Durom/Durom Total Resurfacing Hip Investigation

Note: This analysis compares the Durom/Durom 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 Durom/Durom 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)
Durom/Durom	126	847	13542	0.93 (0.78, 1.11)
Other Total Resurfacing Hip	1313	16808	215628	0.61 (0.58, 0.64)
TOTAL	**1439**	**17655**	**229170**	**0.63 (0.60, 0.66)**

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 Durom/Durom 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
Durom/Durom	3.3 (2.3, 4.8)	4.7 (3.5, 6.4)	5.6 (4.2, 7.3)	6.5 (5.0, 8.4)	7.7 (6.1, 9.7)	8.4 (6.7, 10.5)	8.9 (7.2, 11.0)	9.8 (7.9, 12.0)
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
Durom/Durom	10.4 (8.5, 12.6)	11.0 (9.0, 13.3)	11.2 (9.3, 13.6)	11.8 (9.8, 14.2)	12.5 (10.4, 14.9)	13.0 (10.9, 15.4)	13.5 (11.3, 16.0)	13.9 (11.7, 16.5)
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
Durom/Durom	15.0 (12.7, 17.7)	15.4 (13.1, 18.1)	15.4 (13.1, 18.1)	15.4 (13.1, 18.1)			
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.

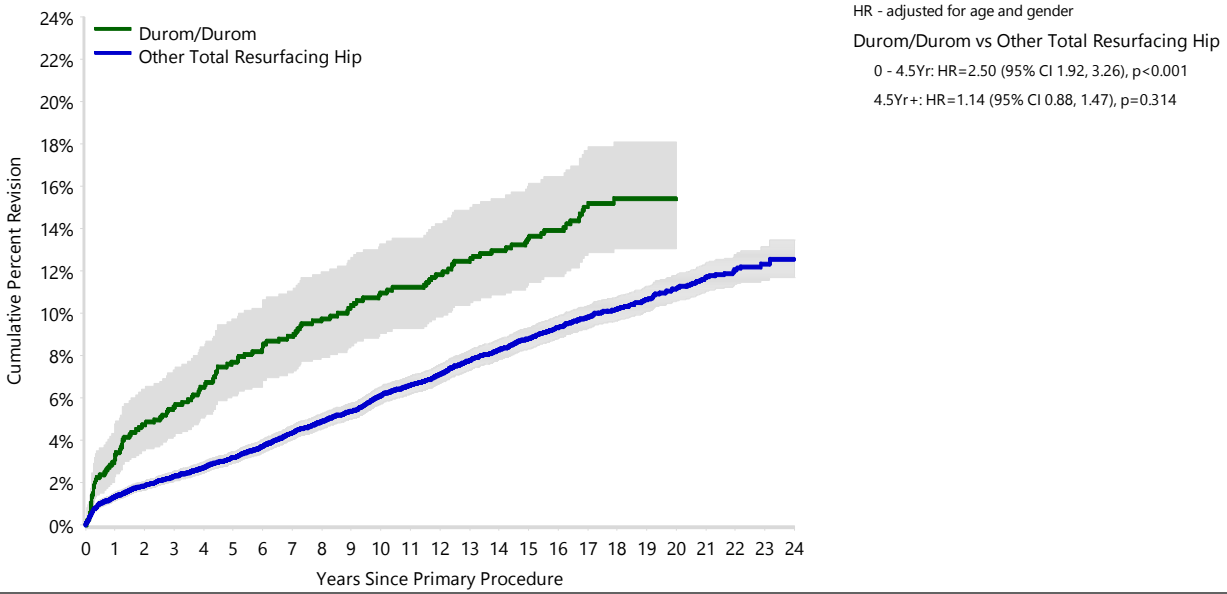
FIGURE 1

Yearly Cumulative Percent Revision of Primary Total Resurfacing Hip Replacement

The yearly cumulative percent revision of the Durom/Durom 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
Durom/Durom	847	816	804	795	784	774	764	756	745	737	728	724
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
Durom/Durom	713	700	676	637	578	494	408	313	153	36	0	0
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

	Durom/Durom		Other Total Resurfacing Hip	
Primary Diagnosis	Number	Percent	Number	Percent
Osteoarthritis	119	94.4	1205	91.8
Developmental Dysplasia	3	2.4	52	4.0
Osteonecrosis	2	1.6	39	3.0
Other Inflammatory Arthritis	1	0.8	10	0.8
Rheumatoid Arthritis	1	0.8	6	0.5
Other			1	0.1
TOTAL	**126**	**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 (Follow-up Limited to 21.5 Years)

	Durom/Durom			Other Total Resurfacing Hip		
Revision Diagnosis	Number	% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Loosening	31	3.7	24.6	344	2.0	26.4
Metal Related Pathology	15	1.8	11.9	278	1.7	21.3
Fracture	33	3.9	26.2	256	1.5	19.6
Lysis	10	1.2	7.9	138	0.8	10.6
Infection	14	1.7	11.1	87	0.5	6.7
Pain	12	1.4	9.5	74	0.4	5.7
Prosthesis Dislocation/Instability	2	0.2	1.6	34	0.2	2.6
Osteonecrosis	4	0.5	3.2	33	0.2	2.5
Malposition	1	0.1	0.8	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	0.0	0.2
Heterotopic Bone				1	0.0	0.1
Implant Breakage Head	1	0.1	0.8			
Implant Breakage Stem				1	0.0	0.1
Incorrect Sizing				1	0.0	0.1
Synovitis	1	0.1	0.8	1	0.0	0.1
Other	2	0.2	1.6	21	0.1	1.6
N Revision	**126**	**14.9**	**100.0**	**1305**	**7.8**	**100.0**
N Primary	**847**			**16808**		

