



Australian  
Orthopaedic  
Association  
National  
Joint  
Replacement  
Registry

# Automated Industry Report 11788

## Zimmer Biomet Australia

### G7 Total Conventional Hip

Report Generated: 16 October 2023

Data Period: 1 September 1999 - 13 October 2023

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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 G7 acetabular 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 11788 - Zimmer Biomet Australia G7 Total Conventional Hip

Data Period: 1 September 1999 - 13 October 2023

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### Catalogue Numbers of G7 Acetabular Components included in this analysis

Model	Catalogue Range	Range Description	No. of Primary Procedures
G7	010000658 - 010000671	Porous Plasma 3 Hole Acetabular Shell	3426
G7	010000698 - 010000711	Porous Plasma 3 Hole Acetabular Shell with Bonemaster	11269
G7	110010242 - 110010250	G7 Osseo Ti Acetabular Shell Limited Hole Cementless	3825
G7	110010250 - 110010277	G7 Osseo Ti Acetabular Shell Multi Hole Cementless	1119

**Table 1: Revision Rates of 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	78	3426	18275	0.43 (0.34, 0.53)
010000698 - 010000711	255	11269	31157	0.82 (0.72, 0.93)
110010242 - 110010250	75	3825	4766	1.57 (1.24, 1.97)
110010250 - 110010277	59	1119	2404	2.45 (1.87, 3.17)
<b>TOTAL</b>	<b>467</b>	<b>19639</b>	<b>56601</b>	<b>0.83 (0.75, 0.90)</b>

**Table 2: Implant Usage of G7 in Primary Total Conventional Hip Replacement (All Diagnoses)**

	N
<b>Implant Usage</b>	
Date First Used	13 February 2013
Date Last Used	31 August 2023
N Procedures	19639
N Patients	17981
N Hospitals Implanting	236
N Surgeons Implanting*	500
<b>Outcome</b>	
N Revised	467
N Deceased**	807

\*504 G7 procedures have unknown surgeon

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

**Table 3: Follow Up Years of G7 in Primary Total Conventional Hip Replacement (All Diagnoses)**

Model	N	Minimum	Maximum	Median	Mean	Std Dev
G7	19639	0.00	10.7	2.43	2.88	2.18
<b>TOTAL</b>	<b>19639</b>	<b>0.00</b>	<b>10.7</b>	<b>2.43</b>	<b>2.88</b>	<b>2.18</b>

**Table 4: Age and Gender of G7 Primary Total Conventional Hip Replacement (All Diagnoses)**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Male	8451	43.0%	12	108	67	66.6	11.7
Female	11188	57.0%	11	101	70	69.1	11.4
<b>TOTAL</b>	<b>19639</b>	<b>100.0%</b>	<b>11</b>	<b>108</b>	<b>69</b>	<b>68.0</b>	<b>11.6</b>

**Table 5: Primary Total Conventional Hip Replacement by Model and Age (All Diagnoses)**

Age	G7		Other Total Conventional Hip	
	N	Col%	N	Col%
<55	2424	12.3	73461	11.9
55-64	4444	22.6	142546	23.2
65-74	6736	34.3	213321	34.6
≥75	6035	30.7	186381	30.3
<b>TOTAL</b>	<b>19639</b>	<b>100.0</b>	<b>615709</b>	<b>100.0</b>

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

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

Gender	G7		Other Total Conventional Hip	
	N	Col%	N	Col%
Male	8451	43.0	275781	44.8
Female	11188	57.0	339928	55.2
<b>TOTAL</b>	<b>19639</b>	<b>100.0</b>	<b>615709</b>	<b>100.0</b>

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 Approach (All Diagnoses)**

Approach	G7		Other Total Conventional Hip	
	N	Col%	N	Col%
Anterior	4583	23.9	85766	27.5
Lateral	2950	15.4	48670	15.6
Posterior	11649	60.7	177220	56.9
<b>TOTAL</b>	<b>19182</b>	<b>100.0</b>	<b>311656</b>	<b>100.0</b>

Note: The AOANJRR commenced collection of approach data in 2012. 457 G7 procedures with no approach recorded are excluded from this table

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 ASA Grade (All Diagnoses)**

ASA Grade	G7		Other Total Conventional Hip	
	N	Col%	N	Col%
1	1332	6.8	31481	8.5
2	10167	51.9	192740	52.2
3	7599	38.8	137438	37.2
4	473	2.4	7393	2.0
5	1	0.0	29	0.0
<b>TOTAL</b>	<b>19572</b>	<b>100.0</b>	<b>369081</b>	<b>100.0</b>

Note: The AOANJRR commenced collection of ASA data in 2013. 67 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 9: Primary Total Conventional Hip Replacement by Model and BMI (All Diagnoses)**

BMI	G7		Other Total Conventional Hip	
	N	Col%	N	Col%
Underweight (<18.50)	269	1.5	3079	1.0
Normal (18.50-24.99)	4282	23.3	66455	22.1
Pre Obese (25.00-29.99)	6429	35.0	109520	36.5
Obese Class 1 (30.00-34.99)	4390	23.9	74547	24.8
Obese Class 2 (35.00-39.99)	1995	10.9	31325	10.4
Obese Class 3 ( $\geq$ 40.00)	1007	5.5	15224	5.1
<b>TOTAL</b>	<b>18372</b>	<b>100.0</b>	<b>300150</b>	<b>100.0</b>

Note: The AOANJRR commenced collection of BMI data in 2015. 1267 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 10: Primary Total Conventional Hip Replacement by Model and Primary Diagnosis**

