
Prostheses used in hip and knee replacement procedures, 2008



National Joint Registry
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1 Prostheses used in hip procedures, 2008

1.1 Femoral head material and size

Table 1 shows the relative usage of different femoral heads. There has been a 2% decrease in the use of metallic heads and a 3% increase in the use of alumina heads compared with 2007.

Table 1 Frequency of material chosen for femoral heads in procedures performed in 2008.

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Material	Number of procedures	Percentage
	56,968	
metallic	41,527	73%
alumina	15,403	27%
zircon	48	0%

Table 2 shows the frequency of the different femoral head sizes. The main change compared with 2007 is a 6% increase in the use of heads classified as 'other' size (these are generally 36mm heads) and a 3% increase in the use of 32mm heads for metal on metal articulations. Less than 1% of 'other' sized heads were implanted with a resurfacing cup. It is planned that a further size category (36mm) is added to the National Joint Registry (NJR) component classification in order to understand the change in head size practice.

Table 2 Frequency of femoral head sizes for procedures performed in 2008.

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Head size	Number of procedures	Percentage
	57,004	
22	1,218	2%
26	2,023	4%
28	32,089	56%
32	9,440	17%
other	12,234	21%

1.2 Brand sales of conventional total hips and resurfacing prostheses

Tables 3 to 8 show the most frequently used brands in England and Wales during 2008, as assessed by their rate of entry into the NJR. The level of assessment according to Orthopaedic Data Evaluation Panel (ODEP) criteria is given in the final column. Tables 3 to 6 have been split into two to show brand usage in primary procedures and revision procedures.

Table 3(a) Cemented cup brands entered into the NJR during 2008 for primary hip replacements.

Manufacturer	Brand	Total components	Percentage	ODEP rating
		23,925		
Stryker Howmedica Osteonics	CONTEMPORARY	7,172	30%	5A
DePuy	ELITE PLUS OGEE	3,576	15%	10A
DePuy	ELITE PLUS CEMENTED CUP	2,098	9%	10A
Stryker Howmedica Osteonics	EXETER DURATION	1,791	7%	10A
Smith & Nephew	OPERA	1,444	6%	5B
DePuy	CHARNLEY CEMENTED CUP	1,160	5%	10A
DePuy	CHARNLEY OGEE	1,105	5%	10A
Zimmer	ZCA	1,064	4%	10A
Zimmer	LOW PROFILE MULLER	719	3%	unclassified
Biomet	STANMORE-ARCOM	472	2%	10A
Corin	CENATOR CEMENTED CUP	364	2%	3A
DePuy	ULTIMA CEMENTED CUP	308	1%	7A
Joint Replacement Instrumentation	FURLONG CEMENTED CUP	268	1%	10B
DePuy	WROBLEWSKI GOLF BALL	252	1%	3B
Biomet	M2A CEMENTED CUP	220	1%	5B
Biomet	ARCOM SHP	203	1%	5A
Biomet	APOLLO	202	1%	pre-entry
Zimmer	ZIMMER CEMENTED CUP	196	1%	10A
Mathys Orthopaedics	CCB MATHYS	193	1%	10A
Smith & Nephew	SP3	164	1%	unclassified
DePuy	MARATHON	137	1%	pre-entry
Smith & Nephew	REFLECTION CEMENTED	96	<1%	10A
Waldemar Link	INTERPLANTA	77	<1%	10A
Zimmer	METASUL-WEBER	76	<1%	3A
Smith & Nephew	PE-PLUS	65	<1%	10C
Ortho-ID	POLAR CEMENTED CUP	59	<1%	unclassified
Biomet	CMK CEMENTED CUP	58	<1%	unclassified
Zimmer	CENTERPULSE MULLER	57	<1%	unclassified
Waldemar Link	LINK FLANGE CUP	44	<1%	unclassified
Finsbury	SLF CEMENTED CUP (FINSBURY)	43	<1%	10C
Implants International	EDINBURGH CUP	35	<1%	unclassified

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Manufacturer	Brand	Total components	Percentage	ODEP rating
Stryker Howmedica Osteonics	ODC	32	<1%	unclassified
Corin	HI-NEK CEMENTED CUP	31	<1%	unclassified
Waldemar Link	SNAP FIT	29	<1%	unclassified
B Braun/Aesculap	CHIRULEN	27	<1%	unclassified
Implants International	CCB	22	<1%	unclassified
DePuy	WROBLEWSKI ANGLE BORE SOCKET	21	<1%	7B
Zimmer	METASUL-MULLER	16	<1%	unclassified
Zimmer	SPC	11	<1%	unclassified
B Braun/Aesculap	ALFA CEMENTED CUP	5	<1%	unclassified
DePuy	ELITE PLUS FLANGED	2	<1%	10A
DePuy	HYLAMER	2	<1%	unacceptable
Symbios SA	PE	2	<1%	unclassified
Biomet	BIOMET MULLER	1	<1%	5B
Biomet	CUSTOM HC	1	<1%	not applicable
Biomet	SCAN CEMENTED CUP	1	<1%	unclassified
DePuy	HYLAMER OGEE	1	<1%	unacceptable
Orthodynamics	ORTHODYNAMICS	1	<1%	7B
Sovereign Medical	BICANA CUP	1	<1%	unclassified
Stryker Howmedica Osteonics	ARDEN	1	<1%	unclassified

Table 3(b) Cemented cup brands entered into the NJR during 2008 for revision hip replacements.

Manufacturer	Brand	Total components	
		1,378	%
Stryker Howmedica Osteonics	CONTEMPORARY	373	27%
DePuy	ELITE PLUS OGEE	240	17%
DePuy	ELITE PLUS CEMENTED CUP	142	10%
Smith & Nephew	OPERA	91	7%
DePuy	CHARNLEY CEMENTED CUP	70	5%
Stryker Howmedica Osteonics	EXETER DURATION	70	5%
DePuy	CHARNLEY OGEE	48	3%
Joint Replacement Instrumentation	FURLONG CEMENTED CUP	36	3%
DePuy	ULTIMA CEMENTED CUP	35	3%
Zimmer	ZCA	32	2%
DePuy	WROBLEWSKI GOLF BALL	28	2%
Zimmer	LOW PROFILE MULLER	26	2%
Smith & Nephew	SP3	22	2%
Biomet	STANMORE-ARCOM	21	2%
Corin	CENATOR CEMENTED CUP	21	2%
DePuy	MARATHON	18	1%
Zimmer	ZIMMER CEMENTED CUP	16	1%
Biomet	APOLLO	11	1%
Waldemar Link	SNAP FIT	11	1%
Stryker Howmedica Osteonics	ODC	10	1%
B Braun/Aesculap	CHIRULEN	8	1%
Biomet	ARCOM SHP	8	1%
Smith & Nephew	REFLECTION CEMENTED	8	1%
DePuy	WROBLEWSKI ANGLE BORE SOCKET	4	<1%
Ortho-ID	POLAR CEMENTED CUP	4	<1%
Waldemar Link	INTERPLANTA	4	<1%
Biomet	HI-WALL	3	<1%
DePuy	SOLUTION CEMENTED CUP	3	<1%
Mathys Orthopaedics	CCB MATHYS	3	<1%
Biomet	BIOMET BI-POLAR CEMENTED CUP	2	<1%
Corin	HI-NEK CEMENTED CUP	2	<1%
Finsbury	SLF CEMENTED CUP (FINSBURY)	2	<1%
Implants International	EDINBURGH CUP	2	<1%
Biomet	CMK CEMENTED CUP	1	<1%
Biomet	M2A CEMENTED CUP	1	<1%
Zimmer	CENTERPULSE MULLER	1	<1%
Zimmer	METASUL-MULLER	1	<1%

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Table 4(a) Cementless cup brands entered into the NJR during 2008 for primary hip procedures.

Manufacturer	Brand	Total components		ODEP rating
		31,377	%	
DePuy	PINNACLE	10,190	32%	5A
Stryker Howmedica Osteonics	TRIDENT	6,288	20%	5A
Zimmer	TRILOGY	3,738	12%	7A
Joint Replacement Instrumentation	CSF	2,048	7%	10A
Joint Replacement Instrumentation	CSF PLUS	1,339	4%	unclassified
Smith & Nephew	EPF-PLUS	1,319	4%	3A
Biomet	EXCEED	1,286	4%	5A
DePuy	DURALOC CEMENTLESS CUP	847	3%	10A
Smith & Nephew	REFLECTION CEMENTLESS	771	2%	7B
Zimmer	ALLOFIT	656	2%	5A
Zimmer	TRABECULAR METAL CEMENTLESS CUP	394	1%	pre-entry
Stryker Howmedica Osteonics	ABG II CEMENTLESS CUP	365	1%	3A
B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	308	1%	5A
Joint Replacement Instrumentation	FURLONG THREADED CUP	246	1%	10A
Wright Medical UK	PROCOTYL	215	1%	pre-entry
DePuy	DURALOC OPTION	206	1%	10A
Smith & Nephew	POLAR CEMENTLESS CUP	198	1%	unclassified
Biomet	MALLORY-HEAD CEMENTLESS CUP	134	<1%	5A
Smith & Nephew	BICON-PLUS	97	<1%	3A
Medacta UK	VERSAFIT	83	<1%	unclassified
Wright Medical UK	ANCAFIT CEMENTLESS CUP	71	<1%	3A
Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	70	<1%	5A
Surgicraft	SPLIT CUP	66	<1%	unclassified
Mathys Orthopaedics	RM CEMENTLESS CUP (MATHYS)	50	<1%	10A
Symbios SA	APRIL	45	<1%	unclassified
Mathys Orthopaedics	SELEXYS PC	37	<1%	pre-entry
Mathys Orthopaedics	SELEXYS TH	35	<1%	pre-entry
Zimmer	CLS CEMENTLESS CUP	31	<1%	10A
Wright Medical UK	LINEAGE	25	<1%	pre-entry
Stryker Howmedica Osteonics	TRITANIUM	23	<1%	unclassified
Zimmer	FITMORE	18	<1%	7B

Manufacturer	Brand	Total components		ODEP rating
			%	
Biomet	BIOMEX	17	<1%	pre-entry
Corin	DC-FIT	15	<1%	unclassified
Waldemar Link	MCMINN	15	<1%	unclassified
Amplitude	SATURNE	14	<1%	3B
Stryker Howmedica Osteonics	RESTORATION GAP2	14	<1%	not applicable
Biomet	UNIVERSAL II	13	<1%	5A
Stryker Howmedica Osteonics	GAP RING	11	<1%	not applicable
DePuy	J-LOC	9	<1%	unclassified
Waldemar Link	PROCOTYL	9	<1%	unclassified
Amplitude	EQUATEUR	8	<1%	3A
Amplitude	HORIZON	8	<1%	3A
Implants International	RM CEMENTLESS CUP (IMPLANTS INTERNATIONAL)	7	<1%	unclassified
Orthodynamics	NOVAE SF	7	<1%	10B
Smith & Nephew	BOFOR	5	<1%	unclassified
Biomet	RANAWAT/BURSTEIN	4	<1%	unclassified
DePuy	S-ROM CEMENTLESS CUP	4	<1%	not applicable
Biomet	PAR 5 RINOWL CEMENTLESS CUP	3	<1%	unclassified
Biomet	REGENEREX CEMENTLESS	3	<1%	not applicable
Mathys Orthopaedics	SELEXYS	3	<1%	pre-entry
Waldemar Link	PRESSFIT	3	<1%	unclassified
Orthodynamics	NOVAE	2	<1%	10B
Biomet	BIHAPRO	1	<1%	7B
Biomet	RINGLOC	1	<1%	unclassified
Joint Replacement Instrumentation	CUSTOM	1	<1%	not applicable
Orthodynamics	NOVAE STICK	1	<1%	10B

Table 4(b) Cementless cup brands entered into the NJR during 2008 for revision hip procedures.

Manufacturer	Brand	Total components	
		3,542	%
Stryker Howmedica Osteonics	TRIDENT	882	25%
DePuy	PINNACLE	694	20%
Zimmer	TRILOGY	553	16%
Zimmer	TRABECULAR METAL CEMENTLESS CUP	503	14%
Joint Replacement Instrumentation	CSF	156	4%
Smith & Nephew	REFLECTION CEMENTLESS	115	3%
Biomet	MALLORY-HEAD CEMENTLESS CUP	82	2%
Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	61	2%
DePuy	DURALOC CEMENTLESS CUP	49	1%
Wright Medical UK	PROCOTYL	46	1%
Amplitude	SATURNE	44	1%
Stryker Howmedica Osteonics	RESTORATION GAP2	43	1%
B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	35	1%
Smith & Nephew	POLAR CEMENTLESS CUP	28	1%
Biomet	EXCEED	26	1%
Stryker Howmedica Osteonics	TRITANIUM	22	1%
Smith & Nephew	EPF-PLUS	20	1%
Joint Replacement Instrumentation	CSF PLUS	19	1%
Zimmer	ALLOFIT	17	<1%
Stryker Howmedica Osteonics	GAP RING	17	<1%
DePuy	S-ROM CEMENTLESS CUP	15	<1%
Stryker Howmedica Osteonics	ABG II CEMENTLESS CUP	14	<1%
Biomet	PAR 5 RINOWL CEMENTLESS CUP	12	<1%
Smith & Nephew	BICON-PLUS	12	<1%
Joint Replacement Instrumentation	FURLONG THREADED CUP	12	<1%
Waldemar Link	MCMINN	8	<1%
Orthodynamics	NOVAE STICK	7	<1%
Surgicraft	SPLIT CUP	7	<1%
Smith & Nephew	BOFOR	5	<1%
Orthodynamics	NOVAE	5	<1%
Biomet	RANAWAT/BURSTEIN	4	<1%
Mathys Orthopaedics	RM CEMENTLESS CUP (MATHYS)	3	<1%

Manufacturer	Brand	Total components	
			%
Biomet	BIHAPRO	2	<1%
Biomet	BIOMEX	2	<1%
Zimmer	CLS CEMENTLESS CUP	2	<1%
Zimmer	FITMORE	2	<1%
Corin	DC-FIT	2	<1%
DePuy	OCTOPUS	2	<1%
Orthodynamics	NOVAE COPTOS	2	<1%
Orthodynamics	NOVAE SF	2	<1%
Wright Medical UK	ANCAFIT CEMENTLESS CUP	2	<1%
Wright Medical UK	LINEAGE	2	<1%
Biomet	ALIZE	1	<1%
DePuy	DURALOC OPTION	1	<1%
Joint Replacement Instrumentation	FRF	1	<1%
Orthodynamics	CUSTOM	1	<1%
Stanmore Implants Worldwide	SIW	1	<1%
Symbios SA	APRIL	1	<1%

Table 5(a) Cemented stem brands entered into the NJR during 2008 for primary hip procedures.

Manufacturer	Brand	Total components		ODEP rating
		31,703	%	
Stryker Howmedica Osteonics	EXETER V40	19,103	60%	10A
Zimmer	CPT	2,965	9%	10A
DePuy	CHARNLEY CEMENTED STEM	2,041	6%	7A
DePuy	C-STEM CEMENTED STEM	1,464	5%	10B
DePuy	C-STEM AMT CEMENTED STEM	949	3%	3A
Biomet	STANMORE MODULAR	868	3%	10A
Smith & Nephew	CPS-PLUS	705	2%	7A
Zimmer	MS-30	510	2%	10B
Smith & Nephew	CPCS	345	1%	pre-entry
Zimmer	MULLER STR STEM	277	1%	10A
Biomet	MULLER- BIOMET	255	1%	5B
Joint Replacement Instrumentation	FURLONG CEMENTED STEM	212	1%	10C
DePuy	CHARNLEY MODULAR	171	1%	7A
Waldemar Link	SP II CEMENTED STEM	166	1%	10A
Mathys Orthopaedics	CCA CEMENTED STEM	159	<1%	10A
Corin	TAPERFIT CEMENTED STEM	156	<1%	7B
Zimmer	P10 MULLER	139	<1%	10A
Biomet	TAPERLOC CEMENTED STEM	129	<1%	pre-entry
Stryker Howmedica Osteonics	OMNIFIT CEMENTED STEM	123	<1%	10A
Smith & Nephew	SPECTRON	101	<1%	10A
Zimmer	VERSYS CEMENTED STEM	94	<1%	5A
Finsbury	ADEPT CEMENTED STEM	77	<1%	pre-entry
Biomet	OLYMPIA	68	<1%	5B
DePuy	ELITE PLUS CEMENTED STEM	63	<1%	10A
Biomet	CMK CEMENTED STEM	57	<1%	10C
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	52	<1%	not applicable
B Braun/Aesculap	CENTRAMENT	48	<1%	unclassified
Corin	HI-NEK CEMENTED STEM	39	<1%	unclassified
Biomet	MONOBLOC STANMORE	38	<1%	10A
Stryker Howmedica Osteonics	EXETER	36	<1%	10A
Biomet	BIMETRIC CEMENTED STEM	31	<1%	10A
Finsbury	LIVERPOOL PROXIMAL CEMENTED	31	<1%	not applicable
Implants International	EDINBURGH	27	<1%	unclassified

Manufacturer	Brand	Total components		ODEP rating
			%	
Zimmer	THRUST PLATE	26	<1%	unacceptable
Wright Medical UK	PROFEMUR CEMENTED STEM	21	<1%	pre-entry
B Braun/Aesculap	EXCIA-CEMENTED	19	<1%	unclassified
DePuy	ULTIMA STRAIGHT STEM	14	<1%	10C
Zimmer	ZMR CEMENTED STEM	14	<1%	not applicable
DePuy	SUMMIT CEMENTED STEM	10	<1%	pre-entry
Zimmer	VERSYS HERITAGE	9	<1%	pre-entry
Biomet	MALLORY-HEAD CEMENTED STEM	8	<1%	unclassified
Zimmer	REVITAN CEMENTED STEM	8	<1%	not applicable
Zimmer	MEM	7	<1%	10A
Zimmer	MAYO CEMENTED STEM	7	<1%	unclassified
B Braun/Aesculap	BICONTACT CEMENTED STEM	6	<1%	10C
Corin	TRIFIT CEMENTED STEM	6	<1%	7B
Corin	CTI CEMENTED STEM	5	<1%	unclassified
Corin	CENATOR CEMENTED STEM	4	<1%	3A
Smith & Nephew	SLR-PLUS CEMENTED STEM	4	<1%	unclassified
Exactech (UK)	ACUMATCH M-SERIES	4	<1%	unclassified
Waldemar Link	MP NECK CEMENTED STEM	4	<1%	not applicable
Mathys Orthopaedics	TWINSYS CEMENTED STEM	3	<1%	pre-entry
Amplitude	INITIALE CEMENTED STEM	2	<1%	unclassified
B Braun/Aesculap	PREVISION CEMENTED STEM	2	<1%	not applicable
Biomet	KENT HIP	2	<1%	unclassified
Biomet	MODULAR INTERLOC	2	<1%	unclassified
Smith & Nephew	ENDOPLUS CEMENTED	2	<1%	unclassified
Orthodynamics	LMT	2	<1%	7B
Smith & Nephew	SL-PLUS CEMENTED STEM	2	<1%	unclassified
Stanmore Implants Worldwide	CUSTOM DEVICE	2	<1%	not applicable
Stryker Howmedica Osteonics	ACCOLADE CEMENTED	2	<1%	unclassified
Waldemar Link	MEGA SYSTEM	2	<1%	not applicable
Biomet	SHP	1	<1%	unclassified
Finsbury	FREEMAN CEMENTED FINSBURY	1	<1%	10C
Orthodynamics	CANNULOK CEMENTED STEM	1	<1%	not applicable
Smith & Nephew	ECHELON CEMENTED STEM	1	<1%	unclassified
Zimmer	WAGNER REVISION STEM	1	<1%	not applicable

Table 5(b) Cemented stem brands entered into the NJR during 2008 for revision hip procedures.

