

Bespoke Implant Report for:

DePuy

Corail - Pinnacle vs. All other Cementless hips

Comprising PRIMARY hips implanted up to:
NJR Database extract:

04 February 2018
05 April 2018

Produced on:

25 April 2018

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This report has been produced by the National Joint Registry of England, Wales and Northern Ireland (NJR). It summarises usage and outcomes associated with DePuy Corail - Pinnacle vs. All other Cementless hips used in primary hips, based on data collected by the NJR.

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Both groups exclude metal-on-metal and ceramic-on-metal bearings

NJR Recorded Usage

Implant Usage

Totals Recorded in NJR	Corail - Pinnacle	All other Cementless hips
First usage in the NJR:	02-Jun-2003	01-Apr-2003
Last usage in this dataset:	03-Feb-2018	04-Feb-2018
Maximum implantation time (years):	14.3	14.8
Mean implantation time (years):	4.5	5.2
Procedures	123536	219828
Patients	110943	195696
Centres	358	445
Consultants	1414	2063
Implanting Surgeons	2422	3645

Group	Year of implantation													Total
	Pre-2007	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Corail - Pinnacle	3407	3427	5121	7186	10037	11543	12589	12421	14018	14396	14317	13939	1135	123536
All other Cementless hips	20756	9249	11925	14292	17065	19032	21578	21143	21248	20272	20875	20685	1708	219828
Total	24163	12676	17046	21478	27102	30575	34167	33564	35266	34668	35192	34624	2843	343364

Patient / Procedure Details

Patient Details

	Corail - Pinnacle	All other Cementless hips
Total Procedures	123536	219828
Total Patients	110943	195696
Demographics		
Mean age	65.7	65.0
< 50	7.4%	9.2%
50 – 59	18.8%	19.4%
60 – 69	35.9%	34.8%
70 – 79	29.0%	27.8%
≥ 80	9.0%	8.9%
Median BMI	28	28
% BMI information available	67.1%	61.7%
Underweight (BMI < 18.5)	0.6%	0.7%
Normal (18.5 ≤ BMI < 25)	18.2%	19.4%
Overweight (25 ≤ BMI < 30)	39.8%	39.1%
Obese I (30 ≤ BMI < 35)	26.7%	26.7%
Obese II (35 ≤ BMI < 40)	11.1%	10.4%
Obese III (BMI ≥ 40)	3.7%	3.7%
% Male	44.4%	43.9%
ASA Grades		
P1 - Fit and healthy	17.5%	19.4%
P2 - Mild disease not incapacitating	70.5%	68.1%
P3 - Incapacitating systemic disease	11.6%	12.1%
P4 / P5	0.3%	0.4%
Indications		
Osteoarthritis	94.29%	92.78%
Rheumatoid Arthritis	1.07%	1.27%
Other Inflammatory Arthropathy	2.09%	2.74%
Previous Trauma	1.82%	1.66%
Avascular Necrosis	1.46%	2.43%
Other	1.14%	1.91%

Total of indications may exceed total number of implants, since more than one indication can be listed per case.

Revision and Survivorship

Reasons for Revision

Reasons for revision of primary procedures in which the implant was used.

Reason for Revision	Corail - Pinnacle		All other Cementless hips		p value
	Revised [†]	Revised / Expected*	Revised [†]	Revised / Expected*	
Pain	237	0.70	772	1.15	<0.001
Dislocation / Subluxation	440	0.83	1136	1.08	<0.001
Adverse Soft Tissue Reaction	54	0.68	200	1.15	<0.001
Infection	345	0.89	789	1.06	0.006
Aseptic Loosening - Stem	538	1.08	978	0.96	0.035
Aseptic Loosening - Socket	94	0.45	553	1.26	<0.001
Periprosthetic Fracture Stem	308	0.86	760	1.07	0.002
Periprosthetic Fracture Socket	25	0.49	120	1.27	<0.001
Malalignment Stem	83	0.84	208	1.08	0.048
Malalignment Socket	136	0.77	398	1.11	<0.001
Wear Of Acetabular Component	79	0.59	380	1.17	<0.001
Lysis Stem	40	0.75	140	1.10	0.033
Lysis Socket	18	0.48	117	1.20	<0.001
Implant Fracture Stem	28	0.68	97	1.16	0.01
Implant Fracture Socket	109	1.54	102	0.73	<0.001
Implant Fracture Head	5	0.24	66	1.32	<0.001
Dissociation of Liner	79	1.20	120	0.90	0.051
Other / reason not recorded	125	0.92	274	1.04	0.29
Total Revised	2247	0.88	5428	1.06	<0.001

