

Bespoke Implant Report for:

DePuy

Corail Collared vs. Collarless (ex MoM)

Comprising PRIMARY hips implanted up to: 09 October 2017
NJR Database extract: 08 December 2017

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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 Collared Standard Offset Stem (KA) vs. Collarless Standard Offset Stem (KS) used in primary hips (excluding metal on metal bearings), based on data collected by the NJR. Details of the stems in this report are contained in the appendices.

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Implant Usage

Totals Recorded in NJR	Corail Collared Standard (KA)	Corail Collarless Standard (KS)
First usage in the NJR:	05-Jun-2003	13-May-2003
Last usage in this dataset:	09-Oct-2017	09-Oct-2017
Maximum implantation time (years):	14.3	14.4
Mean implantation time (years):	3.7	5.5
Procedures	62048	58173
Patients	56686	53068
Centres	288	344
Consultants	980	1273
Implanting Surgeons	1632	2070

Group	Year of implantation													Total
	Pre-2006	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Corail Collared Standard (KA)	406	481	846	1514	2895	4175	5355	6319	6745	7922	8877	9322	7191	62048
Corail Collarless Standard (KS)	2117	2028	3297	4787	5254	6241	6238	5935	5411	5303	4759	4001	2802	58173
Total	2523	2509	4143	6301	8149	10416	11593	12254	12156	13225	13636	13323	9993	120221

Patient / Procedure Details

Patient Details

	Corail Collared Standard (KA)	Corail Collarless Standard (KS)
Total Procedures	62048	58173
Total Patients	56686	53068
Demographics		
Mean age	67.7	65.4
< 50	5.8%	7.9%
50 – 59	15.3%	18.4%
60 – 69	32.6%	36.5%
70 – 79	32.6%	28.6%
≥ 80	13.6%	8.6%
Median BMI	28	28
% BMI information available	66.8%	59.3%
Underweight (BMI < 18.5)	0.8%	0.7%
Normal (18.5 ≤ BMI < 25)	20.6%	19.3%
Overweight (25 ≤ BMI < 30)	38.5%	39.5%
Obese I (30 ≤ BMI < 35)	25.6%	26.0%
Obese II (35 ≤ BMI < 40)	10.7%	10.8%
Obese III (BMI ≥ 40)	3.8%	3.7%
% Male	33.9%	35.9%
ASA Grades		
P1 - Fit and healthy	15.2%	18.0%
P2 - Mild disease not incapacitating	70.6%	70.3%
P3 - Incapacitating systemic disease	13.8%	11.4%
P4 / P5	0.5%	0.3%
Indications		
Osteoarthritis	92.99%	93.78%
Rheumatoid Arthritis	1.17%	1.37%
Other Inflammatory Arthropathy	1.98%	2.34%
Previous Trauma	3.11%	1.39%
Avascular Necrosis	1.33%	1.87%
Other	1.21%	1.48%

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

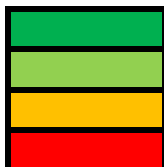
Reasons for revision of primary procedures in which the implant was used.

Reason for Revision	Corail Collared Standard (KA)		Corail Collarless Standard (KS)		p value
	Revised [†]	Revised / Expected*	Revised [†]	Revised / Expected*	
Pain	80	0.79	164	1.14	0.008
Dislocation / Subluxation	196	0.92	265	1.07	0.123
Adverse Soft Tissue Reaction	32	0.95	61	1.03	0.747
Infection	154	0.97	195	1.03	0.591
Aseptic Loosening - Stem	142	0.85	288	1.10	0.013
Aseptic Loosening - Socket	72	1.09	89	0.94	0.337
Periprosthetic Fracture Stem	54	0.40	231	1.55	<0.001
Periprosthetic Fracture Socket	10	0.83	17	1.13	0.562
Malalignment Stem	34	0.86	52	1.12	0.235
Malalignment Socket	62	1.05	76	0.97	0.668
Wear Of Acetabular Component	45	1.04	67	0.98	0.772
Lysis Stem	15	0.80	40	1.10	0.323
Lysis Socket	16	1.16	27	0.92	0.514
Implant Fracture Stem	7	0.68	15	1.28	0.202
Implant Fracture Socket	30	0.87	53	1.09	0.373
Implant Fracture Head	3	1.24	4	0.87	0.699
Dissociation of Liner	30	0.92	46	1.06	0.564
Other / reason not recorded	47	0.81	85	1.15	0.065
Total Revised	817	0.86	1386	1.11	<0.001

