

Table II. JOA and JHEQ scores preoperatively, and at 6 and 12 months postoperatively

	Non-Released	Released
number	37	48
age	66.2 ± 7.9	67.4 ± 8.7
BMI	24.5 ± 3.2	24.8 ± 3.5
duration of surgery	80.7 ± 16.1	93.0 ± 23.0
amount of bleeding	304.8 ± 150.4	369.8 ± 144.4
Osteoarthritis grade		
Tonnis grade 1	4	3
Tonnis grade 2	4	6
Tonnis grade 3	29	39
The number of additional release of external obturator muscle attachment	0	4
Stem selection		
Taperloc/ Microplasty	36	42
Wagner cone	0	4
CL Spotorno	0	2
C-stem AMT	1	0
complication		
dislocation	0	0
infection	0	0
Great trochanter fracture	1	1
subsidence of stem, more than 3mm	2	1

Data represent mean ± standard deviation

*P<0.05

Mann whitney U test was performed to compare scores between the groups.

Fisher's exact test to compare numbers in OA grade and stem selection between the groups.