* Logrank comparison, adjusted for Patient Gender, Age Group, and indications ()

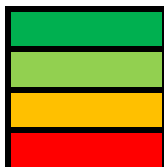
† multiple reasons may be listed for one revision procedure

Significantly better, p < 0.001

Significantly better, p < 0.05

Significantly worse p < 0.05

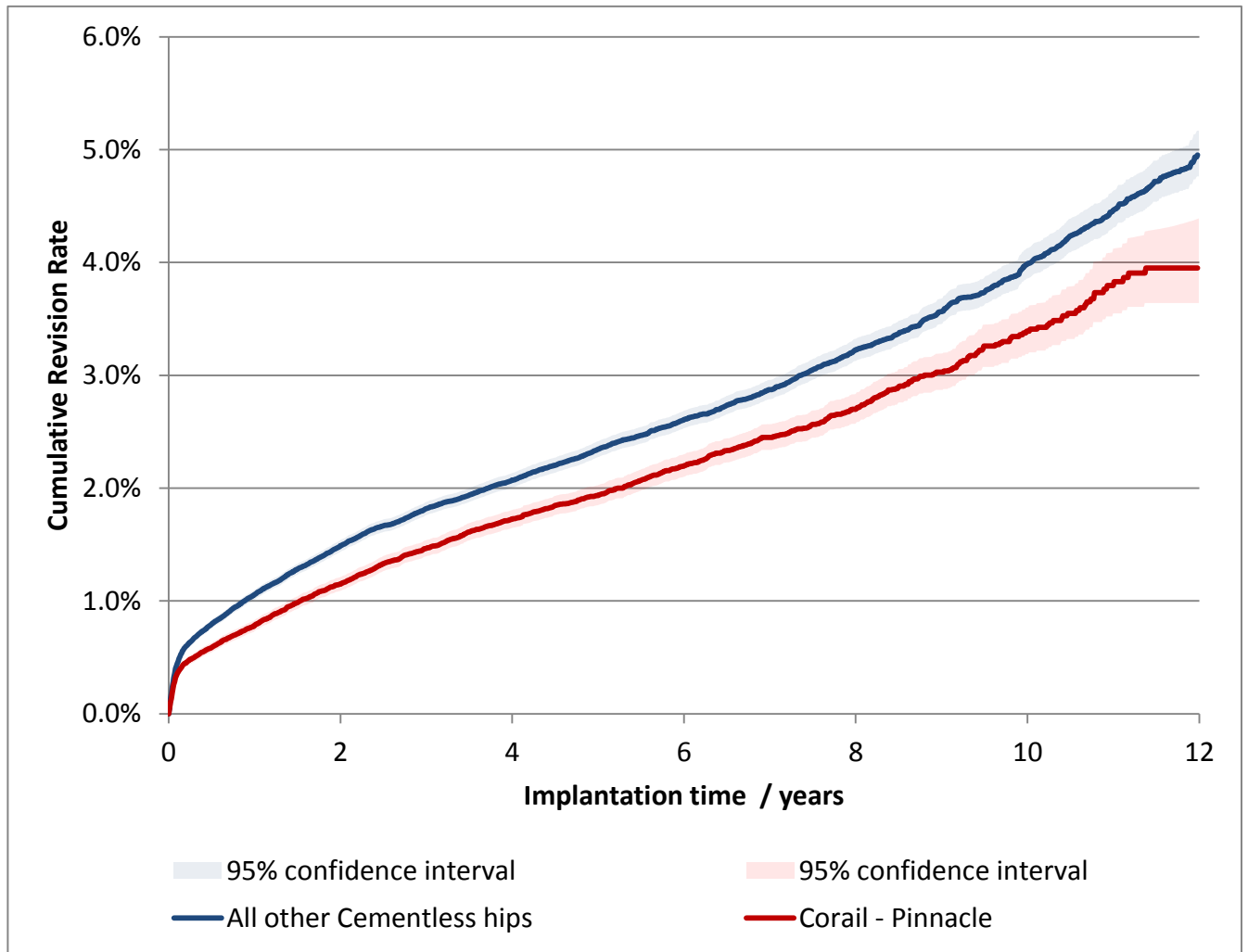
Significantly worse p < 0.001



Components Revised	Corail - Pinnacle		All other Cementless hips	
Femoral only	776	34.5%	1587	29.2%
Acetabular only	521	23.2%	1479	27.2%
Both femoral and acetabular	670	29.8%	1777	32.7%
Neither femoral nor acetabular revision recorded *	280	12.5%	585	10.8%

* includes isolated head and/or liner exchange

Endpoint: Revision for any reason



Stratified Log-rank test, with observed and expected number of revisions

Adjustment	Corail - Pinnacle		All other Cementless hips		p-value
	Observed	Expected	Observed	Expected	
Unadjusted	2247	2560.2	5428	5114.8	<0.001
Adjusted	2247	2555.8	5428	5119.2	<0.001

Cox Proportional Hazards model for revision risk ratio of Corail - Pinnacle / All other Cementless hips

Adjustment	Hazard Ratio (95% CI)	p-value
Unadjusted	0.83 (0.79 - 0.87)	<0.001
Adjusted	0.83 (0.79 - 0.87)	<0.001

Adjustment includes Patient Gender, Age Group, and indications ()