Manufacturer	Brand	Total components	%	Procedures using femoral bone graft
		2,778		
Stryker Howmedica Osteonics	EXETER V40	1,154	41%	87
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	468	17%	78
Zimmer	ZMR CEMENTED STEM	202	7%	27
DePuy	C-STEM CEMENTED STEM	188	7%	9
Zimmer	CPT	188	7%	7
Zimmer	REVITAN CEMENTED STEM	71	3%	6
Waldemar Link	MP NECK CEMENTED STEM	70	2%	7
DePuy	C-STEM AMT CEMENTED STEM	46	2%	4
DePuy	CHARNLEY CEMENTED STEM	39	1%	2
Biomet	STANMORE MODULAR	30	1%	0
Smith & Nephew	CPCS	29	1%	0
B Braun/Aesculap	PREVISION CEMENTED STEM	23	1%	13
DePuy	ELITE PLUS CEMENTED STEM	23	1%	7
B Braun/Aesculap	BICONTACT CEMENTED STEM	19	1%	11
Corin	OXFORD UNIVERSAL HIP (CORIN) CEMENTED STEM	18	1%	12
Joint Replacement Instrumentation	FURLONG CEMENTED STEM	16	1%	1
Biomet	MULLER- BIOMET	14	<1%	0
Waldemar Link	SP II CEMENTED STEM	14	<1%	0
DePuy	CHARNLEY MODULAR	13	<1%	0
DePuy	LPS	13	<1%	0
Zimmer	MS-30	13	<1%	0
Biomet	MALLORY-HEAD CEMENTED STEM	8	<1%	1
Biomet	TAPERLOC CEMENTED STEM	8	<1%	1
Smith & Nephew	CPS-PLUS	8	<1%	0
Smith & Nephew	SLR-PLUS CEMENTED STEM	8	<1%	3
Biomet	OXFORD UNIVERSAL HIP (BIOMET) CEMENTED STEM	7	<1%	1
Corin	TAPERFIT CEMENTED STEM	7	<1%	1
DePuy	WROBLEWSKI RESECTION	6	<1%	0
Smith & Nephew	SPECTRON	6	<1%	2
Stryker Howmedica Osteonics	OMNIFIT CEMENTED STEM	6	<1%	0
Corin	TRIFIT CEMENTED STEM	5	<1%	0

Manufacturer	Brand	Total components	%	Procedures using femoral bone graft
Zimmer	MEM	4	<1%	0
DePuy	ULTIMA STRAIGHT STEM	4	<1%	0
Finsbury	ADEPT CEMENTED STEM	4	<1%	0
Van Straten Medical	MUTARS	4	<1%	0
Biomet	KENT HIP	3	<1%	0
Zimmer	MULLER STR STEM	3	<1%	0
Corin	CTI CEMENTED STEM	3	<1%	0
Finsbury	FREEMAN CEMENTED FINSBURY	3	<1%	1
Mathys Orthopaedics	CCA CEMENTED STEM	3	<1%	0
Stryker Howmedica Osteonics	GMRS	3	<1%	1
Wright Medical UK	PROFEMUR CEMENTED STEM	3	<1%	0
Biomet	BIMETRIC CEMENTED STEM	2	<1%	0
Biomet	CMK CEMENTED STEM	2	<1%	0
Finsbury	LIVERPOOL PROXIMAL CEMENTED	2	<1%	0
Implants International	EDINBURGH	2	<1%	0
Stryker Howmedica Osteonics	EXETER	2	<1%	0
Zimmer	WAGNER REVISION STEM	2	<1%	0
Amplitude	INITIALE CEMENTED STEM	1	<1%	0
B Braun/Aesculap	CENTRAMENT	1	<1%	0
B Braun/Aesculap	EXCIA-CEMENTED	1	<1%	0
Corin	FREEMAN CEMENTED CORIN	1	<1%	0
DePuy	SUMMIT CEMENTED STEM	1	<1%	0
Exactech (UK)	ACUMATCH M-SERIES	1	<1%	0
Orthodynamics	CANNULOK CEMENTED STEM	1	<1%	0
Smith & Nephew	ECHELON CEMENTED STEM	1	<1%	0
Zimmer	VERSYS CEMENTED STEM	1	<1%	0

Table 6(a) Cementless stem brands entered into the NJR during 2008 for primary hip replacements.

Manufacturer	Brand	Total components		ODEP rating
		26,905	%	
DePuy	CORAIL	12,278	46%	10A
Joint Replacement Instrumentation	FURLONG HAC	3,616	14%	10A
Stryker Howmedica Osteonics	ACCOLADE	2,433	9%	5B
Biomet	TAPERLOC CEMENTLESS STEM	1,462	5%	10A
Smith & Nephew	SL-PLUS CEMENTLESS STEM	1,450	5%	10A
Zimmer	CLS CEMENTLESS STEM	872	3%	10A
Smith & Nephew	SYNERGY CEMENTLESS STEM	681	3%	5A
Biomet	BIMETRIC CEMENTLESS STEM	596	2%	10A
Zimmer	VERSYS CEMENTLESS STEM	438	2%	various
Wright Medical UK	PROFEMUR CEMENTLESS STEM	411	2%	pre-entry
Smith & Nephew	ANTHOLOGY	338	1%	pre-entry
Stryker Howmedica Osteonics	ABG II CEMENTLESS STEM	298	1%	5B
DePuy	S-ROM CEMENTLESS STEM	286	1%	10A
Corin	METAFIX STEM	183	1%	pre-entry
DePuy	SUMMIT CEMENTLESS STEM	164	1%	3A
Smith & Nephew	BIRMINGHAM HEAD RESECTION STEM	159	1%	pre-entry
Mathys Orthopaedics	TWINSYS CEMENTLESS STEM	135	1%	pre-entry
Wright Medical UK	ANCAFIT CEMENTLESS STEM	119	<1%	3A
Stryker Howmedica Osteonics	OMNIFIT CEMENTLESS STEM	116	<1%	10A
B Braun/Aesculap	EXCIA	95	<1%	5A
B Braun/Aesculap	BICONTACT CEMENTLESS STEM	88	<1%	10A
Medacta UK	QUADRA CEMENTLESS	69	<1%	unclassified
Zimmer	ZWEYMULLER	61	<1%	10A
Finsbury	FREEMAN CEMENTLESS	55	<1%	10C
Symbios SA	SPS	54	<1%	3A
Waldemar Link	DAVIES CEMENTLESS STEM	54	<1%	unclassified
Zimmer	TRABECULAR CEMENTLESS STEM	49	<1%	pre-entry
DePuy	PROXIMA	45	<1%	pre-entry
B Braun/Aesculap	METHA	39	<1%	3A
Zimmer	ALLOCLASSIC CEMENTLESS STEM	38	<1%	10A
DePuy	KAR	28	<1%	not applicable

Manufacturer	Brand	Total components		ODEP rating
			%	
Biomet	ASIAN CEMENTLESS STEM	17	<1%	unclassified
Tricon/Medacta	QUADRA CEMENTLESS	17	<1%	unclassified
Corin	PANATOMIC CEMENTLESS STEM	16	<1%	unclassified
Finsbury	FINSBURY TYPE C	16	<1%	pre-entry
DePuy	SILENT	15	<1%	unclassified
Mathys Orthopaedics	CBC	15	<1%	pre-entry
Zimmer	WAGNER CONE	12	<1%	not applicable
Corin	C FIT	12	<1%	unclassified
Corin	PROXIMA	12	<1%	5A
DePuy	AML	11	<1%	10B
DePuy	REEF	7	<1%	not applicable
Orthodynamics	CANNULOK CEMENTLESS STEM	6	<1%	not applicable
Surgicraft	ESOP	5	<1%	unclassified
Biomet	CONELock	4	<1%	unclassified
Biomet	REACH	4	<1%	not applicable
Smith & Nephew	ECHOLON CEMENTLESS STEM	4	<1%	unclassified
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	4	<1%	not applicable
DePuy	SOLUTION CEMENTLESS STEM	3	<1%	unclassified
Waldemar Link	CFP	3	<1%	unclassified
Corin	TRIFIT CEMENTLESS STEM	2	<1%	unclassified
Zimmer	FITMORE STEM	2	<1%	unclassified
Biomet	AURA	1	<1%	pre-entry
Biomet	BIHAPRO MK III	1	<1%	7B
Corin	HI-NEK CEMENTLESS STEM	1	<1%	unclassified
DePuy	FUTURE	1	<1%	unclassified
DePuy	VISION	1	<1%	unclassified
Smith & Nephew	ENDOPLUS CEMENTLESS HIP	1	<1%	unclassified
ImplantCast	IMPLANTCAST CEMENTLESS STEM	1	<1%	unclassified
Symbios SA	SPS HA	1	<1%	3A

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Table 6(b) Cementless stem brands entered into the NJR during 2008 for revision hip replacements.

Manufacturer	Brand	Total components	%	Procedures using femoral bone graft
		1,242		
DePuy	CORAIL	206	17%	15
DePuy	KAR	186	16%	44
Joint Replacement Instrumentation	FURLONG HAC	149	13%	19
DePuy	S-ROM CEMENTLESS STEM	107	9%	13
DePuy	REEF	88	7%	19
DePuy	SOLUTION CEMENTLESS STEM	79	7%	15
Smith & Nephew	SYNERGY CEMENTLESS STEM	56	5%	4
Smith & Nephew	ECHELON CEMENTLESS STEM	49	4%	5
Orthodynamics	CANNULOK CEMENTLESS STEM	45	4%	12
Biomet	REACH	32	3%	6
Stryker Howmedica Osteonics	ACCOLADE	28	2%	1
Wright Medical UK	PROFEMUR CEMENTLESS STEM	28	2%	2
Smith & Nephew	SL-PLUS CEMENTLESS STEM	24	2%	1
Biomet	TAPERLOC CEMENTLESS STEM	22	2%	5
Biomet	BIMETRIC CEMENTLESS STEM	17	1%	1
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	17	1%	4
Biomet	CONELock	16	1%	4
Zimmer	VERSYS CEMENTLESS STEM	15	1%	1
DePuy	SUMMIT CEMENTLESS STEM	13	1%	1
Smith & Nephew	ANTHOLOGY	12	1%	0
Corin	METAFIX STEM	11	1%	0
Finsbury	FREEMAN CEMENTLESS	9	1%	0
Zimmer	CLS CEMENTLESS STEM	7	<1%	0
Mathys Orthopaedics	TWINSYS CEMENTLESS STEM	5	<1%	0
Zimmer	ZWEYMULLER	3	<1%	0
Corin	TRIFIT CEMENTLESS STEM	3	<1%	0
Waldemar Link	DAVIES CEMENTLESS STEM	3	<1%	0
B Braun/Aesculap	BICONACT CEMENTLESS STEM	2	<1%	0
B Braun/Aesculap	HUCKSTEP CEMENTLESS STEM	2	<1%	0
Stryker Howmedica Osteonics	OMNIFIT CEMENTLESS STEM	2	<1%	1
Zimmer	WAGNER CONE	1	<1%	0
Corin	C FIT	1	<1%	0
Corin	HI-NEK CEMENTLESS STEM	1	<1%	0
Corin	PANATOMIC CEMENTLESS STEM	1	<1%	0
Corin	PROXIMA	1	<1%	0
Medacta UK	QUADRA CEMENTLESS	1	<1%	0

Table 7 Brands of resurfacing heads entered into the NJR in 2008.

Manufacturer	Brand	Total components		ODEP rating
		5,483	%	
Smith & Nephew	BHR RESURFACING HEAD	2,484	45%	10A
Finsbury	ADEPT RESURFACING HEAD	741	14%	3A
Corin	CORMET 2000 RESURFACING HEAD	674	12%	5B
DePuy	ASR RESURFACING HEAD	526	10%	3A
Biomet	RECAP RESURFACING HEAD	354	6%	3A
Zimmer	DUROM RESURFACING HEAD	283	5%	pre-entry
Wright Medical UK	CONSERVE	203	4%	5A
Stryker Howmedica Osteonics	MITCH TRH	146	3%	pre-entry
ImplantCast	ACCIS RESURFACING HEAD	45	1%	unclassified
Van Straten Medical	ACCIS RESURFACING HEAD	16	<1%	unclassified
Joint Replacement Instrumentation	MIHR	10	<1%	pre-entry
Wright Medical UK	CONSERVE PLUS HEAD	1	<1%	pre-entry

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Table 8 provides a summary of procedures where brands of resurfacing acetabular cups have been used in combination with a conventional stem and a large diameter metal on metal femoral head. This represents a 15% increase on last year.

Table 8 Procedures using a resurfacing cup with conventional stem in 2008.

Manufacturer	Brand	Number of procedures		ODEP rating
DePuy	ASR RESURFACING CUP	917	21%	3A
Smith & Nephew	BHR RESURFACING CUP	869	19%	10A
Biomet	RECAP RESURFACING CUP	758	17%	3A
Finsbury	ADEPT RESURFACING CUP	517	12%	3A
Zimmer	DUROM RESURFACING CUP	458	10%	pre-entry
Stryker Howmedica Osteonics	MITCH TRH CUP	388	9%	pre-entry
Corin	CORMET 2000 RESURFACING CUP	226	5%	5B
Wright Medical UK	CONSERVE PLUS CUP	162	4%	5A
Joint Replacement Instrumentation	MIHR CUP	68	2%	unclassified
Van Straten Medical	ACCIS RESURFACING CUP	31	1%	unclassified
ImplantCast	ACCIS RESURFACING CUP	26	1%	unclassified
Symbios SA	SYMBIOS	13	0%	unclassified

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1.3 Combinations of cups and stems

For 54,037 hip primary replacement procedures in the 2008 data, both the cup and stem brand were known, and a total of 690 different combinations of cup and stem brands were recorded. This represents a 5% increase over 2007 hip primary procedures.

The combinations entered into the NJR are listed in Table 9(a) and (b). These tables show primary and revision cup-stem combinations. For revision hip procedures, 421 cup-stem combinations were used

compared with 416 in 2007. The most common cup-stem combination was the Corail stem with the Pinnacle cup for primary procedures and the Exeter V40 stem with the Trident cup for revision procedures.

Highlighted in the tables are those combinations where the stem manufacturer is different from the cup manufacturer, a practice known as mixing and matching. Of the 2008 primary procedures included in this section, 10,134 (19%) used mix and match cup-stem combinations, approximately 1% fewer than in 2008.

Table 9(a) Cup-stem combinations in the NJR in 2008 for hip primary procedures.

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
				54,037	%	
DePuy	CORAIL	DePuy	PINNACLE	8,654	16%	No
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	CONTEMPORARY	6,915	13%	No
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	TRIDENT	3,516	7%	No
Stryker Howmedica Osteonics	ACCOLADE	Stryker Howmedica Osteonics	TRIDENT	2,170	4%	No
Stryker Howmedica Osteonics	EXETER V40	DePuy	ELITE PLUS OGEE	2,092	4%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Joint Replacement Instrumentation	CSF	1,788	3%	No
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	EXETER DURATION	1,756	3%	No
Joint Replacement Instrumentation	FURLONG HAC	Joint Replacement Instrumentation	CSF PLUS	1,241	2%	No
Stryker Howmedica Osteonics	EXETER V40	Zimmer	TRILOGY	1,196	2%	Yes
Zimmer	CPT	Zimmer	TRILOGY	1,070	2%	No
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Smith & Nephew	EPF-PLUS	1,052	2%	No
Zimmer	CPT	Zimmer	ZCA	962	2%	No
DePuy	CHARNLEY CEMENTED STEM	DePuy	CHARNLEY CEMENTED CUP	946	2%	No
Biomet	TAPERLOC CEMENTLESS STEM	Biomet	EXCEED	892	2%	No
DePuy	CHARNLEY CEMENTED STEM	DePuy	CHARNLEY OGEE	857	2%	No
Stryker Howmedica Osteonics	EXETER V40	DePuy	ELITE PLUS CEMENTED CUP	659	1%	Yes
DePuy	CORAIL	DePuy	DURALOC CEMENTLESS CUP	588	1%	No

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
DePuy	CORAIL	DePuy	ELITE PLUS CEMENTED CUP	533	1%	No
Biomet	STANMORE MODULAR	Biomet	STANMORE-ARCOM	463	1%	No
DePuy	CORAIL	Zimmer	TRILOGY	452	1%	Yes
DePuy	C-STEM AMT CEMENTED STEM	DePuy	ELITE PLUS CEMENTED CUP	419	1%	No
Stryker Howmedica Osteonics	EXETER V40	Smith & Nephew	REFLECTION CEMENTLESS	387	1%	Yes
DePuy	CORAIL	DePuy	ELITE PLUS OGEE	382	1%	No
DePuy	C-STEM CEMENTED STEM	DePuy	ELITE PLUS OGEE	369	1%	No
Stryker Howmedica Osteonics	EXETER V40	DePuy	PINNACLE	347	1%	Yes
Smith & Nephew	CPS-PLUS	Smith & Nephew	OPERA	343	1%	No
Zimmer	VERSYS CEMENTLESS STEM	Zimmer	TRILOGY	317	1%	No
Stryker Howmedica Osteonics	EXETER V40	Smith & Nephew	OPERA	305	1%	Yes
DePuy	C-STEM CEMENTED STEM	Smith & Nephew	OPERA	265	<1%	Yes
Zimmer	CPT	DePuy	ELITE PLUS OGEE	255	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Joint Replacement Instrumentation	FURLONG THREADED CUP	239	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	ABG II CEMENTLESS CUP	239	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Corin	CENATOR CEMENTED CUP	238	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	DePuy	PINNACLE	217	<1%	No
DePuy	C-STEM AMT CEMENTED STEM	DePuy	PINNACLE	205	<1%	No
DePuy	C-STEM AMT CEMENTED STEM	DePuy	ELITE PLUS OGEE	204	<1%	No
Biomet	BIMETRIC CEMENTLESS STEM	Biomet	M2A CEMENTED CUP	202	<1%	No
Zimmer	MULLER STR STEM	Zimmer	LOW PROFILE MULLER	201	<1%	No
Joint Replacement Instrumentation	FURLONG CEMENTED STEM	Joint Replacement Instrumentation	FURLONG CEMENTED CUP	200	<1%	No
DePuy	C-STEM CEMENTED STEM	DePuy	WROBLEWSKI GOLF BALL	192	<1%	No
Smith & Nephew	SYNERGY CEMENTLESS STEM	Smith & Nephew	REFLECTION CEMENTLESS	189	<1%	No
DePuy	CORAIL	DePuy	DURALOC OPTION	178	<1%	No
Zimmer	CLS CEMENTLESS STEM	Zimmer	ALLOFIT	175	<1%	No

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
DePuy	C-STEM CEMENTED STEM	DePuy	ELITE PLUS CEMENTED CUP	171	<1%	No
Zimmer	MS-30	Zimmer	LOW PROFILE MULLER	169	<1%	No
Stryker Howmedica Osteonics	ABG II CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	169	<1%	No
Biomet	MULLER- BIOMET	Biomet	APOLLO	168	<1%	No
DePuy	CHARNLEY CEMENTED STEM	Smith & Nephew	OPERA	164	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	DePuy	ULTIMA CEMENTED CUP	148	<1%	Yes
Wright Medical UK	PROFEMUR CEMENTLESS STEM	Wright Medical UK	PROCOTYL	145	<1%	No
DePuy	C-STEM CEMENTED STEM	DePuy	PINNACLE	140	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Biomet	EXCEED	135	<1%	Yes
Zimmer	CPT	Zimmer	ALLOFIT	133	<1%	No
Zimmer	CLS CEMENTLESS STEM	Zimmer	ALLOFIT	130	<1%	No
Mathys Orthopaedics	CCA CEMENTED STEM	Mathys Orthopaedics	CCB MATHYS	124	<1%	No
Zimmer	P10 MULLER	Zimmer	LOW PROFILE MULLER	121	<1%	No
Stryker Howmedica Osteonics	EXETER V40	DePuy	CHARNLEY CEMENTED CUP	120	<1%	Yes
Zimmer	CPT	Smith & Nephew	OPERA	118	<1%	Yes
DePuy	CORAIL	Joint Replacement Instrumentation	CSF	113	<1%	Yes
Stryker Howmedica Osteonics	ABG II CEMENTLESS STEM	Stryker Howmedica Osteonics	ABG II CEMENTLESS CUP	113	<1%	No
Stryker Howmedica Osteonics	EXETER V40	DePuy	CHARNLEY OGEE	113	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Zimmer	TRABECULAR METAL CEMENTLESS CUP	113	<1%	Yes
Smith & Nephew	CPCS	Smith & Nephew	OPERA	110	<1%	No
Zimmer	CPT	Zimmer	TRABECULAR METAL CEMENTLESS CUP	105	<1%	No
Biomet	STANMORE MODULAR	Biomet	ARCOM SHP	102	<1%	No
Smith & Nephew	CPCS	Endo Plus (UK)	POLAR CEMENTLESS CUP	101	<1%	Yes
DePuy	C-STEM CEMENTED STEM	DePuy	CHARNLEY OGEE	97	<1%	No
Zimmer	CLS CEMENTLESS STEM	Zimmer	TRILOGY	97	<1%	No
B Braun/Aesculap	EXCIA	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	95	<1%	No

