

# No Difference In Sports Participation And Patient-Reported Functional Outcomes Between Total Knee Arthroplasty And Unicompartmental Knee Arthroplasty At Minimum 2-Year Follow-Up In A Matched Control Study

- Authors: Amit Meena, Jaipur, INDIA, PRESENTER  
Elisabeth Abermann, Innsbruck, AUSTRIA  
Christian Hoser, Innsbruck, AUSTRIA  
Luca Farinelli, Ancona, ITALY  
Caroline Hepperger, Innsbruck AUSTRIA  
Akshya Raj, New Delhi, INDIA  
Mohit Kumar Patralekh, New Delhi, INDIA  
Christian Fink, Innsbruck, AUSTRIA
- *Study Performed at Gelenkpunkt - Sports and Joint Surgery, FIFA Medical Centre of Excellence, Innsbruck, AUSTRIA*

# Disclosures:

- Nothing to disclose



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# Summary

- UKA has been considered to be the procedure with better functional outcomes traditionally but the current study demonstrates that when confounding factors are controlled, both TKA and UKA are effective, offer similar functional outcomes and result in similar improvement in sports participation.



# Background

- As many as 20% of patients who receive total knee arthroplasty (TKA) have isolated medial compartment osteoarthritis (OA) that could be treated by either TKA or unicompartmental knee arthroplasty (UKA) procedure.
- Both TKA and UKA are effective and offer similar clinical outcomes for medial OA. After knee arthroplasty, patients have high expectations for the outcome and the success of the procedure is more and more evaluated by the ability to return to sports and physical activities. Therefore, patients must receive the most efficacious procedure for this condition.

# Purpose

The purpose of this study was to compare

- Sports participation and type of sports activity between TKA and UKA patients
- Functional outcome and activity level between TKA and UKA
- Survivorship of the prosthesis in both groups.



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# Hypothesis

The hypothesis was that

- Both TKA and UKA groups will have a positive effect on sports participation with similar results
- Both the groups will have similar functional outcomes and activity levels
- Prosthesis survivorship will not be deteriorated by sports activities and survivorship will be similar in both the group.

# Methods

- Prospectively collected data were obtained from an arthroplasty database to identify patients who underwent primary TKA and UKA.
- Both the cohorts of TKA and UKA were matched, controlling for age, sex, BMI and preoperative patient-reported outcomes which include Oxford Knee score (OKS), Tegner activity level, and visual analog scale (VAS) for pain score.
- After matching the two groups, 287 TKA and 69 UKA cases were available to include in the study.



# Methods

- *Inclusion criteria:* primary symptomatic medial compartment knee osteoarthritis (OA), age 50–90 years, and a minimum of 2-year follow-up after TKA and UKA.
- *Exclusion criteria:* rheumatoid arthritis, Kellgren–Lawrence Grade 3–4 lateral compartment and patella-femoral OA, flexion contracture of more than  $10^{\circ}$ , varus deformity more than  $10^{\circ}$ , valgus more than  $5^{\circ}$ , preoperative flexion less than  $80^{\circ}$ , functionally deficient ACL, and revision knee surgery



# Methods

- Patients were evaluated pre-and postoperatively at 2 years for sports participation and sports preference, patient-reported outcomes, activity levels and improvement in knee pain.

# Results

- The mean age of the TKA and UKA groups was  $75.7 \pm 8.1$  and  $74.2 \pm 8.8$ , respectively. There was no significant difference between the two groups concerning the demographic variables.
- Significant improvement was noted in the weekly sports participation at the final follow-up compared to pre-operative sports participation in both the TKA and UKA groups ( $p < 0.05$ ).
- All patients were able to return to their desired sporting activity.



# Results

- No significant difference was noted between the two groups in sports participation pre-operatively and post-operatively ( $p>0.05$ ).
- OKS, Tegner activity level and VAS for pain demonstrated a significant improvement from preoperative to 2 years postoperatively ( $p<0.05$ ). However, preoperative and postoperative patient-reported outcomes did not differ significantly between the TKA and UKA groups ( $p>0.05$ ).
- No case of revision surgery was found at a 2-year follow-up in both group.

# Conclusion

- UKA has been considered to be the procedure with better functional outcomes traditionally but the current study demonstrates that when confounding factors are controlled, both TKA and UKA are effective, offer similar functional outcomes and result in similar improvement in sports participation.



# Reference

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