

Recap/Recap Total Resurfacing Hip Investigation

Note: This analysis compares the Recap/Recap 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-2026>.

Note: Procedures using prostheses with no recorded use in 2025 are excluded from the comparator.

TABLE 1

Revision Rate of Primary Total Resurfacing Hip Replacement

The revision rate of the Recap/Recap 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)
Recap/Recap	33	196	2946	1.12 (0.77, 1.57)
Other Total Resurfacing Hip	1387	17772	230055	0.60 (0.57, 0.64)
TOTAL	1420	17968	233002	0.61 (0.58, 0.64)

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

TABLE 2

Yearly Cumulative Percent Revision of Primary Total Resurfacing Hip Replacement

The yearly cumulative percent revision of the Recap/Recap 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
Recap/Recap	5.1 (2.8, 9.3)	7.7 (4.7, 12.4)	8.7 (5.5, 13.6)	9.7 (6.3, 14.8)	10.2 (6.7, 15.4)	10.2 (6.7, 15.4)
Other Total Resurfacing Hip	1.4 (1.2, 1.6)	1.9 (1.7, 2.1)	2.3 (2.1, 2.6)	2.7 (2.5, 3.0)	3.2 (2.9, 3.5)	3.7 (3.4, 4.0)

CPR	7 Yrs	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs
Recap/Recap	11.3 (7.6, 16.6)	12.9 (8.9, 18.5)	13.9 (9.8, 19.7)	14.5 (10.2, 20.3)	14.5 (10.2, 20.3)	14.5 (10.2, 20.3)
Other Total Resurfacing Hip	4.3 (4.0, 4.7)	4.9 (4.5, 5.2)	5.3 (5.0, 5.7)	6.1 (5.7, 6.5)	6.6 (6.2, 7.0)	7.1 (6.6, 7.5)

CPR	13 Yrs	14 Yrs	15 Yrs	16 Yrs	17 Yrs	18 Yrs
Recap/Recap	14.5 (10.2, 20.3)	15.0 (10.7, 20.9)	15.6 (11.1, 21.5)	15.6 (11.1, 21.5)	16.2 (11.7, 22.3)	18.4 (13.2, 25.1)
Other Total Resurfacing Hip	7.7 (7.2, 8.2)	8.2 (7.7, 8.7)	8.7 (8.2, 9.2)	9.2 (8.7, 9.7)	9.7 (9.2, 10.3)	10.1 (9.6, 10.7)

CPR	19 Yrs	20 Yrs	21 Yrs	22 Yrs	23 Yrs	24 Yrs	25 Yrs
Recap/Recap							
Other Total Resurfacing Hip	10.6 (10.0, 11.2)	11.0 (10.5, 11.6)	11.5 (10.9, 12.2)	11.9 (11.3, 12.6)	12.4 (11.7, 13.1)	12.8 (12.0, 13.6)	13.0 (12.1, 13.9)