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Smith & Nephew	BICON-PLUS	94	<1%	No
Smith & Nephew	ANTHOLOGY	Smith & Nephew	REFLECTION CEMENTLESS	94	<1%	No
Stryker Howmedica Osteonics	OMNIFIT CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	94	<1%	No
Zimmer	MS-30	Zimmer	LOW PROFILE MULLER	92	<1%	No
Biomet	BIMETRIC CEMENTLESS STEM	Biomet	EXCEED	91	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Zimmer	ZIMMER CEMENTED CUP	91	<1%	Yes
DePuy	SUMMIT CEMENTLESS STEM	DePuy	PINNACLE	90	<1%	No
B Braun/Aesculap	BICONTACT CEMENTLESS STEM	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	86	<1%	No
DePuy	CHARNLEY MODULAR	DePuy	ELITE PLUS CEMENTED CUP	82	<1%	No
Smith & Nephew	CPS-PLUS	Smith & Nephew	EPF-PLUS	79	<1%	No
Stryker Howmedica Osteonics	EXETER V40	DePuy	DURALOC CEMENTLESS CUP	78	<1%	Yes
DePuy	C-STEM CEMENTED STEM	DePuy	CHARNLEY CEMENTED CUP	76	<1%	No
Smith & Nephew	SYNERGY CEMENTLESS STEM	Smith & Nephew	SP3	76	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Endo Plus (UK)	EPF-PLUS	75	<1%	Yes
DePuy	CORAIL	DePuy	MARATHON	75	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Smith & Nephew	SP3	74	<1%	Yes
Waldemar Link	SP II CEMENTED STEM	Waldemar Link	INTERPLANTA	74	<1%	No
Medacta UK	QUADRA CEMENTLESS	Medacta UK	VERSAFIT	66	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Biomet	MALLORY-HEAD CEMENTLESS CUP	66	<1%	Yes
Smith & Nephew	CPS-PLUS	Corin	CENATOR CEMENTED CUP	65	<1%	Yes
DePuy	CORAIL	DePuy	ULTIMA CEMENTED CUP	63	<1%	No
Biomet	STANMORE MODULAR	DePuy	ELITE PLUS CEMENTED CUP	62	<1%	Yes
Biomet	TAPERLOC CEMENTED STEM	Biomet	ARCOM SHP	62	<1%	No
Wright Medical UK	ANCAFIT CEMENTLESS STEM	Wright Medical UK	ANCAFIT CEMENTLESS CUP	62	<1%	No
Joint Replacement Instrumentation	FURLONG HAC	Zimmer	TRILOGY	62	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Zimmer	MS-30	Zimmer	METASUL-WEBER	59	<1%	No
Biomet	MULLER- BIOMET	Zimmer	LOW PROFILE MULLER	59	<1%	Yes
Smith & Nephew	SPECTRON	Smith & Nephew	REFLECTION CEMENTLESS	59	<1%	No
Zimmer	MS-30	Zimmer	ALLOFIT	57	<1%	No
Biomet	CMK CEMENTED STEM	Biomet	CMK CEMENTED CUP	57	<1%	No
Zimmer	VERSYS CEMENTED STEM	Zimmer	TRILOGY	57	<1%	No
Smith & Nephew	CPS-PLUS	Smith & Nephew	PE-PLUS	56	<1%	No
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Smith & Nephew	POLAR CEMENTLESS CUP	56	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Joint Replacement Instrumentation	CSF	55	<1%	Yes
Zimmer	MULLER STR STEM	Zimmer	CENTERPULSE MULLER	55	<1%	No
Corin	TAPERFIT CEMENTED STEM	Zimmer	ZIMMER CEMENTED CUP	53	<1%	Yes
DePuy	C-STEM CEMENTED STEM	Zimmer	TRILOGY	52	<1%	Yes
DePuy	CHARNLEY CEMENTED STEM	DePuy	WROBLEWSKI GOLF BALL	52	<1%	No
DePuy	CORAIL	Mathys Orthopaedics	CCB MATHYS	51	<1%	Yes
Smith & Nephew	CPS-PLUS	Smith & Nephew	REFLECTION CEMENTED	49	<1%	No
DePuy	CORAIL	Stryker Howmedica Osteonics	CONTEMPORARY	49	<1%	Yes
DePuy	CORAIL	Joint Replacement Instrumentation	CSF PLUS	48	<1%	Yes
Biomet	STANMORE MODULAR	Zimmer	TRILOGY	48	<1%	Yes
DePuy	SUMMIT CEMENTLESS STEM	DePuy	ELITE PLUS OGEE	47	<1%	No
Corin	METAFIX STEM	DePuy	DURALOC CEMENTLESS CUP	45	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Joint Replacement Instrumentation	FURLONG CEMENTED CUP	44	<1%	Yes
Symbios SA	SPS	Symbios SA	APRIL	43	<1%	No
Biomet	OLYMPIA	DePuy	DURALOC CEMENTLESS CUP	43	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Stryker Howmedica Osteonics	TRIDENT	42	<1%	No
DePuy	C-STEM AMT CEMENTED STEM	Smith & Nephew	OPERA	42	<1%	Yes
Biomet	TAPERLOC CEMENTLESS STEM	Joint Replacement Instrumentation	CSF	42	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Wright Medical UK	ANCAFIT CEMENTLESS STEM	Wright Medical UK	PROCOTYL	41	<1%	No
Zimmer	CPT	Zimmer	LOW PROFILE MULLER	41	<1%	No
Biomet	STANMORE MODULAR	Biomet	EXCEED	41	<1%	No
Biomet	TAPERLOC CEMENTED STEM	Biomet	EXCEED	41	<1%	No
Zimmer	CPT	Biomet	EXCEED	40	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	40	<1%	Yes
Zimmer	MS-30	Zimmer	ALLOFIT	40	<1%	No
Finsbury	FREEMAN CEMENTLESS	Finsbury	SLF CEMENTED CUP (FINSBURY)	40	<1%	No
Zimmer	VERSYS CEMENTLESS STEM	Zimmer	ALLOFIT	39	<1%	No
DePuy	PROXIMA	DePuy	PINNACLE	38	<1%	No
Stryker Howmedica Osteonics	OMNIFIT CEMENTED STEM	Stryker Howmedica Osteonics	TRIDENT	38	<1%	No
Zimmer	CLS CEMENTLESS STEM	Zimmer	TRILOGY	38	<1%	No
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Smith & Nephew	OPERA	37	<1%	No
Mathys Orthopaedics	TWINSYS CEMENTLESS STEM	Mathys Orthopaedics	SELEXYS PC	35	<1%	No
B Braun/Aesculap	CENTRAMENT	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	35	<1%	No
Smith & Nephew	CPS-PLUS	Smith & Nephew	POLAR CEMENTLESS CUP	34	<1%	No
Corin	TAPERFIT CEMENTED STEM	Surgicraft	SPLIT CUP	34	<1%	Yes
Wright Medical UK	PROFEMUR CEMENTLESS STEM	DePuy	DURALOC CEMENTLESS CUP	32	<1%	Yes
Corin	HI-NEK CEMENTED STEM	Corin	HI-NEK CEMENTED CUP	31	<1%	No
DePuy	C-STEM AMT CEMENTED STEM	DePuy	ULTIMA CEMENTED CUP	31	<1%	No
DePuy	C-STEM CEMENTED STEM	DePuy	MARATHON	31	<1%	No
Waldemar Link	DAVIES CEMENTLESS STEM	Endo Plus (UK)	EPF-PLUS	31	<1%	Yes
Zimmer	VERSYS CEMENTED STEM	Zimmer	ZCA	31	<1%	No
Smith & Nephew	SYNERGY CEMENTLESS STEM	Zimmer	TRILOGY	30	<1%	Yes
Waldemar Link	SP II CEMENTED STEM	Waldemar Link	LINK FLANGE CUP	30	<1%	No
DePuy	CHARNLEY MODULAR	DePuy	ELITE PLUS OGEE	30	<1%	No

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Corin	METAFIX STEM	DePuy	ELITE PLUS CEMENTED CUP	29	<1%	Yes
Smith & Nephew	CPS-PLUS	Ortho-ID	POLAR CEMENTED CUP	29	<1%	Yes
Wright Medical UK	PROFEMUR CEMENTLESS STEM	Zimmer	TRILOGY	29	<1%	Yes
Biomet	BIMETRIC CEMENTLESS STEM	Biomet	MALLORY-HEAD CEMENTLESS CUP	28	<1%	No
DePuy	ELITE PLUS CEMENTED STEM	DePuy	ELITE PLUS CEMENTED CUP	27	<1%	No
Waldemar Link	SP II CEMENTED STEM	Waldemar Link	SNAP FIT	27	<1%	No
Stryker Howmedica Osteonics	OMNIFIT CEMENTED STEM	Stryker Howmedica Osteonics	ODC	27	<1%	No
Implants International	EDINBURGH	Implants International	EDINBURGH CUP	26	<1%	No
Zimmer	THRUST PLATE	Zimmer	ALLOFIT	26	<1%	No
Stryker Howmedica Osteonics	ACCOLADE	Zimmer	TRILOGY	26	<1%	Yes
Mathys Orthopaedics	TWINSYS CEMENTLESS STEM	Mathys Orthopaedics	SELEXYS TH	25	<1%	No
DePuy	CHARNLEY MODULAR	Zimmer	TRILOGY	24	<1%	Yes
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Ortho-ID	POLAR CEMENTED CUP	23	<1%	Yes
DePuy	CORAIL	Smith & Nephew	OPERA	23	<1%	Yes
Zimmer	CLS CEMENTLESS STEM	Zimmer	CLS CEMENTLESS CUP	23	<1%	No
Joint Replacement Instrumentation	FURLONG HAC	DePuy	ELITE PLUS OGEE	23	<1%	Yes
Biomet	TAPERLOC CEMENTLESS STEM	Biomet	ARCOM SHP	22	<1%	No
Corin	TAPERFIT CEMENTED STEM	Smith & Nephew	REFLECTION CEMENTED	22	<1%	Yes
Mathys Orthopaedics	CCA CEMENTED STEM	Implants International	CCB	22	<1%	Yes
DePuy	CORAIL	Zimmer	TRABECULAR METAL CEMENTLESS CUP	22	<1%	Yes
Zimmer	ZWEYMULLER	Zimmer	TRILOGY	22	<1%	No
Zimmer	TRABECULAR CEMENTLESS STEM	Zimmer	TRILOGY	22	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Surgicraft	SPLIT CUP	21	<1%	Yes
DePuy	KAR	DePuy	PINNACLE	20	<1%	No
DePuy	ELITE PLUS CEMENTED STEM	DePuy	ELITE PLUS OGEE	20	<1%	No
Biomet	STANMORE MODULAR	DePuy	ELITE PLUS OGEE	19	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Smith & Nephew	CPCS	Smith & Nephew	REFLECTION CEMENTLESS	19	<1%	No
Joint Replacement Instrumentation	FURLONG HAC	Joint Replacement Instrumentation	FURLONG CEMENTED CUP	19	<1%	No
Zimmer	CPT	Stryker Howmedica Osteonics	CONTEMPORARY	19	<1%	Yes
Stryker Howmedica Osteonics	OMNIFIT CEMENTED STEM	Stryker Howmedica Osteonics	CONTEMPORARY	18	<1%	No
Waldemar Link	SP II CEMENTED STEM	Endo Plus (UK)	EPF-PLUS	18	<1%	Yes
Zimmer	CPT	DePuy	DURALOC CEMENTLESS CUP	18	<1%	Yes
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Mathys Orthopaedics	RM CEMENTLESS CUP (MATHYS)	17	<1%	Yes
Tricon/Medacta	QUADRA CEMENTLESS	Medacta UK	VERSAFIT	17	<1%	Yes
Smith & Nephew	SPECTRON	Smith & Nephew	OPERA	17	<1%	No
Stryker Howmedica Osteonics	OMNIFIT CEMENTED STEM	Zimmer	ZCA	17	<1%	Yes
Stryker Howmedica Osteonics	ACCOLADE	Zimmer	TRABECULAR METAL CEMENTLESS CUP	16	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	TRITANIUM	16	<1%	No
Wright Medical UK	PROFEMUR CEMENTLESS STEM	Wright Medical UK	LINEAGE	16	<1%	No
DePuy	C-STEM AMT CEMENTED STEM	DePuy	MARATHON	16	<1%	No
DePuy	C-STEM CEMENTED STEM	DePuy	ULTIMA CEMENTED CUP	16	<1%	No
DePuy	C-STEM CEMENTED STEM	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	16	<1%	Yes
B Braun/Aesculap	CENTRAMENT	B Braun/Aesculap	CHIRULEN	15	<1%	No
Zimmer	ZWEYMULLER	Zimmer	ALLOFIT	15	<1%	No
Wright Medical UK	PROFEMUR CEMENTLESS STEM	Corin	CENATOR CEMENTED CUP	15	<1%	Yes
Corin	PANATOMIC CEMENTLESS STEM	Corin	DC-FIT	15	<1%	No
Stryker Howmedica Osteonics	OMNIFIT CEMENTLESS STEM	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	15	<1%	No
Zimmer	CPT	DePuy	ULTIMA CEMENTED CUP	15	<1%	Yes
DePuy	CHARNLEY CEMENTED STEM	DePuy	WROBLEWSKI ANGLE BORE SOCKET	14	<1%	No
DePuy	CHARNLEY MODULAR	DePuy	CHARNLEY OGEE	14	<1%	No
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Zimmer	TRILOGY	14	<1%	Yes
Biomet	OLYMPIA	Zimmer	TRILOGY	13	<1%	Yes

