

G7 Multihole Total Conventional Hip Investigation

Note: This analysis compares the G7 Multihole acetabular prosthesis with all other total conventional hip prostheses.

This prosthesis has been identified as having a significantly higher rate of revision. For a detailed explanation of the process used by the Registry that results in identification of prostheses that have a higher than anticipated rate of revision please refer to the Prostheses with Higher than Anticipated Rates of Revision chapter of the most recent AOANJRR Annual Report, <https://aoanjrr.sahmri.com/annual-reports-2026>.

Note: Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator. Procedures using prostheses with no recorded use in 2025 are excluded from the comparator.

TABLE 1

Revision Rate of Primary Total Conventional Hip Replacement

The revision rate of the G7 Multihole total conventional hip prosthesis is compared to all other total conventional hip prostheses.

Table 1: Revision Rates of Primary Total Conventional Hip Replacement

Component	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
G7 Multihole	103	1897	5264	1.96 (1.60, 2.37)
Other Total Conventional Hip	19600	566756	3618003	0.54 (0.53, 0.55)
TOTAL	19703	568653	3623266	0.54 (0.54, 0.55)

Note: Prostheses no longer used in 2025 are excluded from the comparator. Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator.

TABLE 2

Yearly Cumulative Percent Revision of Primary Total Conventional Hip Replacement

The yearly cumulative percent revision of the G7 Multihole total conventional hip prosthesis is compared to all other total conventional hip prostheses.

Table 2: Yearly Cumulative Percent Revision (95% CI) of Primary Total Conventional Hip Replacement

CPR	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs
G7 Multihole	4.8 (3.9, 5.9)	5.3 (4.4, 6.5)	5.9 (4.9, 7.2)	6.3 (5.1, 7.6)	6.5 (5.3, 7.9)	6.5 (5.3, 7.9)
Other Total Conventional Hip	1.7 (1.7, 1.8)	2.1 (2.1, 2.2)	2.5 (2.4, 2.5)	2.7 (2.7, 2.8)	3.0 (3.0, 3.0)	3.3 (3.2, 3.3)

CPR	7 Yrs	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs
G7 Multihole						
Other Total Conventional Hip	3.5 (3.5, 3.6)	3.8 (3.7, 3.9)	4.1 (4.0, 4.1)	4.4 (4.3, 4.4)	4.7 (4.6, 4.8)	5.1 (5.0, 5.2)

CPR	13 Yrs	14 Yrs	15 Yrs	16 Yrs	17 Yrs	18 Yrs
G7 Multihole						
Other Total Conventional Hip	5.4 (5.3, 5.5)	5.8 (5.7, 5.9)	6.2 (6.0, 6.3)	6.6 (6.4, 6.7)	6.9 (6.8, 7.1)	7.3 (7.1, 7.5)

CPR	19 Yrs	20 Yrs	21 Yrs	22 Yrs	23 Yrs	24 Yrs	25 Yrs
G7 Multihole							
Other Total Conventional Hip	7.7 (7.5, 7.9)	8.0 (7.8, 8.2)	8.5 (8.3, 8.8)	9.0 (8.7, 9.4)	9.6 (9.1, 10.0)	9.6 (9.1, 10.1)	10.3 (9.4, 11.2)

Note: Prostheses no longer used in 2025 are excluded from the comparator. Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator.

