

**Bespoke Implant Report for:**

DePuy

**Corail - Marathon vs. All other Reverse Hybrid 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 - Marathon vs. All other Reverse Hybrid 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

## Implant Usage

Totals Recorded in NJR	Corail - Marathon	All other Reverse Hybrid hips
First usage in the NJR:	14-Jan-2007	01-Apr-2003
Last usage in this dataset:	02-Feb-2018	04-Feb-2018
Maximum implantation time (years):	11.1	14.8
Mean implantation time (years):	3.4	5.6
Procedures	11617	14277
Patients	10648	13290
Centres	105	355
Consultants	268	973
Implanting Surgeons	386	1279

Group	Year of implantation													Total
	Pre-2007	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
<b>Corail - Marathon</b>	0	4	96	489	730	847	1002	1225	1578	1725	1891	1894	136	11617
<b>All other Reverse Hybrid hips</b>	1136	986	1484	1267	1193	1399	1393	1176	1124	1054	1034	964	67	14277
<b>Total</b>	1136	990	1580	1756	1923	2246	2395	2401	2702	2779	2925	2858	203	25894

## Patient / Procedure Details

## Patient Details

	Corail - Marathon	All other Reverse Hybrid hips
<b>Total Procedures</b>	11617	14277
<b>Total Patients</b>	10648	13290
<b>Demographics</b>		
Mean age	<b>69.9</b>	<b>70.8</b>
< 50	2.7%	2.6%
50 – 59	10.4%	9.4%
60 – 69	32.5%	29.3%
70 – 79	38.8%	40.2%
≥ 80	15.5%	18.3%
Median BMI	<b>28</b>	<b>28</b>
% BMI information available	66.8%	54.8%
Underweight ( BMI < 18.5)	0.6%	1.1%
Normal (18.5 ≤ BMI < 25)	18.3%	19.4%
Overweight (25 ≤ BMI < 30)	39.3%	39.4%
Obese I (30 ≤ BMI < 35)	27.3%	26.3%
Obese II (35 ≤ BMI < 40)	11.1%	9.9%
Obese III (BMI ≥ 40)	3.5%	3.8%
% Male	37.8%	34.9%
<b>ASA Grades</b>		
P1 - Fit and healthy	11.4%	10.9%
P2 - Mild disease not incapacitating	73.2%	67.5%
P3 - Incapacitating systemic disease	14.9%	20.5%
P4 / P5	0.4%	1.1%
<b>Indications</b>		
Osteoarthritis	93.13%	89.90%
Rheumatoid Arthritis	1.72%	1.74%
Other Inflammatory Arthropathy	1.83%	2.90%
Previous Trauma	2.60%	3.02%
Avascular Necrosis	0.71%	1.03%
Other	1.35%	4.15%

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**

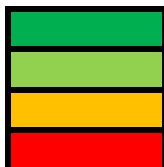
Reasons for revision of primary procedures in which the implant was used.

Reason for Revision	Corail - Marathon		All other Reverse Hybrid hips		p value
	Revised <sup>†</sup>	Revised / Expected*	Revised <sup>†</sup>	Revised / Expected*	
Pain	8	0.43	43	1.33	0.001
Dislocation / Subluxation	28	0.68	85	1.18	0.011
Adverse Soft Tissue Reaction	2	1.46	5	0.89	0.629
Infection	33	0.81	70	1.13	0.131
Aseptic Loosening - Stem	26	0.90	55	1.05	0.563
Aseptic Loosening - Socket	7	0.30	79	1.27	<0.001
Periprosthetic Fracture Stem	16	0.58	60	1.24	0.006
Periprosthetic Fracture Socket	1	0.41	7	1.25	0.449
Malalignment Stem	8	0.90	14	1.07	0.829
Malalignment Socket	3	0.34	18	1.46	0.013
Wear Of Acetabular Component	2	0.27	22	1.32	0.015
Lysis Stem	2	0.80	6	1.09	1
Lysis Socket	4	0.82	12	1.08	0.79
Implant Fracture Stem	0	0.00	4	1.63	0.164
Implant Fracture Socket	0	NA	0	NA	1
Implant Fracture Head	0	0.00	1	1.80	1
Dissociation of Liner	3	1.62	2	0.64	0.367
Other / reason not recorded	7	0.73	17	1.18	0.405
<b>Total Revised</b>	<b>128</b>	<b>0.71</b>	<b>377</b>	<b>1.16</b>	<b>&lt;0.001</b>

