Australian Orthopaedic Association National Joint Replacement Registry

Automated Industry Report 17011
Mathys Australia
Affinis/Affinis Total Stemless Anatomic Shoulder

Report Generated: 15 January 2025
Data Period: 16 April 2004 - 14 January 2025

This report has been prepared by the Australian Orthopaedic Association National Joint Replacement Registry (AOANJRR). The report provides information on the usage and outcomes of the Affinis/Affinis combination compared to all other total stemless anatomic shoulder replacements, based on data collected by the AOANJRR.

Disclaimer
The AOANJRR has taken every care to ensure that the data supplied are accurate but does not warrant that the data are error free and does not accept any liability for errors or omissions in the data.

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Catalogue Numbers of Affinis Humeral Heads, Affinis Mid Humeral Stems and Affinis Glenoids included in this analysis

Model	Catalogue Range	Range Description	No. of Primary Procedures
Humeral Head			.
Affinis	62340020 - 62340027	Affinis Short Head	657
Mid Humeral Stem			.
Affinis	62340010 - 62340015	Affinis Short Stem	657
Glenoid			.
Affinis	62340055 - 62340058	Glenoid Vitamys VEPE TiCP Coated	657

The AOANJRR also reports these catalogue numbers as Affinis Humeral Heads and Affinis Glenoids. These are not included in the analysis.

Model	Catalogue Range	Range Description
Humeral Head		
Affinis	1020200130 - 1020200200	Affinis CoCr Head
Glenoid		
Affinis	1020702310 - 1020702430	Affinis PE Glenoid
Affinis	62340050 - 62340053	Affinis Glenoid Vitamys

Table 1: Revision Rates of Affinis/Affinis Primary Total Stemless Anatomic Shoulder Replacement by Humeral Head Catalogue Number Range (All Diagnoses)

Humeral Head Range	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
62340020 - 62340027	13	657	1060	1.23 (0.65, 2.10)
TOTAL	**13**	**657**	**1060**	**1.23 (0.65, 2.10)**

Table 2: Revision Rates of Affinis/Affinis Primary Total Stemless Anatomic Shoulder Replacement by Mid Humeral Stem Catalogue Number Range (All Diagnoses)

Mid Humeral Stem Range	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
62340010 - 62340015	13	657	1060	1.23 (0.65, 2.10)
TOTAL	**13**	**657**	**1060**	**1.23 (0.65, 2.10)**

Table 3: Revision Rates of Affinis/Affinis Primary Total Stemless Anatomic Shoulder Replacement by Glenoid Catalogue Number Range (All Diagnoses)

Glenoid Range	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
62340055 - 62340058	13	657	1060	1.23 (0.65, 2.10)
TOTAL	**13**	**657**	**1060**	**1.23 (0.65, 2.10)**

Table 4: Implant Usage of Affinis/Affinis in Primary Total Stemless Anatomic Shoulder Replacement (All Diagnoses)

	N
Implant Usage	
Date First Used	16 September 2020
Date Last Used	18 November 2024
N Procedures	657
N Patients	629
N Hospitals Implanting	62
N Surgeons Implanting*	44
Outcome	
N Revised	13
N Deceased**	0

*3 Affinis/Affinis procedures have unknown surgeon

**'N Deceased' does not include patient deaths that occurred after the Affinis/Affinis implant was revised

Table 5: Follow up Years of Affinis/Affinis in Primary Total Stemless Anatomic Shoulder Replacement (All Diagnoses)

Model	N	Minimum	Maximum	Median	Mean	Std Dev
Affinis/Affinis	657	0.02	4.33	1.48	1.61	0.99
TOTAL	**657**	**0.02**	**4.33**	**1.48**	**1.61**	**0.99**

Table 6: Age and Gender of Affinis/Affinis Primary Total Stemless Anatomic Shoulder Replacement (All Diagnoses)

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Male	337	51.3%	35	86	64	63.8	9.8
Female	320	48.7%	35	93	69	67.9	8.6
TOTAL	657	100.0%	35	93	66	65.8	9.5

Table 7: Primary Total Stemless Anatomic Shoulder Replacement by Model and Age (All Diagnoses)

Age	Affinis/Affinis		Other Total Stemless Anatomic Shoulder	
	N	Col%	N	Col%
<55	77	11.7	529	10.5
55-64	203	30.9	1413	28.0
65-74	254	38.7	2181	43.2
≥75	123	18.7	931	18.4
TOTAL	657	100.0	5054	100.0