Primary Diagnosis	G7		Other Total Conventional Hip	
	N	Col%	N	Col%
Osteoarthritis	16052	81.7	542704	88.1
Fractured Neck Of Femur	2020	10.3	30631	5.0
Osteonecrosis	711	3.6	19657	3.2
Developmental Dysplasia	305	1.6	8169	1.3
Rheumatoid Arthritis	97	0.5	5163	0.8
Tumour	161	0.8	3326	0.5
Other Inflammatory Arthritis	62	0.3	2587	0.4
Failed Internal Fixation	166	0.8	2421	0.4
Fracture/Dislocation	53	0.3	789	0.1
Arthrodesis Takedown	6	0.0	132	0.0
Other	6	0.0	130	0.0
<b>TOTAL</b>	<b>19639</b>	<b>100.0</b>	<b>615709</b>	<b>100.0</b>

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

**Table 11: 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)
G7	467	19639	56601	0.83 (0.75, 0.90)
Other Total Conventional Hip	26477	615709	4635493	0.57 (0.56, 0.58)
<b>TOTAL</b>	<b>26944</b>	<b>635348</b>	<b>4692094</b>	<b>0.57 (0.57, 0.58)</b>

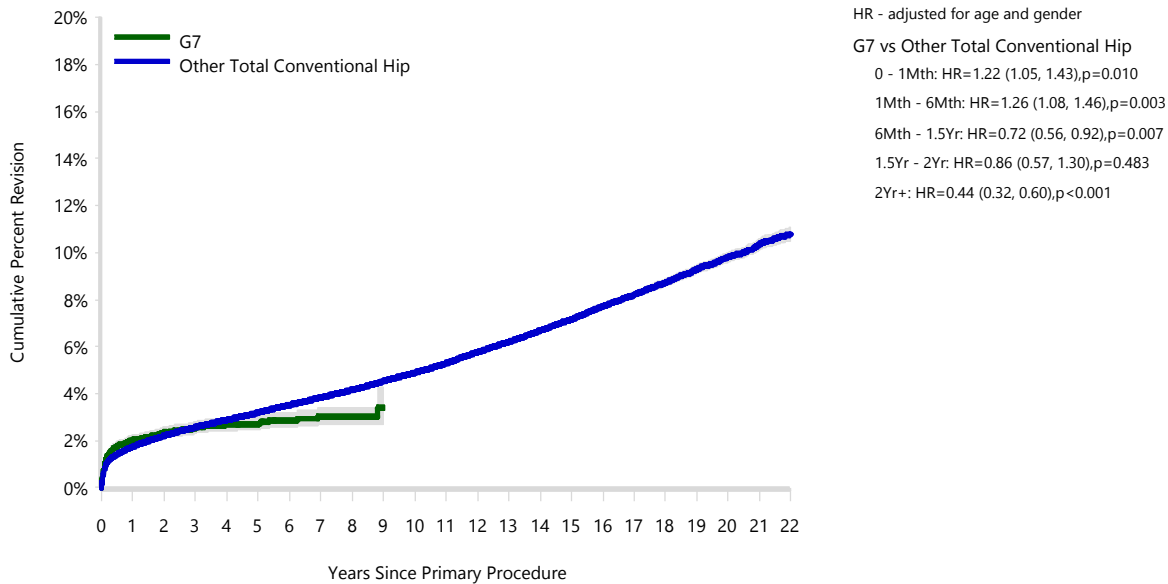
Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

**Table 12: 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	
G7	2.0 (1.8, 2.2)	2.3 (2.1, 2.6)	2.5 (2.3, 2.8)	2.7 (2.4, 2.9)	2.7 (2.5, 3.0)	
Other Total Conventional Hip	1.7 (1.7, 1.8)	2.2 (2.2, 2.2)	2.6 (2.5, 2.6)	2.9 (2.8, 2.9)	3.2 (3.1, 3.2)	
CPR	6 Yrs	7 Yrs	8 Yrs	9 Yrs	10 Yrs	
G7	2.9 (2.6, 3.2)	3.0 (2.7, 3.4)	3.0 (2.7, 3.4)	3.4 (2.7, 4.3)		
Other Total Conventional Hip	3.5 (3.5, 3.6)	3.8 (3.8, 3.9)	4.2 (4.1, 4.2)	4.5 (4.5, 4.6)	4.9 (4.8, 5.0)	
CPR	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs
G7						
Other Total Conventional Hip	5.3 (5.2, 5.4)	5.8 (5.7, 5.8)	6.2 (6.1, 6.3)	6.7 (6.6, 6.8)	7.2 (7.0, 7.3)	7.7 (7.6, 7.8)
CPR	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs	22 Yrs
G7						
Other Total Conventional Hip	8.2 (8.1, 8.3)	8.7 (8.6, 8.9)	9.3 (9.1, 9.5)	9.8 (9.6, 10.0)	10.4 (10.1, 10.6)	10.8 (10.5, 11.1)

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	
G7	19639	15191	11382	7833	5253	3285	2014	1184	608	199	18	
Other Total Conventional Hip	615709	562799	515881	467018	423157	377958	333865	291702	251979	215773	182851	
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	22 Yrs
G7	0	0	0	0	0	0	0	0	0	0	0	0
Other Total Conventional Hip	153276	126973	103165	82771	65936	52380	41277	31586	22688	15052	8615	3525

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

TABLE 13

## 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 13: Revision Diagnosis of Primary Total Conventional Hip Replacement by Model (All Diagnoses)  
(Follow-up Limited to 10.7 Years)**

