Cormet/Cormet Total Resurfacing Hip Investigation

Note: This analysis compares the Cormet/Cormet head/acetabular combination with all other total resurfacing hip prostheses.

This combination 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-2025.

Note: Procedures using prostheses with no recorded use in 2024 are excluded from the comparator.

TABLE 1

Revision Rate of Primary Total Resurfacing Hip Replacement

The revision rate of the Cormet/Cormet total resurfacing hip combination is compared to all other total resurfacing hip prostheses.

Table 1: Revision Rates of Primary Total Resurfacing Hip Replacement

Component	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
Cormet/Cormet	157	626	9096	1.73 (1.47, 2.02)
Other Total Resurfacing Hip	1313	16808	215628	0.61 (0.58, 0.64)
TOTAL	**1470**	**17434**	**224725**	**0.65 (0.62, 0.69)**

Note: Prostheses no longer used in 2024 are excluded from the comparator.

TABLE 2

Yearly Cumulative Percent Revision of Primary Total Resurfacing Hip Replacement

The yearly cumulative percent revision of the Cormet/Cormet total resurfacing hip combination is compared to all other total resurfacing hip prostheses.

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

CPR	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs	7 Yrs	8 Yrs
Cormet/Cormet	2.1 (1.2, 3.6)	4.3 (3.0, 6.3)	5.9 (4.3, 8.1)	8.0 (6.2, 10.5)	10.0 (7.9, 12.6)	12.3 (9.9, 15.1)	13.8 (11.3, 16.7)	14.6 (12.0, 17.6)
Other Total Resurfacing Hip	1.3 (1.2, 1.5)	1.9 (1.7, 2.1)	2.3 (2.1, 2.5)	2.7 (2.5, 3.0)	3.2 (2.9, 3.5)	3.7 (3.4, 4.0)	4.3 (4.0, 4.7)	4.9 (4.6, 5.3)

CPR	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs
Cormet/Cormet	15.6 (13.0, 18.7)	17.4 (14.6, 20.7)	18.6 (15.7, 21.9)	20.5 (17.5, 23.9)	21.7 (18.6, 25.2)	22.1 (19.0, 25.6)	23.0 (19.8, 26.6)	23.4 (20.2, 27.1)
Other Total Resurfacing Hip	5.4 (5.0, 5.8)	6.1 (5.7, 6.5)	6.6 (6.2, 7.0)	7.1 (6.7, 7.6)	7.8 (7.3, 8.2)	8.3 (7.8, 8.8)	8.8 (8.3, 9.3)	9.3 (8.8, 9.8)

CPR	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs	22 Yrs	23 Yrs
Cormet/Cormet	24.0 (20.7, 27.6)	24.9 (21.5, 28.7)	26.2 (22.6, 30.3)	29.3 (25.1, 34.1)	31.3 (26.5, 36.8)		
Other Total Resurfacing Hip	9.8 (9.3, 10.4)	10.2 (9.7, 10.8)	10.7 (10.1, 11.3)	11.2 (10.6, 11.8)	11.7 (11.0, 12.4)	12.1 (11.4, 12.8)	12.3 (11.6, 13.1)

Note: Prostheses no longer used in 2024 are excluded from the comparator.