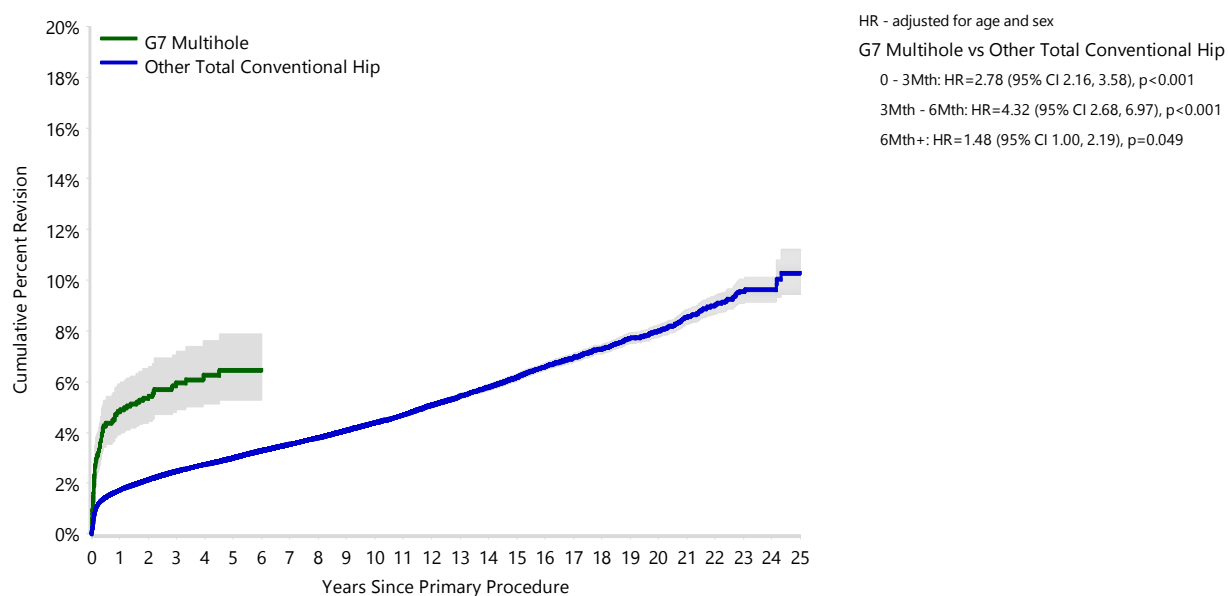
FIGURE 1

Yearly Cumulative Percent Revision of Primary Total Conventional Hip Replacement

The yearly cumulative percent revision of the G7 Multihole total conventional hip prosthesis is compared to all other total conventional hip prostheses. In addition, hazard ratios are reported.

Hazard ratios are reported for specific time periods during which the hazard ratio is constant. This is done to enable more specific and valid comparisons of the risk of revision over time. The pattern of variation in risk has important implications with respect to the underlying reasons for any difference.

Figure 1: Cumulative Percent Revision of Primary Total Conventional Hip Replacement



Number at Risk	0 Yr	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs	7 Yrs
G7 Multihole	1897	1437	1088	761	549	339	160	37
Other Total Conventional Hip	566756	500201	444380	390836	343868	299039	259371	220916

Number at Risk	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs
G7 Multihole	8	0	0	0	0	0	0	0	0
Other Total Conventional Hip	185791	153739	124848	99575	79802	63343	49730	38033	28355

Number at Risk	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs	22 Yrs	23 Yrs	24 Yrs	25 Yrs
G7 Multihole	0	0	0	0	0	0	0	0	0
Other Total Conventional Hip	20437	14638	10400	7396	4859	2863	1455	560	95

Note: Prostheses no longer used in 2025 are excluded from the comparator. Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator.

TABLE 3**Primary Diagnosis for Revised Primary Total Conventional Hip Replacement**

This table identifies the diagnosis of the primary procedure which was subsequently revised. This information is provided as there is a variation on outcome depending on the primary diagnosis. It is therefore important when considering the reasons for a higher than anticipated rate of revision that there is identification of the primary diagnosis. This information should be compared to the primary diagnosis for the revisions of all other total conventional hip prostheses.

Table 3: Primary Diagnosis for Revised Primary Total Conventional Hip Replacement

Primary Diagnosis	G7 Multihole		Other Total Conventional Hip	
	Number	Percent	Number	Percent
Osteoarthritis	56	54.4	16240	82.9
Fractured Neck Of Femur	13	12.6	1509	7.7
Osteonecrosis	8	7.8	836	4.3
Developmental Dysplasia	8	7.8	313	1.6
Rheumatoid Arthritis	2	1.9	199	1.0
Failed Internal Fixation	9	8.7	157	0.8
Tumour	1	1.0	156	0.8
Other Inflammatory Arthritis			102	0.5
Fracture/Dislocation	5	4.9	55	0.3
Other			21	0.1
Arthrodesis Takedown	1	1.0	12	0.1
TOTAL	103	100.0	19600	100.0

Note: Prostheses no longer used in 2025 are excluded from the comparator. Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator.

