

Equinox/Equinox Total Stemmed Reverse Shoulder Investigation

Note: This analysis compares the Equinox/Equinox humeral stem/glenoid combination with all other total stemmed reverse shoulder 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 Stemmed Reverse Shoulder Replacement

The revision rate of the Equinox/Equinox total stemmed reverse shoulder combination is compared to all other total stemmed reverse shoulder prostheses.

Table 1: Revision Rates of Primary Total Stemmed Reverse Shoulder Replacement

Component	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
Equinox/Equinox	271	7299	22812	1.19 (1.05, 1.34)
Other Total Stemmed Reverse Shoulder	2092	57339	256035	0.82 (0.78, 0.85)
TOTAL	2363	64638	278847	0.85 (0.81, 0.88)

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

TABLE 2

Yearly Cumulative Percent Revision of Primary Total Stemmed Reverse Shoulder Replacement

The yearly cumulative percent revision of the Equinox/Equinox total stemmed reverse shoulder combination is compared to all other total stemmed reverse shoulder prostheses.

Table 2: Yearly Cumulative Percent Revision (95% CI) of Primary Total Stemmed Reverse Shoulder Replacement

CPR	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs
Equinox/Equinox	2.3 (2.0, 2.7)	3.2 (2.8, 3.7)	3.6 (3.1, 4.1)	4.2 (3.7, 4.8)	4.5 (3.9, 5.1)	5.5 (4.8, 6.4)
Other Total Stemmed Reverse Shoulder	2.2 (2.1, 2.4)	3.0 (2.8, 3.1)	3.4 (3.3, 3.6)	3.8 (3.6, 3.9)	4.0 (3.8, 4.2)	4.3 (4.1, 4.5)

CPR	7 Yrs	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs
Equinox/Equinox	6.2 (5.2, 7.2)	7.3 (6.0, 8.9)	7.3 (6.0, 8.9)			
Other Total Stemmed Reverse Shoulder	4.5 (4.3, 4.7)	4.8 (4.6, 5.0)	5.0 (4.7, 5.2)	5.3 (5.0, 5.6)	5.7 (5.3, 6.0)	5.9 (5.5, 6.3)

CPR	13 Yrs	14 Yrs	15 Yrs	16 Yrs	17 Yrs
Equinox/Equinox					
Other Total Stemmed Reverse Shoulder	6.1 (5.6, 6.5)	6.3 (5.8, 6.8)	6.5 (5.9, 7.1)	6.5 (5.9, 7.1)	7.4 (5.7, 9.5)

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

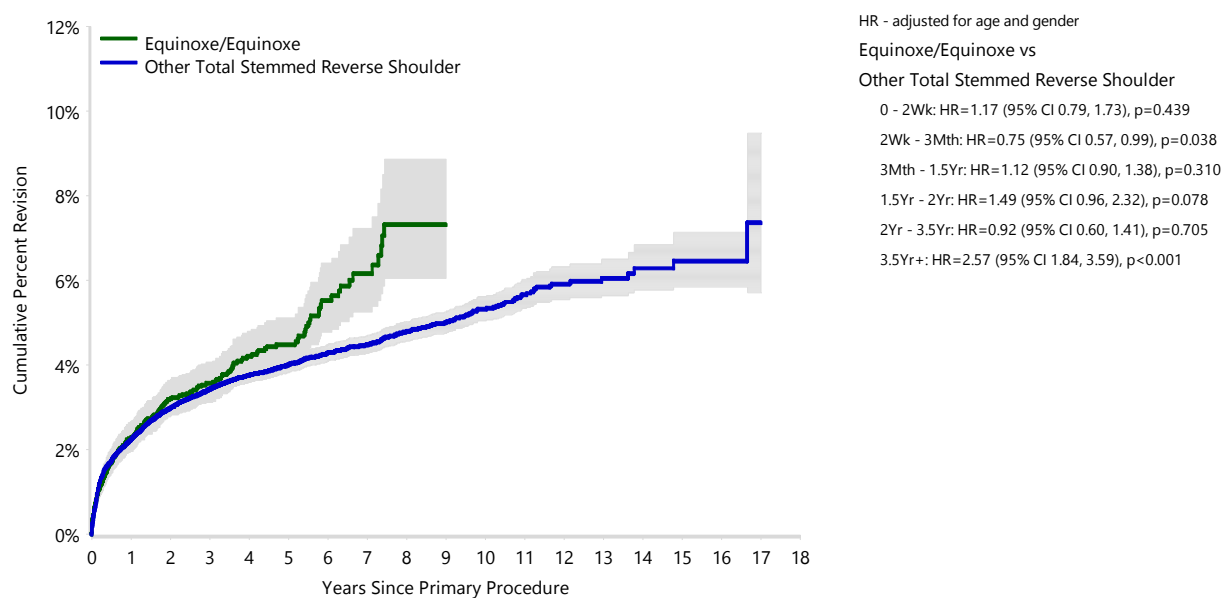
FIGURE 1

Yearly Cumulative Percent Revision of Primary Total Stemmed Reverse Shoulder Replacement

