

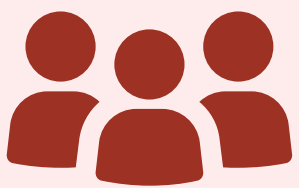
Comparison of Postoperative Tibial Component Migration in Total Knee Arthroplasty (TKA) Implants

TKA implants can loosen as a result of malalignment...

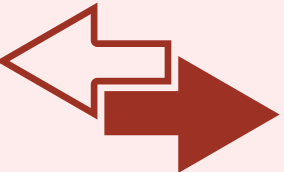


...which can be predicted by migration as measured with radiostereometric analysis (RSA)

Previous RSA studies



Have had small sample size and have been limited to cemented implants



Have shown contradictory results

Secondary analysis of 10 randomized controlled trials

Variables assessed



Alignment using hip-knee-ankle angle



Fixation method
✓ Cemented
✓ Uncemented-coated
✓ Uncemented-uncoated



Tibial component migration

Alignment classified for 476 TKA implants

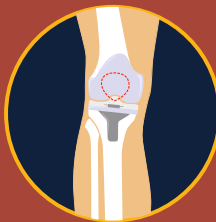
In-range
($0^\circ \pm 3^\circ$)
N = 290

Out-of-range
($< -3^\circ$ or $> 3^\circ$)
N = 186

Time of migration measurement (in months)	In-range group		Out-of-range group	
	Mean migration (mm)	95% CI	Mean migration (mm)	95% CI
3	0.73	[0.66 0.79]	0.80	[0.72 0.87]
12	0.92	[0.85 1.00]	0.98	[0.90 1.07]
24	0.97	[0.90 1.05]	1.04	[0.95 1.13]

CI: confidence interval

TKA migration is:



Not affected by postoperative alignment



Strongly affected by fixation method

Tibial component migration is:



Greatest for uncemented-uncoated implants



Lowest for cemented implants

While postoperative alignment has no effect on TKA migration in the first two years after surgery, the fixation method significantly affects migration

The Influence of Postoperative Coronal Alignment on Tibial Migration After Total Knee Arthroplasty in Preoperative Varus and Valgus Knees: A Secondary Analysis of 10 Randomized Controlled Trials Using Radiostereometric Analysis

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