Revision Diagnosis	Number	G7		Other Total Conventional Hip		
		% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Loosening	35	0.2	7.5	4988	0.8	21.7
Prosthesis Dislocation	136	0.7	29.1	4981	0.8	21.7
Infection	143	0.7	30.6	4879	0.8	21.2
Fracture	110	0.6	23.6	4772	0.8	20.8
Pain	4	0.0	0.9	442	0.1	1.9
Leg Length Discrepancy	5	0.0	1.1	376	0.1	1.6
Malposition	8	0.0	1.7	345	0.1	1.5
Instability	7	0.0	1.5	332	0.1	1.4
Lysis	1	0.0	0.2	286	0.0	1.2
Implant Breakage Stem	3	0.0	0.6	233	0.0	1.0
Metal Related Pathology	1	0.0	0.2	208	0.0	0.9
Implant Breakage Acetabular Insert	2	0.0	0.4	170	0.0	0.7
Incorrect Sizing	2	0.0	0.4	143	0.0	0.6
Implant Breakage Acetabular	2	0.0	0.4	136	0.0	0.6
Wear Acetabular Insert				96	0.0	0.4
Wear Head				71	0.0	0.3
Tumour	1	0.0	0.2	58	0.0	0.3
Implant Breakage Head				49	0.0	0.2
Heterotopic Bone	1	0.0	0.2	38	0.0	0.2
Wear Acetabulum				11	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	6	0.0	1.3	350	0.1	1.5
<b>N Revision</b>	<b>467</b>	<b>2.4</b>	<b>100.0</b>	<b>22970</b>	<b>3.7</b>	<b>100.0</b>
<b>N Primary</b>	<b>19639</b>			<b>615709</b>		

Note: This table is restricted to revisions within 10.7 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

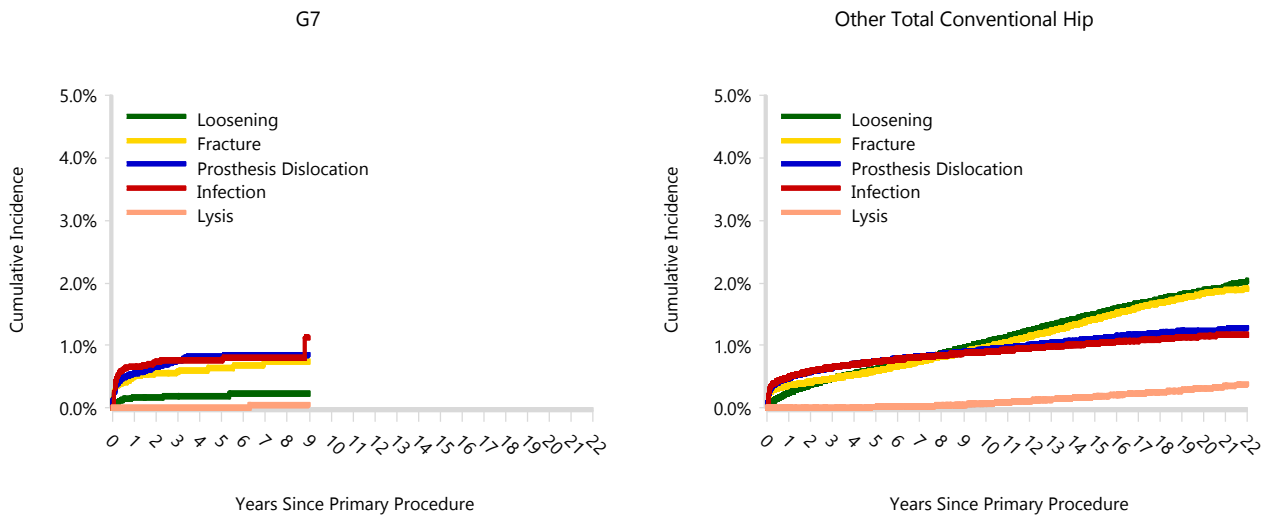


**Table 14: Yearly Cumulative Incidence Revision Diagnosis of Primary Total Conventional Hip Replacement by Model (All Diagnoses)**

Model	Event	N Events	1 Yr	2 Yrs	3 Yrs	5 Yrs	10 Yrs	15 Yrs
G7	Loosening	35	0.2 (0.1, 0.2)	0.2 (0.1, 0.2)	0.2 (0.1, 0.3)	0.2 (0.1, 0.3)		
	Fracture	110	0.5 (0.4, 0.6)	0.6 (0.5, 0.7)	0.6 (0.5, 0.7)	0.6 (0.5, 0.8)		
	Prosthesis Dislocation	136	0.6 (0.5, 0.7)	0.7 (0.6, 0.8)	0.8 (0.6, 0.9)	0.8 (0.7, 1.0)		
	Infection	143	0.7 (0.5, 0.8)	0.7 (0.6, 0.9)	0.8 (0.6, 0.9)	0.8 (0.6, 0.9)		
	Lysis	1	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)		
	Other	42	0.1 (0.1, 0.2)	0.2 (0.1, 0.3)	0.2 (0.2, 0.3)	0.3 (0.2, 0.4)		
	Deceased	807	1.3 (1.2, 1.5)	2.7 (2.4, 2.9)	4.2 (3.9, 4.6)	6.9 (6.4, 7.5)		
	All Revision	467	2.0 (1.8, 2.2)	2.3 (2.1, 2.6)	2.5 (2.3, 2.8)	2.7 (2.4, 3.0)		
Other Total Conventional Hip	Loosening	5989	0.2 (0.2, 0.3)	0.4 (0.4, 0.4)	0.5 (0.5, 0.5)	0.6 (0.6, 0.6)	1.1 (1.0, 1.1)	1.5 (1.5, 1.5)
	Fracture	5771	0.4 (0.3, 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	5363	0.5 (0.5, 0.5)	0.6 (0.6, 0.6)	0.6 (0.6, 0.7)	0.7 (0.7, 0.8)	0.9 (0.9, 1.0)	1.1 (1.1, 1.1)
	Infection	5173	0.5 (0.5, 0.5)	0.6 (0.6, 0.6)	0.6 (0.6, 0.7)	0.7 (0.7, 0.8)	0.9 (0.9, 0.9)	1.0 (1.0, 1.1)
	Lysis	567	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.1 (0.1, 0.1)	0.2 (0.2, 0.2)
	Other	3614	0.1 (0.1, 0.2)	0.2 (0.2, 0.2)	0.3 (0.3, 0.3)	0.4 (0.4, 0.4)	0.6 (0.6, 0.7)	0.9 (0.9, 0.9)
	Deceased	12753 9	1.4 (1.4, 1.4)	2.8 (2.7, 2.8)	4.5 (4.4, 4.5)	8.5 (8.4, 8.6)	21.9 (21.8, 22.1)	37.6 (37.4, 37.8)
	All Revision	26477	1.7 (1.7, 1.8)	2.2 (2.2, 2.2)	2.5 (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 15

