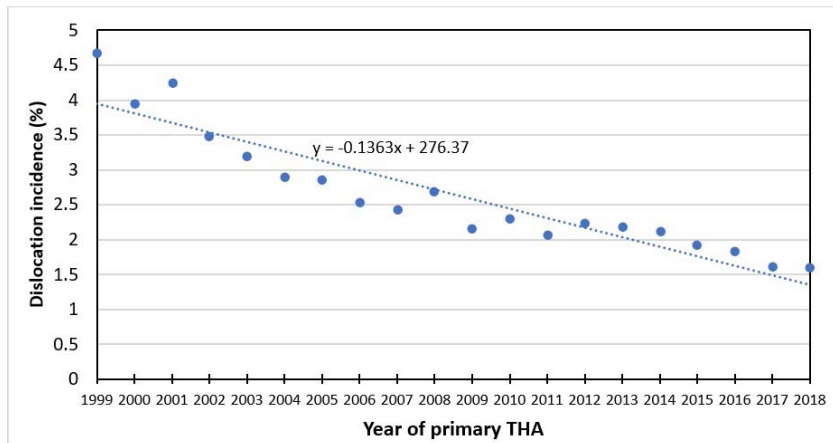


Figure 1. Incidence of dislocation at 1 year after primary THA