

Results of Cementless Total Knee Arthroplasty in Younger Versus an Older Patient Population: a Minimum 5-Year Follow-Up

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INTRODUCTION:

Younger patients often report lower patient-reported outcome measures (PROMs) and have higher revision incidence than older patients following total knee arthroplasty (TKA). Aseptic loosening is a major cause of revision prompting renewed interest in cementless fixation for younger patients. The purpose of this study was to compare outcomes in patients across age groups using cementless primary TKA implants.

METHODS:

This retrospective study analyzed 123 cementless TKAs (2010-2016) in patients ≤ 50 and 246 propensity-matched ≥ 65 years. After loss to follow-up, 98 patients ≤ 50 years and 192 patients ≥ 65 were available (mean follow-up: 9.1 years vs. 7.6 years). The younger cohort averaged 46.1 years (32–50), and the older, 70.2 (65–87). Gender distribution (35% male and 65% female) and BMI (37.2 vs. 35.6; $P = .174$) were similar. Revision TKA and ROM were evaluated along with pre- and post-operative KS scores and post-op KOOS Jr, FJS-12, and Likert Satisfaction scores.

RESULTS:

Revision rates were higher in younger patients (10 vs. 6; $P = .015$); however, aseptic loosening occurred once in each group. Five younger patients were revised for instability versus none in the older group. Preoperative KS Function and KS Knee scores were similar ($P = .928$ and $P = .062$, respectively). Younger patients had higher KS Function scores (79.6 vs. 74.3; $P = .026$) but lower FJS-12 scores (63.7 vs. 72.4; $P = .015$). No significant differences were found in KS Knee (85.1 vs. 84.1; $P = .556$), KOOS JR. (81.1 vs. 85.6; $P = .169$), or Likert Satisfaction scores (4.74 vs. 4.68; $P = .353$). While Pre-op flexion was slightly higher in the younger cohort (105.92 vs. 103.18, $P = 0.046$), there were no differences in flexion at one year (117.54 vs. 118.76, $P = .254$).

DISCUSSION AND CONCLUSION:

Younger patients had higher revision incidence due to instability with low risk of aseptic loosening across both groups. PROMs demonstrated mixed results with high patient satisfaction in both groups. Cementless fixation offers comparable mid-term outcomes across age groups, though greater attention to prevent instability is warranted in younger patients.