



Australian
Orthopaedic
Association
National
Joint
Replacement
Registry

Automated Industry Report 11388

Zimmer Biomet Australia

MS 30/G7 Total Conventional Hip

Report Generated: 8 September 2023

Data Period: 1 September 1999 - 7 September 2023

This report has been prepared by the Australian Orthopaedic Association National Joint Replacement Registry (AOANJRR). The report provides information on the usage and outcomes of the MS 30/G7 combination compared to all other total conventional hip replacements, based on data collected by the AOANJRR.

Disclaimer

The AOANJRR has taken every care to ensure that the data supplied are accurate but does not warrant that the data are error free and does not accept any liability for errors or omissions in the data.

**AOANJRR Automated Industry Report 11388 - Zimmer Biomet Australia
MS 30/G7 Total Conventional Hip**

Data Period: 1 September 1999 - 7 September 2023

Report Generated: 8 September 2023

Catalogue Numbers of G7 Acetabular Components and MS 30 Femoral Stems included in this analysis

Model	Catalogue Range	Range Description	No. of Primary Procedures
Acetabular			
G7	010000658 - 010000671	Porous Plasma 3 Hole Acetabular Shell	116
G7	010000698 - 010000711	Porous Plasma 3 Hole Acetabular Shell with Bonemaster	1002
G7	110010242 - 110010250	G7 Osseo Ti Acetabular Shell Limited Hole Cementless	116
G7	110010250 - 110010277	G7 Osseo Ti Acetabular Shell Multi Hole Cementless	31
Femoral Stem			
MS 30	0100351001 - 0100351006	Polished Taper Lateral Femoral Stem	379
MS 30	300049060 - 300049160	Polished Taper Standard Femoral Stem	886

The AOANJRR also reports these catalogue numbers as MS 30 Femoral Stems. These are not included in the analysis.

Model	Catalogue Range	Range Description
Femoral Stem		
MS 30	300029060 - 300029160	Femoral Stem

Table 1: Revision Rates of MS 30/G7 Primary Total Conventional Hip Replacement by Acetabular Catalogue Number Range (All Diagnoses)

Acetabular Range	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
010000658 - 010000671	0	116	605	0.00 (0.00, 0.61)
010000698 - 010000711	16	1002	2352	0.68 (0.39, 1.10)
110010242 - 110010250	4	116	113	3.53 (0.96, 9.05)
110010250 - 110010277	2	31	73	2.75 (0.33, 9.92)
TOTAL	22	1265	3143	0.70 (0.44, 1.06)

Table 2: Revision Rates of MS 30/G7 Primary Total Conventional Hip Replacement by Femoral Stem Catalogue Number Range (All Diagnoses)

Femoral Stem Range	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
0100351001 - 0100351006	7	379	986	0.71 (0.29, 1.46)
300049060 - 300049160	15	886	2157	0.70 (0.39, 1.15)
TOTAL	22	1265	3143	0.70 (0.44, 1.06)

Table 3: Implant Usage of MS 30/G7 in Primary Total Conventional Hip Replacement (All Diagnoses)

	N
Implant Usage	
Date First Used	18 April 2016
Date Last Used	2 August 2023
N Procedures	1265
N Patients	1167
N Hospitals Implanting	54
N Surgeons Implanting*	56
Outcome	
N Revised	22
N Deceased**	54

*20 MS 30/G7 procedures have unknown surgeon

**'N Deceased' does not include patient deaths that occurred after the MS 30/G7 implant was revised

Table 4: Follow Up Years of MS 30/G7 in Primary Total Conventional Hip Replacement (All Diagnoses)

Model	N	Minimum	Maximum	Median	Mean	Std Dev
MS 30/G7	1265	0.02	7.08	2.32	2.48	1.66
TOTAL	1265	0.02	7.08	2.32	2.48	1.66

Table 5: Age and Gender of MS 30/G7 Primary Total Conventional Hip Replacement (All Diagnoses)

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Male	475	37.5%	31	97	73	71.3	11.5
Female	790	62.5%	44	99	75	73.9	9.5
TOTAL	1265	100.0%	31	99	74	72.9	10.3

Table 6: Primary Total Conventional Hip Replacement by Model and Age (All Diagnoses)

Age	MS 30/G7		Other Total Conventional Hip	
	N	Col%	N	Col%
<55	61	4.8	75246	12.0
55-64	202	16.0	145782	23.2
65-74	373	29.5	218151	34.7
≥75	629	49.7	190301	30.2
TOTAL	1265	100.0	629480	100.0

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 7: Primary Total Conventional Hip Replacement by Model and Gender (All Diagnoses)

Gender	MS 30/G7		Other Total Conventional Hip	
	N	Col%	N	Col%
Male	475	37.5	281723	44.8
Female	790	62.5	347757	55.2
TOTAL	1265	100.0	629480	100.0

