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Research Article

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[‘Rotational alignment on patients’ clinical outcome of total knee arthroplasty: Distal femur axillary X-ray view to qualify rotation of the femoral component](#)

Background: Rotation of the femoral component in total knee replacement (TKR) is very important for good long-term results. Malrotation of the femoral component usually requires subsequent reimplantation. We performed X-ray projections of the knee at 90° to determine proper rotation of the femoral component without use of computed tomography.

Methods: The axial projection of the distal femur was measured in post-TKR cases. During the TKR operation, Whiteside's method had been used to provide symmetrical flexion space. The exact outer rotation of the femoral component was measured by x-ray determination of the middle condylar twist angle, from the central epicondylar axis and posterior condylar axis.

Results: The middle condylar twist angle was in outer rotation, with an average of 3.36° (range: 1-7.6), similar to the literature. Six of the patients underwent bilateral TKR. In total, the case series included 18 women and 15 men, with average age of 71.34 years-old (range: 56-85). As a clinical evaluation we used Knee Society Score (2011). From results 2 patients were not very satisfied with the instability TKR. Axially X-ray seemed to be only which could distribute these patients.

Summary: X-ray values have the same evaluation as computed tomography. The results were 2 patients in pattern of 48, which were sufficient to extrapolate to whole population according to the statistical methods. This corresponds to 4% which we can add to evaluate satisfaction of all patients after TKR and eventually lower the total of unsatisfactory patients which is total of ¼ of total. It is also forensic reason for all patients. Our recommendation to have good results and patient satisfaction in TKR is to do x-rays before and after operation. Important are x-rays antero-posterior, lateral, and Kanekasu projection to know the rotation after TKR. Other cases without stability in flexion are nor very rarely planed for revision surgery, which is much more expensive, and burdens overall health system.
