

Duraloc Total Conventional Hip Investigation

Note: This analysis compares the Duraloc 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 Duraloc 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)
Duraloc	688	5354	69190	0.99 (0.92, 1.07)
Other Total Conventional Hip	19701	568612	3623071	0.54 (0.54, 0.55)
TOTAL	20389	573966	3692261	0.55 (0.54, 0.56)

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 Duraloc 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
Duraloc	1.8 (1.5, 2.2)	2.5 (2.1, 3.0)	3.0 (2.6, 3.5)	3.5 (3.0, 4.0)	4.1 (3.6, 4.7)	4.7 (4.2, 5.3)
Other Total Conventional Hip	1.7 (1.7, 1.8)	2.1 (2.1, 2.2)	2.5 (2.4, 2.5)	2.8 (2.7, 2.8)	3.0 (3.0, 3.1)	3.3 (3.2, 3.3)

CPR	7 Yrs	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs
Duraloc	5.3 (4.7, 6.0)	6.2 (5.5, 6.9)	7.2 (6.5, 8.0)	8.4 (7.6, 9.2)	9.5 (8.6, 10.4)	10.6 (9.7, 11.6)
Other Total Conventional Hip	3.5 (3.5, 3.6)	3.8 (3.7, 3.9)	4.1 (4.0, 4.2)	4.4 (4.3, 4.5)	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
Duraloc	11.7 (10.8, 12.8)	12.9 (11.9, 14.0)	13.8 (12.7, 14.9)	14.7 (13.6, 15.9)	16.1 (14.9, 17.3)	17.1 (15.9, 18.5)
Other Total Conventional Hip	5.4 (5.3, 5.5)	5.8 (5.7, 5.9)	6.2 (6.1, 6.3)	6.6 (6.5, 6.7)	7.0 (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
Duraloc	18.1 (16.7, 19.5)	19.3 (17.9, 20.8)	20.1 (18.6, 21.7)	20.6 (19.0, 22.2)	21.4 (19.7, 23.1)	21.9 (20.1, 23.8)	22.3 (20.4, 24.4)
Other Total Conventional Hip	7.7 (7.5, 7.9)	8.0 (7.8, 8.2)	8.6 (8.3, 8.9)	9.0 (8.7, 9.4)	9.6 (9.1, 10.0)	9.6 (9.2, 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.

