Bone & Joint Open

Supplementary Material

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Table i. Summary of published studies on contemporary rotating hinge implants in revision knee arthroplasty.

Study	Indication	Patients/ knees, n	Implants	Mean follow-up, yrs	Complications	Revision rate	Survivorship
Joshi 2008[1]	Aseptic loosening (60%), instability (31%), periprosthetic fracture (5%), extensor mechanism failure (4%)	78 rTKA	Waldemar LINK Endo-Model Rotational Knee Prosthesis	7.8	Instability (5%), aseptic loosening (5%), infection (3%)	8 (12.8%): septic 2 (2.6%), aseptic 8 (10.3%)	73% at 7.8 years
Hossain 2010[2]	Infection (33%), aseptic loosening (15%)	Only 74 rotating hinge/349 rTKA	SMILES, Stryker MRH, S-ROM	4.8	Aseptic loosening (3%), infection (3%), periprosthetic facture (1%)	5 (6.8%): septic 2 (2.7%), aseptic 3 (4.1%)	92.5% at ten years
Baier 2013[3]	Aseptic loosening (45%), component malrotation (23%),	78 rTKA	TC3, DePuy, Warsaw, IN	6.7	Arthrofibrosis (7%), aseptic loosening (6%), deep infection	7 (8.9%): septic 3 (4%), aseptic 4 (6%)	reoperation rate 26% at 6.7 years, no

	instability (18%), stiffness (9%)				(4%), patellar complication (3%)		survivorship data
Smith 2013[4]	Infection (46%), instability (34%), aseptic loosening (24%)	59 rTKA/ 111	Stryker Kinematic 1&2, Stryker Duracon Modular Rotating Hinge, SROM, Biomet Finn Rotating Hinged	5	Infection (24%), soft tissue failure (12%), aseptic loosening (7%), periprosthetic fracture (5%)	28 (47.5%): septic 14 (23.7%), aseptic 13 (22.0%)	77% at one year 52% at five years
Guirea 2014[5]	Osteoarthritis (56%), infection (13%), aseptic loosening (13%), instability (15%)	62 rTKA/ 152	Aesculap EnduRo rotating hinge	2	Deep infection (3%), aseptic loosening (1%), periprosthetic fracture (1%), extensor dysfunction (1%)	14 (9.2%): septic 5 (3.3%), aseptic 9 (5.9%)	85.4% at two years
Farid 2015[6]	Infection (43%), arthrofibrosis (11%), aseptic loosening (11%), instability (11%), periprosthetic fracture (5%)	131 rTKA /142	Biomet Orthopedic Salvage System	4.7	Aseptic loosening (16%), deep infection (15%), periprosthetic fracture (7%), quad/patellar tendon rupture (4%)	49 (34.5%): septic 21 (14.8%) aseptic 28 (19.7%)	51% at ten years
Cottino 2017[7]	Infection (35%) Aseptic loosening (13%) Periprosthetic fractures (13%) Non-union (5%) Primary TKA (18%)	334 rTKA /408	Howmedica (59%) NexGen RH Knee (31%) S-ROM (9%), Biomet Finn (0.5%)	4	Deep infection (11%), delayed wound healing (3%), stiffness (2.5%), aseptic loosening (2.5%), superficial infection (1.2%)	22.5% at 10 years	71.3% at ten years

Wignadasan 2021[8]	Infection (24.4%) Aseptic loosening (56.1%) I Fracture (9.8%) Instability (7.3%) Pain and malalignment (2.4%)	41 rTKA	Stryker MRH	14	12.2% including 2 patients non-infected postoperative wound dehiscence, 1 patient had a rupture of the extensor mechanism, 1 patient developed patella subluxation, 1 patient underwent a manipulation for stiffness.	9.7%	90.2% at ten years
Panesar 2021[9]	Aseptic aetiology (68%) Infection (32%)	99 rTKA	S-ROM	7	26% had complications postoperatively, with patella disorders and reduced range of movement the most common.	19% at mean 7 years	81% at mean seven years
Current study	Aseptic loosening with ligamentous instability (39.3%) Infection (37.1%) Instability (incompetent MCL) (16.8%) Other (6.8%)	89 rTKA	S-ROM	7.4	Re-operation for any cause (10.1%)	Component revision 6.7%	93.3% at ten years

MCL, medial collateral ligament; rTKA, revision total knee arthroplasty.

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