

AB143. 9. Comparison of functional outcomes of the ATTUNE total knee arthroplasty system versus its five closest competitors

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Background: Total knee arthroplasty (TKA) system success is guided by validated patient reported outcome measures (PROMs). It is essential to continually innovate TKA to ensure an excellence of care for the vast numbers of prospective patients. Techniques and implant designs have evolved as a result of the strong evidence behind them. The primary outcome of this study is to analyse differences in PROMs after TKA comparing the ATTUNE knee system to its 5 closest competitors. Secondary outcome measures were to analyse rates of venous thromboembolic events (VTE), periprosthetic infection (PJI) and noninfective reoperation rates.

Methods: This study is a multi-centre prospective

comparative study across six common implant systems between the dates of May 2011 and July 2016. PROMs included 12 item Short Form health survey (SF-12) and knee specific scores included were the Oxford Knee Score (OKS) and the Knee injury and Osteoarthritis Outcome Severity Score (KOOS). Post-operatively scores were recorded at 6 weeks, 6 months to 1 year and 2 years.

Results: Over the 5-year period there were 1,737 TKAs performed on 1,475 patients. The Attune[®] prosthesis performed better than LCS[®] in KOOS at 6 months ($P=0.006$) (mean = 81.9 vs. 76.1). Attune[®] performed better than LCS[®] in KOOS at 2 years ($P=0.002$) (mean = 85.5 vs. 78.1). Attune[®] performed better than LCS[®] in OKS at 6 months ($P=0.009$) (mean = 38.2 vs. 32.4). The VTE rate was 1.76%, the PJI rate was 0.81% and the noninfective reoperation rate was 1.04%.

Conclusions: The Attune[®] performs superiorly in knee specific scoring at 6 months to 1 year and 2 years compared to LCS[®]. The Attune[®] prosthesis performs similarly to other implant designs at 2 years in both PROMs and side effect profile.

Keywords: Total knee arthroplasty (TKA); patient reported outcome measures; attune; low contact stress; triathlon; press fit condylar

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