## 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 15: Type of Revision of Primary Total Conventional Hip Replacement by Model (All Diagnoses) (Follow-up Limited to 10.7 Years)**

Type of Revision	Number	G7		Other Total Conventional Hip		
		% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Femoral Component	136	0.7	29.1	7707	1.3	33.6
Head/Insert	183	0.9	39.2	5117	0.8	22.3
Acetabular Component	66	0.3	14.1	4561	0.7	19.9
THR (Femoral/Acetabular)	48	0.2	10.3	2622	0.4	11.4
Head Only	14	0.1	3.0	1160	0.2	5.1
Cement Spacer	4	0.0	0.9	859	0.1	3.7
Minor Components	6	0.0	1.3	381	0.1	1.7
Insert Only	8	0.0	1.7	231	0.0	1.0
Removal of Prostheses	1	0.0	0.2	134	0.0	0.6
Head/Neck/Insert				83	0.0	0.4
Head/Neck				58	0.0	0.3
Reinsertion of Components				31	0.0	0.1
Total Femoral				9	0.0	0.0
Neck Only				6	0.0	0.0
Bipolar Head and Femoral				5	0.0	0.0
Bipolar Only				4	0.0	0.0
Cement Only	1	0.0	0.2			
Neck/Insert				1	0.0	0.0
Saddle				1	0.0	0.0
<b>N Revision</b>	<b>467</b>	<b>2.4</b>	<b>100.0</b>	<b>22970</b>	<b>3.7</b>	<b>100.0</b>
<b>N Primary</b>	<b>19639</b>			<b>615709</b>		

Note: This table is restricted to revisions within 10.7 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 16: 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)
G7	184	19639	56601	0.33 (0.28, 0.38)
Other Total Conventional Hip	12182	615709	4635493	0.26 (0.26, 0.27)
<b>TOTAL</b>	<b>12366</b>	<b>635348</b>	<b>4692094</b>	<b>0.26 (0.26, 0.27)</b>

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

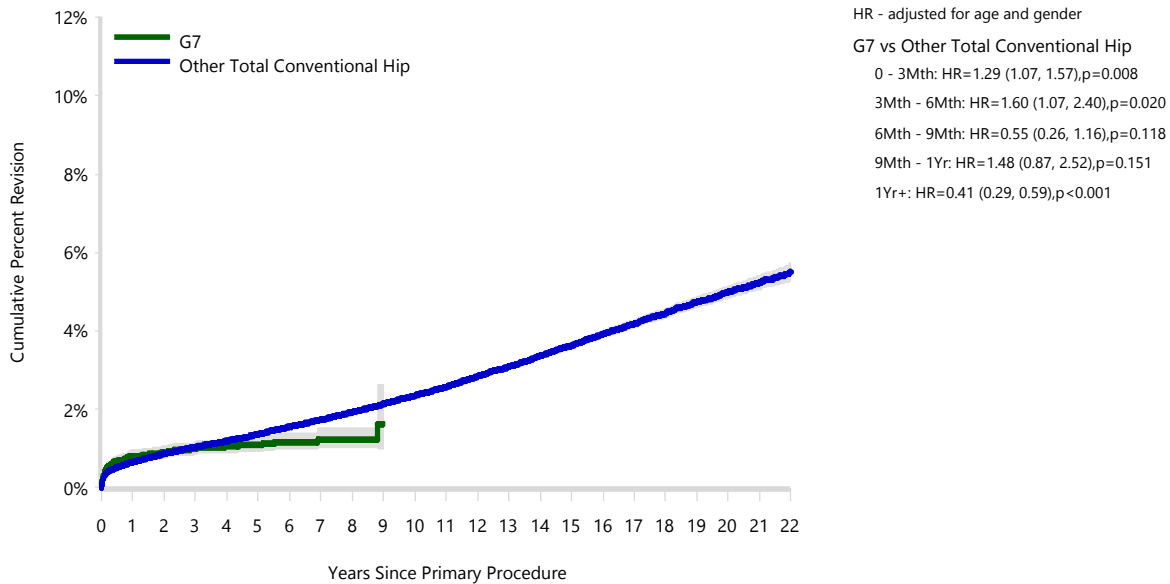
Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

**Table 17: 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	
G7	0.8 (0.7, 1.0)	0.9 (0.8, 1.1)	1.0 (0.9, 1.2)	1.0 (0.9, 1.2)	1.1 (0.9, 1.3)	
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)	
CPR	6 Yrs	7 Yrs	8 Yrs	9 Yrs	10 Yrs	
G7	1.2 (1.0, 1.4)	1.2 (1.0, 1.5)	1.2 (1.0, 1.5)	1.6 (1.0, 2.6)		
Other Total Conventional Hip	1.6 (1.5, 1.6)	1.7 (1.7, 1.8)	1.9 (1.9, 2.0)	2.1 (2.1, 2.2)	2.3 (2.3, 2.4)	
CPR	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs
G7						
Other Total Conventional Hip	2.6 (2.5, 2.6)	2.8 (2.8, 2.9)	3.1 (3.0, 3.2)	3.4 (3.3, 3.4)	3.6 (3.5, 3.7)	3.9 (3.8, 4.0)
CPR	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs	22 Yrs
G7						
Other Total Conventional Hip	4.2 (4.1, 4.3)	4.4 (4.3, 4.6)	4.7 (4.6, 4.9)	5.0 (4.8, 5.1)	5.2 (5.1, 5.4)	5.5 (5.3, 5.7)

