

SURVIVORSHIP OF ULTAMET® METAL-ON-METAL ARTICULATION IN NATIONAL JOINT REPLACEMENT REGISTRIES

Pamela L. Plouhar, PhD, Vice President Worldwide Clinical Affairs | DePuy Synthes
Rodrigo Diaz, MD, Medical Director | DePuy Synthes Joint Reconstruction
Paul Voorhorst, MS, MBA, VP, WW Clinical Research | DePuy Synthes Joint Reconstruction

Many factors affect hip survival, including bearing type, component design, head size, implant alignment, and patient characteristics. Some hip systems have a long clinical history, and the effects these variables have on device safety and performance are established. Newer systems with less clinical history include current generation modular and monoblock hip systems, and the impact of variables that affect hip survival in these systems is emerging.

National joint registries provide valuable information on the revision rates/survivorship estimates of newer and older implants alike. Typically they include large cohorts with contributions from all surgeons, irrespective of experience level. These data sources include the Australian Orthopaedic Association National Joint Replacement Registry (AOA NJRR) and the National Joint Registry for England and Wales (UK NJR). Different hip systems may be combined into a single broad category (hip replacement) for evaluation. Primary total hip replacement is a well-established and efficacious procedure, as demonstrated by the 2011 AOA NJRR (Table HT22) and 2012 UK NJR (Table 3.6) annual reports which observed 7-year cementless THA survivorship estimates of 95.3% (95% CI: 95.1% - 95.5%)* and 95.24% (95% CI: 95.01% - 95.45%), respectively.^{1,2} As reference, the 2012 AOA NJRR annual report (Table HT22) observed 10-year cementless THA survivorship estimates of 92.8% (95% CI: 92.5% - 93.1%)³, and the 2012 UK NJR annual report (Table 3.6) observed 8-year cementless THA survivorship estimates of 94.90% (95% CI: 94.61% - 95.18%).²

To evaluate the effect of different variables on device performance more carefully, it is useful to look at data available for specific product configurations. To that end, this paper examines the performance of various metal-on-metal articulations in which the ULTAMET acetabular liner has been used.

Australian Orthopaedic Association National Joint Replacement Registry Data for ULTAMET Metal-on-Metal

The 2012 AOA NJRR annual report released prosthesis specific data in the metal-on-metal category for femoral head sizes greater than 32mm (Table HT46), including two combinations used with the ULTAMET metal insert. According to the report, the 7-year survivorship estimate for the ARTICUL/EZE® femoral head with an ULTAMET metal acetabular insert was 94.4%. The 7-year survivorship estimate for the S-ROM® femoral head with an ULTAMET metal liner was 95.6%.³

ULTAMET Metal-on-Metal Survivorship Estimate with Revision for Any Reason as the Endpoint (Femoral Head Sizes >32mm) (2012 AOA NJRR³)

Femoral Head & Acetabular Liner	5 Years	7 Years
ARTICUL/EZE** & ULTAMET (N=1,623)	95.8%	94.4%
S-ROM*** & ULTAMET (N=283)	96.0%	95.6%

** ARTICUL/EZE Femoral Heads used with CORAIL® and SUMMIT® Hip Stems
*** S-ROM Femoral Heads used with S-ROM Hip Stems

The 2012 AOA NJRR 7-year survivorship estimates for ULTAMET Metal-on-Metal are above the 2011 7-year observed survivorship estimates for the metal-on-metal category across all head sizes of 92.7% (Table HT32)*.¹

*2011 AOA NJRR data used to report 7-year survivorship rates as this data was not included in the 2012 annual report

National Joint Registry for England and Wales Data for ULTAMET Metal-on-Metal

Based on data supplied for post-marketing surveillance by the National Joint Registry Centre in April 2013, DePuy Synthes Joint Reconstruction conducted a Kaplan-Meier survivorship analysis on the ULTAMET Metal-on-Metal System for primary THR, encompassing 12,288 hips.⁴ This analysis examined the survival of ULTAMET Metal-on-Metal Bearings (28mm–44mm head diameters) with CORAIL, SUMMIT and S-ROM Cementless Hip stems. Subject mean age was 66 years (range 17–105).⁴