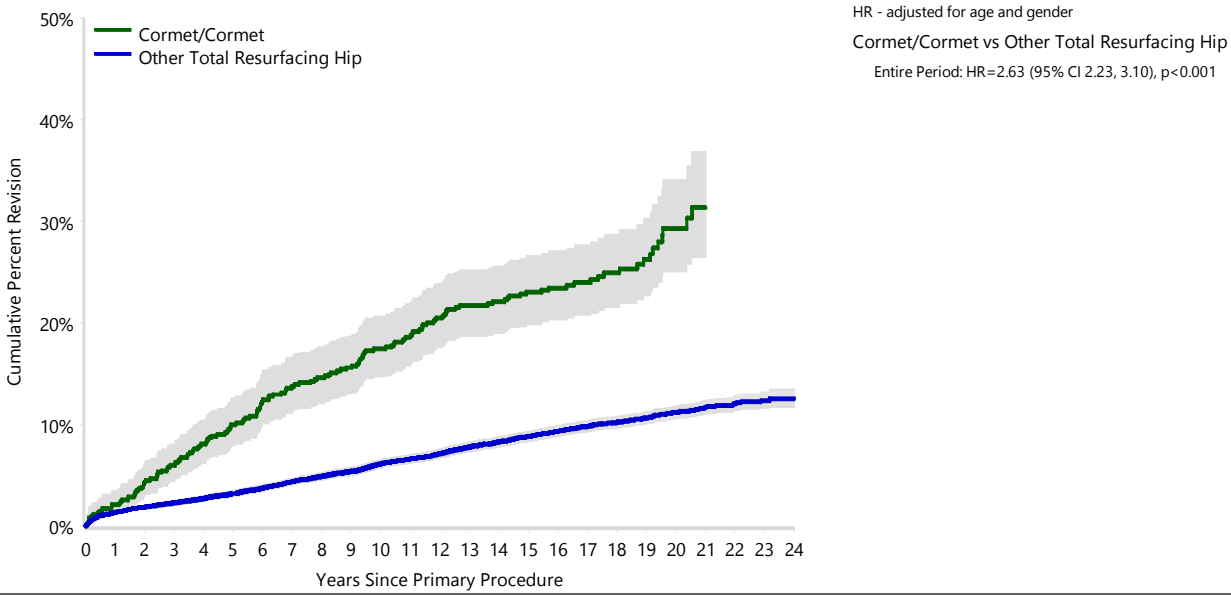
FIGURE 1

Yearly Cumulative Percent Revision of Primary Total Resurfacing Hip Replacement

The yearly cumulative percent revision of the Cormet/Cormet total resurfacing hip combination is compared to all other total resurfacing 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 Resurfacing Hip Replacement



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	11 Yrs
Cormet/Cormet	626	611	595	582	568	552	535	522	514	506	492	479
Other Total Resurfacing Hip	16808	15920	15198	14609	13946	13279	12645	12146	11637	11126	10632	10160

Number at Risk	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs	22 Yrs	23 Yrs
Cormet/Cormet	462	447	428	382	327	258	200	149	81	50	31	7
Other Total Resurfacing Hip	9676	9128	8564	7830	7080	6287	5383	4410	3408	2454	1465	527

Note: Prostheses no longer used in 2024 are excluded from the comparator.

TABLE 3

Primary Diagnosis for Revised Primary Total Resurfacing 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 resurfacing hip prostheses.

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

	Cormet/Cormet		Other Total Resurfacing Hip	
Primary Diagnosis	Number	Percent	Number	Percent
Osteoarthritis	141	89.8	1205	91.8
Developmental Dysplasia	11	7.0	52	4.0
Osteonecrosis	3	1.9	39	3.0
Other Inflammatory Arthritis	2	1.3	10	0.8
Rheumatoid Arthritis			6	0.5
Other			1	0.1
TOTAL	**157**	**100.0**	**1313**	**100.0**

Note: Prostheses no longer used in 2024 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 Resurfacing Hip Replacement - Reason for Revision

