

SUPPLEMENTARY DATA

Supplementary Table S1. RSA precision based on RSA double-examinations at 6-month or 1-year follow-up.

	Cementless group				Cemented group			
	x	y	z	TT	x	y	z	TT
Double examinations, n	10				21			
Mean difference ^a	0.05	0.03	−0.06	0.04	0.46	0.02	0.01	0.04
Precision (SD) ^b	0.09	0.11	0.35	0.26	0.29	0.10	0.24	0.14
Min. difference	−0.07	−0.07	−0.70	−0.23	−0.21	−0.06	−0.86	−0.15
Max. difference	0.25	0.32	0.33	0.67	1.50	0.49	0.76	0.70

^aMean difference: systemic error between two RSA double measurements (bias).

^bPrecision: reflects the lower limit within which it is possible to detect cup migration on an individual basis.

TT:Total translation

Supplementary Table S2. Sensitivity analyses of between-group differences in total translation.

Group	Cementless group			Cemented group				
Follow-up (Months)	n	Mean	SE	n	Mean	SE	Difference (CI)	P value
<i>t test</i>								
3	15	0.37	0.17	42	0.23	0.04	0.14 (−0.10 to 0.37)	0.2
12	9	1.06	0.51	38	0.81	0.18	0.25 (−0.64 to 1.14)	0.6
24	5	0.67	0.20	32	1.00	0.26	−0.33 (−1.67 to −1.01)	0.6
60	3	0.30	0.02	23	1.14	0.29	−0.85 (−2.54 to 0.84)	0.3
120	3	0.39	0.05	10	1.24	0.57	−0.85 (3.21 to −1.51)	0.4
<i>Last available carried forward</i>								
3	15	0.36	0.17	42	0.22	0.04	0.14 (−0.10 to 0.37)	0.2
12	16	0.82	0.32	43	0.75	0.16	0.06 (−0.60 to 0.72)	0.8
24	16	0.93	0.31	43	0.98	0.21	−0.05 (−0.85 to 0.75)	0.9
60	16	0.91	0.32	43	1.30	0.23	−0.39 (−1.25 to 0.47)	0.4
120	16	0.93	0.31	43	1.32	0.24	−0.39 (−1.27 to 0.49)	0.4
<i>Mixed-model</i>								
3	15	0.36	0.28	42	0.22	0.17	0.14 (−0.49 to 0.77)	0.7
12	9	1.11	0.34	38	0.85	0.17	0.26 (−0.50 to 1.01)	0.5
24	5	0.98	0.44	32	1.04	0.18	−0.06 (−0.10 to 0.88)	0.9
60	3	0.69	0.55	23	1.31	0.21	−0.62 (−1.78 to 0.53)	0.3
120	3	0.79	0.55	10	1.33	0.30	−0.54 (−1.77 to 0.68)	0.4
SE: Standard Error								
CI: 95% Confidence Interval								

Supplementary Table S3. Table of total translation in patients with non-revised cups compared with patients with revised implants or failed implants (mixed model adjusted predictions).

Group		Revised cups		Non-revised cups				
Follow-up (Months)	n	Mean	SE	n	Mean	SE	Difference (CI)	P value
<i>Cementless group</i>								
3	8	0.57	0.36	7	0.17	0.38	0.40 (−0.64 to 1.43)	0.5
12	4	2.07	0.49	5	0.32	0.45	1.75 (0.45 to 3.05)	0.008
24	0	—	—	5	0.68	0.45	—	
60	0	—	—	3	0.40	0.55	—	
120	0	—	—	3	0.49	0.55	—	
<i>Cemented group</i>								
3	16	0.26	0.26	26	0.20	0.20	0.06 (−0.58 to 0.70)	0.9
12	11	1.18	0.30	27	0.71	0.20	0.47 (−0.23 to 1.18)	0.2
24	7	1.90	0.36	25	0.78	0.20	1.11 (0.30 to 1.93)	0.007
60	2	2.01	0.63	21	1.18	0.22	0.83 (−0.48 to 2.14)	0.2
120	0	—	—	10	1.23	0.29	—	
<i>Combined</i>								
3	24	0.36	0.21	33	0.19	0.18	0.17 (−0.38 to 0.72)	0.5
12	15	1.43	0.26	32	0.65	0.18	0.78 (0.16 to 1.41)	0.01
24	7	1.99	0.36	30	0.76	0.19	1.23 (0.43 to 2.02)	0.003
60	2	2.12	0.63	24	1.08	0.20	1.03 (−0.27 to 2.35)	0.1
120	0	—	—	13	1.08	0.26	—	
SE: Standard Error								
CI: 95% Confidence Interval								