

Title of Presentation:

Five Year Clinical and Radiographic Review of 464 Medial Pivot Total Knee Arthroplasty Patients

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Learning Objectives (After attending this session, the attendee should be able to):

- appreciate a new understanding of normal knee kinematics and recent changes in total knee replacement design.

INTRODUCTION:

The Medial Pivot total knee arthroplasty features an asymmetric tibial articulating surface. The component has a congruent “ball and socket” design medially and a less conforming articular surface laterally. The congruency of the medial surface permits a posterior cruciate sacrificing surgical technique without the use of a central post. The study evaluates mid-term clinical results of this tibial insert.

METHODS:

From July 1997 to January 2006, 464 Medial Pivot total knee arthroplasties were performed by the senior author using a cruciate sacrificing technique. All patients were retrospectively reviewed clinically and radiographically at six weeks, three months, and annually. Knee Society rating forms and Short Form 36 scores were recorded. The KS system using zonal analysis was used to categorize radiolucencies.

RESULTS:

436 knees were available for follow-up. 18 patients were deceased and 10 patients were lost to follow-up. Mean follow-up was 5.4 years. The mean Knee Society rating score at last follow up measured 90.4 clinical and 74 functional. One component was revised for late infection and one component was revised following a traumatic injury. There were no reported instances of knee dislocation. Radiographic analysis revealed no progressive lucencies or component migration.

CONCLUSION:

This is the first series to report mid-term results using the Medial Pivot implant design. Concerns regarding accelerated polyethylene wear due to the congruency of the medial joint compartment, or instability due to the absence of a central post, do not appear to be warranted. The possible long-term benefits of an asymmetric articulating surface requires further study.