ULTAMET Metal-on-Metal Survivorship Estimate by Cementless Hip Stem with Revision for Any Reason as the Endpoint

Hip Stem	5 Years	7 Years	8 Years
CORAIL Hip Stem** (N=11,424)	95.3%	91.9%	89.6%
SUMMIT Hip Stem (N=83)	94.9%	Data available 2015	Data available 2016
S-ROM Hip Stem (N=781)	89.8%	85.9%	81.3%

** 26 CORAIL Hip Stems have the original 12/14 taper and 11,398 CORAIL hip stems have the ARTICUL/EZE Mini Taper (AMT).

The NJR data for the S-ROM Cementless stem with ULTAMET Metal-on-Metal contains data from 30 surgeons. According to this data, which was supplied by the NJR for post-market surveillance, two of the 30 surgeons reported a high incidence of revision within the first year (31 in total - 16 were due to dislocation). Excluding data from these two surgeons (surgeons #15 & #23 in Table 1), survivorship estimates were 97.3%, 96.3%, and 93.4% at 5, 7, and 8 years, respectively.

The cumulative, all-surgeon, survivorship estimates for ULTAMET Metal-on-Metal in this series for CORAIL, SUMMIT and S-ROM stems combined were 91.5% (95% CI : 90.6%-92.3%) and 88.4% (95% CI : 86.7%-89.9%), and 86.4% (95% CI: 83.6%- 88.8%), at 7, 8 and 9 years respectively⁴.

Femoral head size has also been shown to impact survivorship.² Accordingly, UK NJR data specific to femoral head size in metal-on-metal bearings was also stratified and analyzed. The survivorship estimates in the table below do not show a significant difference in survivorship within the ULTAMET Metal-on-Metal system estimates among head diameters.

ULTAMET Metal-on-Metal Survivorship Estimate by Head Size with Revision for Any Reason as the Endpoint

Head Size	5 Years	7 Years	8 Years
All Sizes (N=12,288)	95.0%	91.5%	88.4%
< 36mm (N=445)	95.0%	91.7%	Data available 2014
≥ 36mm (N=11,843)	95.0%	91.5%	88.4%

Survivorship estimates in the table below indicate that there is a difference in survivorship between genders.

ULTAMET Metal-on-Metal Survivorship Estimate by Gender with Revision for Any Reason as the Endpoint

Gender	5 Years	7 Years	8 Years
Female (N=6,457)	94.1%	90.3%	86.1%
Male (N=5,831)	95.9%	92.9%	91.2%

There was significant variation in the survivorship estimates among surgeons. Table 1 shown on page 3 displays the Kaplan-Meier survivorship estimates for revision for any reason stratified by surgeon for surgeons that have implanted 100 or more ULTAMET Metal-on-Metal hips (surgeons implanting fewer than 100 were grouped together, and the results are shown as "Other (<100)"). The 5-year survivorship estimates range from 100.00% to 85.8% depending on surgeon. The 7-year survivorship estimates range from 98.1% to 75.4%, and the 8-year estimates range from 91.4% to 67.4%.⁴ Table 3 shown on page 5 displays the Kaplan-Meier survivorship estimates for revision for any reason stratified by surgeon. The 5-year survivorship estimates with the CORAIL stem range from 100.0% to 85.9%, 7-year estimates range from 98.1% to 74.2%, and 8-year estimates are 91.2% for the combined cohort from surgeons with less than 100 implanted.

