

# Primary Total Knee Arthroplasty in the Morbidly Obese Using a Highly Porous Cementless Tibial Baseplate: Minimum 10-Year Follow-Up

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## INTRODUCTION:

Morbidly obese patients undergoing primary TKA are at increased risk for failure due to multiple factors including increased stress at the cement bone interface with subsequent loosening. Cementless TKAs usage has increased over the past decade due to improved implant design and potential for long-term biologic fixation. The purpose of this study was to review the long-term results of primary TKA in the morbidly obese patient using a highly porous, cementless tibial baseplate.

## METHODS:

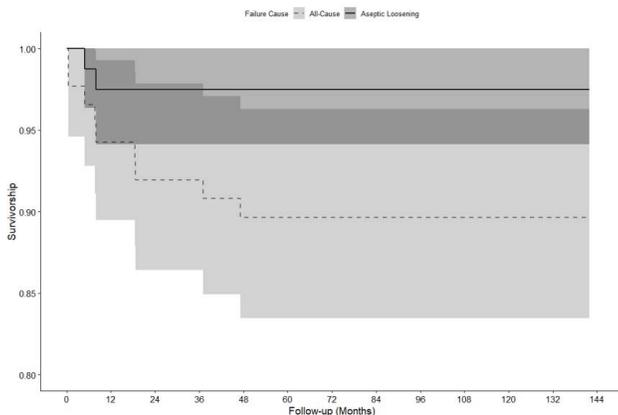
This is a retrospective study of 114 TKAs in patients with morbid obesity undergoing primary cementless TKA with minimum 10-year follow-up. A total of 27 TKAs were lost to follow-up, leaving 87 TKAs in 73 patients with a mean follow-up of 10.4 years (range 9.8 -11.8 years). Average age was 57.2 years (range 36-73 years) and average BMI 46.3 kg/m<sup>2</sup> (range 39.5–63.9). Clinical results, patient-reported outcome measures, radiographs, and complications were reviewed.

## RESULTS:

There were 9 (6%) failures requiring revision, including 2 for aseptic loosening of the tibial component (2.3%) within 8 months of the index procedure, 2 for instability (2.3%), 2 for deep infection (2.3%), 2 for extensor mechanism rupture (2.3%), and 1 for patellar dislocation (1.15%). Knee Society Score (KSS) improved from 36.19 to 89.36, 88.27, and 90.53 at 2-, 5-, and 10-year follow-up, respectively. KS function score improved from 41.48 to 70.18, 76.74, and 80.29 at 2-, 5-, and 10-year follow-up, respectively. Survivorship with aseptic loosening as the endpoint was 97.5% and 89.7% for all-cause failure at 12 years.

## DISCUSSION AND CONCLUSION:

Cementless TKA using a highly porous tibial baseplate in morbidly obese patients demonstrated excellent clinical results with 97.5% survivorship with aseptic loosening as the endpoint at 12 years. Cementless TKA with the opportunity for long-term biologic fixation can be an alternative to mechanical cement fixation in this challenging patient population.



**Figure 1.** Kaplan-Meier survivorship curve with a 95% confidence interval demonstrating 97.5% survivorship with aseptic loosening and 89.7% survivorship with all-cause failure as the endpoint at 12 years.