

Score (cementless)/Score (cementless) Total Knee Investigation

Note: This analysis compares the Score (class)/Score (class) femoral/tibial combination with all other total 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 Total Knee Replacement

The revision rate of the Score (class)/Score (class) total knee combination is compared to all other total knee prostheses.

Table 1: Revision Rates of Primary Total Knee Replacement

Component	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
Score (class)/Score (class)	226	3007	17759	1.27 (1.11, 1.45)
Other Total Knee	25835	724688	4711366	0.55 (0.54, 0.56)
TOTAL	26061	727695	4729125	0.55 (0.54, 0.56)

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

TABLE 2

Yearly Cumulative Percent Revision of Primary Total Knee Replacement

The yearly cumulative percent revision of the Score (class)/Score (class) total knee combination is compared to all other total knee prostheses.

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

CPR	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	6 Yrs	7 Yrs
Score (class)/Score (class)	1.6 (1.2, 2.1)	3.7 (3.0, 4.5)	5.0 (4.2, 6.0)	6.0 (5.2, 7.1)	6.9 (5.9, 8.0)	7.9 (6.8, 9.1)	8.6 (7.4, 9.8)
Other Total Knee	1.0 (1.0, 1.0)	1.9 (1.9, 1.9)	2.5 (2.4, 2.5)	2.9 (2.8, 2.9)	3.2 (3.2, 3.3)	3.5 (3.5, 3.6)	3.8 (3.8, 3.9)

CPR	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs
Score (class)/Score (class)	8.9 (7.7, 10.2)	10.3 (9.0, 11.9)	11.1 (9.7, 12.8)	12.2 (10.6, 14.1)	12.5 (10.8, 14.5)	13.8 (11.5, 16.5)	
Other Total Knee	4.1 (4.1, 4.2)	4.4 (4.4, 4.5)	4.7 (4.7, 4.8)	5.1 (5.0, 5.1)	5.4 (5.3, 5.4)	5.7 (5.6, 5.8)	6.0 (5.9, 6.1)

CPR	15 Yrs	16 Yrs	17 Yrs	18 Yrs	19 Yrs	20 Yrs	21 Yrs
Score (class)/Score (class)							
Other Total Knee	6.4 (6.3, 6.5)	6.8 (6.7, 7.0)	7.2 (7.1, 7.4)	7.6 (7.4, 7.7)	7.9 (7.7, 8.1)	8.1 (7.9, 8.4)	8.2 (7.9, 8.5)