The yearly cumulative percent revision of the Equinox/Equinox total stemmed reverse shoulder combination is compared to all other total stemmed reverse shoulder 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 Stemmed Reverse Shoulder Replacement



Number at Risk	0 Yr	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs	7 Yrs	8 Yrs
Equinox/Equinox	7299	5838	4425	3336	2370	1546	938	505	233
Other Total Stemmed Reverse Shoulder	57339	47824	40003	33620	27408	22126	17126	12800	9221

Number at Risk	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs	17 Yrs
Equinox/Equinox	102	33	8	2	0	0	0	0	0
Other Total Stemmed Reverse Shoulder	6584	4608	3037	1877	1130	724	497	216	66

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

TABLE 3

Primary Diagnosis for Revised Primary Total Stemmed Reverse Shoulder 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 stemmed reverse shoulder prostheses.

Table 3: Primary Diagnosis for Revised Primary Total Stemmed Reverse Shoulder Replacement

Primary Diagnosis	Equinoxe/Equinoxe		Other Total Stemmed Reverse Shoulder	
	Number	Percent	Number	Percent
Rotator Cuff Arthropathy	93	34.3	792	37.9
Osteoarthritis	123	45.4	775	37.0
Fracture	39	14.4	367	17.5
Rheumatoid Arthritis	6	2.2	48	2.3
Instability	4	1.5	40	1.9
Tumour	4	1.5	31	1.5
Osteonecrosis	1	0.4	28	1.3
Other Inflammatory Arthritis	1	0.4	10	0.5
Other			1	0.0
TOTAL	271	100.0	2092	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 Stemmed Reverse Shoulder Replacement - Reason for Revision (Follow-up Limited to 12.9 Years)

Revision Diagnosis	Equinox/Equinox			Other Total Stemmed Reverse Shoulder		
	Number	% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Instability/Dislocation	78	1.1	28.8	669	1.2	32.1
Infection	90	1.2	33.2	518	0.9	24.8
Loosening	39	0.5	14.4	336	0.6	16.1
Fracture	28	0.4	10.3	229	0.4	11.0
Dissociation	11	0.2	4.1	73	0.1	3.5
Pain	3	0.0	1.1	46	0.1	2.2
Arthrofibrosis	1	0.0	0.4	25	0.0	1.2
Lysis	2	0.0	0.7	23	0.0	1.1
Malposition	4	0.1	1.5	21	0.0	1.0
Implant Breakage Glenoid				18	0.0	0.9
Incorrect Sizing	1	0.0	0.4	16	0.0	0.8
Metal Related Pathology	1	0.0	0.4	12	0.0	0.6
Heterotopic Bone	3	0.0	1.1	11	0.0	0.5
Rotator Cuff Insufficiency	1	0.0	0.4	8	0.0	0.4
Wear Humeral Cup	1	0.0	0.4	7	0.0	0.3
Implant Breakage Humeral	1	0.0	0.4	5	0.0	0.2
Tumour				5	0.0	0.2
Implant Breakage Glenoid Insert				3	0.0	0.1
Glenoid Erosion				2	0.0	0.1
Wear Glenoid Insert				1	0.0	0.0
Other	7	0.1	2.6	59	0.1	2.8
N Revision	271	3.7	100.0	2087	3.6	100.0
N Primary	7299			57339		

Note: This table is restricted to revisions within 12.9 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 Stemmed Reverse Shoulder 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 Equinoxe/Equinoxe total stemmed reverse shoulder combination. A comparative graph is provided of the cumulative incidence for the same reasons for revisions for all other total stemmed reverse shoulder prostheses.