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 8: Primary Total Conventional Hip Replacement by Model and Approach (All Diagnoses)

Approach	MS 30/G7		Other Total Conventional Hip	
	N	Col%	N	Col%
Anterior	212	16.8	88827	27.3
Lateral	164	13.0	51054	15.7
Posterior	889	70.3	185092	57.0
TOTAL	1265	100.0	324973	100.0

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 9: Primary Total Conventional Hip Replacement by Model and ASA Grade (All Diagnoses)

ASA Grade	MS 30/G7		Other Total Conventional Hip	
	N	Col%	N	Col%
1	49	3.9	32495	8.5
2	589	46.6	200075	52.3
3	591	46.8	142446	37.2
4	35	2.8	7741	2.0
5	.	.	30	0.0
TOTAL	1264	100.0	382787	100.0

Note: The AOANJRR commenced collection of ASA data in 2013. 1 MS 30/G7 procedures with no ASA Grade recorded are excluded from this table

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 10: Primary Total Conventional Hip Replacement by Model and BMI (All Diagnoses)

BMI	MS 30/G7		Other Total Conventional Hip	
	N	Col%	N	Col%
Underweight (<18.50)	18	1.5	3279	1.0
Normal (18.50-24.99)	297	24.2	69420	22.2
Pre Obese (25.00-29.99)	421	34.3	113935	36.4
Obese Class 1 (30.00-34.99)	298	24.2	77500	24.8
Obese Class 2 (35.00-39.99)	144	11.7	32690	10.5
Obese Class 3 (≥40.00)	51	4.1	15963	5.1
TOTAL	1229	100.0	312787	100.0

Note: The AOANJRR commenced collection of BMI data in 2015. 36 MS 30/G7 procedures with no BMI recorded are excluded from this table

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 11: Primary Total Conventional Hip Replacement by Model and Primary Diagnosis

Primary Diagnosis	MS 30/G7		Other Total Conventional Hip	
	N	Col%	N	Col%
Osteoarthritis	1069	84.5	553658	88.0
Fractured Neck Of Femur	127	10.0	32261	5.1
Osteonecrosis	47	3.7	20175	3.2
Developmental Dysplasia	3	0.2	8394	1.3
Rheumatoid Arthritis	6	0.5	5233	0.8
Tumour	5	0.4	3464	0.6
Other Inflammatory Arthritis	2	0.2	2625	0.4
Failed Internal Fixation	3	0.2	2567	0.4
Fracture/Dislocation	3	0.2	831	0.1
Arthrodesis Takedown	.	.	138	0.0
Other	.	.	134	0.0
TOTAL	1265	100.0	629480	100.0

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 12: Revision Rates of Primary Total Conventional Hip Replacement by Model (All Diagnoses)

Model	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
MS 30/G7	22	1265	3143	0.70 (0.44, 1.06)
Other Total Conventional Hip	26757	629480	4641021	0.58 (0.57, 0.58)
TOTAL	26779	630745	4644164	0.58 (0.57, 0.58)

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 13: Yearly Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Model (All Diagnoses)

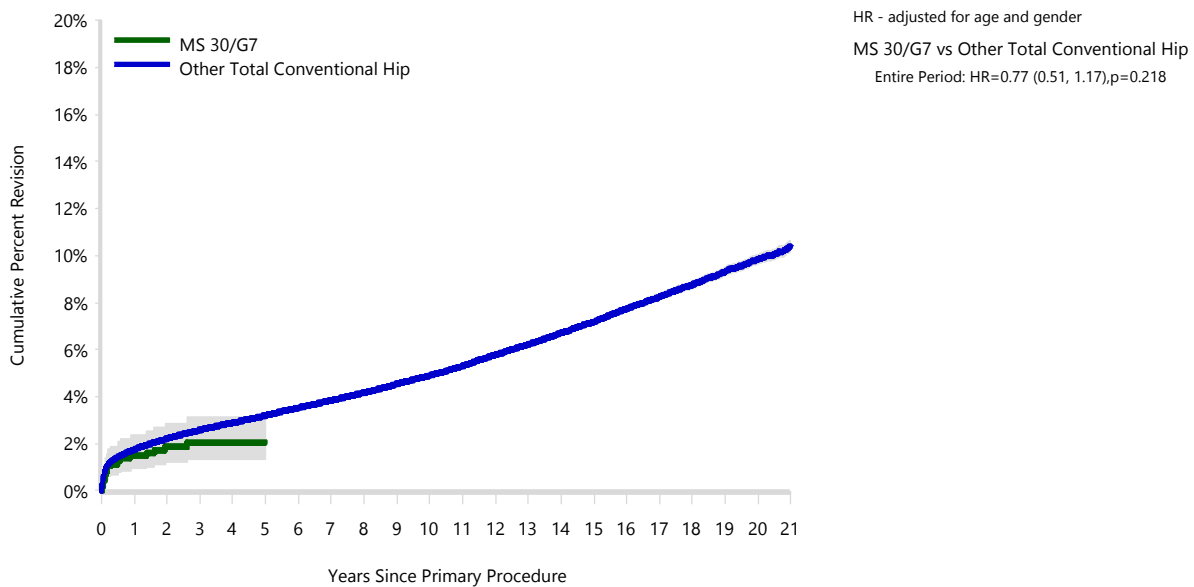
CPR	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs	7 Yrs
MS 30/G7	1.5 (0.9, 2.3)	1.9 (1.2, 2.9)	2.0 (1.3, 3.1)	2.0 (1.3, 3.1)	2.0 (1.3, 3.1)		
Other Total Conventional Hip	1.8 (1.7, 1.8)	2.2 (2.2, 2.3)	2.6 (2.5, 2.6)	2.9 (2.8, 2.9)	3.2 (3.2, 3.2)	3.5 (3.5, 3.6)	3.8 (3.8, 3.9)

