Conclusion: High step count led to improved PROMs scores compared to low step-count across all time points. Early post-operative step-count was significantly impacted by age and sex. Generic recovery profiles may not be appropriate across a diverse population.

Category: Knee - Arthroplasty

Arthroscopic Procedures in the Year Preceding Total Knee Arthroplasty: Incidence, Costs and Outcomes

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Summary:
5.2% of patients underwent knee arthroscopy in the year prior to TKA despite literature support and clinical recommendations against its use.

Data:
Introduction: The cost-effectiveness of arthroscopic knee procedures has been found to be similar to several nonoperative treatments for knee osteoarthritis. However, the utilization rate of arthroscopic knee procedures preceding total knee arthroplasty (TKA) remains high, and may result in poor postoperative outcomes when performed in the year prior to TKA. The purpose of this study is to describe the prevalence and costs of knee arthroscopic procedures performed in the one-year period prior to a primary TKA procedure, and the impact of arthroscopic procedures on TKA outcomes. Methods: An observational cohort study was conducted using the IBM Watson Health MarketScan databases from January 1, 2017, to December 31, 2019. Knee arthroscopic procedures performed in the one-year period before a primary TKA were identified. The primary outcomes of interest were cost of these procedures, and the risk of 90-day postoperative complications. Results: 2,904 patients, representing 5.2% of the analyzed cohort underwent arthroscopic procedures in the year prior to TKA. The most common procedure and diagnosis were meniscectomy and meniscal tear respectively, with procedures performed an average of 7.2 ± 3.0 months before TKA. Average per patient costs were $9716 ± 5500 in the highest payment quartile, versus $1789 ± 636 in the lowest payment quartile. No differences were found in the risk of 90-day postoperative infection between patients with and without a history of knee arthroscopic procedures. Conclusion: 5.2% of patients underwent knee arthroscopy in the year prior to TKA despite literature support and clinical recommendations against its use. While no association was seen with PJI risk, the costs associated with these procedures are high and may increase the overall cost of management of knee osteoarthritis.

Category: Knee - Arthroplasty

Comparison of Patient Reported Outcome Measures Between Bicruciate-Stabilized and Posterior-Stabilized Total Knee Arthroplasty in the Same Patients: A Randomized Controlled Trial

Abstract ID# 22888
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Summary:
A prospective, randomized controlled trial revealed that there was no significant differences in radiological outcomes and PROMs including preference and WOMAC scores between groups with UC and PS inserts at 1 year postoperatively.

Data:
Introduction: The purpose of this study was to compare not only the radiological results, but also postoperative patient-reported outcomes measures (PROMs) of Bicruciate stabilized (BCS) and posterior stabilized (PS) total knee arthroplasty (TKA) in the same patients. Methods: A prospective, randomized controlled trial was performed in 48 patients who received bilateral TKAs. One knee was randomly assigned to receive a BCS TKA, and the other knee was scheduled for a PS TKA from the same company knee system. The anteroposterior (AP) stability was evaluated using 20° flexion radiographs with anterior and 90° flexion radiographs with posterior drawer stress at 1 year postoperatively. Postoperative PROMs were compared using Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) score and preference of operation side. Forgotten joint score (FJS) was also evaluated in both group. Results: There was no significant difference with regard to the demographics and preoperative measures. No significant difference in static AP laxity was seen (8.2mm in the BCS group vs 8.7mm in the PS group, p > 0.05). There were no significant differences in the all WOMAC subscores between the two groups at preoperatively and 1 year postoperatively (all p > 0.05). There was no difference of preference (p > 0.05) and FJS (>35.5 in the BCS group vs 50.4 in the PS group, p > 0.05) between BCS and PS group. Conclusion: Despite theoretical advantages of BCS prostheses, there was no significant differences in radiological outcomes and PROMs including preference and WOMAC scores between groups with UC and PS inserts at 1 year postoperatively.

Category: Knee - Arthroplasty

Comparison of Revision ‘Thresholds’ Using Patient Reported Outcomes Following Total and Unicompartmental Knee Arthroplasty

Abstract ID# 23023
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Summary:
A lower revision threshold was found with UKA when compared with a matched TKA cohort.

Data:
COMPARISON OF REVISION ‘THRESHOLDS’ USING PATIENT REPORTED OUTCOMES FOLLOWING TOTAL AND UNICOMPARTMENTAL KNEE ARTHROPLASTY M.L. Tay, A.P. Monk, C.M. Frampton, G.J. Hooper, S.W. Young University of Auckland, Auckland, New Zealand North Shore Hospital, Auckland, New Zealand Auckland City Hospital, Auckland, New Zealand University of Otago, Christchurch, New Zealand Email: m.tay@auckland.ac.nz Source of the study: University of Auckland, Auckland, New Zealand and University of Otago, Christchurch, New Zealand Aims Patient reported outcome measures (PROMs) are predictors of knee arthroplasty revision. Unicompartmental knee arthroplasty (UKA) is effective for patients with the correct indications, however has higher revision rates than total knee arthroplasty (TKA). Different revision thresholds for the procedures have been postulated. Our aims were to investigate: 1) if PROMs could predict knee arthroplasty revision within two years of the score at six months, five years and ten years follow-up, and 2) if revision ‘thresholds’ differed between TKA and UKA. Patients and Methods All TKAs and UKAs captured by the New Zealand Joint Registry between 1999 and 2019 with at least one OKS response at six months (TKA n=27,708, UKA n=8,415), five years (TKA n=11,519, UKA n=3,365) or ten years (TKA n=6,311, UKA n=1,744) were included. were propensity-score matched 2:1 with UKAs for comparison of revision thresholds. Results Logistic regression indicated that for every one-unit decrease in OKS, the odds of TKA and UKA revision decreased by 10% and 11% at 5 years and 9% and 5% at 10 years. Fewer TKA patients with ‘poor’ outcomes (>25) subsequently underwent revision compared with UKA at six months (5.1% vs 19.6%, p < 0.001), five years (4.3% vs 12.5%, p < 0.001) and ten years (6.4% vs 15.0%, p < 0.02). Compared with TKA, UKA patients were 2.5 times more likely to undergo revision for ‘unknown’ reasons, bearing dislocations and disease progression. Conclusions The OKS is a strong predictor of subsequent knee arthroplasty revision within two years of the score from early to late term. A lower revision threshold was found with UKA when compared with a matched TKA cohort. Higher revision rates of UKA are associated with both lower clinical thresholds for revision and additional modes of UKA failure.

Category: Knee - Arthroplasty

Combining Load Sensors and a Robotic Arm to Balance TKA: Clinical Results at One Year

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