



Paper #7

## **To Cement or Not? Prospective, Randomized Study Comparing Cemented vs. Cementless Total Knee Arthroplasty**

**Kevin B. Fricka, MD**, Supatra Sritulanondha, MPH, Craig J. McAsey, MD

**Introduction:** The optimal mode of fixation in total knee arthroplasty (TKA) is a subject of debate with the majority of surgeons favoring cemented fixation. Previous reports indicate that clinical outcomes and long-term survival are inferior for cementless fixation, especially loosening on the tibial side. Does the new generation of cementless implants offer advantages over cemented TKA?

**Methods:** We enrolled 100 primary TKA patients randomized to cemented or cementless fixation in this prospective unblinded clinical trial. Knee Society scores (KSS) and Oxford scores were collected preoperatively and at 1 and 2 years. A visual analog scale (VAS) for pain was given preoperatively, at 4 weeks and 4 months. A power analysis to detect a 5-point difference in KSS required 42 knees in each group. Post-operative complications were recorded.

**Results:** Two-year followup was obtained for 93 patients. The mean VAS trended higher for the cementless group at 4 months ( $p=0.06$ ). At 2 years, the KSS scores were equivalent for function but the cemented group had higher clinical scores (96.3 vs 92.3,  $p=0.02$ ). Oxford scores and self-reported questions for satisfaction, less pain and better function were equivalent between the two groups. Surgical time was less for the cementless group (74 vs 81min). There was no difference in blood loss. The cementless group had 1 revision for instability. The cemented group had 1 revision for infection and 2 manipulations.

**Conclusion:** At 2 year follow up cementless TKA showed similar outcomes with excellent satisfaction scores compared to cemented TKA. The cementless group had faster surgical times but had higher pain scores in the early recovery period. Given these results, cementless fixation is non-inferior to cemented TKA and longer term follow up is needed to evaluate if there is an advantage with overall survivorship.

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