TABLE 4

Reasons for 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 revision diagnosis as a percentage of the total number of primary procedures. 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 4: Primary Total Conventional Hip Replacement - Reason for Revision (Follow-up Limited to 8.4 Years)

Revision Diagnosis	Number	G7 Multihole		Other Total Conventional Hip		
		% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Infection	31	1.6	30.1	4702	0.8	27.6
Prosthesis Dislocation/Instability	37	2.0	35.9	4020	0.7	23.6
Fracture	19	1.0	18.4	3548	0.6	20.8
Loosening	7	0.4	6.8	2908	0.5	17.1
Pain	2	0.1	1.9	305	0.1	1.8
Leg Length Discrepancy	1	0.1	1.0	303	0.1	1.8
Malposition	2	0.1	1.9	263	0.0	1.5
Implant Breakage Stem	1	0.1	1.0	130	0.0	0.8
Implant Breakage Acetabular Insert	1	0.1	1.0	101	0.0	0.6
Incorrect Sizing				95	0.0	0.6
Lysis				86	0.0	0.5
Implant Breakage Acetabular				61	0.0	0.4
Metal Related Pathology				58	0.0	0.3
Tumour				42	0.0	0.2
Wear Head				32	0.0	0.2
Wear Acetabular Insert				29	0.0	0.2
Heterotopic Bone				26	0.0	0.2
Implant Breakage Head				18	0.0	0.1
Osteonecrosis				4	0.0	0.0
Wear Acetabulum				3	0.0	0.0
Synovitis				2	0.0	0.0
Progression Of Disease				1	0.0	0.0
Other	2	0.1	1.9	290	0.1	1.7
N Revision	103	5.4	100.0	17027	3.0	100.0
N Primary	1897			566756		

Note: This table is restricted to revisions within 8.4 years for all groups to allow a time-matched comparison of revisions.

Note: Prostheses no longer used in 2025 are excluded from the comparator. 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

This figure details the cumulative incidence of the most common reasons for revision. The five most common reasons for revision are included as long as each of these reasons account for more than 10 procedures or at least 5% of all revisions for the G7 Multihole total conventional hip prosthesis. A comparative graph is provided of the cumulative incidence for the same reasons for revisions for all other total conventional hip prostheses.

Figure 2: Cumulative Incidence Revision Diagnosis for Primary Total Conventional Hip Replacement

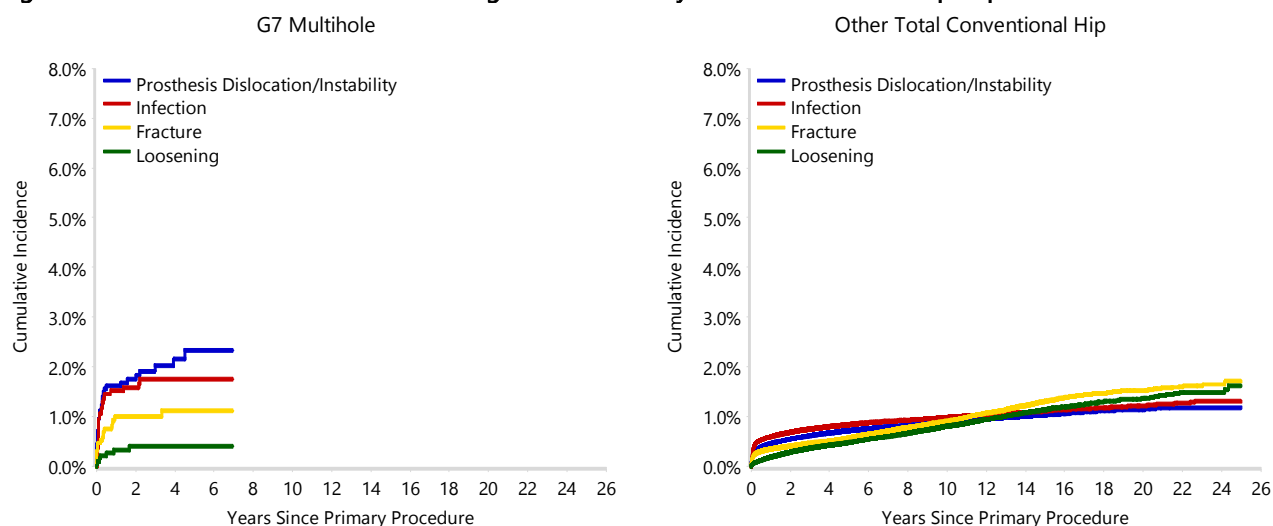


TABLE 5

Type of Revision Performed for Primary Total Conventional Hip Replacement

This analysis identifies the components used in the revision of the G7 Multihole total conventional hip prosthesis and compares it to the components used in the revision of all other total conventional hip prostheses.

