

Uniglide/Uniglide Unicompartmental Knee Investigation

Note: This analysis compares the Uniglide/Uniglide femoral/tibial combination with all other unicompartmental knee 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-2022>.

Note: Procedures using prostheses with no recorded use in 2021 are excluded from the comparator.

TABLE 1

Revision Rate of Primary Unicompartmental Knee Replacement

The revision rate of the Uniglide/Uniglide unicompartmental knee combination is compared to all other unicompartmental knee prostheses.

Table 1: Revision Rates of Primary Unicompartmental Knee Replacement

Component	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
Uniglide/Uniglide	181	756	8287	2.18 (1.88, 2.53)
Other Unicompartmental Knee	4495	45809	315582	1.42 (1.38, 1.47)
TOTAL	4676	46565	323868	1.44 (1.40, 1.49)

Note: Prostheses no longer used in 2021 are excluded from the comparator.

TABLE 2

Yearly Cumulative Percent Revision of Primary Unicompartmental Knee Replacement

The yearly cumulative percent revision of the Uniglide/Uniglide unicompartmental knee combination is compared to all other unicompartmental knee prostheses.

Table 2: Yearly Cumulative Percent Revision of Primary Unicompartmental Knee Replacement

CPR	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs	7 Yrs
Uniglide/Uniglide	4.8 (3.5, 6.6)	8.0 (6.3, 10.2)	10.7 (8.7, 13.1)	11.8 (9.7, 14.3)	12.9 (10.7, 15.5)	14.0 (11.7, 16.7)	15.8 (13.3, 18.6)
Other Unicompartmental Knee	2.0 (1.8, 2.1)	3.6 (3.4, 3.7)	4.6 (4.4, 4.8)	5.6 (5.4, 5.9)	6.5 (6.3, 6.8)	7.4 (7.2, 7.7)	8.5 (8.2, 8.8)

CPR	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs
Uniglide/Uniglide	16.7 (14.1, 19.6)	19.1 (16.4, 22.2)	19.8 (17.0, 22.9)	20.3 (17.5, 23.4)	21.8 (18.9, 25.1)	24.5 (21.4, 28.0)	26.0 (22.7, 29.7)
Other Unicompartmental Knee	9.7 (9.3, 10.0)	10.9 (10.5, 11.3)	12.1 (11.7, 12.5)	13.5 (13.0, 13.9)	14.8 (14.3, 15.3)	16.3 (15.7, 16.8)	17.9 (17.3, 18.5)

CPR	15 Yrs	16 Yrs	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs
Uniglide/Uniglide	27.3 (23.9, 31.1)	28.3 (24.7, 32.4)	29.0 (25.2, 33.2)				
Other Unicompartmental Knee	19.5 (18.8, 20.1)	21.1 (20.3, 21.8)	22.8 (22.0, 23.7)	24.8 (23.8, 25.7)	26.3 (25.2, 27.4)	28.3 (27.0, 29.8)	30.3 (28.2, 32.6)

Note: Prostheses no longer used in 2021 are excluded from the comparator.