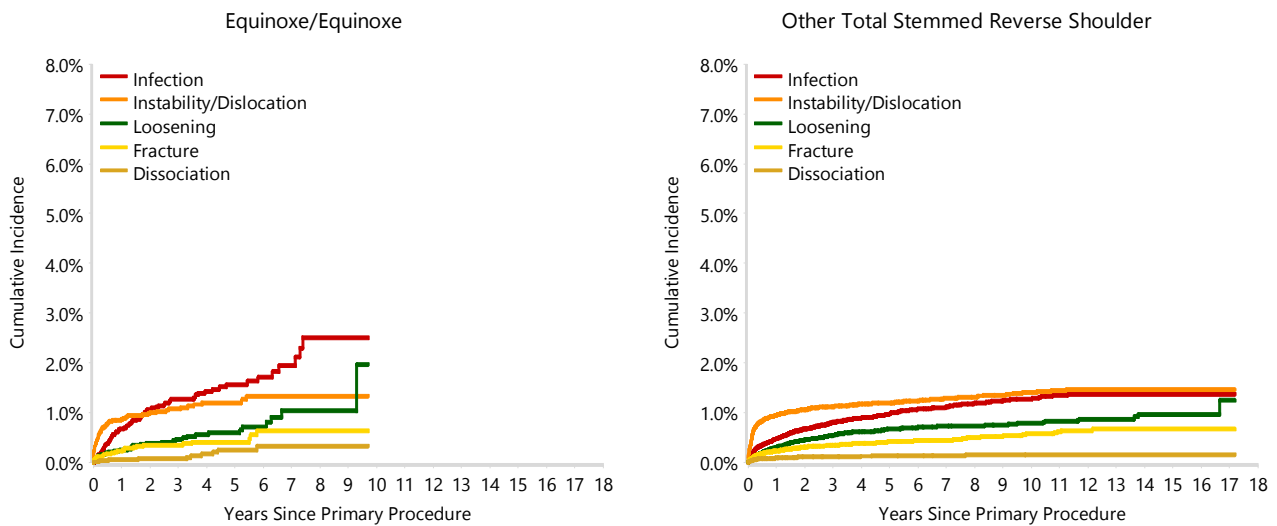
Figure 2: Cumulative Incidence Revision Diagnosis for Primary Total Stemmed Reverse Shoulder Replacement

TABLE 5

Type of Revision Performed for Primary Total Stemmed Reverse Shoulder Replacement

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

Table 5: Primary Total Stemmed Reverse Shoulder Replacement - Type of Revision (Follow-up Limited to 12.9 Years)

Type of Revision	Equinox/Equinox		Other Total Stemmed Reverse Shoulder	
	Number	Percent	Number	Percent
Humeral Component	115	42.4	507	24.3
Humeral/Glenoid	21	7.7	213	10.2
Cement Spacer	38	14.0	179	8.6
Glenoid Component	3	1.1	169	8.1
Removal of Prostheses	3	1.1	36	1.7
Reinsertion of Components	1	0.4	3	0.1
N Major	181	66.8	1107	53.0
Cup/Head	31	11.4	416	19.9
Cup Only	38	14.0	332	15.9
Head Only	15	5.5	200	9.6
Minor Components	5	1.8	11	0.5
Reoperation			10	0.5
Cement Only	1	0.4	9	0.4
Head/Insert			2	0.1
N Minor	90	33.2	980	47.0
TOTAL	271	100.0	2087	100.0

Note: This table is restricted to revisions within 12.9 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 Equinox®/Equinox® Primary Total Stemmed Reverse Shoulder 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 Equinox®/Equinox® Primary Total Stemmed Reverse Shoulder Replacement by Fixation

Fixation	N Revised	N Total
Cemented	3	32
Cementless	223	6277
Hybrid (Glenoid Cemented)	3	25
Hybrid (Glenoid Cementless)	42	965
TOTAL	271	7299

TABLE 7

Revision Rates of Equinox®/Equinox® Primary Total Stemmed Reverse Shoulder 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 combination are listed.

Table 7: Revised Number of Equinox®/Equinox® Primary Total Stemmed Reverse Shoulder Replacement by Bearing Surface

Bearing Surface	N Revised	N Total
Non XLPE/Metal	270	7295
Unknown	1	4
TOTAL	271	7299

TABLE 8**Number of Revisions of Equinox/Equinox Primary Total Stemmed Reverse Shoulder Replacement by Year of Implant**

This analysis details the number of prostheses reported each year to the Registry for the Equinox/Equinox total stemmed reverse shoulder 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 Equinox/Equinox Primary Total Stemmed Reverse Shoulder Replacement by Year of Implant

Year of Implant	Number Revised	Total Number
2011	0	1
2012	1	9
2013	2	14
2014	4	32
2015	4	103
2016	9	168
2017	26	332
2018	26	495
2019	28	675
2020	41	855
2021	34	955
2022	36	1057
2023	42	1346
2024	18	1257
TOTAL	271	7299