There was also significant variation in the reported revisions due specifically to soft tissue reactions. Table 2 shown on page 4 displays the Kaplan-Meier survivorship estimates for revision specifically due to soft tissue reactions stratified by surgeon for surgeons that have implanted 100 or more ULTAMET Metal-on-Metal hips (surgeons implanting fewer than 100 were grouped together, and the results are shown as "Other (<100)"). The 5-year survivorship estimates range from 100.00% to 93.7% depending on surgeon. The 7-year survivorship estimates range from 100.00% to 83.2%, and the 8-year estimates range from 97.1% to 75.3%.⁴ Table 4 shown on page 6 displays the Kaplan-Meier survivorship estimates for revision specifically due to soft tissue reactions stratified by surgeon. The 5-year survivorship estimates with the CORAIL stem range from 100.0% to 85.9%, 7-year estimates range from 98.1% to 74.1%, and 8-year estimates are 91.2% for the combined cohort from surgeons with less than 100 implanted.

Summary of ULTAMET Metal-on-Metal Survivorship Estimates

Survival of the ULTAMET Metal-on-Metal System is in line with or better than other metal-on-metal systems evaluated in the 2011 and 2012 AOA NJRR reports. Additionally, ULTAMET Metal-on-Metal performance has not been shown to be affected by head size in the UK NJR. Results do indicate there is a significant difference in survivorship between genders. As shown in the NJR results, there is significant variation in survival estimates among surgeons with regards to revision for any reason and also revision due to soft tissue reactions.

Table 1. Kaplan-Meier Survivorship Estimates and 95% Confidence Intervals - Revision for ANY reason (CORAIL, SUMMIT, S-ROM)

Surgeon	N Implanted	3 Years	5 Years	7 Years	8 Years
1	146	98.58% (94.45, 99.64%), n=136	98.58% (94.45, 99.64%), n=120	94.16% (87.01, 97.43%), n=44	
2	163	100.00% (100.00, 100.00%), n=162	97.11% (92.47, 98.91%), n=116	97.11% (92.47, 98.91%), n=54	
3	108	100.00% (100.00, 100.00%), n=107	100.00% (100.00, 100.00%), n=106	98.05% (92.41, 99.51%), n=82	
4	379	95.38% (92.67, 97.10%), n=346	90.66% (87.10, 93.27%), n=255	85.60% (80.88, 89.23%), n=109	82.59% (76.61, 87.17%), n=54
