Equinoxe/Equinoxe (Hybrid Glenoid) Total Stemmed Anatomic Shoulder Investigation

Note: This analysis compares the Equinoxe/Equinoxe (Hybrid Glenoid) 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 Equinoxe/Equinoxe (Hybrid Glenoid) 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)
Equinoxe/Equinoxe (Hybrid Glenoid)	49	453	2093	2.34 (1.73, 3.10)
Other Total Stemmed Anatomic Shoulder	239	4960	28936	0.83 (0.72, 0.94)
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 Equinoxe/Equinoxe (Hybrid Glenoid) 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
Equinoxe/Equinoxe (Hybrid Glenoid)	3.6 (2.2, 5.8)	5.0 (3.3, 7.6)	6.4 (4.4, 9.2)	8.3 (5.9, 11.5)	10.5 (7.7, 14.4)	11.9 (8.6, 16.2)
Other Total Stemmed Anatomic Shoulder	1.8 (1.5, 2.2)	2.9 (2.5, 3.5)	3.4 (2.9, 4.0)	4.0 (3.4, 4.6)	4.3 (3.7, 5.0)	4.8 (4.2, 5.5)

CPR	7 Yrs	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs
Equinoxe/Equinoxe (Hybrid Glenoid)	13.7 (9.9, 18.8)	17.4 (12.3, 24.2)				
Other Total Stemmed Anatomic Shoulder	5.3 (4.7, 6.1)	5.9 (5.1, 6.7)	6.4 (5.6, 7.4)	6.9 (5.9, 7.9)	7.4 (6.3, 8.7)	8.2 (6.8, 9.7)

CPR	13 Yrs	14 Yrs	15 Yrs	16 Yrs	17 Yrs
Equinoxe/Equinoxe (Hybrid Glenoid)					
Other Total Stemmed Anatomic Shoulder	8.5 (7.0, 10.2)	8.5 (7.0, 10.2)	9.0 (7.3, 11.1)	10.0 (7.6, 13.1)	

