

TABLE E-1 Long-Term Follow-up Studies of Total Knee Arthroplasty

Study	Implant	Knees	Diagnosis	Mean Age at Index Op. (yr)	Mean Follow-up Period (Range) (yr)	No. (%) of Knees Revised for Aseptic Loosening	Survivorship (End Point)	No. (%) of Knees with Loosening	No. (%) of Knees with Osteolysis
Gill et al. ²¹ (1999)	Cemented total condylar knee	159 total (72 at 16-year follow-up)	94% had osteoarthritis; 4%, rheumatoid arthritis, and 2%, posttraumatic arthritis	61.2 (30 to 80)	17.2 (15.4 to 21.6)	0 (0)	98.6% at 20 yr (revision for any reason)	0 (0)	
Ma et al. ²⁰ (2005)	Cemented total condylar knee	126 total (64 at 19-yr follow-up)	81% had osteoarthritis; 17%, rheumatoid arthritis; and 2%, posttraumatic arthritis	59 (43 to 82)	19 (17 to 22)	1 (0.8)	83.2% at 20 yr (revision for any reason) and 91.9% at 20 yr (revision for mechanical failure)	1 (0.8)	2 (2)
Miyasaka et al. ²² (1997)	Cemented total condylar knee with all-polyethylene tibial components for valgus deformities	108 total (60 at 10-yr follow-up)	62% had rheumatoid arthritis; 35%, osteoarthritis; and 3%, posttraumatic arthritis	61 (34 to 82)	14.1 (10 to 20)	3 (3)	81.9% at 17.6 yr (revision for any reason) and 87% at 17.1 yr (revision for aseptic loosening)	4 (4)	0 (0)
Pavone et al. ¹⁷ (2001)	Cemented total condylar knee	120 total (34 at 19-yr follow-up)	43% had osteoarthritis; 56%, rheumatoid arthritis; and 1%, juvenile rheumatoid arthritis	65 (30 to 85)	14 (2 to 23)	4 (3)	91% at 23 yr (revision for any reason)	4 (3)	6 (5) with osteolysis around tibia and 3 (2.5), around patella

Ritter ²³ (2009)	Cemented anatomic graduated component	6726 total (36 at 20-yr follow-up)	96% had osteoarthritis; 3%, rheumatoid arthritis; and 1%, osteonecrosis	69.9 (23 to 93)	6.9 (2 to 22)	55 (0.8) had tibial and/or femoral component revised and 15 (0.2) had patellar component revised	94.6% at 20 yr (revision for aseptic loosening)		0 (0)
Ritter and Meneghini ²⁴ (in press)	Cementless anatomic graduated component	73 total (24 at 20-yr follow-up)	81% had osteoarthritis; 11%, rheumatoid arthritis; and 8%, osteonecrosis	59 (18 to 79)	19.9 (12.6 to 21.6)	2 (2.7) had tibial component revised and 12 (16.4), patellar component revised	76.4% at 20 yr (revision for aseptic loosening of any component) and 96.8% at 20 yr (revision for aseptic loosening of tibial component)	2 (2.7) with tibial component loosening and 12 (16.4) with patellar component loosening	
Rodriguez et al. ¹⁹ (2001)	Cemented total condylar knee	220 total (45 at 20-yr follow-up)	50% had osteoarthritis and 50% had rheumatoid arthritis	65 (31 to 83)	19 (18 to 24)	6 (3)	77% at 21 years (revision for any reason) and 85% at 21 yr (revision for mechanical failure)	6 (3)	0 (0)
Present study	Cemented LCS rotating platform	119 total (26 at 20-yr follow-up; all but 2 knees followed to 20 years or death)	88% had osteoarthritis; 10%, rheumatoid arthritis; and 2%, posttraumatic arthritis	70 (37 to 88)	20.6 (20 to 21)	0 (0)	96.5% at 20 yr (reoperation for any reason)	1 (0.8)	6 (5)