Table 8: Primary Total Stemless Anatomic Shoulder Replacement by Model and Gender (All Diagnoses)

Gender	Affinis/Affinis		Other Total Stemless Anatomic Shoulder	
	N	Col%	N	Col%
Male	337	51.3	2521	49.9
Female	320	48.7	2533	50.1
TOTAL	657	100.0	5054	100.0

Table 9: Primary Total Stemless Anatomic Shoulder Replacement by Model and ASA Grade (All Diagnoses)

ASA Grade	Affinis/Affinis		Other Total Stemless Anatomic Shoulder	
	N	Col%	N	Col%
1	46	7.0	352	7.2
2	312	47.6	2464	50.3
3	287	43.8	2035	41.5
4	11	1.7	51	1.0
TOTAL	656	100.0	4902	100.0

Note: The AOANJRR commenced collection of ASA data in 2013. 1 Affinis/Affinis procedures with no ASA Grade recorded are excluded from this table

Table 10: Primary Total Stemless Anatomic Shoulder Replacement by Model and BMI (All Diagnoses)

BMI	Affinis/Affinis		Other Total Stemless Anatomic Shoulder	
	N	Col%	N	Col%
Underweight (<18.50)	3	0.5	16	0.3
Normal (18.50-24.99)	101	15.4	644	14.0
Pre Obese (25.00-29.99)	237	36.2	1591	34.6
Obese Class 1 (30.00-34.99)	178	27.2	1365	29.7
Obese Class 2 (35.00-39.99)	89	13.6	638	13.9
Obese Class 3 (≥40.00)	46	7.0	340	7.4
TOTAL	654	100.0	4594	100.0

Note: The AOANJRR commenced collection of BMI data in 2015. 3 Affinis/Affinis procedures with no BMI recorded are excluded from this table

Table 11: Primary Total Stemless Anatomic Shoulder Replacement by Model and Primary Diagnosis
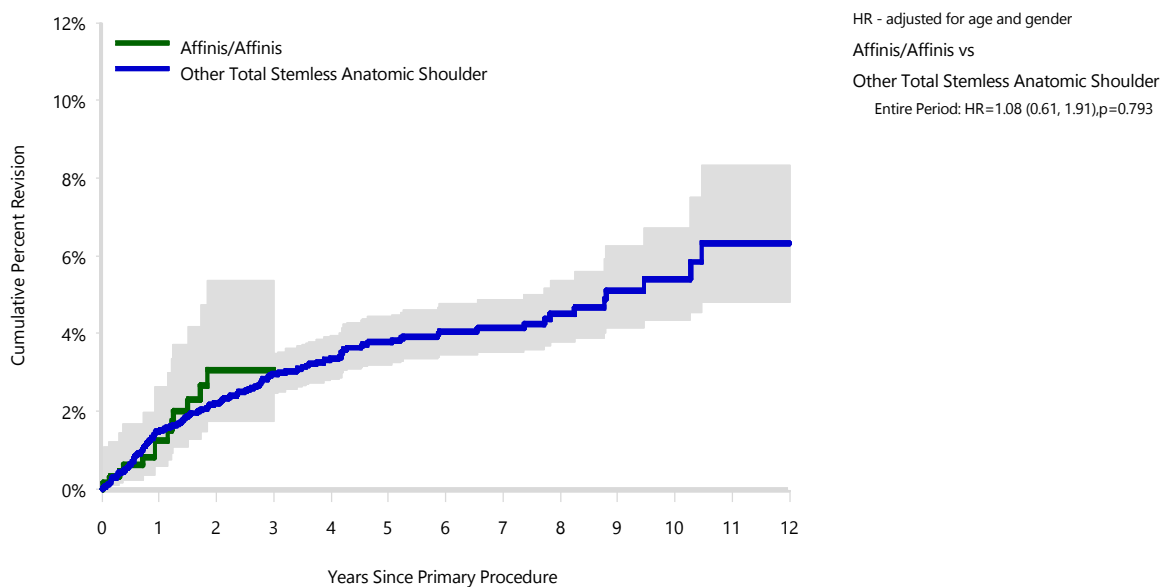
Primary Diagnosis	Affinis/Affinis		Other Total Stemless Anatomic Shoulder	
	N	Col%	N	Col%
Osteoarthritis	620	94.4	4857	96.1
Osteonecrosis	10	1.5	89	1.8
Rheumatoid Arthritis	8	1.2	34	0.7
Instability	6	0.9	26	0.5
Other Inflammatory Arthritis	8	1.2	20	0.4
Rotator Cuff Arthropathy	4	0.6	20	0.4
Fracture	1	0.2	8	0.2
TOTAL	657	100.0	5054	100.0