CPR	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs
MS 30/G7							
Other Total Conventional Hip	4.2 (4.1, 4.2)	4.5 (4.5, 4.6)	4.9 (4.8, 5.0)	5.3 (5.2, 5.4)	5.8 (5.7, 5.9)	6.2 (6.1, 6.3)	6.7 (6.6, 6.8)

CPR	15 Yrs	16 Yrs	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs
MS 30/G7							
Other Total Conventional Hip	7.2 (7.1, 7.3)	7.7 (7.6, 7.9)	8.2 (8.1, 8.4)	8.8 (8.6, 8.9)	9.3 (9.2, 9.5)	9.8 (9.6, 10.0)	10.4 (10.2, 10.6)

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Figure 1: Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Model (All Diagnoses)



Number at Risk	0 Yr	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs	7 Yrs	8 Yrs	9 Yrs	10 Yrs
MS 30/G7	1265	962	707	461	268	111	26	3	0	0	0
Other Total Conventional Hip	629480	572603	522831	470561	424882	378005	332851	290101	249968	213628	180901

Number at Risk	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs
MS 30/G7	0	0	0	0	0	0	0	0	0	0	0
Other Total Conventional Hip	151508	125167	101766	81477	64944	51682	40563	30887	22041	14482	8137

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

TABLE 14

Reasons for Revision

This is reported in two ways: a percentage of primaries revised and as a percentage of all revision procedures.

% Primaries Revised: This shows the proportional contribution of each revision diagnosis as a percentage of the total number of primaries. This percentage can be used to approximate the risk of being revised for that diagnosis. Differing percentages between groups, with the same distribution of follow up time, may identify problems of concern.

% Revisions: The number of revisions for each diagnosis is expressed as a percentage of the total number of revisions. This shows the distribution of reasons for revision within a group but cannot be used as a comparison between groups.

Table 14: Revision Diagnosis of Primary Total Conventional Hip Replacement by Model (All Diagnoses) (Follow-up Limited to 7.1 Years)

Revision Diagnosis	Number	MS 30/G7		Other Total Conventional Hip		
		% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Prosthesis Dislocation	7	0.6	31.8	4729	0.8	23.2
Infection	13	1.0	59.1	4683	0.7	23.0
Loosening	2	0.2	9.1	4123	0.7	20.3
Fracture				4051	0.6	19.9
Pain				399	0.1	2.0
Leg Length Discrepancy				367	0.1	1.8
Malposition				324	0.1	1.6
Instability				302	0.0	1.5
Implant Breakage Stem				156	0.0	0.8
Implant Breakage Acetabular Insert				144	0.0	0.7
Incorrect Sizing				144	0.0	0.7
Metal Related Pathology				141	0.0	0.7
Lysis				137	0.0	0.7
Implant Breakage Acetabular				103	0.0	0.5
Tumour				51	0.0	0.3
Wear Head				51	0.0	0.3
Wear Acetabular Insert				43	0.0	0.2
Heterotopic Bone				37	0.0	0.2
Implant Breakage Head				34	0.0	0.2
Wear Acetabulum				6	0.0	0.0
Synovitis				3	0.0	0.0
Progression Of Disease				2	0.0	0.0
Osteonecrosis				1	0.0	0.0
Other				315	0.1	1.5
N Revision	22	1.7	100.0	20346	3.2	100.0
N Primary	1265			629480		

Note: This table is restricted to revisions within 7.1 years for all groups to allow a time-matched comparison of revisions.