	Cormet/Cormet			Other Total Resurfacing Hip		
Revision Diagnosis	Number	% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Loosening	57	9.1	36.3	347	2.1	26.4
Metal Related Pathology	33	5.3	21.0	278	1.7	21.2
Fracture	27	4.3	17.2	261	1.6	19.9
Lysis	12	1.9	7.6	138	0.8	10.5
Infection	8	1.3	5.1	87	0.5	6.6
Pain	9	1.4	5.7	74	0.4	5.6
Prosthesis Dislocation/Instability	6	1.0	3.8	34	0.2	2.6
Osteonecrosis	2	0.3	1.3	33	0.2	2.5
Malposition				22	0.1	1.7
Tumour				7	0.0	0.5
Wear Acetabulum				3	0.0	0.2
Implant Breakage Acetabular				2	0.0	0.2
Leg Length Discrepancy	2	0.3	1.3	2	0.0	0.2
Heterotopic Bone				1	0.0	0.1
Implant Breakage Head	1	0.2	0.6			
Implant Breakage Stem				1	0.0	0.1
Incorrect Sizing				1	0.0	0.1
Synovitis				1	0.0	0.1
Other				21	0.1	1.6
N Revision	**157**	**25.1**	**100.0**	**1313**	**7.8**	**100.0**
N Primary	**626**			**16808**		

Note: Prostheses no longer used in 2024 are excluded from the comparator.

FIGURE 2

Cumulative Incidence Revision Diagnosis of Primary Total Resurfacing 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 Cormet/Cormet total resurfacing hip combination. A comparative graph is provided of the cumulative incidence for the same reasons for revisions for all other total resurfacing hip prostheses.

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

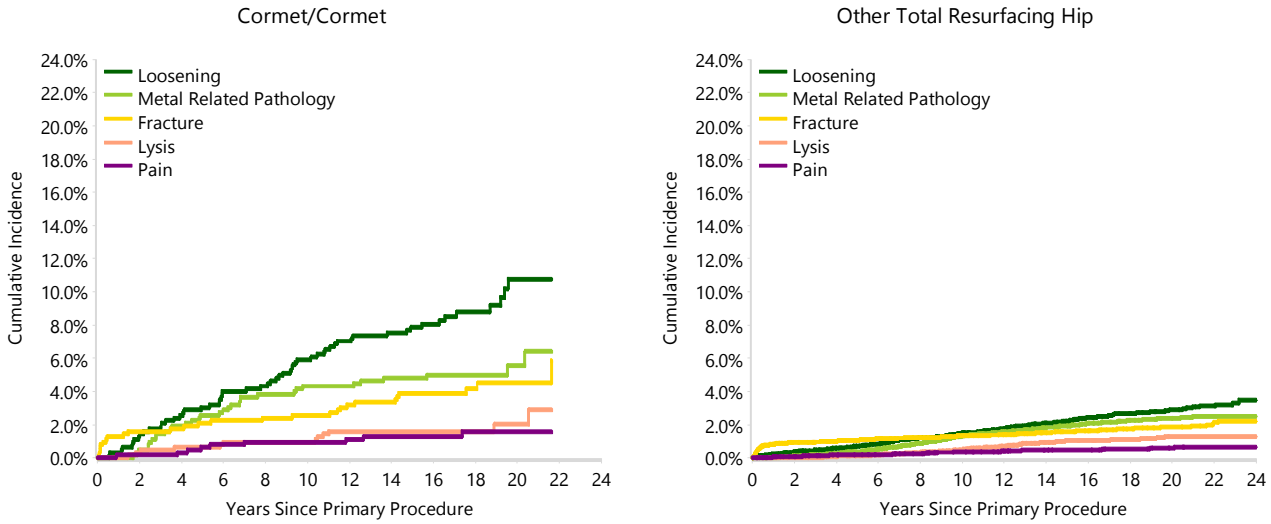


TABLE 5

Type of Revision Performed for Primary Total Resurfacing Hip Replacement

This analysis identifies the components used in the revision of the Cormet/Cormet total resurfacing hip combination and compares it to the components used in the revision of all other total resurfacing 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 resurfacing hip prostheses i.e. is there a difference in the type of revision undertaken for the Cormet/Cormet total resurfacing hip combination compared to all other total resurfacing hip prostheses.

