

ROSA® Partial Knee System

DELIVERING IMPROVED ACCURACY AND REPRODUCIBILITY VERSUS CONVENTIONAL INSTRUMENTATION¹



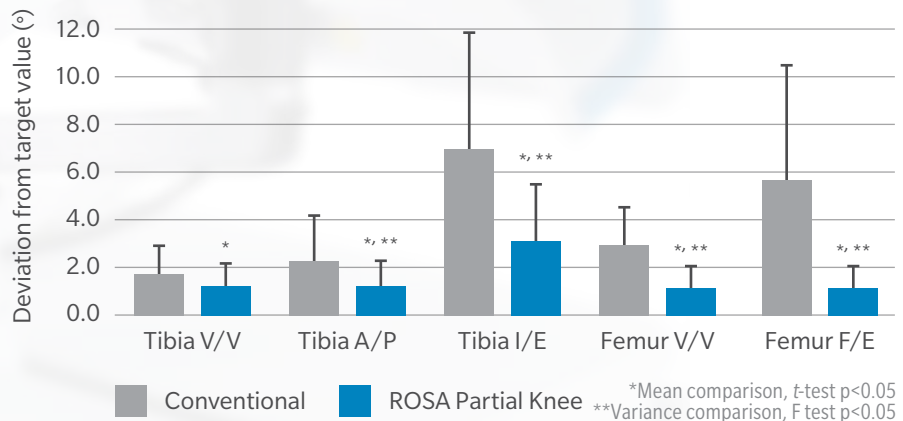
In a matched-pair, cadaveric study including 30 knees per group, the ROSA Partial Knee System was found to produce more accurate and more reproducible (fewer outliers) bone resections than conventional instrumentation. The data support the use of the ROSA Partial Knee System for medial unicompartmental knee arthroplasty.

Bone Resection Angles

ROSA Partial Knee cases resulted in significantly more accurate and more reproducible bone resection angles than conventional instrumentation.

- All bone resection angles were significantly more accurate for robotic cases
- Highly accurate bone resection angles to approximately 1° in the coronal and sagittal planes
- Four out of five parameters were significantly more reproducible (fewer outliers)
- 97% of cases were within 3° of targeted Tibia V/V and A/P, as well as Femur V/V and F/E

Significantly Better Accuracy of All Bone Resection Angles for ROSA® Partial Knee Cases



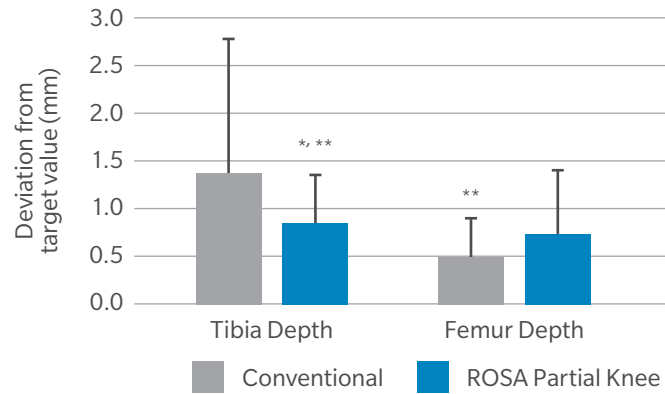
V/V: Varus/Valgus; A/P: Anterior/Posterior Slope; I/E: Internal/External Rotation (sagittal resection); F/E: Flexion/Extension. For both groups, the accuracy was determined as the mean absolute error between the intra-operative validation values and target values.

Bone Resection Depths

ROSA Partial Knee cases resulted in significantly more accurate and more reproducible proximal tibial depth than conventional instrumentation.

- Highly accurate bone resection depths within 0.7–0.8 mm of targeted depth for the tibia and femur
- Equivalent accuracy between groups for the femur depth (Conventional instrumentation is highly accurate with the use of a spacer-block)
- 100% and 90% of cases were within 2 mm of targeted tibial and femoral depth with ROSA Partial Knee, respectively

Significantly Better Accuracy of Tibia Depth for ROSA® Partial Knee Cases



*Mean comparison, t-test p<0.05
**Variance comparison, F test p<0.05

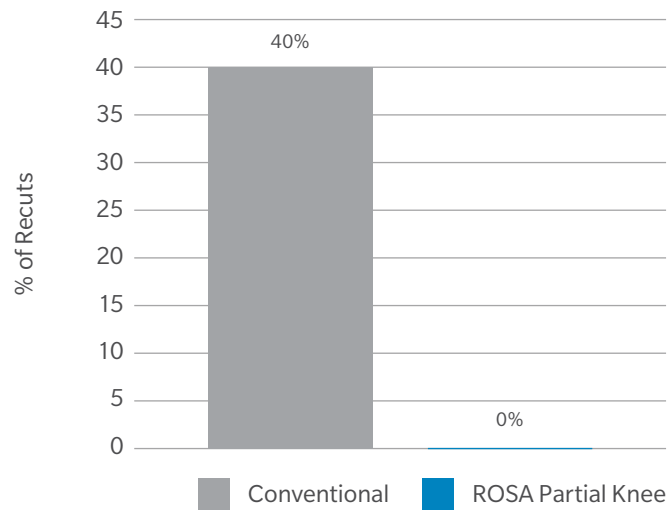
For both groups, the accuracy was determined as the mean absolute error between the intra-operative caliper measurements and target values.

Recuts of the Proximal Tibia

ROSA Partial Knee cases did not require any recuts of the proximal tibia compared to 40% of cases in the conventional group.

- 6.7% of conventional cases required two recuts
- No re-cuts of the distal femur were observed for either group

Fewer Recuts of the Proximal Tibia for ROSA® Partial Knee Cases



References

1. Lonner JH, Seidenstein AD, Charters MA, North WT, Cafferky NL, Durbhakula SM, Kamath AF. Improved accuracy and reproducibility of a novel CT-free robotic surgical assistant for medial unicompartmental knee arthroplasty compared to conventional instrumentation: a cadaveric study. *Journal of the European Society of Sports Traumatology, Knee Surgery and Arthroscopy*. 2021 Jun 13. doi: 10.1007/s00167-021-06626-4. Epub ahead of print. PMID: 34120210.

Cadaveric studies are not necessarily indicative of clinical performance. Study was funded by Zimmer Biomet.

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