† multiple reasons may be listed for one revision procedure

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

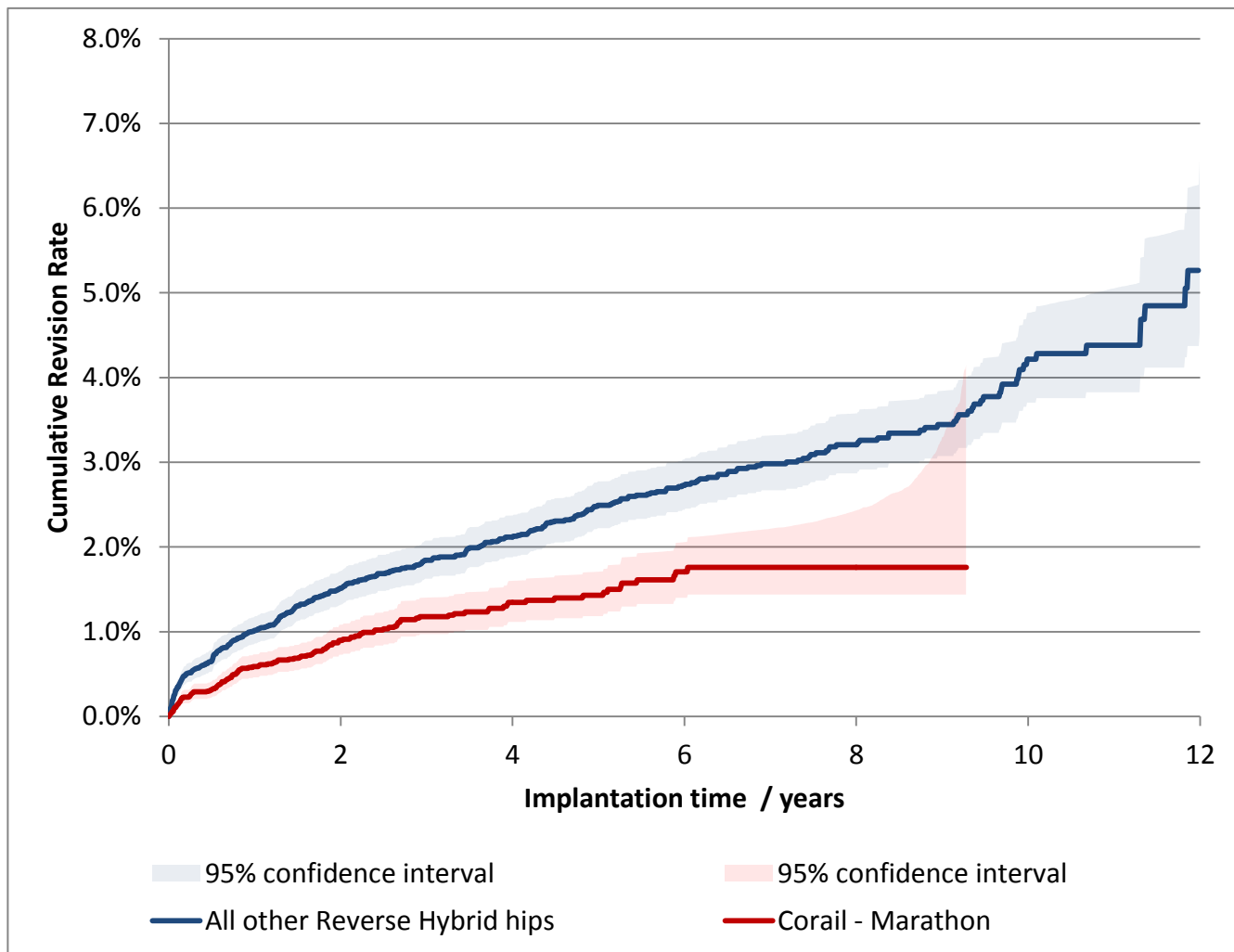
- Significantly better, p < 0.001
- Significantly better, p < 0.05
- Significantly worse p < 0.05
- Significantly worse p < 0.001



Components Revised	Corail - Marathon		All other Reverse Hybrid hips	
Femoral only	40	31.3%	97	25.7%
Acetabular only	18	14.1%	115	30.5%
Both femoral and acetabular	46	35.9%	122	32.4%
Neither femoral nor acetabular revision recorded *	24	18.8%	43	11.4%

\* 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 - Marathon		All other Reverse Hybrid hips		p-value
	Observed	Expected	Observed	Expected	
Unadjusted	128	182.1	377	322.9	<0.001
Adjusted	128	180.7	377	324.3	<0.001

Cox Proportional Hazards model for revision risk ratio of Corail - Marathon / All other Reverse Hybrid hips

Adjustment	Hazard Ratio (95% CI)	p-value
Unadjusted	0.59 (0.48 - 0.72)	<0.001
Adjusted	0.59 (0.48 - 0.73)	<0.001

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

## Revision and Survivorship

### Cumulative Revision Rate

Endpoint: Revision for any reason

Period /years	Corail - Marathon		All other Reverse Hybrid hips	
	At Risk	Revision Rate	At Risk	Revision Rate
0	11,617	-	14,277	-
1	9,603	0.59% (0.46% - 0.73%)	12,911	1.02% (0.86% - 1.18%)
2	7,598	0.90% (0.73% - 1.08%)	11,625	1.51% (1.32% - 1.72%)
3	5,767	1.18% (0.97% - 1.40%)	10,386	1.84% (1.63% - 2.08%)
4	4,141	1.35% (1.11% - 1.60%)	9,064	2.12% (1.88% - 2.37%)
5	2,940	1.43% (1.18% - 1.71%)	7,758	2.49% (2.22% - 2.77%)
6	1,930	1.71% (1.40% - 2.06%)	6,299	2.73% (2.44% - 3.03%)
7	1,147	1.76% (1.44% - 2.22%)	4,904	2.98% (2.67% - 3.32%)
8	529	1.76% (1.44% - 2.43%)	3,731	3.21% (2.87% - 3.58%)
9	99	1.76% (1.44% - 3.30%)	2,683	3.45% (3.07% - 3.84%)
10		( - )	1,541	4.22% (3.70% - 4.76%)
11		( - )	751	4.38% (3.83% - 5.05%)
12		( - )	413	5.50% (4.52% - 6.56%)
13		( - )	193	6.48% (5.09% - 8.10%)
14		( - )	60	7.12% (5.38% - 10.15%)
15		( - )		( - )

Cumulative revision rate with 95% confidence intervals

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

## Disclaimer

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