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

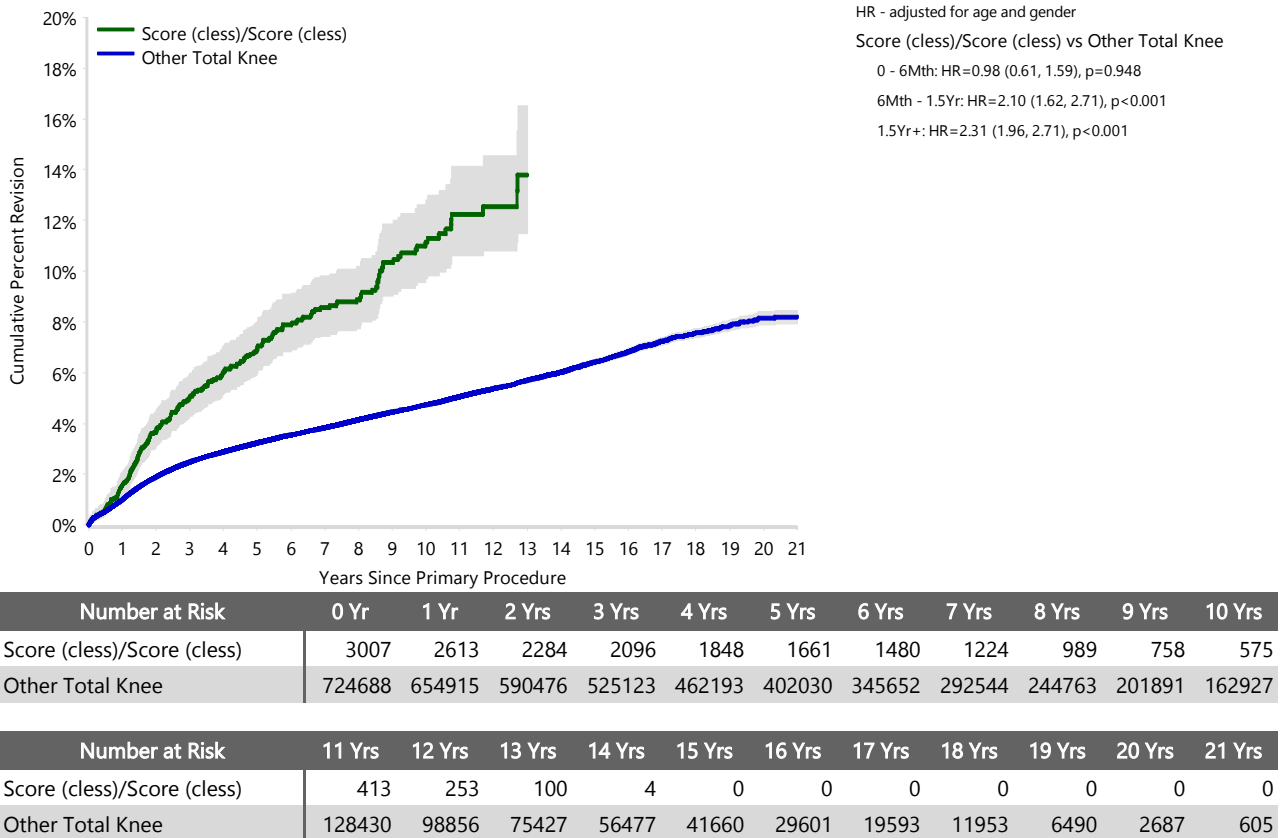
FIGURE 1

Yearly Cumulative Percent Revision of Primary Total Knee Replacement

The yearly cumulative percent revision of the Score (class)/Score (class) total knee combination is compared to all other total 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 Total Knee Replacement



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

TABLE 3

Primary Diagnosis for Revised Primary Total 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 total knee prostheses.

Table 3: Primary Diagnosis for Revised Primary Total Knee Replacement

Primary Diagnosis	Score (class)/Score (class)		Other Total Knee	
	Number	Percent	Number	Percent
Osteoarthritis	224	99.1	25027	96.9
Rheumatoid Arthritis	2	0.9	329	1.3
Other Inflammatory Arthritis			161	0.6
Tumour			151	0.6
Osteonecrosis			98	0.4
Fracture			49	0.2
Other			19	0.1
Chondrocalcinosis			1	0.0
TOTAL	226	100.0	25835	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 Total Knee Replacement - Reason for Revision (Follow-up Limited to 14.2 Years)

Revision Diagnosis	Score (class)/Score (class)			Other Total Knee		
	Number	% Primaries Revised	% Revisions	Number	% Primaries Revised	% Revisions
Infection	49	1.6	21.7	6867	0.9	27.1
Loosening	44	1.5	19.5	5641	0.8	22.3
Instability	9	0.3	4.0	2437	0.3	9.6
Pain	20	0.7	8.8	2021	0.3	8.0
Patellofemoral Pain	20	0.7	8.8	2008	0.3	7.9
Patella Erosion	31	1.0	13.7	1611	0.2	6.4
Arthrofibrosis	9	0.3	4.0	983	0.1	3.9
Fracture	17	0.6	7.5	887	0.1	3.5
Malalignment	7	0.2	3.1	589	0.1	2.3
Wear Tibial Insert	1	0.0	0.4	316	0.0	1.2
Lysis	4	0.1	1.8	310	0.0	1.2
Incorrect Sizing	1	0.0	0.4	257	0.0	1.0
Patella Maltracking	2	0.1	0.9	179	0.0	0.7
Bearing Dislocation	4	0.1	1.8	148	0.0	0.6
Implant Breakage Tibial Insert				141	0.0	0.6
Implant Breakage Patella	1	0.0	0.4	132	0.0	0.5
Metal Related Pathology	2	0.1	0.9	110	0.0	0.4
Prosthesis Dislocation				77	0.0	0.3
Synovitis	1	0.0	0.4	75	0.0	0.3
Osteonecrosis				58	0.0	0.2
Implant Breakage Tibial				39	0.0	0.2
Implant Breakage Femoral				35	0.0	0.1
Wear Patella	1	0.0	0.4	28	0.0	0.1
Tumour				27	0.0	0.1
Heterotopic Bone				14	0.0	0.1
Wear Tibial				10	0.0	0.0
Progression Of Disease				5	0.0	0.0
Patella Dislocation				2	0.0	0.0
Wear Femoral				2	0.0	0.0
Incorrect Side				1	0.0	0.0
Other	3	0.1	1.3	298	0.0	1.2
N Revision	226	7.5	100.0	25308	3.5	100.0
N Primary	3007			724688		

