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6-Month Change in Pain and Function by Pre-Operative Pain and Function among Patients Selected for Total Knee Replacement in the United States

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Presenter Information

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6-Month Change in Pain and Function by Pre-Operative Pain and Function among Patients Selected for Total Knee Replacement in the United States

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Background/Purpose: The increase in total knee replacements (TKRs) between 1979 and 2006 is staggering. Debate is growing regarding the appropriate utilization of TKRs. We examined pain, function, quality of life (QOL), and satisfaction at 6-month post-surgery by pain and function at time of surgery.

Methods: Data came from the nationally representative FORCE-TJR cohort of patients from 150 surgeons. Participants had primary, unilateral TKRs due to osteoarthritis between 2011 and 2014. Their knee pain (KOOS), physical functions (SF36), and QOL were measured at pre- and 6 months post-surgery. We classified patients as having high or low pre-operative pain (KOOS Pain <70 vs. ≥70), low or high pre-operative physical function (SF-36 PCS <40 vs. ≥40), and grouped as: 1) Low pain-High function (LP-HF), 2) Low pain-Low function (LP-LF), 3) High pain-High function (HP-HF), and 4) High pain-Low function (HP-LF). We compared pre- and post-operative changes in pain and function scores among the four groups.

Results: Of 4,563 participants, 5% had pre-operative LP-HF and 75% HP-LF. By 6-month post-surgery, 85% of LP-HF patients reported no change and 4% reported worse symptoms; the HP-LF group had 18% no change and 52% with large improvement. For function in the LP-HF group, mean 6-month change (SD) was 2.6 (7.8), with post-operative mean of 50.0 (7.4). Mean change for the HP-LF group was 11.9 (9.0), with post-operative mean of 42.0 (9.5). For pain score in the LP-HF group, mean 6-month change was 8.3 (14.6), with post-operative mean (SD) of 88.9 (13.0). The HP-LF group had average improvement of 37.2 (19.7), and post-operative mean of 79.9 (17.3). QOL was better among the LP-HF than HP-LF groups; satisfaction was similar.

Conclusion: The majority of patients had appropriate TKR utilization and achieved large improvement in pain and function. Patients with pre-operative LP-HF achieved the smaller mean change, but better absolute outcomes.

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