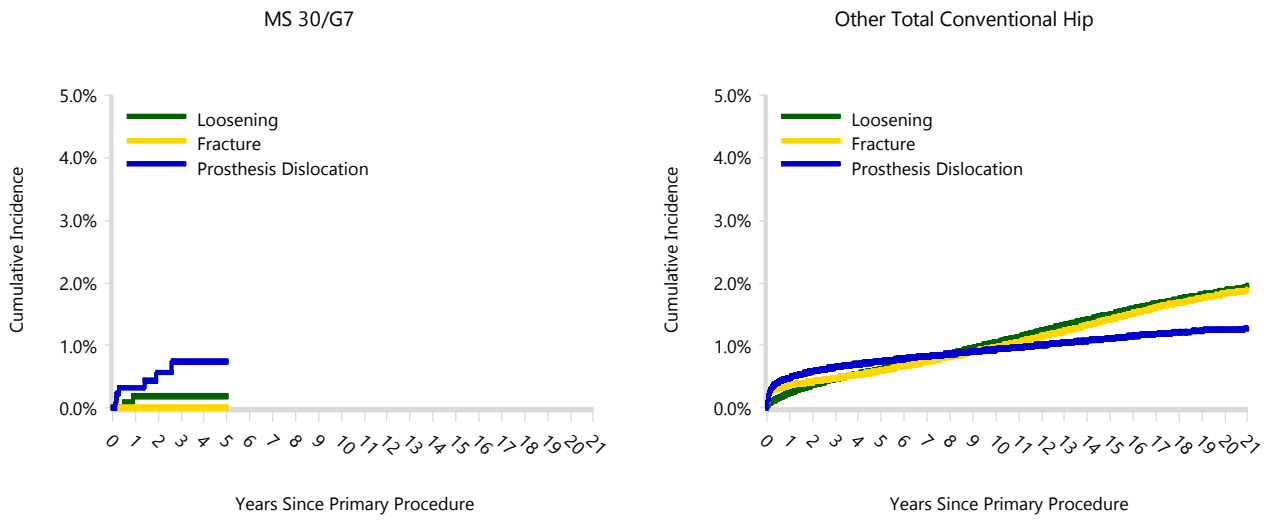
Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 15: Yearly Cumulative Incidence Revision Diagnosis of Primary Total Conventional Hip Replacement by Model (All Diagnoses)

Model	Event	N Events	1 Yr	2 Yrs	3 Yrs	5 Yrs	10 Yrs	15 Yrs
MS 30/G7	Loosening	2	0.2 (0.0, 0.6)	0.2 (0.0, 0.6)	0.2 (0.0, 0.6)	0.2 (0.0, 0.6)		
	Fracture	0	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)		
	Prosthesis Dislocation	7	0.3 (0.1, 0.8)	0.6 (0.2, 1.2)	0.7 (0.3, 1.5)	0.7 (0.3, 1.5)		
	Other	13	1.0 (0.5, 1.6)	1.1 (0.6, 1.8)	1.1 (0.6, 1.8)	1.1 (0.6, 1.8)		
	Deceased	54	2.0 (1.3, 3.0)	3.5 (2.5, 4.8)	4.1 (3.0, 5.6)	8.4 (6.0, 11.4)		
	All Revision	22	1.5 (0.9, 2.3)	1.8 (1.2, 2.8)	2.0 (1.3, 3.0)	2.0 (1.3, 3.0)		
Other Total Conventional Hip	Loosening	5997	0.2 (0.2, 0.3)	0.4 (0.4, 0.4)	0.5 (0.5, 0.5)	0.6 (0.6, 0.6)	1.0 (1.0, 1.1)	1.5 (1.5, 1.5)
	Fracture	5825	0.4 (0.4, 0.4)	0.4 (0.4, 0.4)	0.5 (0.5, 0.5)	0.6 (0.6, 0.6)	1.0 (0.9, 1.0)	1.4 (1.4, 1.5)
	Prosthesis Dislocation	5468	0.5 (0.5, 0.5)	0.6 (0.6, 0.6)	0.7 (0.6, 0.7)	0.7 (0.7, 0.8)	0.9 (0.9, 1.0)	1.1 (1.1, 1.1)
	Other	9467	0.7 (0.6, 0.7)	0.8 (0.8, 0.8)	1.0 (0.9, 1.0)	1.2 (1.1, 1.2)	1.6 (1.6, 1.6)	2.1 (2.1, 2.2)
	Deceased	12829 3	1.4 (1.4, 1.4)	2.8 (2.8, 2.8)	4.5 (4.4, 4.5)	8.5 (8.4, 8.6)	22.1 (21.9, 22.2)	37.9 (37.7, 38.1)
	All Revision	26757	1.7 (1.7, 1.8)	2.2 (2.2, 2.2)	2.6 (2.5, 2.6)	3.1 (3.1, 3.2)	4.6 (4.5, 4.6)	6.1 (6.0, 6.2)

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Figure 2: Cumulative Incidence Revision Diagnosis of Primary Total Conventional Hip Replacement by Model (All Diagnoses)



Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

TABLE 16

Type of Revision

This is reported in two ways: a percentage of primary procedures revised and as a percentage of all revision procedures.

