

Opposite Compartment Progression of Medial and Patellofemoral Compartments after Lateral UKA

The knee has three compartments: the medial (inside), lateral (outside) and patellofemoral (behind the kneecap [PF]). Degenerative joint disease, also known as osteoarthritis (OA), can affect any or all of these compartments. Patients who have OA limited to one compartment may be good candidates for unicompartmental knee arthroplasty (UKA). This procedure replaces only the damaged compartment of the knee with a prosthesis, preserving uninvolved tissue, bone, and ligaments. Medial UKAs are more commonly performed than lateral UKAs, but both procedures have shown excellent functional outcomes 10 years following surgery. Benefits to patients undergoing a UKA versus a total knee arthroplasty (TKA) include reduced operative time, smaller incisions, less postoperative pain and scarring, shorter recovery time, and improved range of motion. Despite these benefits, some surgeons are hesitant to perform UKAs for fear of OA progression in the other compartments, eventually necessitating revision to a TKA.

The purpose of this study was to look at OA progression in the medial and/or PF compartments of the knee following lateral unicompartmental knee arthroplasty and to determine whether postoperative OA progression impacts functional outcomes. Forty-five lateral UKAs performed in 40 patients by Dr. Plancher between 2004 and 2014 were included in the study. Twenty-five women and 15 men with an age range of 53-78 years underwent pre- and postoperative x-ray examination to grade the severity of OA and measure joint space in the medial and PF compartments. Patients also completed pre- and postoperative functional assessment questionnaires. At an average of 5 years following UKA surgery, 12 patients demonstrated progression of OA in the medial compartment, 7 patients had progression of OA in the PF compartment, and 9 patients had OA progression in both the medial and PF compartments. However, there were no statistically significant differences in functional scores between groups with all patients demonstrating excellent functional outcomes and return to sporting activities. Pre- and postoperative x-ray evaluation showed the average knee joint space decreased from 4.6 mm preoperatively to 3.9 mm at last follow up, but this decrease remained within one standard deviation of normal. Three patients (6.7%) underwent revision surgery less than 2 years after the first UKA. We concluded that joint space narrowing is not necessarily indicative of an increase in symptoms or decrease in function as all patients exhibited excellent functional outcomes regardless of progression of OA in the medial and/or PF compartments following lateral UKA.