The reason this analysis is undertaken is to identify whether there is one or more components which are being replaced that differ from the components replaced for revisions of all other total conventional hip prostheses i.e. is there a difference in the type of revision undertaken for the G7 Multihole total conventional hip prosthesis compared to all other total conventional hip prostheses.

Table 5: Primary Total Conventional Hip Replacement - Type of Revision (Follow-up Limited to 8.4 Years)

Type of Revision	G7 Multihole		Other Total Conventional Hip	
	Number	Percent	Number	Percent
Femoral Component	28	27.2	5456	32.0
Acetabular Component	15	14.6	2862	16.8
THR (Femoral/Acetabular)	12	11.7	1890	11.1
Cement Spacer	1	1.0	507	3.0
Removal of Prostheses			86	0.5
Reinsertion of Components			27	0.2
Total Femoral			10	0.1
Bipolar Head and Femoral			9	0.1
N Major	56	54.4	10847	63.7
Head/Insert	42	40.8	4905	28.8
Head Only	2	1.9	869	5.1
Minor Components			247	1.5
Insert Only	3	2.9	156	0.9
Bipolar Only			1	0.0
Cement Only			1	0.0
Head/Neck/Insert			1	0.0
N Minor	47	45.6	6180	36.3
TOTAL	103	100.0	17027	100.0

Note: This table is restricted to revisions within 8.4 years for all groups to allow a time-matched comparison of revisions.

Note: Prostheses no longer used in 2025 are excluded from the comparator. Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator.

TABLE 6**Revision Rates of G7 Multihole Primary Total Conventional Hip Replacement by Fixation**

This analysis is provided as some prostheses have more than one fixation option. Additionally there are prostheses where an alternative to the recommended approach to fixation was used e.g. a cementless prosthesis that has been cemented or vice-versa.

Table 6: Revised Number of G7 Multihole Primary Total Conventional Hip Replacement by Fixation

Fixation	N Revised	N Total
Cemented	4	36
Cementless	50	959
Hybrid (Femur Cemented)	49	875
Reverse Hybrid (Femur Cementless)	0	27
TOTAL	103	1897

TABLE 7**Revision Rates of G7 Multihole Primary Total Conventional Hip Replacement by Bearing Surface**

This analysis is provided as some prostheses are combined with a variety of bearing surfaces. All bearing surfaces used with this prosthesis are listed.

Table 7: Revised Number of G7 Multihole Primary Total Conventional Hip Replacement by Bearing Surface

Bearing Surface	N Revised	N Total
Ceramic/Ceramic	0	9
Ceramic/XLPE + Antioxidant	38	753
Metal/XLPE + Antioxidant	65	1123
Ceramicised Metal/XLPE + Antioxidant	0	8
Unknown	0	4
TOTAL	103	1897

TABLE 8**Revision Rates of G7 Multihole Primary Total Conventional Hip Replacement by Approach**

This analysis is provided as some prostheses are used with a variety of surgical approaches. All surgical approaches used with this prosthesis are listed.

Table 8: Revised Number of G7 Multihole Primary Total Conventional Hip Replacement by Approach

Approach	N Revised	N Total
Anterior	7	201
Lateral	17	272
Posterior	78	1411
TOTAL	102	1884

Note: Excludes 13 procedures with no approach recorded

TABLE 9

Revision Rates of Primary Total Conventional Hip Replacement by State

This enables a state by state variation to be identified for the G7 Multihole total conventional hip prosthesis and provides the comparative data for each of the states for all other total conventional hip prostheses.

The purpose of this analysis is to determine if the higher than anticipated rate of revision has widespread distribution between states. If there is widespread distribution then the reason for the higher than anticipated rate of revision is unlikely to be surgeon specific. If the prosthesis has been used in only a small number of states it is not possible to distinguish if the higher than anticipated rate of revision is related to the prosthesis, surgeon, technique or patient.