5	341	98.14% (95.91, 99.16%), n=306	94.95% (91.51, 97.02%), n=141		
6	129	97.64% (92.85, 99.23%), n=119	94.94% (89.04, 97.70%), n=79		
7	110	98.11% (92.66, 99.52%), n=85			
8	148	95.05% (89.88, 97.61%), n=130			
9	140	99.27% (94.93, 99.90%), n=120			
10	389	99.74% (98.18, 99.96%), n=359	99.74% (98.18, 99.96%), n=197	98.12% (93.54, 99.46%), n=80	
11	112	96.28% (90.39, 98.59%), n=99	95.03% (88.38, 97.92%), n=60		
12	104	96.98% (90.90, 99.02%), n=82			
13	304	99.33% (97.35, 99.83%), n=255	97.90% (93.63, 99.32%), n=65		
14	426	98.80% (97.13, 99.50%), n=369	97.99% (95.68, 99.07%), n=189	94.71% (89.51, 97.37%), n=42	
15	372	92.31% (89.05, 94.62%), n=324	86.17% (82.04, 89.41%), n=233	75.39% (69.29, 80.45%), n=100	67.42% (59.47, 74.16%), n=47
16	446	94.92% (92.39, 96.63%), n=394	90.94% (87.45, 93.50%), n=200		
17	320	99.68% (97.75, 99.95%), n=282	98.26% (95.36, 99.36%), n=104		
18	139	97.79% (93.30, 99.28%), n=128	96.95% (92.07, 98.85%), n=44		
19	117	96.54% (91.05, 98.69%), n=109			
20	103	95.11% (88.64, 97.93%), n=97	91.70% (84.03, 95.78%), n=60		
21	105	99.05% (93.43, 99.87%), n=93	99.05% (93.43, 99.87%), n=51		
22	300	97.97% (95.54, 99.08%), n=275	96.81% (93.95, 98.33%), n=198	93.52% (88.45, 96.42%), n=76	
23	444	90.37% (87.19, 92.79%), n=366	85.82% (81.66, 89.11%), n=133		
24	109	97.22% (91.63, 99.10%), n=101	94.85% (87.96, 97.84%), n=44		
25	105	99.05% (93.43, 99.87%), n=51			
26	105	94.08% (87.30, 97.30%), n=91	94.08% (87.30, 97.30%), n=63		
27	335	96.97% (94.44, 98.36%), n=309	96.00% (93.21, 97.66%), n=269	94.02% (90.06, 96.43%), n=88	
28	228	96.44% (93.00, 98.20%), n=215	93.96% (89.80, 96.45%), n=114		
29	107	99.05% (93.43, 99.87%), n=104	99.05% (93.43, 99.87%), n=78		
30	132	99.23% (94.67, 99.89%), n=129	95.00% (86.90, 98.14%), n=62		
31	165	98.12% (94.29, 99.39%), n=127			
32	134	98.51% (94.16, 99.62%), n=132	97.26% (91.43, 99.14%), n=73		
33	100	98.98% (92.98, 99.86%), n=97	93.23% (84.03, 97.22%), n=47		
Other (<100)	5423	97.88% (97.46, 98.24%), n=4818	95.65% (94.99, 96.23%), n=2153	92.29% (90.72, 93.61%), n=330	91.35% (89.19, 93.10%), n=79
All***	12288	97.39% (97.09, 97.66%), n=10917	94.95% (94.50, 95.37%), n=5387	91.51% (90.64, 92.31%), n=1167	88.42% (86.74, 89.91%), n=321