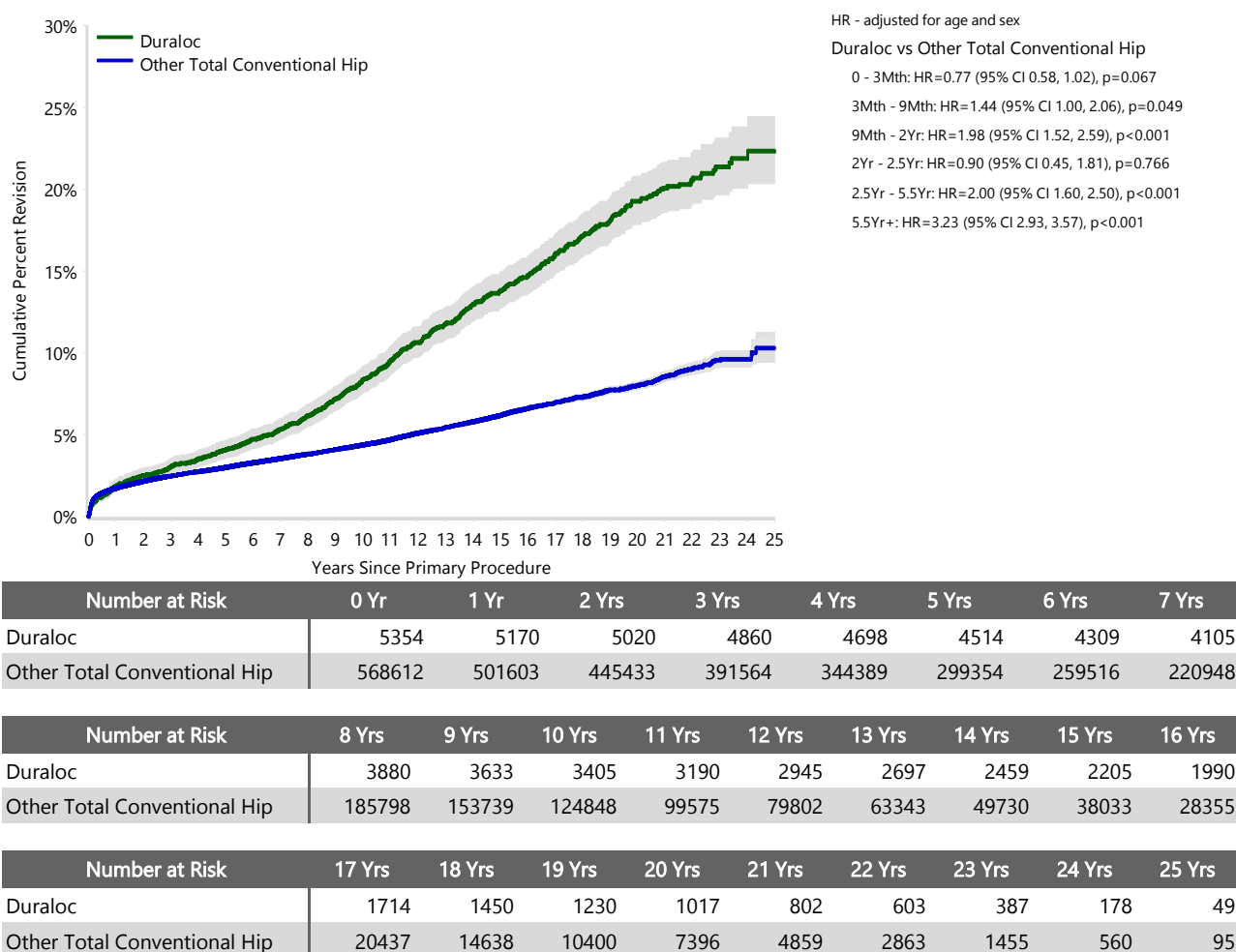
FIGURE 1

Yearly Cumulative Percent Revision of Primary Total Conventional Hip Replacement

The yearly cumulative percent revision of the Duraloc 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



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	Duraloc		Other Total Conventional Hip	
	Number	Percent	Number	Percent
Osteoarthritis	585	85.0	16296	82.7
Fractured Neck Of Femur	33	4.8	1521	7.7
Osteonecrosis	39	5.7	844	4.3
Developmental Dysplasia	14	2.0	321	1.6
Rheumatoid Arthritis	8	1.2	201	1.0
Failed Internal Fixation	3	0.4	165	0.8
Tumour			157	0.8
Other Inflammatory Arthritis	5	0.7	102	0.5
Fracture/Dislocation			60	0.3
Other			21	0.1
Arthrodesis Takedown	1	0.1	13	0.1
TOTAL	688	100.0	19701	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

Revision Diagnosis	Number	Duraloc		Other Total Conventional Hip		
		% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Infection	56	1.0	8.1	5017	0.9	25.5
Prosthesis Dislocation/Instability	124	2.3	18.0	4382	0.8	22.2
Fracture	104	1.9	15.1	4349	0.8	22.1
Loosening	232	4.3	33.7	3629	0.6	18.4
Pain	6	0.1	0.9	340	0.1	1.7
Leg Length Discrepancy				307	0.1	1.6
Malposition	3	0.1	0.4	282	0.0	1.4
Implant Breakage Stem	9	0.2	1.3	211	0.0	1.1
Lysis	103	1.9	15.0	200	0.0	1.0
Implant Breakage Acetabular Insert				128	0.0	0.6
Wear Acetabular Insert	38	0.7	5.5	112	0.0	0.6
Incorrect Sizing				96	0.0	0.5
Metal Related Pathology	3	0.1	0.4	93	0.0	0.5
Implant Breakage Acetabular				73	0.0	0.4
Wear Head				49	0.0	0.2
Tumour	1	0.0	0.1	46	0.0	0.2
Heterotopic Bone				26	0.0	0.1
Implant Breakage Head	1	0.0	0.1	26	0.0	0.1
Wear Acetabulum	5	0.1	0.7	6	0.0	0.0
Osteonecrosis				4	0.0	0.0
Synovitis				2	0.0	0.0
Progression Of Disease				1	0.0	0.0
Other	3	0.1	0.4	322	0.1	1.6
N Revision	688	12.9	100.0	19701	3.5	100.0
N Primary	5354			568612		

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 Duraloc 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.

