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SAFETY AND PERFORMANCE OF THE JOURNEY◊ II CRUCIATE RETAINING TOTAL KNEE SYSTEM: A PROSPECTIVE, MULTICENTRE STUDY

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+ Two-year data from 170 patients indicate that the JOURNEY II CR total knee system featuring OXINIUM technology is safe, effective and yields high levels of satisfaction in patients undergoing TKA

Background

- Although conventional total knee arthroplasty (TKA) is associated with successful pain relief and long-term implant survivorship[1], patients undergoing this procedure routinely note that their functional expectations have not been met, contributing to high levels of postoperative dissatisfaction[2].
- Novel cruciate-retaining TKA devices aim to address patient dissatisfaction by achieving more-normal postoperative kinematics and restoration of native anatomy.
- In preliminary studies, the JOURNEY◊ II Cruciate Retaining total knee system (JOURNEY II CR, Smith and Nephew, Memphis, TN, USA; Fig. 1) has exhibited an ability to more closely recreate the performance of the natural knee through enhanced flexion and external rotation, as well as increased muscle strength[3].

Objective

The aim of this ongoing multicentre, prospective, international study was to evaluate the early clinical success and efficacy of the JOURNEY II CR in the largest cohort of patients to date.

Methods

Patients undergoing primary TKA with JOURNEY II CR TKS, at 10 sites, were followed up at 3, 12, and 24 months postoperatively. The femoral components of the implants used in this study were composed of OXINIUM◊ (Oxidised Zirconium), a material with enhanced wear performance known to increase durability[4-6]. Study outcomes included the EuroQol 5D visual analogue scale (EQ-5D VAS), 2011 Knee Society Score (KSS), Self-Administered Patient Satisfaction Scale for Primary Hip and Knee Arthroplasty; implant survivorship assessed using a cumulative Kaplan-Meier estimate with the endpoint of revision; and adverse events.

Fig 1: *The JOURNEY II Cruciate Retaining Total Knee System featuring OXINIUM technology.*

Results

- Overall, 170 patients (mean age, 63 years; mean BMI, 30.2 kg/m2; 60 male, 110 female) were enrolled. Osteoarthritis was the main primary indication 86 patients (50.6%) followed by degenerative arthritis (78, 45.9%) and post-traumatic arthritis (6, 3.5%).
- Excellent improvements were observed between preoperative assessments and postoperative follow up in mean EQ-5D VAS (Fig. 2) and KSS objective, function and satisfaction scores (Fig. 3).
- A majority of patients were satisfied with surgery results at all follow-up points (90.2% at 3 months, 93.7% at 12 months, and 92.1% at 24 months).
- Implant survivorship was 98.7% [95% confidence interval (CI): 95.1-99.7] at 12 months and 97.8% (95% CI: 93.0- 99.3) at 24 months.

Conclusion

Interim results from this ongoing study, in the largest cohort of patients yet to undergo primary TKA with the JOURNEY II CR, indicate that it achieves early improvements in function, high levels of patient satisfaction, and an acceptable risk of revision.

Fig 2: *EuroQol 5D Visual Analog Scale scores at pre-operative and follow up visits.*

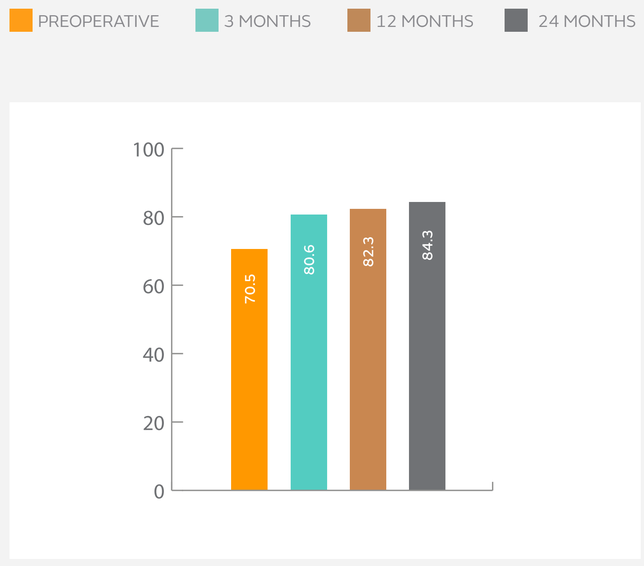
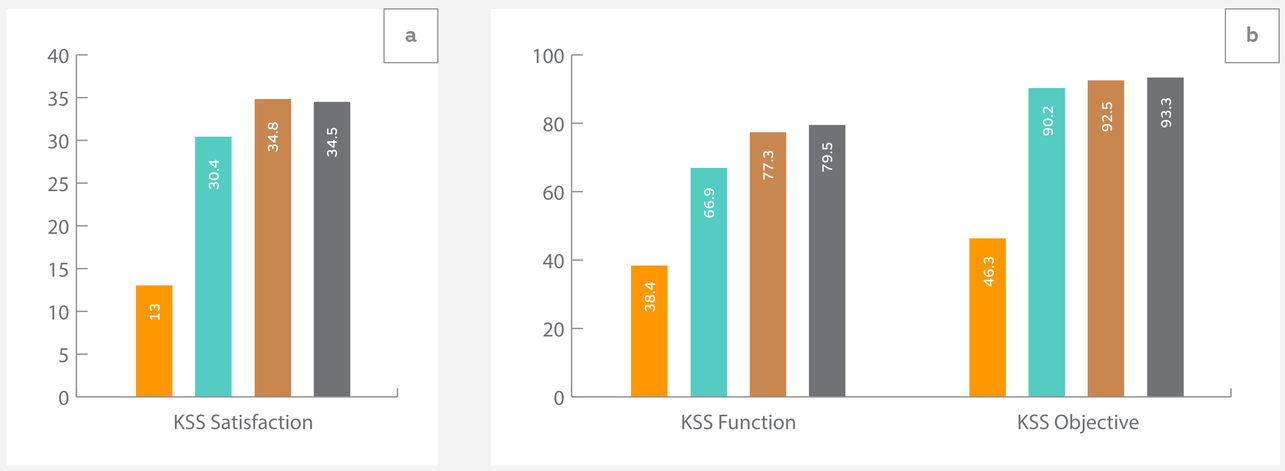


Fig 3: *2011 Knee Society Scores (KSS) at pre-operative and follow up visits; (a) KSS Satisfaction scores; (b) KSS Function and Objective scores*



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