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Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
DePuy	CORAIL	Zimmer	ZCA	13	<1%	Yes
Zimmer	CPT	DePuy	PINNACLE	13	<1%	Yes
Zimmer	MS-30	Zimmer	METASUL-WEBER	13	<1%	No
Biomet	TAPERLOC CEMENTLESS STEM	Biomet	M2A CEMENTED CUP	13	<1%	No
Smith & Nephew	CPCS	Endo Plus (UK)	EPF-PLUS	13	<1%	Yes
Biomet	MULLER- BIOMET	Mathys Orthopaedics	CCB MATHYS	13	<1%	Yes
DePuy	CORAIL	Stryker Howmedica Osteonics	TRIDENT	13	<1%	Yes
Stryker Howmedica Osteonics	ACCOLADE	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	13	<1%	No
Waldemar Link	DAVIES CEMENTLESS STEM	Waldemar Link	MCMINN	13	<1%	No
Zimmer	CLS CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	13	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Waldemar Link	LINK FLANGE CUP	13	<1%	Yes
Stryker Howmedica Osteonics	ACCOLADE	Stryker Howmedica Osteonics	CONTEMPORARY	12	<1%	No
Corin	METAFIX STEM	Stryker Howmedica Osteonics	CONTEMPORARY	12	<1%	Yes
Biomet	BIMETRIC CEMENTED STEM	Biomet	ARCOM SHP	12	<1%	No
Biomet	BIMETRIC CEMENTLESS STEM	Biomet	UNIVERSAL II	12	<1%	No
Waldemar Link	DAVIES CEMENTLESS STEM	DePuy	PINNACLE	12	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	DePuy	MARATHON	12	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Zimmer	ZCA	12	<1%	Yes
DePuy	CORAIL	Zimmer	ZIMMER CEMENTED CUP	12	<1%	Yes
Zimmer	MS-30	Zimmer	TRILOGY	12	<1%	No
Zimmer	CLS CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	12	<1%	No
Zimmer	ALLOCLASSIC CEMENTLESS STEM	Zimmer	TRILOGY	12	<1%	No
Zimmer	VERSYS CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	11	<1%	No
DePuy	ULTIMA STRAIGHT STEM	DePuy	ULTIMA CEMENTED CUP	11	<1%	No
DePuy	AML	DePuy	DURALOC OPTION	11	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Zimmer	LOW PROFILE MULLER	11	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Zimmer	MS-30	Zimmer	FITMORE	11	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	11	<1%	No
Biomet	STANMORE MODULAR	Stryker Howmedica Osteonics	TRIDENT	11	<1%	Yes
Zimmer	CPT	Stryker Howmedica Osteonics	TRIDENT	11	<1%	Yes
Stryker Howmedica Osteonics	EXETER	Stryker Howmedica Osteonics	TRIDENT	10	<1%	No
Wright Medical UK	PROFEMUR CEMENTED STEM	Wright Medical UK	PROCOTYL	10	<1%	No
Stryker Howmedica Osteonics	OMNIFIT CEMENTED STEM	Stryker Howmedica Osteonics	EXETER DURATION	10	<1%	No
Zimmer	ALLOCLASSIC CEMENTLESS STEM	Smith & Nephew	OPERA	10	<1%	Yes
Smith & Nephew	SPECTRON	Smith & Nephew	REFLECTION CEMENTED	10	<1%	No
B Braun/Aesculap	EXCIA-CEMENTED	B Braun/Aesculap	CHIRULEN	10	<1%	No
Biomet	BIMETRIC CEMENTED STEM	Biomet	APOLLO	10	<1%	No
Corin	TAPERFIT CEMENTED STEM	Corin	CENATOR CEMENTED CUP	10	<1%	No
Biomet	STANMORE MODULAR	DePuy	PINNACLE	10	<1%	Yes
Biomet	TAPERLOC CEMENTLESS STEM	DePuy	PINNACLE	10	<1%	Yes
Smith & Nephew	ANTHOLOGY	Zimmer	TRABECULAR METAL CEMENTLESS CUP	10	<1%	Yes
Zimmer	CLS CEMENTLESS STEM	Zimmer	ZIMMER CEMENTED CUP	9	<1%	No
Smith & Nephew	SL-PLUS CEMENTLESS STEM	DePuy	ELITE PLUS OGEE	9	<1%	Yes
Biomet	TAPERLOC CEMENTLESS STEM	Biomet	MALLORY-HEAD CEMENTLESS CUP	9	<1%	No
Biomet	STANMORE MODULAR	Biomet	M2A CEMENTED CUP	9	<1%	No
B Braun/Aesculap	EXCIA-CEMENTED	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	9	<1%	No
Zimmer	MEM	Zimmer	LOW PROFILE MULLER	9	<1%	No
Zimmer	CPT	Biomet	MALLORY-HEAD CEMENTLESS CUP	9	<1%	Yes
Mathys Orthopaedics	TWINSYS CEMENTLESS STEM	Mathys Orthopaedics	RM CEMENTLESS CUP (MATHYS)	9	<1%	No
Mathys Orthopaedics	CBC	Mathys Orthopaedics	SELEXYS TH	9	<1%	No
Biomet	ASIAN CEMENTLESS STEM	Stryker Howmedica Osteonics	EXETER DURATION	9	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Smith & Nephew	CPS-PLUS	Stryker Howmedica Osteonics	CONTEMPORARY	9	<1%	Yes
Smith & Nephew	ANTHOLOGY	Smith & Nephew	SP3	9	<1%	No
Zimmer	ZWEYMULLER	Zimmer	TRABECULAR METAL CEMENTLESS CUP	9	<1%	No
DePuy	C-STEM CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	8	<1%	Yes
Wright Medical UK	ANCAFIT CEMENTLESS STEM	Wright Medical UK	LINEAGE	8	<1%	No
Waldemar Link	SP II CEMENTED STEM	Waldemar Link	PROCOTYL	8	<1%	No
Wright Medical UK	PROFEMUR CEMENTED STEM	Stryker Howmedica Osteonics	TRIDENT	8	<1%	Yes
Smith & Nephew	CPCS	Ortho-ID	POLAR CEMENTED CUP	8	<1%	Yes
Smith & Nephew	CPS-PLUS	Mathys Orthopaedics	RM CEMENTLESS CUP (MATHYS)	8	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Smith & Nephew	REFLECTION CEMENTED	8	<1%	Yes
Corin	METAFIX STEM	Amplitude	EQUATEUR	8	<1%	Yes
Corin	METAFIX STEM	Amplitude	HORIZON	8	<1%	Yes
DePuy	CHARNLEY CEMENTED STEM	Corin	CENATOR CEMENTED CUP	8	<1%	Yes
DePuy	CORAIL	Corin	CENATOR CEMENTED CUP	8	<1%	Yes
Biomet	TAPERLOC CEMENTLESS STEM	DePuy	ELITE PLUS CEMENTED CUP	8	<1%	Yes
Corin	TAPERFIT CEMENTED STEM	DePuy	DURALOC CEMENTLESS CUP	8	<1%	Yes
Smith & Nephew	SL-PLUS CEMENTLESS STEM	DePuy	ELITE PLUS CEMENTED CUP	8	<1%	Yes
Zimmer	VERSYS HERITAGE	Zimmer	TRILOGY	8	<1%	No
Smith & Nephew	SPECTRON	Zimmer	TRILOGY	8	<1%	Yes
Corin	TAPERFIT CEMENTED STEM	DePuy	ELITE PLUS OGEE	7	<1%	Yes
Zimmer	MS-30	Zimmer	SPC	7	<1%	No
Stryker Howmedica Osteonics	EXETER	DePuy	ELITE PLUS OGEE	7	<1%	Yes
Smith & Nephew	CPS-PLUS	DePuy	ELITE PLUS OGEE	7	<1%	Yes
Biomet	MULLER- BIOMET	DePuy	PINNACLE	7	<1%	Yes
DePuy	SUMMIT CEMENTLESS STEM	Amplitude	SATURNE	7	<1%	Yes
B Braun/Aesculap	METHA	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	7	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Biomet	BIOMEX	7	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Zimmer	P10 MULLER	Zimmer	METASUL-MULLER	7	<1%	No
Joint Replacement Instrumentation	FURLONG CEMENTED STEM	Joint Replacement Instrumentation	CSF	7	<1%	No
Zimmer	CPT	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	7	<1%	Yes
Stryker Howmedica Osteonics	OMNIFIT CEMENTED STEM	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	6	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	GAP RING	6	<1%	No
Zimmer	ALLOCLASSIC CEMENTLESS STEM	Ortho-ID	POLAR CEMENTED CUP	6	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Mathys Orthopaedics	RM CEMENTLESS CUP (MATHYS)	6	<1%	Yes
DePuy	C-STEM CEMENTED STEM	DePuy	WROBLEWSKI ANGLE BORE SOCKET	6	<1%	No
Zimmer	P10 MULLER	Zimmer	ALLOFIT	6	<1%	No
Corin	HI-NEK CEMENTED STEM	Zimmer	ALLOFIT	6	<1%	Yes
DePuy	SUMMIT CEMENTED STEM	DePuy	ULTIMA CEMENTED CUP	6	<1%	No
Biomet	TAPERLOC CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	6	<1%	Yes
Zimmer	MS-30	Zimmer	TRABECULAR METAL CEMENTLESS CUP	6	<1%	No
Zimmer	MULLER STR STEM	Zimmer	ZIMMER CEMENTED CUP	6	<1%	No
Zimmer	CLS CEMENTLESS STEM	Zimmer	ZIMMER CEMENTED CUP	6	<1%	No
Zimmer	CPT	Zimmer	ZIMMER CEMENTED CUP	5	<1%	No
Zimmer	VERSYS CEMENTLESS STEM	Zimmer	ZIMMER CEMENTED CUP	5	<1%	No
Zimmer	ZMR CEMENTED STEM	Zimmer	TRILOGY	5	<1%	No
Zimmer	TRABECULAR CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	5	<1%	No
Biomet	ASIAN CEMENTLESS STEM	Zimmer	TRILOGY	5	<1%	Yes
Wright Medical UK	PROFEMUR CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	5	<1%	Yes
Zimmer	MS-30	Zimmer	TRILOGY	5	<1%	No
Mathys Orthopaedics	CCA CEMENTED STEM	Zimmer	TRILOGY	5	<1%	Yes
Wright Medical UK	PROFEMUR CEMENTLESS STEM	DePuy	PINNACLE	5	<1%	Yes
DePuy	ELITE PLUS CEMENTED STEM	DePuy	PINNACLE	5	<1%	No

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Corin	CENATOR CEMENTED CUP	5	<1%	Yes
DePuy	ELITE PLUS CEMENTED STEM	DePuy	CHARNLEY OGEE	5	<1%	No
DePuy	C-STEM CEMENTED STEM	DePuy	DURALOC CEMENTLESS CUP	5	<1%	No
DePuy	C-STEM AMT CEMENTED STEM	Biomet	MALLORY-HEAD CEMENTLESS CUP	5	<1%	Yes
Zimmer	CLS CEMENTLESS STEM	Zimmer	CLS CEMENTLESS CUP	5	<1%	No
Zimmer	MS-30	Zimmer	METASUL-MULLER	5	<1%	No
Stryker Howmedica Osteonics	EXETER	DePuy	ULTIMA CEMENTED CUP	5	<1%	Yes
Smith & Nephew	CPCS	Endo Plus (UK)	PE-PLUS	5	<1%	Yes
Smith & Nephew	ANTHOLOGY	Endo Plus (UK)	EPF-PLUS	5	<1%	Yes
Zimmer	MULLER STR STEM	Joint Replacement Instrumentation	CSF PLUS	5	<1%	Yes
DePuy	CORAIL	Mathys Orthopaedics	RM CEMENTLESS CUP (MATHYS)	5	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	RESTORATION GAP2	5	<1%	No
Joint Replacement Instrumentation	FURLONG HAC	Stryker Howmedica Osteonics	CONTEMPORARY	5	<1%	Yes
Surgicraft	ESOP	Surgicraft	SPLIT CUP	5	<1%	No
Zimmer	CPT	Surgicraft	SPLIT CUP	5	<1%	Yes
DePuy	C-STEM AMT CEMENTED STEM	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	5	<1%	Yes
Wright Medical UK	PROFEMUR CEMENTLESS STEM	Wright Medical UK	ANCAFIT CEMENTLESS CUP	5	<1%	No
Zimmer	MS-30	Zimmer	TRABECULAR METAL CEMENTLESS CUP	5	<1%	No
Zimmer	REVITAN CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	5	<1%	No
Zimmer	VERSYS CEMENTED STEM	Wright Medical UK	PROCOTYL	4	<1%	Yes
Exactech (UK)	ACUMATCH M-SERIES	Stryker Howmedica Osteonics	TRIDENT	4	<1%	Yes
Stryker Howmedica Osteonics	OMNIFIT CEMENTLESS STEM	Stryker Howmedica Osteonics	CONTEMPORARY	4	<1%	No
Stryker Howmedica Osteonics	EXETER	Stryker Howmedica Osteonics	CONTEMPORARY	4	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Orthodynamics	NOVAE SF	4	<1%	Yes
Smith & Nephew	CPS-PLUS	Smith & Nephew	REFLECTION CEMENTLESS	4	<1%	No

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Waldemar Link	SP II CEMENTED STEM	Joint Replacement Instrumentation	CSF	4	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Joint Replacement Instrumentation	CSF PLUS	4	<1%	Yes
Mathys Orthopaedics	TWINSYS CEMENTLESS STEM	Implants International	RM CEMENTLESS CUP (IMPLANTS INTERNATIONAL)	4	<1%	Yes
Zimmer	CPT	Endo Plus (UK)	EPF-PLUS	4	<1%	Yes
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Smith & Nephew	PE-PLUS	4	<1%	No
Smith & Nephew	CPCS	Endo Plus (UK)	BOFOR	4	<1%	Yes
Zimmer	ALLOCLASSIC CEMENTLESS STEM	Zimmer	ALLOFIT	4	<1%	No
DePuy	C-STEM AMT CEMENTED STEM	Biomet	BIOMEX	4	<1%	Yes
Smith & Nephew	ANTHOLOGY	Biomet	EXCEED	4	<1%	Yes
B Braun/Aesculap	BICONACT CEMENTED STEM	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	4	<1%	No
Biomet	CONELock	Amplitude	SATURNE	4	<1%	Yes
DePuy	CHARNLEY MODULAR	DePuy	CHARNLEY CEMENTED CUP	4	<1%	No
Stryker Howmedica Osteonics	EXETER	DePuy	ELITE PLUS CEMENTED CUP	4	<1%	Yes
Corin	CENATOR CEMENTED STEM	Corin	CENATOR CEMENTED CUP	4	<1%	No
Joint Replacement Instrumentation	FURLONG CEMENTED STEM	DePuy	PINNACLE	4	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	DePuy	PINNACLE	4	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	DePuy	ULTIMA CEMENTED CUP	4	<1%	Yes
Corin	METAFIX STEM	DePuy	PINNACLE	4	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	Zimmer	TRILOGY	4	<1%	Yes
DePuy	C-STEM AMT CEMENTED STEM	Zimmer	TRILOGY	4	<1%	Yes
Corin	METAFIX STEM	Zimmer	TRILOGY	4	<1%	Yes
Zimmer	MS-30	Zimmer	ZCA	4	<1%	No
Biomet	OLYMPIA	Zimmer	ZCA	4	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Zimmer	ZCA	4	<1%	Yes
Mathys Orthopaedics	CCA CEMENTED STEM	Zimmer	ZIMMER CEMENTED CUP	4	<1%	Yes
DePuy	C-STEM CEMENTED STEM	Zimmer	ZIMMER CEMENTED CUP	3	<1%	Yes

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Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Zimmer	CLS CEMENTLESS STEM	Zimmer	ZCA	3	<1%	No
Zimmer	WAGNER CONE	Zimmer	TRILOGY	3	<1%	No
Stryker Howmedica Osteonics	OMNIFIT CEMENTED STEM	Zimmer	TRILOGY	3	<1%	Yes
Zimmer	ALLOCLASSIC CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	3	<1%	No
Joint Replacement Instrumentation	FURLONG HAC	Zimmer	TRABECULAR METAL CEMENTLESS CUP	3	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	3	<1%	Yes
Zimmer	MULLER STR STEM	DePuy	PINNACLE	3	<1%	Yes
DePuy	KAR	DePuy	ELITE PLUS OGEE	3	<1%	No
Stryker Howmedica Osteonics	EXETER V40	DePuy	S-ROM CEMENTLESS CUP	3	<1%	Yes
Biomet	STANMORE MODULAR	DePuy	ULTIMA CEMENTED CUP	3	<1%	Yes
Zimmer	CLS CEMENTLESS STEM	DePuy	PINNACLE	3	<1%	Yes
Zimmer	WAGNER CONE	DePuy	PINNACLE	3	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	DePuy	ELITE PLUS CEMENTED CUP	3	<1%	Yes
Biomet	TAPERLOC CEMENTLESS STEM	DePuy	ELITE PLUS OGEE	3	<1%	Yes
DePuy	CORAIL	DePuy	CHARNLEY CEMENTED CUP	3	<1%	No
DePuy	CORAIL	DePuy	CHARNLEY OGEE	3	<1%	No
Smith & Nephew	CPS-PLUS	B Braun/Aesculap	ALFA CEMENTED CUP	3	<1%	Yes
Biomet	OLYMPIA	Biomet	APOLLO	3	<1%	No
Biomet	TAPERLOC CEMENTLESS STEM	Biomet	APOLLO	3	<1%	No
Wright Medical UK	PROFEMUR CEMENTLESS STEM	Biomet	EXCEED	3	<1%	Yes
Biomet	STANMORE MODULAR	Biomet	MALLORY-HEAD CEMENTLESS CUP	3	<1%	No
Biomet	MALLORY-HEAD CEMENTED STEM	Biomet	EXCEED	3	<1%	No
Zimmer	MS-30	Zimmer	FITMORE	3	<1%	No
Biomet	BIMETRIC CEMENTLESS STEM	Biomet	STANMORE-ARCOM	3	<1%	No
Zimmer	MS-30	Zimmer	SPC	3	<1%	No
Biomet	STANMORE MODULAR	Biomet	RANAWAT/BURSTEIN	3	<1%	No
DePuy	CHARNLEY MODULAR	DePuy	WROBLEWSKI GOLF BALL	3	<1%	No

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Stryker Howmedica Osteonics	EXETER V40	Implants International	EDINBURGH CUP	3	<1%	Yes
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Smith & Nephew	REFLECTION CEMENTLESS	3	<1%	No
Mathys Orthopaedics	CBC	Mathys Orthopaedics	SELEXYS	3	<1%	No
DePuy	SUMMIT CEMENTLESS STEM	Stryker Howmedica Osteonics	RESTORATION GAP2	3	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	3	<1%	No
Smith & Nephew	SPECTRON	Smith & Nephew	SP3	3	<1%	No
Wright Medical UK	PROFEMUR CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	3	<1%	Yes
Stryker Howmedica Osteonics	ACCOLADE	Stryker Howmedica Osteonics	TRITANIUM	3	<1%	No
Waldemar Link	CFP	Waldemar Link	PRESSFIT	3	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Wright Medical UK	PROCOTYL	3	<1%	Yes
DePuy	CORAIL	Wright Medical UK	PROCOTYL	3	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	DePuy	DURALOC CEMENTLESS CUP	3	<1%	No
Biomet	OLYMPIA	Wright Medical UK	PROCOTYL	2	<1%	Yes
DePuy	CORAIL	Wright Medical UK	ANCAFIT CEMENTLESS CUP	2	<1%	Yes
Zimmer	WAGNER CONE	Zimmer	TRABECULAR METAL CEMENTLESS CUP	2	<1%	No
Corin	TAPERFIT CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	2	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	2	<1%	Yes
Smith & Nephew	SYNERGY CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	2	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	2	<1%	No
DePuy	C-STEM CEMENTED STEM	Stryker Howmedica Osteonics	CONTEMPORARY	2	<1%	Yes
Smith & Nephew	CPCS	Stryker Howmedica Osteonics	CONTEMPORARY	2	<1%	Yes
Smith & Nephew	CPCS	Smith & Nephew	SP3	2	<1%	No
Zimmer	CPT	Stryker Howmedica Osteonics	ABG II CEMENTLESS CUP	2	<1%	Yes
Biomet	ASIAN CEMENTLESS STEM	Stryker Howmedica Osteonics	CONTEMPORARY	2	<1%	Yes
Biomet	STANMORE MODULAR	Stryker Howmedica Osteonics	CONTEMPORARY	2	<1%	Yes
Biomet	TAPERLOC CEMENTLESS STEM	Stryker Howmedica Osteonics	CONTEMPORARY	2	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Zimmer	CPT	Stryker Howmedica Osteonics	RESTORATION GAP2	2	<1%	Yes
Biomet	MALLORY-HEAD CEMENTED STEM	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	2	<1%	Yes
Biomet	TAPERLOC CEMENTLESS STEM	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	2	<1%	Yes
DePuy	CORAIL	Orthodynamics	NOVAE	2	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Orthodynamics	NOVAE SF	2	<1%	Yes
DePuy	CORAIL	Smith & Nephew	REFLECTION CEMENTED	2	<1%	Yes
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Smith & Nephew	REFLECTION CEMENTED	2	<1%	No
Smith & Nephew	BIRMINGHAM HEAD RESECTION STEM	Smith & Nephew	REFLECTION CEMENTLESS	2	<1%	No
DePuy	REEF	Smith & Nephew	OPERA	2	<1%	Yes
Smith & Nephew	SL-PLUS CEMENTED STEM	Smith & Nephew	EPF-PLUS	2	<1%	No
Zimmer	MULLER STR STEM	Joint Replacement Instrumentation	CSF	2	<1%	Yes
DePuy	CHARNLEY CEMENTED STEM	Joint Replacement Instrumentation	CSF	2	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Implants International	RM CEMENTLESS CUP (IMPLANTS INTERNATIONAL)	2	<1%	Yes
Finsbury	LIVERPOOL PROXIMAL CEMENTED	Finsbury	SLF CEMENTED CUP (FINSBURY)	2	<1%	No
Zimmer	ALLOCLASSIC CEMENTLESS STEM	Endo Plus (UK)	POLAR CEMENTLESS CUP	2	<1%	Yes
Zimmer	CLS CEMENTLESS STEM	Joint Replacement Instrumentation	CSF PLUS	2	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	Joint Replacement Instrumentation	CSF PLUS	2	<1%	Yes
Orthodynamics	CANNULOK CEMENTLESS STEM	Joint Replacement Instrumentation	CSF	2	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	DePuy	WROBLEWSKI GOLF BALL	2	<1%	Yes
DePuy	CORAIL	Endo Plus (UK)	EPF-PLUS	2	<1%	Yes
Zimmer	CPT	Biomet	REGENEREX CEMENTLESS	2	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Biomet	STANMORE-ARCOM	2	<1%	Yes
DePuy	C-STEM CEMENTED STEM	Biomet	MALLORY-HEAD CEMENTLESS CUP	2	<1%	Yes
Biomet	TAPERLOC CEMENTED STEM	Biomet	PAR 5 RINOWL CEMENTLESS CUP	2	<1%	No

