

12th International Conference on **ARTHROPLASTY**

June 24-25, 2019 | Rome, Italy

Attune total knee arthroplasty: Is there evidence of early tibial component de-bonding ? A prospective cohort study

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New TKA designs are introduced to optimise patient outcomes as well as improve implant longevity. One such implant is the Attune TKA. Concerns have been raised regarding a potentially high rate of early de-bonding of the tibial component at the implant–cement interface. Our study aimed to prospectively assess clinical outcomes and radiographs of a consecutive series of patients who have undergone either Attune TKA or another modern design TKA for end-stage OA to establish early failure rates and compare radiological abnormalities. 96 Attune TKA performed by three surgeons at our local centre were matched to 96 control TKA (PFC/Vanguard) performed between 2015 and 2017. Radiographs were taken on day one and one year post surgery and analysed by two independent, blinded assessors using the Knee Society Roentgenographic Scoring System. One year clinical outcome was assessed using the Oxford Knee Score and survival of the implant recorded. No patients in either group underwent revision surgery. No cases of significant radiolucency ($\geq 2\text{mm}$) at either the cement-bone or implant-cement interfaces were encountered in either group. The incidence of radiolucencies ($<2\text{mm}$) across both interfaces was similar between the two groups. Radiolucencies $<2\text{mm}$ at either interface in either group did not affect clinical outcome. No clinically relevant radiographic adverse features were noticed in this prospective cohort study comparing a consecutive series of Attune TKA with a matched group of established, modern TKA designs. Follow up is short and longer follow up is needed to confirm these preliminary findings.

Keywords: Attune TKA, early aseptic loosening, tibial de-bonding, radiolucency.

Biography

Thomas robinson is an orthopaedic trainee in the yorkshire deanery in the united kingdom. He studied as the faculty prize scholar at norwich medical school graduating in 2011 with the british pharmaceutical industry award for undergraduate research. He progressed on to orthopaedic training in the yorkshire deanery where he is now currently in his 4th year. He has a keen interest in lower limb arthroplasty, its evolution as well as the monitoring and evaluation of new and novel prostheses.

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