Supplementary data

Table 3. Characteristics of patients with deviation in allocated randomization group

Case	Patient	Reason for deviation	Outcome
#1:	Female, 55 y, osteoarthritis, BMI 35, HKA 179°, lateral plate from valgus-producing HTO (2001) in situ	Ligament balancing difficulties, additional bone-cuts needed, and inferior lateral compartment after plate-removal	Migration pattern stable. Functionally satisfied with high KSS scores
#5:	Female, 72 y, osteoarthritis, BMI 38, HKA 174°, previously valgus-producing HTO (1994) and staple removal (2005)	Difficulties with ligament balancing, exposure, and mobilization of tibia due to previous surgical procedures	Migration pattern stable. Functionally satisfied, high KSS Knee Scores, KSS Function Score compromised due to ataxia
#16:	Female, 72 y, osteoarthritis, BMI 26, HKA 171°	Tight soft tissue requiring undesirable additional releases around fragile soft bone	Migration pattern stable. Functionally satisfied with high KSS scores
#32:	Female, 78 y, rheumatoid arthritis, BMI 20, HKA 191°	Minimal releases and exposure possible due to soft bone and fragile soft tissue affected by rheumatoid arthritis	Migration pattern stable. Medium to high KSS scores until 4 years. Patient died after 4 years due to respiratory health problems
#35:	Female, 52 y, osteoarthritis, BMI 34, HKA 168°	Bilateral procedure, first knee was an uncomplicated mobile-bearing design, second knee was tight with difficult releases while the epidural block wore off	Continuous migration after three years, progressive varus alignment with low to medium KSS scores. Revision due to aseptic loosening after 6 years

Table 4. RSA migration analysis of mean maximum total point motion (MTPM) with lower and upper limits of 95% CI (log values are back-transformed in the original scale in mm)

Factor	Fixed bearing	Mobile bearing	p-value
Intention-to-treat			
6 months	0.61 (0.32–0.95)	0.69 (0.39–1.06)	
1 year	0.69 (0.41–1.02)	0.75 (0.46–1.09)	
2 years	0.77 (0.45–1.16)	0.90 (0.56–1.33)	
3 years	0.92 (0.52–1.42)	0.91 (0.51–1.41)	
4 years	0.84 (0.48–1.29)	1.08 (0.67–1.59)	
5 years	0.90 (0.53–1.37)	1.25 (0.81–1.80)	
6 years	0.90 (0.49–1.41)	1.22 (0.75–1.80)	0.3
As-treated			
6 months	0.65 (0.38–0.97)	0.64 (0.31–1.05)	
1 year	0.71 (0.45–1.01)	0.73 (0.41–1.12)	
2 years	0.80 (0.50–1.16)	0.89 (0.51–1.38)	
3 years	0.93 (0.56–1.38)	0.88 (0.44–1.46)	
4 years	0.89 (0.55–1.31)	1.06 (0.61–1.65)	
5 years	1.00 (0.64–1.44)	1.18 (0.70–1.80)	
6 years	1.04 (0.64–1.53)	1.08 (0.59–1.72)	0.9

Table 5. Secondary outcomes. Values are mean (standard error) unless otherwise specified.

	Intention-to-treat				As-treated			
Factor	Fixed bearing	Mobile bearing	Difference in progression between groups (95% CI)	p-value [a]	Fixed bearing	Mobile bearing	Difference in progression between groups (95% CI)	p-value [a]
Flexion (°)								
Preoperative	111 (3)	112 (3)			111 (3)	112 (4)		
1 year	114 (2)	117 (2)			113 (2)	119 (3)		
6 years	111 (3)	119 (3)	7 (–4 to 18)	0.2	113 (3)	119 (3)	5 (–6 to 16)	0.4
Extension (°) [b]								
Preoperative	–4 (1)	–3 (1)			–4 (1)	–3 (1)		
1 year	–0 (1)	–0 (1)			–0 (1)	0 (1)		
6 years	–0 (1)	–1 (1)	–2 (–6 to 1)	0.2	0 (1)	–3 (2)	–4 (–8 to 1)	0.1
KSS Knee Score								
Preoperative	49 (2)	47 (4)			48 (2)	49 (4)		
1 year	86 (3)	89 (2)			86 (3)	90 (3)		
6 years	92 (5)	93 (2)	3 (–11 to 17)	0.7	91 (4)	95 (2)	3 (–11 to 16)	0.7
KSS Function Score								
Preoperative	46 (7)	36 (7)			44 (6)	35 (8)		
1 year	69 (6)	57 (6)			67 (5)	58 (6)		
6 years	54 (7)	43 (6)	–2 (–21 to 18)	0.9	54 (6)	39 (7)	–6 (–26 to 13)	0.5

[a] p-values indicate testing the mean between-group differences of improvement after 6 years of follow-up derived with a linear mixed-effects model analysis (data on all follow-up measurements are used to test for differences).
[b] Negative extension means no full extension possible.