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Joint Replacement Instrumentation	FURLONG HAC	Zimmer	ALLOFIT	2	<1%	Yes
Mathys Orthopaedics	CCA CEMENTED STEM	Zimmer	LOW PROFILE MULLER	2	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Zimmer	CLS CEMENTLESS CUP	2	<1%	Yes
Biomet	BIMETRIC CEMENTED STEM	Biomet	EXCEED	2	<1%	No
DePuy	CORAIL	Biomet	EXCEED	2	<1%	Yes
Biomet	BIMETRIC CEMENTLESS STEM	Biomet	BIOMEX	2	<1%	No
Biomet	STANMORE MODULAR	Biomet	BIOMEX	2	<1%	No
DePuy	CHARNLEY CEMENTED STEM	Biomet	MALLORY-HEAD CEMENTLESS CUP	2	<1%	Yes
DePuy	CORAIL	Biomet	MALLORY-HEAD CEMENTLESS CUP	2	<1%	Yes
Biomet	MALLORY-HEAD CEMENTED STEM	Biomet	MALLORY-HEAD CEMENTLESS CUP	2	<1%	No
Zimmer	MULLER STR STEM	Biomet	APOLLO	2	<1%	Yes
Biomet	BIMETRIC CEMENTLESS STEM	Biomet	ARCOM SHP	2	<1%	No
Biomet	MODULAR INTERLOC	Biomet	ARCOM SHP	2	<1%	No
Biomet	MALLORY-HEAD CEMENTED STEM	Biomet	BIOMET BI-POLAR CEMENTED CUP	2	<1%	No
DePuy	PROXIMA	Amplitude	SATURNE	2	<1%	Yes
B Braun/Aesculap	PREVISION CEMENTED STEM	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	2	<1%	No
Zimmer	CPT	DePuy	CHARNLEY CEMENTED CUP	2	<1%	Yes
DePuy	KAR	DePuy	DURALOC CEMENTLESS CUP	2	<1%	No
DePuy	ELITE PLUS CEMENTED STEM	DePuy	CHARNLEY CEMENTED CUP	2	<1%	No
Stryker Howmedica Osteonics	EXETER	DePuy	DURALOC CEMENTLESS CUP	2	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	DePuy	DURALOC OPTION	2	<1%	No
DePuy	CHARNLEY MODULAR	DePuy	PINNACLE	2	<1%	No
DePuy	SOLUTION CEMENTLESS STEM	DePuy	PINNACLE	2	<1%	No
DePuy	ULTIMA STRAIGHT STEM	DePuy	PINNACLE	2	<1%	No
DePuy	REEF	DePuy	ELITE PLUS OGEE	2	<1%	No
Wright Medical UK	PROFEMUR CEMENTLESS STEM	DePuy	ELITE PLUS OGEE	2	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	2	<1%	Yes
Smith & Nephew	CPCS	Zimmer	TRABECULAR METAL CEMENTLESS CUP	2	<1%	Yes
Zimmer	MULLER STR STEM	Zimmer	TRILOGY	2	<1%	No
Zimmer	ZMR CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	2	<1%	No
Wright Medical UK	PROFEMUR CEMENTED STEM	Zimmer	TRILOGY	2	<1%	Yes
Stryker Howmedica Osteonics	EXETER	Zimmer	TRILOGY	2	<1%	Yes
DePuy	ELITE PLUS CEMENTED STEM	Zimmer	TRILOGY	2	<1%	Yes
DePuy	KAR	Zimmer	TRILOGY	2	<1%	Yes
Smith & Nephew	ANTHOLOGY	Zimmer	TRILOGY	2	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	DePuy	ELITE PLUS OGEE	2	<1%	No
Smith & Nephew	ECHELON CEMENTED STEM	Zimmer	TRILOGY	1	<1%	Yes
Smith & Nephew	ECHELON CEMENTLESS STEM	Zimmer	TRILOGY	1	<1%	Yes
DePuy	REEF	Zimmer	TRILOGY	1	<1%	Yes
Corin	CTI CEMENTED STEM	Zimmer	TRILOGY	1	<1%	Yes
Finsbury	ADEPT CEMENTED STEM	Zimmer	TRILOGY	1	<1%	Yes
Waldemar Link	SP II CEMENTED STEM	Zimmer	TRILOGY	1	<1%	Yes
Zimmer	FITMORE STEM	Zimmer	TRILOGY	1	<1%	No
Biomet	TAPERLOC CEMENTED STEM	Zimmer	TRILOGY	1	<1%	Yes
Biomet	TAPERLOC CEMENTLESS STEM	Zimmer	TRILOGY	1	<1%	Yes
Zimmer	REVITAN CEMENTED STEM	Zimmer	TRILOGY	1	<1%	No
Biomet	BIMETRIC CEMENTED STEM	Zimmer	TRILOGY	1	<1%	Yes
Zimmer	VERSYS HERITAGE	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	No
Zimmer	VERSYS CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	No
Smith & Nephew	ECHELON CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Smith & Nephew	SYNERGY CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Smith & Nephew	CPS-PLUS	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Mathys Orthopaedics	CCA CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Stryker Howmedica Osteonics	OMNIFIT CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Medacta UK	QUADRA CEMENTLESS	Zimmer	ZCA	1	<1%	Yes
Biomet	STANMORE MODULAR	Zimmer	ZCA	1	<1%	Yes
Zimmer	CLS CEMENTLESS STEM	Zimmer	ZCA	1	<1%	No
Amplitude	INITIALE CEMENTED STEM	Zimmer	ZCA	1	<1%	Yes
DePuy	C-STEM AMT CEMENTED STEM	Zimmer	ZCA	1	<1%	Yes
DePuy	C-STEM CEMENTED STEM	Zimmer	ZCA	1	<1%	Yes
Smith & Nephew	CPS-PLUS	Zimmer	ZCA	1	<1%	Yes
Zimmer	ZMR CEMENTED STEM	Zimmer	ZCA	1	<1%	No
Zimmer	MS-30	Zimmer	ZCA	1	<1%	No
Smith & Nephew	ANTHOLOGY	Zimmer	ZIMMER CEMENTED CUP	1	<1%	Yes
Finsbury	ADEPT CEMENTED STEM	DePuy	ELITE PLUS OGEE	1	<1%	Yes
Stryker Howmedica Osteonics	ABG II CEMENTLESS STEM	DePuy	ELITE PLUS OGEE	1	<1%	Yes
Stryker Howmedica Osteonics	ACCOLADE	DePuy	ELITE PLUS OGEE	1	<1%	Yes
DePuy	SUMMIT CEMENTED STEM	DePuy	ELITE PLUS OGEE	1	<1%	No
Zimmer	REVITAN CEMENTED STEM	DePuy	PINNACLE	1	<1%	Yes
DePuy	CHARNLEY CEMENTED STEM	DePuy	PINNACLE	1	<1%	No
DePuy	S-ROM CEMENTLESS STEM	DePuy	MARATHON	1	<1%	No
Zimmer	CLS CEMENTLESS STEM	DePuy	HYLAMER	1	<1%	Yes
Zimmer	P10 MULLER	DePuy	HYLAMER	1	<1%	Yes
DePuy	SOLUTION CEMENTLESS STEM	DePuy	HYLAMER	1	<1%	No
DePuy	CHARNLEY CEMENTED STEM	DePuy	HYLAMER OGEE	1	<1%	No
Smith & Nephew	CPS-PLUS	DePuy	PINNACLE	1	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
DePuy	SUMMIT CEMENTED STEM	DePuy	PINNACLE	1	<1%	No
Orthodynamics	CANNULOK CEMENTLESS STEM	DePuy	PINNACLE	1	<1%	Yes
Smith & Nephew	CPCS	DePuy	PINNACLE	1	<1%	Yes
Zimmer	VERSYS CEMENTLESS STEM	DePuy	PINNACLE	1	<1%	Yes
Zimmer	ZMR CEMENTED STEM	DePuy	PINNACLE	1	<1%	Yes
Stryker Howmedica Osteonics	ACCOLADE	DePuy	S-ROM CEMENTLESS CUP	1	<1%	Yes
Orthodynamics	CANNULOK CEMENTLESS STEM	DePuy	DURALOC CEMENTLESS CUP	1	<1%	Yes
Zimmer	VERSYS CEMENTED STEM	DePuy	DURALOC CEMENTLESS CUP	1	<1%	Yes
DePuy	AML	DePuy	ELITE PLUS OGEE	1	<1%	No
Waldemar Link	MP NECK CEMENTED STEM	DePuy	ELITE PLUS CEMENTED CUP	1	<1%	Yes
Zimmer	CPT	DePuy	ELITE PLUS CEMENTED CUP	1	<1%	Yes
DePuy	C-STEM CEMENTED STEM	DePuy	ELITE PLUS FLANGED	1	<1%	No
Stryker Howmedica Osteonics	EXETER V40	DePuy	ELITE PLUS FLANGED	1	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	DePuy	ELITE PLUS CEMENTED CUP	1	<1%	No
Biomet	BIMETRIC CEMENTED STEM	DePuy	CHARNLEY CEMENTED CUP	1	<1%	Yes
DePuy	C-STEM AMT CEMENTED STEM	DePuy	CHARNLEY CEMENTED CUP	1	<1%	No
Joint Replacement Instrumentation	FURLONG CEMENTED STEM	Corin	CENATOR CEMENTED CUP	1	<1%	Yes
Biomet	TAPERLOC CEMENTLESS STEM	Corin	CENATOR CEMENTED CUP	1	<1%	Yes
DePuy	REEF	DePuy	DURALOC CEMENTLESS CUP	1	<1%	No
Biomet	STANMORE MODULAR	DePuy	DURALOC CEMENTLESS CUP	1	<1%	Yes
Zimmer	P10 MULLER	DePuy	DURALOC CEMENTLESS CUP	1	<1%	Yes
Zimmer	CPT	DePuy	CHARNLEY OGEE	1	<1%	Yes
B Braun/Aesculap	BICONACT CEMENTED STEM	DePuy	DURALOC CEMENTLESS CUP	1	<1%	Yes
DePuy	FUTURE	DePuy	CHARNLEY OGEE	1	<1%	No
DePuy	C-STEM AMT CEMENTED STEM	DePuy	CHARNLEY OGEE	1	<1%	No

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
DePuy	CORAIL	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	1	<1%	Yes
Smith & Nephew	SL-PLUS CEMENTLESS STEM	B Braun/Aesculap	ALFA CEMENTED CUP	1	<1%	Yes
B Braun/Aesculap	BICONCONTACT CEMENTED STEM	B Braun/Aesculap	CHIRULEN	1	<1%	No
Stryker Howmedica Osteonics	ACCOLADE	Amplitude	SATURNE	1	<1%	Yes
Biomet	TAPERLOC CEMENTLESS STEM	Biomet	BIOMET BI-POLAR CEMENTED CUP	1	<1%	No
Mathys Orthopaedics	TWINSYS CEMENTED STEM	Biomet	BIOMET BI-POLAR CEMENTED CUP	1	<1%	Yes
Biomet	MULLER- BIOMET	Biomet	BIOMET MULLER	1	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Biomet	ARCOM SHP	1	<1%	Yes
Zimmer	CPT	Biomet	ARCOM SHP	1	<1%	Yes
Biomet	BIHAPRO MK III	Biomet	BIHAPRO	1	<1%	No
Biomet	MONOBLOC STANMORE	Biomet	ARCOM SHP	1	<1%	No
Joint Replacement Instrumentation	FURLONG HAC	Biomet	APOLLO	1	<1%	Yes
Mathys Orthopaedics	CCA CEMENTED STEM	Biomet	APOLLO	1	<1%	Yes
Biomet	BIMETRIC CEMENTED STEM	Biomet	MALLORY-HEAD CEMENTLESS CUP	1	<1%	No
Stryker Howmedica Osteonics	OMNIFIT CEMENTED STEM	Biomet	EXCEED	1	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	Biomet	EXCEED	1	<1%	Yes
Biomet	TAPERLOC CEMENTLESS STEM	Biomet	BIOMEX	1	<1%	No
Biomet	BIMETRIC CEMENTLESS STEM	Biomet	CUSTOM HC	1	<1%	No
Joint Replacement Instrumentation	FURLONG HAC	Biomet	EXCEED	1	<1%	Yes
Mathys Orthopaedics	TWINSYS CEMENTED STEM	Biomet	EXCEED	1	<1%	Yes
Wright Medical UK	PROFEMUR CEMENTLESS STEM	Zimmer	CLS CEMENTLESS CUP	1	<1%	Yes
DePuy	C-STEM AMT CEMENTED STEM	Zimmer	CENTERPULSE MULLER	1	<1%	Yes
Orthodynamics	LMT	Zimmer	CENTERPULSE MULLER	1	<1%	Yes
Biomet	TAPERLOC CEMENTLESS STEM	Zimmer	LOW PROFILE MULLER	1	<1%	Yes
Zimmer	CLS CEMENTLESS STEM	Zimmer	LOW PROFILE MULLER	1	<1%	No
Zimmer	WAGNER CONE	Zimmer	FITMORE	1	<1%	No

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Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
DePuy	C-STEM AMT CEMENTED STEM	Zimmer	LOW PROFILE MULLER	1	<1%	Yes
Zimmer	CLS CEMENTLESS STEM	Zimmer	LOW PROFILE MULLER	1	<1%	No
Zimmer	CLS CEMENTLESS STEM	Zimmer	METASUL-MULLER	1	<1%	No
Zimmer	CPT	Zimmer	METASUL-WEBER	1	<1%	No
Zimmer	MS-30	Zimmer	METASUL-MULLER	1	<1%	No
Mathys Orthopaedics	CBC	Zimmer	ALLOFIT	1	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Zimmer	ALLOFIT	1	<1%	Yes
Stryker Howmedica Osteonics	OMNIFIT CEMENTED STEM	Zimmer	ALLOFIT	1	<1%	Yes
Zimmer	FITMORE STEM	Zimmer	ALLOFIT	1	<1%	No
Zimmer	MAYO CEMENTED STEM	Zimmer	ALLOFIT	1	<1%	No
Corin	HI-NEK CEMENTLESS STEM	Zimmer	ALLOFIT	1	<1%	Yes
DePuy	CORAIL	Zimmer	ALLOFIT	1	<1%	Yes
DePuy	SOLUTION CEMENTLESS STEM	Zimmer	ALLOFIT	1	<1%	Yes
Biomet	BIMETRIC CEMENTLESS STEM	Zimmer	ALLOFIT	1	<1%	Yes
Zimmer	MULLER STR STEM	Zimmer	ALLOFIT	1	<1%	No
DePuy	CORAIL	Biomet	PAR 5 RINOWL CEMENTLESS CUP	1	<1%	Yes
Smith & Nephew	CPS-PLUS	Biomet	MALLORY-HEAD CEMENTLESS CUP	1	<1%	Yes
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Biomet	MALLORY-HEAD CEMENTLESS CUP	1	<1%	Yes
Smith & Nephew	CPCS	Biomet	MALLORY-HEAD CEMENTLESS CUP	1	<1%	Yes
Biomet	BIMETRIC CEMENTED STEM	Biomet	UNIVERSAL II	1	<1%	No
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Biomet	STANMORE-ARCOM	1	<1%	Yes
Smith & Nephew	CPS-PLUS	Biomet	RINGLOC	1	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Biomet	SCAN CEMENTED CUP	1	<1%	Yes
DePuy	CORAIL	Biomet	RANAWAT/BURSTEIN	1	<1%	Yes
DePuy	C-STEM CEMENTED STEM	Endo Plus (UK)	EPF-PLUS	1	<1%	Yes
Corin	HI-NEK CEMENTED STEM	Endo Plus (UK)	EPF-PLUS	1	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Smith & Nephew	BOFOR	1	<1%	No
DePuy	C-STEM AMT CEMENTED STEM	DePuy	WROBLEWSKI GOLF BALL	1	<1%	No
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Smith & Nephew	EPF-PLUS	1	<1%	No
Biomet	REACH	Endo Plus (UK)	POLAR CEMENTLESS CUP	1	<1%	Yes
DePuy	PROXIMA	Endo Plus (UK)	POLAR CEMENTLESS CUP	1	<1%	Yes
Smith & Nephew	SLR-PLUS CEMENTED STEM	Smith & Nephew	EPF-PLUS	1	<1%	No
Finsbury	ADEPT CEMENTED STEM	Endo Plus (UK)	EPF-PLUS	1	<1%	Yes
Corin	CTI CEMENTED STEM	Joint Replacement Instrumentation	CSF PLUS	1	<1%	Yes
Wright Medical UK	PROFEMUR CEMENTLESS STEM	Joint Replacement Instrumentation	CSF	1	<1%	Yes
Zimmer	CLS CEMENTLESS STEM	Joint Replacement Instrumentation	CSF	1	<1%	Yes
Zimmer	CPT	Joint Replacement Instrumentation	CSF	1	<1%	Yes
Zimmer	VERSYS CEMENTLESS STEM	Joint Replacement Instrumentation	CSF	1	<1%	Yes
Biomet	MULLER- BIOMET	Joint Replacement Instrumentation	CSF PLUS	1	<1%	Yes
Finsbury	Finsbury Type C	Joint Replacement Instrumentation	CSF PLUS	1	<1%	Yes
Joint Replacement Instrumentation	FURLONG CEMENTED STEM	Joint Replacement Instrumentation	CSF PLUS	1	<1%	No
Joint Replacement Instrumentation	FURLONG HAC	Joint Replacement Instrumentation	CUSTOM	1	<1%	No
Wright Medical UK	PROFEMUR CEMENTLESS STEM	Joint Replacement Instrumentation	CSF PLUS	1	<1%	Yes
Finsbury	FREEMAN CEMENTED FINSBURY	Finsbury	SLF CEMENTED CUP (FINSBURY)	1	<1%	No
Biomet	MALLORY-HEAD CEMENTED STEM	Joint Replacement Instrumentation	CSF	1	<1%	Yes
Biomet	STANMORE MODULAR	Joint Replacement Instrumentation	CSF	1	<1%	Yes
Biomet	TAPERLOC CEMENTED STEM	Joint Replacement Instrumentation	CSF	1	<1%	Yes
DePuy	C-STEM AMT CEMENTED STEM	Joint Replacement Instrumentation	CSF	1	<1%	Yes
DePuy	C-STEM CEMENTED STEM	Joint Replacement Instrumentation	CSF	1	<1%	Yes
Corin	C FIT	Joint Replacement Instrumentation	CSF	1	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
DePuy	CORAIL	Implants International	RM CEMENTLESS CUP (IMPLANTS INTERNATIONAL)	1	<1%	Yes
Corin	TAPERFIT CEMENTED STEM	Smith & Nephew	OPERA	1	<1%	Yes
DePuy	CHARNLEY MODULAR	Smith & Nephew	OPERA	1	<1%	Yes
DePuy	SUMMIT CEMENTLESS STEM	Smith & Nephew	OPERA	1	<1%	Yes
Smith & Nephew	CPS-PLUS	Smith & Nephew	POLAR CEMENTLESS CUP	1	<1%	No
Corin	METAFIX STEM	Smith & Nephew	REFLECTION CEMENTED	1	<1%	Yes
Smith & Nephew	SLR-PLUS CEMENTED STEM	Smith & Nephew	OPERA	1	<1%	No
Smith & Nephew	ECHELON CEMENTLESS STEM	Smith & Nephew	REFLECTION CEMENTLESS	1	<1%	No
Zimmer	CPT	Smith & Nephew	REFLECTION CEMENTLESS	1	<1%	Yes
Smith & Nephew	CPCS	Smith & Nephew	REFLECTION CEMENTED	1	<1%	No
DePuy	C-STEM CEMENTED STEM	Orthodynamics	NOVAE STICK	1	<1%	Yes
Orthodynamics	LMT	Orthodynamics	ORTHODYNAMICS	1	<1%	No
Smith & Nephew	ENDOPLUS CEMENTED	Smith & Nephew	EPF-PLUS	1	<1%	No
DePuy	CORAIL	Orthodynamics	NOVAE SF	1	<1%	Yes
Biomet	CMK CEMENTED STEM	Mathys Orthopaedics	SELEXYS PC	1	<1%	Yes
DePuy	C-STEM CEMENTED STEM	Mathys Orthopaedics	RM CEMENTLESS CUP (MATHYS)	1	<1%	Yes
Medacta UK	QUADRA CEMENTLESS	Mathys Orthopaedics	RM CEMENTLESS CUP (MATHYS)	1	<1%	Yes
Smith & Nephew	SLR-PLUS CEMENTED STEM	Mathys Orthopaedics	RM CEMENTLESS CUP (MATHYS)	1	<1%	Yes
Stryker Howmedica Osteonics	ACCOLADE	Joint Replacement Instrumentation	FURLONG CEMENTED CUP	1	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Mathys Orthopaedics	CCB MATHYS	1	<1%	Yes
Biomet	KENT HIP	Mathys Orthopaedics	RM CEMENTLESS CUP (MATHYS)	1	<1%	Yes
Corin	TAPERFIT CEMENTED STEM	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	1	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Stryker Howmedica Osteonics	RESTORATION GAP2	1	<1%	Yes
Stryker Howmedica Osteonics	ACCOLADE	Stryker Howmedica Osteonics	RESTORATION GAP2	1	<1%	No
Zimmer	ZMR CEMENTED STEM	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	1	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Biomet	OLYMPIA	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes
DePuy	CHARNLEY CEMENTED STEM	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes
DePuy	C-STEM CEMENTED STEM	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes
Zimmer	VERSYS CEMENTLESS STEM	Stryker Howmedica Osteonics	ODC	1	<1%	Yes
DePuy	PROXIMA	Stryker Howmedica Osteonics	RESTORATION GAP2	1	<1%	Yes
Biomet	TAPERLOC CEMENTED STEM	Stryker Howmedica Osteonics	ODC	1	<1%	Yes
Zimmer	CLS CEMENTLESS STEM	Stryker Howmedica Osteonics	ODC	1	<1%	Yes
DePuy	CORAIL	Stryker Howmedica Osteonics	ODC	1	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	ODC	1	<1%	No
Implants International	EDINBURGH	Stryker Howmedica Osteonics	EXETER DURATION	1	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Stryker Howmedica Osteonics	EXETER DURATION	1	<1%	Yes
Stryker Howmedica Osteonics	ACCOLADE	Stryker Howmedica Osteonics	EXETER DURATION	1	<1%	No
Zimmer	CPT	Stryker Howmedica Osteonics	EXETER DURATION	1	<1%	Yes
DePuy	CHARNLEY MODULAR	Stryker Howmedica Osteonics	GAP RING	1	<1%	Yes
DePuy	SUMMIT CEMENTLESS STEM	Stryker Howmedica Osteonics	GAP RING	1	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Stryker Howmedica Osteonics	GAP RING	1	<1%	Yes
Stryker Howmedica Osteonics	ACCOLADE	Stryker Howmedica Osteonics	GAP RING	1	<1%	No
Corin	HI-NEK CEMENTED STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
Biomet	TAPERLOC CEMENTED STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
Biomet	BIMETRIC CEMENTED STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
Biomet	REACH	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
Biomet	SHP	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
Stryker Howmedica Osteonics	EXETER	Stryker Howmedica Osteonics	ARDEN	1	<1%	No