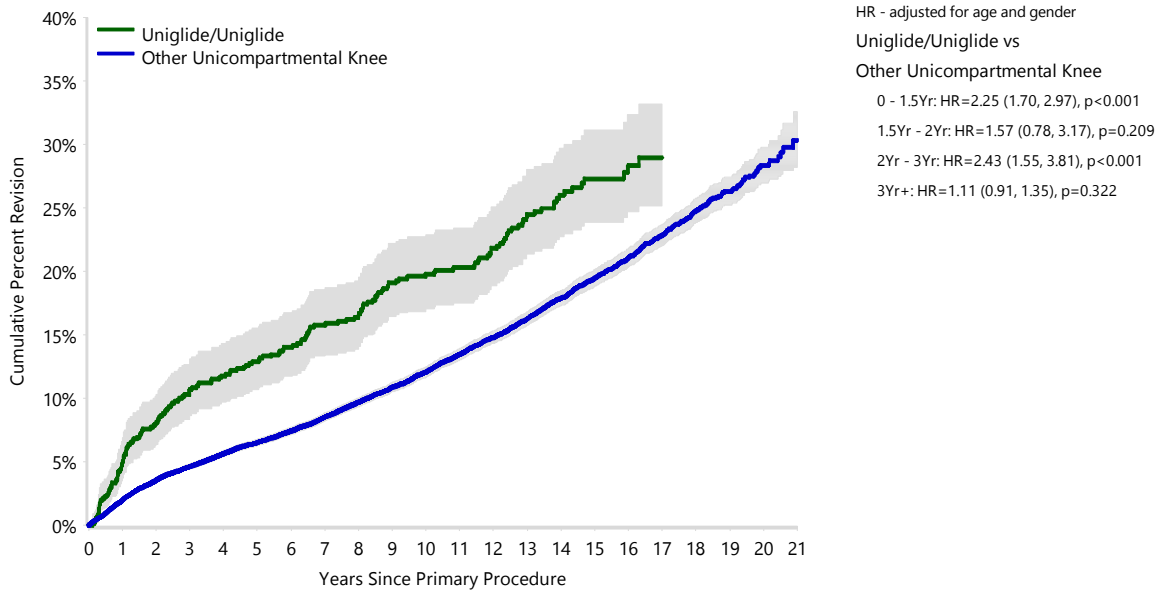
FIGURE 1

Yearly Cumulative Percent Revision of Primary Unicompartmental Knee Replacement

The yearly cumulative percent revision of the Uniglide/Uniglide unicompartmental knee combination is compared to all other unicompartmental knee 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 Unicompartmental Knee Replacement



Number at Risk	0 Yr	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs	7 Yrs	8 Yrs	9 Yrs	10 Yrs
Uniglide/Uniglide	756	714	686	660	644	624	603	575	553	511	474
Other Unicompartmental Knee	45809	41316	36943	32691	28519	24575	21340	18736	16397	14324	12480

Number at Risk	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs
Uniglide/Uniglide	442	402	344	269	189	135	62	29	0	0	0
Other Unicompartmental Knee	10597	8801	7213	5756	4495	3389	2468	1706	1021	440	99

Note: Prostheses no longer used in 2021 are excluded from the comparator.

TABLE 3**Primary Diagnosis for Revised Primary Unicompartmental Knee 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 unicompartmental knee prostheses.

Table 3: Primary Diagnosis for Revised Primary Unicompartmental Knee Replacement

Primary Diagnosis	Uniglide/Uniglide		Other Unicompartmental Knee	
	Number	Percent	Number	Percent
Osteoarthritis	180	99.4	4449	99.0
Osteonecrosis	1	0.6	26	0.6
Rheumatoid Arthritis			12	0.3
Other Inflammatory Arthritis			6	0.1
Fracture			1	0.0
Tumour			1	0.0
TOTAL	181	100.0	4495	100.0

Note: Prostheses no longer used in 2021 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 Unicompartmental Knee Replacement - Reason for Revision (Follow-up Limited to 18.9 Years)

Revision Diagnosis	Uniglide/Uniglide			Other Unicompartmental Knee		
	Number	% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Progression Of Disease	49	6.5	27.1	1597	3.5	35.7
Loosening	68	9.0	37.6	1462	3.2	32.7
Pain	14	1.9	7.7	345	0.8	7.7
Infection	5	0.7	2.8	239	0.5	5.3
Bearing Dislocation	13	1.7	7.2	167	0.4	3.7
Fracture	5	0.7	2.8	132	0.3	3.0
Instability	5	0.7	2.8	81	0.2	1.8
Lysis	7	0.9	3.9	79	0.2	1.8
Wear Tibial Insert	5	0.7	2.8	65	0.1	1.5
Malalignment				60	0.1	1.3
Implant Breakage Tibial Insert	3	0.4	1.7	34	0.1	0.8
Patellofemoral Pain	1	0.1	0.6	31	0.1	0.7
Incorrect Sizing	1	0.1	0.6	28	0.1	0.6
Prosthesis Dislocation				27	0.1	0.6
Implant Breakage Tibial				19	0.0	0.4
Osteonecrosis	1	0.1	0.6	15	0.0	0.3
Wear Tibial				15	0.0	0.3
Metal Related Pathology	2	0.3	1.1	10	0.0	0.2
Synovitis				10	0.0	0.2
Arthrofibrosis				8	0.0	0.2
Implant Breakage Femoral				4	0.0	0.1
Patella Erosion	1	0.1	0.6	3	0.0	0.1
Wear Femoral				3	0.0	0.1
Tumour	1	0.1	0.6			
Other				34	0.1	0.8
N Revision	181	23.9	100.0	4468	9.8	100.0
N Primary	756			45809		