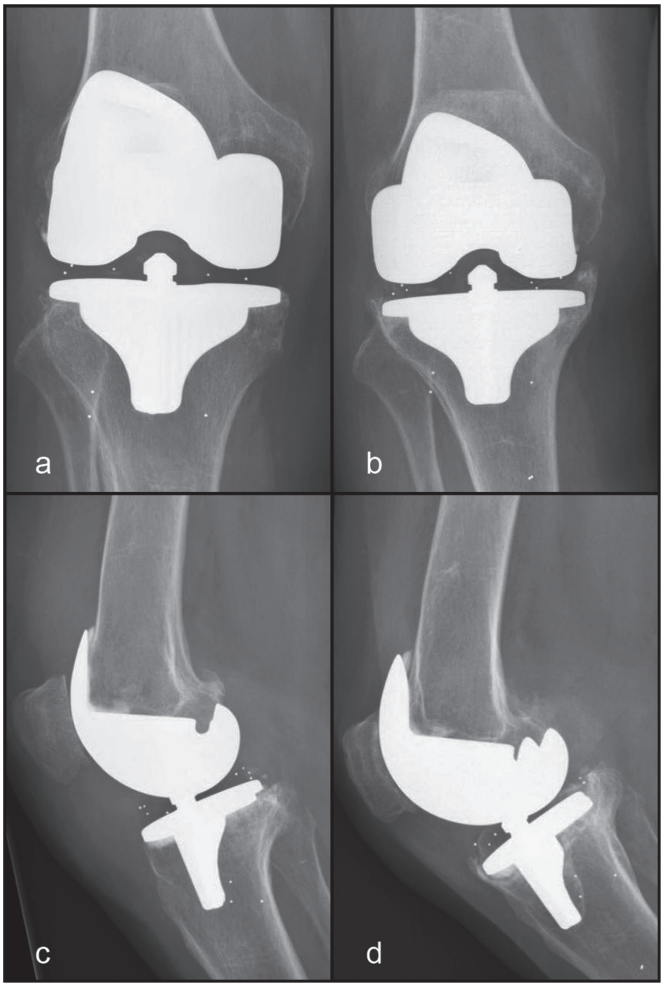

Figure 4. Mobile-bearing TKP suspected for aseptic loosening in a 72-year-old woman with rheumatoid arthritis. Revision surgery was postponed due to refractory stasis dermatitis around the knee. Antero-posterior radiographs (a) 3 months and (b) 6 years follow-up, lateral radiographs (c) 3 months and (d) 6 years follow-up. Note the varus tilt of 3.5° (b), anterior translation of 3.5 mm (d) and subsidence of 9.2 mm (both b and d) of the tibial component.

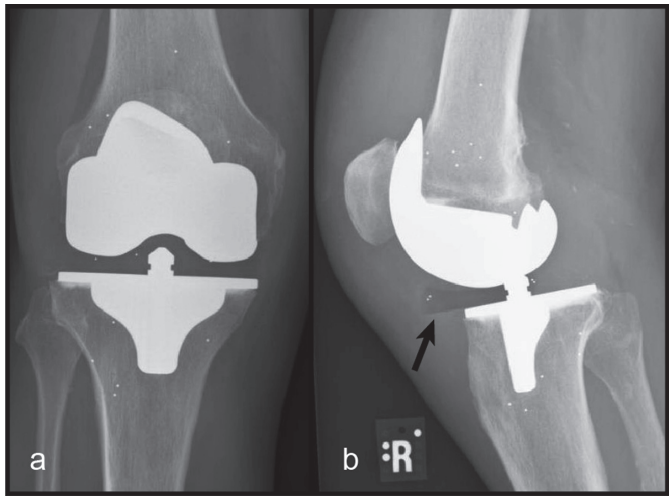

Figure 5. Insert dislocation of the mobile-bearing insert in a 66-year-old man with osteoarthritis. The anteroposterior radiograph (a) shows no abnormalities, the lateral radiograph (b) shows anterior displacement of the insert (black arrow).