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Stryker Howmedica Osteonics	ACCOLADE	Stryker Howmedica Osteonics	ABG II CEMENTLESS CUP	1	<1%	No
Biomet	TAPERLOC CEMENTLESS STEM	Stryker Howmedica Osteonics	ABG II CEMENTLESS CUP	1	<1%	Yes
Smith & Nephew	SYNERGY CEMENTLESS STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
Mathys Orthopaedics	TWINSYS CEMENTLESS STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
Smith & Nephew	ANTHOLOGY	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	No
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	No
Waldemar Link	MP NECK CEMENTED STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
Wright Medical UK	PROFEMUR CEMENTLESS STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
DePuy	ELITE PLUS CEMENTED STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
ImplantCast	IMPLANTCAST CEMENTLESS STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
Waldemar Link	MP NECK CEMENTED STEM	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes
Wright Medical UK	ANCAFIT CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes
Stanmore Implants Worldwide	CUSTOM DEVICE	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes
Stryker Howmedica Osteonics	ACCOLADE CEMENTED	Stryker Howmedica Osteonics	TRIDENT	1	<1%	No
Orthodynamics	CANNULOK CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes
Smith & Nephew	SPECTRON	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Stryker Howmedica Osteonics	TRITANIUM	1	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Waldemar Link	MCMINN	1	<1%	Yes
Zimmer	ZMR CEMENTED STEM	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes
Zimmer	VERSYS CEMENTLESS STEM	Surgicraft	SPLIT CUP	1	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Symbios SA	APRIL	1	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
DePuy	C-STEM AMT CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Biomet	BIMETRIC CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Biomet	REACH	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Wright Medical UK	ANCAFIT CEMENTLESS CUP	1	<1%	Yes
Corin	METAFIX STEM	Wright Medical UK	ANCAFIT CEMENTLESS CUP	1	<1%	Yes
Zimmer	P10 MULLER	Wright Medical UK	PROCOTYL	1	<1%	Yes
Wright Medical UK	PROFEMUR CEMENTED STEM	Wright Medical UK	LINEAGE	1	<1%	No
DePuy	ULTIMA STRAIGHT STEM	Wright Medical UK	PROCOTYL	1	<1%	Yes

Table 9(b) Cup-stem combinations in the NJR in 2008 for hip revision procedures where both were implanted during the revision.

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
				3,161	%	
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	TRIDENT	252	8%	No
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	CONTEMPORARY	217	7%	No
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Stryker Howmedica Osteonics	TRIDENT	161	5%	No
DePuy	CORAIL	DePuy	PINNACLE	121	4%	No
DePuy	KAR	DePuy	PINNACLE	107	3%	No
Stryker Howmedica Osteonics	EXETER V40	Zimmer	TRILOGY	94	3%	Yes
Stryker Howmedica Osteonics	EXETER V40	Zimmer	TRABECULAR METAL CEMENTLESS CUP	83	3%	Yes
Zimmer	ZMR CEMENTED STEM	Zimmer	TRILOGY	69	2%	No
Zimmer	ZMR CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	68	2%	No
Zimmer	CPT	Zimmer	TRABECULAR METAL CEMENTLESS CUP	57	2%	No
DePuy	S-ROM CEMENTLESS STEM	DePuy	PINNACLE	56	2%	No
Zimmer	REVITAN CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	50	2%	No
Stryker Howmedica Osteonics	EXETER V40	DePuy	ELITE PLUS OGEE	50	2%	Yes
DePuy	C-STEM CEMENTED STEM	DePuy	ELITE PLUS OGEE	47	1%	No
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	46	1%	Yes
DePuy	SOLUTION CEMENTLESS STEM	DePuy	PINNACLE	44	1%	No
Stryker Howmedica Osteonics	EXETER V40	Smith & Nephew	REFLECTION CEMENTLESS	43	1%	Yes
Stryker Howmedica Osteonics	EXETER V40	DePuy	ELITE PLUS CEMENTED CUP	40	1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Stryker Howmedica Osteonics	TRITANIUM	39	1%	No
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	TRITANIUM	37	1%	No
Stryker Howmedica Osteonics	EXETER V40	DePuy	PINNACLE	35	1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Joint Replacement Instrumentation	CSF PLUS	33	1%	No
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	EXETER DURATION	33	1%	No
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Stryker Howmedica Osteonics	CONTEMPORARY	30	1%	No

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Joint Replacement Instrumentation	FURLONG HAC	Joint Replacement Instrumentation	CSF	28	1%	No
DePuy	C-STEM CEMENTED STEM	DePuy	PINNACLE	26	1%	No
DePuy	C-STEM CEMENTED STEM	Smith & Nephew	OPERA	23	1%	Yes
DePuy	REEF	DePuy	PINNACLE	23	1%	No
Zimmer	CPT	Zimmer	TRILOGY	23	1%	No
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Zimmer	TRILOGY	22	1%	Yes
DePuy	CHARNLEY CEMENTED STEM	DePuy	CHARNLEY CEMENTED CUP	22	1%	No
DePuy	C-STEM AMT CEMENTED STEM	DePuy	PINNACLE	21	1%	No
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	DePuy	PINNACLE	20	1%	Yes
Stryker Howmedica Osteonics	ACCOLADE	Stryker Howmedica Osteonics	TRIDENT	20	1%	No
DePuy	C-STEM CEMENTED STEM	DePuy	WROBLEWSKI GOLF BALL	19	1%	No
DePuy	C-STEM CEMENTED STEM	DePuy	ELITE PLUS CEMENTED CUP	19	1%	No
Zimmer	CPT	Zimmer	ZCA	18	1%	No
Biomet	REACH	Biomet	MALLORY-HEAD CEMENTLESS CUP	17	1%	No
Waldemar Link	MP NECK CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	16	1%	Yes
DePuy	SUMMIT CEMENTLESS STEM	Amplitude	SATURNE	15	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Corin	CENATOR CEMENTED CUP	13	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Joint Replacement Instrumentation	FURLONG THREADED CUP	12	<1%	No
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Smith & Nephew	REFLECTION CEMENTLESS	12	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Smith & Nephew	OPERA	12	<1%	Yes
Corin	OXFORD UNIVERSAL HIP (CORIN) CEMENTED STEM	Zimmer	TRILOGY	12	<1%	Yes
Smith & Nephew	ECHOLON CEMENTLESS STEM	Zimmer	TRILOGY	12	<1%	Yes
DePuy	KAR	Zimmer	TRABECULAR METAL CEMENTLESS CUP	11	<1%	Yes
Smith & Nephew	CPCS	Smith & Nephew	REFLECTION CEMENTLESS	11	<1%	No

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Smith & Nephew	SYNERGY CEMENTLESS STEM	Smith & Nephew	REFLECTION CEMENTLESS	11	<1%	No
B Braun/Aesculap	PREVISION CEMENTED STEM	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	10	<1%	No
DePuy	ELITE PLUS CEMENTED STEM	DePuy	ELITE PLUS CEMENTED CUP	10	<1%	No
Zimmer	CPT	DePuy	ELITE PLUS OGEE	9	<1%	Yes
DePuy	KAR	DePuy	ELITE PLUS OGEE	9	<1%	No
Biomet	CONELock	Amplitude	SATURNE	9	<1%	Yes
Biomet	TAPERLOC CEMENTLESS STEM	Biomet	EXCEED	9	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Biomet	MALLORY-HEAD CEMENTLESS CUP	9	<1%	Yes
DePuy	KAR	Smith & Nephew	OPERA	9	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Joint Replacement Instrumentation	CSF	8	<1%	Yes
Waldemar Link	MP NECK CEMENTED STEM	DePuy	PINNACLE	8	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Smith & Nephew	SP3	8	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Stryker Howmedica Osteonics	RESTORATION GAP2	8	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Biomet	EXCEED	8	<1%	Yes
B Braun/Aesculap	BICONTACT CEMENTED STEM	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	8	<1%	No
DePuy	C-STEM CEMENTED STEM	DePuy	MARATHON	8	<1%	No
Waldemar Link	MP NECK CEMENTED STEM	DePuy	ELITE PLUS CEMENTED CUP	8	<1%	Yes
DePuy	KAR	DePuy	ELITE PLUS CEMENTED CUP	7	<1%	No
DePuy	REEF	DePuy	ELITE PLUS OGEE	7	<1%	No
DePuy	ELITE PLUS CEMENTED STEM	DePuy	PINNACLE	7	<1%	No
Zimmer	CPT	Biomet	REGENEREX CEMENTLESS	7	<1%	Yes
Waldemar Link	MP NECK CEMENTED STEM	Stryker Howmedica Osteonics	CONTEMPORARY	7	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Joint Replacement Instrumentation	FURLONG CEMENTED CUP	7	<1%	No
Waldemar Link	SP II CEMENTED STEM	Waldemar Link	SNAP FIT	7	<1%	No
Zimmer	ZMR CEMENTED STEM	Zimmer	ZIMMER CEMENTED CUP	7	<1%	No
DePuy	KAR	Wright Medical UK	PROCOTYL	6	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Zimmer	MS-30	Zimmer	TRABECULAR METAL CEMENTLESS CUP	6	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	6	<1%	No
DePuy	REEF	Smith & Nephew	OPERA	6	<1%	Yes
DePuy	CHARNLEY CEMENTED STEM	Smith & Nephew	OPERA	6	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	DePuy	ULTIMA CEMENTED CUP	6	<1%	Yes
Smith & Nephew	ECHELON CEMENTLESS STEM	Smith & Nephew	REFLECTION CEMENTLESS	6	<1%	No
Zimmer	CPT	Smith & Nephew	REFLECTION CEMENTLESS	6	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	6	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Smith & Nephew	OPERA	5	<1%	Yes
Corin	TAPERFIT CEMENTED STEM	Smith & Nephew	REFLECTION CEMENTED	5	<1%	Yes
DePuy	C-STEM AMT CEMENTED STEM	Stryker Howmedica Osteonics	GAP RING	5	<1%	Yes
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Smith & Nephew	EPF-PLUS	5	<1%	No
Zimmer	CPT	DePuy	PINNACLE	5	<1%	Yes
DePuy	C-STEM CEMENTED STEM	Orthodynamics	NOVAE STICK	5	<1%	Yes
DePuy	C-STEM AMT CEMENTED STEM	Joint Replacement Instrumentation	FURLONG CEMENTED CUP	5	<1%	Yes
Joint Replacement Instrumentation	FURLONG CEMENTED STEM	Joint Replacement Instrumentation	FURLONG CEMENTED CUP	5	<1%	No
Biomet	BIMETRIC CEMENTLESS STEM	Biomet	STANMORE-ARCOM	5	<1%	No
Biomet	MULLER- BIOMET	Biomet	APOLLO	5	<1%	No
Waldemar Link	MP NECK CEMENTED STEM	Biomet	EXCEED	5	<1%	Yes
Biomet	MULLER- BIOMET	DePuy	PINNACLE	5	<1%	Yes
DePuy	CHARNLEY MODULAR	DePuy	PINNACLE	5	<1%	No
DePuy	SOLUTION CEMENTLESS STEM	DePuy	ELITE PLUS OGEE	5	<1%	No
DePuy	WROBLEWSKI RESECTION	DePuy	ELITE PLUS OGEE	5	<1%	No
DePuy	S-ROM CEMENTLESS STEM	DePuy	ELITE PLUS CEMENTED CUP	5	<1%	No
Zimmer	CPT	DePuy	CHARNLEY CEMENTED CUP	5	<1%	Yes

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Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
DePuy	CORAIL	DePuy	DURALOC CEMENTLESS CUP	5	<1%	No
Stryker Howmedica Osteonics	EXETER V40	DePuy	DURALOC CEMENTLESS CUP	5	<1%	Yes
DePuy	CORAIL	DePuy	ELITE PLUS CEMENTED CUP	5	<1%	No
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	5	<1%	No
DePuy	S-ROM CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	5	<1%	Yes
Stryker Howmedica Osteonics	ACCOLADE	Stryker Howmedica Osteonics	TRITANIUM	5	<1%	No
Waldemar Link	MP NECK CEMENTED STEM	Stryker Howmedica Osteonics	TRIDENT	5	<1%	Yes
DePuy	CORAIL	Zimmer	TRABECULAR METAL CEMENTLESS CUP	5	<1%	Yes
DePuy	C-STEM CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	5	<1%	Yes
DePuy	REEF	Zimmer	TRABECULAR METAL CEMENTLESS CUP	5	<1%	Yes
Wright Medical UK	PROFEMUR CEMENTLESS STEM	Wright Medical UK	PROCOTYL	5	<1%	No
DePuy	KAR	Zimmer	TRILOGY	5	<1%	Yes
Zimmer	VERSYS CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	5	<1%	No
DePuy	S-ROM CEMENTLESS STEM	DePuy	ELITE PLUS OGEE	5	<1%	No
DePuy	S-ROM CEMENTLESS STEM	Stryker Howmedica Osteonics	CONTEMPORARY	5	<1%	Yes
DePuy	LPS	Wright Medical UK	PROCOTYL	4	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Wright Medical UK	PROCOTYL	4	<1%	Yes
Finsbury	FREEMAN CEMENTLESS	Zimmer	TRABECULAR METAL CEMENTLESS CUP	4	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	RESTORATION GAP2	4	<1%	No
Zimmer	CPT	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	4	<1%	Yes
DePuy	LPS	DePuy	ELITE PLUS CEMENTED CUP	4	<1%	No
DePuy	CHARNLEY MODULAR	DePuy	ELITE PLUS OGEE	4	<1%	No
DePuy	SOLUTION CEMENTLESS STEM	DePuy	ELITE PLUS CEMENTED CUP	4	<1%	No
DePuy	SUMMIT CEMENTLESS STEM	DePuy	PINNACLE	4	<1%	No
Biomet	REACH	Biomet	EXCEED	4	<1%	No

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Stryker Howmedica Osteonics	EXETER V40	Biomet	REGENEREX CEMENTLESS	4	<1%	Yes
Biomet	STANMORE MODULAR	Biomet	STANMORE-ARCOM	4	<1%	No
Biomet	MULLER- BIOMET	Zimmer	LOW PROFILE MULLER	4	<1%	Yes
Zimmer	MS-30	Zimmer	LOW PROFILE MULLER	4	<1%	No
Orthodynamics	CANNULOK CEMENTLESS STEM	DePuy	PINNACLE	4	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Smith & Nephew	EPF-PLUS	4	<1%	Yes
Zimmer	CPT	Stryker Howmedica Osteonics	CONTEMPORARY	4	<1%	Yes
DePuy	SUMMIT CEMENTLESS STEM	Stryker Howmedica Osteonics	RESTORATION GAP2	4	<1%	Yes
Stryker Howmedica Osteonics	OMNIFIT CEMENTED STEM	Stryker Howmedica Osteonics	ODC	4	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	ABG II CEMENTLESS CUP	3	<1%	No
DePuy	KAR	Stryker Howmedica Osteonics	CONTEMPORARY	3	<1%	Yes
Smith & Nephew	ECHELON CEMENTLESS STEM	Smith & Nephew	SP3	3	<1%	No
Zimmer	REVITAN CEMENTED STEM	Stryker Howmedica Osteonics	CONTEMPORARY	3	<1%	Yes
DePuy	C-STEM AMT CEMENTED STEM	Smith & Nephew	OPERA	3	<1%	Yes
Smith & Nephew	ANTHOLOGY	Smith & Nephew	REFLECTION CEMENTLESS	3	<1%	No
Smith & Nephew	ECHELON CEMENTLESS STEM	Stryker Howmedica Osteonics	EXETER DURATION	3	<1%	Yes
Biomet	CONELock	Stryker Howmedica Osteonics	RESTORATION GAP2	3	<1%	Yes
Orthodynamics	CANNULOK CEMENTLESS STEM	Stryker Howmedica Osteonics	CONTEMPORARY	3	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	DePuy	ULTIMA CEMENTED CUP	3	<1%	Yes
Zimmer	ZMR CEMENTED STEM	DePuy	PINNACLE	3	<1%	Yes
Joint Replacement Instrumentation	FURLONG CEMENTED STEM	Joint Replacement Instrumentation	CSF	3	<1%	No
Mathys Orthopaedics	CCA CEMENTED STEM	Mathys Orthopaedics	CCB MATHYS	3	<1%	No
Orthodynamics	CANNULOK CEMENTLESS STEM	Joint Replacement Instrumentation	CSF	3	<1%	Yes
DePuy	C-STEM AMT CEMENTED STEM	Joint Replacement Instrumentation	CSF PLUS	3	<1%	Yes
Joint Replacement Instrumentation	FURLONG CEMENTED STEM	Joint Replacement Instrumentation	CSF PLUS	3	<1%	No