% Primaries Revised: This shows the proportional contribution of each type of revision as a percentage of the total number of primary procedures. This percentage can be used to approximate the risk of having that type of revision. Differing percentages between groups, with the same distribution of follow up time, may identify problems of concern.

% Revisions: The number of revisions for each type of revision is expressed as a percentage of the total number of revisions. This shows the distribution of types of revision within a group but cannot be used as a comparison between groups.

Table 16: Type of Revision of Primary Total Conventional Hip Replacement by Model (All Diagnoses) (Follow-up Limited to 7.1 Years)

Type of Revision	Number	MS 30/G7		Other Total Conventional Hip		
		% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Femoral Component	1	0.1	4.5	6579	1.0	32.3
Head/Insert	17	1.3	77.3	4806	0.8	23.6
Acetabular Component	2	0.2	9.1	3987	0.6	19.6
THR (Femoral/Acetabular)	2	0.2	9.1	2190	0.3	10.8
Head Only				1122	0.2	5.5
Cement Spacer				784	0.1	3.9
Minor Components				335	0.1	1.6
Insert Only				225	0.0	1.1
Removal of Prostheses				127	0.0	0.6
Head/Neck/Insert				80	0.0	0.4
Head/Neck				57	0.0	0.3
Reinsertion of Components				31	0.0	0.2
Neck Only				6	0.0	0.0
Total Femoral				6	0.0	0.0
Bipolar Head and Femoral				4	0.0	0.0
Bipolar Only				4	0.0	0.0
Cement Only				1	0.0	0.0
Neck/Insert				1	0.0	0.0
Saddle				1	0.0	0.0
N Revision	22	1.7	100.0	20346	3.2	100.0
N Primary	1265			629480		

Note: This table is restricted to revisions within 7.1 years for all groups to allow a time-matched comparison of revisions.

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 17: Revision Rates of Primary Total Conventional Hip Replacement by Model (All Diagnoses, Femoral Stem Revisions)

Model	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
MS 30/G7	3	1265	3143	0.10 (0.02, 0.28)
Other Total Conventional Hip	12271	629480	4641021	0.26 (0.26, 0.27)
TOTAL	12274	630745	4644164	0.26 (0.26, 0.27)

Note: Femoral Stem Revisions include both THR (femoral/acetabular) and stem only revisions

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 18: Yearly Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Model (All Diagnoses, Femoral Stem Revisions)

CPR	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs	7 Yrs
MS 30/G7	0.2 (0.0, 0.7)	0.3 (0.1, 1.0)	0.3 (0.1, 1.0)	0.3 (0.1, 1.0)	0.3 (0.1, 1.0)		
Other Total Conventional Hip	0.7 (0.6, 0.7)	0.9 (0.8, 0.9)	1.0 (1.0, 1.1)	1.2 (1.2, 1.2)	1.4 (1.3, 1.4)	1.6 (1.5, 1.6)	1.7 (1.7, 1.8)
CPR	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs
MS 30/G7							
Other Total Conventional Hip	1.9 (1.9, 2.0)	2.1 (2.1, 2.2)	2.4 (2.3, 2.4)	2.6 (2.5, 2.6)	2.8 (2.8, 2.9)	3.1 (3.0, 3.2)	3.4 (3.3, 3.5)
CPR	15 Yrs	16 Yrs	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs
MS 30/G7							
Other Total Conventional Hip	3.6 (3.6, 3.7)	3.9 (3.8, 4.0)	4.2 (4.1, 4.3)	4.5 (4.3, 4.6)	4.7 (4.6, 4.9)	5.0 (4.9, 5.1)	5.2 (5.1, 5.4)

Note: Femoral Stem Revisions include both THR (femoral/acetabular) and stem only revisions

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 19: Revision Rates of Primary Total Conventional Hip Replacement by Model (All Diagnoses, Acetabular Component Revisions)

Model	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
MS 30/G7	4	1265	3143	0.13 (0.03, 0.33)
Other Total Conventional Hip	8806	629480	4641021	0.19 (0.19, 0.19)
TOTAL	8810	630745	4644164	0.19 (0.19, 0.19)

Note: Acetabular Component Revisions include both THR (femoral/acetabular) and acetabular only revisions

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 20: Yearly Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Model (All Diagnoses, Acetabular Component Revisions)