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

**Figure 3: Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Model (All Diagnoses, Femoral Stem 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	
G7	19639	15191	11382	7833	5253	3285	2014	1184	608	199	18	
Other Total Conventional Hip	615709	562799	515881	467018	423157	377958	333865	291702	251979	215773	182851	
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	22 Yrs
G7	0	0	0	0	0	0	0	0	0	0	0	0
Other Total Conventional Hip	153276	126973	103165	82771	65936	52380	41277	31586	22688	15052	8615	3525

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: 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)
G7	114	19639	56601	0.20 (0.17, 0.24)
Other Total Conventional Hip	8748	615709	4635493	0.19 (0.18, 0.19)
<b>TOTAL</b>	<b>8862</b>	<b>635348</b>	<b>4692094</b>	<b>0.19 (0.18, 0.19)</b>

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

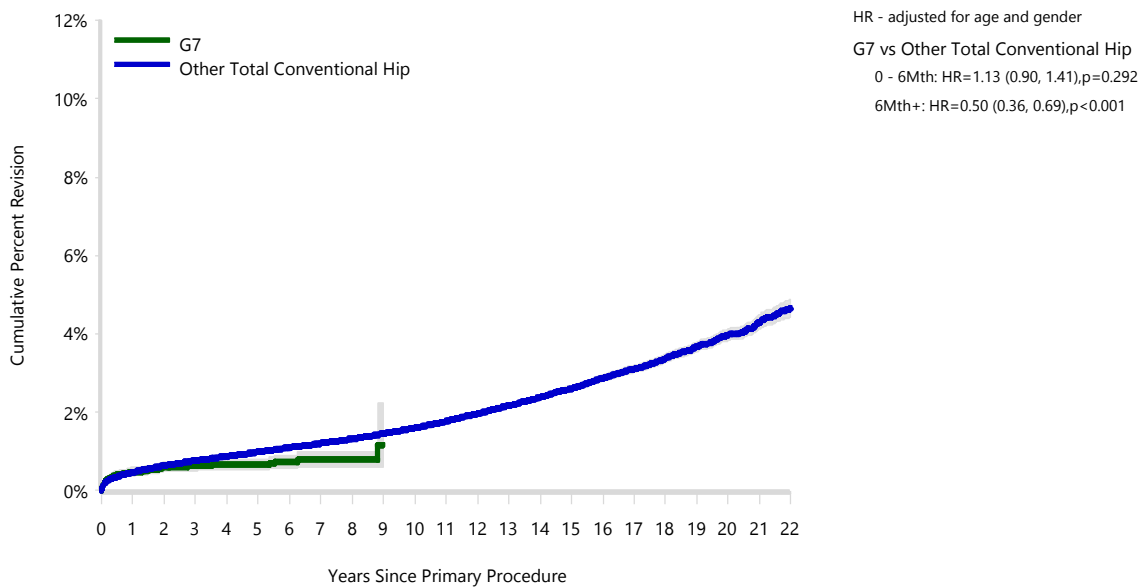
Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

**Table 19: 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	
G7	0.5 (0.4, 0.6)	0.6 (0.5, 0.7)	0.6 (0.5, 0.8)	0.7 (0.5, 0.8)	0.7 (0.5, 0.8)	
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)	
CPR	6 Yrs	7 Yrs	8 Yrs	9 Yrs	10 Yrs	
G7	0.7 (0.6, 0.9)	0.8 (0.6, 1.0)	0.8 (0.6, 1.0)	1.2 (0.6, 2.3)		
Other Total Conventional Hip	1.1 (1.1, 1.1)	1.2 (1.2, 1.2)	1.3 (1.3, 1.4)	1.5 (1.4, 1.5)	1.6 (1.6, 1.6)	
CPR	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs
G7						
Other Total Conventional Hip	1.8 (1.7, 1.8)	2.0 (1.9, 2.0)	2.2 (2.1, 2.2)	2.4 (2.3, 2.4)	2.6 (2.5, 2.7)	2.9 (2.8, 2.9)
CPR	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs	22 Yrs
G7						
Other Total Conventional Hip	3.1 (3.0, 3.2)	3.4 (3.3, 3.5)	3.7 (3.6, 3.8)	4.0 (3.8, 4.1)	4.3 (4.1, 4.5)	4.6 (4.4, 4.9)

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

**Figure 4: 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	
G7	19639	15191	11382	7833	5253	3285	2014	1184	608	199	18	
Other Total Conventional Hip	615709	562799	515881	467018	423157	377958	333865	291702	251979	215773	182851	
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	22 Yrs
G7	0	0	0	0	0	0	0	0	0	0	0	0
Other Total Conventional Hip	153276	126973	103165	82771	65936	52380	41277	31586	22688	15052	8615	3525

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: 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)
G7	18	19639	56601	0.03 (0.02, 0.05)
Other Total Conventional Hip	3658	615709	4635493	0.08 (0.08, 0.08)
<b>TOTAL</b>	<b>3676</b>	<b>635348</b>	<b>4692094</b>	<b>0.08 (0.08, 0.08)</b>