Note: This table is restricted to revisions within 18.9 years for all groups to allow a time-matched comparison of revisions.

Note: Prostheses no longer used in 2021 are excluded from the comparator.

FIGURE 2

Cumulative Incidence Revision Diagnosis of Primary Unicompartmental Knee 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 Uniglide/Uniglide unicompartmental knee combination. A comparative graph is provided of the cumulative incidence for the same reasons for revisions for all other unicompartmental knee prostheses.

Figure 2: Cumulative Incidence Revision Diagnosis for Primary Unicompartmental Knee Replacement

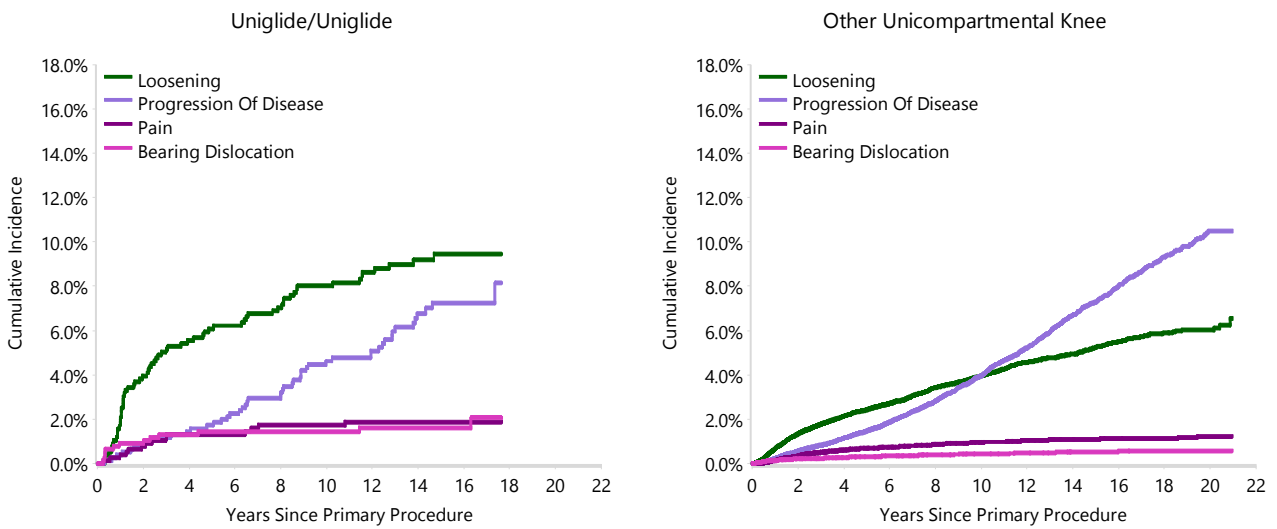


TABLE 5

Type of Revision Performed for Primary Unicompartmental Knee Replacement

This analysis identifies the components used in the revision of the Uniglide/Uniglide unicompartmental knee combination and compares it to the components used in the revision of all other unicompartmental knee 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 unicompartmental knee prostheses i.e. is there a difference in the type of revision undertaken for the Uniglide/Uniglide unicompartmental knee combination compared to all other unicompartmental knee prostheses.

