

Mako Partial Knee key clinical studies

	Title	Journal	Year	Author(s)	Institution(s)	Conclusion
Accuracy	Improved accuracy of component positioning with robotic-assisted unicompartmental knee arthroplasty: data from a prospective, randomized controlled study	Journal of Bone and Joint Surgery	2016	Bell SW, Anthony I, Jones B, MacLean A, Rowe P, Blyth M	Glasgow Royal Infirmary, UK	Mako Partial Knee demonstrated improved accuracy of component positioning to plan compared with conventional surgical techniques (Oxford).
Survivorship	Clinical outcomes of robotically assisted UKAs at 3 years follow-up	Presented at The Partial Knee Meeting (Bruges, Belgium)	2018	Catani F	Universita degli Studi di Modena e Reggio-Emilia, Italy	Mako Partial Knee survivorship at 3-year follow-up was 99.2% for medial UKA (n=388) and 100% for lateral UKA (n=67).
Survivorship	Midterm survivorship and patient satisfaction of robotic-arm assisted medial unicompartmental knee arthroplasty: a multicenter study	Journal of Arthroplasty	2018	Kleebblad LJ, Borus TA, Coon TM, Douchis J, Nguyen JT, Pearle AD	Hospital for Special Surgery, New York; Rebound Orthopedics & Neurosurgery, Portland, OR; Coon Joint Replacement Institute, CA; NCH Orthopedics, FL	Mako Partial Knee showed 97% survivorship at midterm 5-year follow-up in this multicenter study (n=432). Mako Partial Knee 5-year survivorship was similar to conventional primary total knee and far superior to manual partial knee in the 2018 Australian Joint Registry Report. Mako Partial Knee also showed 91% of patients were either very satisfied or satisfied with their knee function at 5-year follow-up.
Survivorship	Australian Hip, Knee & Shoulder Arthroplasty Registry 2018	AOANJRR 2018	2018	N/A	Australia	Mako Partial Knee showed 1.2% revision rate at 1-year follow-up in the 2018 Australian Registry, whereas Oxford cemented showed 2.2% revision rate.

Mako Partial Knee key clinical studies (continued)

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Outcomes	An assessment of early functional rehabilitation and hospital discharge in conventional versus robotic-arm assisted unicompartmental knee arthroplasty	Bone Joint J	2019	Kayani B, Konan S, Tahmassebi J, Rowan FE, Haddad FS	University College London Hospital; Princess Grace Hospital	In a single surgeon study comparing consecutive Mako Partial Knee (n=73) vs. manual Oxford uni (n=73), Mako Partial Knee patients demonstrated: reduced post-op pain (p<0.001), decreased analgesia requirements (p<0.001), shorter time to straight leg raise (p<0.001), decreased number of PT sessions (5 vs. 9, p<0.001), improved max knee flexion at discharge (p<0.001), and reduced mean time to hospital discharge (29 hours).
Outcomes	Outcomes of robotic-arm assisted medial unicompartmental knee arthroplasty: minimum 3-year follow-up	European Journal of Orthopaedic Surgery & Traumatology	2019	Dretakis K, Igoumenou VG	Hygeia Hospital, Athens, Greece; National and Kapodistrian University of Athens, Greece	At minimum 3-year follow-up, Mako Partial Knee patients (n=51) showed no implant failure or implant-related complication or revision surgery, as well as excellent overall patient satisfaction for 96.1% of patients (patients reported very satisfied or satisfied).
Outcomes	Robotic-arm assisted vs. conventional unicompartmental knee arthroplasty: the 2 year clinical outcomes of a randomized controlled trial	J Arthroplasty	2018	Gilmour A, MacLean AD, Rowe PJ, Banger MS, Donnelly I, Jones BG, Blyth M	Glasgow Royal Infirmary, Scotland, UK; University of Strathclyde, Scotland, UK	For more active patients, Mako Partial Knee patients had significantly better outcomes at 2 years compared to manual Oxford uni patients as measured by the AKSS (p=0.017), OKS (p=0.036), FJS (p=0.017), and Stiffness VAS (p=0.019).
Outcomes	Robotic-arm assisted versus conventional unicompartmental knee arthroplasty: exploratory secondary analysis of a randomized controlled trial	Bone and Joint Research	2017	Blyth MJG, Anthony I, Rowe P, Banger MS, MacLean A, Jones B	University of Strathclyde, Glasgow, UK	Mako Partial Knee patients reported 55.4% lower post-op pain compared to manual patients (Oxford) from day one to week eight (p=0.04) and had better AKSS scores compared to manual patients at 3 months post-op. Key factors associated with achieving excellent clinical outcomes on the AKSS were: a pre-op activity level >5 on the UCLA activity score and use of robotic-arm assisted surgery.
Cost	Revision analysis of robotic-arm assisted and manual unicompartmental knee arthroplasty	J Arthroplasty	2019	Cool CL, Needham KA, Khlopas A, Mont MA	Baker Tilly, NY; Cleveland Clinic, OH; Lenox Hill Hospital, NY	This study demonstrated that patients who underwent Mako Partial Knee had fewer revision procedures, shorter length of stay, and incurred lower mean costs during the index admission and at 24 months post-op.