

Equinox/Equinox (All Poly) Total Stemmed Anatomic Shoulder Investigation

Note: This analysis compares the Equinox/Equinox (All Poly) humeral stem/glenoid combination with all other total stemmed anatomic 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 modular metal-backed glenoids are excluded from the comparator. Procedures using prostheses with no recorded use in 2024 are excluded from the comparator.

TABLE 1

Revision Rate of Primary Total Stemmed Anatomic Shoulder Replacement

The revision rate of the Equinox/Equinox (All Poly) total stemmed anatomic shoulder combination is compared to all other total stemmed anatomic shoulder prostheses.

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

Component	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
Equinox/Equinox (All Poly)	35	305	1739	2.01 (1.40, 2.80)
Other Total Stemmed Anatomic Shoulder	253	5108	29289	0.86 (0.76, 0.98)
TOTAL	288	5413	31028	0.93 (0.82, 1.04)

Note: Prostheses no longer used in 2024 are excluded from the comparator. Procedures using modular metal-backed glenoids are excluded from the comparator.

TABLE 2

Yearly Cumulative Percent Revision of Primary Total Stemmed Anatomic Shoulder Replacement

The yearly cumulative percent revision of the Equinox/Equinox (All Poly) total stemmed anatomic shoulder combination is compared to all other total stemmed anatomic shoulder prostheses.

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

CPR	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs
Equinox/Equinox (All Poly)	2.0 (0.9, 4.4)	5.1 (3.1, 8.3)	6.2 (3.9, 9.7)	6.6 (4.3, 10.2)	8.5 (5.7, 12.6)	10.3 (7.0, 14.9)
Other Total Stemmed Anatomic Shoulder	2.0 (1.6, 2.4)	3.0 (2.6, 3.5)	3.5 (3.0, 4.1)	4.2 (3.6, 4.8)	4.6 (4.0, 5.2)	5.0 (4.4, 5.7)

CPR	7 Yrs	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs
Equinox/Equinox (All Poly)	12.6 (8.7, 18.0)	14.5 (10.1, 20.6)	15.7 (10.9, 22.4)			
Other Total Stemmed Anatomic Shoulder	5.5 (4.8, 6.3)	6.1 (5.4, 7.0)	6.9 (6.0, 7.9)	6.9 (6.0, 7.9)	7.5 (6.4, 8.7)	8.3 (7.0, 9.9)

CPR	13 Yrs	14 Yrs	15 Yrs	16 Yrs	17 Yrs
Equinox/Equinox (All Poly)					
Other Total Stemmed Anatomic Shoulder	8.6 (7.2, 10.3)	8.6 (7.2, 10.3)	9.2 (7.4, 11.3)	10.1 (7.8, 13.2)	

Note: Prostheses no longer used in 2024 are excluded from the comparator. Procedures using modular metal-backed glenoids are excluded from the comparator.