† multiple reasons may be listed for one revision procedure

* Logrank comparison, adjusted for Patient Gender, Age Group, and indications (OA/non-OA)

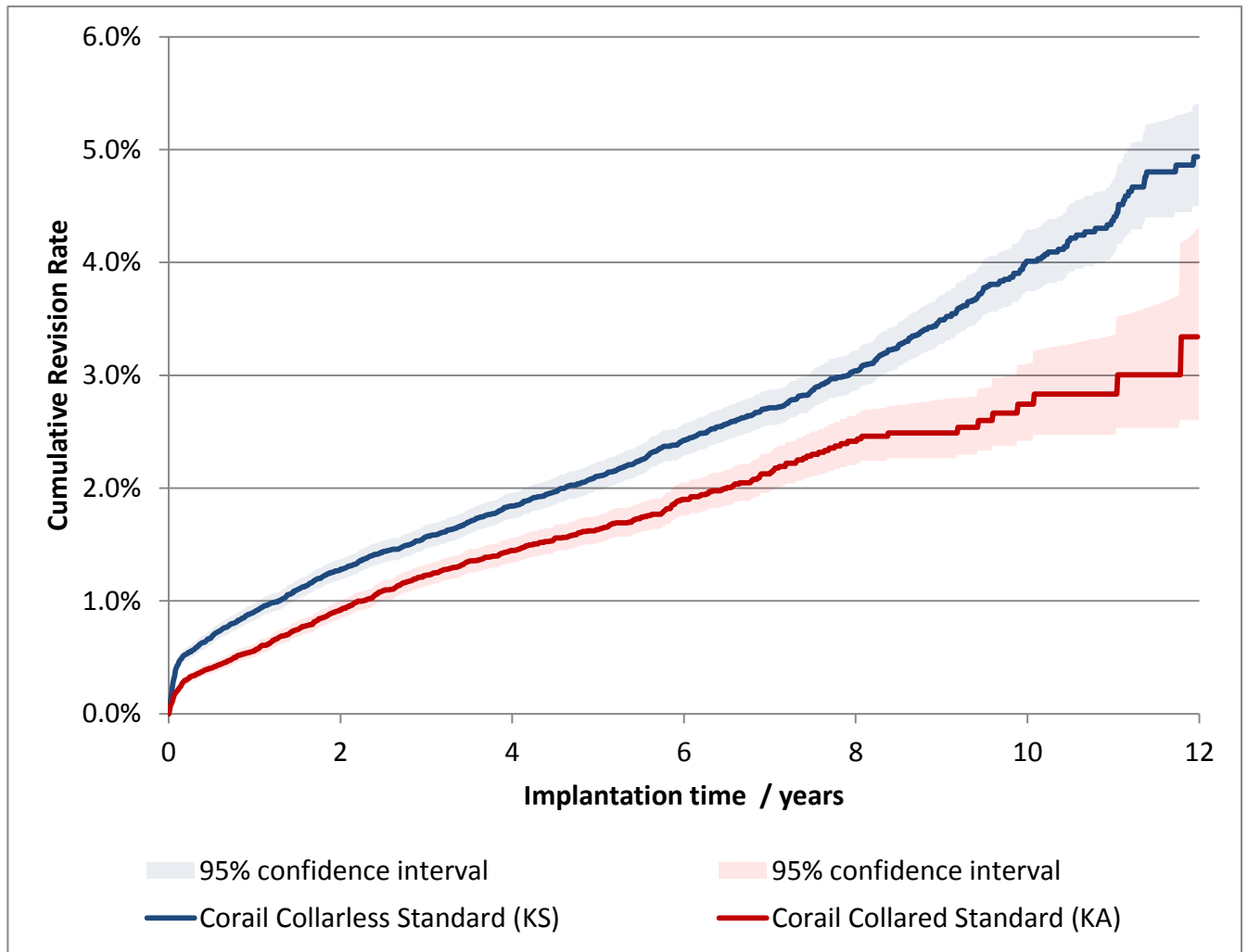
- Significantly better, p < 0.001
- Significantly better, p < 0.05
- Significantly worse p < 0.05
- Significantly worse p < 0.001