Table 5: Primary Total Resurfacing Hip Replacement - Type of Revision

	Cormet/Cormet		Other Total Resurfacing Hip	
Type of Revision	Number	Percent	Number	Percent
THR (Femoral/Acetabular)	115	73.2	877	66.8
Femoral Component	34	21.7	360	27.4
Acetabular Component	3	1.9	39	3.0
Cement Spacer	5	3.2	28	2.1
Removal of Prostheses			7	0.5
N Major	**157**	**100.0**	**1311**	**99.8**
Head/Insert			1	0.1
Minor Components			1	0.1
N Minor			**2**	**0.2**
TOTAL	**157**	**100.0**	**1313**	**100.0**

Note: Prostheses no longer used in 2024 are excluded from the comparator.

TABLE 6

Revision Rates of Cormet/Cormet Primary Total Resurfacing 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 Cormet/Cormet Primary Total Resurfacing Hip Replacement by Fixation

Fixation	N Revised	N Total
Cementless	97	423
Hybrid (Femur Cemented)	60	203
TOTAL	**157**	**626**

TABLE 7

Revision Rates of Primary Total Resurfacing Hip Replacement by State

This enables a state by state variation to be identified for the Cormet/Cormet total resurfacing hip combination and provides the comparative data for each of the states for all other total resurfacing 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 7: Revised Number of Primary Total Resurfacing Hip Replacement by State

Component	State	N Revised	N Total
Cormet/Cormet	NSW	58	245
	VIC	20	67
	QLD	21	78
	SA	58	236
Other Total Resurfacing Hip	NSW	322	4366
	VIC	471	5313
	QLD	296	4465
	WA	67	1297
	SA	96	655
	TAS	1	36
	ACT/NT	60	676
TOTAL		**1470**	**17434**

Note: Prostheses no longer used in 2024 are excluded from the comparator.

TABLE 8

Number of Revisions of Cormet/Cormet Primary Total Resurfacing Hip Replacement by Year of Implant

This analysis details the number of prostheses reported each year to the Registry for the Cormet/Cormet total resurfacing hip combination. 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 2024 has a maximum of one year to be revised, whereas a primary procedure performed in 2022 has a maximum of three years to be revised.

Table 8: Number of Revisions of Cormet/Cormet Primary Total Resurfacing Hip Replacement by Year of Implant

Year of Implant	Number Revised	Total Number
2001	7	20
2002	12	42
2003	19	42
2004	17	50
2005	13	85
2006	15	74
2007	18	76
2008	23	94
2009	22	75
2010	10	50
2011	0	10
2012	0	4
2013	1	4
TOTAL	**157**	**626**

TABLE 9

Revision Rates of Cormet/Cormet Primary Total Resurfacing 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 Cormet/Cormet 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
Head				
Cormet	179040-179056	COCR RESURFACING HEAD	YES	METAL
Cormet	179040B-179056B	COCR W/TITANIUM & HA BI-COATED RESURFACING HEAD	NO	METAL
Cormet	479042-479054	COCR RESURFACING HEAD	YES	METAL
Cormet	479042B-479054B	COCR HAP BI COATED RESURFACING HEAD	NO	METAL
Cormet	480040B-480056B	COCR HAP FULLY BI COATED RESURFACING HEAD	NO	METAL
Acetabular				
Cormet	179242B-179264B	MOM HAP BI COATED PEGLESS RESURFACING CUP	NO	METAL
Cormet	479248B-479262B	COCR HAP BI COATED PEGLESS RESURFACING CUP	NO	METAL

Table 9: Revised Number of Cormet/Cormet Primary Total Resurfacing Hip Replacement by Catalogue Number Range

Head Range	Acetabular Range	N Revised	N Total
179040-179056	179242B-179264B	60	194
179040B-179056B	179242B-179264B	47	250
479042-479054	479248B-479262B	0	8
479042B-479054B	479248B-479262B	15	50
480040B-480056B	179242B-179264B	35	124
TOTAL		**157**	**626**