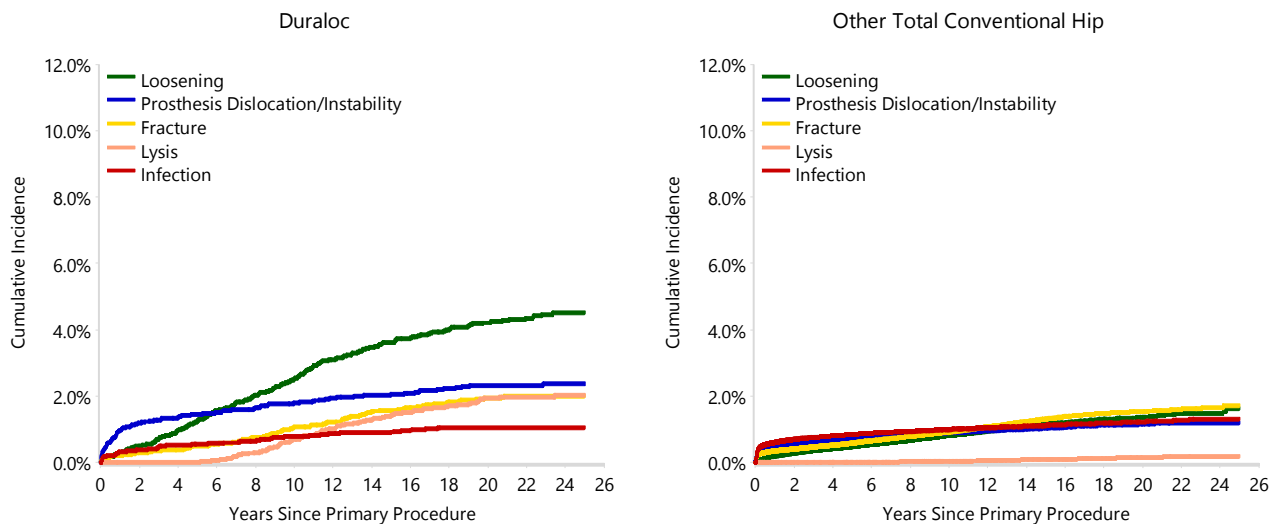
Figure 2: Cumulative Incidence Revision Diagnosis for Primary Total Conventional Hip Replacement

TABLE 5

Type of Revision Performed for Primary Total Conventional Hip Replacement

This analysis identifies the components used in the revision of the Duraloc 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 Duraloc total conventional hip prosthesis compared to all other total conventional hip prostheses.

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

Type of Revision	Duraloc		Other Total Conventional Hip	
	Number	Percent	Number	Percent
Femoral Component	239	34.7	6645	33.7
Acetabular Component	119	17.3	3311	16.8
THR (Femoral/Acetabular)	101	14.7	2305	11.7
Cement Spacer	17	2.5	556	2.8
Removal of Prostheses	1	0.1	93	0.5
Reinsertion of Components			27	0.1
Total Femoral	1	0.1	12	0.1
Bipolar Head and Femoral			10	0.1
N Major	478	69.5	12959	65.8
Head/Insert	184	26.7	5372	27.3
Head Only	6	0.9	914	4.6
Minor Components	7	1.0	285	1.4
Insert Only	12	1.7	168	0.9
Bipolar Only	1	0.1	1	0.0
Cement Only			1	0.0
Head/Neck/Insert			1	0.0
N Minor	210	30.5	6742	34.2
TOTAL	688	100.0	19701	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 6**Revision Rates of Duraloc 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 Duraloc Primary Total Conventional Hip Replacement by Fixation

Fixation	N Revised	N Total
Cemented	1	13
Cementless	329	2444
Hybrid (Femur Cemented)	356	2890
Reverse Hybrid (Femur Cementless)	2	7
TOTAL	688	5354

