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Appendix 1			
	Computer Assisted Navigation	Conventional Instrumentation	
	N = 10404	N = 8817	p Value
Age			
Mean	68.1	67.9	0.27
<65 yrs	3665 (35.2%)	3151 (35.7%)	0.21
Female gender	5470 (52.6%)	4470 (50.7%)	0.01
BMI			
Mean	31.5	31.6	0.50
ASA Score			
1	1211 (11.7%)	917 (10.5%)	<0.01
2	6494 (62.9%)	5406 (62.1%)	
3	2585 (25.1%)	2345 (26.9%)	
4	24 (0.3%)	38 (0.4%)	
Lamina flow	5196 (59.4%)	6754 (65.4%)	<0.01
Approach medial	9505 (99.0%)	7992 (94.2%)	<0.01
Cruciate retaining	8637 (83.0%)	7927 (89.9%)	<0.01
Bearing fixed	9604 (96.2%)	8316 (99.3%)	<0.01
Patella resurfaced	5596 (53.9%)	3400 (38.6%)	<0.01
Operative time (mins)			
Mean	89	76	<0.01

Appendix 2

	Routine users of CAN	Routine users of Conventional Instrumentation		Mixed users of CAN	
	N = 9501	N = 7672	p Value	N = 2048	p Value
Age					
Mean	68.1	68.0	0.46	67.3	<0.01
Number <65years	3322 (35.0%)	2701 (35.2%)	0.45	793 (38.7%)	0.19
Female gender	5007 (52.7%)	3912 (51.0%)	0.03	1021 (49.9%)	0.02
BMI					
Mean	31.5	31.7	0.15	31.4	0.24
ASA Score					
1	1112 (11.8%)	795 (10.5%)	<0.01	221 (10.9%)	<0.01
2	5931 (62.9%)	4645 (61.3%)		1324 (65.5%)	
3	2355 (25.0%)	2108 (27.8%)		467 (23.1%)	
4	24 (0.3%)	31 (0.4%)		10 (0.5%)	
Lamina flow	6195 (65.5%)	4838 (63.6%)	<0.01	917 (45.4%)	<0.01
Approach medial	8672 (99.0%)	6933 (93.4%)	<0.01	1892 (98.9%)	<0.01
Cruciate retaining	8185 (86.1%)	7059 (92%)	<0.01	1320 (64.5%)	<0.01
Bearing fixed	8739 (95.9%)	7196 (99.2%)	<0.01	1985 (99.8%)	<0.01
Patella resurfaced	5317 (56.1%)	3223 (42.1%)	<0.01	456 (22.3%)	<0.01
Operative time (mins)					
Mean	89	76	<0.01	77	<0.01

Rarely v routine

Variables in the Equation

	B	SE	Wald	df	Sig.	Exp(B)	95.0% CI for Exp(B)	
							Lower	Upper
Sex	-0.028	0.114	0.062	1	0.804	0.972	0.778	1.214
ASAClass			6.981	3	0.072			
ASAClass(1)	-1.093	0.727	2.258	1	0.133	0.335	0.081	1.395
ASAClass(2)	-1.201	0.713	2.840	1	0.092	0.301	0.074	1.216
ASAClass(3)	-0.922	0.716	1.658	1	0.198	0.398	0.098	1.618
CR_PS	-0.138	0.164	0.709	1	0.400	0.871	0.631	1.202
Theatre_laminar_flow	0.075	0.125	0.361	1	0.548	1.078	0.843	1.378
Fixed_Mobile	0.197	0.419	0.222	1	0.638	1.218	0.536	2.771
agegrps			17.121	3	0.001			
agegrps(1)	0.824	0.218	14.319	1	0.000	2.280	1.488	3.494
agegrps(2)	0.566	0.171	10.891	1	0.001	1.761	1.258	2.464

nav v not nav

Variables in the Equation

	B	SE	Wald	df	Sig.	Exp(B)	95.0% CI for Exp(B)	
							Lower	Upper
Sex	-0.086	0.105	0.681	1	0.409	0.917	0.747	1.126
ASAClass			6.688	3	0.083			
ASAClass(1)	-0.837	0.725	1.331	1	0.249	0.433	0.104	1.794
ASAClass(2)	-0.861	0.712	1.462	1	0.227	0.423	0.105	1.707
ASAClass(3)	-0.580	0.715	0.658	1	0.417	0.560	0.138	2.272
CR_PS	-0.134	0.138	0.935	1	0.334	0.875	0.667	1.147
Theatre_laminar_flow	0.103	0.113	0.826	1	0.364	1.108	0.888	1.382
Fixed_Mobile	0.240	0.418	0.329	1	0.566	1.271	0.560	2.882
agegrps			23.281	3	0.000			
agegrps(1)	0.916	0.201	20.716	1	0.000	2.499	1.684	3.706
agegrps(2)	0.600	0.161	13.945	1	0.000	1.822	1.330	2.496

agegrps(3)	0.3 62	0.1 64	4.87 9	1	0.0 27	1.43 6	1.0 42	1.9 79
approac			3.13 8	2	0.2 08			
approac(1)	- 0.4 75	0.3 52	1.82 0	1	0.1 77	0.62 2	0.3 12	1.2 40
approac(2)	0.0 15	0.5 37	0.00 1	1	0.9 77	1.01 6	0.3 55	2.9 07
Patella_Resurf	0.1 54	0.1 15	1.78 3	1	0.1 82	1.16 7	0.9 30	1.4 63
Navigation Use Routine /'Rarely'/ Mixed	0.0 39	0.1 16	0.11 3	1	0.7 37	1.04 0	0.8 28	1.3 06

agegrps(3)	0.4 21	0.1 54	7.47 5	1	0.006	1.523	1.126	2.059
approac			2.22 9	2	0.328			
approac(1)	- 0.4 27	0.3 48	1.50 9	1	0.219	0.652	0.330	1.290
approac(2)	- 0.0 66	0.5 35	0.01 5	1	0.901	0.936	0.328	2.669
Patella_Resurf	0.1 21	0.1 08	1.26 1	1	0.261	1.129	0.914	1.394
Appr_ImageGui ded_New	- 0.0 27	0.1 07	0.06 4	1	0.801	1.027	0.833	1.268