Note: This table is restricted to revisions within 14.2 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 Total 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 Score (class)/Score (class) total knee combination. A comparative graph is provided of the cumulative incidence for the same reasons for revisions for all other total knee prostheses.

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

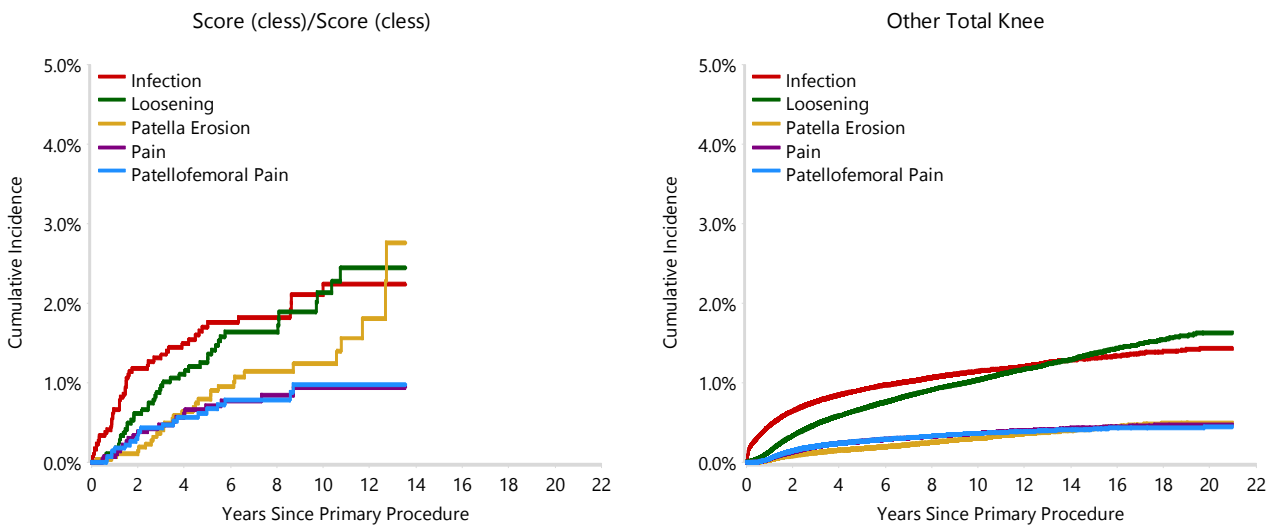


TABLE 5

Type of Revision Performed for Primary Total Knee Replacement

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

Table 5: Primary Total Knee Replacement - Type of Revision (Follow-up Limited to 14.2 Years)