Note: This table is restricted to revisions within 21.5 years for all groups to allow a time-matched comparison of revisions.
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 Durom/Durom 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

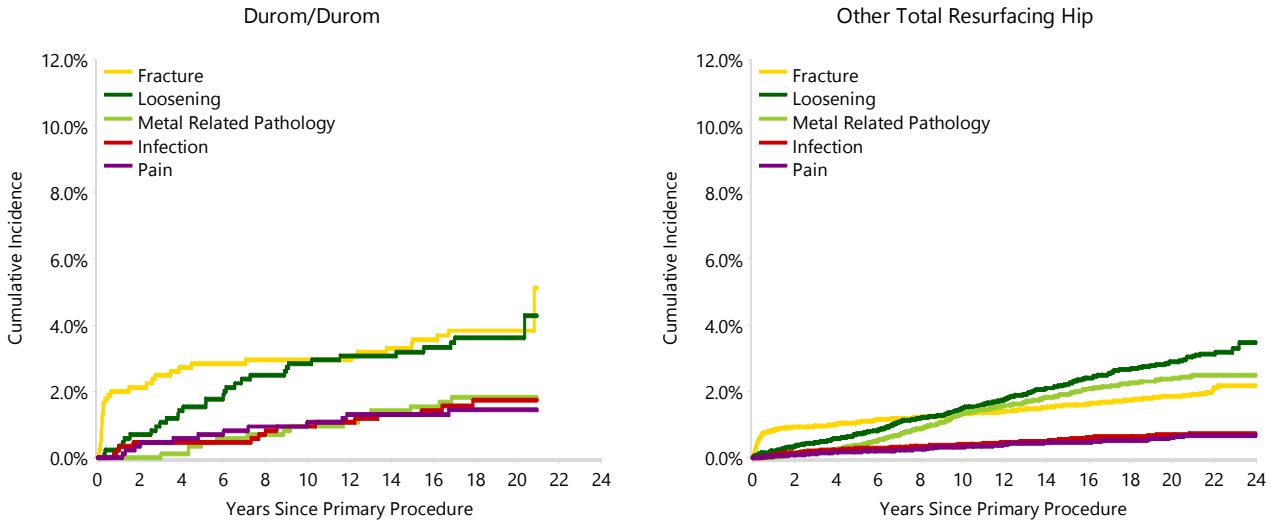


TABLE 5

Type of Revision Performed for Primary Total Resurfacing Hip Replacement

This analysis identifies the components used in the revision of the Durom/Durom 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 Durom/Durom 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 21.5 Years)

	Durom/Durom		Other Total Resurfacing Hip	
Type of Revision	Number	Percent	Number	Percent
THR (Femoral/Acetabular)	67	53.2	874	67.0
Femoral Component	45	35.7	355	27.2
Acetabular Component	4	3.2	39	3.0
Cement Spacer	6	4.8	28	2.1
Removal of Prostheses	3	2.4	7	0.5
N Major	**125**	**99.2**	**1303**	**99.8**
Head/Insert	1	0.8	1	0.1
Minor Components			1	0.1
N Minor	**1**	**0.8**	**2**	**0.2**
TOTAL	**126**	**100.0**	**1305**	**100.0**

Note: This table is restricted to revisions within 21.5 years for all groups to allow a time-matched comparison of revisions.
Note: Prostheses no longer used in 2024 are excluded from the comparator.

TABLE 6

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

Fixation	N Revised	N Total
Cemented	1	2
Hybrid (Femur Cemented)	125	845
TOTAL	**126**	**847**

TABLE 7

Revision Rates of Primary Total Resurfacing Hip Replacement by State

This enables a state by state variation to be identified for the Durom/Durom 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
Durom/Durom	NSW	53	392
	VIC	40	196
	QLD	10	83
	WA	12	103
	SA	0	3
	TAS	10	51
	ACT/NT	1	19
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		**1439**	**17655**

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

TABLE 8

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

This analysis details the number of prostheses reported each year to the Registry for the Durom/Durom 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 Durom/Durom Primary Total Resurfacing Hip Replacement by Year of Implant

Year of Implant	Number Revised	Total Number
2003	13	58
2004	28	166
2005	24	207
2006	29	143
2007	15	105
2008	10	88
2009	3	46
2010	1	24
2011	3	10
TOTAL	**126**	**847**

TABLE 9

Revision Rates of Durom/Durom 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 Durom/Durom 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				
Durom	0100211138-0100211160	METASUL RS FEMORAL COMPONENT	YES	METAL
Acetabular				
Durom	0100214044-0100214066	COCR TITANIUM PLASMA SPRAY RS ACETABULAR	NO	METAL

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

Head Range	Acetabular Range	N Revised	N Total
0100211138-0100211160	0100214044-0100214066	126	847
TOTAL		**126**	**847**