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Biomet	REGENEREX CEMENTLESS	3	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Biomet	EXCEED	3	<1%	Yes
Biomet	BIMETRIC CEMENTLESS STEM	Biomet	ARCOM SHP	3	<1%	No
B Braun/Aesculap	BICONACT CEMENTED STEM	B Braun/Aesculap	CHIRULEN	3	<1%	No
Joint Replacement Instrumentation	FURLONG HAC	DePuy	PINNACLE	3	<1%	Yes
Biomet	STANMORE MODULAR	DePuy	PINNACLE	3	<1%	Yes
Zimmer	ZMR CEMENTED STEM	DePuy	ELITE PLUS OGEE	3	<1%	Yes
DePuy	C-STEM AMT CEMENTED STEM	DePuy	MARATHON	3	<1%	No
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	DePuy	ELITE PLUS OGEE	3	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	DePuy	ELITE PLUS CEMENTED CUP	3	<1%	Yes
Corin	METAFIX STEM	DePuy	DURALOC CEMENTLESS CUP	3	<1%	Yes
DePuy	C-STEM CEMENTED STEM	DePuy	CHARNLEY OGEE	3	<1%	No
Zimmer	ZMR CEMENTED STEM	DePuy	CHARNLEY CEMENTED CUP	3	<1%	Yes
DePuy	CHARNLEY CEMENTED STEM	DePuy	CHARNLEY OGEE	3	<1%	No
Orthodynamics	CANNULOK CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	3	<1%	Yes
Smith & Nephew	ECHELON CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	3	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	3	<1%	No
Biomet	OXFORD UNIVERSAL HIP (BIOMET) CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	3	<1%	Yes
Waldemar Link	SP II CEMENTED STEM	Waldemar Link	INTERPLANTA	3	<1%	No
DePuy	CORAIL	Zimmer	TRILOGY	3	<1%	Yes
DePuy	C-STEM CEMENTED STEM	Zimmer	TRILOGY	3	<1%	Yes
DePuy	REEF	Zimmer	TRILOGY	3	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Zimmer	TRILOGY	3	<1%	Yes
Orthodynamics	CANNULOK CEMENTLESS STEM	Zimmer	TRILOGY	3	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Orthodynamics	CANNULOK CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	3	<1%	Yes
Zimmer	REVITAN CEMENTED STEM	Zimmer	TRILOGY	3	<1%	No
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Zimmer	ZIMMER CEMENTED CUP	2	<1%	Yes
Waldemar Link	MP NECK CEMENTED STEM	Zimmer	TRILOGY	2	<1%	Yes
Smith & Nephew	SPECTRON	Zimmer	TRABECULAR METAL CEMENTLESS CUP	2	<1%	Yes
Zimmer	MS-30	Zimmer	TRABECULAR METAL CEMENTLESS CUP	2	<1%	No
Zimmer	CLS CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	2	<1%	No
Biomet	OXFORD UNIVERSAL HIP (BIOMET) CEMENTED STEM	Zimmer	TRILOGY	2	<1%	Yes
Biomet	STANMORE MODULAR	Zimmer	TRILOGY	2	<1%	Yes
Waldemar Link	DAVIES CEMENTLESS STEM	Waldemar Link	MCMINN	2	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Wright Medical UK	PROCOTYL	2	<1%	Yes
Corin	OXFORD UNIVERSAL HIP (CORIN) CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	2	<1%	Yes
DePuy	SOLUTION CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	2	<1%	Yes
Stryker Howmedica Osteonics	GMRS	Stryker Howmedica Osteonics	TRIDENT	2	<1%	No
Zimmer	CPT	Stryker Howmedica Osteonics	TRIDENT	2	<1%	Yes
DePuy	REEF	Stryker Howmedica Osteonics	TRITANIUM	2	<1%	Yes
DePuy	CORAIL	Stryker Howmedica Osteonics	TRIDENT	2	<1%	Yes
DePuy	C-STEM AMT CEMENTED STEM	Stryker Howmedica Osteonics	TRIDENT	2	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	2	<1%	No
Biomet	MALLORY-HEAD CEMENTED STEM	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	2	<1%	Yes
DePuy	KAR	DePuy	DURALOC CEMENTLESS CUP	2	<1%	No
Orthodynamics	CANNULOK CEMENTLESS STEM	DePuy	DURALOC CEMENTLESS CUP	2	<1%	Yes
B Braun/Aesculap	PREVISION CEMENTED STEM	DePuy	ELITE PLUS CEMENTED CUP	2	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
DePuy	CORAIL	DePuy	DURALOC OPTION	2	<1%	No
DePuy	REEF	DePuy	ELITE PLUS CEMENTED CUP	2	<1%	No
DePuy	CORAIL	DePuy	ELITE PLUS OGEE	2	<1%	No
B Braun/Aesculap	BICONCONTACT CEMENTED STEM	DePuy	ELITE PLUS OGEE	2	<1%	Yes
B Braun/Aesculap	PREVISION CEMENTED STEM	DePuy	ELITE PLUS OGEE	2	<1%	Yes
Biomet	STANMORE MODULAR	DePuy	ELITE PLUS OGEE	2	<1%	Yes
DePuy	KAR	DePuy	MARATHON	2	<1%	No
Zimmer	REVITAN CEMENTED STEM	DePuy	PINNACLE	2	<1%	Yes
Orthodynamics	CANNULOK CEMENTLESS STEM	DePuy	ELITE PLUS OGEE	2	<1%	Yes
B Braun/Aesculap	BICONCONTACT CEMENTED STEM	DePuy	PINNACLE	2	<1%	Yes
B Braun/Aesculap	PREVISION CEMENTED STEM	B Braun/Aesculap	CHIRULEN	2	<1%	No
DePuy	S-ROM CEMENTLESS STEM	Amplitude	SATURNE	2	<1%	Yes
Biomet	STANMORE MODULAR	Biomet	EXCEED	2	<1%	No
Biomet	BIMETRIC CEMENTLESS STEM	Biomet	EXCEED	2	<1%	No
Zimmer	CPT	Biomet	EXCEED	2	<1%	Yes
Biomet	BIMETRIC CEMENTLESS STEM	Biomet	MALLORY-HEAD CEMENTLESS CUP	2	<1%	No
Biomet	STANMORE MODULAR	Biomet	REGENEREX CEMENTLESS	2	<1%	No
Smith & Nephew	CPS-PLUS	Biomet	REGENEREX CEMENTLESS	2	<1%	Yes
Biomet	TAPERLOC CEMENTED STEM	Biomet	MALLORY-HEAD CEMENTLESS CUP	2	<1%	No
Biomet	TAPERLOC CEMENTLESS STEM	Biomet	MALLORY-HEAD CEMENTLESS CUP	2	<1%	No
Smith & Nephew	CPCS	Biomet	MALLORY-HEAD CEMENTLESS CUP	2	<1%	Yes
Zimmer	MULLER STR STEM	Zimmer	LOW PROFILE MULLER	2	<1%	No
Biomet	MALLORY-HEAD CEMENTED STEM	Biomet	MALLORY-HEAD CEMENTLESS CUP	2	<1%	No
DePuy	C-STEM CEMENTED STEM	DePuy	CHARNLEY CEMENTED CUP	2	<1%	No
Stryker Howmedica Osteonics	EXETER V40	Joint Replacement Instrumentation	CSF PLUS	2	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Joint Replacement Instrumentation	CSF	2	<1%	Yes
Implants International	EDINBURGH	Implants International	EDINBURGH CUP	2	<1%	No
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Mathys Orthopaedics	RM CEMENTLESS CUP (MATHYS)	2	<1%	Yes
Wright Medical UK	PROFEMUR CEMENTLESS STEM	DePuy	PINNACLE	2	<1%	Yes
Waldemar Link	SP II CEMENTED STEM	Smith & Nephew	EPF-PLUS	2	<1%	Yes
Zimmer	CPT	Smith & Nephew	POLAR CEMENTLESS CUP	2	<1%	Yes
DePuy	CHARNLEY CEMENTED STEM	DePuy	WROBLEWSKI ANGLE BORE SOCKET	2	<1%	No
DePuy	ULTIMA STRAIGHT STEM	DePuy	ULTIMA CEMENTED CUP	2	<1%	No
Orthodynamics	CANNULOK CEMENTLESS STEM	Stryker Howmedica Osteonics	EXETER DURATION	2	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	Stryker Howmedica Osteonics	ODC	2	<1%	No
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Stryker Howmedica Osteonics	GAP RING	2	<1%	No
Waldemar Link	MP NECK CEMENTED STEM	Stryker Howmedica Osteonics	GAP RING	2	<1%	Yes
DePuy	CORAIL	Stryker Howmedica Osteonics	RESTORATION GAP2	2	<1%	Yes
Smith & Nephew	SPECTRON	Smith & Nephew	REFLECTION CEMENTLESS	2	<1%	No
Smith & Nephew	SLR-PLUS CEMENTED STEM	Smith & Nephew	REFLECTION CEMENTLESS	2	<1%	No
Smith & Nephew	SYNERGY CEMENTLESS STEM	Smith & Nephew	SP3	2	<1%	No
DePuy	SOLUTION CEMENTLESS STEM	Stryker Howmedica Osteonics	CONTEMPORARY	2	<1%	Yes
Orthodynamics	CANNULOK CEMENTED STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
DePuy	REEF	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
B Braun/Aesculap	BICONTACT CEMENTLESS STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Smith & Nephew	SP3	1	<1%	Yes
Corin	PROXIMA	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
DePuy	CORAIL	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
DePuy	ELITE PLUS CEMENTED STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Joint Replacement Instrumentation	FURLONG HAC	Smith & Nephew	REFLECTION CEMENTLESS	1	<1%	Yes
Zimmer	ZMR CEMENTED STEM	Smith & Nephew	REFLECTION CEMENTLESS	1	<1%	Yes
DePuy	REEF	Smith & Nephew	SP3	1	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	Smith & Nephew	SP3	1	<1%	Yes
Smith & Nephew	ANTHOLOGY	Smith & Nephew	SP3	1	<1%	No
Waldemar Link	MP NECK CEMENTED STEM	Smith & Nephew	REFLECTION CEMENTLESS	1	<1%	Yes
Zimmer	CLS CEMENTLESS STEM	Smith & Nephew	REFLECTION CEMENTLESS	1	<1%	Yes
DePuy	KAR	Stryker Howmedica Osteonics	RESTORATION GAP2	1	<1%	Yes
DePuy	REEF	Stryker Howmedica Osteonics	RESTORATION GAP2	1	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	Stryker Howmedica Osteonics	RESTORATION GAP2	1	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Stryker Howmedica Osteonics	RESTORATION GAP2	1	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	Stryker Howmedica Osteonics	RESTORATION GAP2	1	<1%	No
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Stryker Howmedica Osteonics	ODC	1	<1%	No
Zimmer	MS-30	Stryker Howmedica Osteonics	RESTORATION GAP2	1	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	No
Joint Replacement Instrumentation	FURLONG HAC	Stryker Howmedica Osteonics	GAP RING	1	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Stryker Howmedica Osteonics	GAP RING	1	<1%	No
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Stryker Howmedica Osteonics	EXETER DURATION	1	<1%	No
Zimmer	CPT	Stryker Howmedica Osteonics	EXETER DURATION	1	<1%	Yes
Zimmer	WAGNER REVISION STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
Zimmer	ZMR CEMENTED STEM	Stryker Howmedica Osteonics	CONTEMPORARY	1	<1%	Yes
Biomet	CONELock	Stryker Howmedica Osteonics	EXETER DURATION	1	<1%	Yes
Biomet	REACH	Stryker Howmedica Osteonics	EXETER DURATION	1	<1%	Yes
Zimmer	REVITAN CEMENTED STEM	Stryker Howmedica Osteonics	EXETER DURATION	1	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Stryker Howmedica Osteonics	EXETER DURATION	1	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Joint Replacement Instrumentation	FURLONG HAC	DePuy	ULTIMA CEMENTED CUP	1	<1%	Yes
Orthodynamics	CANNULOK CEMENTLESS STEM	DePuy	ULTIMA CEMENTED CUP	1	<1%	Yes
Stryker Howmedica Osteonics	EXETER	DePuy	ULTIMA CEMENTED CUP	1	<1%	Yes
Smith & Nephew	SL-PLUS CEMENTLESS STEM	Smith & Nephew	BICON-PLUS	1	<1%	No
Smith & Nephew	SLR-PLUS CEMENTED STEM	Smith & Nephew	BICON-PLUS	1	<1%	No
DePuy	C-STEM CEMENTED STEM	Smith & Nephew	EPF-PLUS	1	<1%	Yes
Smith & Nephew	CPS-PLUS	Smith & Nephew	EPF-PLUS	1	<1%	No
Finsbury	FREEMAN CEMENTLESS	Finsbury	SLF CEMENTED CUP (FINSBURY)	1	<1%	No
Waldemar Link	MP NECK CEMENTED STEM	Smith & Nephew	EPF-PLUS	1	<1%	Yes
DePuy	CHARNLEY CEMENTED STEM	DePuy	WROBLEWSKI GOLF BALL	1	<1%	No
Smith & Nephew	SLR-PLUS CEMENTED STEM	Smith & Nephew	EPF-PLUS	1	<1%	No
Waldemar Link	SP II CEMENTED STEM	DePuy	PINNACLE	1	<1%	Yes
Biomet	TAPERLOC CEMENTLESS STEM	DePuy	SOLUTION CEMENTED CUP	1	<1%	Yes
DePuy	SOLUTION CEMENTLESS STEM	DePuy	S-ROM CEMENTLESS CUP	1	<1%	No
Stryker Howmedica Osteonics	EXETER V40	DePuy	S-ROM CEMENTLESS CUP	1	<1%	Yes
Waldemar Link	MP NECK CEMENTED STEM	DePuy	S-ROM CEMENTLESS CUP	1	<1%	Yes
Biomet	STANMORE MODULAR	DePuy	ULTIMA CEMENTED CUP	1	<1%	Yes
DePuy	CORAIL	DePuy	ULTIMA CEMENTED CUP	1	<1%	No
DePuy	C-STEM AMT CEMENTED STEM	DePuy	ULTIMA CEMENTED CUP	1	<1%	No
DePuy	C-STEM CEMENTED STEM	DePuy	ULTIMA CEMENTED CUP	1	<1%	No
Smith & Nephew	SLR-PLUS CEMENTED STEM	Mathys Orthopaedics	RM CEMENTLESS CUP (MATHYS)	1	<1%	Yes
DePuy	CORAIL	Orthodynamics	NOVAE	1	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Orthodynamics	NOVAE	1	<1%	Yes
Orthodynamics	CANNULOK CEMENTLESS STEM	Orthodynamics	NOVAE STICK	1	<1%	No
Biomet	REACH	Ortho-ID	POLAR CEMENTED CUP	1	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
DePuy	CHARNLEY MODULAR	Smith & Nephew	OPERA	1	<1%	Yes
Smith & Nephew	CPS-PLUS	Smith & Nephew	OPERA	1	<1%	No
Smith & Nephew	CPCS	Smith & Nephew	OPERA	1	<1%	No
Mathys Orthopaedics	TWINSYS CEMENTLESS STEM	Implants International	RM CEMENTLESS CUP (IMPLANTS INTERNATIONAL)	1	<1%	Yes
DePuy	C-STEM AMT CEMENTED STEM	Joint Replacement Instrumentation	CSF	1	<1%	Yes
Exactech (UK)	ACUMATCH M-SERIES	Joint Replacement Instrumentation	CSF	1	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	Joint Replacement Instrumentation	CSF	1	<1%	Yes
Zimmer	ZMR CEMENTED STEM	Joint Replacement Instrumentation	CSF	1	<1%	Yes
Zimmer	MULLER STR STEM	Joint Replacement Instrumentation	CSF PLUS	1	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Joint Replacement Instrumentation	CSF PLUS	1	<1%	Yes
Orthodynamics	CANNULOK CEMENTLESS STEM	Joint Replacement Instrumentation	CSF PLUS	1	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	DePuy	CHARNLEY CEMENTED CUP	1	<1%	Yes
DePuy	CORAIL	Biomet	STANMORE-ARCOM	1	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	Biomet	STANMORE-ARCOM	1	<1%	Yes
Orthodynamics	CANNULOK CEMENTLESS STEM	Zimmer	ALLOFIT	1	<1%	Yes
Waldemar Link	MP NECK CEMENTED STEM	Zimmer	ALLOFIT	1	<1%	Yes
Zimmer	CPT	Zimmer	ALLOFIT	1	<1%	No
DePuy	ELITE PLUS CEMENTED STEM	Zimmer	LOW PROFILE MULLER	1	<1%	Yes
DePuy	SOLUTION CEMENTLESS STEM	Zimmer	LOW PROFILE MULLER	1	<1%	Yes
Finsbury	FREEMAN CEMENTED FINSBURY	Zimmer	LOW PROFILE MULLER	1	<1%	Yes
Orthodynamics	CANNULOK CEMENTLESS STEM	Zimmer	LOW PROFILE MULLER	1	<1%	Yes
Zimmer	REVITAN CEMENTED STEM	Corin	CENATOR CEMENTED CUP	1	<1%	Yes
Smith & Nephew	SPECTRON	Biomet	MALLORY-HEAD CEMENTLESS CUP	1	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	Biomet	MALLORY-HEAD CEMENTLESS CUP	1	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	Biomet	MALLORY-HEAD CEMENTLESS CUP	1	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Zimmer	CPT	Biomet	MALLORY-HEAD CEMENTLESS CUP	1	<1%	Yes
Biomet	BIMETRIC CEMENTLESS STEM	Biomet	PAR 5 RINOWL CEMENTLESS CUP	1	<1%	No
Biomet	CONELock	Biomet	STANMORE-ARCOM	1	<1%	No
Zimmer	ZMR CEMENTED STEM	Biomet	REGENEREX CEMENTLESS	1	<1%	Yes
Waldemar Link	SP II CEMENTED STEM	Biomet	RINGLOC	1	<1%	Yes
Biomet	CONELock	Biomet	MALLORY-HEAD CEMENTLESS CUP	1	<1%	No
Biomet	STANMORE MODULAR	Biomet	MALLORY-HEAD CEMENTLESS CUP	1	<1%	No
Biomet	STANMORE MODULAR	Biomet	Hi-Wall	1	<1%	No
Biomet	TAPERLOC CEMENTLESS STEM	Biomet	Hi-Wall	1	<1%	No
Zimmer	CPT	Biomet	Hi-Wall	1	<1%	Yes
Biomet	MALLORY-HEAD CEMENTED STEM	Biomet	EXCEED	1	<1%	No
Biomet	TAPERLOC CEMENTED STEM	Biomet	EXCEED	1	<1%	No
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	Biomet	EXCEED	1	<1%	Yes
B Braun/Aesculap	BICONACT CEMENTLESS STEM	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	1	<1%	No
B Braun/Aesculap	CENTRAMENT	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	1	<1%	No
Biomet	STANMORE MODULAR	B Braun/Aesculap	CHIRULEN	1	<1%	Yes
Biomet	MALLORY-HEAD CEMENTED STEM	Biomet	ARCOM SHP	1	<1%	No
Biomet	REACH	Biomet	ARCOM SHP	1	<1%	No
Biomet	TAPERLOC CEMENTLESS STEM	Biomet	ARCOM SHP	1	<1%	No
Biomet	TAPERLOC CEMENTED STEM	Biomet	BIOMET BI-POLAR CEMENTED CUP	1	<1%	No
Biomet	CMK CEMENTED STEM	Biomet	CMK CEMENTED CUP	1	<1%	No
DePuy	ULTIMA STRAIGHT STEM	Biomet	APOLLO	1	<1%	Yes
Joint Replacement Instrumentation	FURLONG HAC	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	1	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	B Braun/Aesculap	PLASMACUP CEMENTLESS CUP	1	<1%	Yes
B Braun/Aesculap	PREVISION CEMENTED STEM	DePuy	PINNACLE	1	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Biomet	MALLORY-HEAD CEMENTED STEM	DePuy	PINNACLE	1	<1%	Yes
Zimmer	WAGNER CONE	DePuy	PINNACLE	1	<1%	Yes
Waldemar Link	MP NECK CEMENTED STEM	DePuy	MARATHON	1	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	DePuy	ELITE PLUS OGEE	1	<1%	Yes
Waldemar Link	MP NECK CEMENTED STEM	DePuy	ELITE PLUS OGEE	1	<1%	Yes
Smith & Nephew	SL-PLUS CEMENTLESS STEM	DePuy	ELITE PLUS OGEE	1	<1%	Yes
DePuy	C-STEM AMT CEMENTED STEM	DePuy	ELITE PLUS OGEE	1	<1%	No
DePuy	ELITE PLUS CEMENTED STEM	DePuy	ELITE PLUS OGEE	1	<1%	No
Smith & Nephew	SL-PLUS CEMENTLESS STEM	DePuy	ELITE PLUS CEMENTED CUP	1	<1%	Yes
Smith & Nephew	SLR-PLUS CEMENTED STEM	DePuy	ELITE PLUS CEMENTED CUP	1	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	DePuy	DURALOC OPTION	1	<1%	Yes
B Braun/Aesculap	HUCKSTEP CEMENTLESS STEM	DePuy	ELITE PLUS CEMENTED CUP	1	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTED STEM	DePuy	DURALOC CEMENTLESS CUP	1	<1%	Yes
DePuy	REEF	DePuy	DURALOC CEMENTLESS CUP	1	<1%	No
DePuy	WROBLEWSKI RESECTION	DePuy	CHARNLEY OGEE	1	<1%	No
Smith & Nephew	ECHELON CEMENTLESS STEM	DePuy	CHARNLEY OGEE	1	<1%	Yes
DePuy	CHARNLEY MODULAR	DePuy	CHARNLEY OGEE	1	<1%	No
DePuy	C-STEM CEMENTED STEM	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	1	<1%	Yes
DePuy	KAR	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	1	<1%	Yes
DePuy	REEF	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	1	<1%	Yes
DePuy	SOLUTION CEMENTLESS STEM	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	1	<1%	Yes
Stryker Howmedica Osteonics	GMRS	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	1	<1%	No
Joint Replacement Instrumentation	FURLONG CEMENTED STEM	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes
Zimmer	ZMR CEMENTED STEM	Stryker Howmedica Osteonics	SECURE FIT CEMENTLESS CUP	1	<1%	Yes
Biomet	STANMORE MODULAR	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Biomet	TAPERLOC CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes
DePuy	SOLUTION CEMENTLESS STEM	Stryker Howmedica Osteonics	TRITANIUM	1	<1%	Yes
Zimmer	ZMR CEMENTED STEM	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes
Wright Medical UK	PROFEMUR CEMENTED STEM	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes
Wright Medical UK	PROFEMUR CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	1	<1%	Yes
Stryker Howmedica Osteonics	OMNIFIT CEMENTLESS STEM	Stryker Howmedica Osteonics	TRIDENT	1	<1%	No
Joint Replacement Instrumentation	FURLONG HAC	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
DePuy	ULTIMA STRAIGHT STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Finsbury	FREEMAN CEMENTED FINSBURY	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
DePuy	ELITE PLUS CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Biomet	STANMORE MODULAR	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Zimmer	ZWEYMULLER	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	No
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	Wright Medical UK	PROCOTYL	1	<1%	Yes
Zimmer	CPT	Wright Medical UK	PROCOTYL	1	<1%	Yes
Biomet	BIMETRIC CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Biomet	CONELOCK	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Waldemar Link	MP NECK CEMENTED STEM	Waldemar Link	SNAP FIT	1	<1%	No
DePuy	CORAIL	Wright Medical UK	PROCOTYL	1	<1%	Yes
Zimmer	CPT	Surgicraft	SPLIT CUP	1	<1%	Yes
Zimmer	VERSYS CEMENTLESS STEM	Surgicraft	SPLIT CUP	1	<1%	Yes
Zimmer	ZMR CEMENTED STEM	Surgicraft	SPLIT CUP	1	<1%	Yes
DePuy	CHARNLEY MODULAR	Zimmer	TRILOGY	1	<1%	Yes
DePuy	S-ROM CEMENTLESS STEM	Zimmer	TRILOGY	1	<1%	Yes
Smith & Nephew	SYNERGY CEMENTLESS STEM	Zimmer	TRILOGY	1	<1%	Yes
Stryker Howmedica Osteonics	ACCOLADE	Zimmer	TRILOGY	1	<1%	Yes