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

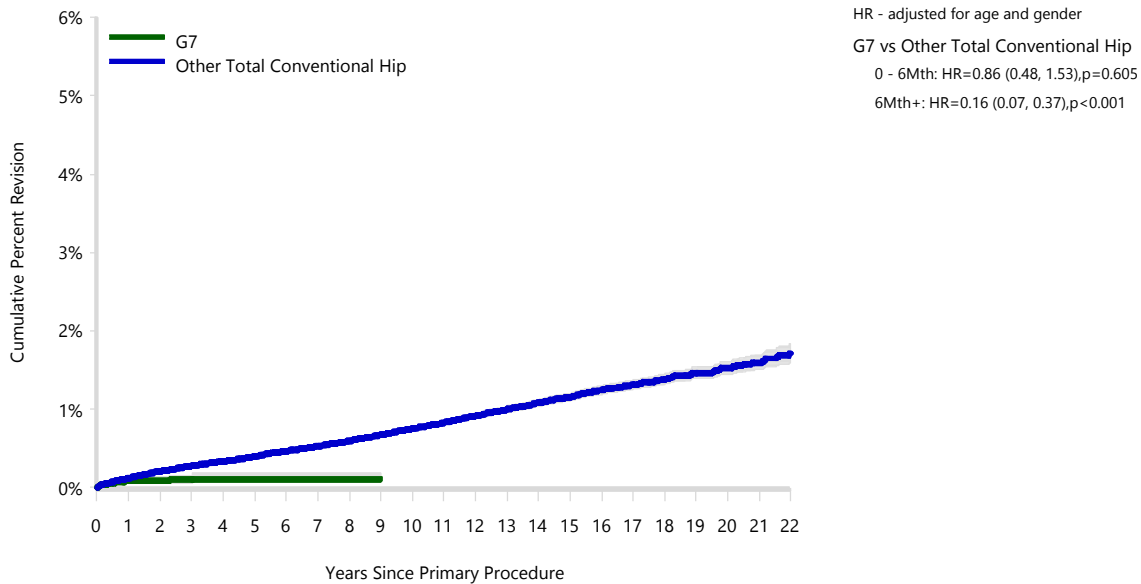
Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

**Table 21: 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	
G7	0.1 (0.0, 0.1)	0.1 (0.1, 0.1)	0.1 (0.1, 0.2)	0.1 (0.1, 0.2)	0.1 (0.1, 0.2)	
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, 0.4)	0.4 (0.4, 0.4)	
CPR	6 Yrs	7 Yrs	8 Yrs	9 Yrs	10 Yrs	
G7	0.1 (0.1, 0.2)	0.1 (0.1, 0.2)	0.1 (0.1, 0.2)	0.1 (0.1, 0.2)		
Other Total Conventional Hip	0.5 (0.4, 0.5)	0.5 (0.5, 0.6)	0.6 (0.6, 0.6)	0.7 (0.6, 0.7)	0.8 (0.7, 0.8)	
CPR	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs
G7						
Other Total Conventional Hip	0.8 (0.8, 0.9)	0.9 (0.9, 1.0)	1.0 (1.0, 1.0)	1.1 (1.0, 1.1)	1.2 (1.1, 1.2)	1.2 (1.2, 1.3)
CPR	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs	22 Yrs
G7						
Other Total Conventional Hip	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)	1.7 (1.6, 1.8)

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

**Figure 5: Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Model (All Diagnoses, Femoral Stem Revisions for Loosening)**



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	
G7	19639	15191	11382	7833	5253	3285	2014	1184	608	199	18	
Other Total Conventional Hip	615709	562799	515881	467018	423157	377958	333865	291702	251979	215773	182851	
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	22 Yrs
G7	0	0	0	0	0	0	0	0	0	0	0	0
Other Total Conventional Hip	153276	126973	103165	82771	65936	52380	41277	31586	22688	15052	8615	3525

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: 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)
G7	12	19639	56601	0.02 (0.01, 0.04)
Other Total Conventional Hip	2850	615709	4635493	0.06 (0.06, 0.06)
<b>TOTAL</b>	<b>2862</b>	<b>635348</b>	<b>4692094</b>	<b>0.06 (0.06, 0.06)</b>

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

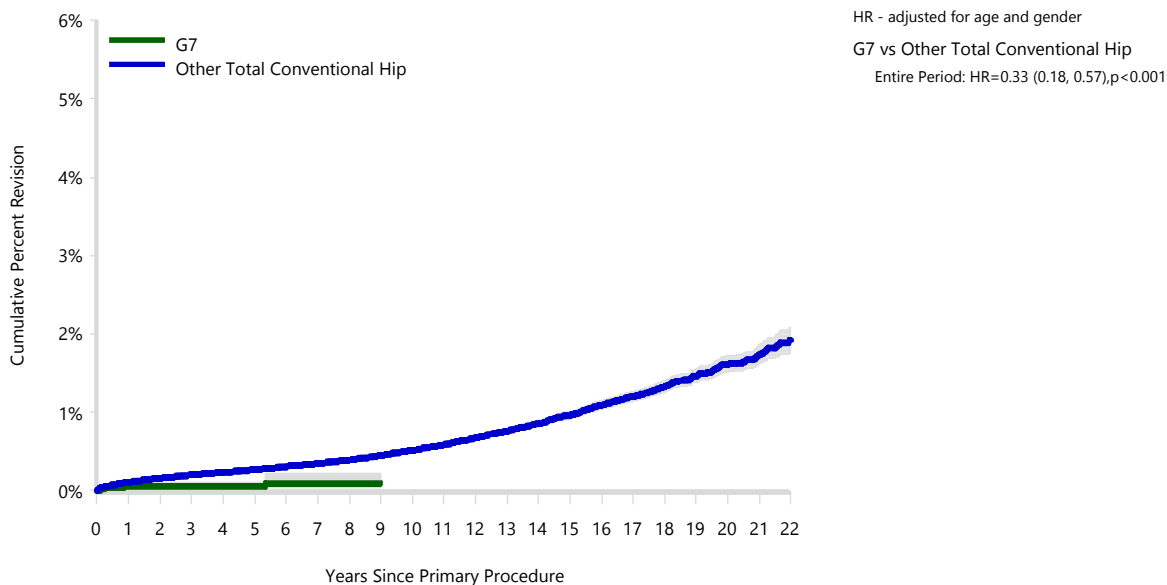
Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator

