

Action Statement Profile

Aggregate evidence quality was not performed for all prognostic factors in relation to each other; however, it is noted with each prognostic factor.

Rationale. The evidence for each prognostic factor is as follows:

- (a) BMI: Five high-quality^{62,81–84} and 7 moderate-quality studies^{85–91} were included. Five of the high- and moderate-quality studies^{82,84–87} supported higher BMI as a factor related to worse patient outcomes, including patient-reported outcomes on the Oxford Knee Score,^{82,84} 12-Item Short-Form Health Survey (SF-12),⁸⁴ WOMAC composite score,⁸⁵ and KSS function⁸⁴ and impairment-based outcomes for range of knee flexion.^{85,86} Physical therapists should consider higher BMI as a risk factor for worse patient-reported and impairment-based outcomes of TKA. Adverse events that were associated with increased BMI included deep-vein thrombosis, joint infection, surgical complications, unplanned readmissions, and wound complications.
- (b) Depression: One high-quality⁸³ and 2 moderate-quality^{92,93} studies were included. The 2 moderate-quality studies reported depression as a factor related to worse patient-reported outcomes on the Oxford Knee Score.^{92,93} The high-quality study⁸³ reported nonsignificant results for patient-reported outcomes on the WOMAC.
- (c) Preoperative ROM: Four high-quality studies were included.^{62–64,94} They generally suggested that preoperative ROM predicts postoperative ROM^{62–64} but that preoperative ROM does not predict functional outcomes of the TUG test and Stair-Climbing Test.⁹⁴ One high-quality study indicated that patients with flexion contractures before surgery do just as well after surgery as do patients without flexion contractures.⁶³ Four studies provided moderate-quality evidence,^{85,86,95,96} with some limitations; Holm⁹⁵ measured knee ROM only at hospital discharge, and Park⁹⁶ found only a weak correlation between postoperative maximum flexion and the pain, function, and quality of life 12 months after TKA. The latter study did not investigate how preoperative ROM predicts postoperative ROM. The most important factors that influenced knee ROM after arthroplasty were preoperative range of flexion and body weight of the patient.
- (d) Preoperative function: Although there is mixed evidence in this area, most studies found that higher levels of preoperative function were associated with higher levels of postoperative function. Five high-quality studies^{62,64,83,94,97} and 11 moderate-quality studies^{85–89,91,93,96,98–100} examined correlations between preoperative function and postoperative outcomes. One high-quality study⁹⁷ found a higher preoperative SF-12 to be associated with higher postoperative step count. A moderate-quality study⁸⁵ found a higher preoperative WOMAC to be associated with better knee flexion postoperative. A moderate-quality study⁹¹ found better results on preoperative TUG test, 6-Minute Walk Test, Stair-Climbing Test, and SF-36 physical component score to be associated with better results in these same tests at 1, 3, and 6 months postoperatively. Another moderate-quality study¹⁰⁰ found preoperative scores below reference value significantly decreased the possibility of achieving the level of health-related quality of life of the general population at a 1-year follow-up. Jones et al⁹⁹ found that greater preoperative WOMAC function and walking distance were significantly associated with better 6-month postoperative WOMAC function scores. Another moderate-quality study⁹³ found that a higher preoperative Oxford Knee Score was associated with a higher postoperative score. Four high-quality studies^{62,64,83,94} and 4 moderate-quality studies^{86,89,96,98} did not find significant correlations with preoperative function and postoperative outcomes.
- (e) Preoperative strength: One moderate-quality study⁹⁵ found that a decrease in knee extension strength of 0.5% was associated with a 1% decrease in 10-m fast-speed walking. This finding suggests that greater preoperative strength is related to better walk speed postoperatively. One moderate-quality study suggested no relationship between preoperative strength and postoperative SF-36 physical function score.⁸⁹
- (f) Age: Eight high-quality^{62,64,81–83,94,101,102} and 9 moderate-quality^{86,88–90,95,96,98–100} studies investigated the association of age with outcome. Of the 17 studies, 3 reported older age as a factor related to worse patient outcomes—including patient-reported outcomes from SF-12,⁸¹ KSS function,⁸¹ WOMAC function,^{81,83} and health-related quality of life¹⁰⁰—and 2 reported negative effects on impairment-level outcomes of gait speed¹⁰¹ and extension lag.⁸¹ One high-quality study⁸³ reported nonsignificant differences for WOMAC. The remainder of studies reported nonsignificant results for a variety of outcomes. One moderate-quality study reported a greater fall rate with older age.⁹⁰
- (g) Diabetes: One moderate-quality study was included.⁹³ Five studies were of low quality.^{87,93,98–100} Study results were nonsignificant for effects of diabetes on Oxford Knee Score.
- (h) Comorbid conditions: Two high-quality^{83,102} and 6 moderate-quality^{87,93,98–100,103} studies were included. Of the included studies, 5 reported greater degree of comorbidity as a factor related to worse patient-reported outcomes on WOMAC function,^{83,99,100} Oxford Knee Score,⁹³ SF-12,¹⁰³ KSS,¹⁰³