

The cost of stiffness after total knee arthroplasty

Aaron Arthur Olsen, Darren Z Nin¹, Ya-Wen Chen², Ruijia Niu³, David C Chang⁴, Eric Louis Smith, David A Mattingly, Carl T Talmo³

¹Massachusetts General Hospital, ²MGH, ³New England Baptist Hospital, ⁴Massachusetts General Hospital, Harvard Medical Sch

INTRODUCTION: Stiffness after primary total knee arthroplasty is debilitating and poorly understood. A heterogenous approach to treatment is often utilized, including both non-operative and operative treatment modalities. The purpose of this study is to examine the prevalence of treatments used between stiff and non-stiff TKA groups, and the financial impact of these treatments.

METHODS:

An observational cohort study was conducted using the IBM Watson Health MarketScan databases (IBM Corporation). A total of 13,531 Patients who underwent unilateral primary TKA from January 1, 2017, to December 31, 2017, were included in the study. Stiffness after TKA was identified, and subsequent diagnosis and procedure codes were used to identify the prevalence and financial impact of multiple common treatment options.

RESULTS: The prevalence of stiffness after TKA was 6.1%. Stiff patients were more likely to undergo physical therapy, medication, bracing, alternative treatments, orthopedic clinic visits, and reoperation. Revision surgery was the most common reoperation in the stiff TKA group (7.7%). The incidence of both arthroscopy and revision surgery were higher in the stiff TKA population. Dual component revisions were costlier for patients with stiff TKA (\$64,267 vs \$48,280). On average, patients with stiffness after TKA endured costs from 1.5 to 7.5 times higher than the cost of their non-stiff counterparts during the two years following index TKA.

DISCUSSION AND CONCLUSION:

Patients with stiffness after primary TKA face significantly higher treatment costs for both operative and non-operative treatments than patients without stiffness

