

Paper #24

Survivorship, Clinical and Radiographic Outcomes of a Novel Cementless Metal Back Patella Design

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Introduction: Enhanced implant longevity through biological fixation is achievable using cementless total knee arthroplasty (TKA); however, concerns about patellar component failure have lingered because of prior experiences with older total knee and patellar component designs. A new metal backed patella (MBP) design was released which features a 3-dimensional (3D) printed porous titanium metal backing to improve biologic fixation potential and a unique compression molding technique to create a stronger interlock layer between the polyethylene and metal backing. This study aims to determine the clinical and radiographic outcomes and survivorship of this novel cementless MBP.

Methods: Our institutional registry identified cementless MBPs: 329 with minimum 2-year follow-up and 128 with minimum 5-year follow-up. KOOS JR. and VR/SF-12 scores were used to evaluate clinical outcomes. Aseptic loosening noted on radiographs as well as revision for any reason were the end points used to determine survivorship.

Results: The average KOOS score increased from 34.73 preoperatively to 59.61 (6 months), 53.91 (2 years) and 73.32 (5 years). The average VR/SF-12 PH score increased from 31.11 preoperatively to 47.32 (6 months), 44.89 (2 years) and 46.45 (5 years). The average VR/SF-12 MH score increased from 39.00 preoperatively to 52.59 (6 months), 53.13 (2 years) and 56.31 (5 years). On radiographs, 3.80% (10) were lucent, but 100.00% had osseous integration of the patella. Patellar all-cause survivorship at 2 years was 99.00% and at 5 years was 98.43%. Other than for PJI, no patellar revisions were performed. Survivorship for aseptic loosening was 100.00%.

Conclusions: This 3D printed cementless patellar component shows excellent survivorship at 2 and 5-year follow-up. The design of this implant and the ability to obtain cementless fixation offers promise for excellent long-term durability.

Notes
