CORI◊ Surgical System with RI.KNEE: the first robotics platform indicated for use in revision total knee arthroplasty (rTKA)[1]

rTKA presents unique technical challenges and decision-points for the orthopaedic surgeon, such as restoring the anatomical joint line,[2] addressing bone loss[3] and achieving balanced flexion/extension gaps.[3] Restoration of the joint line during rTKA has shown to have a positive effect on the clinical outcome[4,5] and in one study, patients whose joint line was restored to within ±5mm of preoperative values, were 3.88 times more likely to meet or exceed the substantial clinical benefit for KOOS-JR.[4]

CORI System with RI.KNEE for rTKA enables joint line restoration and improves PROMs[6]

Joint line restoration

Enabling joint line restoration in rTKA[6]

New clinical data (retrospective case series; n=115), has demonstrated joint line restoration, to that of the contralateral native knee, in **93% of cases,** when applied across a wide range of **complex revision surgeries**

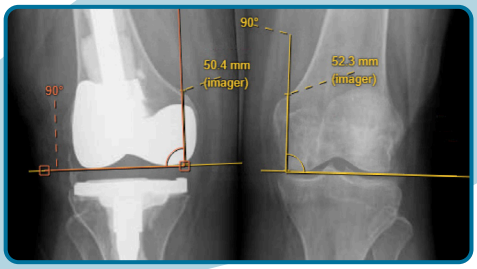

Image supplied with permission from Dr Seyler. LEGION® RK System with CORI Surgical System with RI.KNEE

PROMs improvement

Significantly improving PROMs, compared to pre-operative values (p≤0.01)[6]

Pain decreased from 6.1 to 3.0 (p<0.01; final follow-up)

PROMIS Depression score decreased from 51.2 to 47.9 (p=0.01; final follow-up)

Post-operative outcomes

Reduced length of hospital stay and readmissions compared to conventional rTKA[6]

Mean length of hospital stay (days)

Readmission rate at **30 days**

Readmission rate at **90 days**

		Conventional rTKA	
	CORI rTKA	Study 1[7]	Study 2[8]
LoS (days)	2.3	5.6	4.6
30-day readmission	1%	--	5.7%
90-day readmission	3%	23%	13%

Figure. Comparison of CORI rTKA readmission rates to conventional methods reveals a reduction in readmissions of 4.7% at 30 days and up to a 20% reduction at 90 days

Abbreviations: KOOS-JR = Knee Injury and Osteoarthritis Outcome Score for Joint Replacement; LoS = length of stay, PROMs = patient-reported outcomes measurement; PROMIS = Patient-Reported Outcomes Measurement Information System.

References: 1. Food and Drug Administration. Available at: https://www.accessdata.fda.gov/cdrh_docs/pdf22/K220958.pdf. Accessed October 13, 2023. **2.** Hofmann AA, Kurtin SM, Lyons S, Tanner AM, Bolognesi MP. Clinical and radiographic analysis of accurate restoration of the joint line in revision total knee arthroplasty. *J Arthroplasty.* 2006;21:1154–1162. **3.** Graichen H. TKA revision — reasons, challenges and solutions. *J Orthop.* 2014;11:1–4. **4.** Buller LT, Metzger CM, Deckard ER, Meneghini RM. The effect of joint line elevation on patient-reported outcomes after contemporary revision total knee arthroplasty. *J Arthroplasty.* 2022;37:1146–1152. **5.** Sadaka C, Kabalan Z, Hoyek F, Fares GA, Lahoud J. Joint line restoration during revision total knee arthroplasty: an accurate and reliable method. *Springerplus.* 2015;4:736. **6.** Cochrane NH, Kim BI, Stauffer TP, et al. Revision total knee arthroplasty with an imageless, second-generation robotic system. *J Arthroplasty.* Published online February 12, 2024. **7.** Nichols CI, Vose JG. Clinical Outcomes and Costs Within 90 Days of Primary or Revision Total Joint Arthroplasty. *J Arthroplasty.* 2016;31(7):1400–1400. **8.** Schairer WW, Sing DC, Vail TP, Bozic KJ. Causes and frequency of unplanned hospital readmission after total hip arthroplasty. *Clin Orthop Relat Res.* 2014;472(2):464–470.

Scan for more information

Orthopaedics, Smith & Nephew, Inc. 1450 Brooks Road Memphis, TN 38116 USA.
40989 V2 04/24. Published April 2024.

Developed by Evidence Communications, Global Clinical & Medical Affairs, www.smith-nephew.com