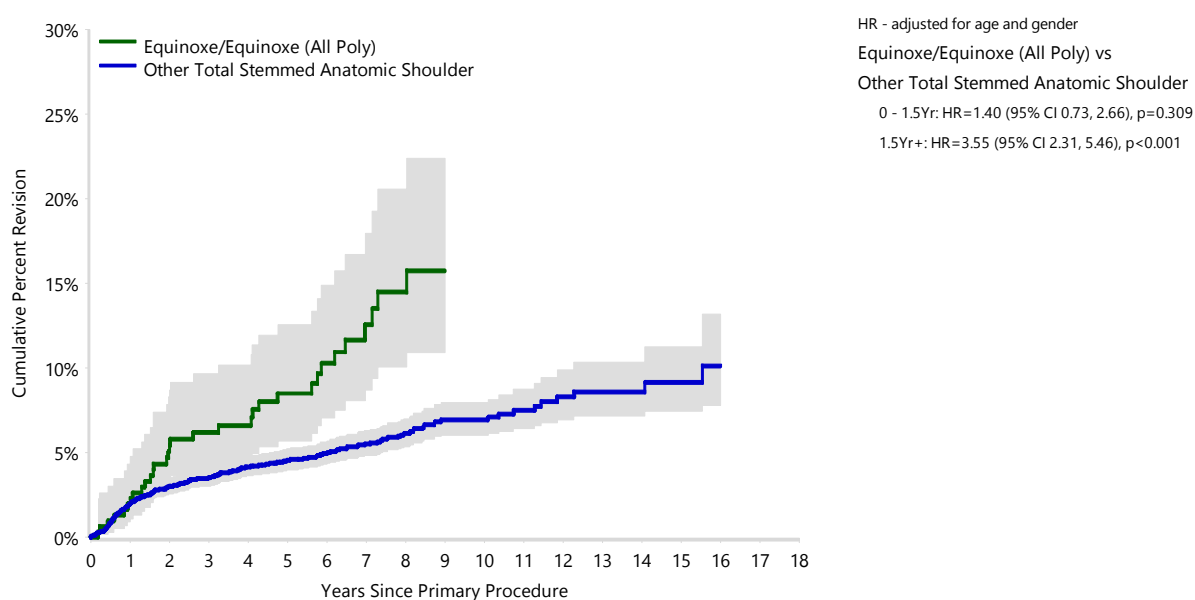
FIGURE 1

Yearly Cumulative Percent Revision of Primary Total Stemmed Anatomic Shoulder Replacement

The yearly cumulative percent revision of the Equinox/Equinox (All Poly) total stemmed anatomic shoulder combination is compared to all other total stemmed anatomic 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 Anatomic 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 (All Poly)	305	296	260	232	201	176	141	97	68
Other Total Stemmed Anatomic Shoulder	5108	4647	4199	3709	3233	2768	2253	1762	1350

Number at Risk	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs	17 Yrs
Equinox/Equinox (All Poly)	45	37	23	8	1	0	0	0	0
Other Total Stemmed Anatomic Shoulder	947	595	382	312	246	169	115	73	24

Note: Prostheses no longer used in 2024 are excluded from the comparator. Procedures using modular metal-backed glenoids are excluded from the comparator.

TABLE 3**Primary Diagnosis for Revised Primary Total Stemmed Anatomic 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 anatomic shoulder prostheses.

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

Primary Diagnosis	Equinox/Equinox (All Poly)		Other Total Stemmed Anatomic Shoulder	
	Number	Percent	Number	Percent
Osteoarthritis	32	91.4	236	93.3
Rheumatoid Arthritis			5	2.0
Osteonecrosis			4	1.6
Other Inflammatory Arthritis			4	1.6
Fracture	2	5.7	3	1.2
Instability			1	0.4
Rotator Cuff Arthropathy	1	2.9		
TOTAL	35	100.0	253	100.0

Note: Prostheses no longer used in 2024 are excluded from the comparator. Procedures using modular metal-backed glenoids 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 Anatomic Shoulder Replacement - Reason for Revision (Follow-up Limited to 13.3 Years)

Revision Diagnosis	Equinox/Equinox (All Poly)			Other Total Stemmed Anatomic Shoulder		
	Number	% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Rotator Cuff Insufficiency	7	2.3	20.0	74	1.4	29.6
Loosening	18	5.9	51.4	62	1.2	24.8
Instability/Dislocation	5	1.6	14.3	59	1.2	23.6
Infection	1	0.3	2.9	12	0.2	4.8
Pain				12	0.2	4.8
Fracture	2	0.7	5.7	6	0.1	2.4
Incorrect Sizing				5	0.1	2.0
Lysis	1	0.3	2.9	5	0.1	2.0
Implant Breakage Glenoid				4	0.1	1.6
Arthrofibrosis	1	0.3	2.9	3	0.1	1.2
Malposition				3	0.1	1.2
Dissociation				1	0.0	0.4
Implant Breakage Glenoid Insert				1	0.0	0.4
Wear Glenoid Insert				1	0.0	0.4
Other				2	0.0	0.8
N Revision	35	11.5	100.0	250	4.9	100.0
N Primary	305			5108		

Note: This table is restricted to revisions within 13.3 years for all groups to allow a time-matched comparison of revisions.

Note: Prostheses no longer used in 2024 are excluded from the comparator. Procedures using modular metal-backed glenoids are excluded from the comparator.

FIGURE 2

Cumulative Incidence Revision Diagnosis of Primary Total Stemmed Anatomic 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 Equinox/Equinox (All Poly) total stemmed anatomic shoulder combination. A comparative graph is provided of the cumulative incidence for the same reasons for revisions for all other total stemmed anatomic shoulder prostheses.