**Table 23: 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	
G7	0.1 (0.0, 0.1)	0.1 (0.0, 0.1)	0.1 (0.0, 0.1)	0.1 (0.0, 0.1)	0.1 (0.0, 0.1)	
Other Total Conventional Hip	0.1 (0.1, 0.1)	0.2 (0.2, 0.2)	0.2 (0.2, 0.2)	0.2 (0.2, 0.2)	0.3 (0.3, 0.3)	
CPR	6 Yrs	7 Yrs	8 Yrs	9 Yrs	10 Yrs	
G7	0.1 (0.0, 0.2)	0.1 (0.0, 0.2)	0.1 (0.0, 0.2)	0.1 (0.0, 0.2)		
Other Total Conventional Hip	0.3 (0.3, 0.3)	0.3 (0.3, 0.4)	0.4 (0.4, 0.4)	0.4 (0.4, 0.5)	0.5 (0.5, 0.5)	
CPR	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs
G7						
Other Total Conventional Hip	0.6 (0.6, 0.6)	0.7 (0.6, 0.7)	0.8 (0.7, 0.8)	0.9 (0.8, 0.9)	1.0 (0.9, 1.0)	1.1 (1.0, 1.1)
CPR	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs	22 Yrs
G7						
Other Total Conventional Hip	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)	1.9 (1.8, 2.1)

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

**Figure 6: Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Model (All Diagnoses, Acetabular Component Revisions for Loosening)**



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	
G7	19639	15191	11382	7833	5253	3285	2014	1184	608	199	18	
Other Total Conventional Hip	615709	562799	515881	467018	423157	377958	333865	291702	251979	215773	182851	
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	22 Yrs
G7	0	0	0	0	0	0	0	0	0	0	0	0
Other Total Conventional Hip	153276	126973	103165	82771	65936	52380	41277	31586	22688	15052	8615	3525

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: Revision Rates of G7 Primary Total Conventional Hip Replacement by Fixation (All Diagnoses)**

Fixation	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
Cemented	2	25	41	4.93 (0.60, 17.82)
Cementless	291	13299	41948	0.69 (0.62, 0.78)
Hybrid (Femur Cemented)	173	6297	14552	1.19 (1.02, 1.38)
Reverse Hybrid (Femur Cementless)	1	18	60	1.66 (0.04, 9.27)
<b>TOTAL</b>	<b>467</b>	<b>19639</b>	<b>56601</b>	<b>0.83 (0.75, 0.90)</b>

**Table 25: Revision Rates of 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	10	492	2489	0.40 (0.19, 0.74)
Ceramic/XLPE	3	65	526	0.57 (0.12, 1.67)
Ceramic/XLPE + Antioxidant	213	10736	31581	0.67 (0.59, 0.77)
Metal/Metal	0	1	0	0.00 (0.00, 962.4)
Metal/XLPE	6	191	1314	0.46 (0.17, 0.99)
Metal/XLPE + Antioxidant	233	8106	20610	1.13 (0.99, 1.29)
Ceramicised Metal/XLPE + Antioxidant	2	40	63	3.17 (0.38, 11.47)
Unknown	0	8	18	0.00 (0.00, 20.63)
<b>TOTAL</b>	<b>467</b>	<b>19639</b>	<b>56601</b>	<b>0.83 (0.75, 0.90)</b>

**Table 26: Yearly Cumulative Percent Revision of 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/Ceramic	0.6 (0.2, 1.9)	1.4 (0.6, 3.0)	1.9 (1.0, 3.8)	2.3 (1.2, 4.3)			
Ceramic/XLPE	1.5 (0.2, 10.4)	3.1 (0.8, 11.7)	3.1 (0.8, 11.7)	3.1 (0.8, 11.7)			
Ceramic/XLPE + Antioxidant	1.7 (1.5, 2.0)	2.0 (1.7, 2.3)	2.1 (1.8, 2.4)	2.2 (1.9, 2.5)			
Metal/XLPE	1.0 (0.3, 4.1)	2.1 (0.8, 5.6)	2.7 (1.1, 6.3)	2.7 (1.1, 6.3)			
Metal/XLPE + Antioxidant	2.5 (2.2, 2.9)	2.9 (2.5, 3.3)	3.1 (2.7, 3.6)	3.5 (3.0, 4.0)			
Ceramicised Metal/XLPE + Antioxidant	5.0 (1.3, 18.5)	5.0 (1.3, 18.5)	5.0 (1.3, 18.5)				



**Table 27: Revision Rates of 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	46	2412	5776	0.80 (0.58, 1.06)
Non-Navigated	421	17227	50825	0.83 (0.75, 0.91)
<b>TOTAL</b>	<b>467</b>	<b>19639</b>	<b>56601</b>	<b>0.83 (0.75, 0.90)</b>

**Table 28: Revision Rates of G7 Primary Total Conventional Hip Replacement by IDI Usage (All Diagnoses)**

IDI Usage	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
IDI Used	4	350	664	0.60 (0.16, 1.54)
IDI Not Used	463	19289	55937	0.83 (0.75, 0.91)
<b>TOTAL</b>	<b>467</b>	<b>19639</b>	<b>56601</b>	<b>0.83 (0.75, 0.90)</b>