Components Revised	Corail Collared Standard (KA)		Corail Collarless Standard (KS)	
Femoral only	174	21.3%	454	32.8%
Acetabular only	249	30.5%	339	24.5%
Both femoral and acetabular	270	33.0%	434	31.3%
Neither femoral nor acetabular revision recorded *	124	15.2%	159	11.5%

* 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 Collared Standard (KA)		Corail Collarless Standard (KS)		p-value
	Observed	Expected	Observed	Expected	
Unadjusted	817	965.5	1386	1237.5	<0.001
Adjusted	817	954.8	1386	1248.2	<0.001

Cox Proportional Hazards model for revision risk ratio of Corail Collared Standard (KA) / Corail Collarless Standard (KS)

Adjustment	Hazard Ratio (95% CI)	p-value
Unadjusted	0.75 (0.69 - 0.82)	<0.001
Adjusted	0.76 (0.70 - 0.83)	<0.001

Adjustment includes Patient Gender, Age Group, and indications (OA/non-OA)

Revision and Survivorship

Cumulative Revision Rate

Endpoint: Revision for any reason

Period /years	Corail Collared Standard (KA)		Corail Collarless Standard (KS)	
	At Risk	Revision Rate	At Risk	Revision Rate
0	62,048	-	58,173	-
1	51,833	0.56% (0.50% - 0.62%)	53,550	0.90% (0.83% - 0.98%)
2	42,058	0.92% (0.85% - 1.00%)	48,763	1.28% (1.19% - 1.37%)
3	33,039	1.23% (1.13% - 1.33%)	43,352	1.57% (1.47% - 1.67%)
4	25,093	1.45% (1.34% - 1.56%)	37,433	1.84% (1.73% - 1.96%)
5	18,520	1.63% (1.51% - 1.76%)	31,690	2.11% (1.98% - 2.23%)
6	12,523	1.90% (1.76% - 2.05%)	25,530	2.42% (2.28% - 2.57%)
7	7,722	2.13% (1.96% - 2.31%)	19,272	2.71% (2.56% - 2.87%)
8	4,337	2.41% (2.20% - 2.64%)	13,538	3.04% (2.86% - 3.22%)
9	2,166	2.49% (2.26% - 2.78%)	8,861	3.49% (3.28% - 3.71%)
10	1,154	2.74% (2.42% - 3.10%)	5,125	4.01% (3.75% - 4.29%)
11	586	2.83% (2.47% - 3.36%)	2,733	4.37% (4.05% - 4.71%)
12	212	3.34% (2.60% - 4.30%)	1,191	4.94% (4.50% - 5.41%)
13		(-)	152	5.62% (4.90% - 6.97%)
14		(-)		(-)
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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Appendix A1

Catalogue Number	Description	Number Implanted
3L92498	Corail Collared Stem K8A 115mm	3484
3L92499	Corail Collared Stem K9A 130mm	5573
3L92500	Corail Collared Stem K10A 140mm	11233
3L92501	Corail Collared Stem K11A 145mm	16277
3L92502	Corail Collared Stem K12A 150mm	13252
3L92503	Corail Collared Stem K13A 155mm	6524
3L92504	Corail Collared Stem K14A 160mm	3374
3L92505	Corail Collared Stem K15A 165mm	1602
3L92506	Corail Collared Stem K16A 170mm	588
3L92508	Corail Collared Stem K18A 180mm	130
3L92521	Corail Collared Stem K20A 190mm	11

Appendix A2

Catalogue Number	Description	Number Implanted
3L92507	Corail Collarless Stem K8S 125mm	3930
3L92509	Corail Collarless Stem K9S 130mm	5126
3L92510	Corail Collarless Stem K10S 140mm	10079
3L92511	Corail Collarless Stem K11S 145mm	14850
3L92512	Corail Collarless Stem K12S 150mm	12799
3L92513	Corail Collarless Stem K13S 155mm	6099
3L92514	Corail Collarless Stem K14S 160mm	3107
3L92515	Corail Collarless Stem K15S 165mm	1414
3L92516	Corail Collarless Stem K16S 170mm	537
3L92518	Corail Collarless Stem K18S 180mm	221
3L92520	Corail Collarless Stem K20S 190mm	11