# A Large National Insurance Database Analysis of Two-Year Revision and Complication Rates after Patellofemoral Arthroplasty

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INTRODUCTION: This study aims to use a large national insurance database to identify the two-year risk of revision and complication after patellofemoral arthroplasty (PFA) relative to total knee arthroplasty (TKA) and unicompartmental knee arthroplasty (UKA).

METHODS: Patients between the ages of 18-100 who underwent either PFA (CPT-27438), TKA (CPT-27447), or UKA (CPT-27446) between years 2016 – 2019 were identified and grouped by procedure type. Revision cases were excluded. P-values are reported as PFA vs. TKA, then PFA vs. UKA.

RESULTS: There were 833 patients in the PFA group, 355,862 patients in the TKA group, and 33,488 patients in the UKA group. Two-year revision rates were highest in PFA patients (7.1%) followed by UKA patients (2.1%) and TKA patients (1.4%) ($p<0.001$ for both). Surgical site infections requiring reoperation were also higher in PFA patients (1.6%) than TKA (0.9%) or UKA (0.6%) patients ($p=0.04$, $p<0.001$). Wound complications occurred at a higher rate in PFA patients (2.4%) than in TKA patients (1.5%) or UKA patients (1.1%) ($p=0.04$, $p<0.001$). Manipulation under anesthesia occurred at similar rates in PFA patients (1.3%) and TKA patients (1.5%) but more often in PFA patients than UKA patients (0.4%) ($p=0.5$, $p=0.001$). These trends in outcomes between groups persisted after matching on demographics and in a subset of patients from 2016-2017 with two-year follow up prior to the COVID-19 pandemic.

DISCUSSION AND CONCLUSION: Patients indicated for PFA should be made aware that they could experience higher risks of revision and complications within two years of surgery than those undergoing TKA or UKA.