

Paper #38

Results of Cemented vs. Cementless Primary Total Knee Arthroplasty Using the Same Implant Design

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Introduction: Although cemented TKA continues to be the gold standard, there are patient populations with higher failure rates with cemented TKAs, including obese and younger active patients. Patients are also living longer which makes the use of cementless or biologic fixation more attractive. The purpose of this study was to compare the results of cemented versus cementless TKA using the same design implant.

Methods: 200 patients undergoing primary cementless TKA using a highly porous tibial baseplate with mean age of 64 years (range: 42 to 88), mean BMI of 33.9 and mean follow-up of 27.6 months were compared with 200 cemented baseplates of the same design with mean age of 64 (range: 43 to 87), mean BMI of 33.1 and mean follow-up of 63.4 months. Clinical and radiographic results were compared including complications and revisions.

Results: There was no difference in age, BMI, and pre-op Knee Society scores between the groups. Cementless group demonstrated significantly higher 2-year knee scores compared to the cemented group ($p < .005$). Cementless group had one case of aseptic tibial component loosening (.05%), whereas the cemented group had 5 cases of aseptic loosening (2.5%). Overall revisions and complications were similar in both groups. Dense areas of spots welding were noted primarily around the pegs of the cementless tibial baseplate.

Conclusions: Results of cementless TKA using a highly porous tibial baseplate appear promising with early data at least equivalent to cemented TKA. Once biologic fixation is achieved, it is unlikely that cementless implants would fail due to aseptic loosening. As patient demographics undergoing TKA change to include younger, active, and obese patients along with increased life expectancy, the role of cementless TKA has increased. Longer follow-up is required to determine if benefits of biologic fixation using a highly porous implant will demonstrate improved survivorship versus cemented implants.

Notes
