

Five-year follow-up of minimally invasive computer assisted total knee arthroplasty (MICATKA) versus conventional computer assisted total knee arthroplasty (CATKA) – a comparative study

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Introduction: Minimally invasive Computer Assisted Total Knee Arthroplasty (MICATKA) has benefits of reduced blood loss, shorter hospital stay, improved post-operative quadriceps function and enhanced post-operative recovery¹⁻⁶. Our study looked into these factors to compare if there was a significant difference when compared to conventional Computer Assisted Total Knee Arthroplasty (CATKA).

Objective: Compare radiological and clinical outcomes of MICATKA and CATKA at a minimum of 5 years.

Methods: 40 patients who underwent MICATKA were compared with 40 patients having conventional CATKA. Component positioning was assessed radiographically with AP long leg standing views. Knee Society Scores, length of stay and recovery of straight leg raise was also recorded pre-operatively and at 6-months and then yearly until 5 year follow up.

Results: Pre-operative Knee Society Scores showed no significant difference between the two groups. Post operatively the mean femoral component alignment was 89.7 degrees for MICATKA and 90.2 for CATKA. The mean tibial component alignment was 89.7 degrees for both. Knee Society Scores in the short term (6, 12, 18 and 24 months) were statistically better in the MICATKA ($p < 0.001$) group. Straight leg raise was achieved by day one in 93% of the MICATKA compared to only 30% of the CATKA. Length of stay for MICATKA was a mean of 3.25 days with CATKA a mean of 6 days. At five years there was no significant difference in the MICATKA and CATKA in Knee Society Scores and there were two revisions in the MICATKA group and one in the CATKA group.

Conclusions: MICATKA have significantly better outcomes in the immediate short-term compared to CATKA. In the medium term these differences are not significant and similar outcomes can be achieved when performing CATKA in both clinical and radiographic assessments.

References

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