Table 12: Revision Rates of Primary Total Stemless Anatomic Shoulder Replacement by Model (All Diagnoses)

Model	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
Affinis/Affinis	13	657	1060	1.23 (0.65, 2.10)
Other Total Stemless Anatomic Shoulder	165	5054	22394	0.74 (0.63, 0.86)
TOTAL	**178**	**5711**	**23454**	**0.76 (0.65, 0.88)**

Table 13: Yearly Cumulative Percent Revision of Primary Total Stemless Anatomic Shoulder Replacement by Model (All Diagnoses)

CPR	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs
Affinis/Affinis	1.3 (0.6, 2.6)	3.1 (1.7, 5.4)	3.1 (1.7, 5.4)			
Other Total Stemless Anatomic Shoulder	1.5 (1.2, 1.9)	2.2 (1.8, 2.7)	2.9 (2.5, 3.5)	3.4 (2.8, 4.0)	3.8 (3.2, 4.4)	4.0 (3.4, 4.8)

CPR	7 Yrs	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs
Affinis/Affinis						
Other Total Stemless Anatomic Shoulder	4.1 (3.5, 4.9)	4.5 (3.8, 5.4)	5.1 (4.2, 6.3)	5.4 (4.3, 6.7)	6.3 (4.8, 8.3)	6.3 (4.8, 8.3)

Figure 1: Cumulative Percent Revision of Primary Total Stemless Anatomic Shoulder Replacement by Model (All Diagnoses)

HR - adjusted for age and gender
Affinis/Affinis vs
Other Total Stemless Anatomic Shoulder
Entire Period: HR=1.08 (0.61, 1.91),p=0.793

Number at Risk	0 Yr	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs	7 Yrs
Affinis/Affinis	657	435	202	68	9	0	0	0
Other Total Stemless Anatomic Shoulder	5054	4464	3777	3152	2543	1941	1443	1007

Number at Risk	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs
Affinis/Affinis	0	0	0	0	0	0	0	0
Other Total Stemless Anatomic Shoulder	647	397	246	147	66	5	1	1

TABLE 14

Reasons for Revision

This is reported in two ways: a percentage of primaries 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 primaries. 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 14: Revision Diagnosis of Primary Total Stemless Anatomic Shoulder Replacement by Model (All Diagnoses) (Follow-up Limited to 4.3 Years)

Revision Diagnosis	Affinis/Affinis			Other Total Stemless Anatomic Shoulder		
	Number	% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Instability/Dislocation	3	0.5	23.1	54	1.1	36.7
Rotator Cuff Insufficiency	4	0.6	30.8	37	0.7	25.2
Loosening	1	0.2	7.7	22	0.4	15.0
Infection	3	0.5	23.1	19	0.4	12.9
Pain				6	0.1	4.1
Arthrofibrosis				3	0.1	2.0
Fracture	1	0.2	7.7	2	0.0	1.4
Implant Breakage Humeral				1	0.0	0.7
Lysis				1	0.0	0.7
Malposition	1	0.2	7.7	1	0.0	0.7
Other				1	0.0	0.7
N Revision	**13**	**2.0**	**100.0**	**147**	**2.9**	**100.0**
N Primary	**657**			**5054**		

Note: This table is restricted to revisions within 4.3 years for all groups to allow a time-matched comparison of revisions.

Table 15: Yearly Cumulative Incidence Revision Diagnosis of Primary Total Stemless Anatomic Shoulder Replacement by Model (All Diagnoses)