Table 5: Primary Unicompartmental Knee Replacement - Type of Revision (Follow-up Limited to 18.9 Years)

Type of Revision	Uniglide/Uniglide		Other Unicompartmental Knee	
	Number	Percent	Number	Percent
TKR (Tibial/Femoral)	141	77.9	3759	84.1
Uni Tibial Component	7	3.9	98	2.2
Uni Femoral Component	2	1.1	50	1.1
Cement Spacer	2	1.1	37	0.8
UKR (Uni Tibial/Uni Femoral)	2	1.1	34	0.8
Patella/Trochlear Resurfacing			15	0.3
Removal of Prostheses			5	0.1
Reinsertion of Components			4	0.1
Femoral Component			3	0.1
Tibial Component			2	0.0
N Major	154	85.1	4007	89.7
Uni Insert Only	25	13.8	460	10.3
Patella Only	2	1.1	1	0.0
N Minor	27	14.9	461	10.3
TOTAL	181	100.0	4468	100.0

Note: This table is restricted to revisions within 18.9 years for all groups to allow a time-matched comparison of revisions.

Note: Prostheses no longer used in 2021 are excluded from the comparator.

TABLE 6**Revision Rates of Uniglide/Uniglide Primary Unicompartmental Knee 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 Uniglide/Uniglide Primary Unicompartmental Knee Replacement by Fixation

Fixation	N Revised	N Total
Cemented	62	356
Cementless	62	227
Hybrid (Tibial Cemented)	51	155
Hybrid (Tibial Cementless)	6	18
TOTAL	181	756

TABLE 7

Revision Rates of Primary Unicompartmental Knee Replacement by State

This enables a state by state variation to be identified for the Uniglide/Uniglide unicompartmental knee combination and provides the comparative data for each of the states for all other unicompartmental knee 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 7: Revised Number of Primary Unicompartmental Knee Replacement by State

Component	State	N Revised	N Total
Uniglide/Uniglide	NSW	110	536
	VIC	31	109
	QLD	2	7
	SA	37	103
	TAS	1	1
Other Unicompartmental Knee	NSW	1381	12283
	VIC	840	9788
	QLD	805	9211
	WA	519	6950
	SA	622	4875
	TAS	163	1713
	ACT/NT	165	989
TOTAL		4676	46565

Note: Prostheses no longer used in 2021 are excluded from the comparator.

TABLE 8**Number of Revisions of Uniglide/Uniglide Primary Unicompartmental Knee Replacement by Year of Implant**

This analysis details the number of prostheses reported each year to the Registry for the Uniglide/Uniglide unicompartmental knee 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 2021 has a maximum of one year to be revised, whereas a primary procedure performed in 2019 has a maximum of three years to be revised.

Table 8: Number of Revisions of Uniglide/Uniglide Primary Unicompartmental Knee Replacement by Year of Implant

Year of Implant	Number Revised	Total Number
2003	28	80
2004	20	66
2005	35	123
2006	19	84
2007	20	107
2008	15	93
2009	16	61
2010	6	30
2011	12	38
2012	5	25
2013	3	22
2014	0	9
2015	0	5
2016	1	8
2017	1	3
2019	0	1
2020	0	1
TOTAL	181	756

TABLE 9

Revision Rates of Uniglide/Uniglide Primary Unicompartmental Knee 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 Uniglide/Uniglide 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	Mobility	Material	Coating
Femoral						
Uniglide	5140200-5140400	COCR HA TINI UNI FEMORAL COMPONENT	NO			HA COATED
Uniglide	5150200-5150400	COCR TINI UNI FEMORAL COMPONENT	YES			
Tibial						
Uniglide	5240200-5240800	COCR TINI UNI TIBIAL COMPONENT	YES			
Uniglide	5250200-5250800	COCR HA TINI UNI TIBIAL COMPONENT	NO			HA COATED
Uniglide	5301307-5301713	UNIGLIDE FIXED TIBIA	YES	FIXED	NON CROSS-LINKED POLYETHYLENE	

Table 9: Revised Number of Uniglide/Uniglide Primary Unicompartmental Knee Replacement by Catalogue Number Range

Femoral Range	Tibial Range	N Revised	N Total
5140200-5140400	5240200-5240800	23	70
	5250200-5250800	63	228
	5301307-5301713	28	86
5150200-5150400	5240200-5240800	52	317
	5250200-5250800	6	18
	5301307-5301713	9	37
TOTAL		181	756