Type of Revision	Score (class)/Score (class)		Other Total Knee	
	Number	Percent	Number	Percent
TKR (Tibial/Femoral)	67	29.6	6115	24.2
Tibial Component	10	4.4	2075	8.2
Cement Spacer	17	7.5	1328	5.2
Femoral Component	12	5.3	1296	5.1
Removal of Prostheses			149	0.6
Total Femoral			20	0.1
Reinsertion of Components			11	0.0
N Major	106	46.9	10994	43.4
Insert Only	33	14.6	6998	27.7
Patella Only	73	32.3	4665	18.4
Insert/Patella	14	6.2	2578	10.2
Minor Components			59	0.2
Cement Only			14	0.1
N Minor	120	53.1	14314	56.6
TOTAL	226	100.0	25308	100.0

Note: This table is restricted to revisions within 14.2 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 Score (class)/Score (class) Primary Total 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 Score (class)/Score (class) Primary Total Knee Replacement by Fixation

Fixation	N Revised	N Total
Cemented	1	3
Cementless	223	2968
Hybrid (Tibial Cemented)	1	30
Hybrid (Tibial Cementless)	1	6
TOTAL	226	3007

TABLE 7**Revision Rates of Score (class)/Score (class) Primary Total Knee 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 Score (class)/Score (class) Primary Total Knee Replacement by Bearing Surface

Bearing Surface	N Revised	N Total
Non XLPE	226	3007
TOTAL	226	3007

TABLE 8**Revision Rates of Score (class)/Score (class) Primary Total Knee Replacement by Bearing Mobility**

This analysis is provided as some prostheses are combined with a variety of bearing mobilities. All bearing mobilities used with this combination are listed.

Table 8: Revised Number of Score (class)/Score (class) Primary Total Knee Replacement by Bearing Mobility

Bearing Mobility	N Revised	N Total
Rotating	226	3007
TOTAL	226	3007

TABLE 9**Revision Rates of Score (class)/Score (class) Primary Total Knee Replacement by Stability**

This analysis is provided as some prostheses are combined with a variety of stabilities. All stabilities used with this combination are listed.

Table 9: Revised Number of Score (class)/Score (class) Primary Total Knee Replacement by Stability

Stability	N Revised	N Total
Minimally Stabilised	226	3007
TOTAL	226	3007

TABLE 10

Revision Rates of Primary Total Knee Replacement by State

This enables a state by state variation to be identified for the Score (class)/Score (class) total knee combination and provides the comparative data for each of the states for all other total 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 10: Revised Number of Primary Total Knee Replacement by State

Component	State	N Revised	N Total
Score (class)/Score (class)	NSW	58	986
	VIC	0	2
	QLD	8	98
	WA	57	1228
	SA	103	693
Other Total Knee	NSW	7664	252135
	VIC	5553	144485
	QLD	5682	153073
	WA	3178	76677
	SA	2734	62747
	TAS	418	16885
	ACT/NT	606	18686
TOTAL		26061	727695

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

TABLE 11**Number of Revisions of Score (class)/Score (class) Primary Total Knee Replacement by Year of Implant**

This analysis details the number of prostheses reported each year to the Registry for the Score (class)/Score (class) total 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 11: Number of Revisions of Score (class)/Score (class) Primary Total Knee Replacement by Year of Implant

Year of Implant	Number Revised	Total Number
2005	0	1
2007	2	11
2008	23	135
2009	26	212
2010	20	187
2011	29	204
2012	21	196
2013	16	238
2014	28	273
2015	17	263
2016	19	170
2017	7	160
2018	11	214
2019	4	151
2020	3	252
2021	0	340
TOTAL	226	3007

TABLE 12

Revision Rates of Score (class)/Score (class) Primary Total 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 Score (class)/Score (class) 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	Coating
Femoral				
Score	10200101-10200117	COCR MIN STAB. HA PEGGED STIPPLED SURFACE FEMORAL COMPONENT	NO	HA COATED
Tibial				
Score	10200401-10200407	COCR HA STIPPLED SURFACE TIBIAL BASEPLATE	NO	HA COATED

Table 12: Revised Number of Score (class)/Score (class) Primary Total Knee Replacement by Catalogue Number Range

Femoral Range	Tibial Range	N Revised	N Total
10200101-10200117	10200401-10200407	226	3007
TOTAL		226	3007