Model	Event	N Events	1 Yr	2 Yrs	3 Yrs	5 Yrs	10 Yrs	12 Yrs
Affinis/Affinis	Instability/ Dislocation	3	0.4 (0.1, 1.3)	0.6 (0.2, 1.7)	0.6 (0.2, 1.7)			
	Rotator Cuff Insufficiency	4	0.2 (0.0, 1.2)	1.1 (0.4, 2.6)	1.1 (0.4, 2.6)			
	Loosening	1	0.2 (0.0, 0.9)	0.2 (0.0, 0.9)	0.2 (0.0, 0.9)			
	Infection	3	0.4 (0.1, 1.2)	0.8 (0.2, 2.2)	0.8 (0.2, 2.2)			
	Pain	0	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)			
	Other	2	0.2 (0.0, 0.8)	0.5 (0.1, 1.6)	0.5 (0.1, 1.6)			
	Deceased	0	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)			
	All Revision	13	1.3 (0.6, 2.5)	3.1 (1.7, 5.2)	3.1 (1.7, 5.2)			
Other Total Stemless Anatomic Shoulder	Instability/ Dislocation	57	0.7 (0.5, 0.9)	0.8 (0.6, 1.1)	1.1 (0.8, 1.5)	1.4 (1.0, 1.8)	1.6 (1.1, 2.2)	1.6 (1.1, 2.2)
	Rotator Cuff Insufficiency	39	0.3 (0.2, 0.5)	0.6 (0.4, 0.8)	0.7 (0.5, 1.0)	0.9 (0.7, 1.3)	1.1 (0.7, 1.5)	1.1 (0.7, 1.5)
	Loosening	30	0.1 (0.0, 0.2)	0.2 (0.1, 0.4)	0.4 (0.3, 0.7)	0.6 (0.4, 0.9)	1.3 (0.8, 2.1)	2.1 (1.1, 3.8)
	Infection	22	0.2 (0.1, 0.4)	0.3 (0.2, 0.5)	0.4 (0.2, 0.6)	0.5 (0.3, 0.8)	0.6 (0.4, 0.9)	0.6 (0.4, 0.9)
	Pain	6	0.0 (0.0, 0.1)	0.1 (0.0, 0.3)	0.1 (0.0, 0.3)	0.2 (0.1, 0.3)	0.2 (0.1, 0.3)	0.2 (0.1, 0.3)
	Other	11	0.1 (0.1, 0.3)	0.1 (0.1, 0.3)	0.2 (0.1, 0.3)	0.2 (0.1, 0.4)	0.6 (0.2, 1.5)	0.6 (0.2, 1.5)
	Deceased	147	0.3 (0.2, 0.5)	0.8 (0.6, 1.1)	1.3 (1.0, 1.7)	3.1 (2.5, 3.7)	8.8 (6.9, 11.0)	11.1 (8.1, 14.7)
	All Revision	165	1.5 (1.2, 1.9)	2.2 (1.8, 2.6)	2.9 (2.5, 3.5)	3.7 (3.2, 4.4)	5.3 (4.2, 6.5)	6.1 (4.6, 7.9)

Figure 2: Cumulative Incidence Revision Diagnosis of Primary Total Stemless Anatomic Shoulder Replacement by Model (All Diagnoses)
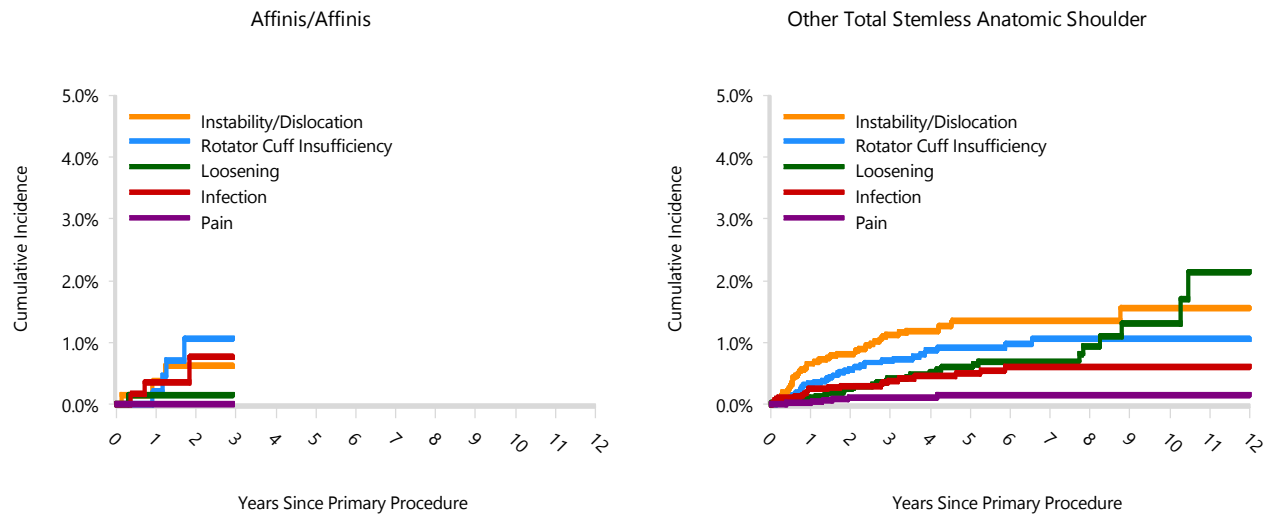
TABLE 16

Type of 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 type of revision as a percentage of the total number of primary procedures. This percentage can be used to approximate the risk of having that type of revision. Differing percentages between groups, with the same distribution of follow up time, may identify problems of concern.