CPR	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs	7 Yrs
MS 30/G7	0.3 (0.1, 0.8)	0.4 (0.1, 1.1)	0.4 (0.1, 1.1)	0.4 (0.1, 1.1)	0.4 (0.1, 1.1)		
Other Total Conventional Hip	0.5 (0.5, 0.5)	0.6 (0.6, 0.7)	0.8 (0.7, 0.8)	0.9 (0.8, 0.9)	1.0 (1.0, 1.0)	1.1 (1.1, 1.1)	1.2 (1.2, 1.2)

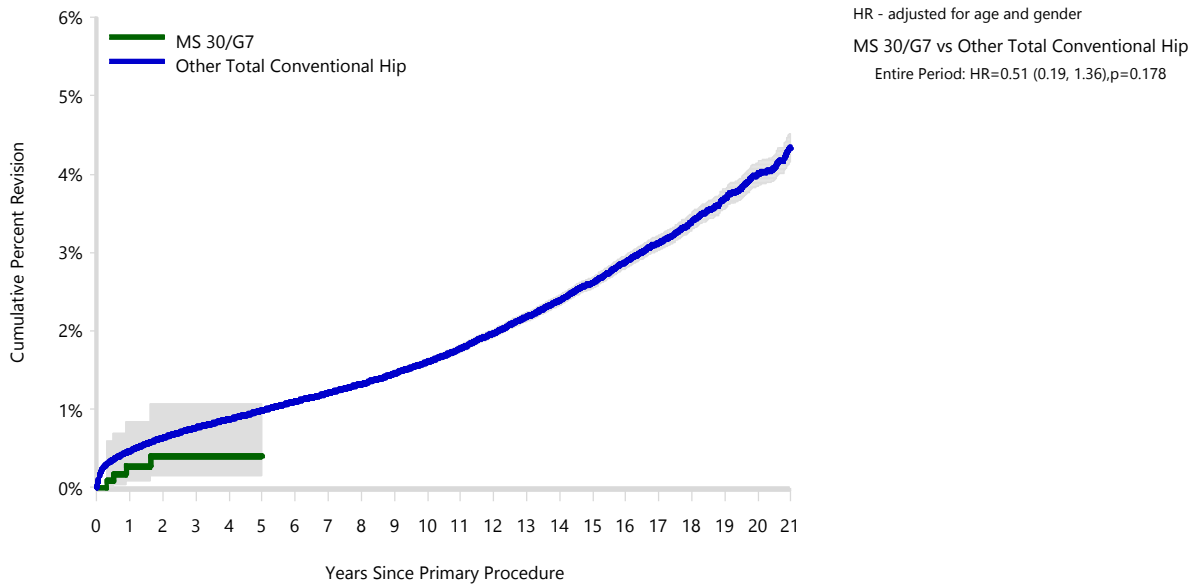
CPR	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs
MS 30/G7							
Other Total Conventional Hip	1.3 (1.3, 1.4)	1.5 (1.4, 1.5)	1.6 (1.6, 1.6)	1.8 (1.7, 1.8)	2.0 (1.9, 2.0)	2.2 (2.1, 2.2)	2.4 (2.3, 2.5)

CPR	15 Yrs	16 Yrs	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs
MS 30/G7							
Other Total Conventional Hip	2.6 (2.5, 2.7)	2.9 (2.8, 3.0)	3.1 (3.0, 3.2)	3.4 (3.3, 3.5)	3.7 (3.6, 3.8)	4.0 (3.9, 4.1)	4.3 (4.1, 4.5)

Note: Acetabular Component Revisions include both THR (femoral/acetabular) and acetabular only revisions

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Figure 3: Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Model (All Diagnoses, Acetabular Component Revisions)



Number at Risk	0 Yr	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs	7 Yrs	8 Yrs	9 Yrs	10 Yrs
MS 30/G7	1265	962	707	461	268	111	26	3	0	0	0
Other Total Conventional Hip	629480	572603	522831	470561	424882	378005	332851	290101	249968	213628	180901

Number at Risk	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs
MS 30/G7	0	0	0	0	0	0	0	0	0	0	0
Other Total Conventional Hip	151508	125167	101766	81477	64944	51682	40563	30887	22041	14482	8137

Note: Acetabular Component Revisions include both THR (femoral/acetabular) and acetabular only revisions

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 21: Revision Rates of Primary Total Conventional Hip Replacement by Model (All Diagnoses, Femoral Stem Revisions for Loosening)

Model	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
MS 30/G7	1	1265	3143	0.03 (0.00, 0.18)
Other Total Conventional Hip	3654	629480	4641021	0.08 (0.08, 0.08)
TOTAL	3655	630745	4644164	0.08 (0.08, 0.08)

Note: Femoral Stem Revisions include both THR (femoral/acetabular) and stem only revisions

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 22: Yearly Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Model (All Diagnoses, Femoral Stem Revisions for Loosening)