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

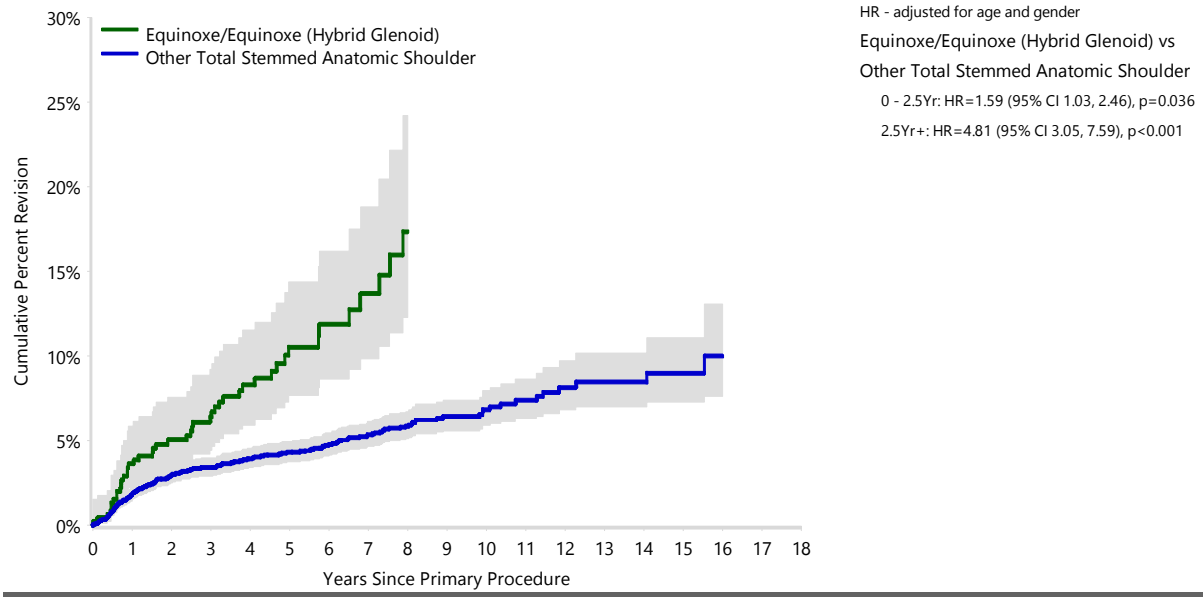
FIGURE 1

Yearly Cumulative Percent Revision of Primary Total Stemmed Anatomic Shoulder Replacement

The yearly cumulative percent revision of the Equinoxe/Equinoxe (Hybrid Glenoid) 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
Equinoxe/Equinoxe (Hybrid Glenoid)	453	417	387	321	252	181	118	89	57
Other Total Stemmed Anatomic Shoulder	4960	4526	4072	3620	3182	2763	2276	1770	1361

Number at Risk	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs	17 Yrs
Equinoxe/Equinoxe (Hybrid Glenoid)	36	10	0	0	0	0	0	0	0
Other Total Stemmed Anatomic Shoulder	956	622	405	320	247	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

	Equinoxe/Equinoxe (Hybrid Glenoid)		Other Total Stemmed Anatomic Shoulder	
Primary Diagnosis	Number	Percent	Number	Percent
Osteoarthritis	48	98.0	220	92.1
Fracture			5	2.1
Osteonecrosis			4	1.7
Other Inflammatory Arthritis			4	1.7
Rheumatoid Arthritis	1	2.0	4	1.7
Instability			1	0.4
Rotator Cuff Arthropathy			1	0.4
TOTAL	**49**	**100.0**	**239**	**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 10.4 Years)

Revision Diagnosis	Equinoxe/Equinoxe (Hybrid Glenoid)			Other Total Stemmed Anatomic Shoulder		
	Number	% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Rotator Cuff Insufficiency	6	1.3	12.2	74	1.5	32.2
Loosening	16	3.5	32.7	61	1.2	26.5
Instability/Dislocation	6	1.3	12.2	56	1.1	24.3
Pain	1	0.2	2.0	11	0.2	4.8
Infection	4	0.9	8.2	9	0.2	3.9
Fracture	1	0.2	2.0	7	0.1	3.0
Implant Breakage Glenoid	4	0.9	8.2			
Arthrofibrosis	1	0.2	2.0	3	0.1	1.3
Incorrect Sizing	3	0.7	6.1	2	0.0	0.9
Lysis	3	0.7	6.1	3	0.1	1.3
Malposition	1	0.2	2.0	2	0.0	0.9
Dissociation				1	0.0	0.4
Implant Breakage Glenoid Insert	1	0.2	2.0			
Wear Glenoid Insert	1	0.2	2.0			
Other	1	0.2	2.0	1	0.0	0.4
N Revision	**49**	**10.8**	**100.0**	**230**	**4.6**	**100.0**
N Primary	**453**			**4960**		

Note: This table is restricted to revisions within 10.4 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 Equinoxe/Equinoxe (Hybrid Glenoid) 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