NOTE: Kaplan-Meier Survival Estimates are only reported for surgeons when a minimum of 40 hips are available

***Total number includes cases from surgeons with less than 40 at the respective time period

Table 2. Kaplan-Meier Survivorship Estimates and 95% Confidence Intervals - Revision due to Soft Tissue Reactions (CORAIL, SUMMIT, S-ROM)

Surgeon	N Implanted	3 Years	5 Years	7 Years	8 Years
1	146	100.00% (100.00, 100.00%), n=136	100.00% (100.00, 100.00%), n=120	98.19% (92.94, 99.55%), n=44	
2	163	100.00% (100.00, 100.00%), n=162	100.00% (100.00, 100.00%), n=116	100.00% (100.00, 100.00%), n=54	
3	108	100.00% (100.00, 100.00%), n=107	100.00% (100.00, 100.00%), n=106	100.00% (100.00, 100.00%), n=82	
4	379	98.05% (95.95, 99.07%), n=346	94.74% (91.76, 96.65%), n=255	90.56% (86.32, 93.53%), n=109	87.38% (81.44, 91.51%), n=54
5	341	99.37% (97.51, 99.84%), n=306	98.74% (95.86, 99.62%), n=141		
6	129	100.00% (100.00, 100.00%), n=119	99.07% (93.61, 99.87%), n=79		
7	110	100.00% (100.00, 100.00%), n=85			
8	148	97.76% (93.22, 99.27%), n=130			
9	140	100.00% (100.00, 100.00%), n=120			
10	389	100.00% (100.00, 100.00%), n=359	100.00% (100.00, 100.00%), n=197	100.00% (100.00, 100.00%), n=80	
11	112	99.00% (93.11, 99.86%), n=99	99.00% (93.11, 99.86%), n=60		
12	104	100.00% (100.00, 100.00%), n=82			
13	304	100.00% (100.00, 100.00%), n=255	100.00% (100.00, 100.00%), n=65		
14	426	100.00% (100.00, 100.00%), n=369	99.49% (96.45, 99.93%), n=189	98.61% (94.29, 99.67%), n=42	
15	372	99.39% (97.59, 99.85%), n=324	93.68% (90.25, 95.93%), n=233	83.15% (76.89, 87.85%), n=100	75.32% (66.77, 81.96%), n=47
16	446	98.80% (97.15, 99.50%), n=394	96.31% (93.50, 97.91%), n=200		
17	320	100.00% (100.00, 100.00%), n=282	99.59% (97.14, 99.94%), n=104		
18	139	100.00% (100.00, 100.00%), n=128	99.15% (94.09, 99.88%), n=44		
19	117	100.00% (100.00, 100.00%), n=109			
20	103	98.99% (93.05, 99.86%), n=97	98.99% (93.05, 99.86%), n=60		
21	105	100.00% (100.00, 100.00%), n=93	100.00% (100.00, 100.00%), n=51		
22	300	99.65% (97.52, 99.95%), n=275	99.22% (96.89, 99.80%), n=198	96.46% (91.14, 98.61%), n=76	
23	444	98.50% (96.70, 99.32%), n=366	96.82% (93.98, 98.33%), n=133		
24	109	99.04% (93.37, 99.86%), n=101	96.62% (89.81, 98.91%), n=44		
25	105	100.00% (100.00, 100.00%), n=51			
26	105	100.00% (100.00, 100.00%), n=91	100.00% (100.00, 100.00%), n=63		
27	335	100.00% (100.00, 100.00%), n=309	100.00% (100.00, 100.00%), n=269	98.77% (95.18, 99.69%), n=88	
28	228	100.00% (100.00, 100.00%), n=215	100.00% (100.00, 100.00%), n=114		
29	107	100.00% (100.00, 100.00%), n=104	100.00% (100.00, 100.00%), n=78		
30	132	100.00% (100.00, 100.00%), n=129	95.74% (87.34, 98.61%), n=62		
31	165	100.00% (100.00, 100.00%), n=127			
32	134	100.00% (100.00, 100.00%), n=132	98.73% (91.35, 99.82%), n=73		
33	100	98.98% (92.98, 99.86%), n=97	98.98% (92.98, 99.86%), n=47		
Other (<100)	5423	99.72% (99.53, 99.84%), n=4818	98.82% (98.42, 99.12%), n=2153	97.14% (95.94, 97.99%), n=330	97.14% (95.94, 97.99%), n=79
All***	12288	99.62% (99.49, 99.71%), n=10917	98.46% (98.17, 98.70%), n=5387	96.35% (95.65, 96.94%), n=1167	93.70% (92.05, 95.02%), n=321

NOTE: Kaplan-Meier Survival Estimates are only reported for surgeons when a minimum of 40 hips are available

***Total number includes cases from surgeons with less than 40 at the respective time period

Table 3. Kaplan-Meier Survivorship Estimates and 95% Confidence Intervals - Revision for ANY Reason (CORAIL)

