

## Patellar-Friendly Implant Does Not Affect Patient Perception of Patellar Management Following Total Knee Arthroplasty: A Simultaneous Bilateral Randomized Study

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### Summary:

Patellar-friendly implant offers similar benefits for both resurfaced or non-resurfaced patella.

### Abstract:

**INTRODUCTION:** The controversy about whether to resurface or to leave the patella un-resurfaced following total knee arthroplasty (TKA) continues to be debated. Recently, patellar-friendly implants which have deep, elongated and laterally angled patellar groove have been introduced to improve patellar tracking. However, whether patellar-friendly implant would be more

beneficial for resurfaced or non-resurfaced patellae remains unclear. We determined (1) whether patients perceive the difference between resurfaced and non-resurfaced patella in terms of patient-reported outcome measures (PROMs); (2) whether patellar-related clinical outcomes and incidence of complication between resurfacing and non-resurfacing are different in patients underwent same-day bilateral TKA using with a contemporary patellar-friendly implant design.

**METHODS:** We undertook a prospective simultaneous bilateral randomized study in 49 patients scheduled to undergo same-day bilateral TKA. One knee was randomly assigned to resurfacing and the other knee was assigned to non-resurfacing group. All TKAs were performed using with a most recently developed, single PS design which has a deep, elongated and laterally curved patellar groove by a single surgeon. These two groups were compared for PROMs in terms of global knee pain level, Forgotten joint score, WOMAC score and side performance and clinical outcomes including range of motion (ROM), Knee Society score (KSS), patellar scores by Feller et al, and radiographic patellar tracking. In addition, incidences of patellar-related complications (crepitus and clunk) and re-operation were recorded at postoperative 2 year.

**RESULTS:** There were no differences in PROMs ( $p > 0.1$  in all comparisons) and side preference (resurfacing 52%; same 4%; nonresurfacing 46%,  $p = 0.935$ ) between resurfaced and non-resurfaced groups. In addition, no group differences were found in clinical outcomes in terms of ROM, KSS, patellar scores by Feller and radiographic patellar tracking during the entire 2-year study period ( $p > 0.1$  in all comparisons). Moreover, there was no difference in complication rate and no re-operation in both groups within 2 years after TKA.

**DISCUSSION AND CONCLUSION:** Patellar-friendly implant offers similar benefits for both resurfaced or non-resurfaced patella. Patients underwent TKA using with a contemporary patellar-friendly implant design do not perceive any difference between knees that underwent patellar resurfacing or retention. Further studies were necessary to ascertain whether resurfaced patella with patellafriendly implant design would provide superior long-term advantage over non-resurfaced patella.