Table 9: Revised Number of Primary Total Conventional Hip Replacement by State

Component	State	N Revised	N Total
G7 Multihole	NSW	15	343
	VIC	24	506
	QLD	10	205
	WA	33	559
	SA	14	113
	TAS	4	125
	ACT/NT	3	46
Other Total Conventional Hip	NSW	5494	166667
	VIC	4829	146052
	QLD	3958	104168
	WA	2477	64405
	SA	1873	51972
	TAS	435	18144
	ACT/NT	534	15348
TOTAL		19703	568653

Note: Prostheses no longer used in 2025 are excluded from the comparator. Procedures using metal/metal prostheses with head size larger than 32mm are excluded from the comparator.

TABLE 10**Number of Revisions of G7 Multihole Primary Total Conventional Hip Replacement by Year of Implant**

This analysis details the number of prostheses reported each year to the Registry for the G7 Multihole total conventional hip prosthesis. It also provides the subsequent number of revisions of the primaries reported in that year.

Primary procedures performed in later years have had less follow up time therefore the number revised is expected to be less than the number revised in earlier years. For example, a primary procedure performed in 2025 has a maximum of one year to be revised, whereas a primary procedure performed in 2023 has a maximum of three years to be revised.

Table 10: Number of Revisions of G7 Multihole Primary Total Conventional Hip Replacement by Year of Implant

Year of Implant	Number Revised	Total Number
2017	1	15
2018	4	49
2019	13	169
2020	11	222
2021	19	244
2022	12	236
2023	16	335
2024	12	322
2025	15	305
TOTAL	103	1897

TABLE 11**Revision Rates of G7 Multihole Primary Total Conventional Hip Replacement by Catalogue Number Range**

Many prostheses have a number of catalogue ranges. The catalogue range is specific to particular design features; more than one catalogue range usually indicates a minor difference in design in a particular G7 Multihole prosthesis.

This analysis has been undertaken to determine if the revision rate varies according to the catalogue number range.

Model	Catalogue Range	Catalogue Description	Cement	Material
Acetabular				
G7	110010259-110010277	G7 OSSEO TI ACETABULAR SHELL MULTI HOLE CEMENTLESS	NO	METAL

Table 11: Revised Number of G7 Multihole Primary Total Conventional Hip Replacement by Catalogue Number Range

Acetabular Range	N Revised	N Total
110010259-110010277	103	1897
TOTAL	103	1897

TABLE 12

Revision Rates of G7 Multihole Primary Total Conventional Hip Replacement by Component

A prosthesis may be combined with multiple components. This analysis has been undertaken to determine if the revision rate varies according to the component with which it is combined.

Table 12: Revised Number of G7 Multihole Primary Total Conventional Hip Replacement by Femoral Stem Component

Femoral Stem Component	N Revised	N Total
ACTIS	0	2
AMiStem H	0	7
AMiStem-P	0	1
Absolut	0	5
Accolade II	0	3
Arcos	12	75
Avenir	0	53
Avenir Complete	1	32
C-Stem AMT	1	15
CLS	1	10
CORAIL	1	43
CPCS	0	10
CPT	33	568
E2	0	1
EVOK	0	1
Echo	0	6
Evolve	1	10
Exeter V40	5	63
Generic Stem	0	1
INDIVIDUAL	0	2
KAR	0	1
Korus	0	1
M/L Taper	0	1
MS 30	5	122
Metafix	0	5
Modulus	0	1
Mutars	1	21
Optimys	0	1
Origin	0	7
Oss	2	5
Paragon	1	12
Polarstem	0	3
Quadra-C	2	8
Quadra-P	0	1
Redapt	0	5
S-Rom	2	39
Segmental System	1	8
Short Exeter V40	1	7
Sirius	0	1
Spectron EF	0	3
Stem (OrthoCentric)	1	3

Femoral Stem Component	N Revised	N Total
Summit	0	7
Taper Fit	0	10
Taperloc	28	525
Taperloc Microplasty	2	122
VerSys	1	35
Wagner	0	7
X-Acta	0	14
ZMR	1	14
TOTAL	103	1897