CPR	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs	7 Yrs
MS 30/G7	0.1 (0.0, 0.7)	0.1 (0.0, 0.7)	0.1 (0.0, 0.7)	0.1 (0.0, 0.7)	0.1 (0.0, 0.7)		
Other Total Conventional Hip	0.1 (0.1, 0.1)	0.2 (0.2, 0.2)	0.3 (0.3, 0.3)	0.3 (0.3, 0.3)	0.4 (0.4, 0.4)	0.5 (0.4, 0.5)	0.5 (0.5, 0.5)
CPR	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs
MS 30/G7							
Other Total Conventional Hip	0.6 (0.6, 0.6)	0.7 (0.6, 0.7)	0.8 (0.7, 0.8)	0.8 (0.8, 0.9)	0.9 (0.9, 0.9)	1.0 (1.0, 1.0)	1.1 (1.0, 1.1)
CPR	15 Yrs	16 Yrs	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs
MS 30/G7							
Other Total Conventional Hip	1.2 (1.1, 1.2)	1.2 (1.2, 1.3)	1.3 (1.3, 1.4)	1.4 (1.3, 1.4)	1.5 (1.4, 1.5)	1.5 (1.4, 1.6)	1.6 (1.5, 1.7)

Note: Femoral Stem Revisions include both THR (femoral/acetabular) and stem only revisions

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 23: Revision Rates of Primary Total Conventional Hip Replacement by Model (All Diagnoses, Acetabular Component Revisions for Loosening)

Model	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
MS 30/G7	2	1265	3143	0.06 (0.01, 0.23)
Other Total Conventional Hip	2851	629480	4641021	0.06 (0.06, 0.06)
TOTAL	2853	630745	4644164	0.06 (0.06, 0.06)

Note: Acetabular Component Revisions include both THR (femoral/acetabular) and acetabular only revisions

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 24: Yearly Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Model (All Diagnoses, Acetabular Component Revisions for Loosening)

CPR	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs	7 Yrs
MS 30/G7	0.2 (0.0, 0.8)	0.2 (0.0, 0.8)	0.2 (0.0, 0.8)	0.2 (0.0, 0.8)	0.2 (0.0, 0.8)		
Other Total Conventional Hip	0.1 (0.1, 0.1)	0.2 (0.1, 0.2)	0.2 (0.2, 0.2)	0.2 (0.2, 0.2)	0.3 (0.3, 0.3)	0.3 (0.3, 0.3)	0.3 (0.3, 0.4)
CPR	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs
MS 30/G7							
Other Total Conventional Hip	0.4 (0.4, 0.4)	0.4 (0.4, 0.5)	0.5 (0.5, 0.5)	0.6 (0.6, 0.6)	0.7 (0.6, 0.7)	0.8 (0.7, 0.8)	0.9 (0.8, 0.9)
CPR	15 Yrs	16 Yrs	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs
MS 30/G7							
Other Total Conventional Hip	1.0 (0.9, 1.0)	1.1 (1.0, 1.2)	1.2 (1.1, 1.3)	1.3 (1.3, 1.4)	1.5 (1.4, 1.6)	1.6 (1.5, 1.7)	1.7 (1.6, 1.9)

Note: Acetabular Component Revisions include both THR (femoral/acetabular) and acetabular only revisions

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

Table 25: Revision Rates of MS 30/G7 Primary Total Conventional Hip Replacement by Fixation (All Diagnoses)

Fixation	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
Cemented	0	1	3	0.00 (0.00, 135.7)
Hybrid (Femur Cemented)	22	1264	3140	0.70 (0.44, 1.06)
TOTAL	22	1265	3143	0.70 (0.44, 1.06)

Table 26: Revision Rates of MS 30/G7 Primary Total Conventional Hip Replacement by Bearing Surface (All Diagnoses)

Bearing Surface	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
Ceramic/Ceramic	0	2	13	0.00 (0.00, 27.94)
Ceramic/XLPE + Antioxidant	13	713	1797	0.72 (0.39, 1.24)
Metal/XLPE + Antioxidant	9	549	1328	0.68 (0.31, 1.29)
Unknown	0	1	4	0.00 (0.00, 91.28)
TOTAL	22	1265	3143	0.70 (0.44, 1.06)

Table 27: Yearly Cumulative Percent Revision of MS 30/G7 Primary Total Conventional Hip Replacement by Bearing Surface (All Diagnoses)

CPR	1 Yr	2 Yrs	3 Yrs	5 Yrs	10 Yrs	15 Yrs	17 Yrs
Ceramic/XLPE + Antioxidant	1.5 (0.8, 2.7)	2.1 (1.2, 3.6)	2.1 (1.2, 3.6)	2.1 (1.2, 3.6)			
Metal/XLPE + Antioxidant	1.5 (0.8, 3.0)	1.5 (0.8, 3.0)	1.9 (1.0, 3.9)	1.9 (1.0, 3.9)			