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

Bearing Surface	N Revised	N Total
Ceramic/Non XLPE	110	623
Ceramic/XLPE	32	463
Metal/Non XLPE	450	2766
Metal/XLPE	96	1499
Ceramicised Metal/Non XLPE	0	1
Unknown	0	2
TOTAL	688	5354

TABLE 8**Revision Rates of Primary Total Conventional Hip Replacement by State**

This enables a state by state variation to be identified for the Duraloc 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 8: Revised Number of Primary Total Conventional Hip Replacement by State

Component	State	N Revised	N Total
Duraloc	NSW	133	1128
	VIC	333	2660
	QLD	68	650
	WA	114	644
	SA	39	269
	TAS	0	2
	ACT/NT	1	1
Other Total Conventional Hip	NSW	5507	167002
	VIC	4853	146558
	QLD	3968	104359
	WA	2510	64946
	SA	1887	52084
	TAS	439	18269
	ACT/NT	537	15394
TOTAL		20389	573966

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 9**Number of Revisions of Duraloc Primary Total Conventional Hip Replacement by Year of Implant**

This analysis details the number of prostheses reported each year to the Registry for the Duraloc 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 9: Number of Revisions of Duraloc Primary Total Conventional Hip Replacement by Year of Implant

Year of Implant	Number Revised	Total Number
1999	9	19
2000	39	210
2001	130	799
2002	148	1119
2003	136	907
2004	79	631
2005	60	448
2006	27	301
2007	25	253
2008	18	293
2009	10	187
2010	4	82
2011	3	84
2012	0	18
2013	0	3
TOTAL	688	5354

TABLE 10

Revision Rates of Duraloc 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 Duraloc 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
Acetabular						
Duraloc	124538503-124546503	BANTAM TITANIUM BEADED NONHA SHELL	NO	METAL		POROUS
Duraloc	124548000-124574000	1200 SERIES METAL SHELL	NO	METAL		POROUS
Duraloc	124580049-124580058	SECTOR TITANIUM BEADED NONHA SHELL	NO	METAL		POROUS
Duraloc	124648000-124674000	300 SHELL POROCOAT	NO	METAL		POROUS
Duraloc	124748000-124766000	100 SERIES TITANIUM BEADED NONHA SHELL	NO	METAL		POROUS
Duraloc	924580049-924580058	SECTOR SHELL POLISHED PORO-HYDROXY COATING	NO	METAL	HA COATED	
Duraloc	924748000-924766000	100 SHELL POLISHED PORO-HYDROXY COATING	NO	METAL	HA COATED	

Table 10: Revised Number of Duraloc Primary Total Conventional Hip Replacement by Catalogue Number Range

Acetabular Range	N Revised	N Total
124538503-124546503	6	22
124548000-124574000	20	85
124580049-124580058	208	1449
124648000-124674000	109	853
124748000-124766000	110	740
924580049-924580058	115	914
924748000-924766000	120	1291
TOTAL	688	5354

TABLE 11

Revision Rates of Duraloc 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 11: Revised Number of Duraloc Primary Total Conventional Hip Replacement by Femoral Stem Component

Femoral Stem Component	N Revised	N Total
ABGII	2	3
Accolade I	17	74
C-Stem	108	983
C-Stem AMT	2	61
CLS	0	2
CORAIL	142	1438
CPT	1	2
Charnley	41	180
Definition	0	1
Elite Plus	138	1088
Exeter	10	89
Exeter V40	37	293
Fullfix	1	19
Generic Stem	0	1
Hip Fracture	0	1
IPS	1	44
Infinity Hip System	1	6
Integral	0	5
KAR	0	1
LYDERIC II	1	6
Lubinus SP II	2	10
MBA (exch neck)	0	3
MS 30	5	59
Meridian	6	15
Olympia	1	2
Omnifit	0	1
Primaloc	8	108
Prodigy	3	7
Restoration	1	1
Revision Hip	0	2
S-Rom	43	168
Secur-Fit Plus HA	1	2
Solution	1	5
Spectron EF	9	95
Stability	65	403
Summit	11	75
Synergy	0	2
Uni-Rom	16	60
UniSyn	0	1
VerSys	13	37
Wagner	1	1
TOTAL	688	5354