**Table 29: Revision Rates of 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	2	140	117	1.72 (0.21, 6.20)
Non-Robotic	465	19499	56485	0.82 (0.75, 0.90)
<b>TOTAL</b>	<b>467</b>	<b>19639</b>	<b>56601</b>	<b>0.83 (0.75, 0.90)</b>

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

Year of Implant	Number Revised	Total Number
2013	0	40
2014	6	281
2015	16	539
2016	25	693
2017	22	1052
2018	38	1495
2019	66	2227
2020	85	2927
2021	94	3610
2022	76	3869
2023	39	2906
<b>TOTAL</b>	<b>467</b>	<b>19639</b>

**Table 31: Revision Rates of G7 Primary Total Conventional Hip Replacement by Femoral Stem Component (All Diagnoses)**

Femoral Stem	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
Alloclassic	1	63	119	0.84 (0.02, 4.68)
Arcos	12	171	413	2.91 (1.50, 5.08)
Avenir	13	631	1300	1.00 (0.53, 1.71)
CLS	2	73	153	1.31 (0.16, 4.74)
CPT	111	3893	8465	1.31 (1.08, 1.58)
Custom Made (Biomet)	0	1	7	0.00 (0.00, 56.56)
Echo	6	163	298	2.02 (0.74, 4.39)
Exception	1	12	109	0.92 (0.02, 5.12)
M/L Taper	3	112	253	1.19 (0.24, 3.47)
M/L Taper Kinectiv	0	5	29	0.00 (0.00, 12.56)
MS 30	23	1280	3264	0.70 (0.45, 1.06)
Mallory-Head	9	271	1921	0.47 (0.21, 0.89)
Oss	2	6	16	12.90 (1.56, 46.61)
Segmental System	0	8	17	0.00 (0.00, 21.84)
Sirius	2	46	309	0.65 (0.08, 2.34)
Taperloc	146	5687	20652	0.71 (0.60, 0.83)
Taperloc Microplasty	66	4453	13392	0.49 (0.38, 0.63)
VerSys	1	78	172	0.58 (0.01, 3.24)
Wagner	1	22	62	1.62 (0.04, 9.04)
ZMR	3	38	122	2.46 (0.51, 7.20)
Other Femoral Stems*	65	2626	5532	1.18 (0.91, 1.50)
<b>TOTAL</b>	<b>467</b>	<b>19639</b>	<b>56601</b>	<b>0.83 (0.75, 0.90)</b>

\*denotes femoral stems distributed by other companies

**Table 32: Revision Rates of 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)
010000658	0	2	14	0.00 (0.00, 26.09)
010000659	0	7	31	0.00 (0.00, 11.96)
010000660	1	42	204	0.49 (0.01, 2.73)
010000661	4	259	1308	0.31 (0.08, 0.78)
010000662	14	724	3824	0.37 (0.20, 0.61)
010000663	19	818	4354	0.44 (0.26, 0.68)
010000664	11	617	3406	0.32 (0.16, 0.58)
010000665	16	501	2690	0.59 (0.34, 0.97)
010000666	7	301	1624	0.43 (0.17, 0.89)
010000667	5	113	598	0.84 (0.27, 1.95)
010000668	0	29	150	0.00 (0.00, 2.46)
010000669	0	8	50	0.00 (0.00, 7.44)
010000670	1	4	16	6.39 (0.16, 35.58)
010000671	0	1	6	0.00 (0.00, 62.58)
010000698	0	3	6	0.00 (0.00, 65.12)
010000699	0	15	48	0.00 (0.00, 7.66)
010000700	2	105	211	0.95 (0.11, 3.43)
010000701	22	1003	2573	0.86 (0.54, 1.29)
010000702	38	2115	5752	0.66 (0.47, 0.91)
010000703	51	2539	7172	0.71 (0.53, 0.93)
010000704	49	2164	6133	0.80 (0.59, 1.06)
010000705	48	1669	4718	1.02 (0.75, 1.35)
010000706	21	1023	2823	0.74 (0.46, 1.14)
010000707	19	445	1214	1.56 (0.94, 2.44)
010000708	4	141	383	1.05 (0.28, 2.68)
010000709	1	36	94	1.06 (0.03, 5.92)
010000710	0	11	30	0.00 (0.00, 12.17)
110010242	7	390	530	1.32 (0.53, 2.72)
110010243	10	826	1038	0.96 (0.46, 1.77)
110010244	17	835	1086	1.56 (0.91, 2.51)
110010245	17	714	866	1.96 (1.14, 3.14)
110010246	9	549	693	1.30 (0.59, 2.46)
110010247	10	321	352	2.84 (1.36, 5.22)
110010248	2	133	143	1.40 (0.17, 5.05)
110010249	3	46	45	6.72 (1.39, 19.64)
110010250	0	11	13	0.00 (0.00, 28.61)
110010259	0	8	20	0.00 (0.00, 18.33)
110010260	3	18	20	14.94 (3.08, 43.66)
110010261	0	67	119	0.00 (0.00, 3.11)
110010262	5	76	171	2.93 (0.95, 6.83)
110010263	7	139	305	2.29 (0.92, 4.72)
110010264	10	212	472	2.12 (1.02, 3.90)
110010265	9	222	484	1.86 (0.85, 3.53)
110010266	9	174	372	2.42 (1.11, 4.60)
110010267	12	114	235	5.11 (2.64, 8.92)
110010268	1	43	105	0.95 (0.02, 5.31)
110010269	2	22	46	4.39 (0.53, 15.84)
110010270	1	14	33	2.99 (0.08, 16.68)
110010271	0	9	18	0.00 (0.00, 20.21)
110010272	0	1	4	0.00 (0.00, 94.35)