Surgeon	N Implanted	3 Years	5 Years	7 Years	8 Years
1	146	98.58% (94.45, 99.64%), n=136	98.58% (94.45, 99.64%), n=120	94.16% (87.01, 97.43%), n=44	
2	163	100.00% (100.00, 100.00%), n=162	97.11% (92.47, 98.91%), n=116	97.11% (92.47, 98.91%), n=54	
3	108	100.00% (100.00, 100.00%), n=107	100.00% (100.00, 100.00%), n=106	98.05% (92.41, 99.51%), n=82	
4	269	93.92% (90.27, 96.23%), n=244	88.52% (83.87, 91.89%), n=164		
5	338	98.13% (95.88, 99.15%), n=303	94.90% (91.41, 96.99%), n=138		
6	129	97.64% (92.85, 99.23%), n=119	94.94% (89.04, 97.70%), n=79		
7	110	98.11% (92.66, 99.52%), n=85			
8	140	94.75% (89.29, 97.46%), n=122			
9	140	99.27% (94.93, 99.90%), n=120			
10	389	99.74% (98.18, 99.96%), n=359	99.74% (98.18, 99.96%), n=197	98.12% (93.54, 99.46%), n=80	
11	112	96.28% (90.39, 98.59%), n=99	95.03% (88.38, 97.92%), n=60		
12	104	96.98% (90.90, 99.02%), n=82			
13	304	99.33% (97.35, 99.83%), n=255	97.90% (93.63, 99.32%), n=65		
14	426	98.80% (97.13, 99.50%), n=369	97.99% (95.68, 99.07%), n=189	94.71% (89.51, 97.37%), n=42	
15	275	94.00% (90.39, 96.28%), n=243	85.88% (80.84, 89.68%), n=158	74.17% (65.86, 80.75%), n=40	
16	446	94.92% (92.39, 96.63%), n=394	90.94% (87.45, 93.50%), n=200		
17	320	99.68% (97.75, 99.95%), n=282	98.26% (95.36, 99.36%), n=104		
18	139	97.79% (93.30, 99.28%), n=128	96.95% (92.07, 98.85%), n=44		
19	117	96.54% (91.05, 98.69%), n=109			
20	103	95.11% (88.64, 97.93%), n=97	91.70% (84.03, 95.78%), n=60		
21	105	99.05% (93.43, 99.87%), n=93	99.05% (93.43, 99.87%), n=51		
22	290	97.90% (95.39, 99.05%), n=266	96.70% (93.74, 98.27%), n=190	93.20% (87.83, 96.25%), n=69	
23	108	97.20% (91.56, 99.09%), n=100	94.79% (87.84, 97.82%), n=44		
24	105	99.05% (93.43, 99.87%), n=51			
25	105	94.08% (87.30, 97.30%), n=91	94.08% (87.30, 97.30%), n=63		
26	335	96.97% (94.44, 98.36%), n=309	96.00% (93.21, 97.66%), n=269	94.02% (90.06, 96.43%), n=88	
27	228	96.44% (93.00, 98.20%), n=215	93.96% (89.80, 96.45%), n=114		
28	107	99.05% (93.43, 99.87%), n=104	99.05% (93.43, 99.87%), n=78		
29	108	96.16% (90.09, 98.54%), n=73			
30	131	99.22% (94.63, 99.89%), n=128	94.94% (86.73, 98.12%), n=61		
31	165	98.12% (94.29, 99.39%), n=127			
32	134	98.51% (94.16, 99.62%), n=132	97.26% (91.43, 99.14%), n=73		
33	100	98.98% (92.98, 99.86%), n=97	93.23% (84.03, 97.22%), n=47		
Other (<100)	5125	97.88% (97.44, 98.25%), n=4564	95.64% (94.95, 96.23%), n=1997	91.71% (89.83, 93.25%), n=251	91.16% (88.94, 92.96%), n=40
All***	11424	97.70% (97.40, 97.96%), n=10165	95.31% (94.85, 95.73%), n=4927	91.89% (90.96, 92.73%), n=946	89.55% (87.75, 91.10%), n=176

NOTE: Kaplan-Meier Survival Estimates are only reported for surgeons when a minimum of 40 hips are available

***Total number includes cases from surgeons with less than 40 at the respective time period

Table 4. Kaplan-Meier Estimates and 95% Confidence Intervals - Revision due to Soft Tissue Reactions (CORAIL)