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

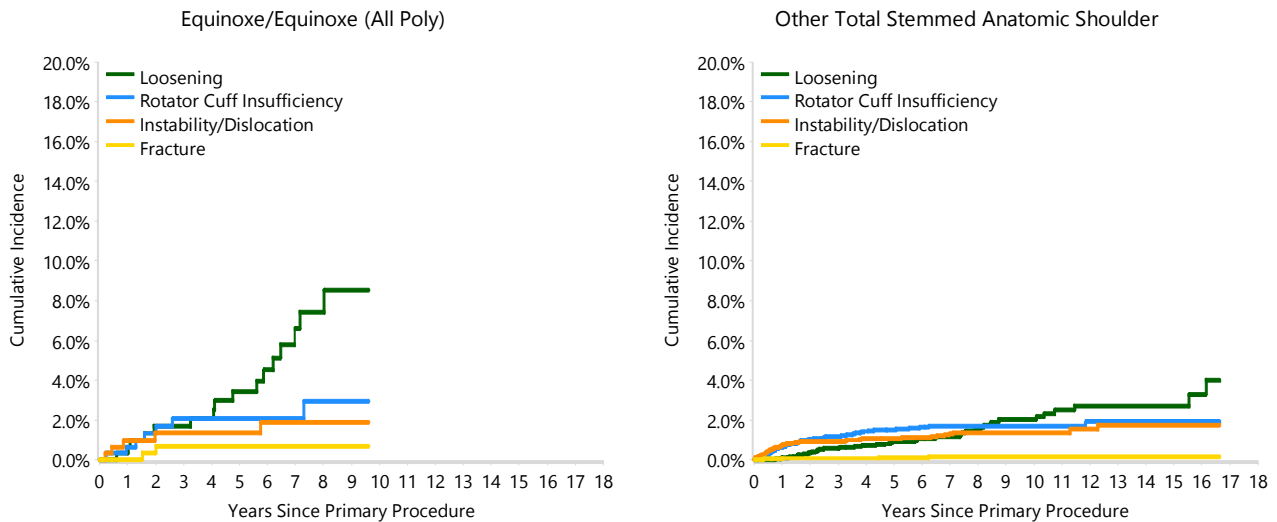


TABLE 5

Type of Revision Performed for Primary Total Stemmed Anatomic Shoulder Replacement

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

Table 5: Primary Total Stemmed Anatomic Shoulder Replacement - Type of Revision (Follow-up Limited to 13.3 Years)

Type of Revision	Equinox/Equinox (All Poly)		Other Total Stemmed Anatomic Shoulder	
	Number	Percent	Number	Percent
Humeral/Glenoid	27	77.1	188	75.2
Humeral Component	2	5.7	12	4.8
Glenoid Component	3	8.6	11	4.4
Cement Spacer	1	2.9	9	3.6
Removal of Prostheses			2	0.8
N Major	33	94.3	222	88.8
Head Only	2	5.7	27	10.8
Reoperation			1	0.4
N Minor	2	5.7	28	11.2
TOTAL	35	100.0	250	100.0

Note: This table is restricted to revisions within 13.3 years for all groups to allow a time-matched comparison of revisions.

Note: Prostheses no longer used in 2024 are excluded from the comparator. Procedures using modular metal-backed glenoids are excluded from the comparator.

TABLE 6**Revision Rates of Equinox®/Equinox® (All Poly) Primary Total Stemmed Anatomic 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® (All Poly) Primary Total Stemmed Anatomic Shoulder Replacement by Fixation

Fixation	N Revised	N Total
Cemented	2	27
Hybrid (Glenoid Cemented)	33	278
TOTAL	35	305

TABLE 7**Revision Rates of Equinox®/Equinox® (All Poly) Primary Total Stemmed Anatomic 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® (All Poly) Primary Total Stemmed Anatomic Shoulder Replacement by Bearing Surface

Bearing Surface	N Revised	N Total
Metal/Non XLPE	35	305
TOTAL	35	305

TABLE 8**Number of Revisions of Equinox®/Equinox® (All Poly) Primary Total Stemmed Anatomic Shoulder Replacement by Year of Implant**

This analysis details the number of prostheses reported each year to the Registry for the Equinox®/Equinox® (All Poly) total stemmed anatomic 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® (All Poly) Primary Total Stemmed Anatomic Shoulder Replacement by Year of Implant

Year of Implant	Number Revised	Total Number
2011	4	6
2012	3	10
2013	4	26
2014	1	18
2015	4	8
2016	3	23
2017	5	36
2018	3	45
2019	3	37
2020	1	18
2021	2	28
2022	2	24
2023	0	24
2024	0	2
TOTAL	35	305