% Revisions: The number of revisions for each type of revision is expressed as a percentage of the total number of revisions. This shows the distribution of types of revision within a group but cannot be used as a comparison between groups.

Table 16: Type of Revision of Primary Total Stemless Anatomic Shoulder Replacement by Model (All Diagnoses) (Follow-up Limited to 4.3 Years)

Type of Revision	Affinis/Affinis			Other Total Stemless Anatomic Shoulder		
	Number	% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Humeral/Glenoid	11	1.7	84.6	112	2.2	76.2
Humeral Component	1	0.2	7.7	12	0.2	8.2
Cement Spacer				10	0.2	6.8
Head Only	1	0.2	7.7	8	0.2	5.4
Removal of Prostheses				2	0.0	1.4
Reoperation				2	0.0	1.4
Reinsertion of Components				1	0.0	0.7
N Revision	**13**	**2.0**	**100.0**	**147**	**2.9**	**100.0**
N Primary	**657**			**5054**		

Note: This table is restricted to revisions within 4.3 years for all groups to allow a time-matched comparison of revisions.

Table 17: Revision Rates of Affinis/Affinis Primary Total Stemless Anatomic Shoulder Replacement by Fixation (All Diagnoses)

Fixation	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
Cementless	13	657	1060	1.23 (0.65, 2.10)
TOTAL	**13**	**657**	**1060**	**1.23 (0.65, 2.10)**

Table 18: Revision Rates of Affinis/Affinis Primary Total Stemless Anatomic Shoulder Replacement by IDI Usage (All Diagnoses)

IDI Usage	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
IDI Used	11	475	797	1.38 (0.69, 2.47)
IDI Not Used	2	182	262	0.76 (0.09, 2.75)
TOTAL	**13**	**657**	**1060**	**1.23 (0.65, 2.10)**

Table 19: Number of Revisions of Affinis/Affinis Primary Total Stemless Anatomic Shoulder Replacement by Year of Implant (All Diagnoses)

Year of Implant	Number Revised	Total Number
2020	0	8
2021	4	64
2022	5	135
2023	3	232
2024	1	218
TOTAL	**13**	**657**

Table 20: Revision Rates of Affinis/Affinis Primary Total Stemless Anatomic Shoulder Replacement by Humeral Head Catalogue Number (All Diagnoses)

Humeral Head Catalogue Number	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
62340020	0	81	124	0.00 (0.00, 2.97)
62340021	6	98	159	3.77 (1.38, 8.20)
62340022	1	109	190	0.53 (0.01, 2.93)
62340023	2	113	196	1.02 (0.12, 3.69)
62340024	1	102	163	0.61 (0.02, 3.43)
62340025	3	84	128	2.35 (0.48, 6.87)
62340026	0	43	64	0.00 (0.00, 5.80)
62340027	0	27	37	0.00 (0.00, 10.03)
TOTAL	13	657	1060	1.23 (0.65, 2.10)

Table 21: Revision Rates of Affinis/Affinis Primary Total Stemless Anatomic Shoulder Replacement by Mid Humeral Stem Catalogue Number (All Diagnoses)

Mid Humeral Stem Catalogue Number	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
62340010	6	237	389	1.54 (0.57, 3.36)
62340011	3	225	378	0.79 (0.16, 2.32)
62340012	2	129	190	1.05 (0.13, 3.81)
62340013	1	44	74	1.36 (0.03, 7.56)
62340014	1	18	25	4.07 (0.10, 22.65)
62340015	0	4	5	0.00 (0.00, 73.99)
TOTAL	13	657	1060	1.23 (0.65, 2.10)

Table 22: Revision Rates of Affinis/Affinis Primary Total Stemless Anatomic Shoulder Replacement by Glenoid Catalogue Number (All Diagnoses)

Glenoid Catalogue Number	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
62340055	7	247	392	1.78 (0.72, 3.68)
62340056	3	246	421	0.71 (0.15, 2.08)
62340057	3	150	226	1.33 (0.27, 3.89)
62340058	0	14	21	0.00 (0.00, 17.68)
TOTAL	13	657	1060	1.23 (0.65, 2.10)