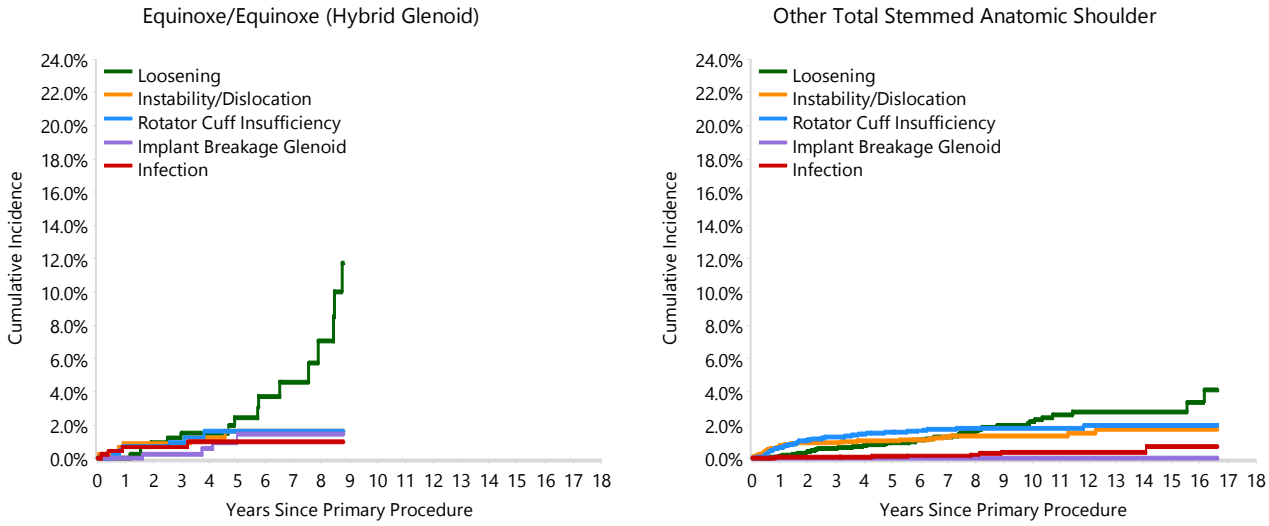


TABLE 5

Type of Revision Performed for Primary Total Stemmed Anatomic Shoulder Replacement

This analysis identifies the components used in the revision of the Equinoxe/Equinoxe (Hybrid Glenoid) 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 Equinoxe/Equinoxe (Hybrid Glenoid) 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 10.4 Years)

	Equinoxe/Equinoxe (Hybrid Glenoid)		Other Total Stemmed Anatomic Shoulder	
Type of Revision	Number	Percent	Number	Percent
Humeral/Glenoid	30	61.2	181	78.7
Glenoid Component	1	2.0	13	5.7
Humeral Component	5	10.2	9	3.9
Cement Spacer	5	10.2	5	2.2
Removal of Prostheses			1	0.4
N Major	**41**	**83.7**	**209**	**90.9**
Head Only	8	16.3	20	8.7
Reoperation			1	0.4
N Minor	**8**	**16.3**	**21**	**9.1**
TOTAL	**49**	**100.0**	**230**	**100.0**

Note: This table is restricted to revisions within 10.4 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 Equinoxe/Equinoxe (Hybrid Glenoid) 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 Equinoxe/Equinoxe (Hybrid Glenoid) Primary Total Stemmed Anatomic Shoulder Replacement by Fixation

Fixation	N Revised	N Total
Cemented	1	4
Cementless	10	57
Hybrid (Glenoid Cemented)	38	392
TOTAL	**49**	**453**

TABLE 7

Revision Rates of Equinoxe/Equinoxe (Hybrid Glenoid) 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 Equinoxe/Equinoxe (Hybrid Glenoid) Primary Total Stemmed Anatomic Shoulder Replacement by Bearing Surface

Bearing Surface	N Revised	N Total
Metal/Non XLPE	49	453
TOTAL	**49**	**453**

TABLE 8

Number of Revisions of Equinoxe/Equinoxe (Hybrid Glenoid) 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 Equinoxe/Equinoxe (Hybrid Glenoid) 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 Equinoxe/Equinoxe (Hybrid Glenoid) Primary Total Stemmed Anatomic Shoulder Replacement by Year of Implant

Year of Implant	Number Revised	Total Number
2014	2	14
2015	10	38
2016	3	19
2017	4	35
2018	8	34
2019	8	68
2020	8	74
2021	3	64
2022	2	62
2023	0	24
2024	1	21
TOTAL	**49**	**453**