Stem manufacturer	Stem brand	Cup manufacturer	Cup brand	Number of procedures		Mix and match
					%	
Stryker Howmedica Osteonics	EXETER	Zimmer	TRILOGY	1	<1%	Yes
Wright Medical UK	PROFEMUR CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Amplitude	INITIALE CEMENTED STEM	Zimmer	TRILOGY	1	<1%	Yes
B Braun/Aesculap	BICONTACT CEMENTED STEM	Zimmer	TRILOGY	1	<1%	Yes
B Braun/Aesculap	EXCIA-CEMENTED	Zimmer	TRILOGY	1	<1%	Yes
Stryker Howmedica Osteonics	ACCOLADE	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Smith & Nephew	CPCS	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Smith & Nephew	ECHELON CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Stryker Howmedica Osteonics	RESTORATION CEMENTLESS STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Stryker Howmedica Osteonics	OMNIFIT CEMENTED STEM	Zimmer	TRABECULAR METAL CEMENTLESS CUP	1	<1%	Yes
Zimmer	VERSYS CEMENTED STEM	Zimmer	TRILOGY	1	<1%	No
Zimmer	VERSYS CEMENTLESS STEM	Zimmer	TRILOGY	1	<1%	No
Zimmer	REVITAN CEMENTED STEM	Zimmer	ZCA	1	<1%	No
DePuy	KAR	Zimmer	ZCA	1	<1%	Yes
Stryker Howmedica Osteonics	EXETER V40	Zimmer	ZCA	1	<1%	Yes
Zimmer	CPT	Zimmer	ZIMMER CEMENTED CUP	1	<1%	No
Zimmer	ZMR CEMENTED STEM	Zimmer	ZCA	1	<1%	No
Mathys Orthopaedics	TWINSYS CEMENTLESS STEM	Zimmer	ZIMMER CEMENTED CUP	1	<1%	Yes

1.4 Summary

The total number of brands of acetabular cups and femoral stems used in procedures recorded in the NJR has increased significantly since its inception, although this number decreased between 2007 and 2008. There are 136 brands of acetabular cups (88 in 2004, 110 in 2005, 155 in 2006 and 165 in 2007) and 137 brands of femoral stems (101 in 2004, 129 in 2005, 176 in 2006 and 187 in 2007).

In addition to conventional hip resurfacing procedures, there have been almost 4,433 procedures entered into the NJR where a resurfacing cup has been used in conjunction with a large diameter modular head and a conventional modular stem. Material selection for femoral heads used between 2003 and 2007 remained unchanged (76% metal and 24% ceramic). However, 2008 saw a 3% increase in the use of ceramic heads. The size of femoral heads used shows an increase in the larger head sizes, 'other head sizes' and 32mm.

2 Prostheses used in knee procedures, 2008

2.1 Prostheses entered into the NJR

Sixty brands of total condylar knee prosthesis were used in primary procedures and 35 used in revision procedures in 2008. In addition, there were 14 brands of unicondylar prosthesis, 10 brands of patello-femoral replacement implant and 15 brands of hinged knee

prosthesis. The number of brands for each prosthesis type is similar to 2007, with the exception of total condylar knee prostheses for which there has been a 25% increase in brands used.

Table 10(a) and 10(b) show the brands of primary and revision total condylar knee replacement prostheses recorded most frequently for total knee replacement and hybrid procedures.

Table 10(a) Total condylar knee brands entered into the NJR in 2008 for primary total knee replacements.

Manufacturer	Brand	Total operations	
		62,642	%
DePuy	PFC SIGMA BICONDYLAR KNEE	21,459	34%
Zimmer	NEXGEN	9,080	14%
Biomet	AGC	7,059	11%
Stryker Howmedica Osteonics	SCORPIO	5,680	9%
Smith & Nephew	GENESIS 2	3,989	6%
DePuy	LCS COMPLETE	2,748	4%
Smith & Nephew	ENDOPLUS BICONDYLAR KNEE	2,451	4%
Stryker Howmedica Osteonics	TRIATHLON	2,107	3%
Biomet	VANGUARD	1,133	2%
Stryker Howmedica Osteonics	KINEMAX	1,062	2%
Finsbury	MRK	958	2%
Wright Medical UK	ADVANCE BICONDYLAR KNEE	766	1%
Smith & Nephew	PROFIX	750	1%
B Braun/Aesculap	COLUMBUS	586	1%
Exactech (UK)	OPTETRAK	339	1%
B Braun/Aesculap	E-MOTION BICONDYLAR KNEE	336	1%
Wright Medical UK	INSALL-BURSTEIN 2	290	<1%
Zimmer	NK2 BICONDYLAR KNEE	286	<1%
Biomet	MAXIM	207	<1%
Corin	ROTAGLIDE +	205	<1%
Zimmer	FS	164	<1%
ImplantCast	ACS	155	<1%
Smith & Nephew	JOURNEY	141	<1%
Corin	ROTAGLIDE	120	<1%
Zimmer	INNEX	106	<1%

Manufacturer	Brand	Total operations	
			%
Biomet	ALPINA	75	<1%
Mathys Orthopaedics	MATHYS BICONDYLAR KNEE	62	<1%
Wright Medical UK	AMP STATURE	45	<1%
Waldemar Link	TACK	40	<1%
Van Straten Medical	CCI	30	<1%
Medacta UK	MEDACTA BICONDYLAR	29	<1%
Medacta UK	GMK	28	<1%
Jointmedica	JOINT MEDICA BICONDYLAR	18	<1%
Waldemar Link	GEMINI	18	<1%
Wright Medical UK	ADVANTIM	15	<1%
Implants International	ST LEGER	14	<1%
Smith & Nephew	LEGION	13	<1%
Sovereign Medical	CCI	13	<1%
Corin	AMC	12	<1%
Zimmer	INSALL-BURSTEIN 2	10	<1%
Smith & Nephew	TC PLUS	7	<1%
Finsbury	DBK	5	<1%
Joint Replacement Instrumentation	JRI BICONDYLAR KNEE	5	<1%
Tricon/Medacta	TRICON BICONDYLAR KNEE	4	<1%
DePuy	AMK	2	<1%
Medacta UK	CINETIQUE	2	<1%
DePuy	LCS	2	<1%
DePuy	PFC BICONDYLAR KNEE	2	<1%
Smith & Nephew	RENASYS BICONDYLAR KNEE	2	<1%
Zimmer	NATURAL KNEE	2	<1%
Biomet	CKS	1	<1%
Biomet	OXFORD TMK	1	<1%
Zimmer	SAL	1	<1%
DePuy	LCS COMPLETE REVISION	1	<1%
Smith & Nephew	TC PLUS	1	<1%
Finsbury	FS 1000	1	<1%
Forth Medical	ST LEGER	1	<1%
Intavent - Orthofix	OPTETRAK	1	<1%
Stryker Howmedica Osteonics	DURACON	1	<1%
Wright Medical UK	913 SYSTEM	1	<1%

Table 10(b) Total condylar knee brands entered into the NJR in 2008 for revision knee replacements.

Manufacturer	Brand	Total operations	
		2,157	%
DePuy	PFC SIGMA BICONDYLAR KNEE	752	35%
Zimmer	NEXGEN	358	17%
Biomet	AGC	193	9%
Stryker Howmedica Osteonics	SCORPIO	191	9%
Smith & Nephew	LEGION	150	7%
Smith & Nephew	GENESIS 2	97	4%
Biomet	MAXIM	84	4%
Stryker Howmedica Osteonics	TRIATHLON	68	3%
Stryker Howmedica Osteonics	KINEMAX	56	3%
Smith & Nephew	PROFIX	28	1%
Wright Medical UK	ADVANCE BICONDYLAR KNEE	24	1%
Biomet	VANGUARD	22	1%
Finsbury	MRK	22	1%
Smith & Nephew	ENDOPLUS BICONDYLAR KNEE	17	1%
Corin	ROTAGLIDE +	14	1%
Exactech (UK)	OPTETRAK	14	1%
B Braun/Aesculap	COLUMBUS	10	<1%
DePuy	LCS COMPLETE	9	<1%
B Braun/Aesculap	E-MOTION BICONDYLAR KNEE	7	<1%
Zimmer	FS	7	<1%
Smith & Nephew	TC PLUS	6	<1%
DePuy	LCS COMPLETE REVISION	4	<1%
Zimmer	NK2 BICONDYLAR KNEE	3	<1%
Corin	ROTAGLIDE	3	<1%
Wright Medical UK	INSALL-BURSTEIN 2	3	<1%
Biomet	RHK	2	<1%
Corin	AMC	2	<1%
ImplantCast	ACS	2	<1%
Smith & Nephew	JOURNEY	2	<1%
Zimmer	INSALL-BURSTEIN 2	2	<1%
Biomet	ALPINA	1	<1%
DePuy	LCS	1	<1%
Finsbury	DBK	1	<1%
Smith & Nephew	TC PLUS	1	<1%
Waldemar Link	TACK	1	<1%

Brands of unicondylar prostheses are shown in Table 11. Ten brands of patello-femoral joint replacements were entered into the NJR in 2008 and are shown in Table 12. Brands of hinged knee prostheses entered on the NJR are shown in Table 13.

Table 11 Total condylar knee brands entered into the NJR in 2008 for unicondylar knee replacements.

Manufacturer	Brand	Total operations	
		6,256	%
Biomet	OXFORD PARTIAL KNEE	4,436	71%
Zimmer	MG UNI	794	13%
Corin	ACM/UNIGLIDE	371	6%
DePuy	PRESERVATION	216	3%
Waldemar Link	SLED	145	2%
Smith & Nephew	GENESIS UNI	93	1%
Mathys Orthopaedics	MATHYS UNICONDYLAR KNEE	64	1%
Stryker Howmedica Osteonics	EIUS	51	1%
DePuy	SIGMA HP	43	1%
Smith & Nephew	UC-PLUS	28	<1%
Smith & Nephew	JOURNEY UNI	8	<1%
Biomet	REPICCI	5	<1%
DePuy	PFC SIGMA UNICONDYLAR KNEE	1	<1%
Smith & Nephew	DEUCE	1	<1%

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Table 12 Patello-femoral joint brands entered into the NJR in 2008.

Manufacturer	Brand	Total operations	
		1,011	%
Stryker Howmedica Osteonics	AVON	546	54%
Wright Medical UK	FPV	211	21%
Smith & Nephew	COMPETITOR	154	15%
DePuy	LCS PATELLO FEMORAL	41	4%
Smith & Nephew	JOURNEY PF	22	2%
Zimmer	GENDER PF	16	2%
Waldemar Link	LUBINUS PF	13	1%
DePuy	GCK	4	<1%
Biomet	PERFORMANCE PF	2	<1%
Corin	LEICESTER	2	<1%

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Table 13 Fixed and rotating hinged knee brands, 2008.

Manufacturer	Brand	Total operations	
		1,031	%
Zimmer	NEXGEN HINGE TYPE	349	34%
Waldemar Link	ENDO ROTATING HINGE	275	27%
Stryker Howmedica Osteonics	MRH	122	12%
DePuy	NOILES	113	11%
Smith & Nephew	RT PLUS	57	6%
Biomet	BIRMINGHAM ROTATING HINGE	49	5%
Stanmore Implants Worldwide	CUSTOM	14	1%
Stryker Howmedica Osteonics	GMRS HINGED LINKED KNEE	11	1%
Biomet	STANMORE HINGE	10	1%
Waldemar Link	ENDO HINGE	8	1%
Waldemar Link	MEGA SYSTEM C	8	1%
Wright Medical UK	GUARDIAN HINGED/LINKED KNEE	8	1%
Biomet	OSS	4	<1%
Stanmore Implants Worldwide	SMILES HINGED/LINKED KNEE	2	<1%
Waldemar Link	MC	1	<1%

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2.2 Usage of fixed versus mobile bearing tibial inserts

The total of condylar knee arthroplasties involving tibial inserts grew by 4.7% on 2007. These were predominantly fixed bearing inserts, 88% (57,060), compared with 12% (7,710) involving mobile bearing inserts, as shown in Table 14.

Table 14 Tibial insert type 2008.

Tibial insert type	Knee procedures	
	64,770	%
Fixed bearing	57,060	88%
Mobile bearing	7,710	12%

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3 Cement use

The majority (93%) of procedures involving cement used antibiotic loaded rather than non-antibiotic cement (Table 15), virtually the same as over the last four years. Manufacturers of antibiotic loaded cement and non-antibiotic cement are given in Tables 16 and

17. More than one packet of cement could be entered for a particular procedure. For knee procedures, between one and nine packets were entered for a single procedure. For hip procedures, up to 10 packets were entered.

Table 15 Type of cement used in hip and knee replacement procedures entered into the NJR in 2008

Cement type	Hip procedures		Knee procedures		All	
	Count	%	Count	%	Count	%
Antibiotic	41,468	90%	66,802	95%	108,270	93%
Non-antibiotic	3,957	10%	3,222	5%	7,179	7%

Table 16 Brands of antibiotic bone cement entered into the NJR in 2008.

Manufacturer	Brand	Total components	
		Count	%
Heraeus Medical	PALACOS ANTIBIOTIC	69,270	55%
Schering-Plough	PALACOS ANTIBIOTIC	14,102	11%
Stryker Howmedica Osteonics	SIMPLEX ANTIBIOTIC	13,036	10%
Biomet	PALACOS ANTIBIOTIC	12,058	10%
DePuy	SMARTSET HV ANTIBIOTIC LOADED CEMENT	6,535	5%
DePuy	CMW1 ANTIBIOTIC LOADED CEMENT	5,987	5%
DePuy	CMW2 ANTIBIOTIC LOADED CEMENT	3,619	3%
Biomet	OPTIPAC	776	1%
DePuy	CMW3 ANTIBIOTIC LOADED CEMENT	488	<1%
Smith & Nephew	VERSABOND AB	200	<1%
DePuy	SMARTSET ENDURANCE ANTIBIOTIC LOADED CEMENT	196	<1%
Biomet	BIOMET REFOBACIN REVISION	163	<1%
Heraeus Medical	PALAMED	158	<1%
Biomet	OSTEOPAL ANTIBIOTIC	102	<1%
Heraeus Medical	COPAL ANTIBIOTIC LOADED	53	<1%
Biomet	COPAL ANTIBIOTIC LOADED	23	<1%
DePuy	CMW2000 ANTIBIOTIC LOADED CEMENT	7	<1%
DePuy	ENDURANCE ANTIBIOTIC LOADED CEMENT	1	<1%

Table 17 Brands of non-antibiotic bone cement entered into the NJR in 2008.

Manufacturer	Brand	Total components	
		8,721	%
Stryker Howmedica Osteonics	SIMPLEX	3,134	36%
Schering-Plough	PALACOS	1,871	21%
Biomet	PALACOS	1,089	12%
DePuy	CMW2 PLAIN CEMENT	979	11%
Heraeus Medical	PALACOS	739	8%
DePuy	CMW1 PLAIN CEMENT	520	6%
DePuy	SMARTSET HV PLAIN CEMENT	227	3%
DePuy	CMW3 PLAIN CEMENT	118	1%
Corin	CORIPLAST	36	<1%
DePuy	CMW2000 PLAIN CEMENT	5	<1%
Biomet	OSTEOPAL	2	<1%
DePuy	SMARTSET/ENDURANCE PLAIN CEMENT	1	<1%

4 Bone substitute use

Table 18 lists the manufacturers of bone substitutes for hip and knee procedures in 2008. Although the use of synthetic bone substitute remained relatively low, such products were reported as being used in 356 procedures during 2008, a decrease of 38% compared with 2007. One or two units of bone substitute were recorded for a single knee procedure, whilst up to seven units were entered for a hip procedure.

Table 18 Brands of synthetic bone substitute entered into the NJR in 2008.

Manufacturer	Brand	Total components	
		356	%
Stryker Howmedica Osteonics	BONESAVE	96	27%
Synthes	DBX	61	17%
Surgicraft	SURGICRAFT	60	17%
Wright Medical UK	OSTEOSET	29	8%
Endo Plus (UK)	ENDOPLUS BONE SUBSTITUTE	23	6%
ApaTech Products	APATECH BONE SUBSTITUTE	16	4%
Synthes	SYNTHES BONE SUBSTITUTE	15	4%
Corin	BIOFUSE	13	4%
Biocomposites	BIOCOMPOSITES	10	3%
Exactech (UK)	OPTEFORM	7	2%
Joint Replacement Instrumentation	REPROS	7	2%
Joint Replacement Instrumentation	JRI BONE SUBSTITUTE	5	1%
Biomet	ENDOBON	3	1%
DePuy	GRAFTON	3	1%
Smith & Nephew	ALLOGRAN (ENDOPLUS)	3	1%
DePuy	CONDUIT	1	<1%
Smith & Nephew	B-GRAN	1	<1%
Smith & Nephew	STIMULAN (ENDOPLUS)	1	<1%
Quadrant Medical	CORTOSS	1	<1%
Synthes	CHRONOS	1	<1%