

## Differences in Patient Reported Outcomes Between Unicompartmental and Total Knee Arthroplasty: A Propensity Score Matched Analysis

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### Summary:

Patients undergoing Unicompartmental knee arthroplasty (UKA) had higher Forgotten Joint Score, High Flexion Knee Score and satisfaction rate when compared to patients undergoing TKA, indicating that UKA facilitated less knee awareness and better function than Total knee arthroplasty.

### Abstract:

**INTRODUCTION :** There has been a concern and increasing interest in comparing the patient reported outcome measures (PROM) of unicompartmental knee arthroplasty (UKA) and total knee arthroplasty (TKA). Although various clinical scoring systems are used to assess patients after arthroplasty, most PROMs might not distinguish between patients with different level of knee function because of ceiling effects. The Forgotten Joint Score (FJS) is a recently validated score for joint awareness without ceiling effect. The High Flexion Knee Score (HFKS) was also developed and validated for clinical use without ceiling effect. The purposes of this study were to determine whether patient's satisfaction rating following Total knee arthroplasty (TKA) and Unicompartmental knee arthroplasty (UKA) are comparable using patient-reported outcome measures with minimal ceiling effects and to identify the degree of satisfaction and which items are more satisfied in following TKA and UKA using detailed questionnaire.

**METHODS:** We identified all patients undergoing a UKA or TKA at our institution between 2011 and 2013 with minimum follow up of 2 years. In this current retrospective study, propensity score matching (one to one) was performed between UKA and TKA group regarding age, gender, body mass index, operation side and the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) pain, stiffness, function and total score. One hundred UKAs to 100 TKAs were matched. Each knee was evaluated according to FJS and HFKS by an independent investigator at postoperative 2 years. Patient's satisfaction was also evaluated using a 5-point Likert scale. The FJS, HFKS and patient's satisfaction between UKA and TKA groups were compared.

**RESULTS:** The FJS of the UKA group was significantly higher than those of the TKA group at 2 years postoperatively ( $67.3 \pm 19.8$  and  $60.6 \pm 16.6$ , respectively) ( $p = 0.011$ ). The HFKS was also significantly higher in the UKA group compared with the TKA group ( $34.4 \pm 6.4$  and  $31.3 \pm 5.2$ , respectively) ( $p < 0.001$ ). Eighty-six percent of all patients who underwent UKA were satisfied compared with 71% of those who underwent TKA, which presented that UKA showed significantly higher satisfaction rate than TKA ( $p = 0.027$ ).

**DISCUSSION AND CONCLUSION:** Patients undergoing UKA had higher FJS, HFKS and satisfaction rate when compared to patients undergoing TKA, indicating that UKA facilitated less knee awareness and better function than TKA.