



## Does Pain and Function Differ after Primary TKR with Cemented vs. Cementless Fixation?

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**Introduction:** Both cemented and cementless implants are used broadly in the US in primary total knee replacement (TKR) procedures. Implant selection and fixation is largely based on surgeon training and preference. We evaluated functional gain and pain relief at 6 months after TKR in a contemporary national patient cohort to determine if patient-reported pain and function differ between cemented and cementless fixation.

**Methods:** Pre-TKR demographic, medical (Charlson), musculoskeletal, and emotional (SF; MCS) comorbidity data, and pre-TKR pain and function (KOOS) and global function (SF; PCS) and 6 month post-TKR KOOS and SF pain and function for patients with cemented and cementless fixation were identified in a cohort of patients from over 150 surgeons practicing in 22 states. Descriptive statistics and multivariable linear models, adjusting for clusters within sites, were performed.

**Results:** Many more cemented than cementless TKR fixations were performed (3081 vs 111). Compared to cemented, cementless fixation patients were younger (66 vs 63.7 years), had greater BMI (31.4 vs 33.9), poorer pre-op knee function (KOOS ADL 54 vs 49), and poorer emotional health (MCS 52 vs 49); all  $p < 0.001$ . No differences in comorbidities or pre- post gain in knee function were observed (KOOS ADL 28.6 vs 27.8). In multivariable models adjusting for covariates, cementless fixation was associated with more pain and poorer KOOS function at 6 months after surgery than cemented ( $p < 0.016$ ).

**Conclusions:** US surgeons have adopted cemented fixation as the preferred technique in TKR and these patients report less pain and greater knee function at 6 months after TKR than patients with cementless procedures.