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

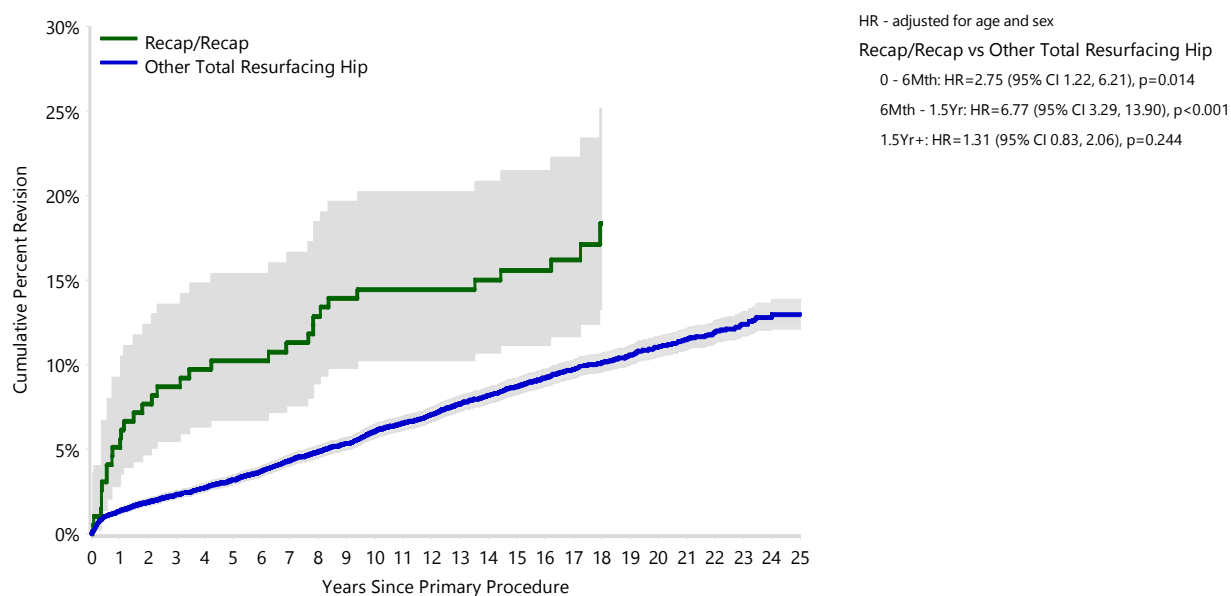
FIGURE 1

Yearly Cumulative Percent Revision of Primary Total Resurfacing Hip Replacement

The yearly cumulative percent revision of the Recap/Recap 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
Recap/Recap	196	186	180	177	174	171	171	168
Other Total Resurfacing Hip	17772	16576	15812	15100	14508	13831	13158	12511

Number at Risk	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs
Recap/Recap	165	162	160	159	158	158	155	150	136
Other Total Resurfacing Hip	12012	11523	10976	10514	10039	9524	8981	8418	7684

Number at Risk	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs	22 Yrs	23 Yrs	24 Yrs	25 Yrs
Recap/Recap	103	62	31	23	13	0	0	0	0
Other Total Resurfacing Hip	6949	6169	5271	4305	3323	2384	1411	511	73

Note: Prostheses no longer used in 2025 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

Primary Diagnosis	Recap/Recap		Other Total Resurfacing Hip	
	Number	Percent	Number	Percent
Osteoarthritis	33	100.0	1276	92.0
Developmental Dysplasia			53	3.8
Osteonecrosis			40	2.9
Other Inflammatory Arthritis			11	0.8
Rheumatoid Arthritis			6	0.4
Other			1	0.1
TOTAL	33	100.0	1387	100.0

Note: Prostheses no longer used in 2025 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 (Follow-up Limited to 21.7 Years)

Revision Diagnosis	Number	Recap/Recap		Other Total Resurfacing Hip		
		% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Loosening	9	4.6	27.3	355	2.0	26.0
Metal Related Pathology	5	2.6	15.2	288	1.6	21.1
Fracture	6	3.1	18.2	275	1.5	20.1
Lysis	2	1.0	6.1	143	0.8	10.5
Infection	4	2.0	12.1	94	0.5	6.9
Pain	4	2.0	12.1	76	0.4	5.6
Prosthesis Dislocation/Instability	1	0.5	3.0	35	0.2	2.6
Osteonecrosis				34	0.2	2.5
Malposition				23	0.1	1.7
Tumour				8	0.0	0.6
Wear Acetabulum				4	0.0	0.3
Implant Breakage Acetabular				3	0.0	0.2
Leg Length Discrepancy				2	0.0	0.1
Heterotopic Bone				1	0.0	0.1
Implant Breakage Head	1	0.5	3.0			
Implant Breakage Stem				1	0.0	0.1
Incorrect Sizing				1	0.0	0.1
Synovitis				1	0.0	0.1
Other	1	0.5	3.0	22	0.1	1.6
N Revision	33	16.8	100.0	1366	7.7	100.0
N Primary	196			17772		

Note: This table is restricted to revisions within 21.7 years for all groups to allow a time-matched comparison of revisions.

Note: Prostheses no longer used in 2025 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 Recap/Recap 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.