Table 28: Revision Rates of MS 30/G7 Primary Total Conventional Hip Replacement by Computer Navigation (All Diagnoses)

Computer Navigation	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
Computer Navigated	4	199	412	0.97 (0.26, 2.49)
Non-Navigated	18	1066	2731	0.66 (0.39, 1.04)
TOTAL	22	1265	3143	0.70 (0.44, 1.06)

Table 29: Revision Rates of MS 30/G7 Primary Total Conventional Hip Replacement by Robotic Assistance (All Diagnoses)

Robotic Assistance	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
Robotically Assisted	0	1	1	0.00 (0.00, 585.8)
Non-Robotic	22	1264	3143	0.70 (0.44, 1.06)
TOTAL	22	1265	3143	0.70 (0.44, 1.06)

Table 30: Number of Revisions of MS 30/G7 Primary Total Conventional Hip Replacement by Year of Implant (All Diagnoses)

Year of Implant	Number Revised	Total Number
2016	0	9
2017	1	53
2018	1	114
2019	4	167
2020	3	233
2021	9	249
2022	3	278
2023	1	162
TOTAL	22	1265

Table 31: Revision Rates of MS 30/G7 Primary Total Conventional Hip Replacement by Acetabular Catalogue Number (All Diagnoses)

Acetabular Catalogue Number	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
010000661	0	8	33	0.00 (0.00, 11.21)
010000662	0	27	147	0.00 (0.00, 2.50)
010000663	0	33	167	0.00 (0.00, 2.21)
010000664	0	18	91	0.00 (0.00, 4.07)
010000665	0	17	94	0.00 (0.00, 3.90)
010000666	0	9	48	0.00 (0.00, 7.65)
010000667	0	3	19	0.00 (0.00, 19.16)
010000669	0	1	5	0.00 (0.00, 72.32)
010000699	0	1	4	0.00 (0.00, 97.14)
010000700	0	6	8	0.00 (0.00, 45.15)
010000701	1	73	176	0.57 (0.01, 3.16)
010000702	3	180	449	0.67 (0.14, 1.95)
010000703	4	237	553	0.72 (0.20, 1.85)
010000704	2	176	430	0.47 (0.06, 1.68)
010000705	2	157	362	0.55 (0.07, 1.99)
010000706	1	98	219	0.46 (0.01, 2.55)
010000707	2	46	92	2.18 (0.26, 7.89)
010000708	1	22	44	2.26 (0.06, 12.57)
010000709	0	3	8	0.00 (0.00, 47.91)
010000710	0	3	7	0.00 (0.00, 49.68)
110010242	0	17	15	0.00 (0.00, 24.55)
110010243	1	32	30	3.29 (0.08, 18.35)
110010244	1	27	27	3.72 (0.09, 20.75)
110010245	1	17	19	5.24 (0.13, 29.19)
110010246	0	7	11	0.00 (0.00, 34.21)
110010247	1	12	8	13.29 (0.34, 74.03)
110010248	0	4	4	0.00 (0.00, 104.9)
110010263	0	5	9	0.00 (0.00, 38.85)
110010264	0	4	10	0.00 (0.00, 36.83)
110010265	0	8	23	0.00 (0.00, 16.05)
110010266	0	5	9	0.00 (0.00, 39.35)
110010267	1	6	11	9.30 (0.24, 51.82)
110010268	0	2	10	0.00 (0.00, 36.36)
110010269	1	1	0	1074.26 (27.20, 5985)
TOTAL	22	1265	3143	0.70 (0.44, 1.06)

Table 32: Revision Rates of MS 30/G7 Primary Total Conventional Hip Replacement by Femoral Stem Catalogue Number (All Diagnoses)

Femoral Stem Catalogue Number	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
0100351001	1	46	146	0.68 (0.02, 3.81)
0100351002	0	102	285	0.00 (0.00, 1.30)
0100351003	4	162	381	1.05 (0.29, 2.68)
0100351004	2	52	128	1.57 (0.19, 5.66)
0100351005	0	13	32	0.00 (0.00, 11.39)
0100351006	0	4	14	0.00 (0.00, 26.80)
300049060	2	192	476	0.42 (0.05, 1.52)
300049080	5	315	802	0.62 (0.20, 1.45)
300049100	4	261	621	0.64 (0.18, 1.65)
300049120	4	99	210	1.90 (0.52, 4.87)
300049140	0	15	41	0.00 (0.00, 9.05)
300049160	0	4	7	0.00 (0.00, 55.95)
TOTAL	22	1265	3143	0.70 (0.44, 1.06)