Surgeon	N Implanted	3 Years	5 Years	7 Years	8 Years
1	146	100.00% (100.00, 100.00%), n=136	100.00% (100.00, 100.00%), n=120	98.19% (92.94, 99.55%), n=44	
2	163	100.00% (100.00, 100.00%), n=162	100.00% (100.00, 100.00%), n=116	100.00% (100.00, 100.00%), n=54	
3	108	100.00% (100.00, 100.00%), n=107	100.00% (100.00, 100.00%), n=106	100.00% (100.00, 100.00%), n=82	
4	269	97.25% (94.33, 98.68%), n=244	93.44% (89.50, 95.94%), n=164		
5	338	99.37% (97.49, 99.84%), n=303	98.72% (95.79, 99.61%), n=138		
6	129	100.00% (100.00, 100.00%), n=119	99.07% (93.61, 99.87%), n=79		
7	110	100.00% (100.00, 100.00%), n=85			
8	140	97.62% (92.80, 99.23%), n=122			
9	140	100.00% (100.00, 100.00%), n=120			
10	389	100.00% (100.00, 100.00%), n=359	100.00% (100.00, 100.00%), n=197	100.00% (100.00, 100.00%), n=80	
11	112	99.00% (93.11, 99.86%), n=99	99.00% (93.11, 99.86%), n=60		
12	104	100.00% (100.00, 100.00%), n=82			
13	304	100.00% (100.00, 100.00%), n=255	100.00% (100.00, 100.00%), n=65		
14	426	100.00% (100.00, 100.00%), n=369	99.49% (96.45, 99.93%), n=189	98.61% (94.29, 99.67%), n=42	
15	275	99.19% (96.80, 99.80%), n=243	91.42% (86.84, 94.46%), n=158	80.17% (71.44, 86.48%), n=40	
16	446	98.80% (97.15, 99.50%), n=394	96.31% (93.50, 97.91%), n=200		
17	320	100.00% (100.00, 100.00%), n=282	99.59% (97.14, 99.94%), n=104		
18	139	100.00% (100.00, 100.00%), n=128	99.15% (94.09, 99.88%), n=44		
19	117	100.00% (100.00, 100.00%), n=109			
20	103	98.99% (93.05, 99.86%), n=97	98.99% (93.05, 99.86%), n=60		
21	105	100.00% (100.00, 100.00%), n=93	100.00% (100.00, 100.00%), n=51		
22	290	99.64% (97.44, 99.95%), n=266	99.19% (96.77, 99.80%), n=190	96.24% (90.55, 98.53%), n=69	
23	108	99.03% (93.31, 99.86%), n=100	96.58% (89.69, 98.89%), n=44		
24	105	100.00% (100.00, 100.00%), n=51			
25	105	100.00% (100.00, 100.00%), n=91	100.00% (100.00, 100.00%), n=63		
26	335	100.00% (100.00, 100.00%), n=309	100.00% (100.00, 100.00%), n=269	98.77% (95.18, 99.69%), n=88	
27	228	100.00% (100.00, 100.00%), n=215	100.00% (100.00, 100.00%), n=114		
28	107	100.00% (100.00, 100.00%), n=104	100.00% (100.00, 100.00%), n=78		
29	108	100.00% (100.00, 100.00%), n=73			
30	131	100.00% (100.00, 100.00%), n=128	95.68% (87.17, 98.59%), n=61		
31	165	100.00% (100.00, 100.00%), n=127			
32	134	100.00% (100.00, 100.00%), n=132	98.73% (91.35, 99.82%), n=73		
33	100	98.98% (92.98, 99.86%), n=97	98.98% (92.98, 99.86%), n=47		
Other (<100)	5125	99.73% (99.54, 99.84%), n=4564	98.77% (98.34, 99.09%), n=1997	96.80% (95.35, 97.81%), n=251	96.80% (95.35, 97.81%), n=40
All***	11424	99.65% (99.52, 99.75%), n=10165	98.48% (98.18, 98.73%), n=4927	96.53% (95.81, 97.12%), n=946	94.48% (92.68, 95.85%), n=176

NOTE: Kaplan-Meier Survival Estimates are only reported for surgeons when a minimum of 40 hips are available

***Total number includes cases from surgeons with less than 40 at the respective time period

References:

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4. NJR-NJR data from 1st April 2003- April 2013 on DePuy products supplied for post-marketing surveillance, NJR Centre, 2013. Note: NJR-NJR Supplier Feedback data do not include Hospital Episode Statistics (HES) data linkage. Revisions may therefore be underreported.



COMPANIES OF *Johnson & Johnson*

DePuy Orthopaedics, Inc.
700 Orthopaedic Drive
Warsaw, IN 46582
Tel: +1(800) 366-8143
Fax: +1(800) 669-2530

www.depuysynthes.com