

Supplementary data

Table 2. Mean MTPM (95% CI)

	3 months	12 months	24 months
Conv.	0.70 (0.43–0.97)	0.86 (0.53–1.19)	0.80 (0.52–1.08)
PSPG	0.83 (0.48–1.18)	1.03 (0.60–1.43)	1.46 (1.07–1.85) ^a
Diff. ^b	0.13 (0.05–0.21)	0.17 (0.07–0.24)	0.66 (0.55–0.77)

^a P-value (mixed model analysis) = 0.1
^b Difference of the mean MTPM (PSPG – conventional group) (CI).

Table 3. Point motions (mm) (95% CI) at 24 months

Fictive points	X	Translations at 24 months Y	Z
Tip			
Conv.	–0.07 (–0.16 to 0.02)	–0.02 (–0.17 to 0.13)	0.17 (0.00 to 0.34)
PSPG	–0.27 (–0.54 to 0.01)	–0.20 (–0.51 to 0.12)	0.22 (–0.15 to 0.58)
Anterior			
Conv.	0.05 (–0.06 to 0.15)	0.02 (–0.11 to 0.14)	0.05 (–0.14 to 0.24)
PSPG	–0.14 (–0.40 to 0.12)	–0.20 (–0.48 to 0.07)	0.19 (–0.57 to 0.94)
Posterior			
Conv.	0.18 (–0.10 to 0.46)	–0.10 (–0.37 to 0.16)	0.10 (–0.09 to 0.29)
PSPG	–0.23 (–0.78 to 0.33)	–0.21 (–0.88 to 0.45)	0.19 (–0.56 to 0.93)
Posteromedial			
Conv.	0.17 (–0.10 to 0.43)	–0.14 (–0.44 to 0.15)	0.20 (–0.04 to 0.43)
PSPG	–0.22 (–0.76 to 0.32)	–0.28 (–1.08 to 0.53)	0.11 (–0.78 to 0.99)
Posterolateral			
Conv.	0.19 (–0.10 to 0.48)	–0.06 (–0.31 to 0.19)	0.01 (–0.20 to 0.21)
PSPG	–0.23 (–0.78 to 0.33)	–0.15 (–0.72 to 0.42)	0.26 (–0.38 to 0.91)
Medial			
Conv.	0.06 (–0.11 to 0.23)	–0.13 (–0.40 to 0.13)	0.27 (–0.03 to 0.56)
PSPG	–0.14 (–0.48 to 0.21)	–0.34 (–1.12 to 0.45)	0.03 (–1.01 to 1.08)
Lateral			
Conv.	0.11 (–0.10 to 0.32)	0.03 (–0.17 to 0.22)	–0.11 (–0.39 to 0.17)
PSPG	–0.15 (–0.54 to 0.24)	–0.07 (–0.39 to 0.25)	0.34 (–0.27 to 0.94)

Mean KOOS score

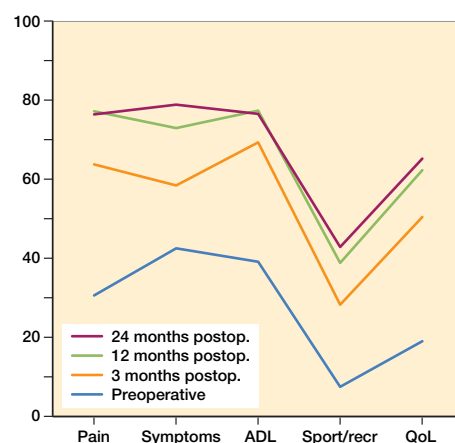


Figure 7. Knee injury and Osteoarthritis Outcome Score (KOOS) of the whole cohort (n = 32).

Table 5. Different variables from patients stratified by high versus low risk of aseptic loosening. Values are mean (95% CI) unless otherwise specified

Variable	Low risk (n = 16)	High risk (n = 6)	Y translation (or p-value)	Low risk (n = 16)	High risk ^e (n = 5)
BMI	28 (26–31)	30 (26–33)	Tip Y	0.0 (–0.1 to 0.7)	–0.3 (–0.9 to 0.3)
Weight (kg)	85 (76–93)	87 (72–101)	Anterior Y	0.0 (–0.1 to 0.1)	–0.2 (–0.7 to 0.3)
Operating time (min)	118 (100–136)	113 (100–127)	Medial Y	–0.2 (–0.4 to 0.0)	–0.3 (–1.7 to 1.0)
Postop. HKA (°)	181 (178–183)	177 (171–183)	Posteromedial Y	–0.1 (–0.3 to 0.1)	–0.5 (–1.9 to 0.9)
Tibia frontal p.o. CT (°) ^c	–0.3 (–1.2 to 0.6)	2.1 (–1.2 to 5.3)	Lateral Y	0.1 (0.0 to 0.2)	–0.4 (–0.9 to 0.0)
Tibia sagittal p.o. CT (°) ^c	–5.8 (–7.7 to –3.9)	–5.3 (–8.1 to –2.4)	Posterolateral Y	0.1 (–0.1 to 0.2)	–0.6 (–1.5 to 0.4)
Age (years)	62 (59–65)	66 (56–76)	Posterior Y	0.0 (–0.2 to 0.1)	–0.5 (–1.7 to 0.6)
			MTPM 0–12 months (mm)	0.7 (0.5 to 0.9)	1.5 (0.8 to 2.2)
			MTPM 12–24 months (mm)	0.0 (0.0 to 0.1)	0.5 (–0.1 to 1.1)
Male gender	5 (31%)	4 (67%)	p-value ^a	0.2	
Tibia sagittal outliers ^{b,c}	9 (60%) ^d	3 (60%) ^d	p-value ^a	1	
Tibia frontal outliers ^{b,c}	0 (0%) ^d	1 (20%) ^d	p-value ^a	0.3	

^a Fisher's exact test.^b Outlier > 3°^c 2 patients were excluded from CT evaluation due to wrong protocol, 1 of them a high-risk implant (total n = 20, high risk n = 5).^d Percentage within risk profile.^e 1 patient excluded due to high RBE.