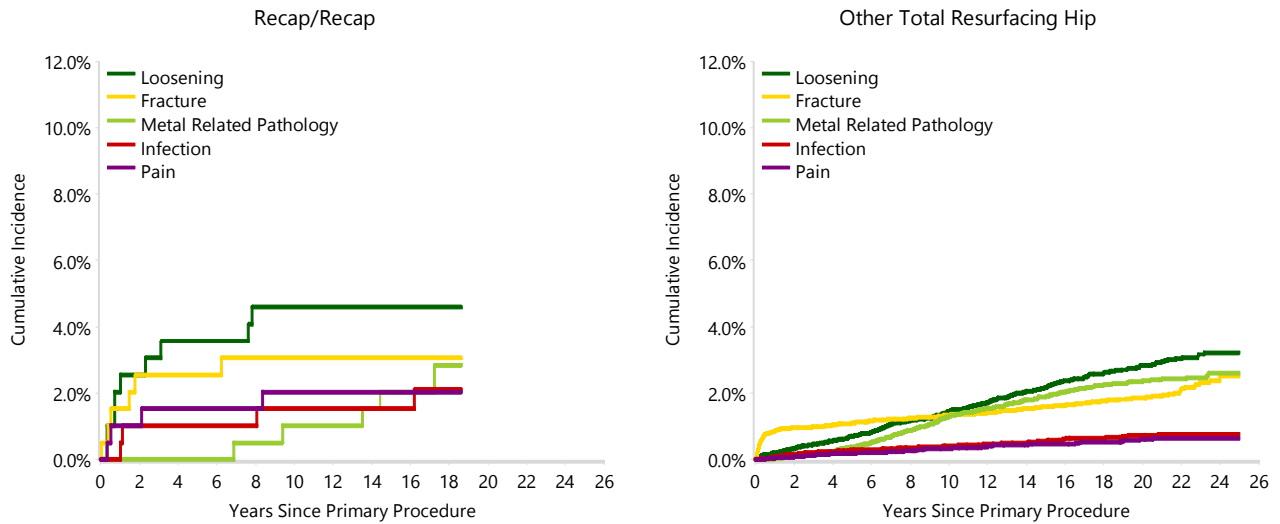
Figure 2: Cumulative Incidence Revision Diagnosis for Primary Total Resurfacing Hip Replacement

TABLE 5

Type of Revision Performed for Primary Total Resurfacing Hip Replacement

This analysis identifies the components used in the revision of the Recap/Recap 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 Recap/Recap total resurfacing hip combination compared to all other total resurfacing hip prostheses.

Table 5: Primary Total Resurfacing Hip Replacement - Type of Revision (Follow-up Limited to 21.7 Years)

Type of Revision	Recap/Recap		Other Total Resurfacing Hip	
	Number	Percent	Number	Percent
THR (Femoral/Acetabular)	22	66.7	905	66.3
Femoral Component	8	24.2	379	27.7
Acetabular Component	2	6.1	40	2.9
Cement Spacer	1	3.0	30	2.2
Removal of Prostheses			8	0.6
Reinsertion of Components			1	0.1
N Major	33	100.0	1363	99.8
Head/Insert			1	0.1
Insert Only			1	0.1
Minor Components			1	0.1
N Minor			3	0.2
TOTAL	33	100.0	1366	100.0

Note: This table is restricted to revisions within 21.7 years for all groups to allow a time-matched comparison of revisions.

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

TABLE 6**Revision Rates of Recap/Recap 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 Recap/Recap Primary Total Resurfacing Hip Replacement by Fixation

Fixation	N Revised	N Total
Cemented	0	2
Cementless	1	3
Hybrid (Femur Cemented)	32	191
TOTAL	33	196

TABLE 7

Revision Rates of Primary Total Resurfacing Hip Replacement by State

This enables a state by state variation to be identified for the Recap/Recap 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
Recap/Recap	NSW	11	70
	VIC	21	120
	QLD	1	6
Other Total Resurfacing Hip	NSW	345	4602
	VIC	493	5542
	QLD	312	4796
	WA	72	1426
	SA	103	694
	TAS	1	37
	ACT/NT	61	675
TOTAL		1420	17968

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

TABLE 8**Number of Revisions of Recap/Recap Primary Total Resurfacing Hip Replacement by Year of Implant**

This analysis details the number of prostheses reported each year to the Registry for the Recap/Recap 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 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 8: Number of Revisions of Recap/Recap Primary Total Resurfacing Hip Replacement by Year of Implant

Year of Implant	Number Revised	Total Number
2004	3	27
2005	3	14
2006	2	10
2007	12	42
2008	5	46
2009	4	38
2010	4	16
2011	0	3
TOTAL	33	196

TABLE 9

Revision Rates of Recap/Recap 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 Recap/Recap 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	Coating	Fixation
Head						
Recap	157238-157260	RESURFACING FEMORAL HEAD CEMENTED	YES	METAL		
Recap	US157138-US157160	RESURFACING FEMORAL HEAD PRESS FIT POROUS COAT COCRMO/TI6AL4V	NO	METAL		
Acetabular						
Recap	130846HA-130868HA	COCR TI HA OVERSIZE SHELL	NO	METAL	HA COATED	POROUS
Recap	157844-157866	METAL ON METAL PF ACETABULAR SHELL	NO	METAL		
Recap	157944-157966	RECAP/MAGNUM POROUS HA	NO	METAL		

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

Head Range	Acetabular Range	N Revised	N Total
157238-157260	130846HA-130868HA	0	1
	157844-157866	7	42
	157944-157966	25	150
US157138-US157160	157944-157966	1	3
TOTAL		33	196