Revision and Survivorship

Cumulative Revision Rate

Endpoint: Revision for any reason

Period /years	Corail - Pinnacle		All other Cementless hips	
	At Risk	Revision Rate	At Risk	Revision Rate
0	123,536	-	219,828	-
1	108,062	0.79% (0.74% - 0.84%)	195,232	1.06% (1.01% - 1.10%)
2	92,702	1.15% (1.09% - 1.21%)	172,165	1.49% (1.44% - 1.54%)
3	77,348	1.47% (1.40% - 1.54%)	149,789	1.82% (1.76% - 1.88%)
4	62,793	1.73% (1.65% - 1.81%)	127,080	2.07% (2.01% - 2.13%)
5	49,978	1.94% (1.85% - 2.02%)	104,846	2.35% (2.28% - 2.42%)
6	37,626	2.20% (2.10% - 2.30%)	83,126	2.61% (2.53% - 2.69%)
7	26,433	2.45% (2.34% - 2.57%)	63,888	2.87% (2.79% - 2.96%)
8	16,844	2.70% (2.57% - 2.83%)	47,479	3.22% (3.13% - 3.32%)
9	10,260	3.03% (2.87% - 3.19%)	34,135	3.56% (3.45% - 3.68%)
10	5,811	3.39% (3.19% - 3.60%)	23,629	3.99% (3.86% - 4.12%)
11	2,843	3.80% (3.52% - 4.09%)	15,752	4.46% (4.30% - 4.63%)
12	1,143	3.95% (3.64% - 4.39%)	9,769	4.96% (4.76% - 5.17%)
13		(-)	4,892	5.50% (5.25% - 5.77%)
14		(-)	1,565	6.23% (5.82% - 6.65%)
15		(-)		(-)

Cumulative revision rate with 95% confidence intervals

Rate is only reported for times where more than 40 remain at risk

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